Construction Environmental Management Plan

SSD-51310208 - 26 Ferndell Street, South Granville and 464 Blaxcell Street, Guildford, NSW

Vaughan Constructions Pty Ltd

9a Commercial Road, Kingsgrove, NSW, 2208.

Prepared by:

SLR Consulting Australia

Tenancy 202 Submarine School, Sub Base Platypus,
120 High Street, North Sydney NSW 2060, Australia

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Basis of Report

This report has been prepared by SLR Consulting Australia (SLR) with all reasonable skill, care and diligence, and taking account of the timescale and resources allocated to it by agreement with Vaughan Constructions Pty Ltd (the Client) and Prestige Worldwide Industrial South Granville Trust (the Applicant). Information reported herein is based on the interpretation of data collected, which has been accepted in good faith as being accurate and valid.

This report is for the exclusive use of the Client. No warranties or guarantees are expressed or should be inferred by any third parties. This report may not be relied upon by other parties without written consent from SLR.

SLR disclaims any responsibility to the Client and others in respect of any matters outside the agreed scope of the work.

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1.0 Introduction

1.1 Development Overview

This Construction Environmental Management Plan (CEMP) has been prepared by SLR Consulting Australia Pty Ltd (SLR) on behalf of Vaughan Constructions Pty Ltd (Vaughan) for the development of an industrial logistics and distribution warehouse estate at 26 Ferndell Street, South Granville and 464 Blaxcell Street, Guildford, New South Wales (NSW) (the Site) (**Figure 1**). Prestige is the applicant for the Project and has overall responsibility for compliance with SSD 51310208 Development Consent. The development consists of three (3) warehouse buildings with nine (9) individual units of approximately 31,000m^2 of warehousing and associated office areas within the Cumberland City Council Local Government Area (LGA). The development is spread across both single and two-storey warehouses; and associated at grade and under croft car parking, common circulation areas, landscaping and infrastructure provision (**Figure 2**).



Figure 1 Locality Plan (Source: Watch this Space Design 2024)

This report has been prepared to ensure appropriate management practices are followed during the site's construction in accordance with the mitigation measures presented within the specialist technical reports. The Environmental Impact Statement (EIS) can be found on the Department of Planning (DPHI) website South Granville Multi-level Warehouse and Distribution Centre | Planning Portal - Department of Planning and Environment exhibited for the State Significant Development (SSD) Consent 51310208 on 31 January 2024 with the DPE, for the construction and operation of an industrial logistics and distribution warehouse estate.

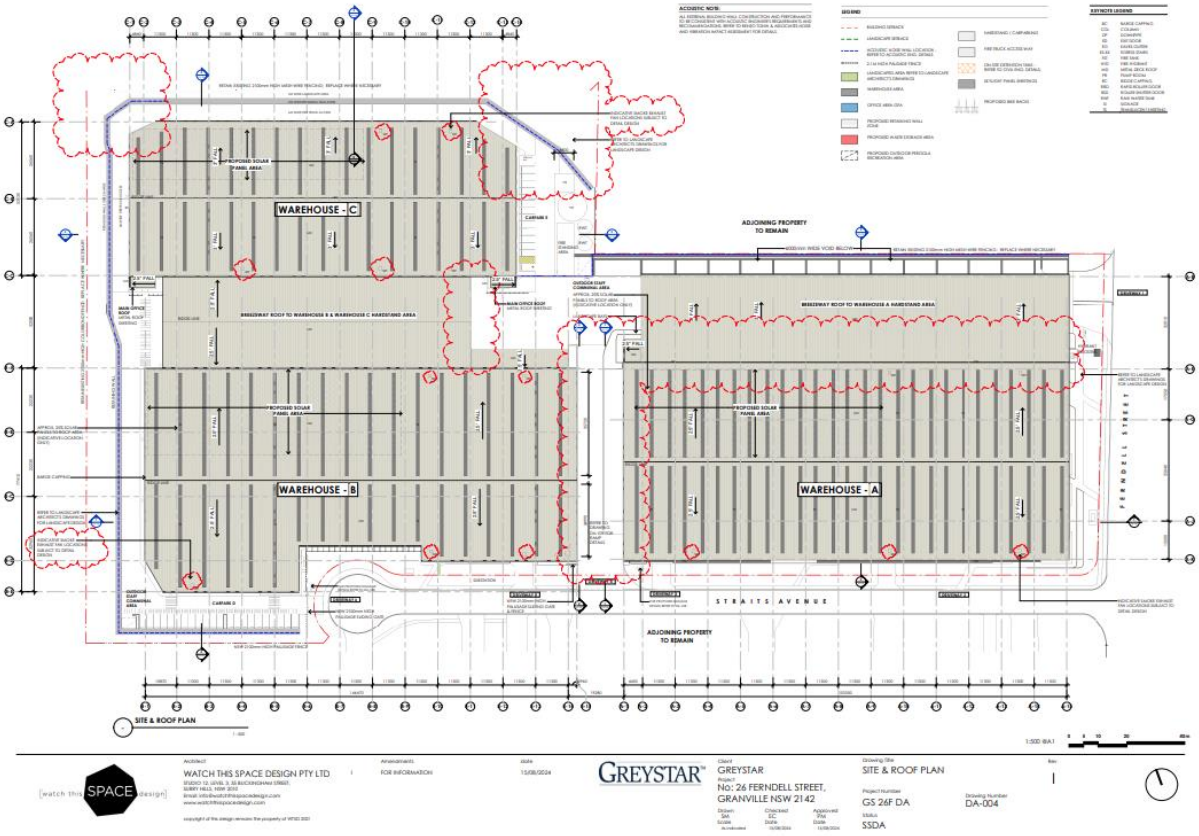


Figure 2 Site and Roof Plan (Source: Watch this Space Design 2024)

Vaughan has been appointed as the Principal Contractor for the construction. The CEMP has been prepared to satisfy the conditions of SSD 51310208

The SSD 51310208 provides for the Development approval of the construction and operation of an industrial logistics and distribution warehouse estate within the suburb of Guildford NSW (see **Figure 3**):

- Vehicular access off Straits Avenue and Ferndell Street;
- Associated landscaping;
- Business identification and wayfinding signage, including signage zones;
- Extension and augmentation of infrastructure and services as required.



Figure 3 Location Plan (Source: Watch this Space Design 2023

1.2 CEMP Context

This CEMP has been prepared to address the scope and objectives listed below for the construction of the site and in consideration of *Guideline for the Preparation of Environmental Management Plans* (Department of Infrastructure, Planning and Natural Resources, 2004).

This CEMP contains the following key components:

- Environmental management framework, including key contacts, roles and responsibilities, and regulatory requirements;
- Environmental incidents and non-compliance management strategy;
- Complaints management strategy;
- Environmental management commitments and responsibilities;
- Monitoring, inspections, and reporting requirements;
- Contingency Management Plan;
- Sub-plans as per Condition D2 and D3 of SSD 51310208 including:
    a) Construction Traffic Management Plan (see condition C1);
    b) Construction Noise and Vibration Management Plan (see condition C16);
    c) Erosion and Sediment Control Plan (see condition C22); and
    d) a copy of the development's Unexpected Contamination Finds Procedure (see condition C52); and
    e) details of the community consultation and complaints handling procedure to be implemented during construction.

1.3 Scope

This CEMP has been prepared to satisfy Conditions D1, D2 & D3 of SSD 51310208. The specific requirements of these consent conditions, along with where these requirements have been addressed within this CEMP, are listed in Table 1 below. In addition to this, all conditions of consent relevant to this CEMP are attached at **Appendix B**, including reference to where they have been addressed.

Table 1: CEMP Scope

Condition	Section
D1. Management plans required under this consent must be prepared in accordance with relevant guidelines, and include:	Section 1.3
(a) condition compliance table for that plan;	Appended Management Plans
(b) detailed baseline data;	Appended Management Plans
(c) details of: (i) the relevant statutory requirements (including any relevant approval, licence or lease conditions);	Section 3.3
(ii) any relevant limits or performance measures and criteria; and	Appended Management Plans
(iii) the specific performance indicators that are proposed to be used to judge the performance of, or guide the implementation of, the development or any management measures;	Appended Management Plans

Condition	Section
(d) a description of the measures to be implemented to comply with the relevant statutory requirements, limits, or performance measures and criteria;	Section 4 Appended Management Plans
(e) a program to monitor and report on the: (i) impacts and environmental performance of the development; and (ii) effectiveness of the management measures set out pursuant to paragraph (c) above;	Section 5 Appended Management Plans
(f) a contingency plan to manage any unpredicted impacts and their consequences and to ensure that ongoing impacts reduce to levels below relevant impact assessment criteria as quickly as possible;	Section 6
(g) a program to investigate and implement ways to improve the environmental performance of the development over time;	Section 7
(h) a protocol for managing and reporting any: (i) incident and any non-compliance (specifically including any exceedance of the impact assessment criteria and performance criteria); (ii) complaint; (iii) failure to comply with statutory requirements; and	Section 5
(i) a protocol for periodic review of the plan.	Section 7
Note: The Planning Secretary may waive some of these requirements if they are unnecessary or unwarranted for particular management plans	Noted
D2. The Applicant must prepare a Construction Environmental Management Plan (CEMP) for the development in accordance with the requirements of condition C1 and to the satisfaction of the Planning Secretary.	This Plan, refer to Condition D1 cross references above
D3. As part of the CEMP required under condition D2 of this consent, the Applicant must include the following:	-
(a) Construction Traffic Management Plan (see condition C1);	Section 4.4 **Appendix G**
(b) Construction Noise and Vibration Management Plan (see condition C16);	Section 4.2 **Appendix D**
(c) Erosion and Sediment Control Plan (see condition C22);	Section 4.5 **Appendix H**
(d) a copy of the development's Unexpected Contamination Finds Procedure (see condition C52); and	Section 3.4.1 & 4.10 **Appendix I**
(g) details of the community consultation and complaints handling procedure to be implemented during construction;	Section 3.5 & 3.6
D4. The Applicant must: (a) not commence construction of the development until the CEMP is approved by the Planning Secretary; and	This CEMP and appended management plans will be sent to the Secretary for approval
(b) carry out the construction of the development in accordance with the CEMP approved by the Planning Secretary and as revised and approved by the Planning Secretary from time to time.	Noted.

1.4 Objectives

The objectives of this CEMP are to:

- Ensure the construction environmental management requirements for the site are adhered to in line with the mitigation measures;

- Establish the framework for managing and mitigating the potential for adverse environmental impacts as a result of the construction of the site; and
- Assist to establish the site operations in a manner that avoids (where possible) or minimises impact to the surrounding environment and populace.

It is noted that this CEMP does not address workplace health and safety (WHS) requirements.

1.5 Preparation

This CEMP has been prepared by SLR. SLR provides global environmental and advisory solutions from a network of offices in Asia-Pacific, Europe, North America, and Africa. Author qualifications are listed in Table 2 below:

Table 2: Author Qualifications

Name, Role & Division	Qualifications	Experience
Sean Wilson Principal Consultant Environmental Management, Permitting & Compliance	Master of Urban Planning & Environment, RMIT University (2018) Certificate IV in Property Services, Real Estate Institute of Victoria (2012)	Sean has over 27 years of Town Planning experience and has been working at SLR Consulting since April 2022. Sean has worked on infrastructure projects for APA, Telstra, North East Link (NELP) & Client assessing planning, environment and heritage risks, Planning Scheme Amendments and obtaining approvals. From 1996 to 2016, Sean was a Director & Project Manager of Architectural, Project Management and Development companies where he performed multiple roles, including preparing and submitting town planning and Tribunal applications and project managing constructions works for clients and his own companies for over $1B worth of projects.
Katherine Wiles Associate Consultant Environmental Management, Permitting & Compliance	Bachelor of Environmental Science, Honours (BSc Hons.), University of KwaZulu-Natal (2009) Bachelor of Environmental Science Degree, University of KwaZulu-Natal (2008)	Katherine Wiles is a Certificated Natural Scientist in the field of Environmental Science. She holds a Bachelor of Science (B.Sc.) undergraduate degree in Geography as well as a B.Sc. Honours Degree in Geography and Environmental Management from the University of KwaZulu-Natal (UKZN). Katherine has a background in environmental management having also lectured environmental courses (Biophysical Environments, Environmental Impact Assessment and Soil Erosion & Land Degradation) at UKZN in 2009 and 2010. Katherine possesses extensive multinational experience, contributing to both large-scale and small multidisciplinary projects across Africa, including Swaziland and South Africa, and more recently Australia (Queensland and New South Wales). Katherine has gained fourteen years consulting experience through her involvement in environmental processes for a wide range of government and private clients across various sectors (including infrastructure, industry and power and energy sector etc.). She has extensive experience in undertaking Environmental Impact Assessments (EIAs), Environmental Management Programmes/Plans (EMPs), Integrated Waste Management Plans (IWMPs), Integrated Water Use License Applications (IWULAs) and Environmental Compliance Auditing. She also has experience in managing diverse and complex Public Participation Processes (PPP) and co-ordinating and reviewing specialist studies for inclusion in Environmental processes.

1.6 Implementation

The CEMP and Sub-Plans will then be submitted for the approval of the Planning Secretary in accordance with SDD 51310208, Condition D2.

In Accordance with SSD 51310208, Condition D4:

- Construction will not commence until the CEMP and relevant Sub-Plans are approved by the Planning Secretary.
- Construction of the development will be carried out in accordance with SSD 51310208.
- Construction of the development will be carried out in accordance with the CEMP approved by the Planning Secretary and as revised and approved by the Planning Secretary from time to time.

Construction will be undertaken in accordance with the most recent, approved version of this CEMP and Sub-Plans.

1.7 Consultation

In accordance with SSD 51310208, consultation has been undertaken with the applicable stakeholders which is summarised in Table 3, and documentation attached at **Appendix C**.

Section 5.1 of the EIS (Ethos Urban, 2024) and the Consultation Outcomes Report (Ethos Urban, 2023), demonstrates that genuine consultation has already taken place with stakeholders, seeking feedback on the proposed development, in line with the NSW DPE's Undertaking Engagement Guidelines for State Significant Projects.

Table 3: Consultation

Condition	Comment
B14 Prior to the commencement of construction of the development, the Applicant must: (a) consult with the relevant owner and provider of services or public infrastructure that are likely to be affected by the development or that need to be installed as part of the development, to make suitable arrangements for relevant approvals, access to, diversion, protection and support of the affected services or infrastructure; (b) prepare a dilapidation report identifying the condition of all public infrastructure in the vicinity of the site (including roads, gutters and footpaths); and (c) submit a copy of the dilapidation report to the Planning Secretary and Council	Superintendent & Contractors Project Manager to liaise with applicable Authorities and prepare dilapidation report before construction commences. Refer also to CEMP 4.9
B10 Where conditions of this consent require consultation with an identified party, the Applicant must: (a) consult with the relevant party prior to submitting the subject document to the Planning Secretary for approval; and (b) provide details of the consultation undertaken including: (i) the outcome of that consultation, matters resolved and unresolved; and (ii) details of any disagreement remaining between the party consulted and the Applicant and how the Applicant has addressed the matters not resolved	Consultation requirements are in this CEMP, procedures are detailed in **Appendix C**
Construction Traffic Management Plan	Evidence of consultation is provided in **Appendix G** Section 1.3 undertaken as part of the Construction Traffic Management Plan.

Condition	Comment
C1. Prior to the commencement of construction, the Applicant must prepare a Construction Traffic Management Plan (CTMP) for the development to the satisfaction of the Planning Secretary. The CTMP must form part of the CEMP required by condition D2 and must: (a)be prepared by a suitably qualified and experienced person(s); (b)be prepared in consultation with Council; (c)detail the measures that are to be implemented to ensure road safety and network efficiency during construction; (d)include details of: (i)vehicle types, heavy vehicle routes including any heavy vehicle restriction routes, parking and access arrangements; (ii)the strategies that would be implemented to minimise the number of construction workers who will drive to the site; and (iii)any potential construction traffic impacts to general traffic, cyclists, and pedestrians within the vicinity of the site; (e)include a Operational Driver Code of Conduct to: (i)minimise the impacts of earthworks and construction on the local and regional road network; (ii)minimise conflicts with other road users; (iii)minimise road traffic noise; and (iv)ensure truck drivers are aware of heavy vehicle traffic restriction routes and use specified routes; (f)include a program to monitor the effectiveness of these measures; and (g)if necessary, detail procedures for notifying residents and the community (including local schools), of any potential disruptions to routes.	
Construction Noise and Vibration Management Plan C16 Prior to the commencement of construction, the Applicant must prepare a Construction Noise and Vibration Management Plan (CNVMP) for the development to the satisfaction of the Planning Secretary. A copy of the CNVMP must be included in the development's CEMP (see condition D2) and must: (a) be prepared by a suitably qualified and experienced noise expert(s); (b) describe procedures for achieving the noise management levels detailed in the Interim Construction Noise Guidelines (as may be updated or replaced from time to time) and the vibration criteria in condition C11; (c) describe the measures to be implemented to manage high noise generating works such as piling, in close proximity to sensitive receivers; (d) include strategies that have been developed with the community for managing high noise generating works (such as the provision of respite periods); (e) include strategies that have been developed in consultation with the directly adjoining properties for managing vibration (such as any alternative construction methods with lower source vibration levels and provision for respite periods); (f) include strategies that have been developed in consultation with the owners of 7-11 Ferndell Street, South Granville to manage potential vibration impacts to heritage item "Acrow Building"; (g) describe the community consultation undertaken to develop the strategies in condition C16(d) and C16(e); and (h) include a complaints management system that would be implemented for the duration of construction of the development.	Consultation and Complaints procedures are detailed **Appendix D** and this CEMP Section 3.6 and 4.2

Condition	Comment
C25 The Applicant must finalise the detailed design of the stormwater management system for the development, prior to the commencement of construction of that system. The system must: (a) be designed by a suitably qualified and experienced person(s); (b) be designed in consultation with Council; (c) be generally in accordance with the conceptual design in the EIS, RTS and additional information; (d) be in accordance with applicable Australian Standards; and (e) ensure that the system capacity has been designed in accordance with Australian Rainfall and Runoff (Engineers Australia, 2016) and Managing Urban Stormwater: Council Handbook (EPA, 1997) guidelines	Consultation and Complaints procedures are detailed **Appendix D** and this CEMP Section 4.5 & 4.6
D3 (e) details of the community consultation and complaints handling procedure to be implemented during construction;	This CEMP Section 4.9. Section 5.1 of the EIS (Ethos Urban, 2024) and the Consultation Outcomes Report (Ethos Urban, 2023), demonstrates that genuine consultation has already taken place. Consultation procedures with neighbouring landholders is detailed in **Appendix C**.

2.0 Development Description

2.1 Location

The Site is located at 26 Ferndell Street, South Granville & 464 Blaxcell Street, Guildford, within the Cumberland LGA. **Figure 4** below shows the Site and its context. The Site is legally described as the following:

- Lot 201 in DP816219 (26 Ferndell Street)
- Lot 12 in DP233162 (464 Blaxcell Street)



Figure 4: Site Context (source Ethos Urban EIS 2024)

The existing site comprises of several industrial buildings as well as concrete hardstand for car parking, loading and plant space. The lot known as 426 Blaxcell Street is currently vacant, consisting of a hardstand area as well as scattered vegetation and weeds.

The existing buildings have been developed separately over time and currently operate as individual entities, with multiple access points located across both Straits Avenue and Ferndell Street. The existing buildings are run down and no longer fit for purpose.

The site is approximately 18.5km West of the Sydney Central Business District (CBD), 17.5km from Sydney Airport, 5.5km South of the Parramatta CBD and 6km Northwest of Bankstown. The surrounding land uses of the site are industrial and residential.

2.2 Construction Hours

Construction hours will be in accordance with Conditions B15 and B16 of the Development Consent SSD 51310208. Hours of work must comply with the hours detailed in Table 4 below.

Table 4: Hours of Work

Activity	Day	Time
Earthworks and construction	Monday – Friday Saturday Sundays and Public Holidays	7 am to 6 pm 8 am to 1 pm No Work allowed (subject to Condition SSD 51310208 Condition C9 – see below)

C9. Works outside of the hours identified in condition C8 may be undertaken in the following circumstances:

- *works that are inaudible at the nearest sensitive receivers;*
- *works agreed to in writing by the Planning Secretary;*
- *for the delivery of materials required outside these hours by the NSW Police Force or other authorities for safety reasons; or*
- *where it is required in an emergency to avoid the loss of lives, property or to prevent environmental harm.*

2.3 Construction Site Access

During construction, Access is proposed to be provided to all construction vehicles via existing crossovers, one to Ferndell Street in the north-east corner of the site, and three along Straits Avenue. All crossovers will be used for entry and exit. The proposed access arrangements are illustrated in **Figure 5** and outlined below:



Figure 5 Construction Access Arrangements (Source CTMP, SLR 2025)

The routes to be utilised by all construction vehicles travelling to and from site are represented below in **Figure 6.**

Truck movements to and from the site on the surrounding road network will be restricted to designated truck routes and will be confined to the main road network through the area. The designated routes are as follows:

- Routes to the north: Ferndell Street, Rawson Street to Woodville Road heading north
- Routes to the south: Ferndell Street, Rawson Street to Woodville Road heading south

Routes to the south originating from Ferndell Street will not be available for Construction Traffic. Hector Street provides a connection from Ferndell Street to Hume Highway; however this contains 40km/h restricted School Zone from 8-9.30am and 2.30-4pm during School Days, this restriction would inevitable coincide with Construction Traffic timings with peak hour 7am-8am, and therefore Construction Vehicles will not be routed to the south of the site

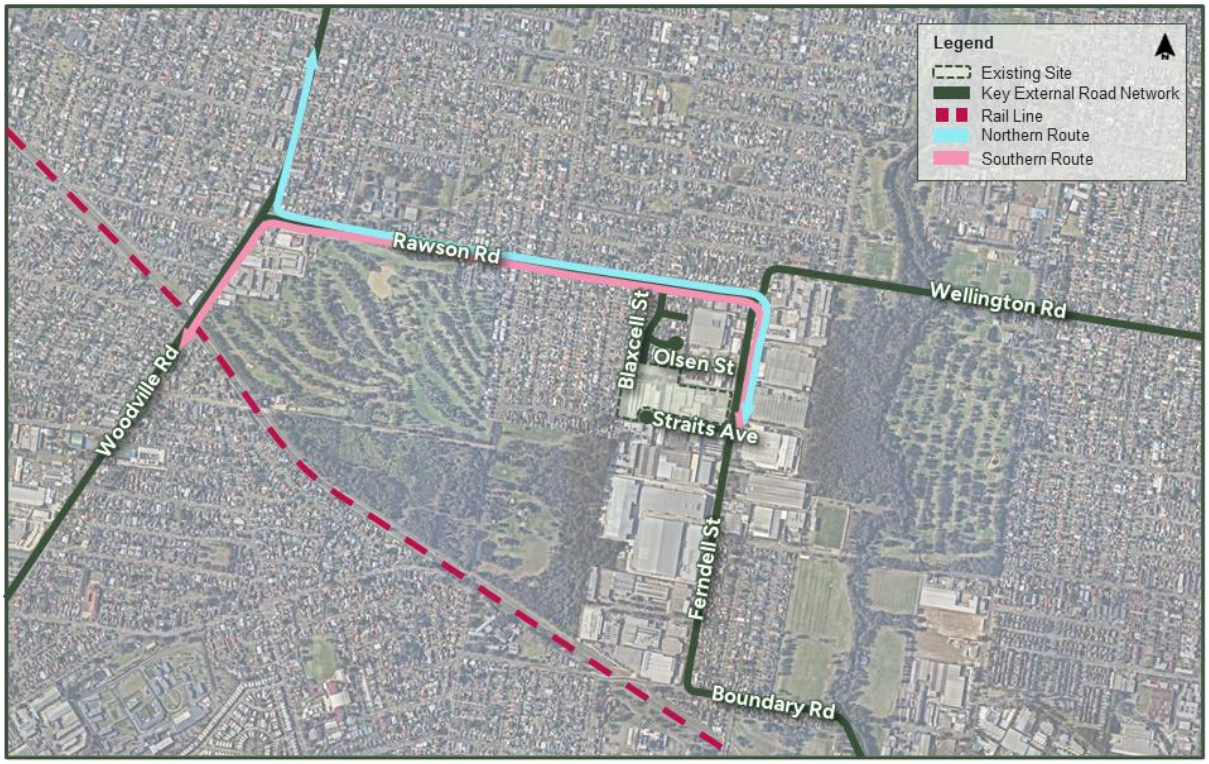


Figure 6 Construction Vehicle Routes (Source CTMP, SLR 2025)

2.4 Construction Contact Details

Table 5 lists the key contacts during construction.

Table 5: Contact Details

Role	Name	email	Contact Details
Superintendent	Fei Chen	f.chen@modalus.au	0426 677 681
Contractor's Project Manager	David Upton	David.upton@vaughans.com.au	0412 719 623
Contractor's Site Manager	Rasto Bajnoci	rasto.bajnoci@vaughans.com.au	0402 054 649

2.5 Summary of Construction Activities

Construction will be carried out in phases (6) phases consisting of:

- Demolition & clearing of existing vegetation on site, where necessary.
- Bulk earthworks and excavation including 'cut and fill' practices to create flat development platforms where possible for the proposed buildings;
- Remediation: removal of site contamination and any asbestos identified as part of the site investigations.
- Piling.
- Site preparation: excavation and filling.
- Construction of the development.

Table 6 outlines the site preparation works. These will facilitate a suitable development platform for the development.

Table 6: Site Preparation Works

Project Element	Proposed Works
Demolition works	All existing buildings and structures on site, decommissioning of existing onsite sewerage, stormwater drainage systems existing pad mount substation (see **Figure 7** below**).**
Tree removal	Removal of 63 trees in accordance with the Arboriculturally Impact Assessment and Tree Protection Management Plan (HUGH The Arborist,2023)
Infrastructure Works	A Building Services Infrastructure Report has been prepared by Northrop (2023). This report confirms that connection to adequate services including electrical, telecommunications, water, sewer and gas can be readily achieved by the proposed development. This will be subject to further design development and the augmentation of utilities infrastructure, including adjustments to existing sewer connections and the installation of a sewer rising main, prior to the issue of a construction certificate, and will also include any relevant applications to utility providers.
Site remediation works	The following order of remedial works shall be undertaken: • Identification and excavation of asbestos impacted soils and either transferal into a containment cell within the site subject to in-situ management of the soil by capping and cover with ongoing management, or offsite disposal to a licensed facility; • Decommissioning and removal of petroleum infrastructure by off-site disposal; • Excavation and bioremediation of hydrocarbon impacted fill/soil onsite (where materials are identified as suitable for treatment) or offsite disposal; and • Excavation and off-site disposal of chlorinated hydrocarbon contaminated soils.
Bulk earthworks	Bulk earthworks and excavation including 'cut and fill' practices to create flat development platforms where possible for the proposed buildings.

2.6 Construction Schedule

The construction will be completed over several construction stages as shown in Table 7 below, however, any such staging does not constitute staged development as defined under Section 4.22 of the Environmental Planning and Assessment (EP&A) Act. Construction is anticipated to commence in March 2025 and involve a 24 month construction programme. This will include bulk earthworks, provision of services and building construction (Refer to **Figure 7, 8 & 9** below). The date of commencement of construction of the development must be notified to the Planning Secretary in writing, at least one month before that date, or as otherwise agreed with the Planning Secretary as per Condition B8.

Table 7: Project Stages

Project Phase	Proposed Construction Activities	Forecast Commencement	Forecast Duration	Forecast Completion
1	Site preparation involving demolition, remediation, earthworks and infrastructure.	March 2025	7 months	October 2025
2	Warehouse construction and fit-out.	July 2025	15 months	September 2026
3	Site demobilisation, post-construction site rehabilitation, landscaping and finishing works.	August 2026	2 months	September 2026

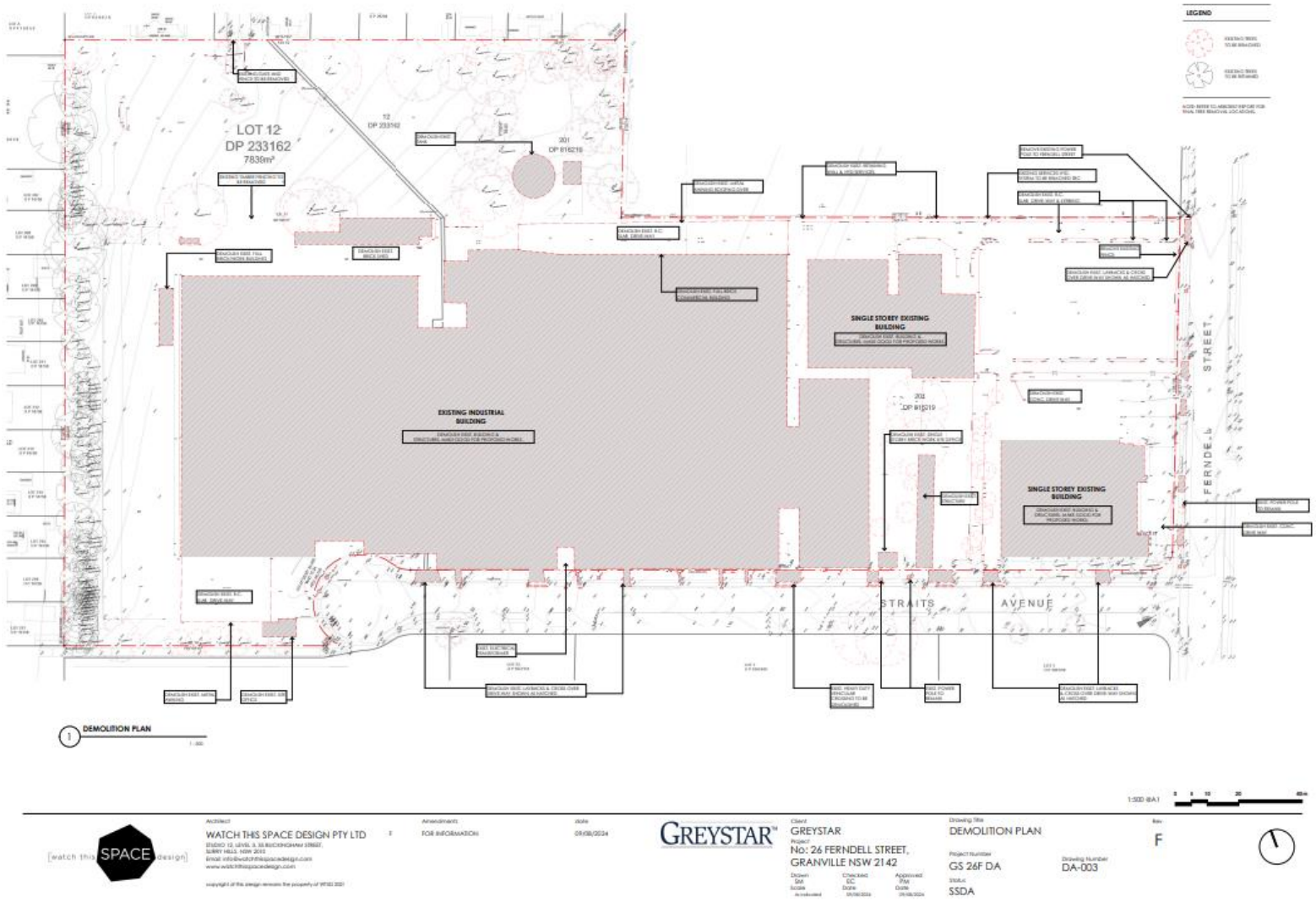


Figure 7 Demolition Plan (Source: Watch this Space, 2024)

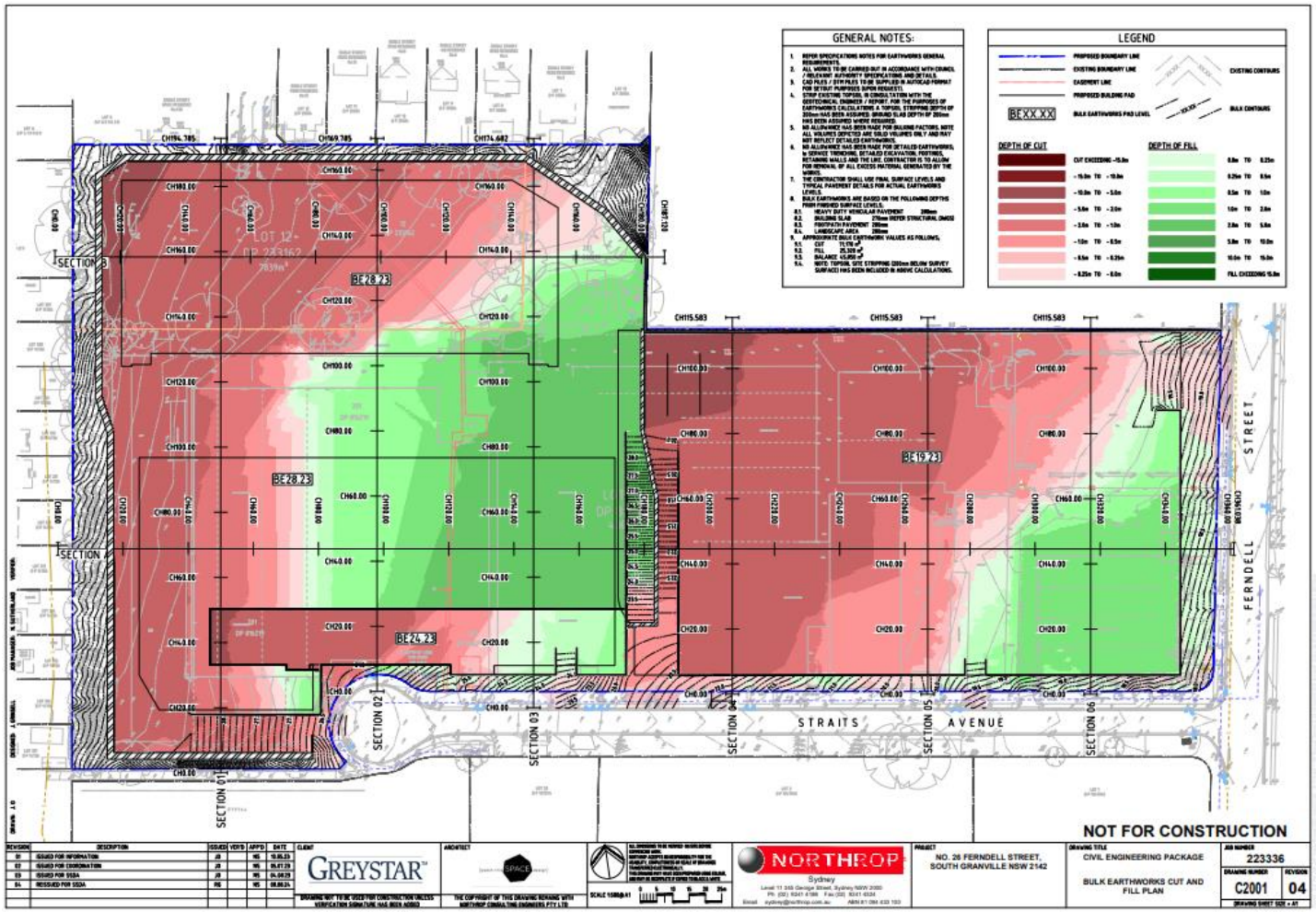


Figure 8 Proposed Bulk Earthworks Plan (Source: Northrop 2024)

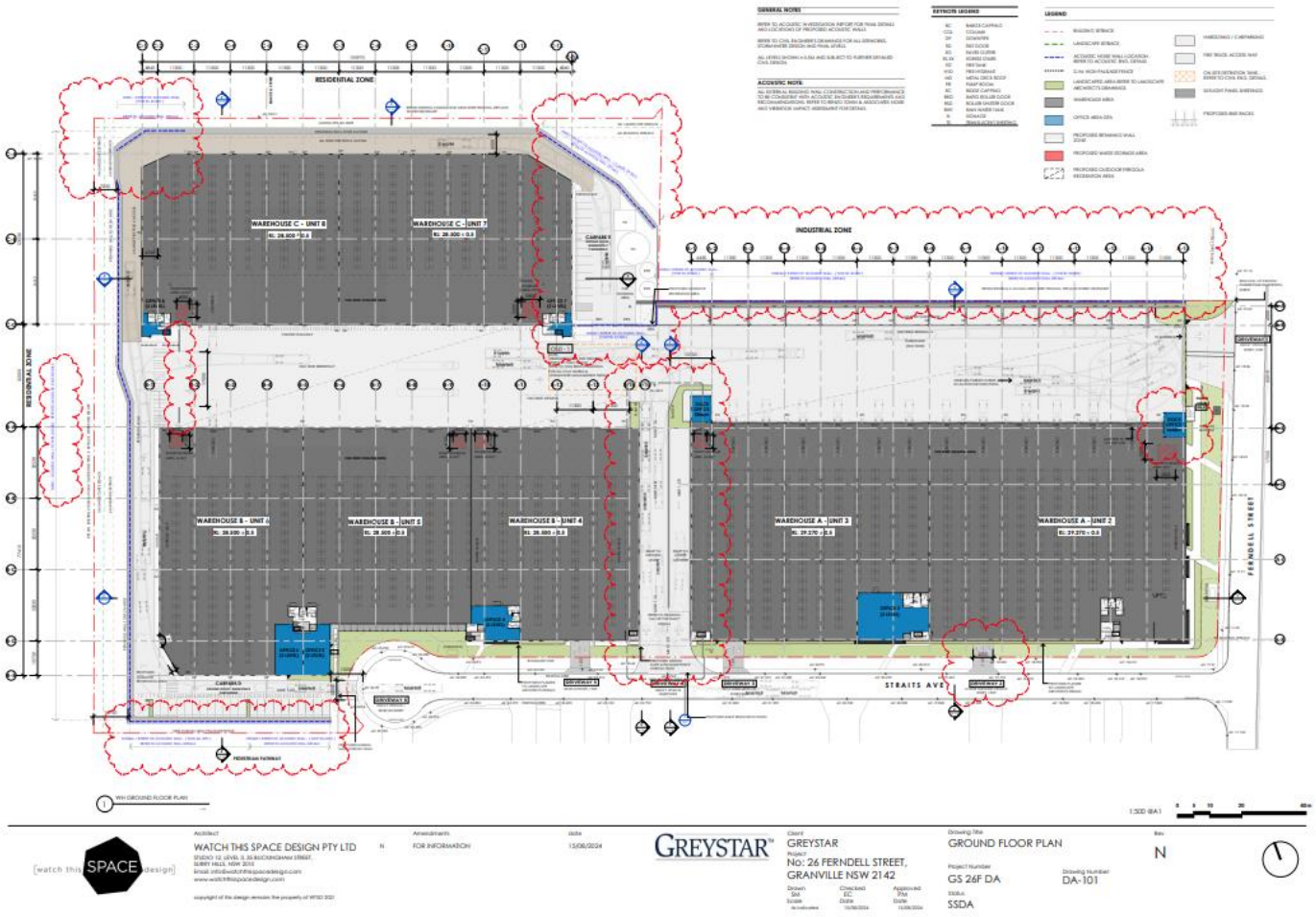


Figure 9 – Ground Floor Plan (Source: Watch this Space, 2024)

3.0 Environmental Management Framework

3.1 Project Organisational Structure

Prestige is the applicant for the Project and has overall responsibility for compliance with SSD 51310208 Development Consent. Prestige will engage a Principal Contractor for the construction of the Project. The Principal Contractor (Vaughan) will be responsible for environmental monitoring and compliance with SSD 51310208, this CEMP and sub-plans. Consultants, contractors, sub-contractors, and all other personnel associated with construction works are to report to the Principal Contractor.

3.2 Roles and Responsibilities

All personnel are responsible for the implementation of this CEMP.

The key personnel responsible for environmental management are listed in Table 8.

Table 8: Personnel Responsible for Environmental Management

Role	Responsibilities
Superintendent (Prestige)	• Overall responsibility for compliance with approval requirements. • Liaise with the Principal Contractor to keep them informed of the project's progress. • Overall Responsibility for compliance with approval requirements.
Contractor's Project Manager (Vaughan Constructions)	• Environmental reporting responsibility associated with the development. • Ensure the legislative and corporate safety, health and environment management measures and controls are implemented and maintained. • Record, notify, investigate and respond to any environmental incidents and, where necessary, develop and implement corrective actions. • Responsibility for compliance with approval requirements. • Liaise with the Proponent to keep them informed of the project's progress. • Consult and engage with any subcontractors or interfacing contractors regarding the environmental management of the Site. • Lead and manage the community involvement activities, including liaison with property owners and key stakeholders. • Lead the delivery of communication and community engagement strategies and plans. • Facilitate meetings, forums and arranging interviews to address concerns from community. • Provide advice and participate with the project teams to improve and enhance the delivery of communication services to the community. • Build, maintain collaborative and consultative working relationships with internal and external stakeholders. • Be available for contact by local residents, key stakeholders and community representatives to answer queries and provide more information or feedback.
Contractor's Site Manager (Vaughan Constructions)	• All the responsibilities attributed to the Construction Contractor throughout this CEMP. • Environmental reporting responsibility associated with the development. • Ensuring that the appropriate management response and handling procedures are instigated and carried through in the event of an incident and/or non-compliance. • Regularly monitor the implementation of the CEMP to ensure implementation is being carried out in accordance with the document and the terms of this consent. • Provide adequate environmental inductions/training to employees and contractors regarding their requirements under this CEMP. • Participate in risk and hazard identification and control.

Role	Responsibilities
	• Participate in incident investigations and management. • Participate in health and safety inspections. • Be the primary daily contact to the public handling of enquiries / complaints management / interface issues. • Maintain the complaints register and make available the complaints register to the Contractors Project Manager on a daily basis. • Be available for contact by local residents and the community at all reasonable times to answer any questions. • Liaise with property owners to co-ordinate access and to deal with specific property related issues arising from the upgrade works.
All employees, contractors and subcontractors	• Ensure familiarity, implementation and compliance with this CEMP and appended management plans. • Support the Proponent's commitment to sustainability, environmental management and compliance. • Work in a manner that will not harm the environment or impact on surrounding receptors. • Report all environmental incidents, non-compliances and complaints to the Project Manager without delay. • Immediately notify the Contractor's Project Manager of any hazard or potential hazard that may result in an incident and/or non-compliance, regardless of the nature or scale. • Take immediate action (where it is safe to do so) to prevent, stop, contain and/or minimise any adverse impact associated with an incident and/or non-compliance. • Report any inappropriate construction practices and/or environmental management practices to the Project Manager without delay.

3.3 Statutory Requirements

3.3.1 SSD - 51310208

The Development will be constructed in accordance with Condition B2 of SSD 51310208, specifically:

a) In compliance with the conditions of this consent;

b) In accordance with all written directions of the Planning Secretary;

c) In accordance with the EIS, RTS and additional information;

d) In accordance with the Development Layout in SSD 51310208 Appendix 1; and

e) In accordance with the management and mitigation measures in SSD 51310208 Appendix 2.

In accordance with Condition B3 of SSD 51310208, consistent with the requirements in this consent, the Planning Secretary may make written directions to the Applicant in relation to:

a) The content of any strategy, study, system, plan, program, review, audit, notification, report or correspondence submitted under or otherwise made in relation to this consent, including those that are required to be, and have been, approved by the Planning Secretary; and

b) The implementation of any actions or measures contained in any such document referred to in condition B3(a).

In accordance with Condition B4 of SSD 51310208, the conditions of this consent and directions of the Planning Secretary prevail to the extent of any inconsistency, ambiguity or conflict between them and a document listed in condition B2(c) or B2(e). In the event of an

inconsistency, ambiguity, or conflict between any of the documents listed in condition B2(c) or B2(e), the most recent document prevails to the extent of the inconsistency, ambiguity or conflict.

SSD 51310208 imposes a number of environmental performance and management requirements applicable to the construction.

A copy of the Consent for SSD 51310208 is attached at **Appendix A** and all conditions of consent relevant to this CEMP are attached at **Appendix B.**

3.3.2 Regulatory Framework

The relevant statutory requirements of the site are listed in **Table 9** below. Whilst other statutory documents have been considered in the preparation of this CEMP, only those with specific triggers/requirements that relate to construction of the site have been documented.

Table 9: Relevant Statutory Requirements

Legislation	Requirements	Environmental Aspect
Commonwealth		
Commonwealth Environment Protection and Biodiversity Conservation Act 1999	Compliance with range of processes to help protect and promote the recovery of threatened species and ecological communities, and preserve significant places from decline.	The Australian environment, including its biodiversity and its natural and culturally significant places.
State Planning Context		
Environment Planning and Assessment Act 1979	Consideration of the impacts to the environment (both natural and built) and the community of proposed development or land-use change The Project must comply with the SSD 51310208 Development Consent.	All
Environmental Planning and Assessment Regulation 2021	Compliance with the environmental planning and assessment system including notification requirements and certificates.	Environmental Management Framework.
Biodiversity Conservation Act 2016	Comply with biodiversity conservation obligations.	Biodiversity
National Parks and Wildlife Act 1974	Conservation of natural and cultural heritage. Protection and recording of Indigenous and non-Indigenous heritage values.	Aboriginal Heritage Earthmoving /excavation works – identifying unexpected finds.
Protection of the Environment Operations Act 1997	Handling, storage and disposal of all waste streams on site. Protection, restoration and enhancement of the quality of the NSW environment Activities where Environment Protection Licence is required.	Construction waste management Discharges or emissions to air, land and water.

Legislation	Requirements	Environmental Aspect
State Environmental Planning Policy (Resilience and Hazards) 2021	Remediation of contamination lands and consent requirements.	In the event of any unexpected find of contaminants/ contamination
State Environmental Planning Policy (Industry and Employment) 2021	Compliance with the development and land use policies in relation to industry and employment.	Pollution control, noise management, social impacts and sustainable design and construction practices.
State Environmental Planning Policy (Transport and Infrastructure) 2021	Compliance with Transport and Infrastructure planning provisions and controls.	Transport and Infrastructure.
State Environmental Planning Policy (Planning Systems) 2021	Compliance with the development controls of an SSD and SSD 51310208.	All
State Environmental Planning Policy (Biodiversity and Conservation) 2021	Comply with biodiversity conservation obligations.	Biodiversity
Local Planning Context		
Cumberland Development Control Plan 2012 (CDCP 2021)	Comply with local environmental planning provisions.	All

3.3.3 Other Licences, Permits, Approvals and Consents

Table 10 summarises the additional licences, permits, approvals and consents required throughout these works. This information has been summarised from the SSD 51310208 Consent Conditions and the EIS (Ethos Urban, 2024). It is the Construction Contractor's responsibility to ensure that any license, permit, approvals listed in (but not limited to) **Table 10**, has been obtained in the required timeframe.

A current list of licences, permits, approvals and consents, and their status, including any new additions as the project progresses, will be included in the Construction Contractor's monthly report.

Table 10: Licences, Permits, Approvals and Consents

Licence, permit, Approval or consent	Person Responsible	Timing	References / Notes
This development consent does not commence until approval from Cumberland City Council Traffic Committee referred to in Condition A3 has been submitted to the Planning Secretary. Pursuant to section 4.16(3) of the EP&A Act, this development consent is granted subject to the following deferred commencement condition: (a) The Applicant must submit to the Planning Secretary, the approval from Cumberland City Council's Traffic Committee for the removal of all public car parking within Straits Avenue, South Granville	Superintendent, Contractors Project Manager	Prior to construction	SSD 51310208 Condition A1 & A3

Licence, permit, Approval or consent	Person Responsible	Timing	References / Notes
Prior to the commencement of construction, the Applicant must provide the Certifier with documented evidence that all on-street public car parking along Straits Avenue has been removed in accordance with the approval obtained from the Cumberland City Council Traffic Committee (see condition A3). The Applicant must provide a copy of the documentation given to the Certifier (see condition B6) to the Planning Secretary within seven days after the Certifier accepts it.	Superintendent, Contractors Project Manager	Prior to construction	SSD 51310208 Condition B6 & B7
All licences, permits, approvals and consents as required by law must be obtained and maintained as required for the development. No condition of this consent removes any obligation to obtain, renew or comply with such licences, permits, approvals and consents.	Superintendent, Contractors Project Manager	Ongoing	SSD 51310208 Condition AN1
Prior to the commencement of construction of the development, the Applicant must: (a) consult with the relevant owner and provider of services or public infrastructure that are likely to be affected by the development or that need to be installed as part of the development, to make suitable arrangements for relevant approvals, access to, diversion, protection and support of the affected services or infrastructure;	Superintendent & Contractors Project Manager	Prior to the construction	SSD 51310208 Condition B14
Unless the Applicant and the applicable authority agree otherwise, the Applicant must: (a) repair, or pay the full costs associated with repairing, any public infrastructure that is damaged by carrying out the development; (b) relocate, or pay the full costs associated with relocating, any public infrastructure that needs to be relocated as a result of the development; and (c) obtain any relevant approval(s) from the relevant service provider(s), prior to undertaking construction of the corresponding utility works.	Superintendent & Contractors Project Manager	Ongoing	SSD 51310208 Condition B15
Before the issuing of a Subdivision Works or Construction Certificate for any stage of the development, the Applicant (whether or not a constitutional corporation) is to provide evidence, satisfactory to the Certifier, that arrangements have been made for: (a) the installation of fibre-ready facilities to all individual lots and/or premises in the development to enable fibre to be readily connected to any premises that is being or may be constructed on those lots; and (b) the provision of fixed-line telecommunications infrastructure in the fibre-ready facilities to all individual lots and/or premises in the development demonstrated through an agreement with a carrier.	Superintendent & Contractors Project Manager	Prior to issuing of a Subdivision Works or Construction Certificate	SSD51310208 Condition B17

Licence, permit, Approval or consent	Person Responsible	Timing	References / Notes
The external walls of all buildings including additions to existing buildings must comply with the relevant requirements of the BCA. Prior to the issuing of: (a) any Construction Certificate relating to the construction of external walls (including the installation of finishes and claddings such as synthetic or aluminium composite panels)	Contractors Project Manager	Prior to construction & Ongoing	SSD 51310208 Condition B21 and B22.
A23. Prior to the issue of a construction certificate for any part of the development, a payment of a levy of 1% of the proposed cost of carrying out the development must be paid to Council under section 7.12 of the EP&A Act and in accordance with the *Cumberland City Council.*	Superintendent	Prior to the construction	SSD51310208 Condition B25
Prior to the commencement of construction of the development, the Applicant must prepare a Construction Traffic Management Plan for the development to the satisfaction of the Planning Secretary. The plan must form part of the CEMP required by condition C2 and must: (a) be prepared by a suitably qualified and experienced person(s) (b) be prepared in consultation with Council; (c) detail the measures that are to be implemented to ensure road safety and network efficiency during construction; (d) detail heavy vehicle routes, access and parking arrangements; (e) include a Driver Code of Conduct to: (i) minimise the impacts of earthworks and construction on the local and regional road network; (ii) minimise conflicts with other road users; (iii) minimise road traffic noise; and (iv) ensure truck drivers use specified routes; (f) include a program to monitor the effectiveness of these measures; and (g) if necessary, detail procedures for notifying residents and the community (including local schools), of any potential disruptions to routes	Superintendent & Contractors Project Manager	Prior to the construction	SSD51310208 Condition C1
The Applicant must offer and prepare (if the offer is accepted) a pre-construction and post-construction dilapidation survey of the heritage listed item “Acrow Building” at 7-11 Ferndell Street, South Granville at the following stages of the development: (a) for the pre-construction dilapidation survey, prior to the commencement of construction; and (b) for the post-construction dilapidation survey, within one month after the conclusion of construction (or as otherwise agreed with the Planning Secretary). Each dilapidation survey (see condition C13) must:	Superintendent & Contractors Project Manager	Prior to the construction	SSD 51310208 Condition C13 & C14

Licence, permit, Approval or consent	Person Responsible	Timing	References / Notes
be prepared in accordance with the recommendations of the Historical Heritage Statement of Heritage Impact (Appendix H of the EIS); and be submitted to the Planning Secretary and the relevant property owners within 7 days of it having been finalised by the Applicant.			
The Applicant must finalise the detailed design of the stormwater management system for the development, prior to the commencement of construction of that system. The system must: (a) be designed by a suitably qualified and experienced person(s); (b) be designed in consultation with Council; (c) be generally in accordance with the conceptual design in the EIS; (d) be in accordance with applicable Australian Standards; and (e) ensure that the system capacity has been designed in accordance with Australian Rainfall and Runoff (Engineers Australia, 2016) and Managing Urban Stormwater: Council Handbook (EPA, 1997) guidelines;	Superintendent & Contractors Project Manager	Prior to the construction of stormwater system	SSD 51310208 Condition C25.
Prior to the commencement of any earthworks or remediation works for the development on site, the Applicant must engage a Site Auditor accredited under the Contaminated Land Management Act 1997 NSW Site Auditor Scheme.	Superintendent & Contractors Project Manager	Prior to commencement of any earthworks or remediation works	SSD 51310208 Condition C45.

3.4 Environmental Training

The Contractor's Project and Site Manager will ensure that all employees and contractors involved in the project are appropriately inducted and trained prior to commencing work on site. Training in relation to environmental responsibilities and implementation of this CEMP will take place initially through the site induction training and then on an ongoing basis through 'toolbox talks' (or similar).

All employees, contractors (and their sub-contractors) conducting environmental training and site staff assigning work activities will demonstrate that they are competent and appropriately trained to train and manage construction site specific environmental issues.

A register of all environmental training carried out, including dates, names of persons trained, and trainer name and qualification details will be established and maintained for the duration of works.

3.4.1 Environmental Induction Training

The environmental induction training will cover all elements of the CEMP and will include, as a minimum, the information in **Table 11**.

Table 11: Environmental Induction Training

Inductions and Environmental Training	Reference / Notes
Purpose and objectives of the CEMP.	Section 1.4

Inductions and Environmental Training	Reference / Notes
Hours of Construction	Section 2.2
Requirements of due diligence and duty of care	Section 3
Conditions of any environmental licences, permits and consent approvals	Section 3.3
Potential environmental emergencies on site and the emergency response procedures, locations and training in the use of emergency spill kits for spills on water and on land	Section 3 and Section 4.
Reporting, and notification and management requirements for pollution, contamination and other environmental incidents, and for damage and maintenance to environmental controls	Section 3.5 and 5
High-risk activities and associated environmental safeguards	Section 4
Noise, vibration, and air quality management controls	Section 4.2 and 4.3
Construction Traffic Management	Section 4.4
Sound erosion and sediment control practices, water quality controls and sediment basin management	Section 4.4 and 4.6.
Waste minimisation principles	Section 4.6
Stop work protocol in the event of the discovery of Aboriginal or Historic item or object of significance	Section 4.10
Induction requirements as per the Unexpected Finds Procedure – Contamination	Section 4.8
Induction requirements for Flora and Fauna – Biodiversity management	Section 4.7

3.4.2 Toolbox Talks

Toolbox talks or similar will be held to identify environmental issues and controls when works commence in a new area of the site or a new activity, as well as when environmental issues arise on site. The toolbox talk will include but not be limited to:

- A description of the activity and the area;
- Identification of the environmental issues and risks for the area (including fauna or flora); and
- Outline the mitigations measures for the works and the area (see **Section 4**).

3.5 Incident Response and Handling Procedure

3.5.1 Performance Objective

To ensure that any incident and/or non-compliance caused by or relating to construction is effectively responded to, reported accordingly, and any resulting adverse environment and/or human health impact is promptly prevented or effectively managed.

3.5.2 Definitions

For the purposes of this CEMP the definitions detailed in **Table 12** will be adopted and applied during construction.

Table 12: Incident Definitions

Term	Definition
Incident	An occurrence or set of circumstances that causes or threatens to cause material harm and which may or may not be or cause a non-compliance.
Material Harm Incident	a) involves actual or potential harm to the health or safety of human beings or to the environment that is not trivial, or b) results in actual or potential loss or property damage of an amount, or amounts in aggregate, exceeding $10,000, (such loss includes the reasonable costs and expenses that would be incurred in taking all reasonable and practicable measures to prevent, mitigate or make good harm to the environment).
Non-Compliance	An occurrence, set of circumstances or development that is a breach of this consent
Minor Environmental Event	an incident that is minor where there has been no potential or actual material harm to the environment (see 'material harm' definition above).

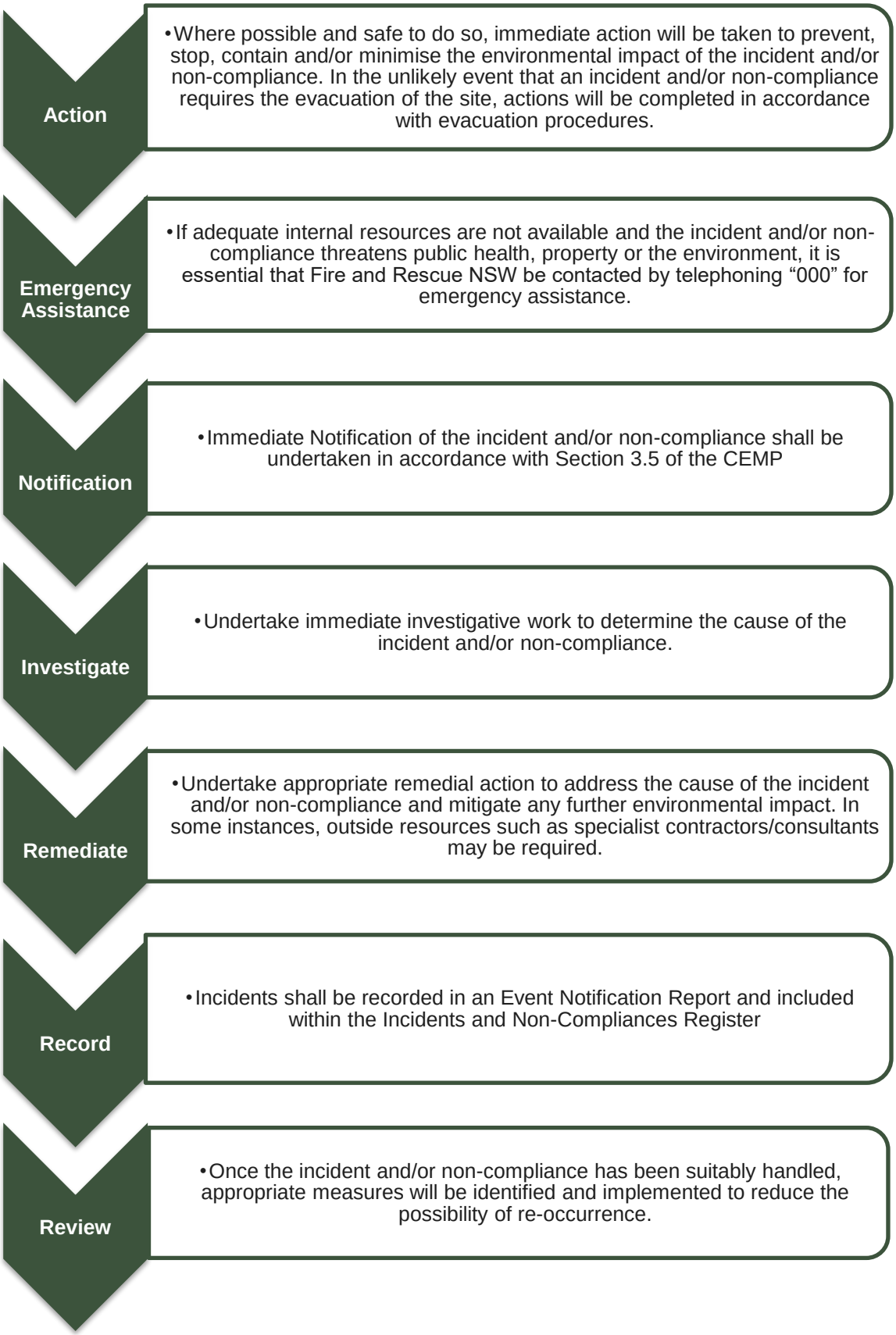
All incidents will be identified and reported by any person to the Site Manager immediately.

3.5.3 Incident Response

In the instance of an incident, Vaughan Construction's Incident and Investigation Response Form **Appendix E** must be completed by site personnel and forwarded to Head Office for all environmental incidents and non-compliances to provide the basis for incident analysis directed towards impact prevention.

The Incidents and Non-Compliance Handling Process shown in **Figure 10** will be implemented.

Figure 10: Incidents and Non-Compliance Handling Process



3.5.4 Incident and Non-Compliance Notifications

In the instance of an incident, the notification protocols outlined in **Table 13** and SSD 51310208 Conditions D9, D10, D11 & D12 will be implemented.

Table 13: Incident Notification Process

Notification Requirement	Responsible	Timeframe Reference
Incidents		
Upon awareness of an incident, the Contractors Site Manager shall be notified of and provided with all relevant information pertaining to the potential or actual incident. The Site Manager will subsequently notify the Project Manager the details. .	Any person engaged as an employee or undertaking an activity with regard to construction	Immediately after becoming aware of a potential or actual incident
The Contractor's Project Manager will notify Prestige of any incident including all relevant information pertaining to the incident.	Contractor's Project Manager	Immediately after becoming aware of a potential or actual incident
The Contractor's Project Manager will review the relevant information pertaining to the incident and apply the Definitions in **Table 12**	Contractor's Project Manager	Immediately
Prestige will notify DPHI of an incident in writing via the Major Projects Website.	Superintendent	Immediately
An Event Notification Report will be completed and provided to Prestige.	Contractor's Project Manager	Within 24 hours
Prestige will provide a formal written notification of an incident to DPHI via the Major Projects Website.	Superintendent	Within 7 days after becoming aware of incident
Provide written notification of the non-compliance to the Major Projects website.	Superintendent	Within 7 days after becoming aware of non-compliance
Prestige will provide DPHI and any relevant public authorities a detailed report on the incident	Superintendent	Within 30 days of the incident occurring or as otherwise agreed to by the Planning Secretary

Under the Protection of the Environment Operation Act 1997 (NSW), "relevant authority" means any of the following:

- The appropriate regulatory authority – the Environment Protection Authority (EPA);
- If the EPA is not the appropriate regulatory authority – the local authority for the area in which the pollution incident occurs (i.e. Council);
- NSW Public Health Unit;
- SafeWork NSW; and
- Fire and Rescue NSW.

Table 14 lists the contact details for these authorities. The person reporting the pollution incident will provide the following key details:

- Location of the pollution incident emergency;

- Nature of the pollution incident/emergency;
- Their name and contact details; and
- Details of any required assistance.

Table 14: Regulatory Authority Contact List

Regulatory Authority / Stakeholder	Key Contact	Contact Details	
Department of Planning, Housing and Infrastructure (DPHI)	Compliance Unit	1300 305 695 or 02 9228 6111 compliance@planning.nsw.gov.au	
Environment Protection Authority (EPA)	Environment Line	131 555 info@environment.nsw.gov.au	
	Head office (Sydney)	02 9995 5000	
Environment and Heritage	Main switchboard	1300 361 967 info@environment.nsw.gov.au	
Cumberland City Council	Main switchboard	(02) 8757 9000 council@cumberland.nsw.gov.au	
Water NSW	Main switchboard	1300 662 077 Customer.Helpdesk@waternsw.com.au	
	Incident Notification Number – 24 hours	1800 061 069	
NSW Public Health Unit	Sydney Local Health District	Business hours: 1300 066 055 After hours: 02 9515 6111	
SafeWork NSW	Incident Notification Hotline	131 050 Select Option 3 to report a “Serious Incident or Fatality” – this will result in the incident being recorded and the appropriate person being contacted.	
Emergency Services	NSW Police NSW Fire and Rescue NSW Ambulance Service	131 444 1300 729 579 -	In case of emergency – 000

A material harm incident notification will identify the development and the application number for it, the way in which it does not comply and the reasons for the material harm incident (if known) and what actions have been, or will be, undertaken to address the material harm incident.

Refer to **Figure 11** below for the Incidents and Non-Compliance Handling Process.

3.5.5 Register

Records of all incidents and non-compliances will be maintained in Vaughan’s incident register system (**Appendix E**). Details of all incidents and complaints will be retained for at least five years after the event to which they relate.

3.6 Complaints Response and Handling Procedure

All employees who take receipt of a complaint, either verbal or written, are to take note of the name and contact details of the complainant and the nature of the complaint and immediately notify the Vaughan’s Representative, who will then contact Prestige’s Representative (Superintendent) to commence proceedings, shown in **Table 15**.

3.6.1 Complaints Register

In the event that a complaint is received, Vaughan's site management is to be informed of the complaint. Written complaints can be submitted via email to the Contractors Project Manager by the Site Manager.

Table 15 below, outlines the complaints handling methods for contact.

Table 15: Complaints Handling

Contact Method	Details
Point of contact	David Upton
Mailing address	9A Commercial Road Kingsgrove, NSW 2208
Phone number	0412 719 623
Email	david.upton@vaughans.com.au
Website	Vaughans.com.au

A Complaints Register will be maintained for the duration of construction by the Site Manager and are to be maintained for at least five years after the event by the Project Manager to which they relate to. The Complaints Register will be updated as complaints and enquiries are received. **Table 16** below outlines the response times for construction complaints and enquires.

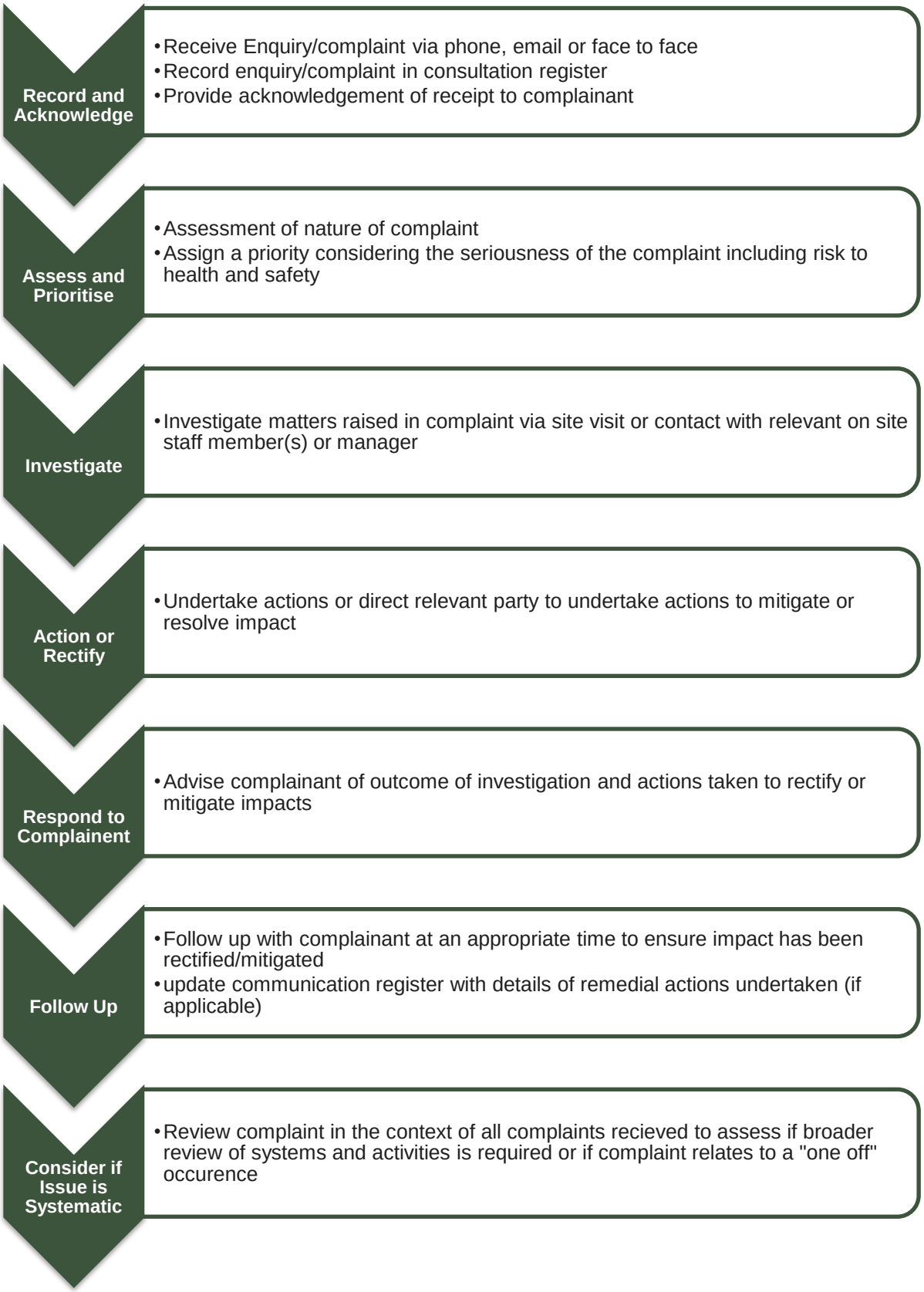
Table 16: Complaint and Enquiry Response Times

Channel	Response Time
Email	One business day
In-person contact	Same day
Site phone line	1 to 2 hours - during business hours
Website contact	Three business days

Figure 11 below outlines the enquiry and complaints management process.

In circumstances, where a complaint cannot be resolved through the usual process, a complaint may be referred for independent mediation. Vaughan Constructions will facilitate communications with all parties to reach an agreeable outcome.

Figure 11: Complaints Handling Procedure



4.0 Environmental Management Commitments

Environmental aspects with the potential to be impacted by construction of the site are addressed in the following sub-sections. These issues have specific regulatory requirements and/or are considered to have the highest potential to result in a non-compliance with a legislative requirement or generate community complaints.

4.1 General

Table 17 lists the general environmental controls that will be implemented throughout the life of the development to minimise the potential for adverse impacts on the local environmental and surrounding receptors.

Table 17: General Environmental Management Controls

Environmental Management Control	Person Responsible	Timing / Frequency	Reference / Notes
All reasonable and feasible measures must be implemented to prevent, and if prevention is not reasonable and feasible, minimise any material harm to the environment that may result from the construction and operation of the development, and any rehabilitation required under this consent.	Contractors Project Manager	Prior to Construction and Ongoing	SSD 51310208 condition B1
Carry out the project generally in accordance with the: (a) in compliance with the conditions of this consent; (b) in accordance with all written directions of the Planning Secretary; (c) in accordance with the EIS, RTS and SSR; (d) in accordance with the Development Layout in Appendix 1; and (e) in accordance with the management and mitigation measures in Appendix 2 If there is any inconsistency between the above, the Conditions of Approval shall prevail to the extent of the inconsistency.	Superintendent & Contractors Project Manager	Prior to Construction and Ongoing	SSD 51310208 condition B2
All demolition must be carried out in accordance with Australian Standard AS 2601-2001 The Demolition of Structures (Standards Australia, 2001).	Contractors Site Manager	Ongoing during Demolition	SSD 51310208 condition B19
The Applicant must ensure that all of its employees, tenants, contractors (and their sub-contractors) are made aware of, and are instructed to comply with, the conditions of this consent relevant to activities they carry out in respect of the development	Superintendent, Contractors Project Manager & Site Manager	Ongoing	SSD 51310208 condition B24
All plant and equipment used on site, or to monitor the performance of the development, must be: (a) maintained in a proper and efficient condition; and (b) operated in a proper and efficient manner.	Contractors Site Manager	Ongoing	SSD51310208 condition A28

Environmental Management Control	Person Responsible	Timing / Frequency	Reference / Notes
References in the conditions of this consent to any guideline, protocol, Australian Standard or policy are to such guidelines, protocols, Standards or policies in the form they are in as at the date of this consent. However, consistent with the conditions of this consent and without altering any limits or criteria in this consent, the Planning Secretary may, when issuing directions under this consent in respect of ongoing monitoring and management obligations, require compliance with an updated or revised version of such a guideline, protocol, Standard or policy, or a replacement of them.	Superintendent & Contractors Site Manager	Ongoing	SSD51310208 condition B30 & B31
The Applicant must ensure the lighting associated with the development: (a) complies with the latest version of AS 4282-2019 - *Control of the obtrusive effects of outdoor lighting* (Standards Australia, 2019); and (b) is mounted, screened and directed in such a manner that it does not create a nuisance to surrounding properties or the public road network.	Contractors Site Manager	Ongoing	SSD51310208 condition C62
All licences, permits, approvals and consents as required by law will be obtained and maintained as required for the development. See **Section 3.3** of this CEMP.	Superintendent and Contractors Project Manager	As required	SSD 51310208 condition AN1.
The incidents and complaints will be promptly and effectively addressed in accordance with the management strategies contained within Sections 3.5 and 3.6 of this CEMP.	Contractors Site Manager	Ongoing	CEMP Sections 3.5 and 3.6.
All monitoring records will be maintained to demonstrate compliance with the CEMP, including: • Site environmental inspection reports • Environmental monitoring data and • Internal and external audit reports • Reports of environmental incidents, environmental, associated actions taken, and follow-up actions • Minutes of management review meetings • Induction and training records	Contractors Site Manager	For 5 years after completion date	Best practice
Construction will comply with section 120 of the POEO Act, which prohibits the pollution of waters, except as expressly provided for in an EPL.	Contractors Site Manager	Ongoing	SSD 51310208 condition C24

4.2 Noise and Vibration

The environmental management controls in **Table 18** will be implemented as per the Construction Noise & Vibration Management Plan (CNVMP) (**Appendix D**) to minimise the potential for adverse noise emissions from construction. Specific Best practice mitigation measures from the NSW EPA guideline 'Noise Policy for Industry (2017)' (NPfI), 'Road Noise Policy (2011)' (RNP) and the 'Interim Construction Noise Guideline (2009)' (ICNG) will be implemented during construction. Vaughan Construction is carrying out ongoing noise monitoring throughout construction (refer to Figure 12). The location of sensitive receivers are shown in **Figure 12**.

Table 18: Environmental Management Controls for Noise

Environmental Management Control	Person Responsible	Timing / Frequency	Reference / Notes
SSD Conditions			
Works outside of the hours identified in condition B15 may be undertaken in the following circumstances: (a)works that are inaudible at the nearest sensitive residential receivers; or (b)works agreed to in writing by the Planning Secretary; (c) for the delivery of materials required outside these hours by the NSW Police Force or other authorities for safety reasons; or (d) where it is required in an emergency to avoid the loss of lives, property or to prevent environmental harm.	Contractors Site Manager	Ongoing	SSD 51310208 Condition C9
The development must be constructed to achieve the construction noise management levels detailed in the Interim Construction Noise Guideline (DECC, 2009) (as may be updated or replaced from time to time). All feasible and reasonable noise mitigation measures must be implemented and any activities that could exceed the construction noise management levels must be identified and managed in accordance with the management and mitigation measures in the Appendix 2.	Contractors Site Manager	Ongoing	SSD 51310208 Condition C10 and **Appendix D** Section 6.3
Vibration caused by construction at any residence or structure outside the site must be limited to: (a) for structural damage, the latest version of DIN 4150-3 (2016-12) Vibration in Buildings – Part 3: Effects on Structures (German Institute for Standardisation, 2016); and (b) for human exposure, the acceptable vibration values set out in the Environmental Noise Management Assessing Vibration: a technical guideline (DEC, 2006) (as may be updated or replaced from time to time). The limits in condition C11 apply unless otherwise outlined in the development's	Contractors Site Manager	Ongoing	SSD 51310208 Condition C11 & C12 and **Appendix D**

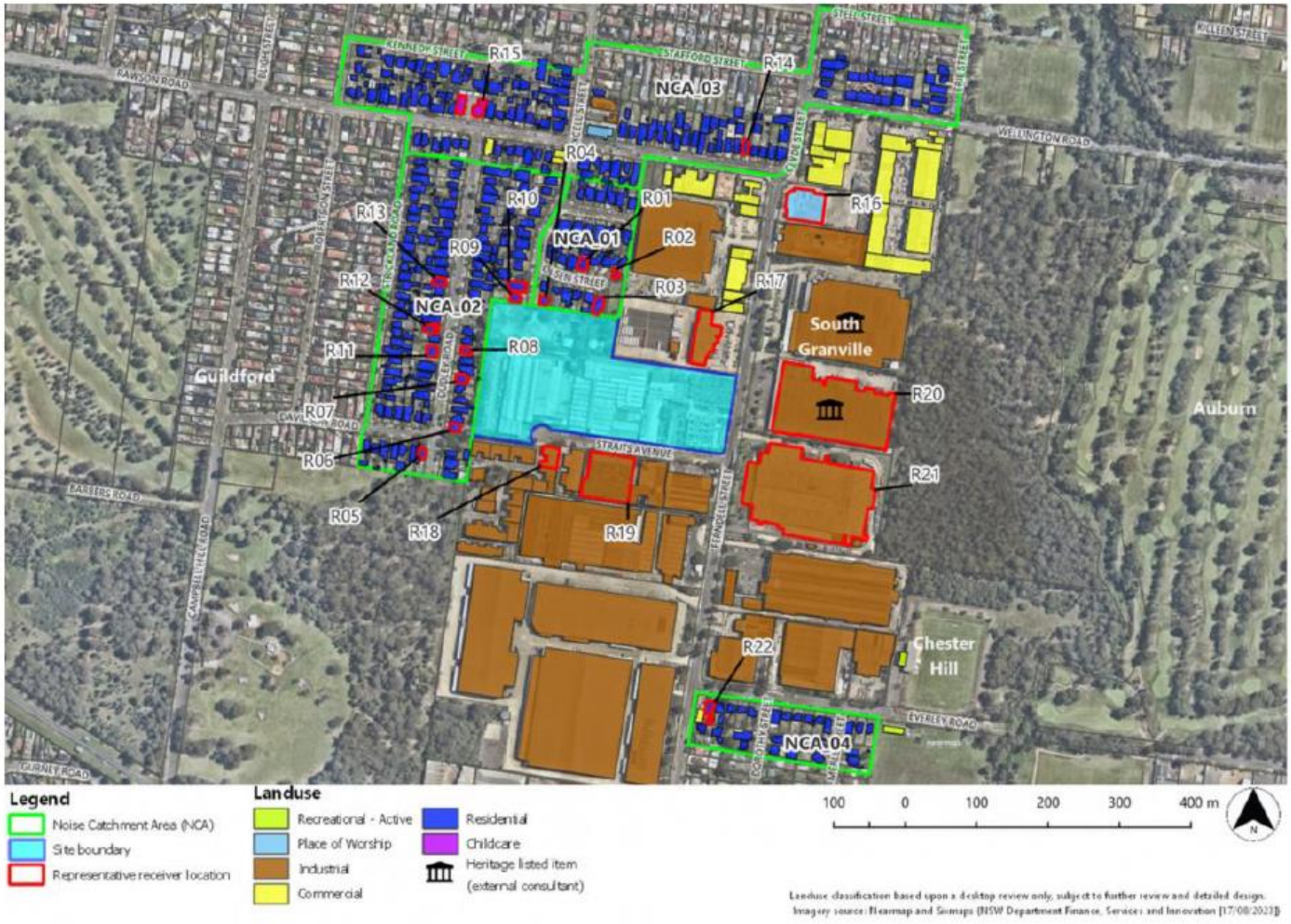
Environmental Management Control	Person Responsible	Timing / Frequency	Reference / Notes
Construction Noise and Vibration Management Plan (see condition C16).			
Prior to the commencement of construction, the Applicant must prepare a Construction Noise and Vibration Management Plan (CNVMP) for the development to the satisfaction of the Planning Secretary. A copy of the CNVMP must be included in the development's CEMP (see condition D2) and must: (a) be prepared by a suitably qualified and experienced noise expert(s); (b) describe procedures for achieving the noise management levels detailed in the Interim Construction Noise Guidelines (as may be updated or replaced from time to time) and the vibration criteria in condition C11; (c) describe the measures to be implemented to manage high noise generating works such as piling, in close proximity to sensitive receivers; (d) include strategies that have been developed with the community for managing high noise generating works (such as the provision of respite periods); (e) include strategies that have been developed in consultation with the directly adjoining properties for managing vibration (such as any alternative construction methods with lower source vibration levels and provision for respite periods); (f) include strategies that have been developed in consultation with the owners of 7-11 Ferndell Street, South Granville to manage potential vibration impacts to heritage item "Acrow Building"; (g) describe the community consultation undertaken to develop the strategies in condition C16(d) and C16(e); and (h) include a complaints management system that would be implemented for the duration of construction of the development The Applicant must: (a) not commence construction until the CNVMP required by condition C16 is approved by the Planning Secretary; and (b) implement the most recent version of the CNVMP approved by the Planning Secretary for the duration of construction	Contractors Project Manager	Before Construction commences	SSD 51310208 Condition C16 & C17 and **Appendix D**

Environmental Management Control	Person Responsible	Timing / Frequency	Reference / Notes
The Applicant must: (a) not commence construction until the CNVMP required by condition C16 is approved by the Planning Secretary; and (b) implement the most recent version of the CNVMP approved by the Planning Secretary for the duration of construction			
Management Measures			
The following is an example of reporting which may be kept on site: 1. A register for complaints received/communication with the local community shall be maintained and kept on site with information as detailed below. 2. Where noise/vibration complaints require noise/vibration monitoring, results from the monitoring shall be retained on site at all times. 3. Any recorded exceedances including the actions taken and results of follow up monitoring. 4. A report detailing any complaints received and actions taken shall be presented. 5. All monitoring and reporting shall be conducted in conjunction with the conditions of consent	Contractors Site Manager	Ongoing	**Appendix D** CNVMP Section 6.3
Site inductions. All employees, contractors and subcontractors are to receive an environmental induction. The induction must at least include: • All project specific and relevant standard noise and vibration mitigation measures • Relevant licence and approval conditions • Permissible hours of work • Any limitations on high noise generating activities • Location of nearest sensitive receivers • Construction employee parking areas • Designated loading/unloading areas and procedures • Site opening/closing times (including deliveries) • Environmental incident procedures.	Contractors Site Manager	Ongoing	CEMP Section 6.4
Behavioural practices. No swearing or unnecessary shouting or loud stereos/radios on site.	Contractors Site Manager	Ongoing	Best Practice

Environmental Management Control	Person Responsible	Timing / Frequency	Reference / Notes
No dropping of materials from height, throwing of metal items and slamming of doors.			
Building condition surveys. Undertake building dilapidation surveys on all buildings located within the buffer zone prior to commencement of activities with the potential to cause property damage.	Contractors Site Manager	Prior to construction	**Appendix D** CNVMP Section 6.3
Source Controls			
Construction hours and scheduling Where feasible and reasonable, construction should be carried out during the standard daytime working hours. Work generating high noise and/or vibration levels should be scheduled during less sensitive time periods.	Contractors Project Manager	Ongoing	**Appendix D** CNVMP Section 4.3 and Section 2.2 CEMP
Equipment selection. Use quieter and less vibration emitting construction methods where feasible and reasonable. Tools and plant equipment with silencers that are in accordance with standard DBA outputs. Ensure plant including the silencer is well maintained.	Contractors Site Manager	Ongoing	**Appendix D** CNVMP Section 6.3.3
Plant Noise Levels			
Use and siting of plant. The offset distance between noisy plant and adjacent sensitive receivers is to be maximised. Plant used intermittently to be throttled down or shut down. Noise-emitting plant to be directed away from sensitive receivers. Only have necessary equipment on site.	Contractors Site Manager	Ongoing	**Appendix D** CNVMP Section 6.3.5
Plan worksites and activities to minimise noise and vibration. Locate compounds away from sensitive receivers and discourage access from local roads. Plan traffic flow, parking and loading/unloading areas to minimise reversing movements within the site.	Contractors Project Manager	Ongoing	**Appendix D** CNVMP Section 6.3
Reduced equipment power. Use only the necessary size and power.	Contractors Site Manager	Ongoing	Best Practice
Non-tonal and ambient sensitive reversing alarms Non-tonal reversing beepers (or an equivalent mechanism) must be fitted and used on all construction vehicles and mobile plant regularly used on site and for any out of hours work.	Contractors Site Manager	Ongoing	Best Practice

Environmental Management Control	Person Responsible	Timing / Frequency	Reference / Notes
Consider the use of ambient sensitive alarms that adjust output relative to the ambient noise level.			
Engine compression brakes Limit the use of engine compression brakes at night and in residential areas. Ensure vehicles are fitted with a maintained Original Equipment Manufacturer exhaust silencer or a silencer that complies with the National Transport Commission's 'In-service test procedure' and standard.	Contractors Site Manager	Ongoing	Best Practice
Path Controls			
Shield stationary noise sources such as pumps, compressors, fans etc. Stationary noise sources should be enclosed or shielded where feasible and reasonable whilst ensuring that the occupational health and safety of workers is maintained. Appendix D of AS 2436:2010 lists materials suitable for shielding.	Contractors Site Manager	Ongoing	**Appendix D** CNVMP Section 6.3.3
Shield sensitive receivers from noisy activities. Use structures to shield residential receivers from noise such as site shed placement; earth bunds; fencing; erection of operational stage noise barriers (where practicable) and consideration of site topography when situating plant.	Contractors Project Manager	Ongoing	**Appendix D** CNVMP Section 6.3.3.

Figure 12: Site Map showing Receivers



Source : Construction Noise and Vibration Management Plan (Acoustic Logic 2025)

4.3 Air Quality

The environmental management controls in **Table 19** will be implemented to minimise the potential for adverse air emissions from construction. Specific Best practice mitigation measures were informed from the IAQM 'Guidance on the Assessment of Dust from Demolition and Construction (2014) and (EPA) guideline entitled "Approved Methods for the Modelling and Assessment of Air Pollutants in NSW (2022) as well as the Air Quality Impact Assessment (SLR 2023).

Table 19: Environmental Management Controls for Air Quality

Environmental Management Control	Person Responsible	Timing / Frequency	References / Notes
Take all reasonable steps to minimise dust generated during all works.	Contractors Site Manager	Ongoing	SSD 51310208 Condition C28 & Air Quality Impact Assessment (SLR 2023) Section 6.1.5
Ensure that: (a) exposed surfaces and stockpiles are suppressed by regular watering or other alternative suppression method; (b) all trucks entering or leaving the site with loads have their loads covered; (c) trucks associated with the development do not track dirt onto the public road network; (d) public roads used by these trucks are kept clean; and (e) land stabilisation works are carried out progressively on site to minimise exposed surfaces.	Contractors Site Manager	Ongoing	SSD 51310208 Condition C29 & Air Quality Impact Assessment (SLR 2023) Section 6.1.5
The Applicant must install and operate equipment in line with best practice to ensure that the development complies with all load limits, air quality criteria/air emission limits and air quality monitoring requirements as specified in the Protection of the Environment Operations (Clean Air) Regulation 2021	Site Manager	Ongoing	SSD 51310208 Condition C30 & Air Quality Impact Assessment (SLR 2023) Section 6.1.5
Plan site layout so that dust generating activities are located away from receptors, as far as possible.	Contractor Site Manager	Prior to construction and ongoing	Best Practice
Demolition			
• Strip buildings internally before demolition, retaining walls and windows where possible as wind blocks. • Use waters suppression during demolition operations. • Re-vegetate or cover (using hessian, mulches or trackifiers) earthworks and exposed areas/soil stockpiles to stabilise surfaces as soon as practicable • Only remove the cover in small areas during work and not all at once	Contractor Site Manager	Demolition & Ongoing	SSD 51310208 Appendix 2

Environmental Management Control	Person Responsible	Timing / Frequency	References / Notes
General			
Ensure sand and other aggregates are stored in bunded areas and are not allowed to dry out, unless this is required for a particular process, in which case ensure that appropriate additional control measures are in place.	Contractor Site Manager	Ongoing	SSD 51310208 Appendix 2
Ensure bulk cement and other fine powder materials are delivered in enclosed tankers and stored in solos with suitable emission control systems to prevent escape of material and overfilling during delivery.	Contractor Site Manager	Ongoing	SSD 51310208 Appendix 2
Ensure bulk cement and other fine powder materials are delivered in enclosed tankers and stored in solos with suitable emission control systems to prevent escape of material and overfilling during delivery.	Contractor Site Manager	Ongoing	SSD 51310208 Appendix 2
Record all dust and air quality complaints, identify cause(s), take appropriate measures to reduce emissions in a timely manner, and record the measures taken.	Contractors Site Manager	Ongoing	CEMP Section 3.6
Make the complaints log available to the local authority when asked.	Contractors Site Manager	Ongoing	Best Practice
Record any exceptional incidents that cause dust and/or air emissions, either on- or off-site, and the action taken to resolve the situation in the logbook.	Contractors Site Manager	Ongoing	Air Quality Impact Assessment (SLR 2023) Table B-1 & CEMP Section 5
Operating Vehicles			
Ensure all vehicles switch off engines when stationary - no idling vehicles.	Contractors Site Manager	Ongoing	Air Quality Impact Assessment (SLR 2023) Table B-1
Avoid the use of diesel or petrol powered generators and use mains electricity or battery powered equipment where practicable.	Contractors Site Manager	Ongoing	Air Quality Impact Assessment (SLR 2023) Table B-1
Implement a wheel washing system (with rumble grids to dislodge accumulated dust and mud prior to leaving the site where reasonably practicable).	Contractor Site Manager	Ongoing	Air Quality Impact Assessment (SLR 2023) Section 6.1.5
Waste Management			
Avoid bonfires and burning of waste materials.	Contractors Site Manager	Ongoing	Air Quality Impact Assessment (SLR 2023) Table B-1

4.4 Traffic

The environmental management controls in **Table 20** will be implemented to minimise the potential for adverse traffic from construction. Refer to the Construction Traffic Management Plan (SLR, 2024) for more detail (**Appendix G**).

Table 20: Environmental Management Controls for Traffic

Environmental Management Control	Person Responsible	Timing / Frequency	References / Notes
This development consent does not commence until approval from Cumberland City Council Traffic Committee referred to in Condition A3 has been submitted to the Planning Secretary Pursuant to section 4.16(3) of the EP&A Act, this development consent is granted subject to the following deferred commencement condition: The Applicant must submit to the Planning Secretary, the approval from Cumberland City Council's Traffic Committee for the removal of all public car parking within Straits Avenue, South Granville. Prior to the commencement of construction, the Applicant must provide the Certifier with documented evidence that all on-street public car parking along Straits Avenue has been removed in accordance with the approval obtained from the Cumberland City Council Traffic Committee (see condition A3). The Applicant must provide a copy of the documentation given to the Certifier (see condition B6) to the Planning Secretary within seven days after the Certifier accepts it.	Superintendent	Before Construction	SSD 51310208 Conditions A1, A3, B6 & B7
Implementation of Construction Traffic Management Plan(CTMP).	Contractors Site Manager	Before Construction commences & Ongoing	SSD 51310208 Condition C1 & C2, Construction Traffic Management Plan (SLR, 2024) Section 5
During construction of the development, the Applicant must ensure that: (a) exposed surfaces and stockpiles are suppressed by regular watering or other alternative suppression method; (b) all trucks entering or leaving the site with loads have their loads covered; (c) trucks associated with the development do not track dirt onto the public road network; (d) public roads used by these trucks are kept clean; and	Contractors Site Manager	Ongoing	Construction Traffic Management Plan (SLR, 2024) Section 6 SSD 51310208 Condition C29
Incorporate car park signage to indicate direction of travel and traffic calming devices including speed humps and speed limits	Contractors Site Manager	Before Construction commences & Ongoing	SSD 51310208 Conditions Appendix 2
Implement Construction Traffic Management Plan, with considerations to: • ensure footpaths remain accessible at all times, given the elderly and children rely more on footpaths to get around their local areas • the active transport routes (walking, cycling) of local residents and children commuting to nearby schools	Contractors Site Manager	Ongoing	SSD 51310208 Conditions Appendix 2

Environmental Management Control	Person Responsible	Timing / Frequency	References / Notes
• consideration of Masjid Al Noor (mosque) as an activity centre when managing traffic routes, in order to minimise impacts on worshippers			
Implementation of Construction Phase Traffic Management Measures in the CTMP. • Drivers Code of Conduct • Traffic Guidance Scheme • Site Management • Heavy Vehicle Management	Contractors Site Manager	Ongoing	Construction Traffic Management Plan (SLR, 2024). Section 5.
Construction Traffic on Ferndell Street/Straits Avenue: Construction traffic will use the four construction accesses to enter/exit the site for the works. Construction traffic will remain extremely low to ensure the impacts to motorists within the area are minimal.	Contractors Site Manager	Ongoing	Construction Traffic Management Plan (SLR, 2023). Section 5.5.
Management of deliveries: The site manager will manage deliveries to ensure that construction vehicle movements will remain low.	Contractors Site Manager	Ongoing	Construction Traffic Management Plan (SLR, 2023). Section 5.5.
Managing dirt on the public road network: The use of rumble grids positioned at the site's access points, as well as the use of water trucks and sweeper trucks for Ferndell Street/Straits Avenue shall ensure the existing network is free of dirt from the site.	Contractors Site Manager	Ongoing	Construction Traffic Management Plan (SLR, 2023). Section 5.5.
Safety during construction: Safety to motorists and the public throughout the area will be maintained during construction through the preparation and execution of a Traffic Guidance Scheme (TGS). One TGS will be implemented to manage the accesses throughout construction, identify all reasonably foreseeable hazards, assess the hazards, and manage the hazards as best possible by either eliminating or minimising the risks. The TGS shall be monitored and updated accordingly throughout the project.	Contractors Project Manager	Ongoing	Construction Traffic Management Plan (SLR, 2024). Section 5.5.
Reporting: Reporting and monitoring of movements during peak periods are to be undertaken to ensure that drivers are adhering to restricted times, and to ensure that the approved traffic generation and subsequent impacts on the road network are in line with those approved.	Contractors Site Manager	Ongoing	Construction Traffic Management Plan (SLR, 2024). Section 5.5.
Induction to Drivers Code of Conduct: Vehicle operators accessing the construction site shall be inducted onto the Drivers Code of Conduct (**Appendix C**) on an as-required basis prior to entering the site. The Contractor is to maintain a register of inducted operators with evidence of induction by capturing operator signatures.	Contractors Site Manager	Ongoing	Construction Traffic Management Plan (SLR, 2024). Section 5.5.

4.5 Soil, Water & Stormwater

The environmental management controls in **Table 21** will be implemented to minimise the potential for adverse soil and water impacts from construction. Refer to the Erosion and Sediment Control Plans (Northrop, 2024) for more detail (**Appendix H**). Erosion and Sediment controls will be installed and maintained in accordance with the requirements of Managing Urban Stormwater – Soils and Construction - Volume 1: Blue Book (Landcom, 2004).

Table 21: Environmental Management Controls for Soil and Water

Environmental Management Control	Person Responsible	Timing / Frequency	References / Notes
(a) ensure that only VENM, ENM, or other material approved in writing by EPA is brought onto the site; (b) keep accurate records of the volume and type of fill to be used; and (c) make these records available to the Planning Secretary upon request.	Contractors Site Manager	Prior to construction and ongoing	SSD 51310208 Condition C21.
The Applicant must finalise the detailed design of the stormwater management system for the development, prior to the commencement of construction of that system. The system must: (a) be designed by a suitably qualified and experienced person(s); (b) be designed in consultation with Council; (c) be generally in accordance with the conceptual design in the EIS, RTS and additional information; (d) be in accordance with applicable Australian Standards; and (e) ensure that the system capacity has been designed in accordance with Australian Rainfall and Runoff (Engineers Australia, 2016) and Managing Urban Stormwater: Council Handbook (EPA, 1997) guidelines.	Contractors Project Manager	Prior to construction	SSD 51310208 Condition C25.
Prior to the commencement of any construction or other surface disturbance for the development, the Applicant must install suitable erosion and sediment control measures on-site, in accordance with the relevant requirements of the *Managing Urban Stormwater: Soils and Construction - Volume 1: Blue Book* (Landcom, 2004) guideline and the Erosion and Sediment Control Plan included in the CEMP required by condition D2. The Applicant must maintain the erosion and sediment control measures installed on-site in accordance with condition C22 for the duration of construction of the development.	Contractors Site Manager	Prior to the commencement of any construction	SSD 51310208 Condition C22 & C23

Environmental Management Control	Person Responsible	Timing / Frequency	References / Notes
Erosion control notes: All control work including diversion banks and catch drains, v-drains and silt fences shall be completed directly following the completion of the earthworks. 1. Silt fences and silt fence returns shall be erected convex to the contour to pond water. 2. Hay bale barriers and geofabric fences are to be constructed to toe of batter, prior to commencement of earthworks, immediately after clearing of vegetation and before removal of top soil. 3. All temporary earth berms, diversion and silt dam embankments are to be machine compacted, seeded and mulched for temporary vegetation cover as soon as they have been formed. 4. Clear water is to be diverted away from disturbed ground and into the drainage system. 5. The contractor is responsible for maintaining and providing ongoing adjustment to erosion control measures as required during construction. 6. All sediment trapping structures are to be inspected after storms for structural damage or clogging, trapped material is to be removed to a safe, approved location. 7. All final erosion prevention measures including the establishment of grassing are to be maintained until the end of the defects liability period. 8. All earthworks areas shall be rolled on a regular basis to seal the earthworks. 9. All fill areas are to be left with a bund at the top of the slope at the end of each day's earthworks. The height of the bund shall be a minimum of 200mm. 10. All cut and fill slopes are to be seeded and hydromulched within 10 days of completion of formation. 11. After revegetation of the site is complete and the site is stable in the opinion of a suitably qualified person all temporary work such as silt fence, diversion drains etc shall be removed. 12. All topsoil stockpiles are to be suitably located to the satisfaction of the site manager to prevent wind and water erosion.	Contractors Site Manager	Ongoing	Appendix H Plan C200

Environmental Management Control	Person Responsible	Timing / Frequency	References / Notes
13. Any area that is not approved by the contract administrator for clearing or disturbance by the contractor's activities shall be clearly marked and sign posted, fenced off or otherwise appropriately protected against disturbance. 14. All stockpile sites shall be situated in locations for such use by the site manager. A 6m buffer zone shall exist between stockpile sites and any stream or flow path. All stockpiles shall be adequately protected from erosion and contamination of the surrounding area by use of the measures approved in the erosion and sedimentation control plan. 15. Access and exit areas shall include shake down areas or other methods approved by the site manager for the removal of soil materials from motor vehicles. 16. The contractor is to ensure runoff from all areas where the natural surface is disturbed by construction, including access roads, depot and stockpile sites, shall be free of pollutants before it is either dispersed through vegetation or released to natural watercourses. 17. Water to pond on the works in designated areas. Temporary erosion control structures and embankments shall remain in place at times water shall not be released until controlled.			
Stockpiling materials on site where possible and containing the material with a sediment fence	Contractors Site Manager	Ongoing	Managing Urban Stormwater – Soils and Construction (Landcom 2004)
Limiting the amount of material on site to that required for the tasks immediately at hand. Delivery of smaller quantities of materials will make managing the site easier;	Contractors Site Manager	Ongoing	Managing Urban Stormwater – Soils and Construction (Landcom 2004)
Ensuring all material is immediately removed from the site when practical to do so and at the completion of work	Contractors Site Manager	Ongoing	Managing Urban Stormwater – Soils and Construction (Landcom 2004)
Instructing site workers on the need to prevent materials from washing or blowing into the stormwater system or elsewhere	Contractors Site Manager	Ongoing	Managing Urban Stormwater – Soils and Construction (Landcom 2004)

Environmental Management Control	Person Responsible	Timing / Frequency	References / Notes
Advising site workers, subcontractors and delivery drivers of their responsibilities to minimise the potential for soil erosion and pollution to downslope lands and waterways	Contractors Site Manager	Ongoing	Managing Urban Stormwater – Soils and Construction (Landcom 2004)
Where possible, requiring any staff, contractors or subcontractors to maintain all erosion and sediment control devices in good order and replacing damaged sections as appropriate.	Contractors Site Manager	Ongoing	Managing Urban Stormwater – Soils and Construction (Landcom 2004)
Placing non erodible materials (e.g. timber) in the gutter to help entry to the site permitting only approved machinery for travel within watercourses and drainage lines.	Contractors Site Manager	Prior to construction & Ongoing	Managing Urban Stormwater – Soils and Construction (Landcom 2004)
Permitting only approved machinery for travel within watercourses and drainage lines.	Contractors Site Manager	Ongoing	Managing Urban Stormwater – Soils and Construction (Landcom 2004)
Where practical to do so, requiring utility groups to undertake common trenching, conduit installation and backfilling for the whole project area continuously until completion.	Contractors Project Manager	Ongoing	Managing Urban Stormwater – Soils and Construction (Landcom 2004)
Ensuring all staff facilities are properly installed and maintained so that pollutants, including wash water, are not conveyed from the site in stormwater. Urge staff to use proper toilet facilities provided.	Contractors Project Manager	Ongoing	Managing Urban Stormwater – Soils and Construction (Landcom 2004)
Controlling discharge of sediment and/or other pollutants from dewatering (site pump-out) activities. Polluted water may need to be treated on-site before being discharged to the stormwater system. Special care is needed where groundwater is or could be contaminated.	Contractors Site Manager	Ongoing	Managing Urban Stormwater – Soils and Construction (Landcom 2004)
Providing approved bins for concrete and mortar slurries, paints, acid washes, lightweight waste and litter, and ensuring their regular clearance.	Contractors Site Manager	Ongoing	Managing Urban Stormwater – Soils and Construction (Landcom 2004)
Ensuring that any poisons are applied according to their registration and instructions carried on the label (e.g. for termite control).	Contractors Site Manager	Ongoing	Managing Urban Stormwater – Soils and Construction (Landcom 2004)
Ensuring safeguards are in place to prevent residue paint and other chemicals from entering the stormwater system. Spray painting, high-pressure washing and other activities that may permit airborne particles to dissipate to waterways should be carefully controlled. Use of less hazardous material is encouraged	Contractors Project Manager	Ongoing	Managing Urban Stormwater – Soils and Construction (Landcom 2004)

4.6 Waste

The environmental management controls in **Table 22** will be implemented to minimise the potential for adverse waste impacts from construction. Specific best practice mitigation measures were informed from the Waste Management Plan (SLR 2023) prepared in accordance with the requirements of the NSW Waste Avoidance and Resource Recovery Act 2001 (WARR Act), and the NSW Protection of the Environment Operations Act 1997 (POEO Act).

Table 22: Environmental Management Controls for Waste

Environmental Management Control	Person Responsible	Timing / Frequency	References / Notes
The Applicant must assess and classify all liquid and non-liquid wastes to be taken off site in accordance with the latest version of EPA's Waste Classification Guidelines Part 1: Classifying Waste (EPA, 2014) and dispose of all wastes to a waste management facility or premises lawfully permitted to accept the waste	Contractors Site Manager	Ongoing	SSD 51310208 Condition C57 & Waste Management Plan (SLR 2023) Item 4.1
All waste materials removed from the site must only be directed to a waste management facility or premises lawfully permitted to accept the materials.	Contractors Site Manager	Ongoing	SSD 51310208 Condition C58 & Waste Management Plan (SLR 2023) Item 5.7.3
Waste generated outside the site must not be received at the site for storage, treatment, processing, reprocessing, or disposal	Contractors Site Manager	Ongoing	SSD 51310208 Condition C59.
Waste must be secured and maintained within designated waste storage areas at all times and must not leave the site onto neighbouring public or private properties.	Contractors Site Manager	Ongoing	SSD 51310208 Condition C60 & Waste Management Plan (SLR 2023) 6.4.1
Ensure that a permanent record of receipts, for the removal of both liquid and solid waste from the subject site, be kept and maintained up to date at all times. Such records will be made available to authorised person upon request.	Contractors Project & Site Manager	Ongoing	Waste Management Plan (SLR 2023) Item 5.10
Detail the quantities of each waste type generated during construction and the proposed reuse, recycling and disposal locations;	Contractors Site Manager	Ongoing	Waste Management Plan (SLR 2023) Item 5.10
Ensure effective management of construction materials and construction and demolition waste, including options for reuse and recycling where applicable and practicable, would be conducted. Only wastes that cannot be cost effectively reused/recycled to be sent to landfill or appropriate disposal facilities.	Contractors Site Manager	Ongoing	Waste Management Plan (SLR 2023) Item 5.7

Environmental Management Control	Person Responsible	Timing / Frequency	References / Notes
The site manager will: • Arrange for suitable waste collection contractors • Ensure waste bins not filled beyond recommended fill level • Ensure that all bins and loads of waste materials leaving site are covered. • Maintain waste disposal documentation (expanded list of minimum requirements in SSD 51310208) • Ensure lawful waste disposal records are readily accessible for inspection by regulatory authorities	Contractors Site Manager	Ongoing	Waste Management Plan (SLR 2023) Item 5.7.3
Site inductions in reference to waste will include: • Legal obligations and targets • Emergency response • Waste priorities and opportunities for reduction, reuse and recycling • Waste storage locations and separation of waste • Procedures for suspected contaminated and hazardous wastes • Wastes related signage. • Implications of poor waste management practices • Responsibilities and reporting, including identification of personnel responsible for waste management and individual responsibilities.	Contractors Site Manager	Ongoing	Waste Management Plan (SLR 2023) Item 5.8
Ensure compliance with Monitoring and Reporting, and corrective action requirements outlined in the WMP (Sydney Environmental Group 2024)	Contractors Project and Site Manager	Ongoing	Waste Management Plan (SLR 2023) Item 5.10

4.7 Flora & Fauna - Biodiversity

The Flora and Fauna and environmental management controls in **Table 23** will be implemented to minimise the potential for adverse impacts to Biodiversity including protection of trees in accordance with the Aboricultural Impact Assessment Report (Hugh the Arborist 2023) and the Biodiversity Development Assessment Report (Ecologique 2023).

Table 23: Environmental Management Controls for Flora and Fauna - Biodiversity

Environmental Management Control	Person Responsible	Timing / Frequency	References / Notes
Prior to any clearing or construction works for the development, the Applicant must purchase and retire six (6) ecosystem credits to offset the removal / disturbance of the PCT 3320 - Cumberland Shale Plains Woodland at the site. The ecosystem credits must be retired in accordance with the requirements of	Superintendent	Prior to clearing or construction commencing	SSD 51310208 Condition C31 & BDAR (Ecologigue 2023) Section 10

Environmental Management Control	Person Responsible	Timing / Frequency	References / Notes
the Biodiversity Offsets Scheme and the *Biodiversity Conservation Act 2016*.			
The requirement to retire ecosystem credits (see condition C31) may be satisfied by payment to the Biodiversity Conservation Fund of an amount equivalent to the number and classes of ecosystem credits, as calculated by the Biodiversity Offsets Payment Calculator.	Superintendent	Prior to construction commencing	SSD 51310208 Condition C32 & BDAR (Ecologigue 2023) Section 10
Prior to undertaking any clearing or construction works for the development, the Applicant must provide the Planning Secretary with evidence that: (a) the retirement of ecosystem credits has been completed in accordance with condition C31; or (b) a payment has been made to the Biodiversity Conservation Fund in accordance with condition C32.	Superintendent	Prior to clearing or construction commencing	SSD 51310208 Condition C33 & BDAR (Ecologigue 2023) Section 10
Prior to the commencement of construction, a project arborist with a minimum 'Australian Qualifications Framework – Level 5' certification is to be appointed. The project arborist is to: (a) oversee the tree protection measures and any works within the Tree Protection Zones established under this consent in accordance with the Arboricultural Impact Assessment, Report prepared by Hugh The Arborist, dated 8 August 2024 (Appendix P of the RTS); and (b) complete regular inspections of retained trees in accordance with the Arboricultural Impact Assessment, Report prepared by Hugh The Arborist, dated 8 August 2024 (Appendix P of the RTS) for the duration of construction in order to ensure that protection measures are being adhered to.	Contractors Site Manager	Prior to construction commencing	SSD 51310208 Condition C34 & Aboricultural Impact Assessment Report (Hugh the Arborist 2023)
All trees identified for retention within the site must be protected for the duration of construction. The trees must be protected in accordance with: (a) the recommendations of the Arboricultural Impact Assessment, Report prepared by Hugh The Arborist, dated 8 August 2024 (Appendix P of the RTS); and (b) the latest version of Australian Standard AS 4970:2009 – Protection of Trees on Development (Standards Australia, 2009). All required tree protection measures must be in place prior to the commencement of construction works at the site	Contractors Site Manager	Ongoing	SSD 51310208 Condition C35 & Aboricultural Impact Assessment Report (Hugh the Arborist 2023)
In the event that any native fauna is found during tree removal works, all works in the	Contractors Site Manager	Ongoing	SSD 51310208 Condition C36

Environmental Management Control	Person Responsible	Timing / Frequency	References / Notes
immediate vicinity of the animal(s) must cease. Work in the immediate vicinity of the animal(s) must not recommence until a trained wildlife handler attends the site or the animal relocates itself.			
Prior to clearing for construction of the development, the Applicant must prepare a Biodiversity Management Plan (BMP) for the development in consultation with Council to the satisfaction of the Planning Secretary. The Biodiversity Management Plan must be approved by the Planning Secretary prior to the commencement of clearing for construction and must form part of the CEMP in accordance with condition C2.	Contractors Site Manager	Prior to clearing commencing	SSD 51310208 Condition B49
The Applicant must: (a) implement suitable measures to manage pests, vermin and declared priority weeds on the site; and (b) inspect the site on a regular basis to ensure that these measures are working effectively, and that pests, vermin or priority weeds are not present on site in sufficient numbers to pose an environmental hazard or cause the loss of amenity in the surrounding area	Contractors Site Manager	Ongoing	SSD 51310208 Condition C61
The clearing will be conducted using a two-stage clearing process as follows: Stage 1: Commence clearing following the identification of potential habitat features by a qualified ecologist. Habitat trees marked during pre-clearing will not be cleared during the first stage; however, all vegetation around these trees will be cleared to enable isolation of the feature. Identified habitat trees will be left at a minimum overnight after Stage 1 clearing to allow resident fauna to voluntarily move from the area. • Stage 2: After habitat trees have been left overnight, the trees will be cleared using the following protocols: • Trees marked as containing habitat will be shaken by machinery prior to clearing to encourage any animals remaining to leave the hollows and move on; • Use a bulldozer or excavator to start pushing the tree over. Move the bulldozer over the roots and continue gently pushing the tree over; and • All habitat trees will be investigated by an ecologist for the presence of fauna following felling of the tree. • The felled habitat tree will be left overnight to allow any remaining fauna time to leave the hollows and move on. The two-stage clearing process enables fauna a chance to	Contractors Site Manager	Prior to and during Clearing activities	SSD 51310208 Appendix 2 & BDAR (Ecologigue 2023) Section 8.3

Environmental Management Control	Person Responsible	Timing / Frequency	References / Notes
self-relocate upon nightfall, when foraging typically occurs.			
Undertake pre-clearing surveys by a suitably qualified ecologist ahead of clearing to limit fauna injury and mortality and to identify habitat features to be relocated. Conduct pre-clearance surveys by suitably qualified ecologists and all fauna found during these surveys will be encouraged to move on or relocated by the ecologists in areas of similar habitat nearby that will not be impacted.	Contractors Site Manager	Prior to and during Clearing activities	SSD 51310208 Appendix 2 C-B4
Prior to demolition of buildings, daytime roost searches should be carried out. A search is to be undertaken by looking for bats or signs of bats in suitable roost habitat during the daytime and pre-clearing surveys for other fauna.	Contractors Site Manager	Prior to demolition	BDAR (Ecologigue 2023) Section 8.3
Implement hygiene measures, such as washdown facilities, spray down of equipment entering/exiting site, to prevent the introduction and/or spread of introduced flora and fauna species, pathogens and/or disease.	Contractors Site Manager	Ongoing	SSD 51310208 Appendix 2 & BDAR (Ecologigue 2023) Section 8.3

4.8 Hazard and Risk Management

Table 24 lists the management strategies for contaminated land. Refer to the **Appendix I** Unexpected Finds Protocol and the Remedial Action Plan in **Appendix J** Remedial Action Plan for further details.

Table 24: Environmental Management Controls for Hazardous Goods and Contamination

Environmental Management Control	Person Responsible	Timing / Frequency	References / Notes
Prior to the commencement of any earthworks or remediation works for the development on site, the Applicant must engage a Site Auditor accredited under the Contaminated Land Management Act 1997 NSW Site Auditor Scheme.	Superintendent	Prior to commencement of earthworks or remediation works	SSD 51310208 Condition C45 & CEMP 3.3.3
The site is to be remediated in accordance with the Remedial Action Plan (RAP), the CEMP and any relevant guidelines produced or approved under the CLM Act. If any amendments are required to the RAP, they must be reviewed and approved by the Site Auditor in the form of an Interim Audit Advice.	Contractors Project and Site Manager & all employees	Ongoing	SSD 51310208 Condition C46 & Appendix J
The Applicant must ensure the remediation works for the development are undertaken by a suitably qualified and experienced contractor(s).	Contractors Project and Site Manager	Ongoing	SSD 51310208 Condition C47 & Appendix J Section 2.2
Prior to the commencement of earthworks, the Applicant must prepare a contaminated finds procedure to ensure that known or potentially contaminated material is appropriately managed. The procedure must	Contractors Site Manager	Prior to the commencement of earthworks	SSD 51310208 Condition C52 & Appendix I

Environmental Management Control	Person Responsible	Timing / Frequency	References / Notes
form part of the of the CEMP in accordance with condition D2 and must ensure any surplus material identified as contaminated is disposed of in accordance with the POEO Act and its associated regulations.			
Handle, store and use dangerous goods and hazardous materials in accordance with: • The NSW Work Health and Safety Act 2011 and associated regulations; • The Storage and Handling of Dangerous Goods Code of Practice (WorkCover NSW, 2005); • NSW Road and Rail Transport (Dangerous Goods) (Road) Regulation 1998; and Australian Government's Code for the Transport of Dangerous Goods by Road and Rail (National Transport Commission, 2008). All storage and transport of dangerous goods to remain below the Applying SEPP 33 screening thresholds.	Contractors Site Manager & all employees, contractors and subcontractors	Ongoing	SSD 51310208 Appendix 2
Prepare a hazard and risk management plan (HRMP) as a sub-plan of the CEMP. As a minimum, the plan would: • Include an emergency response plan; • Be prepared by a suitably qualified hazard management specialist; and • Provide for the implementation, monitoring and maintenance of the identified hazard controls.	Contractors Site Manager & all employees, contractors and subcontractors	Ongoing	SSD 51310208 Appendix 2 & CEMP Section 3.5 & 4.8 & Appendix J Section 9.14
Refer to Unexpected Finds Protocal procedures in regards to Coontamination such as Asbesto.,	Contractors Site Manager & all employees, contractors and subcontractors	Ongoing	Appendix I Section 3.1 & 4 & Appendix J Section 6.4

4.9 Community Consultation and Complaints Handling

Table 25 lists the management strategies for community communication. Refer also to and Section 1.7 and Section 3.6 for consultation and complaints handling and **Appendix C** Community and Stakeholder Management Plan.

Table 25: Environmental Management Controls for Community Communications

Environmental Management Control	Person Responsible	Timing / Frequency	References / Notes
Where conditions of this consent require consultation with an identified party, the Applicant must: (a) consult with the relevant party prior to submitting the subject document to the Planning Secretary for approval; and (b) provide details of the consultation undertaken including:	Superintendent & Contractors Project Manager	Ongoing	SDD 51310208, Condition B10

Environmental Management Control	Person Responsible	Timing / Frequency	References / Notes
(i) the outcome of that consultation, matters resolved and unresolved; and (ii) details of any disagreement remaining between the party consulted and the Applicant and how the Applicant has addressed the matters not resolved.			
Prior to the commencement of construction of the development, the Applicant must: (a) consult with the relevant owner and provider of services or public infrastructure that are likely to be affected by the development or that need to be installed as part of the development, to make suitable arrangements for relevant approvals, access to, diversion, protection and support of the affected services or infrastructure; (b) prepare a dilapidation report identifying the condition of all public infrastructure in the vicinity of the site (including roads, gutters and footpaths); and (c) submit a copy of the dilapidation report to the Planning Secretary and Council Unless the Applicant and the applicable authority agree otherwise, the Applicant must: (a) repair, or pay the full costs associated with repairing, any public infrastructure that is damaged by carrying out the development; (b) relocate, or pay the full costs associated with relocating, any public infrastructure that needs to be relocated as a result of the development; and (c) obtain any relevant approval(s) from the relevant service provider(s), prior to undertaking construction of the corresponding utility works.	Superintendent and Project Manager	Prior to commencement of construction and ongoing	SDD 51310208, Condition B14 & B15
At least 48 hours before the commencement of construction of the development and for the life of the development (or such other time as agreed by the Planning Secretary), the Applicant must: (a) make the following information and documents (as they are obtained or approved) publicly available on its website: (i) the documents referred to in condition B2 of this consent; (ii) all current statutory approvals for the development; (iii) all approved strategies, plans and programs required under the conditions of this consent; (iv) the proposed staging plans for the development if the construction, operation or decommissioning of the development is to be staged; (v) regular reporting on the environmental performance of the development in accordance with the reporting requirements in any plans or programs approved under the conditions of this consent; (vi) a comprehensive summary of the monitoring results of the development, reported in accordance with the specifications in any conditions of this consent, or any approved plans and programs; (vii) a summary of the current stage and progress of the development;	Superintendent and Project Manager	Prior to commencement of construction and ongoing	SDD 51310208, Condition D14

Environmental Management Control	Person Responsible	Timing / Frequency	References / Notes
(viii) contact details to enquire about the development or to make a complaint; (ix) a complaints register, updated quarterly; (x) any other matter required by the Planning Secretary; and (b) keep such information up to date, to the satisfaction of the Planning Secretary.			
Conduct construction within regular working hours (7am to 6pm on weekdays, 9am-1pm on Saturdays, no work on Sundays and public holidays). Provide regular communications construction progress, hours and disruptions for people to plan ahead to avoid inconveniences. All communications should be provided in both English and Arabic.	Superintendent and Project Manager	Prior to commencement of construction and ongoing	SDD 51310208, Appendix 2 C-SI3
The proponent should coordinate with the present owner of the Acrow Building to ensure that vehicles, building materials, tools, equipment, or plant enter the building, the vicinity of the building, or come into contact with the Acrow Building. Once the salvage and retention of selected suitable industrial items have been determined, the actions should be carried out in a controlled manner to avoid accidental damage. In the event of damage to the Acrow Building, all fabric should be made good to match the original form as recorded in the Dilapidation Survey. All repairs should be undertaken in consultation with a qualified heritage practitioner	Superintendent and Project Manager	Prior to commencement of construction and ongoing	SDD 51310208, Appendix 2
Community complaints will be responded to in accordance with Section 3.6.	Contractors Project and Site Manager	Ongoing	CEMP Section 3.6
Notify surrounding businesses and residents & Council one (1) week before commencement of construction activities. Notices to include: • Details of the proposal, including contact details of management team • Hours and expected period of construction • Details regarding process should businesses or residents have concerns, questions or complaints.	Superintendent and Contractors Project Manager	1 week before commencement of construction	Appendix C Section 5.1
Set up feedback process to manage and respond to stakeholder concerns, questions or complaints. Ensure this is clear and accessible.	Contractors Project Manager	Prior to Construction and Ongoing	CEMP Section 3.6
Prior to the commencement of works, a Dilapidation Survey of the neighbouring Acrow Building's façade and clock tower should be completed. • the Dilapidation Survey should describe the condition of the building and any existing damage or deterioration, prior to any building works commencing on the subject site. At the completion of the works on the subject site, an inspection of the Acrow Building's façade and clock tower should be undertaken, and any damage identified as resulting from the works to the subject site should be rectified in consultation with a heritage professional	Contractors Project Manager	Prior to Construction and Ongoing	SDD 51310208, Appendix 2

Environmental Management Control	Person Responsible	Timing / Frequency	References / Notes
• Condition inspections of the Acrow Building's façade and clock tower should be undertaken prior to and following completion of works. All repairs are to be undertaken in consultation with a heritage professional			

4.10 Aboriginal Cultural Heritage & European Heritage

The management controls in **Table 26** will be implemented to minimise the potential Aboriginal cultural heritage and European Heritage impacts from construction. The Aboriginal Cultural Heritage Assessment Report (Artefact 2023) (ACHAR) noted that the assessment found that the study area was assessed as having nil archaeological potential to retain intact archaeological deposits that may contain Aboriginal objects, there were nil AHIMS registered sites and there were no previously unrecorded Aboriginal sites or objects identified within the study area.

The Unexpected Finds Protocol (**Appendix I**) (UFP) (Sydney Environmental Group 2025) details the protocols to follow if potential heritage artefacts (Aboriginal or European) are found.

Table 26: Management Controls for Heritage

Environmental Management Control	Person Responsible	Timing / Frequency	References / Notes
If any item or object of Aboriginal heritage significance is identified on site: (a) all work in the immediate vicinity of the suspected Aboriginal item or object must cease immediately; (b) a 10 m wide buffer area around the suspected item or object must be cordoned off; and (c) Heritage NSW must be contacted immediately.	Contractors Project and Site Manager & all employees	Immediately in the event of discovery of an item or object	SSD 51310208 Condition C53
Work in the immediate vicinity of the Aboriginal item or object may only recommence in accordance with the provisions of Part 6 of the National Parks and Wildlife Act 1974.	Superintendent & Contractors Project and Site Manager & all employees	Upon approval to recommence	SSD 51310208 Condition C54
If any non-Aboriginal archaeological relics are uncovered during any works being carried out for the development: (a) all work in the immediate vicinity of the suspected relic(s) must cease immediately; (b) Heritage NSW must be contacted immediately; and (c) the suspected relic(s) must be evaluated, recorded and, if necessary, excavated by a suitably qualified and experienced expert in accordance with the requirements of Heritage NSW. Work in the immediate vicinity of any suspected non-Aboriginal archaeological	Superintendent & Contractors Project and Site Manager & all employees	Immediately in the event of discovery of an item or object	SSD 51310208 Condition C55 & C56

Environmental Management Control	Person Responsible	Timing / Frequency	References / Notes
relic(s) must not recommence until this has been authorised by Heritage NSW.			
Implement measure from the ACHAR, section 8 Management and Mitigations Measures; • Ongoing consultation with registered Aboriginal parties must continue • An unexpected finds procedure must be prepared • Heritage inductions must be prepared.	Contractors Project and Site Manager	Immediately in the event of discovery of an item or object	ACHAR (Artefact 2023) Section 8.
Implement measure from the ACHAR, section 9 Conclusions and Recommendations including; • If changes are made to the proposal that may result in impacts to areas not assessed by the ACHAR further assessment would be required.	Superintendent & Contractors Project Manager	Prior to Construction and Ongoing	ACHAR (Artefact 2023) Section 9.
If human remains, or suspected human remains, are to be found in the course of the activity, all work in the vicinity will cease, the site would be secured, and the NSW Police and Heritage NSW would be notified.	Superintendent and Contractors Project Manager & all employees	Immediately in the event of discovery of human remains	SSD 51310208 Appendix 2 & ACHAR (Artefact 2023) Section 8.2.

5.0 Monitoring, Reporting and Auditing

Table 27 summarises the monitoring, reporting and auditing requirements for construction.

Prior to the commencement of construction, the Construction Contractor will ensure their Project Management Plan includes a detailed Monitoring and Reporting Matrix to clearly document the specific applicable forms, registers or reports that will be used (this might include Supervisor Diary, Weekly Environmental Inspection Checklist, Waste Register, Complaints Register etc). The Contractors Project Manager will provide a copy of this matrix to the Superintendent.

The Construction Contractor will ensure the checklists included in the Project Management Plan, including the Daily Observations Checklist and Weekly Environmental Checklist, address all relevant monitoring and reporting commitments outlined in the CEMP and appended management plans.

SSD Condition D13 reproduced below outlines the requirement for Monitoring, Reporting and Auditing.

> *:Any condition of this consent that requires the carrying out of monitoring or an environmental audit, whether directly or by way of a plan, strategy or program, is taken to be a condition requiring monitoring or an environmental audit under Division 9.4 of Part 9 of the EP&A Act. This includes conditions in respect of incident notification, reporting and response, non-compliance notification, compliance reporting and independent auditing.*

Table 27: Monitoring and Inspections Required

Aspect	Monitoring / Inspection Requirement	Person Responsible	Timing / Frequency	References / Notes
Daily				

Aspect	Monitoring / Inspection Requirement	Person Responsible	Timing / Frequency	References / Notes
General	Daily observation will be recorded in Site Managers Diary or similar, including plant and equipment prestart checks that include environmental observations.	Contractors Site Manager	Daily	Best practice
Air Quality	The Applicant must install and operate equipment in line with best practice to ensure that the development complies with all load limits, air quality criteria/air emission limits and air quality monitoring requirements as specified in the Protection of the Environment Operations (Clean Air) Regulation 2021.	Contractors Site Manager	Daily	SSD 51310208 Condition C30
Air Quality	Undertake daily on-site and off-site inspections, where receptors are nearby, to monitor dust. Record inspection results and make available to relevant authorities. This should include regular dust soiling checks of surfaces such as street furniture, cars and window. Specific real-time dust monitoring is not necessary for this project	Contractors Site Manager	Daily	Air Quality Impact Assessment (SLR 2023)
Traffic	Shift/Daily TTM inspection checklist	Contractors Site Manager	Daily	TfNSW Traffic Control at Work Sites Technical Manual Issue No. 6.1 (TCAWS 6.1) Section 6 CTMP (SLR,2024).
Traffic	Managing dirt on the public road network: The use of rumble grids positioned at the site's access points to Ferndell Street and Straits Avenue, as well as the use of water trucks and sweeper trucks to ensure the existing network is free of dirt from the site. Finally, a visual inspection by the gate operator shall be conducted to confirm that no dirt/mud is tracked onto public Roads when trucks exit.	Contractors Site Manager	Daily	Section 5.5 CTMP (SLR,2024).
Weekly				
General	The Weekly Environmental Checklist will be completed as part of general environmental site inspection to ensure all relevant environmental controls listed in this CEMP are in place and any required maintenance and/or remediation works are identified and undertaken.	Contractors Site Manager	Weekly	Best practice
General	The Construction Contractor will report environmental performance during regular management meetings and/or	Contractors Site Manager	Weekly	Section 3.4

Aspect	Monitoring / Inspection Requirement	Person Responsible	Timing / Frequency	References / Notes
	'toolbox talks'. Items to be discussed include: • Results of any monitoring activities undertaken; • Any environmental incidents that have occurred during the previous period, including the management / corrective actions taken; • Any complaints that have been received during the previous period, including any management / corrective actions taken.			
Traffic	Weekly TTM inspection checklist	Contractors Site Manager	Weekly	TfNSW Traffic Control at Work Sites Technical Manual Issue No. 6.1 (TCAWS 6.1) Section 6.3 CTMP (SLR,2024).
Traffic	Reporting and monitoring of movements during peak periods are to be undertaken to ensure that drivers are adhering to restricted times, and to ensure that the approved traffic generation and subsequent impacts on the road network are in line with those approved.	Contractors Site Manager	Weekly	Section 5.5 CTMP (SLR,2024
Traffic	Construction Traffic in Ferndell Street and Straits Avenue: Construction traffic will use the two construction accesses to enter/exit the site for the works. To ensure the impacts to motorists within the area are kept to a minimum, construction traffic will remain extremely low.	Contractors Site Manager	Weekly	Section 5.5 CTMP (SLR,2024
Monthly				
Traffic	Scheduled CTMP review	Contractors Project Manager	Monthly	Section 6 (Table 7) of CTMP(SLR, 2024).
Event Based				
Contamination Site Auditor	Prior to the commencement of any earthworks or remediation works for the development on site, the Applicant must engage a Site Auditor accredited under the Contaminated Land Management Act 1997 NSW Site Auditor Scheme.	Superintendent	Prior to the commencement of any earthworks or remediation works	SSD 51310208 Condition C45
Contamination Site Auditor	Upon completion of the remediation works and prior to the commencement of construction of the development, the Applicant must submit to the Planning Secretary, a Site Audit Report and a Site Audit Statement, prepared in accordance with the NSW	Superintendent & Contractors Project Manager	Upon completion of the remediation works and prior to the commencement of construction	SSD 51310208 Condition B73

Aspect	Monitoring / Inspection Requirement	Person Responsible	Timing / Frequency	References / Notes
	Contaminated Land Management - Guidelines for the NSW Site Auditor Scheme 2017, which demonstrates the site is suitable for its intended Warehouse and Distribution Centre land use			
Incident / Non-Compliance	Within seven days of becoming aware of any non-compliance, the Applicant must notify the Department of the non-compliance, in writing, via the NSW planning portal (Major Projects). A non-compliance notification submitted under condition D11 must identify the development (including the development application number and name), set out the condition of this consent that the development is non-compliant with, why it does not comply, the reasons for the non-compliance (if known), and what actions have been undertaken, or will be undertaken, and when, to address the non-compliance	Superintendent & Contractors Project Manager & Site Manager	Immediately in the event of an Incident or Non-Compliance	SSD 51310208 Condition D11 & D12
Incident / Non-Compliance	In the event of an Incident or Non-Compliance, an Event Notification Report will be completed, as outlined in **Section 3.5** of the CEMP and the relevant SSD Conditions.	Contractors Project and Site Manager	Immediately in the event of an Incident or Non-Compliance	**Section 3.5** of CEMP
Other				
Traffic	Induction to Drivers Code of Conduct: All vehicle operators accessing the construction site must be inducted onto the Drivers Code of Conduct prior to entering the site. The Contractor is to maintain a register of inducted operators with evidence of induction by way of operator signatures being captured.	Contractor Site Manager	Ongoing	Section 5.5 CTMP (SLR 2024)
Traffic	Post completion inspection checklist	Contractors Site Manager	Post completion	TfNSW Traffic Control at Work Sites Technical Manual Issue No. 6.1 (TCAWS 6.1) Section 5 CTMP (SLR,2024).
Noise & Vibration	Noise and/or vibration reporting and monitoring will be conducted in accordance with the CNVMP	Contractors Site Manager	Ongoing	CNVMP **Appendix D** & CEMP Section 4.2
Soil	The Applicant must: (a) ensure that only VENM, ENM, or other fill material approved in writing by the EPA is brought onto the site; (b) keep accurate records of the volume and type of fill to be used; and	Contractors Site Manager	Ongoing	SSD 51310208 Condition C21 & CEMP Section 4.5

Aspect	Monitoring / Inspection Requirement	Person Responsible	Timing / Frequency	References / Notes
	(c) make these records available to the Planning Secretary upon request			
Air Quality	Record all dust and air quality complaints, identify cause(s), take appropriate measures to reduce emissions in a timely manner, and record the measures taken. Make the complaints log available to relevant authorities (Council, EPA, etc).	Contractors Site Manager	As required	Air Quality Impact Assessment Section 7 (SLR 2023) & CEMP Section 4.3
Air Quality	Record any exceptional incidents that cause dust and/or air emissions, either on or off site, and the action taken to resolve the situation in the logbook.	Contractors Site Manager	As required	Air Quality Impact Assessment (SLR 2023) Table B-1 & CEMP Section 4.3
Waste	A logbook of waste management and collection will be maintained on-site.	Contractors Site Manager	Ongoing	WMP (SLR 2023) Section 5.7.3
Waste	Waste management documentation, logbook and associated dockets and receipts will be made available for inspection by authorised Council Officer at any time during site works.	Contractors Site Manager	Ongoing	WMP (SLR 2023) Section 5.7.3
Waste	Detail the quantities of each waste type generated during construction and the proposed reuse, recycling and disposal locations	Contractors Site Manager	Ongoing	SSD 51310208, Condition B63 (a) & WMP (SLR 2023) Section 5.7.3 & CEMP Section 4.6
General	Inspection and maintenance of all plant and equipment items to ensure optimal operating condition.	Contractors Site Manager	As specified by the manufacturer / supplier	SSD 51310208 Condition B28 & CEMP Section 4.1
General	All incoming and outgoing traffic movement to be monitored and recorded to ensure adherence to the approved construction hours.	Contractors Site Manager	Ongoing	CTMP Section 5 & CEMP Section 4.4
General	The Project Manager will be notified if any inconsistencies are identified between the documents listed in Section 3.3 of this CEMP.	Contractors Project and Site Manager	As required	CEMP Section 3.3
General	A copy of all environmental records will be maintained, including: • Site environmental inspection reports • Environmental monitoring data • Internal and external audit reports • Reports of environmental incidents, environmental, associated actions taken, and follow-up actions	Superintendent / Contractor Project and Site Manager	For at least 5 years after completion	CEMP Section 5.0

Aspect	Monitoring / Inspection Requirement	Person Responsible	Timing / Frequency	References / Notes
	• Minutes of management review meetings • Induction and training records • Register of all complaints and non-compliances.			

6.0 Contingency Management Plan

Table 28 lists the actions to be implemented if inspections, monitoring and/or auditing indicate that the mitigation measures listed in Section 4 and the specialist management plans are not effective in managing environmental impacts.

Table 28: Contingency Plan

Key Element	Trigger / Response	Condition Green	Condition Amber	Condition Red
Noise and Vibration				
Noise impacts at sensitive receiver locations	Trigger	Noise levels do not exceed applicable NMLs	Noise levels exceed applicable NMLs	Noise levels exceed Highly Noise Affected criteria (75 dBA)
	Response	On-going best practice management measures to minimise noise emissions	Undertake all feasible and reasonable mitigation and management measures to minimise noise impacts (aiming to achieve NMLs)	Works exceeding the Highly Noise Affected criteria will be managed in accordance with the strategies for high-noise generating works determined through community consultation.
Vibration impacts at sensitive receiver locations	Trigger	Vibration intensive works undertaken outside minimum working distance for the specific equipment in use	Vibration intensive works undertaken within minimum working distance for the specific equipment in use	Vibration levels exceed applicable vibration limits
	Response	On-going best practice management measures to minimise vibration emissions	Undertake vibration monitoring for the duration of the works to confirm vibration levels.	Stop work. Undertake all feasible and reasonable mitigation and management measures to ensure vibration levels are below applicable limits. If vibration levels cannot be kept below applicable limits then a different construction method or equipment must be utilised.
Air Quality				
Visible dust leaving the site	Trigger	Daily inspections show that there is no visible dust leaving the site.	Daily inspections show that there is visible dust leaving the site.	Daily inspections show that there is visible dust leaving the site multiple times during a day OR from multiple locations within the site.
	Response	Continue monitoring program as normal.	Review and investigate construction activities and respective control measures. Where appropriate,	Undertake an investigation of the dust generating activities, and if necessary, temporarily halt the dust generating activities

Key Element	Trigger / Response	Condition Green	Condition Amber	Condition Red
			implement additional remedial measures, such as: • *Deployment of additional water sprays, water trucks etc*	
Intense Meteorological Conditions	Trigger	Normal Meteorological Conditions	Forecast winds greater than 5 m/s and dry conditions.	Forecast winds greater than 10 m/s and dry conditions.
	Response	Continue monitoring program as normal.	• Limit the activities that generate dust within 200 m of downwind sensitive activities. • Additional visual inspection of exposed areas and activities. • Assess the need for additional controls such as increased water application rates.	Stop activities that generate dust up to 200m downwind of the construction activities, until wind eases.
Complaints received regarding nuisance dust	Trigger	There are no complaints received during the construction	An air-quality related complaint is received from a nearby resident	Further complaints (more than 2) are received from the same complainant after the additional mitigation measures have been implemented
	Response	Continue monitoring program as normal.	• Report the complaint to the regulator, in line with complaints handling procedure (See **Section 3.6**). • Review timing of the complaint compared to known site activities to identify if particular site activities (or lack of activity in the case of mitigation measures) are contributing to the complaints. • Review and investigate construction activities and increase dust suppression	• Review monitoring data from the existing monitors to investigate the likelihood of onsite activities contributing. • The investigation should take into account (but not limited to) regional dust/particulate data, prevailing wind data on the day/time of complaints, onsite activities at the time of complaints and offsite activities at the time of complaints. • Conduct real time air quality monitoring at the complaint location (or as near as practicable) including

Key Element	Trigger / Response	Condition Green	Condition Amber	Condition Red
			measures (additional watering, covering stockpiles etc), where appropriate.	meteorology if required. This monitoring should be conducted in consultation with a suitably qualified air quality professional. • Identify the following from any monitoring conducted: • Monitoring method; • Location, frequency and duration of monitoring; • Assessment against compliance with criteria identified in the CAQMP; and • Recommendations for further mitigation
Traffic				
Construction movements	Trigger	Both peak hour and daily Construction traffic volumes are in accordance with volume and time constraints as outlined within Section 3.2 & 3.7of CTMP (**Appendix G**)	Construction traffic volumes exceeds programmed peak hour volumes but is within permissible daily volume constraints of CTMP (**Appendix G**)	Construction traffic volumes exceeds permissible volume and time constraints of CTMP (**Appendix G**)
	Response	No response required. Continue monitoring program.	Review and investigate construction activities, and where appropriate, implement additional remediation measures such as: • Review CTMP and update where necessary • Provide additional training	As with Condition Amber, plus; • If it is concluded that construction activities were directly responsible for the exceedance, submit an incident report to government agencies. • Stop all transportation into and out of the site.
Queuing	Trigger	No queuing identified.	Queuing identified within site, but not on to public road.	Queuing identified on the public road.

Key Element	Trigger / Response	Condition Green	Condition Amber	Condition Red
	Response	No response required. Continue monitoring program.	Review the delivery schedule prepared by the builder. If drivers are not following the correct schedule, then they should be provided with additional training and an extra copy of the Driver Code of Conduct.	As per Condition, plus: • Review and investigate construction activities. • If it is concluded that construction activities were directly responsible for the exceedance, submit an incident report to government agencies. • Temporary halting of activities and resuming when conditions have improved. • Stop all transportation into and out of the site. • Review CTMP and update where necessary, provide • additional training.
Traffic Noise	Trigger	Noise levels do not exceed imposed noise constraints, as outlined within the Noise Assessment Report (<65dBA), nor has there been a traffic noise related complaint.	Noise levels in minor excess (<10dBA) of imposed noise constraints, or receipt of a single noise complaint.	Noise levels greatly in excess (>10dBA) of imposed noise constraints or consistent noise complaints.
	Response	No response required. Continue monitoring program.	Undertake all feasible and reasonable mitigation and management measures to minimise noise impacts.	As with Condition Amber if noise levels cannot be kept below applicable limits, then a different construction method or equipment must be utilised.
Traffic Guidance Scheme (TGS)	Trigger	No observable issues (TGS implemented according to plan).	Minor inconsistencies with TGS to onsite operations (such as covered signs, missing signs, fallen cones, etc.).	Near miss or incident occurring regardless of / as a result of the TGS being implemented.
	Response	No response required	Traffic Controller to amend TGS on site and to keep a log of all changes.	Stop work until an investigation has been undertake into the incident. There are to be changes made to the TGS to ensure that the safety of all workers, students and civilians are catered for.

Key Element	Trigger / Response	Condition Green	Condition Amber	Condition Red
Traffic Dust	Trigger	No observable dust.	Minor quantities of dust in the air and tracking on to the road.	Large quantities of dust in the air and tracking on to the road.
	Response	No response required. Continue monitoring TGSs.	Review and investigate construction activities and respective control measures, where appropriate. Implement additional remedial measures, such as: • Deployment of additional water sprays. • Relocation or modification of dust- generating sources. • Check condition of vibrating grids to ensure they are functioning correctly. • Temporary halting of activities and resuming when conditions have improved.	As per Condition Amber, plus: • If it is concluded that construction activities were directly responsible for the exceedance, submit an incident report to government agencies. • Implement relevant responses and undertake immediate review to avoid such occurrences in future.
Water and Soil				
Soil / dust / mud on public road network	Trigger	No soil / dust / mud tracked onto the public road network.	Evidence of soil / dust / mud at entry but none tracked onto public roads.	Evidence of soil / dust / mud tracked onto the public roads.
	Response	Continue ESCP/CEMP implementation.	Check condition of wheel wash facility to ensure it is functioning correctly.	Check condition of wheel wash facility to ensure it is functioning correctly. Stop work and clean soil / dust / mud off road network (e.g. engage street sweeper).

Key Element	Trigger / Response	Condition Green	Condition Amber	Condition Red
Erosion	Trigger	No evidence of erosion.	Minor gully or tunnel erosions present and/or rilling. Evidence of sediment or sediment laden water leaving the site.	Significant gully or tunnel erosions present and/or rilling. Evidence of sediment or sediment laden water leaving the site.
	Response	Continue ESCP / CEMP implementation.	A suitably trained person to inspect the site. Review of erosions and sediment structures. Remediate as appropriate.	A suitably trained person to inspect the site. Review of erosion and sediment structures. Remediate as soon as practical.
Water management structures	Trigger	Water management structures have been designed, constructed and managed in accordance with the Blue Book and the ESCPs.	Inspections indicate that water management structures illustrate minor non-compliance with the Blue Book and the ESCPs.	Inspections indicate a failure of the water management structures.
	Response	Continue ESCP / CEMP implementation.	A suitably trained person to inspect the site. Review of water management structures. Remediate as appropriate.	A suitably trained person to inspect the site. Remediate as soon as practical. Review of engineering design and revise ESCPs.
Storm event	Trigger	No forecast storm events.	Storm event is forecasted.	Extreme storm event imminent/underway.
	Response	Continue ESCP / CEMP implementation.	Monitor forecast. Continue ESCP / CEMP implementation. Pre-emptive inspections of water management structures and systems. Confirm water sampling equipment is on standby.	Continue ESCP / CEMP implementation. Continue inspections of water management structures and systems. Undertake water sampling as required. Initiate emergency procedures if required.
Waste				
Waste	Trigger	Inspections identified no waste outside of dedicated bins and stockpiles.	Inspections identified minimal waste outside of dedicated bins and stockpiles.	Inspections identified large quantities of waste outside of dedicated bins and stockpiles. Complaints received regarding waste.

Key Element	Trigger / Response	Condition Green	Condition Amber	Condition Red
	Response	Continue WMP / CEMP implementation.	The waste is cleaned up immediately.	The waste is cleaned up immediately. The Communications and Community Liaison Representative is also notified and the complaints handling process outlined in **Section 3.6** is implemented.
Heritage				
Heritage	Trigger	No unknown heritage items uncovered.	Potential heritage item uncovered.	Potential heritage item uncovered causing significant delays to project.
	Response	Continue CEMP implementation.	Stop work and implement the unexpected finds protocol.	Stop work and implement the unexpected finds protocol. Heritage item to be salvaged and removed from site by a qualified archaeologist.
Hazardous Goods and Contamination				
Unexpected Contamination	Trigger	No contamination uncovered during earthworks.	Areas of possible contamination uncovered.	Areas of contamination uncovered.
	Response	Continue CEMP implementation.	Stop work immediately and the contamination assessed according to the Unexpected Finds Protocol (UFP).	Stop work immediately. A validation report is to be prepared following remediation.
Community				
Submission	Trigger	General feedback/comment (no complaint or query).	Enquiry made by formal or informal channels.	Complaint made by formal or informal channels.
	Response	Acknowledge receipt and record in Complaints Register. No further response required.	Acknowledge receipt and record in Complaints Register. Direct enquiry to relevant person for actioning and response within 5 days.	Acknowledge receipt and record in Complaints Register. Respond to complaint immediately if possible, if not direct enquiry to relevant person for actioning and provide complainant with a follow up verbal response on what action is proposed within two hours during construction works (including night and weekend works) and 24 hours at other times.

Key Element	Trigger / Response	Condition Green	Condition Amber	Condition Red
Media	Trigger	Positive story in print, online, radio or television.	Neutral or advisory story in print, online, radio or television.	Negative story in print, online, radio or television.
	Response	Record in Complaints Register and advise the proponent media/marketing team. No further response required.	Record in Complaints Register and advise the proponent media/marketing team. No further response required.	Record in Complaints Register and advise the proponent Project Team for further action and response. Contact relevant person for actioning and response within 48 hours
Unscheduled Event	Trigger	Event occurring outside of plan or schedule without impact or potential impact.	Event occurring outside of plan or schedule with minor impact or potential impact.	Event occurring outside of plan or schedule with major impact or potential impact.
	Response	No response required. Identify opportunities for improvement to manage potential future events.	Contact relevant person for actioning and response within 48 hours. Acknowledge in Complaints Register. Identify opportunities for improvement to manage potential future events.	Contact relevant person for actioning and response immediately. Acknowledge in Complaints Register. Identify opportunities for improvement to manage potential future events.
Political Interest	Trigger	General or non-specific enquiry by Local, State or Federal political representative.	Enquiry or complaint relating to minor issue by Local, State or Federal political representative.	Enquiry or complaint relating to major issue by Local, State or Federal political representative.
	Response	Superintendent in conjunction with The Proponent Project Team to prepare and provide response or assign response task to relevant staff member for comment. Record in Complaints Register.	Superintendent in conjunction with the proponent Project Team to prepare and provide response within 48 hours. Record in Complaints Register.	Superintendent in conjunction with the proponent Project Team to prepare and provide response within 24 hours. Record in Complaints Register.

7.0 Review

Review of the CEMP will be undertaken regularly by the Superintendent and will comprise, as a minimum, the following:

- Identification of areas of opportunity for improved environmental performance;
- Analysis of the causes of non-compliances, including those identified in environment inspections and audits;
- Verification of the effectiveness of corrective and preventative actions; and
- Highlighting any changes in procedures resulting from process improvement.
- This CEMP will also be reviewed and, if necessary, revised in the following circumstances:
- Where there is any change to the scope of the construction activities and/or disturbance footprint;
- Where it is identified that the environmental performance is not meeting the objectives of the CEMP; and/or
- At the request of a relevant regulatory authority.

Revision of the CEMP is to be in accordance with condition D7 and D8 of SDD 5526460. These are reproduced below.

> *D7. Within three months of:*
>
> *a) the submission of an incident report under condition D9;*
>
> *b) the approval of any modification of the conditions of this consent; or*
>
> *c) the issue of a direction of the Planning Secretary under condition B2(b) which requires a review, the strategies, plans and programs required under this consent must be reviewed.*
>
> *D8. If necessary to either improve the environmental performance of the development, cater for a modification or comply with a direction, the strategies, plans and programs required under this consent must be revised, to the satisfaction of the Planning Secretary. Where revisions are required, the revised document must be submitted to the Planning Secretary for approval within six weeks of the review required under condition D8, or such other timing as agreed by the Planning Secretary.*
>
> *Note: This is to ensure strategies, plans and programs are updated on a regular basis and to incorporate any recommended measures to improve the environmental performance of the development.*

8.0 References

Aboricultural Impact Assessment Report (Hugh the Arborist 2023)

Aboriginal Cultural Heritage Assessment Report (Artefact 2023)

Air Quality Impact Assessment (SLR 2023)

Biodiversity Assessment Report (Ecolique 2023)

Community and Stakeholder Management Plan (Vaughan Constructions 2024)

Construction Noise & Vibration Management Plan (Acoustic Logic 2025)

Construction Traffic Management Plan (SLR 2024)

Department of Environment (2018) Compliance Reporting Post Approval Requirements

Department of Environment (2022) Undertaking Engagement Guidelines for State Significant Projects.

Department of Planning and Environment (2021) Planning Secretary's Environmental Assessment Requirements

Department of Environment and Climate Change (2007) Storing and Handling of Liquids: Environmental Protection – Participants Manual

Department of Infrastructure, Planning and Natural Resources (2004) Guideline for the Preparation of Environmental Management Plans

Environmental Impact Statement Ethos Urban (2024)

Erosion & Sediment Control Plan (Costin Roe Consulting 2025)

EPA (2014) Waste Classification Guidelines Part 1: Classifying Waste

Ethos Urban (2023) Aboriginal Cultural Heritage Assessment Report (ACHAR)

Ethos Urban (2023) Consultation Outcomes Report

Ethos Urban (2024) Environmental Impact Statement

Transport for NSW's (TfNSW) *Construction Noise and Vibration Strategy* (CNVS)

Holman et al (2014) Institute of Air Quality Management Guidance on the assessment of dust from demolition and construction

Arboriculturally Impact Assessment Report (Hugh the Arborist 2023)

Erosion and Sediment Control Plans (Costin Roe Consulting 2025)

The Interim Construction Noise Guideline (DECC, 2009)

Remedial Action Plan (JBS&G 2023)

Waste Management Plan SLR (2023)

Standards Australia (2007) AS 4273-2007: Pruning of Amenity Trees

Standards Australia (2009) AS 4970-2009: Protection of Trees on Development Sites

Unexpected Finds Protocol (Sydney Environmental Group 2025)

Appendix A SSD 51310208 Conditions

Construction Environmental Management Plan

SSD-51310208 - 26 Ferndell Street, South Granville and 464 Blaxcell Street, Guildford, NSW

Vaughan Constructions Pty Ltd

SLR Project No.: 630.031503.00001

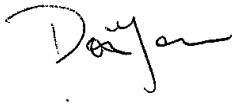
Development Consent

Section 4.38 of the *Environmental Planning and Assessment Act 1979*

As delegate of the Minister for Planning and Public Spaces under delegation executed on 9 March 2022, I approve the Development Application referred to in Schedule 1, subject to the conditions specified in Schedule 2.

These conditions are required to:

- prevent, minimise, or offset adverse environmental impacts;
- set standards and performance measures for acceptable environmental performance;
- require regular monitoring and reporting; and
- provide for the ongoing environmental management of the development



Doris Yau
A/Director
Industry Assessments

Sydney 24 January 2025 File: EF22/15355

SCHEDULE 1

Application Number:	SSD-51310208
Applicant:	Evolution MIT Services Pty Ltd as trustee for Prestige Worldwide Industrial South Granville Trust
Consent Authority:	Minister for Planning and Public Spaces
Site:	Lot 201 DP 816219 and Lot 12 DP 233162 26 Ferndell Street, South Granville & 464 Blaxcell Street, Guildford
Development:	The demolition of existing buildings and the construction and 24-hour operation of a warehouse and distribution centre, comprising a multi-level warehouse building, associated office space, landscaping, site infrastructure and signage

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DEFINITIONS

Additional Information	Correspondence by the Applicant in response to the Department's request for information, including the document titled *Amendment Report to SSD- 51310208 Multi -Level Warehouse and Distribution Centre 28 Ferndell Street, South Granville and 464 Blaxcell Street, Gilford*, dated 29 August 2024, prepared by Ethos Urban and all associated appendices
Applicant	Evolution MIT Services Pty Ltd as trustee for Prestige Worldwide Industrial South Granville Trust, or any person carrying out any development to which this consent applies
BCA	Building Code of Australia
Carrier	Operator of a telecommunication network and / or associated infrastructure, as defined in section 7 of the *Telecommunications Act 1997* (Cth)
Certifier	A council or an accredited certifier (including principal certifiers) who is authorised under section 6.5 of the EP&A Act to issue Part 6 certificates
CEMP	Construction Environmental Management Plan
Conditions of this consent	Conditions contained in Schedule 2 of this document
Construction	The carrying out of works for the purpose of the development, including bulk earthworks, and erection of buildings and other infrastructure permitted by this consent.
Council	Cumberland City Council
Day	The period from 7 am to 6 pm on Monday to Saturday, and 8 am to 6 pm on Sundays and Public Holidays
Department	NSW Department of Planning, Housing and Infrastructure
Development	The development described in Schedule 1, the EIS, RTS and Additional Information, as modified by the conditions of this consent
Development layout	The plans at Appendix 1 of this consent
Earthworks	Bulk earthworks, site levelling, import and compaction of fill material, excavation for installation of drainage and services, to prepare the site for construction
EIS	The Environmental Impact Statement titled *Environmental Impact Statement – SSD-51310208 Warehouse and Distribution Centre 26 Ferndell Street, South Granville & 464 Blaxcell Street, Guildford* dated 18 January, submitted with the application for consent for the development
ENM	Excavated Natural Material
Environment	As defined in section 1.4 of the EP&A Act
EPA	NSW Environment Protection Authority
EP&A Act	*Environmental Planning and Assessment Act 1979*
EP&A Regulation	Environmental Planning and Assessment Regulation 2021
Evening	The period from 6 pm to 10 pm
Fibre-ready facility	As defined in section 372W of the *Telecommunications Act 1997* (Cth)
GFA	Gross Floor Area
Heritage	Encompasses both Aboriginal and historic heritage including sites that predate European settlement, and a shared history since European settlement
Heritage item	An item as defined under the *Heritage Act 1977,* and assessed as being of local, State and/ or National heritage significance*,* and/or an Aboriginal Object or Aboriginal Place as defined under the *National Parks and Wildlife Act 1974'*, the World Heritage List, or the National Heritage List or Commonwealth Heritage List under the *Environment Protection and Biodiversity Conservation Act 1999* (Cth), or anything identified as a heritage item under the conditions of this consent

Incident	An occurrence or set of circumstances that causes or threatens to cause material harm and which may or may not be or cause a non-compliance Note: "material harm" is defined in this consent
Land	Has the same meaning as the definition of the term in section 1.4 of the EP&A Act
Material harm	Is harm that: a) involves actual or potential harm to the health or safety of human beings or to the environment that is not trivial, or b) results in actual or potential loss or property damage of an amount, or amounts in aggregate, exceeding $10,000, (such loss includes the reasonable costs and expenses that would be incurred in taking all reasonable and practicable measures to prevent, mitigate or make good harm to the environment)
Minister	NSW Minister for Planning and Public Spaces (or delegate)
Mitigation	Activities associated with reducing the impacts of the development prior to or during those impacts occurring
Morning Shoulder	The period from 5 am to 7am Monday to Saturday, and 5 am to 8 am on Sundays and Public Holidays
Night	The period from 10 pm to 5 am
Operation	The use of the multi-level warehouse and distribution centre and the ancillary office space as described in the EIS, RTS and Additional Information, and as modified by the conditions of this consent
Principal Certifier	The certifier appointed as the principal certifier for the building work under section 6.6(1) of the EP&A Act
Planning Secretary	Secretary of the Department, or delegate
POEO Act	*Protection of the Environment Operations Act 1997*
Reasonable	Means applying judgement in arriving at a decision, taking into account: mitigation benefits, costs of mitigation versus benefits provided, community views, and the nature and extent of potential improvements
Registered Aboriginal Parties	Means the Aboriginal persons identified in accordance with the document entitled "*Aboriginal cultural heritage consultation requirements for proponents 2010*" (DECCW)
Remedial Action Plan	Remedial Action Plan (prepared by JBS&J, Project 152899 Rev 0, dated 4 August 2023) (see Appendix X of the EIS).
Response to Submissions (RTS)	The Applicant's response to issues raised in submissions received in relation to the application for consent for the development under the EP&A Act and includes the document titled *Response to Submissions (April 2024) –South Granville Multi-Level Warehouse SSDA (SSD-51310208) – 28 Ferndell Street, South Granville & 464 Blaxcell Street, Guildford*, prepared by Ethos Urban and dated 13 June 2024
Sensitive receivers	A location where people are likely to work, occupy or reside, including a dwelling, school, hospital, office or public recreational area
Site	The land defined in Schedule 1 of this consent
VENM	Virgin Excavated Natural Material
Waste	Has the same meaning as the definition of the term in the Dictionary to the POEO Act
Year	A period of 12 consecutive months

SCHEDULE 2

PART A DEFERRED COMMENCEMENT CONDITIONS

A1. This development consent does not commence until approval from Cumberland City Council Traffic Committee referred to in Condition A3 has been submitted to the Planning Secretary.

A2. The report referred to in Condition A3 must be submitted to the Planning Secretary within 2 years from the date of this development consent or the development consent will have lapsed, in accordance with Section 4.53(6A) of the EP&A Act.

A3. Pursuant to section 4.16(3) of the EP&A Act, this development consent is granted subject to the following deferred commencement condition:

(a) The Applicant must submit to the Planning Secretary, the approval from Cumberland City Council's Traffic Committee for the removal of all public car parking within Straits Avenue, South Granville.

SCHEDULE 3

PART B ADMINISTRATIVE CONDITIONS

OBLIGATION TO MINIMISE HARM TO THE ENVIRONMENT

B1. In addition to meeting the specific performance measures and criteria in this consent, all reasonable and feasible measures must be implemented to prevent, and if prevention is not reasonable and feasible, minimise any material harm to the environment that may result from the construction and operation of the development, and any rehabilitation required under this consent.

TERMS OF CONSENT

B2. The development may only be carried out:

(a) in compliance with the conditions of this consent;

(b) in accordance with all written directions of the Planning Secretary;

(c) in accordance with the EIS, RTS and Additional Information;

(d) in accordance with the Development Layout in Appendix 1 of this consent; and

(e) in accordance with the management and mitigation measures in Appendix 2 of this consent.

B3. Consistent with the requirements in this consent, the Planning Secretary may make written directions to the Applicant in relation to:

(a) the content of any strategy, study, system, plan, program, review, audit, notification, report or correspondence submitted under or otherwise made in relation to this consent, including those that are required to be, and have been, approved by the Planning Secretary; and

(b) the implementation of any actions or measures contained in any such document referred to in condition B3(a).

B4. The conditions of this consent and directions of the Planning Secretary prevail to the extent of any inconsistency, ambiguity or conflict between them and a document listed in condition B2(c) and B2(e). In the event of an inconsistency, ambiguity or conflict between any of the documents listed in condition B2(c) and B2(e), the most recent document prevails to the extent of the inconsistency, ambiguity or conflict.

LIMITS OF CONSENT

Lapsing

B5. This consent lapses five years after the date from which it operates unless the development has physically commenced on the land to which the consent applies before that date.

Car Parking on Straits Avenue

B6. Prior to the commencement of construction, the Applicant must provide the Certifier with documented evidence that all on-street public car parking along Straits Avenue has been removed in accordance with the approval obtained from the Cumberland City Council Traffic Committee (see condition A3).

B7. The Applicant must provide a copy of the documentation given to the Certifier (see condition B6) to the Planning Secretary within seven days after the Certifier accepts it.

NOTIFICATION OF COMMENCEMENT

B8. The date of commencement of each of the following phases of the development must be notified to the Planning Secretary in writing, at least one month before that date, or as otherwise agreed with the Planning Secretary:

(a) construction; and

(b) operation.

B9. If the construction or operation of the development is to be staged, the Planning Secretary must be notified in writing, at least one month before the commencement of each stage (or other timeframe agreed with the Planning Secretary).

EVIDENCE OF CONSULTATION

B10. Where conditions of this consent require consultation with an identified party, the Applicant must:

(a) consult with the relevant party prior to submitting the subject document to the Planning Secretary for approval; and

(b) provide details of the consultation undertaken including:

(i) the outcome of that consultation, matters resolved and unresolved; and

(ii) details of any disagreement remaining between the party consulted and the Applicant and how the Applicant has addressed the matters not resolved.

STAGING, COMBINING AND UPDATING STRATEGIES, PLANS OR PROGRAMS

B11. With the approval of the Planning Secretary, the Applicant may:

(a) prepare and submit any strategy, plan or program required by this consent on a staged basis (if a clear description is provided as to the specific stage and scope of the development to which the strategy, plan or program applies, the relationship of the stage to any future stages and the trigger for updating the strategy, plan or program);

(b) combine any strategy, plan or program required by this consent (if a clear relationship is demonstrated between the strategies, plans or programs that are proposed to be combined); and

(c) update any strategy, plan or program required by this consent (to ensure the strategies, plans and programs required under this consent are updated on a regular basis and incorporate additional measures or amendments to improve the environmental performance of the development).

B12. If the Planning Secretary agrees, a strategy, plan or program may be staged or updated without consultation being undertaken with all parties required to be consulted in the relevant condition in this consent.

B13. If approved by the Planning Secretary, updated strategies, plans or programs supersede the previous versions of them and must be implemented in accordance with the condition that requires the strategy, plan or program.

UTILITIES, SERVICES AND PUBLIC INFRASTRUCTURE

General Requirements

B14. Prior to the commencement of construction of the development, the Applicant must:

(a) consult with the relevant owner and provider of services or public infrastructure that are likely to be affected by the development or that need to be installed as part of the development, to make suitable arrangements for relevant approvals, access to, diversion, protection and support of the affected services or infrastructure;

(b) prepare a dilapidation report identifying the condition of all public infrastructure in the vicinity of the site (including roads, gutters and footpaths); and

(c) submit a copy of the dilapidation report to the Planning Secretary and Council.

B15. Unless the Applicant and the applicable authority agree otherwise, the Applicant must:

(a) repair, or pay the full costs associated with repairing, any public infrastructure that is damaged by carrying out the development;

(b) relocate, or pay the full costs associated with relocating, any public infrastructure that needs to be relocated as a result of the development; and

(c) obtain any relevant approval(s) from the relevant service provider(s), prior to undertaking construction of the corresponding utility works.

Sydney Water

B16. Prior to the commencement of operation of the development, the Applicant must obtain a Compliance Certificate for water and sewerage infrastructure servicing of the site under section 73 of the *Sydney Water Act 1994*.

Fibre-Ready Facilities

B17. Prior to the issue of a Construction Certificate for any stage of the development, the Applicant (whether or not a constitutional corporation) is to provide evidence, satisfactory to the Certifier, that arrangements have been made for:

(a) the installation of fibre-ready facilities to all individual lots and/or premises in the development to enable fibre to be readily connected to any premises that is being or may be constructed on those lots;

(b) the provision of fixed-line telecommunications infrastructure in the fibre-ready facilities to all individual lots and/or premises in the development demonstrated through an agreement with a carrier.

B18. Prior to the issue of the Occupation Certificate for the development the Applicant must demonstrate that the carrier has confirmed in writing it is satisfied that the fibre-ready facilities are fit-for-purpose.

DEMOLITION

B19. All demolition must be carried out in accordance with Australian Standard *AS 2601-2001 The Demolition of Structures* (Standards Australia, 2001).

STRUCTURAL ADEQUACY

B20. All new buildings and structures, and any alterations or additions to existing buildings and structures, that are part of the development, must be constructed in accordance with the relevant requirements of the BCA.

Note:

- *Under Part 6 of the EP&A Act, the Applicant is required to obtain construction and occupation certificates for the proposed building works.*
- *The EP&A (Development Certification and Fire Safety) Regulation 2021 sets out the requirements for the certification of the development.*

EXTERNAL WALLS AND CLADDING

B21. The external walls of all buildings including additions to existing buildings must comply with the relevant requirements of the BCA.

B22. Prior to the issue of:

(a) any Construction Certificate relating to the construction of external walls (including the installation of finishes and claddings such as synthetic or aluminium composite panels); and

(b) an Occupation Certificate,

the Applicant must provide the Certifier with documented evidence that the products and systems proposed for use or used in the construction of external walls (including finishes and claddings such as synthetic or aluminium composite panels) comply with the requirements of the BCA.

B23. The Applicant must provide a copy of the documentation given to the Certifier (see condition B22) to the Planning Secretary within seven days after the Certifier accepts it.

COMPLIANCE

B24. The Applicant must ensure that all of its employees, contractors (and their sub-contractors) are made aware of, and are instructed to comply with, the conditions of this consent relevant to activities they carry out in respect of the development.

CONTRIBUTIONS TO COUNCIL

B25. Prior to the issue of a Construction Certificate for any part of the development, a payment of a levy of 1% of the proposed cost of carrying out the development (adjusted on a quarterly basis (from the date of this consent), to account for movements in the Australian Bureau of Statistics Consumer Price Index – Building Construction (NSW)) must be paid to Council under section 7.12 of the EP&A Act and in accordance with the *Cumberland Local Infrastructure Contributions Plan 2020*.

***Note**: Please contact Cumberland City Council on (02) 8757 9000 to obtain the contributions payment invoice.*

HOUSING AND PRODUCTIVITY CONTRIBUTION

B26. Prior to the issue of a Construction Certificate for any part of the development, a housing and productivity contribution (HPC) in accordance with Table 1 must be paid for the development, as adjusted in accordance with condition B27.

Table 1 *Housing and Productivity Contribution Amount*

HOUSING AND PRODUCTIVITY CONTRIBUTION	AMOUNT
Housing and productivity contribution (base component)	$498,347.80
Transport project component	$0
Total housing and productivity contribution	$498,347.80

B27. At the time of payment, the amount of the HPC is to be adjusted in accordance with the Environmental Planning and Assessment (Housing and Productivity Contributions) Order 1 October 2023 (HPC Order).

The HPC may be made wholly or partly as a non-monetary contribution (apart from any transport project component) if the Minister administering the EP&A Act agrees.

The HPC is not required to be made to the extent that a planning agreement excludes the application of Subdivision 4 of Division 7.1 of the EP&A Act to the development, or the HPC Order exempts the development from the contribution.

The amount of the contribution may be reduced under the HPC Order, including if payment is made before 1 July 2025.

OPERATION OF PLANT AND EQUIPMENT

B28. All plant and equipment used on-site, or to monitor the performance of the development, must be:

(a) maintained in a proper and efficient condition; and

(b) operated in a proper and efficient manner.

WORK AS EXECUTED PLANS

B29. Prior to the issue of the Occupation Certificate for the development, work-as-executed drawings signed by a registered surveyor demonstrating that the stormwater drainage and finished ground levels have been constructed as approved, must be submitted to the Principal Certifier.

APPLICABILITY OF GUIDELINES

B30. References in the conditions of this consent to any guideline, protocol, Australian Standard or policy are to such guidelines, protocols, Standards or policies in the form they are in as at the date of this consent.

B31. However, consistent with the conditions of this consent and without altering any limits or criteria in this consent, the Planning Secretary may, when issuing directions under this consent in respect of ongoing monitoring and management obligations, require compliance with an updated or revised version of such a guideline, protocol, Standard or policy, or a replacement of them.

ADVISORY NOTES

AN1. All licences, permits, approvals and consents as required by law must be obtained and maintained as required for the development. No condition of this consent removes any obligation to obtain, renew or comply with such licences, permits, approvals and consents.

PART C SPECIFIC ENVIRONMENTAL CONDITIONS

TRAFFIC AND ACCESS

Construction Traffic Management Plan

C1. Prior to the commencement of construction, the Applicant must prepare a Construction Traffic Management Plan (CTMP) for the development to the satisfaction of the Planning Secretary. The CTMP must form part of the CEMP required by condition D2 and must:

(a) be prepared by a suitably qualified and experienced person(s);

(b) be prepared in consultation with Council;

(c) detail the measures that are to be implemented to ensure road safety and network efficiency during construction;

(d) include details of:

(i) vehicle types, heavy vehicle routes including any heavy vehicle restriction routes, parking and access arrangements;

(ii) the strategies that would be implemented to minimise the number of construction workers who will drive to the site; and

(iii) any potential construction traffic impacts to general traffic, cyclists, and pedestrians within the vicinity of the site;

(e) include a Operational Driver Code of Conduct to:

(i) minimise the impacts of earthworks and construction on the local and regional road network;

(ii) minimise conflicts with other road users;

(iii) minimise road traffic noise; and

(iv) ensure truck drivers are aware of heavy vehicle traffic restriction routes and use specified routes;

(f) include a program to monitor the effectiveness of these measures; and

(g) if necessary, detail procedures for notifying residents and the community (including local schools), of any potential disruptions to routes.

C2. The Applicant must:

(a) not commence construction until the CTMP required by condition C1 is approved by the Planning Secretary; and

(b) implement the most recent version of the CTMP approved by the Planning Secretary for the duration of construction.

Parking and Access

C3. Prior to the commencement of operation, the Applicant must complete the construction of the Ferndell Street and Straits Avenue civil works, including the access driveways and footpaths to the satisfaction of the roads authority. The Applicant must obtain approval for these works from the roads authority under section 138 of the *Roads Act 1993*.

C4. Prior to the commencement of operation, the Applicant must provide:

(a) a minimum of ten (10) electric car charging facilities on-site; and

(b) parking facilities on-site for heavy vehicles and site personnel to ensure that traffic associated with the development does not park on local roads or in public parking facilities.

Operational Traffic Management Plan

C5. Prior to the commencement of operation, the Applicant must prepare an Operational Traffic Management Plan (OTMP) for the development to the satisfaction of the Planning Secretary. The OTMP must:

(a) be prepared by a suitably qualified and experienced person(s);

(b) be prepared in consultation with Council;

(c) detail the anticipated numbers and frequency of vehicle movements, including light and heavy vehicles, size of heavy vehicles, routes and peak hour movements;

(d) include details of the management measures which would be implemented to ensure vehicle movements comply with the restricted hours of operation (see condition C8) for units 2 – 8 (Warehouse A, B & C) on the ground floor of the development;

(e) include details of the management measures which would be implemented:

(i) to minimise the impact of the development on the safety and efficiency of the surrounding road network;

(ii) to minimise the impact of the development on pedestrian safety; and

(iii) to minimise traffic noise associated with the operation of the development;

(f) include an Operational Driver Code of Conduct to:

(i) ensure compliance with the operating conditions specified in condition C5(d);

(ii) ensuring drivers implement safe driving practices and adhere to designated routes, including prioritising the use of arterial roads and avoiding residential streets;

(iii) minimising noise associated with on-site truck movements; and

(iv) ensure drivers adhere to site-specific speed limits and any heavy vehicle restriction routes; and

(g) include a program to monitor the effectiveness of these measures.

C6. The Applicant must:

(a) not commence operation until the OTMP required by condition C5 is approved by the Planning Secretary; and

(b) implement the most recent version of the OTMP approved by the Planning Secretary for the duration of operation.

Operating Conditions

C7. The Applicant must ensure:

(a) internal roads, driveways and parking (including grades, turn paths, sight distance requirements, aisle widths, aisle lengths and parking bay dimensions) associated with the development are constructed and maintained in accordance with the latest version of *AS 2890.1:2004 Parking facilities Off-street car parking* (Standards Australia, 2004), *AS 2890.2:2018 Parking facilities Off-street Commercial Vehicle Facilities* (Standards Australia, 2018) and *AS 2890.6.2009 Parking facilities Off-street parking for people with disabilities* (Standards Australia, 2009);

(b) the swept path of the longest vehicle entering and exiting the site, as well as manoeuvrability through the site, is in accordance with the relevant AUSTROADS guidelines;

(c) the development does not result in any vehicles queuing on the public road network, waiting to enter the site;

(d) heavy vehicles, equipment and bins associated with the development are not parked and/or stored on public roads or footpaths in the vicinity of the site;

(e) all vehicles are wholly contained on site before being required by the Applicant to stop;

(f) all loading and unloading of materials is carried out on-site; and

(g) all on-site turning areas are kept clear of any obstacles, including parked cars, at all times.

NOISE

Hours of Work

C8. The Applicant must comply with the hours detailed in Table 2 below.

Table 2 *Hours of Work*

Activity	Day	Time
Construction	Monday – Friday Saturday	7 am to 6 pm 8 am to 1 pm
Operation Warehouse A: Unit 1	Monday – Sunday	24 hours
Operation Warehouse A: Unit 2, Unit 3 Warehouse B: Unit 4, Unit 5, Unit 6 Warehouse C: Unit 7, Unit 8	Monday – Sunday	7:00am – 10:00pm

C9. Works outside of the hours identified in condition C8 may be undertaken in the following circumstances:

(a) works that are inaudible at the nearest sensitive receivers;

(b) works agreed to in writing by the Planning Secretary;

(c) for the delivery of materials required outside these hours by the NSW Police Force or other authorities for safety reasons; or

(d) where it is required in an emergency to avoid the loss of lives, property or to prevent environmental harm.

Construction Noise Limits

C10. The development must be constructed to achieve the construction noise management levels detailed in the *Interim Construction Noise Guidelines* (as may be updated or replaced from time to time). All feasible and reasonable noise mitigation measures must be implemented and any activities that could exceed the construction noise management levels must be identified and managed in accordance with the Construction Noise and Vibration Management Plan required under condition C16.

Vibration Criteria

C11. Vibration caused by construction at any residence or structure outside the site must be limited to:

(a) for structural damage, the latest version of *DIN 4150-3 (2016-12) Vibration in Buildings – Part 3: Effects on Structures* (German Institute for Standardisation, 2016); and

(b) for human exposure, the acceptable vibration values set out in the *Environmental Noise Management Assessing Vibration: a technical guideline* (DEC, 2006) (as may be updated or replaced from time to time).

C12. The limits in condition C11 apply unless otherwise outlined in the development's Construction Noise and Vibration Management Plan (see condition C16).

Dilapidation Surveys

C13. The Applicant must offer and prepare (if the offer is accepted) a pre-construction and post-construction dilapidation survey of the heritage listed item "Acrow Building" at 7-11 Ferndell Street, South Granville at the following stages of the development:

(a) for the pre-construction dilapidation survey, prior to the commencement of construction; and

(b) for the post-construction dilapidation survey, within one month after the conclusion of construction (or as otherwise agreed with the Planning Secretary).

C14. Each dilapidation survey (see condition C13) must:

(a) be prepared in accordance with the recommendations of the Historical Heritage Statement of Heritage Impact (Appendix H of the EIS); and

(b) be submitted to the Planning Secretary and the relevant property owners within 7 days of it having been finalised by the Applicant.

C15. Should the post-construction survey (see condition C13) identify any damage, the Applicant must discuss the repairs to be undertaken with the relevant property owners in accordance with the recommendations of the Historical Heritage Statement of Heritage Impact (Appendix H of the EIS), and repair or pay the full costs associated with repairing any part of the building that is determined to be damaged by the carrying out construction works associated with the development.

Construction Noise and Vibration Management Plan

C16. Prior to the commencement of construction, the Applicant must prepare a Construction Noise and Vibration Management Plan (CNVMP) for the development to the satisfaction of the Planning Secretary. A copy of the CNVMP must be included in the development's CEMP (see condition D2) and must:

(a) be prepared by a suitably qualified and experienced noise expert(s);

(b) describe procedures for achieving the noise management levels detailed in the *Interim Construction Noise Guidelines* (as may be updated or replaced from time to time) and the vibration criteria in condition C11;

(c) describe the measures to be implemented to manage high noise generating works such as piling, in close proximity to sensitive receivers;

(d) include strategies that have been developed with the community for managing high noise generating works (such as the provision of respite periods);

(e) include strategies that have been developed in consultation with the directly adjoining properties for managing vibration (such as any alternative construction methods with lower source vibration levels and provision for respite periods);

(f) include strategies that have been developed in consultation with the owners of 7-11 Ferndell Street, South Granville to manage potential vibration impacts to heritage item "Acrow Building";

(g) describe the community consultation undertaken to develop the strategies in condition C16(d) and C16(e); and

(h) include a complaints management system that would be implemented for the duration of construction of the development.

C17. The Applicant must:

(a) not commence construction until the CNVMP required by condition C16 is approved by the Planning Secretary; and

(b) implement the most recent version of the CNVMP approved by the Planning Secretary for the duration of construction.

Operational Noise Limits

C18. The Applicant must ensure that noise generated by the operation of the development does not exceed the noise limits at the receiver locations outlined in Table 3 below and shown in Appendix 3 of this consent.

Table 3 *Noise Limits (dB(A))*

Location	Day $L_{Aeq(15\ minute)}$	Evening $L_{Aeq(15\ minute)}$	Night $L_{Aeq(15\ minute)}$	Morning Shoulder $L_{Aeq(15\ minute)}$
R01 7 Olsen Street, Guildford	41	41	30	30
R03 2 Olsen Street, Guildford	43	43	32	32
Compliance Point 1 (CP1)	43	43	38	38

Note: *Noise generated by the development is to be measured in accordance with the relevant monitoring performance procedures and exemptions (including certain meteorological conditions) of the NSW Noise Policy for Industry (EPA, 2017) (as may be updated or replaced from time to time).*

Operational Noise Verification Report

C19. At the following stages of the development (or as otherwise directed by the Planning Secretary), the Applicant must prepare and submit a Noise Verification Report to the satisfaction of the Planning Secretary:

(a) within three months of the commencement of operation of Warehouse A, Unit 1; and

(b) within three months of the commencement of operation of all remaining tenancies (Units) within the development.

C20. Each Noise Verification Report (see condition C19) must:

(a) be prepared to the satisfaction of the Planning Secretary;

(b) demonstrate that noise verification has been carried out by a suitably qualified and experienced acoustic consultant in accordance with the latest version of:

(i) the Australian Standard *AS 1055:2018 Acoustics – Description and measurement of environmental noise* (Standards Australia, 2018);

(ii) the *Approved Methods for the Measurement and Analysis of Environmental Noise in NSW* (EPA, 2022);

(iii) the monitoring and reporting requirements detailed in Section 7 of the NSW *Noise Policy for Industry* (EPA, 2017); and

(c) include:

(i) an analysis of the development's compliance with the noise limits specified in condition C18;

(ii) an outline of management actions to be taken to address any exceedances of the limits specified in condition C18; and

(iii) a description of contingency measures in the event management actions are not effective in reducing noise levels to an acceptable level.

SOILS, WATER QUALITY AND HYDROLOGY

Imported Soil

C21. The Applicant must:

(a) ensure that only VENM, ENM, or other fill material approved in writing by the EPA is brought onto the site;

(b) keep accurate records of the volume and type of fill to be used; and

(c) make these records available to the Planning Secretary upon request.

Erosion and Sediment Control

C22. Prior to the commencement of any construction or other surface disturbance for the development, the Applicant must install suitable erosion and sediment control measures on-site, in accordance with the relevant requirements of the *Managing Urban Stormwater: Soils and Construction - Volume 1: Blue Book* (Landcom, 2004) guideline and the Erosion and Sediment Control Plan included in the CEMP required by condition D2.

C23. The Applicant must maintain the erosion and sediment control measures installed on-site in accordance with condition C22 for the duration of construction of the development.

Discharge Limits

C24. The development must comply with section 120 of the POEO Act, which prohibits the pollution of waters, except as expressly provided for in an Environment Protection Licence.

Stormwater Management System

C25. The Applicant must finalise the detailed design of the stormwater management system for the development, prior to the commencement of construction of that system. The system must:

(a) be designed by a suitably qualified and experienced person(s);

(b) be designed in consultation with Council;

(c) be generally in accordance with the conceptual design in the EIS, RTS and additional information;

(d) be in accordance with applicable Australian Standards; and

(e) ensure that the system capacity has been designed in accordance with *Australian Rainfall and Runoff* (Engineers Australia, 2016) and *Managing Urban Stormwater: Council Handbook* (EPA, 1997) guidelines.

C26. Prior to the commencement of operation, the Applicant must install the stormwater management system in accordance with the finalised detailed design (as required by condition C25) and ensure the system is operational.

C27. The Applicant must maintain the stormwater management system installed on the site under condition C26 for the duration of the development.

AIR QUALITY

Dust Minimisation

C28. The Applicant must take all reasonable steps to minimise dust generated during all works authorised by this consent.

C29. During construction of the development, the Applicant must ensure that:

(a) exposed surfaces and stockpiles are suppressed by regular watering or other alternative suppression method;

(b) all trucks entering or leaving the site with loads have their loads covered;

(c) trucks associated with the development do not track dirt onto the public road network;

(d) public roads used by these trucks are kept clean; and

(e) land stabilisation works are carried out progressively on site to minimise exposed surfaces.

Air Quality Discharges

C30. The Applicant must install and operate equipment in line with best practice to ensure the development complies with all load limits, air quality criteria/air emission limits and air quality monitoring requirements as specified in the Protection of the Environment Operations (Clean Air) Regulation 2022.

BIODIVERSITY

Ecosystem Credits

C31. Prior to any clearing or construction works for the development, the Applicant must purchase and retire six (6) ecosystem credits to offset the removal / disturbance of the PCT 3320 - Cumberland Shale Plains Woodland at the site. The ecosystem credits must be retired in accordance with the requirements of the Biodiversity Offsets Scheme and the *Biodiversity Conservation Act 2016*.

C32. The requirement to retire ecosystem credits (see condition C31) may be satisfied by payment to the Biodiversity Conservation Fund of an amount equivalent to the number and classes of ecosystem credits, as calculated by the Biodiversity Offsets Payment Calculator.

C33. Prior to undertaking any clearing or construction works for the development, the Applicant must provide the Planning Secretary with evidence that:

(a) the retirement of ecosystem credits has been completed in accordance with condition C31; or

(b) a payment has been made to the Biodiversity Conservation Fund in accordance with condition C32.

Tree Protection Measures

C34. Prior to the commencement of construction, a project arborist with a minimum 'Australian Qualifications Framework – Level 5' certification is to be appointed. The project arborist is to:

(a) oversee the tree protection measures and any works within the Tree Protection Zones established under this consent in accordance with the Arboricultural Impact Assessment, Report prepared by Hugh The Arborist, dated 8 August 2024 (Appendix P of the RTS); and

(b) complete regular inspections of retained trees in accordance with the Arboricultural Impact Assessment, Report prepared by Hugh The Arborist, dated 8 August 2024 (Appendix P of the RTS) for the duration of construction in order to ensure that protection measures are being adhered to.

C35. All trees identified for retention within the site must be protected for the duration of construction. The trees must be protected in accordance with:

(a) the recommendations of the Arboricultural Impact Assessment, Report prepared by Hugh The Arborist, dated 8 August 2024 (Appendix P of the RTS); and

(b) the latest version of Australian Standard *AS 4970:2009 – Protection of Trees on Development* (Standards Australia, 2009).

All required tree protection measures must be in place prior to the commencement of construction works at the site.

C36. In the event that any native fauna is found during tree removal works, all works in the immediate vicinity of the animal(s) must cease. Work in the immediate vicinity of the animal(s) must not recommence until a trained wildlife handler attends the site or the animal relocates itself.

LANDSCAPING

C37. Prior to the commencement of operation, the Applicant must prepare a Landscape Management Plan (LMP) to manage the development's landscaping works to the satisfaction of the Planning Secretary. The LMP must:

(a) be consistent with the tree replacement planting as demonstrated within the Landscape Plans prepared by Arcadia, revision H, dated 26 August 2024 (see Appendix D of the RTS);

(b) be consistent with the tree species, pot size and diversity/number of replacements within the Indicative Planting Schedule included within the Landscape Plans prepared by Arcadia, revision H, dated 26 August 2024 (see Appendix D of the RTS);

(c) be consistent with:

(i) conditions C34 to C35, inclusive;

(ii) the Applicant's Management and Mitigation Measures at Appendix 2 of this consent; and

(d) describe the ongoing monitoring and maintenance measures which will be implemented to manage the landscaping works.

C38. The Applicant must:

(a) not commence operation until the LMP (see condition C37) is approved by the Planning Secretary;

(b) implement the most recent version of the LMP approved by the Planning Secretary; and

(c) maintain all on-site landscaping in accordance with the approved LMP for the life of the development.

HAZARDS AND RISK

Emergency Response

C39. Prior to the commencement of operation of the development, the Applicant must prepare the following documents:

(a) a comprehensive Emergency Response Plan for the site in accordance with the Department's *Hazardous Industry Planning Advisory Paper No. 1, 'Emergency Planning'*; and

(b) an Emergency Services Information Package, developed in accordance with the *FRNSW Fire Safety Guideline – Emergency Services Information Package* and Tactical Fire Plans.

C40. The Applicant must implement the Emergency Response Plan and Emergency Services Information Package required under condition C39 for the life of the development.

C41. The Applicant must ensure that adequate emergency vehicle access is incorporated into the development's site design in line with *FRNSW Fire Safety Guideline - Access for Fire Brigade Vehicles and Firefighters*.

Dangerous Goods

C42. The quantities of dangerous goods stored and handled within each of the 8 warehouse tenancies (Units) must be below the placard quantities listed in Schedule 11 of the *Work Health and Safety Regulation 2017 (NSW)* at all times.

C43. Storage and handling of dangerous goods for individual warehouse tenancies (Units) within the site, as defined by the Australian Dangerous Goods Code, must be strictly in accordance with:

(a) the requirements of all relevant Australian Standards; and

(b) for liquids, the NSW EPA`s *Storing and Handling Liquids: Environmental Protection – Participants Manual.*

C44. In the event of an inconsistency between the requirements of conditions C43(a) and C43(b), the most stringent requirement must prevail to the extent of the inconsistency.

REMEDIATION

Site Auditor

C45. Prior to the commencement of any earthworks or remediation works, the Applicant must engage a Site Auditor accredited under the *Contaminated Lands Management Act 1997* (CLM Act) NSW Site Auditor Scheme.

Remediation Works

C46. The site is to be remediated in accordance with the Remedial Action Plan (RAP), the CEMP and any relevant guidelines produced or approved under the CLM Act. If any amendments are required to the RAP, they must be reviewed and approved by the Site Auditor in the form of an Interim Audit Advice.

C47. The Applicant must ensure the remediation works for the development are undertaken by a suitably qualified and experienced contractor(s).

Validation Report

C48. Within three months of the completion of the remediation works required under condition C47, or as otherwise agreed with the Planning Secretary, the Applicant must submit a Validation Report to the Site Auditor and Planning Secretary which demonstrates the remediation works have been completed in accordance with the RAP and the CEMP. The validation report must include:

(a) details of the remediation works undertaken;

(b) details of any unexpected contamination find(s) (see condition C52);

(c) validation of any imported fill used during the remediation works (see condition C21); and

(d) information confirming that the objectives of the RAP have been achieved.

Site Audit Statement

C49. Prior to the commencement of operation, or as otherwise agreed with the Planning Secretary, the Applicant must obtain a Site Audit Statement from the Site Auditor to confirm:

(a) the remedial works approved under this consent have been completed in accordance with the remediation objectives listed in the RAP; and

(a) the site is suitable for its intended industrial and commercial uses, subject to the implementation of the Long Term Environmental Management plan (LTEMP) (see condition C50).

A copy of the final Site Audit Report and Site Audit Statement must be provided to the Planning Secretary.

Long Term Environmental Management Plan

C50. Prior to the finalisation of the Site Audit Statement, the Applicant must prepare a Long Term Environmental Management Plan (LTEMP) for the ongoing management of contaminated soil for the site in accordance with the Remedial Action Plan (prepared by JBS&J, Project 152899 Rev 0, dated 4 August 2023) (see Appendix X of the EIS). The LTEMP is to be approved by the Site Auditor and a copy of the approved LTEMP must be provided to the Planning Secretary.

C51. Upon completion of the Site Audit Statement and Site Audit Report, the Applicant must:

(a) implement the approved LTEMP (see condition C50); and

(b) provide evidence to the Planning Secretary the LTEMP is listed on the relevant planning certificate for the land, issued under section 10.7 of the EP&A Act, for the development.

CONTAMINATION

Unexpected Contaminated Finds Procedure

C52. Prior to the commencement of earthworks, the Applicant must prepare a contaminated finds procedure to ensure that known or potentially contaminated material is appropriately managed. The procedure must form part of the of the CEMP in accordance with condition D2 and must ensure any surplus material identified as contaminated is disposed of in accordance with the POEO Act and its associated regulations.

ABORIGINAL HERITAGE

Unexpected Finds Protocol

C53. If any item or object of Aboriginal heritage significance is identified on site:

(a) all work in the immediate vicinity of the suspected Aboriginal item or object must cease immediately;

(b) a 10 m wide buffer area around the suspected item or object must be cordoned off; and

(c) Heritage NSW must be contacted immediately.

C54. Work in the immediate vicinity of the Aboriginal item or object may only recommence in accordance with the provisions of Part 6 of the *National Parks and Wildlife Act 1974*.

NON-ABORIGINAL HERITAGE

Unexpected Finds Protocol

C55. If any non-Aboriginal archaeological relics are uncovered during any works being carried out for the development:

(a) all work in the immediate vicinity of the suspected relic(s) must cease immediately;

(b) Heritage NSW must be contacted immediately; and

(c) the suspected relic(s) must be evaluated, recorded and, if necessary, excavated by a suitably qualified and experienced expert in accordance with the requirements of Heritage NSW.

C56. Work in the immediate vicinity of any suspected non-Aboriginal archaeological relic(s) must not recommence until this has been authorised by Heritage NSW.

WASTE MANAGEMENT

C57. The Applicant must assess and classify all liquid and non-liquid wastes to be taken off site in accordance with the latest version of *Waste Classification Guidelines Part 1: Classifying Waste* (EPA, 2014).

C58. All waste materials removed from the site must only be directed to a waste management facility or premises lawfully permitted to accept the materials.

C59. Waste generated outside the site must not be received at the site for storage, treatment, processing, reprocessing, or disposal.

C60. Waste must be secured and maintained within designated waste storage areas at all times and must not leave the site onto neighbouring public or private properties.

Pests, Vermin and Priority Weed Management

C61. The Applicant must:

(a) implement suitable measures to manage pests, vermin and declared priority weeds on the site; and

(b) inspect the site on a regular basis to ensure that these measures are working effectively, and that pests, vermin or priority weeds are not present on site in sufficient numbers to pose an environmental hazard or cause the loss of amenity in the surrounding area.

Note: *For the purposes of this condition, priority weed has the same definition of the term in the Biosecurity Act 2015.*

VISUAL AMENITY

Lighting

C62. The Applicant must ensure the lighting associated with the development:

(a) complies with the latest version of AS 4282-2019 - *Control of the obtrusive effects of outdoor lighting* (Standards Australia, 2019); and

(b) is mounted, screened and directed in such a manner that it does not create a nuisance to surrounding properties or the public road network.

Signage and Fencing

C63. All signage and fencing must be erected within the development site in accordance with the development plans included in the RTS.

Note: *This condition does not apply to temporary construction and safety related signage and fencing.*

PART D ENVIRONMENTAL MANAGEMENT, REPORTING AND AUDITING

ENVIRONMENTAL MANAGEMENT

Management Plan Requirements

D1. Management plans required under this consent must be prepared in accordance with relevant guidelines, and include:

(a) a condition compliance table for that plan;

(b) detailed baseline data (where required);

(c) details of:

(i) the relevant statutory requirements (including any relevant approval, licence or lease conditions);

(ii) any relevant limits or performance measures and criteria; and

(iii) the specific performance indicators that are proposed to be used to judge the performance of, or guide the implementation of, the development or any management measures;

(d) a description of the measures to be implemented to comply with the relevant statutory requirements, limits, or performance measures and criteria;

(e) a program to monitor and report on the:

(i) impacts and environmental performance of the development; and

(ii) effectiveness of the management measures set out pursuant to paragraph (d) above;

(f) a contingency plan to manage any unpredicted impacts and their consequences and to ensure that ongoing impacts reduce to levels below relevant impact assessment criteria as quickly as possible;

(g) a program to investigate and implement ways to improve the environmental performance of the development over time;

(h) a protocol for managing and reporting any:

(i) incident and any non-compliance (specifically including any exceedance of the impact assessment criteria and performance criteria);

(ii) complaint;

(iii) failure to comply with statutory requirements; and

(i) a protocol for periodic review of the plan.

Note: *The Planning Secretary may waive some of these requirements if they are unnecessary or unwarranted for particular management plans*

CONSTRUCTION ENVIRONMENTAL MANAGEMENT PLAN

D2. The Applicant must prepare a Construction Environmental Management Plan (CEMP) for the development in accordance with the requirements of condition D1 and to the satisfaction of the Planning Secretary.

D3. As part of the CEMP required under condition D2 of this consent, the Applicant must include the following:

(a) Construction Traffic Management Plan (see condition C1);

(b) Construction Noise and Vibration Management Plan (see condition C16);

(c) Erosion and Sediment Control Plan (see condition C22); and

(d) a copy of the development's Unexpected Contamination Finds Procedure (see condition C52); and

(e) details of the community consultation and complaints handling procedure to be implemented during construction.

D4. The Applicant must:

(a) not commence construction of the development until the CEMP required under condition D2 of this consent is approved by the Planning Secretary; and

(b) carry out the construction of the development in accordance with the CEMP approved by the Planning Secretary and as revised and approved by the Planning Secretary from time to time.

OPERATIONAL COMPLAINTS HANDLING PROTOCOL

D5. Prior to the commencement of operation, the Applicant must prepare an Operational Complaints Handling Protocol (OCHP) for the development. The OCHP must:

(a) detail how complaints would be received by the Applicant;

(b) detail how the contact details for receiving complaints would be communicated to surrounding businesses and/or residential receivers; and

(c) include a complaints register to record the date, time and nature of the complaint, details of the complainant and any actions taken to address the complaint.

A copy of the complaints register must be provided to the Planning Secretary upon request.

Note: *Methods for receiving complaints could include, but are not limited to, email, a toll-free telephone number and/or a postal address. Methods for communicating contact details could include, but are not limited to, on-site signage and/or an advertisement published in a local paper.*

D6. The Applicant must:

(a) not commence operation until the OCHP under condition D5 is submitted to the Planning Secretary; and

(b) implement the most recent version of the OCHP submitted to the Planning Secretary for the duration of the development.

REVISION OF STRATEGIES, PLANS AND PROGRAMS

D7. Within three months of:

(a) the submission of an incident report under condition D9;

(b) the approval of any modification of the conditions of this consent; or

(c) the issue of a direction of the Planning Secretary under condition B2(b) which requires a review, the strategies, plans and programs required under this consent must be reviewed, and the Planning Secretary must be notified in writing of the outcomes of any review.

D8. If identified as part of the review process (see condition D7), or considered necessary to improve the environmental performance of the development, the Applicant must ensure the strategies, plans and/or programs required under this consent are revised, to the satisfaction of the Planning Secretary.

Where revisions are required, the revised document(s) must be submitted to the Planning Secretary for approval within six weeks of the review required under condition D7, or such other timing as agreed to in writing by the Planning Secretary.

Note: *This is to ensure strategies, plans and programs are updated on a regular basis and to incorporate any recommended measures to improve the environmental performance of the development.*

REPORTING AND AUDITING

Incident Notification, Reporting and Response

D9. The Applicant must notify the Department within 24 hours of becoming aware of an incident. The notification must be made via the NSW planning portal (Major Projects) and address details of the incident including:

(a) date, time and location;

(b) a brief description of what occurred and why it has been classified as an incident;

(c) a description of what immediate steps were taken in relation to the incident; and

(d) identifying a contact person for further communication regarding the incident.

D10. The Applicant must provide the Department with a subsequent incident report in accordance with the requirements set out in Appendix 4 of this consent.

Non-Compliance Notification

D11. Within seven days of becoming aware of any non-compliance, the Applicant must notify the Department of the non-compliance, in writing, via the NSW planning portal (Major Projects).

D12. A non-compliance notification submitted under condition D11 must identify the development (including the development application number and name), set out the condition of this consent that the development is non-compliant with, why it does not comply, the reasons for the non-compliance (if known), and what actions have been undertaken, or will be undertaken, and when, to address the non-compliance.

Note: *A non-compliance which has been notified as an incident does not need to also be notified as a non-compliance.*

Monitoring and Environmental Audits

D13. Any condition of this consent that requires the carrying out of monitoring or an environmental audit, whether directly or by way of a plan, strategy or program, is taken to be a condition requiring monitoring or an environmental audit under Division 9.4 of Part 9 of the EP&A Act. This includes conditions in respect of incident notification, reporting and response, non-compliance notification, compliance reporting and independent auditing.

Note: *For the purposes of this condition, as set out in the EP&A Act, "monitoring" is monitoring of the development to provide data on compliance with the consent or on the environmental impact of the development, and an "environmental audit" is a periodic or particular documented evaluation of the development to provide information on compliance with the consent or the environmental management or impact of the development.*

ACCESS TO INFORMATION

D14. At least 48 hours before the commencement of construction of the development and for the life of the development (or such other time as agreed to by the Planning Secretary), the Applicant must:

(a) make the following information and documents (as they are obtained or approved) publicly available on its website:

(i) the documents referred to in condition B2 of this consent;

(ii) all current statutory approvals for the development;

(iii) all approved strategies, plans and programs required under the conditions of this consent (with the exception of any hazard and risk related studies);

(iv) a summary of the current stage and progress of the development;

(v) contact details to enquire about the development or to make a complaint;

(vi) a complaints register, updated quarterly (see conditions D3(e) and D5(c));

(vii) any other matter required by the Planning Secretary; and

(b) keep such information up to date, to the satisfaction of the Planning Secretary.

APPENDIX 1 DEVELOPMENT LAYOUT PLANS

Drawing Number	Drawing Title	Drawing Issue	Date
Architectural Drawings prepared by Watch This Space Design Pty Ltd			
DA-002	Site Plan	F	09/08/2024
DA-003	Demolition Plan	F	09/08/2024
DA-004	Site & Roof Plan	I	15/08/2024
DA-100	Lower Ground Floor Plan	P	16/08/2024
DA-101	Ground Floor Plan	N	15/08/2024
DA-103	Overall Site Elevation	J	12/08/2024
DA-104	Overall Site Sections	F	09/08/2024
DA-108	Signage Strategy Plan and Signage Details	F	09/08/2024
DA-109	Vehicle Ramp Details	F	09/08/2024
DA-200	WH A – Unit 1 Proposed Office Floor Plans	F	09/08/2024
DA-201	WH A – Unit 2 Proposed Office Floor Plans	F	09/08/2024
DA-202	WH A – Unit 3 & Unit 4 Proposed Office Floor Plans	F	09/08/2024
DA-203	WH A – Elevations and External Finishes	I	09/08/2024
DA-300	WH B – Unit 4 Proposed Office Floor Plans	F	09/08/2024
DA-301	WH B – Unit 5 and Unit 6 Proposed Office Floor Plans	F	09/08/2024
DA-302	WH B – Elevations and External Finishes	I	12/08/2024
DA-400	WH C – Unit 7 Proposed Office Floor Plans	F	09/08/2024
DA-401	WH C – Unit 8 Proposed Office Floor Plans	F	09/08/2024
DA-402	WH C – Elevations and External Finishes	H	12/08/2024
DA-403	Carpark A and B	G	16/08/2024
DA-404	Carpark C and D	G	09/08/2024
DA-405	Carpark E	F	09/08/2024
Civil Drawings prepared by Northrop			
C0101	Specification Notes – Sheet 1	3	08/08/2024
C0102	Specification Notes – Sheet 2	3	08/08/2024
C1001	Sediment and soil erosion control plan	3	08/08/2024
C1101	Sediment and soil erosion details	3	08/08/2024
C2001	Bulk Earthworks Cut and Fill Plan	4	08/08/2024
C2201	Bulk Earthworks Cut and Fill Sections – Sheet 01	4	08/08/2024
C2202	Bulk Earthworks Cut and Fill Sections – Sheet 02	4	08/08/2024
C2203	Bulk Earthworks Cut and Fill Sections – Sheet 03	4	08/08/2024
C2204	Bulk Earthworks Cut and Fill Sections – Sheet 04	4	08/08/2024
C2205	Bulk Earthworks Cut and Fill Sections – Sheet 05	4	08/08/2024
C3001	Siteworks and Stormwater Management Plan – Ground Floor	4	08/08/2024
C3011	Siteworks and Stormwater Management Plan – Lower Ground Floor	4	08/08/2024
C4101	Stormwater Management Details – Sheet 1	3	08/08/2024
C4102	Stormwater Management Details – Sheet 2	3	08/08/2024
C4201	Stormwater Catchment Plan	3	08/08/2024
C6101	Details Sheet 1	3	08/08/2024

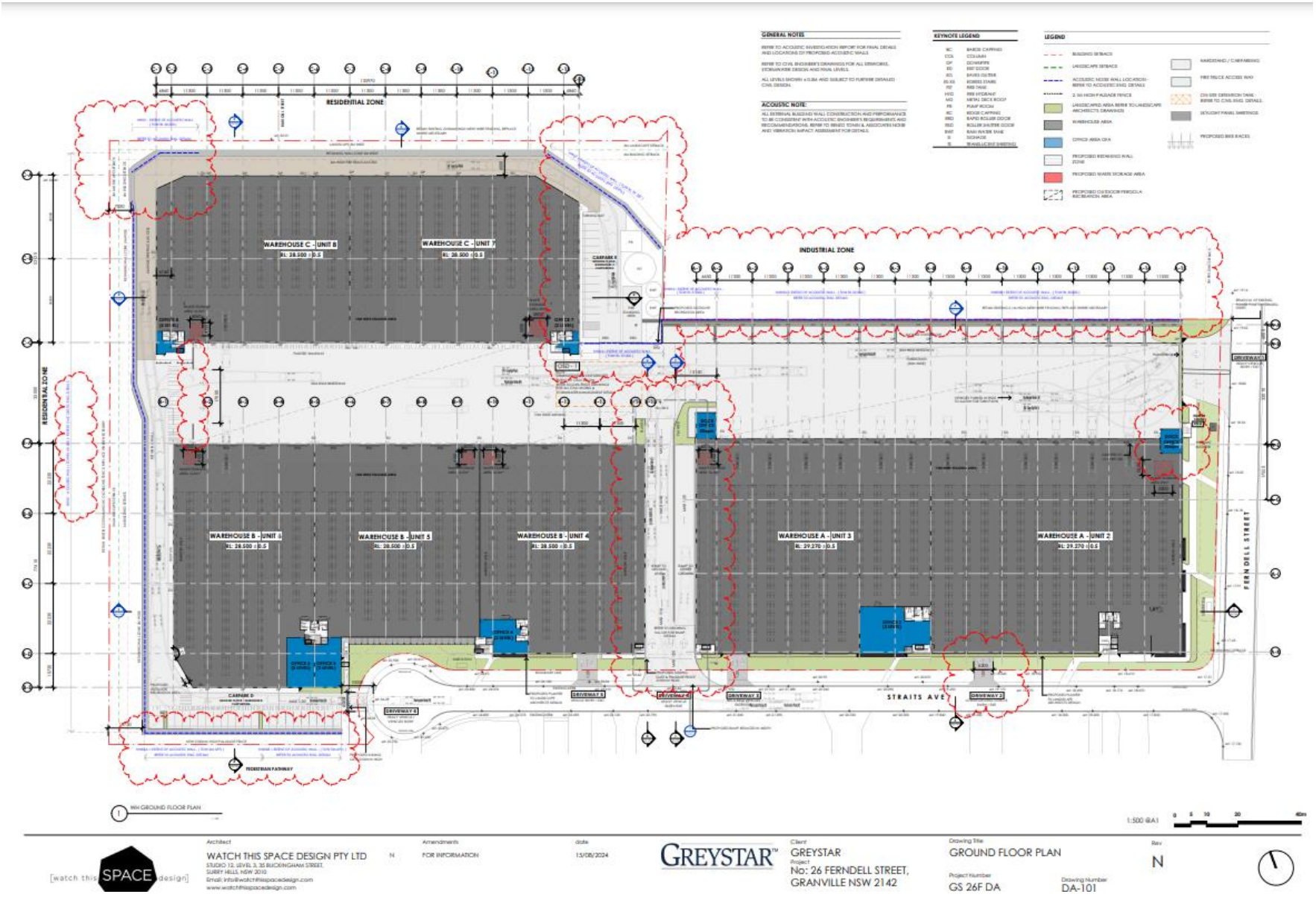


Figure 1: Site Plan/Warehouse Ground Floor

APPENDIX 2 APPLICANT'S MANAGEMENT AND MITIGATION MEASURES

Ref No.	Potential Impact	Mitigation Measure
Operation		
O-EH	**Environmental Heritage**	
O-EH1	**Heritage Interpretation**	Consideration should be given to the provision of heritage interpretation as part of the project. Heritage interpretation may outline the history of the site, the development of South Granville as a post-war industrial centre of the Cumberland district, and the Aboriginal heritage values of the area. Suitable interpretive media may include: • public art (that may incorporate themes or objects that reflect the industrial and cultural heritage of the site) • interpretive panels • Acknowledgement of Country signage at the entrance to the new warehouse • Plantings/landscaping that incorporates modernist design elements and/or native plants.
O-HR	**Hazards and Risks**	
O-HR1	**Hazardous material and dangerous goods transportation and storage across the Site**	Handle, store and use dangerous goods and hazardous materials in accordance with: • The *NSW Work Health and Safety Act 2011* and associated regulations; • The Storage and Handling of Dangerous Goods Code of Practice (WorkCover NSW, 2005); • *NSW Road and Rail Transport (Dangerous Goods) (Road) Regulation 1998;* and • Australian Government's Code for the Transport of Dangerous Goods by Road and Rail (National Transport Commission, 2008). All storage and transport of dangerous goods to remain below the Applying SEPP 33 screening thresholds.
O-HR2	**Hazardous material and dangerous goods storage**	Hazardous materials and dangerous goods will be stored within a bunded and secure storage facility on the Site as required by the tenant.
O-HR3	**Driver safety across the Site**	Incorporate car park signage to indicate direction of travel and traffic calming devices including speed humps and speed limits.
O-NV	**Noise and Vibration**	
O-NV1	**Vehicle Operation**	Adopt broadband reversing alarms "quackers" across the tenant truck fleet that operates through warehouse facility centre. This will be adopted for all permanent and tenant owned/controlled vehicles. This is of particular note for vehicles that would operate in non-enclosed areas (ie. service vehicles parked on roof level). Where tenants do not have control over vehicles that operate through the facility, management of potential impacts will be reviewed further as part of the tenant operational management plan.
O-NV2	**Noise emissions**	Design any PA systems required as part of normal operation that emit sound within the facility so that they would result in a negligible increase in overall noise emissions from the facility. PA announcements as part of normal operations would be restricted to within the enclosed areas of the facility during the night period.
O-NV3	**Non-enclosed, entry and exit areas**	Ensure that for all non-enclosed areas of the facility (ie. hardstand/ramp interface), and entry and exit areas: - All pavement is smooth (ie. no speed bumps) - Pavement transitions (ie. from the external public road to the site or between internal road elements (ie. hardstand to ramp) are smooth, as to not result in jolting, or unnecessary accelerating of the truck the truck is required. - Drainage grates are designed to not result in noise events. Design elements will also minimise the requirement for trucks to not have to stop/brake and then accelerate (ie. pedestrian crossing points) outside of dock areas with line of sight to nearby sensitive receivers, in particular where they are required to operate during the night period. These will be reviewed at detailed design to avoid competing traffic issues and traffic management at required pedestrian interfaces like footpath crossings.

Ref No.	Potential Impact	Mitigation Measure
O-NV4	**Moving forklifts**	Review and incorporate alternate methods and practices to the use of horns as a safety warning for onsite moving forklifts into site operations and safety practices.
O-NV5	**Internal noise break-out**	Select materials of the warehouse facility facade and roof construction during detailed design, so that any noise break-out from internal activities would result in a negligible increase in overall noise emissions from the facility.
O-NV6	**Noise trigger levels**	Develop a methodology to manage the individual contributions of tenants within the project noise trigger levels for the Proposal as part of the Operational Noise Management Plan/ Operational Management Plan developed for the Proposal.
O-NV7	**Tenant noise emission**	During the preparation for occupancy of a warehouse tenancy (ie. warehouse fit-out design stage) for any specific tenant that is to operate within the Proposal, the potential noise emissions from the tenant's proposed operations are to be reviewed to confirm that: 1) The tenant operational noise emissions will satisfy any noise emission allowances and noise mitigation/management measures for the individual tenant identified in the Proposal Operational Noise Management Plan/ Operational Management Plan, and if there are any further mitigation and/or management measures required to do so. 2) Confirm if any further mitigation and/or management measures are required so that noise emissions from the warehouse tenancy will be consistent with the noise emissions outcomes in the revised Noise and Vibration Impact Assessment. .
O-NV8	**Lower ground noise**	Lower ground - Install acoustic absorption lining on the underside of the ceiling/slab above the hardstand to meet assumed acoustic performance of the acoustic absorption incorporated in the noise modelling.
O-NV9	**Noise walls**	Noise walls and acoustic screens are to be installed as recommended in Section 5.2.2 of the revised Noise and Vibration Impact Assessment.
O-NV10	**Ground floor Warehouse façade and roof building elements**	Warehouse façade and roof building elements, in addition to both the eastern and western breezeway elements, are to be constructed to achieve the minimum installed acoustic performance. This must include consideration of the composite transmission loss from the building element, where the element is made up of different constructions (ie. metal sheeting construction with transparent infill elements).
O-NV11	**Ground floor noise**	Install an acoustic absorption lining on the underside of the ceiling of both the eastern and western breezeways.
O-NV12	**Warehouse B western façade**	Install acoustic absorption lining along the external western façade of the Warehouse B Unit 6 to minimise reflections from trucks entering.
O-NV13	**Rapid roller door**	Install a rapid roller door on the western entry to the western hardstand.
O-NV14	**Warehouse and hardstand ventilation system**	The warehouse and hardstand ventilation system across the facility is to be designed to achieve the minimum acoustic performance detailed in Section 5.1.6 and Section 5.2.5. This is to control noise emissions from both the ventilation equipment and internal noise breakout.
O-NV15	**Building services, mechanical plant and plantroom spaces noise emissions**	A detailed assessment of noise emissions from building services, mechanical plant and plantroom spaces is to be undertaken during detailed design. All building services, mechanical plant and plantroom spaces are to be designed to not increase total site noise emissions, cumulatively with other onsite noise generating operations (ie. trucks and loading activities). This will likely include selection of quiet plant/equipment, acoustic absorption, noise barriers, and the use of acoustic louvres and attenuators as part of the design.
O-B	**Biodiversity**	
O-B1	**Indirect biodiversity impacts**	Integrate the mitigation of operational indirect impacts on biodiversity values into the detailed design of the proposal, which includes, but may not be limited to: • Stormwater management and protection of downstream aquatic ecosystems • Light spill into the adjacent bushland and native fauna habitat • Landscape management (Including native landscaping establishment and ongoing weed control)

Ref No.	Potential Impact	Mitigation Measure
O-B2	**Vegetation Management Plan**	A Vegetation Management Plan will be prepared to provide a long-term maintenance strategy for landscaping for the site particularly the landscaping along both street frontages and along the northern and western boundaries in order to achieve the required landscape design and ensure the proposal is appropriately screened for the lifetime of the development.
D/O-SI	**Social Impact**	
D/O-SI1	**Noise**	Develop a detailed Noise Impact Management Plan to bring down the noise levels to immediately adjacent residents: • further noise management treatments should be explored for nighttime operations, given operations are expected to generate noise that is likely to exceed acceptable levels impacting residential neighbours to the north and west of the site area during night-time operation
D/O-SI2	**Residents communication**	Communicate further noise treatments to adjacent residents once they have been explored and confirmed. All communication should be provided in English and Arabic.
Construction		
CM-1		Prepare a detailed Construction Environmental Management Plan prior to the commencement of works on the site including all required technical management plans and with consideration of other nominated mitigation measures.
C-EH	**Environmental Heritage**	
C-EH1	**Heritage approval**	The proponent must obtain the required statutory heritage and planning approvals prior to commencement of work. Works must be carried out in accordance with any conditions placed on these approvals and provide a report certifying compliance on completion of the works.
C-EH2	**Demolition**	The proposal should implement mitigation works to ensure that potential neutral direct impacts to the neighbouring Acrow Building during demolition works are avoided. Potential direct impacts may include vibrations or impacts from flying debris associated with demolition works.
C-EH3	**Heritage induction**	All staff, including design professionals and tradespeople, involved in the proposed works should be aware of the heritage significance and sensitivity of the nearby Acrow Building during the project. A heritage awareness item should be built into site induction. for all contractors undertaking work on site
C-EH4	**Future interpretation**	The proposal should consider the salvage and retention of suitable industrial items from the site for use in future interpretation. Items suitable for use in interpretation include Transformer No. 1 (on Straits Avenue), the Singer sewing machine and a collection of terracotta inscribed roof tiles (both at 464 Blaxcell Street), and hand-painted signs and switchboards found throughout the site. Such items are appropriate for use in an interpretive display that explores the phases of the site's industrial heritage.
C-EH5	**Dilapidation survey**	Prior to the commencement of works, a Dilapidation Survey of the neighbouring Acrow Building's façade and clock tower should be completed. • the Dilapidation Survey should describe the condition of the building and any existing damage or deterioration, prior to any building works commencing on the subject site. At the completion of the works on the subject site, an inspection of the Acrow Building's façade and clock tower should be undertaken, and any damage identified as resulting from the works to the subject site should be rectified in consultation with a heritage professional • Condition inspections of the Acrow Building's façade and clock tower should be undertaken prior to and following completion of works. All repairs are to be undertaken in consultation with a heritage professional

Ref No.	Potential Impact	Mitigation Measure
C-EH6	**Acrow Building**	The proponent should coordinate with the present owner of the Acrow Building to ensure that vehicles, building materials, tools, equipment, or plant enter the building, the vicinity of the building, or come into contact with the Acrow Building. Once the salvage and retention of selected suitable industrial items have been determined, the actions should be carried out in a controlled manner to avoid accidental damage. In the event of damage to the Acrow Building, all fabric should be made good to match the original form as recorded in the Dilapidation Survey. All repairs should be undertaken in consultation with a qualified heritage practitioner.
C-AH	**Aboriginal Heritage**	
C-AH1	**Unexpected finds protocol**	• Unexpected Aboriginal objects remain protect by the *National Parks and Wildlife Act 1974*. • Prepare an unexpected finds procedure the requires: - consultation with Aboriginal stakeholders should be maintained by the proponent with contact maintained at least once every six months - if any such objects, or potential objects, are uncovered in the course of the activity, all work in the vicinity should cease immediately - A qualified archaeologist should be contacted to assess the find and Heritage NSW and Gundangara LALC must be notified - The Department of Planning and Environment must be notified if required by the Construction Environment Management Plan - If human remains, or suspected human remains, are found in the course of the activity, all work in the vicinity should cease, the site should be secured, and the NSW Police and Heritage NSW should be notified
C-AH2	**Heritage induction**	Prepare and provide a Heritage induction to all contractors working on the project. The Heritage induction should include: • a summary of the Aboriginal background. • a summary of the relevant legislation. • the unexpected finds procedure.
C-HR	**Hazards and Risks**	
C-HR1	**Construction hazard and risk management across the Site**	Prepare a hazard and risk management plan (HRMP) as a sub-plan of the CEMP. As a minimum, the plan would: • Include an emergency response plan; • Be prepared by a suitably qualified hazard management specialist; and • Provide for the implementation, monitoring and maintenance of the identified hazard controls.
C-HR2	**Accidental spillage and discharge across the Site**	Keep wet and dry spill kit, sand-filled/gravel-filled socks and geotextile matting on the Site at all times. Train staff in the appropriate deployment, use, removal and disposal of spill kit.
C-HR3	**Workforce and public safety across the Site**	Fence off and secure the Site to prevent public access.
C-HR4	**Workforce and public safety across the Site**	• Use terracing excavation methods where applicable; and • Backfill or cover all open excavations with boards/plates outside of working hours.
C-HR5	**Workforce and public safety across the Site**	Inspect the entry connection into the Site ahead of any required demobilisation to ensure there are no road-user or pedestrian hazards.
C-HR6	**Hazardous material and dangerous goods**	Handle and use dangerous goods and hazardous materials in accordance with: • The *NSW Work Health and Safety Act 2011* and associated regulations; • The Storage and Handling of Dangerous Goods Code of Practice (WorkCover NSW, 2005); • *NSW Road and Rail Transport (Dangerous Goods) (Road) Regulation 1998*; and

Ref No.	Potential Impact	Mitigation Measure
	transportation to the Site	• Australian Government's Code for the Transport of Dangerous Goods by Road and Rail (National Transport Commission, 2008).
C-HR7	**Utility or services strike across the Site**	Undertake detailed utility surveys as part of the detailed design along with utility-provider consultation.
C-HR8	**Utility or services strike across the Site**	Prepare and work to a utility and services plan. No work would take place outside of this plan without additional consultation and utility searches.
C-B	**Biodiversity**	
C-B1	**Delineation of Clearing Limits**	Delineate clearing limits with high visibility tape, temporary fencing, or other appropriate boundary markers.
C-B2	**Erosion and Sediment Controls**	Implement Erosion and Sediment Control Plan measures.
C-B3	**Microchiroptera Survey**	Carry out daytime roost searches prior to demolition of buildings. Undertake searches by looking for bats or signs of bats in suitable roost habitat during the daytime. Use a torch to shine in holes, cracks and crevices, and carry a handheld bat detector to locate bats that may call during all roost searches. If bats are detected, demolition of building must be delayed until bats are able to be relocated.
C-B4	**Pre-Clearance Surveys**	Undertake pre-clearing surveys by a suitably qualified ecologist ahead of clearing to limit fauna injury and mortality and to identify habitat features to be relocated. Conduct pre-clearance surveys by suitably qualified ecologists and all fauna found during these surveys will be encouraged to move on or relocated by the ecologists in areas of similar habitat nearby that will not be impacted.
C-B5	**Clearance Staging**	The clearing will be conducted using a two-stage clearing process as follows: Stage 1: Commence clearing following the identification of potential habitat features by a qualified ecologist. Habitat trees marked during pre-clearing will not be cleared during the first stage; however, all vegetation around these trees will be cleared to enable isolation of the feature. Identified habitat trees will be left at a minimum overnight after Stage 1 clearing to allow resident fauna to voluntarily move from the area. Stage 2: After habitat trees have been left overnight, the trees will be cleared using the following protocols: • Trees marked as containing habitat will be shaken by machinery prior to clearing to encourage any animals remaining to leave the hollows and move on; • Use a bulldozer or excavator to start pushing the tree over. Move the bulldozer over the roots and continue gently pushing the tree over; and • All habitat trees will be investigated by an ecologist for the presence of fauna following felling of the tree. The felled habitat tree will be left overnight to allow any remaining fauna time to leave the hollows and move on. The two-stage clearing process enables fauna a chance to self-relocate upon nightfall, when foraging typically occurs.
C-B6	**Biosecurity Management**	Implement hygiene measures, such as washdown facilities, spray down of equipment entering/exiting site, to prevent the introduction and/or spread of introduced flora and fauna species, pathogens and/or disease.
C-AQ	**Air Quality**	
C-AQ1	**Demolition**	Strip buildings internally before demolition, retaining walls and windows where possible as wind blocks.
C-AQ2	**Demolition**	Use waters suppression during demolition operations.
C-AQ3	**Earthworks**	Re-vegetate or cover (using hessian, mulches or trackifiers) earthworks and exposed areas/soil stockpiles to stabilise surfaces as soon as practicable.
C-AQ4	**Earthworks**	Only remove the cover in small areas during work and not all at once.

Ref No.	Potential Impact	Mitigation Measure
C-AQ5	**Construction**	Avoid scabbling (roughening of concrete surfaces) if possible.
C-AQ6	**Construction**	Ensure sand and other aggregates are stored in bunded areas and are not allowed to dry out, unless this is required for a particular process, in which case ensure that appropriate additional control measures are in place.
C-AQ7	**Construction**	Ensure bulk cement and other fine powder materials are delivered in enclosed tankers and stored in solos with suitable emission control systems to prevent escape of material and overfilling during delivery.
C-AQ8	**Construction**	Ensure bags for smaller supplies of fine powder materials are sealed after use and stored appropriately to prevent dust.
C-AQ9	**Trackout**	Use water-assisted dust sweeper(s) on the access and local roads, to remove, as necessary, any material tracked out of the site.
C-AQ10	**Trackout**	Avoid dry sweeping of large areas.
C-AQ11	**Trackout**	Ensure vehicles entering and leaving sites are covered to prevent escape of materials during transport.
C-AQ12	**Trackout**	Inspect on-site haul routes for integrity and instigate necessary repairs to the surface as soon as reasonably practicable.
C-AQ13	**Trackout**	Record all inspections of haul routes and any subsequent action in a site log book.
C-AQ14	**Trackout**	Install hard surfaced haul routes, which are regularly damped down with fixed or mobile sprinkler systems, or mobile water bowsers and regularly cleaned.
C-AQ15	**Trackout**	Implement a wheel washing system (with rumble grids to dislodge accumulated dust and mud prior to leaving the site where reasonably practicable).
C-AQ16	**Trackout**	Ensure there is an adequate area of hard surfaced road between the wheel wash facility and the site exit, wherever site size and layout permits.
C-AQ17	**Trackout**	Locate access gates at least 10m from receptors where possible.
C-WM	**Waste Management**	
C-WM1	**Communication**	Waste management initiatives and management measures should be clearly communicated to building managers, owners, employees, customers and cleaners.
C-WM2	**Signage**	The waste storage and collection areas will be provided with appropriate signage. These signs will clearly identify waste management procedures and provisions to contractors, tenants and visitors should be distributed around the warehouse.
C-WM3	**Signage**	All signage will conform to the relevant Australian Standard and use labels approved by the NSW EPA. The design and use of safety signs for waste rooms and enclosures will comply with Australian Standard AS 1319 Safety Signs for the Occupational Environment and clearly describes the types of materials designated for each bin.
C-WM4	**Monitoring and Reporting**	Monitoring is recommended to ensure waste and recycling management arrangements and provisions for the Development are functional, practical and are maintained to the standard outlined in this plan, at a minimum.
C-WM5	**Monitoring and Reporting**	Any deficiencies identified in the waste management system, including, but not limited to, unexpected waste quantities, is to be rectified by the Building Manager as soon as it is practical. Where audits show that recycling is not carried out effectively, management should carry out additional staff training, signage re-examination and reviews of the waste management system where the audit or other reviewing body has deemed necessary. If this waste management plan no longer sufficiently meets the needs of the Development, review and updates to maintain suitability must be undertaken.
C-WM6	**Roles and Responsibilities**	It is the responsibility of the Building Manager, or equivalent role, to implement this WMP and a responsibility of all warehouse tenants and staff to follow the waste management procedures set out by the WMP. SLR Consulting recommends that all subcontractors enlisted by the Client are to have roles and responsibilities identified and the Project's waste management system clearly explained.

Ref No.	Potential Impact	Mitigation Measure
C-SI	**Social Impact**	
C-SI1	**Construction**	Implement Construction Traffic Management Plan, with considerations to: • ensure footpaths remain accessible at all times, given the elderly and children rely more on footpaths to get around their local areas • the active transport routes (walking, cycling) of local residents and children commuting to nearby schools • consideration of Masjid Al Noor (mosque) as an activity centre when managing traffic routes, in order to minimise impacts on worshippers
C-SI2	**Dust and noise**	Use best practice construction methods to reduce impact of dust and noise, including but not limited to: • covering stockpiles • using dust catchers on equipment • placing sweepings in a bag or box before disposal • using water to suppress dust • installing dust screens around the site's edges
C-SI3	**Construction hours**	Conduct construction within regular working hours (7am to 6pm on weekdays, 9am-1pm on Saturdays, no work on Sundays and public holidays). Provide regular communications construction progress, hours and disruptions for people to plan ahead to avoid inconveniences. All communications should be provided in both English and Arabic.
C-SI4	**Religious holidays conflict**	Coordinate construction activities (such as materials deliveries and other high construction traffic generating activities) outside of religious holidays to avoid high levels of congestion at Masjid Al-Noor (mosque). Important festival include, but are not limited to: • Month of Ramadan • Eid Al-Fitr

APPENDIX 3 NOISE RECEIVER LOCATIONS

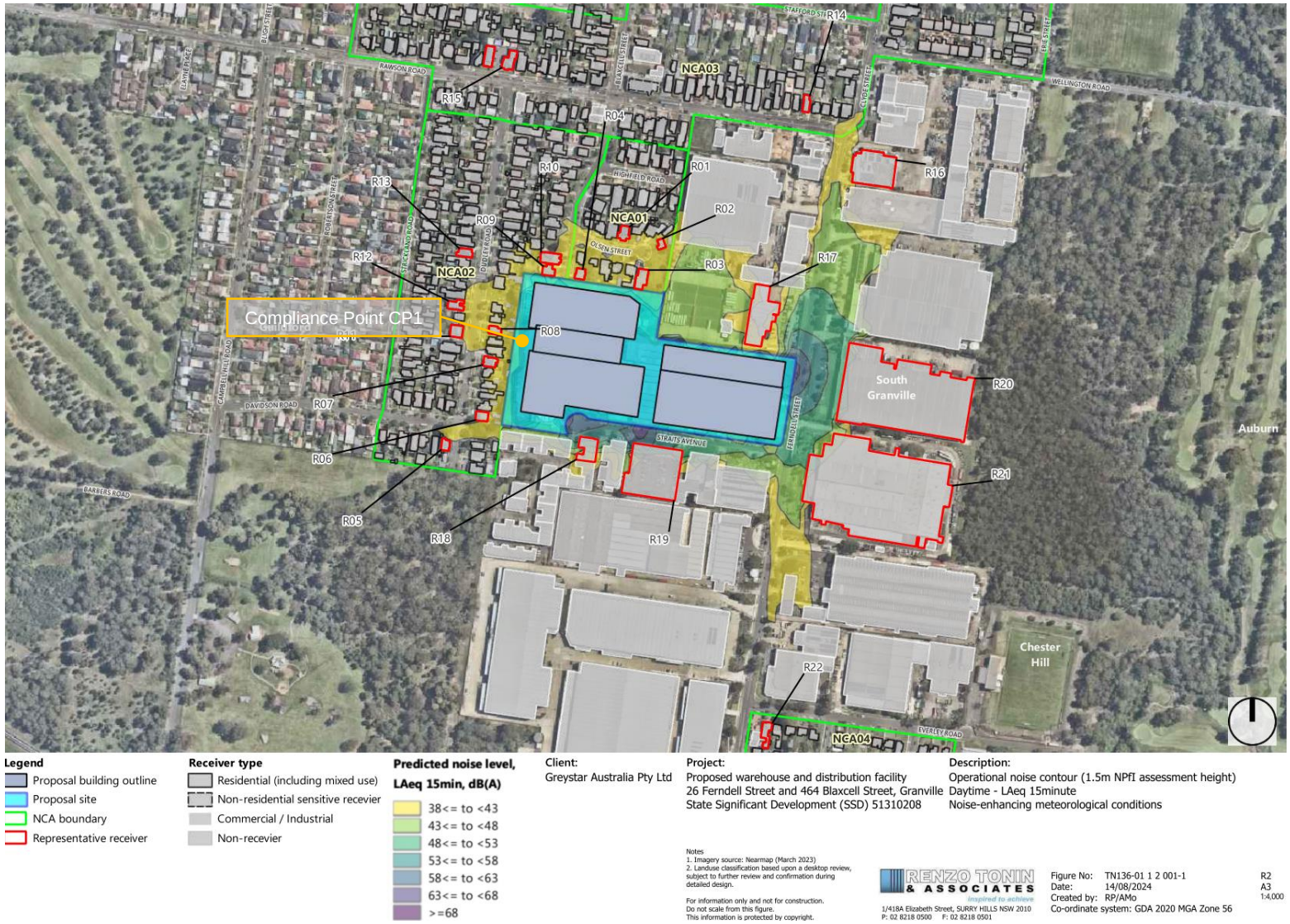


FIGURE 2: Noise catchment areas

APPENDIX 4 INCIDENT NOTIFICATION AND REPORTING REQUIREMENTS

WRITTEN INCIDENT NOTIFICATION REQUIREMENTS

1. All incident notifications and reports must be submitted via the NSW planning portal (Major Projects).
2. The Applicant must provide notification as required under these requirements, even if the Applicant fails to give the notification required under condition D9 or, having given such notification, subsequently forms the view that an incident has not occurred.
3. Within **7 days** (or as otherwise agreed by the Planning Secretary) of the Applicant making the immediate incident notification (in accordance with condition D9), the Applicant is required to submit a subsequent incident report that:
   (a) identifies how the incident was detected;
   (b) identifies when the Applicant became aware of the incident;
   (c) identifies any actual or potential non-compliance with conditions of consent;
   (d) identifies further action(s) that will be taken in relation to the incident;
   (e) a summary of the incident;
   (f) outcomes of an incident investigation, including identification of the cause of the incident;
   (g) details of the corrective and preventative actions that have been, or will be, implemented to address the incident and prevent recurrence, including the period for implementing any corrective and/or preventative actions; and
   (h) details of any communication with other stakeholders regarding the incident.
4. The Applicant must submit any further reports as directed by the Planning Secretary.

INCIDENT REPORT REQUIREMENTS

5. If requested by the Planning Secretary, within 30 days of the date on which the incident occurred or as otherwise agreed to by the Planning Secretary, the Applicant must provide the Planning Secretary and any relevant public authorities (as determined by the Planning Secretary) with a detailed report on the incident addressing all requirements below, and such further reports as may be requested.
6. The Incident Report must include:
   (a) a summary of the incident;
   (b) outcomes of an incident investigation, including identification of the cause of the incident;
   (c) details of the corrective and preventative actions that have been, or will be, implemented to address the incident and prevent recurrence; and
   (d) details of any communication with other stakeholders regarding the incident.

Appendix B Relevant Conditions of Consent

Construction Environmental Management Plan

SSD-51310208 - 26 Ferndell Street, South Granville and 464 Blaxcell Street, Guildford, NSW

Vaughan Constructions Pty Ltd

SLR Project No.: 630.031503.00001

Relevant Consent Conditions SSD-51310208 - 26 Ferndell Street, South Granville and 464 Blaxcell Street, Guildford, NSW	Where Addressed in CEMP
SCHEDULE 2	
PART A DEFERRED COMMENCEMENT CONDITIONS	
A1. This development consent does not commence until approval from Cumberland City Council Traffic Committee referred to in Condition A3 has been submitted to the Planning Secretary.	CEMP Section 3.3.3 & 4.4
A2. The report referred to in Condition A3 must be submitted to the Planning Secretary within 2 years from the date of this development consent or the development consent will have lapsed, in accordance with Section 4.53(6A) of the EP&A Act.	CEMP Section 3.3.3
A3. Pursuant to section 4.16(3) of the EP&A Act, this development consent is granted subject to the following deferred commencement condition: (a) The Applicant must submit to the Planning Secretary, the approval from Cumberland City Council's Traffic Committee for the removal of all public car parking within Straits Avenue, South Granville.	CEMP Section 3.3.3 & 4.4
SCHEDULE 3	
PART B ADMINISTRATIVE CONDITIONS	
OBLIGATION TO MINIMISE HARM TO THE ENVIRONMENT	
B1. In addition to meeting the specific performance measures and criteria in this consent, all reasonable and feasible measures must be implemented to prevent, and if prevention is not reasonable and feasible, minimise any material harm to the environment that may result from the construction and operation of the development, and any rehabilitation required under this consent.	CEMP Section 4.1
TERMS OF CONSENT	
B2. The development may only be carried out: (a) in compliance with the conditions of this consent; (b) in accordance with all written directions of the Planning Secretary; (c) in accordance with the EIS, RTS and Additional Information; (d) in accordance with the Development Layout in Appendix 1 of this consent; and (e) in accordance with the management and mitigation measures in Appendix 2 of this consent.	CEMP Section 3.3.1, 4.1, & 5.0
B3. Consistent with the requirements in this consent, the Planning Secretary may make written directions to the Applicant in relation to: (a) the content of any strategy, study, system, plan, program, review, audit, notification, report or correspondence submitted under or otherwise made in relation to this consent, including those that are required to be, and have been, approved by the Planning Secretary; and (b) the implementation of any actions or measures contained in any such document referred to in condition B3(a)	CEMP Section 3.3.1

Relevant Consent Conditions SSD-51310208 - 26 Ferndell Street, South Granville and 464 Blaxcell Street, Guildford, NSW	Where Addressed in CEMP
B4. The conditions of this consent and directions of the Planning Secretary prevail to the extent of any inconsistency, ambiguity or conflict between them and a document listed in condition B2(c) and B2(e). In the event of an inconsistency, ambiguity or conflict between any of the documents listed in condition B2(c) and B2(e), the most recent document prevails to the extent of the inconsistency, ambiguity or conflict.	CEMP Section 3.3.1
LIMITS OF CONSENT	
Car Parking on Straits Avenue	
B6. Prior to the commencement of construction, the Applicant must provide the Certifier with documented evidence that all on-street public car parking along Straits Avenue has been removed in accordance with the approval obtained from the Cumberland City Council Traffic Committee (see condition A3).	CEMP Section 3.3.3 & 4.4
B7. The Applicant must provide a copy of the documentation given to the Certifier (see condition B6) to the Planning Secretary within seven days after the Certifier accepts it.	CEMP Section 3.3.3 & 4.4
NOTIFICATION OF COMMENCEMENT	
B8. The date of commencement of each of the following phases of the development must be notified to the Planning Secretary in writing, at least one month before that date, or as otherwise agreed with the Planning Secretary: (a) construction; and (b) operation.	CEMP Section 2.6
B9. If the construction or operation of the development is to be staged, the Planning Secretary must be notified in writing, at least one month before the commencement of each stage (or other timeframe agreed with the Planning Secretary).	CEMP Section 2.6
EVIDENCE OF CONSULTATION	
B10. Where conditions of this consent require consultation with an identified party, the Applicant must: (a) consult with the relevant party prior to submitting the subject document to the Planning Secretary for approval; and (b) provide details of the consultation undertaken including: (i) the outcome of that consultation, matters resolved and unresolved; and (ii) details of any disagreement remaining between the party consulted and the Applicant and how the Applicant has addressed the matters not resolved.	CEMP Section 1.7 & 4.9
STAGING, COMBINING AND UPDATING STRATEGIES, PLANS OR PROGRAMS	

Relevant Consent Conditions SSD-51310208 - 26 Ferndell Street, South Granville and 464 Blaxcell Street, Guildford, NSW	Where Addressed in CEMP
B11. With the approval of the Planning Secretary, the Applicant may: (a) prepare and submit any strategy, plan or program required by this consent on a staged basis (if a clear description is provided as to the specific stage and scope of the development to which the strategy, plan or program applies, the relationship of the stage to any future stages and the trigger for updating the strategy, plan or program); (b) combine any strategy, plan or program required by this consent (if a clear relationship is demonstrated between the strategies, plans or programs that are proposed to be combined); and (c) update any strategy, plan or program required by this consent (to ensure the strategies, plans and programs required under this consent are updated on a regular basis and incorporate additional measures or amendments to improve the environmental performance of the development).	Noted
B12. If the Planning Secretary agrees, a strategy, plan or program may be staged or updated without consultation being undertaken with all parties required to be consulted in the relevant condition in this consent.	Noted
B13. If approved by the Planning Secretary, updated strategies, plans or programs supersede the previous versions of them and must be implemented in accordance with the condition that requires the strategy, plan or program.	Noted
UTILITIES, SERVICES AND PUBLIC INFRASTRUCTURE	
General Requirements	
B14. Prior to the commencement of construction of the development, the Applicant must: (a) consult with the relevant owner and provider of services or public infrastructure that are likely to be affected by the development or that need to be installed as part of the development, to make suitable arrangements for relevant approvals, access to, diversion, protection and support of the affected services or infrastructure; (b) prepare a dilapidation report identifying the condition of all public infrastructure in the vicinity of the site (including roads, gutters and footpaths); and (c) submit a copy of the dilapidation report to the Planning Secretary and Council.	CEMP Section 1.7 & 3.3.3
B15. Unless the Applicant and the applicable authority agree otherwise, the Applicant must: (a) repair, or pay the full costs associated with repairing, any public infrastructure that is damaged by carrying out the development; (b) relocate, or pay the full costs associated with relocating, any public infrastructure that needs to be relocated as a result of the development; and (c) obtain any relevant approval(s) from the relevant service provider(s), prior to undertaking construction of the corresponding utility works.	CEMP Section 2.2, 3.3.3 & 4.2
Fibre-Ready Facilities	

Relevant Consent Conditions SSD-51310208 - 26 Ferndell Street, South Granville and 464 Blaxcell Street, Guildford, NSW	Where Addressed in CEMP
B17. Prior to the issue of a Construction Certificate for any stage of the development, the Applicant (whether or not a constitutional corporation) is to provide evidence, satisfactory to the Certifier, that arrangements have been made for: (a) the installation of fibre-ready facilities to all individual lots and/or premises in the development to enable fibre to be readily connected to any premises that is being or may be constructed on those lots; (b) the provision of fixed-line telecommunications infrastructure in the fibre-ready facilities to all individual lots and/or premises in the development demonstrated through an agreement with a carrier.	CEMP Section 3.3.3
DEMOLITION	
B19. All demolition must be carried out in accordance with Australian Standard AS 2601-2001 The Demolition of Structures (Standards Australia, 2001).	CEMP Section 4.1
COMPLIANCE	
B24. The Applicant must ensure that all of its employees, contractors (and their sub-contractors) are made aware of, and are instructed to comply with, the conditions of this consent relevant to activities they carry out in respect of the development.	CEMP Section 4.1
OPERATION OF PLANT AND EQUIPMENT	
B28. All plant and equipment used on-site, or to monitor the performance of the development, must be: (a) maintained in a proper and efficient condition; and (b) operated in a proper and efficient manner.	CEMP Section 5.0
APPLICABILITY OF GUIDELINES	
B30. References in the conditions of this consent to any guideline, protocol, Australian Standard or policy are to such guidelines, protocols, Standards or policies in the form they are in as at the date of this consent.	CEMP Section 4.1
B31. However, consistent with the conditions of this consent and without altering any limits or criteria in this consent, the Planning Secretary may, when issuing directions under this consent in respect of ongoing monitoring and management obligations, require compliance with an updated or revised version of such a guideline, protocol, Standard or policy, or a replacement of them.	CEMP Section 4.1
ADVISORY NOTES	
AN1. All licences, permits, approvals and consents as required by law must be obtained and maintained as required for the development. No condition of this consent removes any obligation to obtain, renew or comply with such licences, permits, approvals and consents.	CEMP Section 3.3.3 & 4.1
PART C SPECIFIC ENVIRONMENTAL CONDITIONS	
TRAFFIC AND ACCESS	
Construction Traffic Management Plan	

<table>
<tr><th>Relevant Consent Conditions SSD-51310208 - 26 Ferndell Street, South Granville and 464 Blaxcell Street, Guildford, NSW</th><th>Where Addressed in CEMP</th></tr>
<tr><td>C1. Prior to the commencement of construction, the Applicant must prepare a Construction Traffic Management Plan (CTMP) for the development to the satisfaction of the Planning Secretary. The CTMP must form part of the CEMP required by condition D2 and must:
(a) be prepared by a suitably qualified and experienced person(s);
(b) be prepared in consultation with Council;
(c) detail the measures that are to be implemented to ensure road safety and network efficiency during construction;
(d) include details of:
(i) vehicle types, heavy vehicle routes including any heavy vehicle restriction routes, parking and access arrangements;
(ii) the strategies that would be implemented to minimise the number of construction workers who will drive to the site; and
(iii) any potential construction traffic impacts to general traffic, cyclists, and pedestrians within the vicinity of the site;
(e) include a Operational Driver Code of Conduct to:
(i) minimise the impacts of earthworks and construction on the local and regional road network;
(ii) minimise conflicts with other road users;
(iii) minimise road traffic noise; and
(iv) ensure truck drivers are aware of heavy vehicle traffic restriction routes and use specified routes;
(f) include a program to monitor the effectiveness of these measures; and
(g) if necessary, detail procedures for notifying residents and the community (including local schools), of any potential disruptions to routes.</td><td>CEMP Section 1.2, 1.3, 1.7, 3.3.3 & 4.4</td></tr>
<tr><td>C2. The Applicant must:
(a) not commence construction until the CTMP required by condition C1 is approved by the Planning Secretary; and
(b) implement the most recent version of the CTMP approved by the Planning Secretary for the duration of construction.</td><td>CEMP Section 3.3.3, 4.4 & 4.7</td></tr>
<tr><td>NOISE</td><td></td></tr>
<tr><td>Hours of Work</td><td></td></tr>
<tr><td>C8. The Applicant must comply with the hours detailed in Table 2 below.
Table 2: Hours of Work
<table>
<tr><th>Activity</th><th>Day</th><th>Time</th></tr>
<tr><td>Construction</td><td>Monday – Friday
Saturday</td><td>7 am to 6 pm
8 am to 1 pm</td></tr>
<tr><td>Operation
Warehouse A Unit 1</td><td>Monday - Sunday</td><td>24 hours</td></tr>
<tr><td>Operation
Warehouse A: Unit 2, Unit 3</td><td>Monday - Sunday</td><td>7:00am – 10:00pm</td></tr>
</table></td><td>CEMP Section 2.2</td></tr>
</table>

Relevant Consent Conditions SSD-51310208 - 26 Ferndell Street, South Granville and 464 Blaxcell Street, Guildford, NSW	Where Addressed in CEMP
<table><tr><td>Warehouse B: Unit 4, Unit 5, Unit 6 Warehouse C: Unit 7, Unit 8</td><td></td><td></td></tr></table>	
C9. Works outside of the hours identified in condition C8 may be undertaken in the following circumstances: (a) works that are inaudible at the nearest sensitive receivers; (b) works agreed to in writing by the Planning Secretary; (c) for the delivery of materials required outside these hours by the NSW Police Force or other authorities for safety reasons; or (d) where it is required in an emergency to avoid the loss of lives, property or to prevent environmental harm.	CEMP Section 2.2 & 4.2
Construction Noise Limits	
C10. The development must be constructed to achieve the construction noise management levels detailed in the Interim Construction Noise Guidelines (as may be updated or replaced from time to time). All feasible and reasonable noise mitigation measures must be implemented and any activities that could exceed the construction noise management levels must be identified and managed in accordance with the Construction Noise and Vibration Management Plan required under condition C16.	CEMP Section 4.2
Vibration Criteria	
C11. Vibration caused by construction at any residence or structure outside the site must be limited to: (a) for structural damage, the latest version of DIN 4150-3 (2016-12) Vibration in Buildings – Part 3: Effects on Structures (German Institute for Standardisation, 2016); and (b) for human exposure, the acceptable vibration values set out in the Environmental Noise Management Assessing Vibration: a technical guideline (DEC, 2006) (as may be updated or replaced from time to time).	CEMP Section 1.7 & 4.2
C12. The limits in condition C11 apply unless otherwise outlined in the development's Construction Noise and Vibration Management Plan (see condition C16)	CEMP Section 4.2
Dilapidation Surveys	
C13. The Applicant must offer and prepare (if the offer is accepted) a pre-construction and post-construction dilapidation survey of the heritage listed item "Acrow Building" at 7-11 Ferndell Street, South Granville at the following stages of the development: (a) for the pre-construction dilapidation survey, prior to the commencement of construction; and (b) for the post-construction dilapidation survey, within one month after the conclusion of construction (or as otherwise agreed with the Planning Secretary).	CEMP Section 3.3.3
C14. Each dilapidation survey (see condition C13) must:	CEMP Section 3.3.3

Relevant Consent Conditions SSD-51310208 - 26 Ferndell Street, South Granville and 464 Blaxcell Street, Guildford, NSW	Where Addressed in CEMP
(a) be prepared in accordance with the recommendations of the Historical Heritage Statement of Heritage Impact (Appendix H of the EIS); and (b) be submitted to the Planning Secretary and the relevant property owners within 7 days of it having been finalised by the Applicant.	
Construction Noise and Vibration Management Plan	
C16. Prior to the commencement of construction, the Applicant must prepare a Construction Noise and Vibration Management Plan (CNVMP) for the development to the satisfaction of the Planning Secretary. A copy of the CNVMP must be included in the development's CEMP (see condition D2) and must: (a) be prepared by a suitably qualified and experienced noise expert(s); (b) describe procedures for achieving the noise management levels detailed in the Interim Construction Noise Guidelines (as may be updated or replaced from time to time) and the vibration criteria in condition C11; (c) describe the measures to be implemented to manage high noise generating works such as piling, in close proximity to sensitive receivers; (d) include strategies that have been developed with the community for managing high noise generating works (such as the provision of respite periods); (e) include strategies that have been developed in consultation with the directly adjoining properties for managing vibration (such as any alternative construction methods with lower source vibration levels and provision for respite periods); (f) include strategies that have been developed in consultation with the owners of 7-11 Ferndell Street, South Granville to manage potential vibration impacts to heritage item "Acrow Building"; (g) describe the community consultation undertaken to develop the strategies in condition C16(d) and C16(e); and (h) include a complaints management system that would be implemented for the duration of construction of the development.	CEMP Section 1.2, 1.3, 1.7 & 4.2
C17. The Applicant must: (a) not commence construction until the CNVMP required by condition C16 is approved by the Planning Secretary; and (b) implement the most recent version of the CNVMP approved by the Planning Secretary for the duration of construction.	CEMP Section 4.2
SOILS, WATER QUALITY AND HYDROLOGY	
Imported Soil	
C21. The Applicant must: (a) ensure that only VENM, ENM, or other fill material approved in writing by the EPA is brought onto the site; (b) keep accurate records of the volume and type of fill to be used; and (c) make these records available to the Planning Secretary upon request.	CEMP Section 4.5 & 5.0
Erosion and Sediment Control	

Relevant Consent Conditions SSD-51310208 - 26 Ferndell Street, South Granville and 464 Blaxcell Street, Guildford, NSW	Where Addressed in CEMP
C22. Prior to the commencement of any construction or other surface disturbance for the development, the Applicant must install suitable erosion and sediment control measures on-site, in accordance with the relevant requirements of the Managing Urban Stormwater: Soils and Construction - Volume 1: Blue Book (Landcom, 2004) guideline and the Erosion and Sediment Control Plan included in the CEMP required by condition D2.	CEMP Section 1.2, 1.3 & 4.5
C23. The Applicant must maintain the erosion and sediment control measures installed on-site in accordance with condition C22 for the duration of construction of the development.	CEMP Section 4.5
Discharge Limits	
C24. The development must comply with section 120 of the POEO Act, which prohibits the pollution of waters, except as expressly provided for in an Environment Protection Licence.	CEMP Section 4.1
Stormwater Management System	
C25. The Applicant must finalise the detailed design of the stormwater management system for the development, prior to the commencement of construction of that system. The system must: (a) be designed by a suitably qualified and experienced person(s); (b) be designed in consultation with Council; (c) be generally in accordance with the conceptual design in the EIS, RTS and additional information; (d) be in accordance with applicable Australian Standards; and (e) ensure that the system capacity has been designed in accordance with Australian Rainfall and Runoff (Engineers Australia, 2016) and Managing Urban Stormwater: Council Handbook (EPA, 1997) guidelines.	CEMP Section 1.7, 3.3.3 & 4.5
AIR QUALITY	
Dust Minimisation	
C28. The Applicant must take all reasonable steps to minimise dust generated during all works authorised by this consent.	CEMP Section 4.3
C29. During construction of the development, the Applicant must ensure that: (a) exposed surfaces and stockpiles are suppressed by regular watering or other alternative suppression method; (b) all trucks entering or leaving the site with loads have their loads covered; (c) trucks associated with the development do not track dirt onto the public road network; (d) public roads used by these trucks are kept clean; and (e) land stabilisation works are carried out progressively on site to minimise exposed surfaces.	CEMP Section 4.3 & 4.4
Air Quality Discharges	
C30. The Applicant must install and operate equipment in line with best practice to ensure the development complies with all load limits, air quality criteria/air emission limits and air quality monitoring requirements as specified in the Protection of the Environment Operations (Clean Air) Regulation 2022.	CEMP Section 4.3 & 5.0

Relevant Consent Conditions SSD-51310208 - 26 Ferndell Street, South Granville and 464 Blaxcell Street, Guildford, NSW	Where Addressed in CEMP
BIODIVERSITY	
Ecosystem Credits	
C31. Prior to any clearing or construction works for the development, the Applicant must purchase and retire six (6) ecosystem credits to offset the removal / disturbance of the PCT 3320 - Cumberland Shale Plains Woodland at the site. The ecosystem credits must be retired in accordance with the requirements of the Biodiversity Offsets Scheme and the Biodiversity Conservation Act 2016.	CEMP Section 4.7
C32. The requirement to retire ecosystem credits (see condition C31) may be satisfied by payment to the Biodiversity Conservation Fund of an amount equivalent to the number and classes of ecosystem credits, as calculated by the Biodiversity Offsets Payment Calculator.	CEMP Section 4.7
C33. Prior to undertaking any clearing or construction works for the development, the Applicant must provide the Planning Secretary with evidence that: (a) the retirement of ecosystem credits has been completed in accordance with condition C31; or (b) a payment has been made to the Biodiversity Conservation Fund in accordance with condition C32.	CEMP Section 4.7
Tree Protection Measures	
C34. Prior to the commencement of construction, a project arborist with a minimum 'Australian Qualifications Framework – Level 5' certification is to be appointed. The project arborist is to: (a) oversee the tree protection measures and any works within the Tree Protection Zones established under this consent in accordance with the Arboricultural Impact Assessment, Report prepared by Hugh The Arborist, dated 8 August 2024 (Appendix P of the RTS); and (b) complete regular inspections of retained trees in accordance with the Arboricultural Impact Assessment, Report prepared by Hugh The Arborist, dated 8 August 2024 (Appendix P of the RTS) for the duration of construction in order to ensure that protection measures are being adhered to.	CEMP Section 4.7
C35. All trees identified for retention within the site must be protected for the duration of construction. The trees must be protected in accordance with: (a) the recommendations of the Arboricultural Impact Assessment, Report prepared by Hugh The Arborist, dated 8 August 2024 (Appendix P of the RTS); and (b) the latest version of Australian Standard AS 4970:2009 – Protection of Trees on Development (Standards Australia, 2009). All required tree protection measures must be in place prior to the commencement of construction works at the site.	CEMP Section 4.7
C36. In the event that any native fauna is found during tree removal works, all works in the immediate vicinity of the animal(s) must cease. Work in the immediate vicinity of the animal(s) must not recommence until a trained wildlife handler attends the site or the animal relocates itself.	CEMP Section 4.7
REMEDIATION	

Relevant Consent Conditions SSD-51310208 - 26 Ferndell Street, South Granville and 464 Blaxcell Street, Guildford, NSW	Where Addressed in CEMP
Site Auditor	
C45. Prior to the commencement of any earthworks or remediation works, the Applicant must engage a Site Auditor accredited under the Contaminated Lands Management Act 1997 (CLM Act) NSW Site Auditor Scheme.	CEMP Section 3.3.3, 4.8 & 5.0
Remediation Works	
C46. The site is to be remediated in accordance with the Remedial Action Plan (RAP), the CEMP and any relevant guidelines produced or approved under the CLM Act. If any amendments are required to the RAP, they must be reviewed and approved by the Site Auditor in the form of an Interim Audit Advice.	CEMP Section 4.8
C47. The Applicant must ensure the remediation works for the development are undertaken by a suitably qualified and experienced contractor(s).	CEMP Section 4.8
CONTAMINATION	
Unexpected Contaminated Finds Procedure	
C52. Prior to the commencement of earthworks, the Applicant must prepare a contaminated finds procedure to ensure that known or potentially contaminated material is appropriately managed. The procedure must form part of the of the CEMP in accordance with condition D2 and must ensure any surplus material identified as contaminated is disposed of in accordance with the POEO Act and its associated regulations.	CEMP Section 1.2, 1.3 & 4.8
ABORIGINAL HERITAGE	
Unexpected Finds Protocol	
C53. If any item or object of Aboriginal heritage significance is identified on site: (a) all work in the immediate vicinity of the suspected Aboriginal item or object must cease immediately; (b) a 10 m wide buffer area around the suspected item or object must be cordoned off; and (c) Heritage NSW must be contacted immediately.	CEMP Section 4.10
C54. Work in the immediate vicinity of the Aboriginal item or object may only recommence in accordance with the provisions of Part 6 of the National Parks and Wildlife Act 1974	CEMP Section 4.10
NON-ABORIGINAL HERITAGE	
Unexpected Finds Protocol	
C55. If any non-Aboriginal archaeological relics are uncovered during any works being carried out for the development: (a) all work in the immediate vicinity of the suspected relic(s) must cease immediately; (b) Heritage NSW must be contacted immediately; and (c) the suspected relic(s) must be evaluated, recorded and, if necessary, excavated by a suitably qualified and experienced expert in accordance with the requirements of Heritage NSW.	CEMP Section 4.10

Relevant Consent Conditions SSD-51310208 - 26 Ferndell Street, South Granville and 464 Blaxcell Street, Guildford, NSW	Where Addressed in CEMP
C56. Work in the immediate vicinity of any suspected non-Aboriginal archaeological relic(s) must not recommence until this has been authorised by Heritage NSW.	CEMP Section 4.10
WASTE MANAGEMENT	
C57. The Applicant must assess and classify all liquid and non-liquid wastes to be taken off site in accordance with the latest version of Waste Classification Guidelines Part 1: Classifying Waste (EPA, 2014).	CEMP Section 4.6
C58. All waste materials removed from the site must only be directed to a waste management facility or premises lawfully permitted to accept the materials.	CEMP Section 4.6
C59. Waste generated outside the site must not be received at the site for storage, treatment, processing, reprocessing, or disposal.	CEMP Section 4.6
C60. Waste must be secured and maintained within designated waste storage areas at all times and must not leave the site onto neighbouring public or private properties.	CEMP Section 4.6
Pests, Vermin and Priority Weed Management	
C61. The Applicant must: (a) implement suitable measures to manage pests, vermin and declared priority weeds on the site; and (b) inspect the site on a regular basis to ensure that these measures are working effectively, and that pests, vermin or priority weeds are not present on site in sufficient numbers to pose an environmental hazard or cause the loss of amenity in the surrounding area. **Note:** For the purposes of this condition, priority weed has the same definition of the term in the Biosecurity Act 2015.	CEMP Section 4.7
VISUAL AMENITY	
Lighting	
C62. The Applicant must ensure the lighting associated with the development: (a) complies with the latest version of AS 4282-2019 - Control of the obtrusive effects of outdoor lighting (Standards Australia, 2019); and (b) is mounted, screened and directed in such a manner that it does not create a nuisance to surrounding properties or the public road network	CEMP Section 4.1
PART D ENVIRONMENTAL MANAGEMENT, REPORTING AND AUDITING	
ENVIRONMENTAL MANAGEMENT	
Management Plan Requirements	
D1. Management plans required under this consent must be prepared in accordance with relevant guidelines, and include: (a) a condition compliance table for that plan; (b) detailed baseline data (where required); (c) details of: (i) the relevant statutory requirements (including any relevant approval, licence or lease conditions);	CEMP Section 1.3

Relevant Consent Conditions SSD-51310208 - 26 Ferndell Street, South Granville and 464 Blaxcell Street, Guildford, NSW	Where Addressed in CEMP
(ii) any relevant limits or performance measures and criteria; and (iii) the specific performance indicators that are proposed to be used to judge the performance of, or guide the implementation of, the development or any management measures; (d) a description of the measures to be implemented to comply with the relevant statutory requirements, limits, or performance measures and criteria; (e) a program to monitor and report on the: (i) impacts and environmental performance of the development; and (ii) effectiveness of the management measures set out pursuant to paragraph (d) above; (f) a contingency plan to manage any unpredicted impacts and their consequences and to ensure that ongoing impacts reduce to levels below relevant impact assessment criteria as quickly as possible; (g) a program to investigate and implement ways to improve the environmental performance of the development over time; (h) a protocol for managing and reporting any: (i) incident and any non-compliance (specifically including any exceedance of the impact assessment criteria and performance criteria); (ii) complaint; (iii) failure to comply with statutory requirements; and (i) a protocol for periodic review of the plan. **Note:** The Planning Secretary may waive some of these requirements if they are unnecessary or unwarranted for particular management plans	
CONSTRUCTION ENVIRONMENTAL MANAGEMENT PLAN	
D2. The Applicant must prepare a Construction Environmental Management Plan (CEMP) for the development in accordance with the requirements of condition D1 and to the satisfaction of the Planning Secretary.	CEMP Section 1.2, 1.3, 1.6, 1.7, 4.2, 4.5 & 4.8
D3. As part of the CEMP required under condition D2 of this consent, the Applicant must include the following: (a) Construction Traffic Management Plan (see condition C1); (b) Construction Noise and Vibration Management Plan (see condition C16); (c) Erosion and Sediment Control Plan (see condition C22); and (d) a copy of the development's Unexpected Contamination Finds Procedure (see condition C52); and (e) details of the community consultation and complaints handling procedure to be implemented during construction.	CEMP Section 1.2, 1.3 & 1.7
D4. The Applicant must: (a) not commence construction of the development until the CEMP required under condition D2 of this consent is approved by the Planning Secretary; and (b) carry out the construction of the development in accordance with the CEMP approved by the Planning Secretary and as revised and approved by the Planning Secretary from time to time.	CEMP Section 1.3 & 1.6
REVISION OF STRATEGIES, PLANS AND PROGRAMS	

Relevant Consent Conditions SSD-51310208 - 26 Ferndell Street, South Granville and 464 Blaxcell Street, Guildford, NSW	Where Addressed in CEMP
D7. Within three months of: (a) the submission of an incident report under condition D9; (b) the approval of any modification of the conditions of this consent; or (c) the issue of a direction of the Planning Secretary under condition B2(b) which requires a review, the strategies, plans and programs required under this consent must be reviewed, and the Planning Secretary must be notified in writing of the outcomes of any review.	CEMP Section 7.0
D8. If identified as part of the review process (see condition D7), or considered necessary to improve the environmental performance of the development, the Applicant must ensure the strategies, plans and/or programs required under this consent are revised, to the satisfaction of the Planning Secretary. Where revisions are required, the revised document(s) must be submitted to the Planning Secretary for approval within six weeks of the review required under condition D7, or such other timing as agreed to in writing by the Planning Secretary. **Note:** This is to ensure strategies, plans and programs are updated on a regular basis and to incorporate any recommended measures to improve the environmental performance of the development.	CEMP Section 7.0
REPORTING AND AUDITING	
Incident Notification, Reporting and Response	
D9. The Applicant must notify the Department within 24 hours of becoming aware of an incident. The notification must be made via the NSW planning portal (Major Projects) and address details of the incident including: (a) date, time and location; (b) a brief description of what occurred and why it has been classified as an incident; (c) a description of what immediate steps were taken in relation to the incident; and (d) identifying a contact person for further communication regarding the incident.	CEMP Section 3.5.4 & 7.0
D10. The Applicant must provide the Department with a subsequent incident report in accordance with the requirements set out in Appendix 4 of this consent.	CEMP Section 3.5.4
Non-Compliance Notification	
D11. Within seven days of becoming aware of any non-compliance, the Applicant must notify the Department of the non-compliance, in writing, via the NSW planning portal (Major Projects).	CEMP Section 3.5.4 & 5.0
D12. A non-compliance notification submitted under condition D11 must identify the development (including the development application number and name), set out the condition of this consent that the development is noncompliant with, why it does not comply, the reasons for the non-compliance (if known), and what actions have been undertaken, or will be undertaken, and when, to address the non-compliance. **Note:** A non-compliance which has been notified as an incident does not need to also be notified as a non-compliance.	CEMP Section 3.5.4 & 5.0

Relevant Consent Conditions SSD-51310208 - 26 Ferndell Street, South Granville and 464 Blaxcell Street, Guildford, NSW	Where Addressed in CEMP
Monitoring and Environmental Audits	
D13. Any condition of this consent that requires the carrying out of monitoring or an environmental audit, whether directly or by way of a plan, strategy or program, is taken to be a condition requiring monitoring or an environmental audit under Division 9.4 of Part 9 of the EP&A Act. This includes conditions in respect of incident notification, reporting and response, non-compliance notification, compliance reporting and independent auditing. **Note:** For the purposes of this condition, as set out in the EP&A Act, "monitoring" is monitoring of the development to provide data on compliance with the consent or on the environmental impact of the development, and an "environmental audit" is a periodic or particular documented evaluation of the development to provide information on compliance with the consent or the environmental management or impact of the development.	CEMP Section 5.0
ACCESS TO INFORMATION	
D14. At least 48 hours before the commencement of construction of the development and for the life of the development (or such other time as agreed to by the Planning Secretary), the Applicant must: (a) make the following information and documents (as they are obtained or approved) publicly available on its website: (i) the documents referred to in condition B2 of this consent; (ii) all current statutory approvals for the development; (iii) all approved strategies, plans and programs required under the conditions of this consent (with the exception of any hazard and risk related studies); (iv) a summary of the current stage and progress of the development; (v) contact details to enquire about the development or to make a complaint; (vi) a complaints register, updated quarterly (see conditions D3(e) and D5(c)); (vii) any other matter required by the Planning Secretary; and (b) keep such information up to date, to the satisfaction of the Planning Secretary	CEMP Section 4.9

Appendix C Community Consultation and Complaints Handling

Construction Environmental Management Plan

SSD-51310208 - 26 Ferndell Street, South Granville and 464 Blaxcell Street, Guildford, NSW

Vaughan Constructions Pty Ltd

SLR Project No.: 630.031503.00001

COMMUNITY AND STAKEHOLDER MANAGEMENT PLAN

FOR

GREYSTAR
SOUTH GRANVILLE

AT

26 FERNDELL STREET,

SOUTH GRANVILLE NSW
2142

Project No. 24-431
DECEMBER 2024

(Revision 0)

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PROJECT PARTICULARS

1.1 Builders Details

Company Name:	Vaughan Constructions
Company Business Address:	880 Lorimer Street, Port Melbourne. Vic. 3207.
Company Contact Number	(03) 9347 2611.
Directors Name:	Luke Stambolis
Company Operational Details:	Industrial Construction
ABN:	26 609 671 445

Role	**Name:**	**Phone:**	**Email**
Project Director:	David Upton	0412 719 623	david.upton@vaughans.com.au
Design Manager	Daniel Dalrymple-Hay	0438 143 549	Daniel.dalrymple-hay@vaughans.com.au
Contract Administrator	Jack Burge	0437 900 032	jack.burge@vaughans.com.au
Site Manager:	TBA		
OHS Representative:	TBA		

1.2 Project / Site Details

Site Address:	26 Ferndell Street South Granville NSW 2142
Project Description:	Three warehouses including one double storey ramp up
Project Duration:	352 working days

1.3 Community and Stakeholders

Stakeholders

- Hale Capital
- General public and road users of Ferndell Street.
- Cumberland Council.
- Department of Planning, Housing & Infrastructure (DPHI)
- Optus, Telstra, NBN, Sydney Water, Ausgrid, Jemena (gas)
- Fire and Rescue NSW, NSW Department of Planning and Environment.
- Aboriginal Stakeholder Groups and Heritage NSW

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Community

Residential noise catchment area (NCA)	Receiver ID	Address	Receiver type	Approximate distance to the Project, metres
NCA01	R01	7 Olsen Street, Guildford	Residential	60
NCA01	R02	1 Olsen Street, Guildford	Residential	60
NCA01	R03	2 Olsen Street, Guildford	Residential	10
NCA01	R04	12 Olsen Street, Guildford	Residential	10
NCA02	R05	2 Davidson Road, Guildford	Residential	90
NCA02	R06	55 Dudley Road, Guildford	Residential	10
NCA02	R07	45 Dudley Road, Guildford	Residential	10
NCA02	R08	39 Dudley Road, Guildford	Residential	10
NCA02	R09	462 Blaxcell Street, Guildford	Residential	10
NCA02	R10	460b Blaxcell Street, Guildford	Residential	20
NCA02	R11	40 Dudley Road, Guildford	Residential	60
NCA02	R12	36 Dudley Road, Guildford	Residential	60
NCA02	R13	26 Dudley Road, Guildford	Residential	70
NCA03	R14	9 Rawson Road, Guildford	Residential	300
-	R15	51 Rawson Road, Guildford	Childcare	260
-	R16	3 Ferndell Street, South Granville	Place of worship	230
-	R17	24 Ferndell Street, South Granville	Industrial	10
-	R18	10 Straits Avenue, South Granville	Industrial	30
-	R19	4-6 Straits Avenue, South Granville	Industrial	30
-	R20	7-11 Ferndell Street, South Granville	Industrial	50
-	R21	11a Ferndell Street, South Granville	Industrial	50
NCA04	R22	36 Everley Road, Chester Hill	Residential	340

2.0 INTRODUCTION

Vaughan Constructions have been appointed by Hale Capital as the Principal Contractor to build a new industrial facility including one multi-level, on grade hardstand, 8 office tenancies. Each tenancy has its own office space allocated to its tenant with modern bathroom facilities and lift access.

This document is the Community and Stakeholder Management Plan (CSMP) for the construction project. It has been developed in consultation with the project team then reviewed and authorised by the Project Director for the project.

This CSMP has been prepared to address the project specific requirements identified in

- legislation, EPA & council documents
- design documents
- project risk assessment & design risk assessment

A copy of this CSMP shall be readily available on site to be viewed by all Vaughan Construction employees, subcontractors, their workers and other stakeholders associated with the project.

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3.0 OBJECTIVE

The object of this Community and Stakeholder Management Plan (CMP) is to ensure that the community and stakeholders relevant to the project are considered during the construction activities, planning of the works and compliance with all relevant laws, codes of practice and Australian Standards. Consultation will be undertaken with relevant stakeholders (neighbouring property owners & council) as to what if any impact the construction works have on the day-to-day amenity of their properties.

4.0 PERMIT APPROVALS

A Development Approval has been received from Department of Planning, Housing and Infrastructure (DPHI) for the development and use of the site. A Construction Certificate will be obtained prior to construction works commencing. A road opening permit will be obtained for any works that involve breaking the surface of any part of the street or footpath outside of the construction site boundary.

5.0 COMMUNICATION STRATEEGY

A successful communications and stakeholder relations strategy has four main elements to it. Affected stakeholders need to be advised:

1. **What** is happening as part of the works to Greystar South Granville;
2. **When** is it happening, including specific advice as to progress of the works;
3. **Where** are the works being undertaken; and
4. **How** are the works being undertaken and how they will be affected.

Communication is also two-way and therefore the strategy includes a feedback mechanism where client, customer or community complaints can be addressed and corrective action taken.

The aim being “NO SURPRISES”.

Each of these four points is addressed as follows:

5.1 Before Commencement

With demolition scheduled to commence in August, several actions need to be taken:

No.	Description	By	When
5.1.1	Coordination meeting with Superintendent to review matters such as: - work methodology	Project Director	ASAP
5.1.2	A letter box drop to local residents / businesses	Site Manager	1 wk prior
5.1.3	Advice to Council as to commencement of works	Project Director	1 wk prior
5.1.4	Erection of hoardings and fencing to the works including directional signage as required.	Site Manager	1 wk prior

5.2 During Construction

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Actions to be taken during construction.

No.	Description	By	When
5.2.1	Letter box drops to residents / businesses as required	Site Manager	Significant events, eg concrete pours
5.2.2	Maintenance of hoardings / fences incl repairs and graffiti removal	Site Manager	As required
5.2.3	Client coordination meetings - Superintendent	Project Director / Greystar	Fortnightly
5.2.4	Contractor inductions / employee "tool box" and coordination meetings to reinforce the CLP	Project Director / Site manager	Fortnightly
5.2.5	Erection and maintenance of work site and directional signage	Site Manager	As required
5.2.6	Community Liaison & Meetings	Project Director / Greystar	As required

5.3 Customer and Community Feedback

With each form of communication, whether it be site signage or letter box drops, a phone number will be provided to facilitate customer and community feedback including complaints.

All complaints are immediately referred to the Communications and Community Liaison Representative (CCLR), David Upton of Vaughan Construcions for action. Significant complaints affecting the local community will be referred to the Superintendent. A register of all complaints or feedback is to be maintained and tabled with each monthly PCG report. Refer Appendix One - Complaints / Corrective Action Register.

6.0 PROJECT SPECIFIC REQUIREMENTS

6.1 Location and Site Description

Site address: Greystar South Granville
26 Ferndell Street South Granville NSW 2142

Local Government Area: Cumberland City Council.

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6.2 Project Scope

The Greystar, South Granville project will be completed in one stage. This will include the demolition of the existing warehouse buildings, including hazardous materials removal, construction of noise walls and building pads in preparation for the proposed development which consists of three buildings, Building A fronting Ferndell Street and Straits Avenue on the west. and Building B to the rear of the site with access to Straits Avenue and Building C, fronting Straits Avenue. All have multiple tenancies. Each warehouse has its own ancillary office space and hardstand area.

6.3 Progression & Duration of Construction Works

The construction works given in the project overview are scheduled to be completed within approximately 352 working days. Construction is scheduled for commencement in March 2025 and completion by the end of September 2026.

The site and construction works are located within an industrial zoned area. However, the site also borders a residential area with a significant number of properties in Dudley Road and surrounding streets likely to be impacted during the works to some degree. Therefore, clear, succinct and regular communication is essential.

Whilst working in an operational environment, safety of the public and the construction workers is paramount to Vaughan Constructions. Hoardings / fencing will be erected to all site boundaries. If construction workers are required to work outside the fenced area, outside the site boundaries, works will be arranged and in coordination with neighbouring owners. Works outside the site will need to be approved with applicable safety precautions to complete the works and to separate the construction workers from neighboring businesses and workers.

Footpath pedestrian access along the frontage of Ferndell Street directly into site compound/ amenities will be always maintained. Vehicular traffic will be managed in accordance with the Construction Traffic Management Plan.

6.4 Construction Hours

Construction activities associated with offensive noise works, including the delivery of materials to and from the site, are to be within approved hours of 7.00am to 6.00pm from Monday to Friday, 8.00am to 1.00pm Saturday, No work on Sunday and public holidays. All out of hour works shall be in accordance with the approved Development Approval and issued permits**.**

6.5 Signage

Signage is to be displayed to the public and maintained in a prominent location for the duration of the work that is visible to the public from outside the construction area that advises people:

- Vaughan Constructions is the Principal Contractor for the construction project and an after-hours contact phone number
- the name, address and telephone number of the Principal Certifying Authority for the work
- minimum PPE requirements for all people entering the site
- the requirement that unauthorised entry to the work site is prohibited;
- the requirement that visitors must report directly to the site office upon entry to the site and present themselves to the Site Manager;

Signage will also be displayed as required to warn members of the public of specific construction related hazards. Traffic management signage will be displayed as per the requirements of any approved traffic control plans.

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The temporary construction fencing / hoarding along Ferndell Street and Straits Aveneue will include 'Hale Capital and Vaughan Constructions logos.

6.6 Traffic & Parking

Traffic and Parking can be cause for disruption and complaints from community and stakeholders. Existing vehicle access points off Ferndell Street and Straits Avenue will be used for site access for the entire construction duration. Traffic Controllers will be used when required throughout the construction period.

As mentioned above, all construction related works, including deliveries, loading and concrete pumping will be located inside the site boundary allowing pedestrian access to travel along the footpath with no disturbance. Traffic management plans have been prepared for the 3 different construction stages, including demolition, excavation, and construction. Truck frequency will differ throughout the construction stages and may be a maximum of 15 minute cycles.

A stabilised vehicle access point / road that incorporates a rumble / shaker grid will be constructed and maintained at the commencement of the earthworks. Vehicle washing will be located near the rumble grids as required to assist in the prevention of excessive dirt on the roads and mitigate complaints by the public.

Note: Street sweeping will be used to clean roads exterior roads on an as needed basis to ensure the road is kept clean and complaints are not received from stakeholders.

6.7 Noise

Noise controls are in place to minimise disruption to the community. Construction activities that create offensive noise such as the use of electric and pneumatic tools, including the delivery of materials to and from the site, are to be within approved site hours (refer to section 6.4). There is to be no 'warming up' of plant and machinery outside of the construction site or outside the approved construction hours. All equipment (excavators, backhoes, cranes, trucks, etc.) are to have adequate noise prevention safeguards such as exhaust mufflers, acoustic enclosures for any diesel generators and/or air compressors. Please refer to the Construction Noise & Vibration Management Plan.

6.8 Vibration Controls

Works will be undertaken to minimise the generation of vibrations imparted on the neighbouring buildings and structures. Where vibrations may be generated, alternative methods will first be considered, and possible control measures developed and implemented. Work will be suspended on notification of a noise or vibration incident.

6.9 Air & Dust Management

To minimise disruption to the community air and dust controls will be in place for the duration of the construction program. Access roads are to be established and maintained through to construction areas. Water will be used as required to suppress dust during dry and windy periods. Any soil stockpiles left unattended are to be kept moist to limit dust generation. Civil areas will be compacted as soon as practicable after disturbance to minimise dust release. Loads on trucks are to be covered prior to leaving site.

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Exhaust fumes will be minimised by turning off combustion engine equipment when it is not in use. Domestic type waste from amenities area to be placed in plastic bags that are sealed at the end of each day prior to placement in site rubbish skip.

No waste material is to be burnt on site during construction works.

6.10 Stormwater & Sediment Control

Protection of the stormwater system and discharge into the public drains will be required by way of sediment control measures. The erosion & sediment control measures will remain in place (where applicable) for the duration of civil and construction works and adjusted as per the approved staging plans.

Weather conditions will be monitored with sediment devices inspected before and after storms for structural damage or clogging. Trapped material is to be removed to a safe approved location.

- Soil / civil areas will be compacted to stabilise them as soon as practicable after disturbance. Geotextile sediment fences are to be installed to low areas of the site boundary where water has the potential to leave the site and enter the stormwater system.
- External surface water to be diverted around site where practicable.
- Protection of any new or existing internal & external site stormwater pits will be required by way of sediment traps, etc
- Where practicable, excavated soil is to be loaded directly into trucks to be immediately reused.
- Soil stockpiles to have a maximum 2:1 height top width ratio
- Soil stockpiles shall not be located within 10 metres of any drainage lines or easements, natural water courses, roadways or footpaths.
- Soil stockpiles to have water diversion measures (excavated temporary swale drain) in place on the upslope of them (where required)
- Soil stockpiles to have containment barriers placed around the bottom of them (where required)

6.11 Habitats (protected flora / fauna)

Trees identified on the Development Application as requiring protection are to be temporarily barricaded / fenced with “tree protection zone” signage displayed that meets the requirements of Australian Standard AS4970: Protection of Trees on Development Sites. Any construction work required inside a tree protection zone will be supervised by the project arborist.

The tree protection barricades and signage are to remain in place until works are completed. No construction vehicles, equipment and / or building materials are to be placed / stored within the tree protection zone, even for a short period of time. Any pruning that is required to be done to the canopy of any tree to be retained is to be done by a qualified arborist to Australian Standard – Pruning of Amenity Trees AS4373-1996. Any pruning of the root system of any tree to be retained is to be done by hand by a qualified arborist.

Permitted vegetation requiring removal in the construction works area will be removed during civil works. There will be no excavation works to the protected tree zones. Landscaping will be completed as per the landscaping and planting development plan.

Fencing will be installed around the site boundary to keep native animals out of the construction area. Food waste will be sealed rubbish bins / bags to discourage native animals from being attracted to them as a food source.

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All disturbed surfaces outside the site boundary are to be made good at the end of each day during the project period

A dilapidation inspection shall be carried out prior to Vaughan Constructions taking possession of site or any works carried out under the contract and a report produced from that inspection that will form part of the contract documents.

6.12 Heritage and Archaeology

Please refer to the Unexpected Finds Procedure.

7.0 CSMP AVAILABILITY AND LOCATION

A copy of this Community and Stakeholder Management Plan (CSMP) shall be readily available on site to be viewed by all Vaughan Construction employees, subcontractors, their workers and other stakeholders associated with the project. Workers will be informed during the site-specific induction as to the location of this CSMP and the Vaughan Constructions, National Health & Safety Policy and Management System on site.

This CSMP will be reviewed and amended where legislation, EPA Guidelines or where project works change such that the information contained in the plan is no longer accurate or valid.

The parties affected by any alterations to this document shall be notified through either tool box talks on site or through electronic transmission of the amended document.

8.0 COUNCIL INFRASTRUCTURE

Throughout the construction works council infrastructure will be maintained and kept clean and tidy. Road sweepers will be used as a need be provision, and any damage to kerbs or roads will be made good upon any council permits required. New crossovers will be provided as part of the construction works including any kerb and channel adjustments as required.

Vaughan Constructions will acquire all the necessary temporary vehicle cross-over permit and seek approval by Cumberland Council asset protection team prior to install.

9.0 APPENDICES

9.1 Complaints and Corrective Action Register (Buildpass)

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Appendix D Construction Noise and Vibration Management Plan

Construction Environmental Management Plan

SSD-51310208 - 26 Ferndell Street, South Granville and 464 Blaxcell Street, Guildford, NSW

Vaughan Constructions Pty Ltd

SLR Project No.: 630.031503.00001

Greystar - 26 Ferndell Street, South Granville

Construction Noise & Vibration Management Plan

Project ID	20241387.1
Document Title	Construction Noise & Vibration Management Plan
Attention To	Vaughan Constructions Pty Ltd

Revision	Date	Document Reference	Prepared By	Checked By	Approved By
0	11/02/2025	20241387.1/1102A/R0/JHT	JHTzz		AW
1	12/03/2025	20241387.1/1203B/R1/JHT	JHTzz		AW
2	30/04/2025	20241387.1/3004A/R2/AW	AW	AZ	LA

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1 INTRODUCTION

Acoustic Logic have been engaged to provide a project construction noise and vibration management assessment for the proposed construction works to be conducted at 26 Ferndell Street, South Granville and 464 Blaxcell Street, Guildford (Greystar Granville).

The assessment:

- Identifies sensitive receivers that are likely to be potentially impacted by the proposed works.
- Develops project specific noise and vibration management levels. These will be used to indicate whether additional impact mitigation, beyond normal "good practice", is indicated.
- Identifies the major noise and vibration sources that will be present on the construction site, and additional construction-related traffic generated by the development.
- Predicts the likely noise and vibration levels during the phases of construction and assesses these against the established management levels. Where the predicted impacts exceed the management levels, the Plan identifies and assesses potential measures to minimise these impacts.
- Provides specific and general recommendations for the ongoing monitoring, assessment and management of noise and vibration emissions as the works progress in response to additional information and site conditions, and the updating of the Plan to reflect additional information obtained during the construction period.

The subject site and local context are indicated in Section 3.

Where the term "construction" is used in this assessment, it includes demolition, excavation and any other site activity related to the construction of the development being assessed. This assessment has been prepared for the sole purpose as stated above and should not be used or relied on for any other purpose.

1.1 CONDITIONS COMPLIANCE TABLE (SSD-51310208)

Table 2 below presents a summarised conditions compliance table which references the applicable conditions of consent throughout this report.

Table 1 – Conditions Compliance Table (SSD 51310208)

Condition Item	Description	Report Reference
C8	Standard Hours of Work	Section 4.3
C9	Outside of Hours Work	Section 4.3
C10	Construction Noise Limits	Section 5.2.1
C11	Vibration Criteria – Structural Damage	Section 5.3.2
C12	Vibration Criteria -Human Amenity	Section 5.3.1
C16 a)	Construction Noise and Vibration Management Plan	All & Section 6.3
C16 b)	Procedures for achieving ICNG and C11	Section 6.3
C16 c) & d)	Management of high noise generating works	Section 6.3.1 & 6.3.3
C16 e) to g)	Community Consultation Strategies	Section 6.3.1
C16 h) & f)	Complaints Management System	Section 6.3.1 & 6.4

2 REFERENCED DOCUMENTS

2.1 BACKGROUND INFORMATION USED

The following background information has been utilised throughout this assessment:

- SSDA Acoustic report prepared by Renzo Tonin & Associates (Reference: TN136-01F02, dated 16/08/2024).
- Architectural documentation prepared by Pace architects (Job No: 24431, dated 04/02/2025).
- Proposed construction methodology and markup as advised by Vaughan Constructions.
- NSW Government Department of Planning, Housing and Infrastructure conditions of consent (SSD-51310208)

2.2 GUIDELINES

The primary guideline that will be used in this assessment is the NSW EPA – 'Interim Construction Noise Guideline' ("**ICNG**") July 2009.

The ICNG recognises that development occurs close to sensitive receivers and the nature of construction means that it is not possible to prevent noise impacts. The ICNG is focused *"on applying a range of work practices most suited to minimise construction noise impacts, rather than focusing only on achieving numeric noise levels. While some noise from construction sites is inevitable, the aim of the Guideline is to protect the majority of residences and other sensitive land uses from noise pollution most of the time."*

The ICNG requires the identification of activities likely to exceed the noise/vibration management levels, and the implementation of feasible and reasonable mitigation strategies to minimise emissions. Strategies include physical and management controls, liaising with the public and stakeholders, monitoring, etc. The ICNG recognises that each site will have a particular set of circumstances to be addressed, and that it is typically not possible to fully mitigate impacts. The guideline is intended as a pathway to determining a realistic compromise between construction sites and the surrounding receivers.

The following additional planning instruments and guidelines have also been used in the assessment:

- NSW Department of Environment and Conservation Assessing Vibration: A Technical Guideline" (Feb, 2006)
- NSW EPA – 'Noise Policy for Industry' ("**NPfI**") October 2017
- NSW EPA – 'Noise Guide for Local Government' ("**NGLG**") 2023
- NSW EPA – 'Road Noise Policy" ("**RNP**") March 2011
- NSW EPA – 'Approved methods for the measurement and analysis of environmental noise in NSW' 2022.

3 CONDITIONS OF CONSENT – SSD 51310208

3.1 CONDITIONS

The following, construction related noise and vibration conditions (SSD-51310208) have been imposed by the NSW Government Department of Planning, Housing and Infrastructure:

Hours of Work

C8. The Applicant must comply with the hours detailed in Table 2 below.

Table 2 *Hours of Work*

Activity	Day	Time
Construction	Monday – Friday Saturday	7 am to 6 pm 8 am to 1 pm
Operation Warehouse A: Unit 1	Monday – Sunday	24 hours
Operation Warehouse A: Unit 2, Unit 3 Warehouse B: Unit 4, Unit 5, Unit 6 Warehouse C: Unit 7, Unit 8	Monday – Sunday	7:00am – 10:00pm

C9. Works outside of the hours identified in condition C8 may be undertaken in the following circumstances:

(a) works that are inaudible at the nearest sensitive receivers;

(b) works agreed to in writing by the Planning Secretary;

(c) for the delivery of materials required outside these hours by the NSW Police Force or other authorities for safety reasons; or

(d) where it is required in an emergency to avoid the loss of lives, property or to prevent environmental harm.

Construction Noise Limits

C10. The development must be constructed to achieve the construction noise management levels detailed in the *Interim Construction Noise Guidelines* (as may be updated or replaced from time to time). All feasible and reasonable noise mitigation measures must be implemented and any activities that could exceed the construction noise management levels must be identified and managed in accordance with the Construction Noise and Vibration Management Plan required under condition C16.

Vibration Criteria

C11. Vibration caused by construction at any residence or structure outside the site must be limited to:

(a) for structural damage, the latest version of *DIN 4150-3 (2016-12) Vibration in Buildings – Part 3: Effects on Structures* (German Institute for Standardisation, 2016); and

(b) for human exposure, the acceptable vibration values set out in the *Environmental Noise Management Assessing Vibration: a technical guideline* (DEC, 2006) (as may be updated or replaced from time to time).

C12. The limits in condition C11 apply unless otherwise outlined in the development's Construction Noise and Vibration Management Plan (see condition C16).

Construction Noise and Vibration Management Plan

C16. Prior to the commencement of construction, the Applicant must prepare a Construction Noise and Vibration Management Plan (CNVMP) for the development to the satisfaction of the Planning Secretary. A copy of the CNVMP must be included in the development's CEMP (see condition D2) and must:

(a) be prepared by a suitably qualified and experienced noise expert(s);

(b) describe procedures for achieving the noise management levels detailed in the *Interim Construction Noise Guidelines* (as may be updated or replaced from time to time) and the vibration criteria in condition C11;

(c) describe the measures to be implemented to manage high noise generating works such as piling, in close proximity to sensitive receivers;

(d) include strategies that have been developed with the community for managing high noise generating works (such as the provision of respite periods);

(e) include strategies that have been developed in consultation with the directly adjoining properties for managing vibration (such as any alternative construction methods with lower source vibration levels and provision for respite periods);

(f) include strategies that have been developed in consultation with the owners of 7-11 Ferndell Street, South Granville to manage potential vibration impacts to heritage item "Acrow Building";

(g) describe the community consultation undertaken to develop the strategies in condition C16(d) and C16(e); and

(h) include a complaints management system that would be implemented for the duration of construction of the development.

C17. *The Applicant must:*

(a) Not commence construction until the CNVMP required by condition C16 is approved by the Planning Secretary; and

(b) Implement the most recent version of the CNVMP approved by the Planning Secretary for the duration of construction.

3.2 CONDITIONS COMPLIANCE TABLE

Table 2 below presents a summarised conditions compliance table which references the applicable conditions of consent throughout this report.

Table 2 – Conditions Compliance Table (SSD 51310208)

Condition Item	Description	Report Reference
C8	Standard Hours of Work	Section 4.3
C9	Outside of Hours Work	Section 4.3
C10	Construction Noise Limits	Section 5.2.1
C11	Vibration Criteria – Structural Damage	Section 5.3.2
C12	Vibration Criteria -Human Amenity	Section 5.3.1
C16 a)	Suitably qualified noise expert	Refer appended CV
C16 b)	Procedures for achieving ICNG and C11	Section 6.2
C16 c) & d)	Management of high noise generating works	Section 6.3.1 & 6.3.5
C16 e), f) & g)	Community Consultation Strategies	Section 6.3.1
C16 h)	Complaints Management System	Section 6.3.1

4 SITE DESCRIPTION & THE PROPOSAL

The site is located at 26 Ferndell Street, South Granville and 464 Blaxcell Street, Guildford and legally occupies Lot 12 (Dp233162) and Lot 201 (DP816219) within the Cumberland City Council local government area. The site forms part of an existing industrial zone sharing a border with a residential zone to the north and west of the project site. Nearby identified receivers consist predominantly residential and industrial and are outlined in more detail in Figure 1.

4.1 GENERAL PROJECT DESCRIPTION

The project site is located at 26 Ferndell Street, South Granville & 464 Blaxcell Street, Guildford and comprises the demolition of several existing buildings structures and the construction of multi-level warehouses and distribution centre, ancillary offices, hardstand/car parking areas, and associated works, including site preparation, earthworks, landscaping and signage.

4.2 PROPOSED WORKS

Construction of the proposed development includes:

- Phase 1 (Demolition Phase) – This includes the demolition and removal of existing structures.
- Phase 2 (Piling & Excavation Phase) – This includes the excavation and site preparation to allow for construction of the basements and footings of the proposed structures. This phase will also include the installation of ground services.
- Phase 3 (Construction Phase) -This includes the erection of structure, façade, internal fit-out, landscape and other ancillary works.

4.3 CONSTRUCTION HOURS OF WORK

The construction hours during which works will take place are expected to be in accordance with the noise conditions hours of work as outlined within the conditions of consent SSD-51310208

Table 3 – SSD 51310208 Hours of Work Condition B15

Activity	Day	Hours of Work
Construction	Monday to Friday	7am – 6pm
	Saturday	8am – 1pm
Operation Warehouse A: Unit 1	Monday – Saturday	24 hours
Operation Warehouse A: Unit 2, Unit 3 Warehouse B: Unit 4, Unit 5, Unit 6 Warehouse C: Unit 7, Unit 8	Monday – Sunday	7am – 10pm

The condition of consent also provides reasonable and feasible circumstances where works outside of these hours may also occur as noted within condition C9:

- Works that are inaudible at the nearest sensitive receivers;
- Works are agreed in writing by the Planning secretary;
- For the delivery of materials required outside these hours by the NSW Police Force or other authorities for safety reasons; or
- Where it is required in an emergency to avoid the loss of lives, property or to prevent environmental harm.

4.4 SENSITIVE RECEIVERS

The nearest sensitive receivers surrounding the site has been identified and allocated into noise groups/catchments. The identified receivers and site map has been adopted from the approved acoustic report prepared by Renzo Tonin (document reference: TN136-01F02, R2, NVIA r2, dated 23/08/2023). An aerial photo of the site encapsulating the adopted local site context have been presented below in Figure 1.

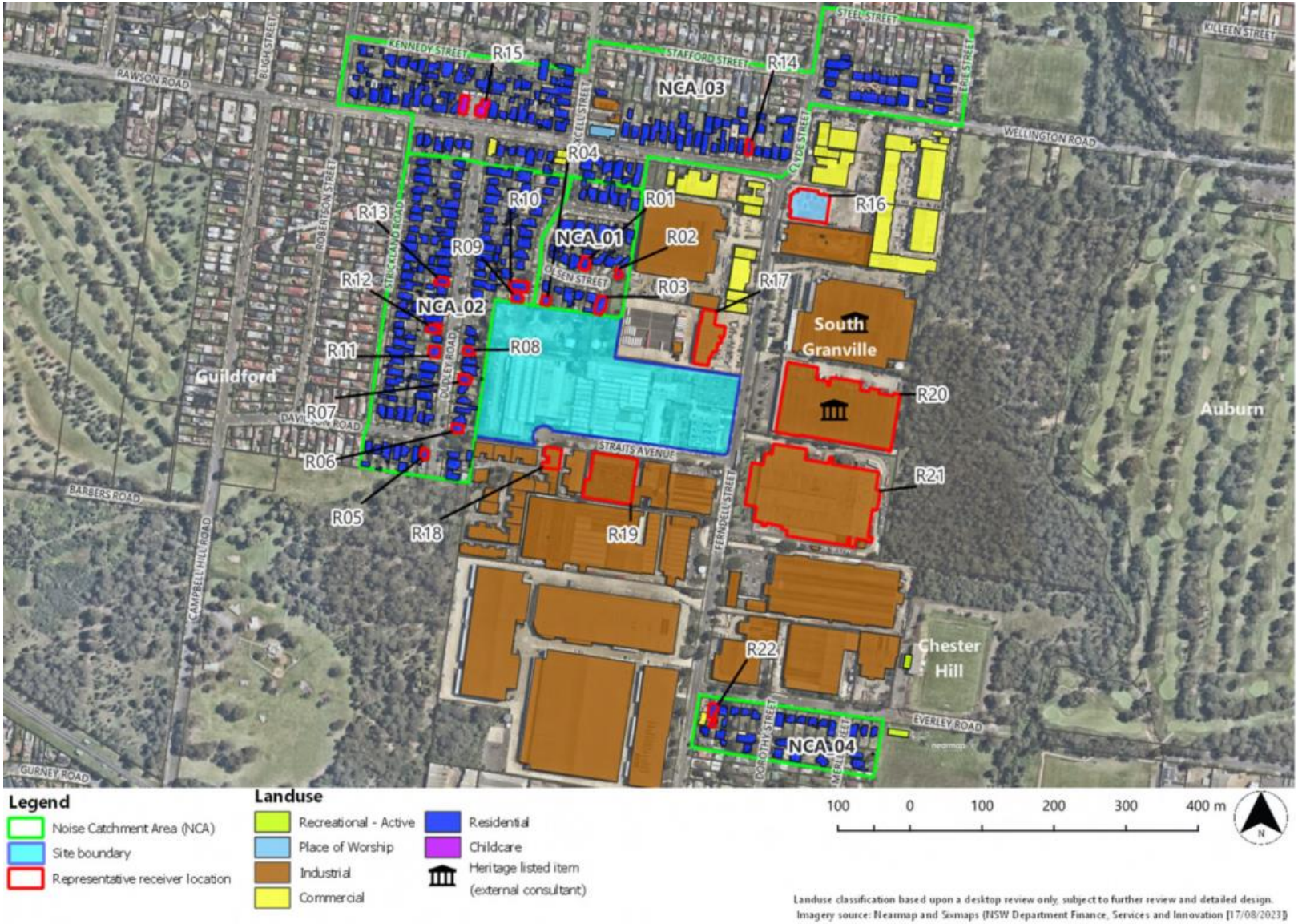


Figure 1 – Site Map Context (Source: Renzo Tonin SSD Acoustic Report)

Table 1-2: Representative receiver locations

Residential noise catchment area (NCA)	Receiver ID	Address	Receiver type	Approximate distance to the Project, metres
NCA01	R01	7 Olsen Street, Guildford	Residential	60
NCA01	R02	1 Olsen Street, Guildford	Residential	60
NCA01	R03	2 Olsen Street, Guildford	Residential	10
NCA01	R04	12 Olsen Street, Guildford	Residential	10
NCA02	R05	2 Davidson Road, Guildford	Residential	90
NCA02	R06	55 Dudley Road, Guildford	Residential	10
NCA02	R07	45 Dudley Road, Guildford	Residential	10
NCA02	R08	39 Dudley Road, Guildford	Residential	10
NCA02	R09	462 Blaxcell Street, Guildford	Residential	10
NCA02	R10	460b Blaxcell Street, Guildford	Residential	20
NCA02	R11	40 Dudley Road, Guildford	Residential	60
NCA02	R12	36 Dudley Road, Guildford	Residential	60
NCA02	R13	26 Dudley Road, Guildford	Residential	70
NCA03	R14	9 Rawson Road, Guildford	Residential	300
-	R15	51 Rawson Road, Guildford	Childcare	260
-	R16	3 Ferndell Street, South Granville	Place of worship	230
-	R17	24 Ferndell Street, South Granville	Industrial	10
-	R18	10 Straits Avenue, South Granville	Industrial	30
-	R19	4-6 Straits Avenue, South Granville	Industrial	30
-	R20	7-11 Ferndell Street, South Granville	Industrial	50
-	R21	11a Ferndell Street, South Granville	Industrial	50
NCA04	R22	36 Everley Road, Chester Hill	Residential	340

Figure 2 – Representative Receiver Locations (Source: Renzo Tonin SSD Acoustic Report)

For the purposes of the construction noise and vibration management plan, the nearest receivers will be assessed and used to represent the worst receivers.

Table 4 – Adopted Receivers for the Plan

Representative Worst Receiver	Receiver Type	Descriptions
NCA01 – R03	Residential	Existing residential receiver located to the north of the site.
NCA02 – R08	Residential	Existing residential receiver located to the West of the site.
R17	Industrial	Existing Industrial receiver located to the northeast
R18	Industrial	Existing Industrial receiver located to the south

4.5 NOISE AND VIBRATION SOURCES

The main noise and vibration sources relevant to each phase of the works have been identified and presented in the following section.

4.5.1 Construction Works Staging

Proposed construction works are expected to be undertaken in the following stages as advised by Vaughan Constructions. The construction methodology as advised by Vaughan Constructions has been attached in the appendix.

Stage 1 – April 2025 to July 2025

- Demolition of the eastern zone of the site, starting from the eastern boundary and moving west towards the breezeway.
- Construction of shoring and acoustic walls to western and northern boundaries of the site

Stage 2 – July 2025 to October 2025

- Excavation to final levels. Two work faces:
    - Warehouse A
    - Warehouse C then Warehouse B
- Bored piling rig to Warehouse A and pad footings to warehouse C then B using piling rig and 8T excavator.

Stage 3 – September 2025 to June 2026

- Structural steel erection
- Concrete works throughout all zones using trucks and pumps

Stage 4 – March 2026 to October 2026

- Fit out and internal works
- External landscaping and ancillary works

4.5.2 Stage 1

The main noise/vibration producing plant items likely to be used in this phase are summarised in the following table.

Table 5 – Primary Demolition Noise Sources

Phase/Activity	Plant
Services strip out	Electric Hand Tools
	Bobcat
	Truck
Structure Demolition	Excavator mounted concrete pulveriser
	10t Excavator mounted hydraulic hammer
	30t Excavator - Tracked
	Bulldozer
	Excavator with bucket loading truck
	Truck@ 20 km/hr
	Truck Idling
	Pneumatic Jack Hammer
	Air Compressor

4.5.3 Stage 2 & 3

The main noise/vibration producing plant items likely to be used in this phase are summarised in the following table.

Table 6 – Excavation Noise Sources

Phase/Activity	Plant
Piling	Piling Rig
	Excavator loading truck
	Truck@ 20 km/hr
	Truck Idling
Excavation	Excavator
	Bulldozer
	Excavator mounted hydraulic hammer
	Rock Saw
	Truck@ 20 km/hr
	Truck Idling
	Hand tools

4.5.4 Stage 4

The main noise/vibration producing plant items likely to be used in this phase are summarised in the following table.

Table 7 – Construction Noise Sources

Phase/Activity	Plant
Construction	Hand Tools
	Bobcat
	Truck
	Elevated work platforms
	Forklifts/Materials handling
	Concrete Pump
	Concrete Truck
	Concrete Float
	Concrete Vibrator
	Crane
	Hoist

5 CONSTRUCTION NOISE & VIBRATION ASSESSMENT

5.1 GENERAL

A quantitative evaluation of the proposed works has been undertaken to identify those activities that have the potential to adversely impact nearby properties.

The assessment uses site specific noise and vibration management levels developed using the EPA ICNG and consent conditions stipulated. The predicted, receiver noise and vibration levels will be compared to the management levels to identify those activities that are likely to require additional management, above what is considered to be normal good practice.

5.2 CONSTRUCTION NOISE MANAGEMENT LEVELS

Construction noise management levels have been previously established within Section 4 of Renzo Tonin's SSDA report (Reference: TN136-01F02, dated 16 August 2024). The overall construction noise management levels for each receiver have been summarised in the following section.

5.2.1 Summarised Construction Noise Management Levels

The site-specific construction noise management levels (NML) are presented below.

Table 8 – Project Construction Noise Management Levels

Location/Receiver	NML dB(A) L_{eq}	HANML dB(A) L_{eq}
R3 Residential	49	75
R8 Residential	47	75
Industrial R17	75	-
Industrial R18	75	-

Note: Construction works are proposed to be conducted during the daytime standard hours (7am-6pm)

5.3 CONSTRUCTION VIBRATION MANAGEMENT LEVELS

5.3.1 Amenity Management

Vibration goals for the amenity of nearby land users are those recommended by the EPA document *Assessing Vibration: A technical guideline*. These levels (extracted from Tables 2.2 and 2.4 of the guideline) are presented in the following table for various types of vibration:

Table 9 - (Table 2.2 Assessing Vibration: A Technical Guideline) – Preferred and Maximum Weighted RMS Values for Continuous and Impulsive Vibration Acceleration (m/s^2) 1-80Hz.

Location	Assessment Period [1]	Preferred values		Maximum Values	
		z-axis	x- and y-axes	z-axis	x- and y-axes
Continuous Vibration					
Residences	Daytime	0.010	0.0071	0.02	0.014
Offices	Day or night-time	0.020	0.014	0.040	0.028
Impulsive Vibration					
Residences	Daytime	0.30	0.21	0.60	0.42
Offices	Day or night-time	0.64	0.46	1.28	0.92

1 Daytime is 7:00am to 10:00pm.

Table 10 -(Table 2.4 Assessing Vibration: A technical guideline) – Acceptable Vibration Dose Values for Intermittent Vibration ($m/s^{1.75}$)

Location	Daytime[1]		Night-time[1]	
	Preferred value	Maximum Value	Preferred value	Maximum Value
Residences	0.20	0.40	0.13	0.26
Offices	0.40	0.80	0.40	0.80

1 Daytime is 7:00am to 10:00pm

5.3.2 Structural Damage Risk Criteria

German Standard DIN 4150-3 (2016) provides a guideline for acceptable levels of vibration velocity in building foundations, to assess the effects of vibration on structures. The table give guidance on the maximum accepted values of velocity at the foundation and in the plane of the highest floor of various types of buildings, to prevent any structural damage.

The table following lists the peak particle velocity, which is the maximum absolute value of the velocity signals for the three orthogonal components. This is measured as a maximum value of any of the three orthogonal component particle velocities when measured at the foundation, and the maximum levels measured in the x- and y-horizontal directions in the plane of the floor of the uppermost storey.

It is noted that if measured vibration levels do not exceed the guidelines listed in the following table, damage that will reduce the serviceability of the building will not occur, and if damage to the building does occur, it is assumed that the damage is related to other causes. Furthermore, the DIN4150-3 guideline states the following regarding the limits presented in Table 1 of the standard:

"Exceeding the guideline values does not necessarily lead to damage. Should they be exceeded, however, further investigations may be necessary, such as determining and evaluating the stresses as detailed in 4.3 and 4.4.".

Table 11 -(Table 1 – DIN 4150-3 (2016)) – Guideline Values for Vibration Velocity, $v_{i,max}$, for Evaluating the Effects of Short-Term Vibration on Structures

	TYPE OF STRUCTURE	Guideline values for $v_{i,max}$ in mm/s				
		Foundation, all directions, i = x, y, z, at a frequency of			Topmost floor, horizontal direction, i = x, y	Floor slabs, vertical direction, i = z
		1Hz to 10Hz	10Hz to 50Hz	50Hz to 100Hz [a]	All Frequencies	All Frequencies
L/C	1	2	3	4	5	6
1	Buildings used for commercial purposes, industrial buildings, and buildings of similar design	20	20 to 40	40 to 50	40	20
2	Residential buildings and buildings of similar design and/or occupancy	5	5 to 15	15 to 20	15	20
3	Structures that, because of their particular sensitivity to vibration, cannot be classified under lines 1 and 2 **and** are of great intrinsic value (e.g. listed buildings) buildings that are under a preservation order)	3	3 to 8	8 to 10	8	20[b]

NOTE Even if guideline values as in line 1, columns 2 to 5, are complied with, minor damage cannot be excluded.

a At frequencies above 100 Hz, the guideline values for 100 Hz can be applied as minimum values.

b It may be necessary to lower the guideline value markedly to prevent minor damage

5.4 CONSTRUCTION NOISE ASSESSMENT

5.4.1 Predicted Construction Noise Emission Levels

Construction noise emissions to nearby development depend on the activities being undertaken at the time, and where on the site the activities occur:

Construction noise levels at the surrounding receivers have been predicted based on the following inputs:

- The plant sound power levels indicated in the Appendix. These have been corrected for estimated typical operation duty indicated in the table using 10 x log(%duty/100)
- Barrier or directivity attenuation where present.
- Source heights – 1.5m above the ground/building level of the noise source location, unless noted otherwise.

The predicted construction noise emissions levels at the identified surrounding receivers have been presented below:

Table 12 – Predicted Noise Impacts – Stage 1

Location/Receiver	Predicted Level Range dB(A) L_{eq}	NML dB(A) L_{eq}	HNAML dB(A) L_{eq}
R3 Residential	49-78	49	75
R8 Residential	47-74	47	75
Industrial R17	48-75	75	-
Industrial R18	50-70	75	-

Table 13 – Predicted Noise Impacts – Stage 2

Location/Receiver	Predicted Level Range dB(A) L_{eq}	NML dB(A) L_{eq}	HNAML dB(A) L_{eq}
R3 Residential	61-89	49	75
R8 Residential	58-86	47	75
Industrial R17	60-88	75	-
Industrial R18	62-81	75	-

Table 14 – Predicted Noise Impacts – Stage 3

Location/Receiver	Highest Predicted Level Range dB(A) L_{eq}	NML dB(A) L_{eq}	HNAML dB(A) L_{eq}
R3 Residential	47-74	49	75
R8 Residential	46-73	47	75
Industrial R17	48-75	75	-
Industrial R18	52-72	75	-

Table 15 – Predicted Noise Impacts – Stage 4

Location/Receiver	Highest Predicted Level Range dB(A) L_{eq}	NML dB(A) L_{eq}	HNAML dB(A) L_{eq}
R3 Residential	27-54	49	75
R8 Residential	29-56	47	75
Industrial R17	30-58	75	-
Industrial R18	32-52	75	-

5.4.2 Discussion of Predicted Construction Noise Emissions

The results of the predicted noise impacts reveal the following impacts:

- Residential receivers R03 and R08 are likely to experience marginal exceedances to the NML and HNAML. Exceedances to the HNAML predominantly likely to take place during stage 2 piling when works are occurring close to the boundary. Given the vast perimeter of the entire site, boundary works in close proximity to each respective receive will only be observed for a very limited proportion of the constructions works period.

- Noise impacts on Industrial receivers R17 and R18 are expected to remain below the NML during stages 1, 3 and 4, with marginal exceedances occurring during stage 2 piling. Similar to R03 R08, marginal exceedances may occur to the NML when works are being undertaken along the northern and southern boundary directly opposite the industrial receivers. The dominant noise source driving the marginal exceedance is expected to be piling. It should also be noted however that industrial receivers are typically not very sensitive to external noise generation due to the increased noise environment associated with manufacturing, warehousing and distribution activities.

- It should, however, be noted that the predicted noise levels presented above have assumed a "worst-case" scenario, as opposed to a typical/likely noise level. The modelled noise levels include all plant operating simultaneously and very close to the boundary of receivers. In reality, this would be very unlikely and, in most cases, not possible due to spatial limitations and construction methodology. For example, it is unlikely that the piling rig, the excavator (with hammer attachment) and the rock saw will all operate close to the same receiver simultaneously. Given the relatively large site, it is unlikely that more than one or two activities will take place in the same area at any given time. Once proposed construction works begin, and the facades have been installed, it is likely that the ongoing noise and vibration impacts will increasingly mitigated.

- Stage 4 works are expected to be the quietest works and only marginally exceed the NML for all receivers. During stage 4, works are expected to predominantly consist of internal works once the façade and glazing has been erected.

- Furthermore, it should be noted that much of the perimeter will have noise walls installed during construction. Noise walls are expected to provide an additional noise reduction of 10-20dB; noise exposure to adjacent receivers would be significantly reduce once noise walls have been erected.

5.5 CONSTRUCTION VIBRATION

5.5.1 Vibration Sources

The following sources have been identified as potentially producing significant ground vibration:

- Dynamic compaction (drop weight)
- Vibratory rollers
- High Energy Impact Compactor (triangular roller)
- "Pogo" or "Jumping jack" rammer
- Vibratory Plate compactor (wacker packer)
- Vibratory piling (sheet piles)
- Impact Piling
- Vibrating screen
- Bore Piling (in rock)
- Impacts from falling rocks/rubble
- Ripping (excavator with claw)
- Pneumatic jack hammer
- Hydraulic hammer (rock)

The remaining activities are not expected to produce significant ground vibration and/or are sufficiently separated from sensitive receivers. Vibration from these activities is expected to be significantly below amenity or damage risk management levels at all receivers.

5.5.2 Assessment of Vibration

A precise assessment of vibration emissions from the proposed works is not possible due to the large number of unknowns including the actual equipment employed, how it is operated, site conditions, etc.

In the absence of any specific equipment the generic minimum safe working distances presented in Table 16 – Recommended Base Minimum Working Distances for Vibration Intensive Plant From Sensitive Receivers should be used with caution for guidance. It is noted that the vibrating roller distances are based on asphalting road works and are not applicable to earthworks as the vibration frequencies are considerably lower leading to a greater safe-work distance requirement. Empirical formulae by Hiller and Crabb will be used in lieu.

Should the types and models of the plant and equipment be available then vibration levels may be predicted at the nearest and most affected receivers by using the published generic formulae, source levels or historical data as found in:

- BS 5228-2:2009+A1:2014
- ISO 4866:2010
- FTA Transit Noise and Vibration Impact Assessment Manual (2018)
- Caltrans Transportation and Construction Vibration Guidance Manual (2020)
- Construction Vibrations 2nd Edition (Dowding, 2000)

Regardless of the method used site vibration levels from machinery and processes should be verified on site as soil conditions may be different from the basis sources.

The assessment of building and soil settlement or the liquefaction of soils under induced vibration is outside the scope of typical vibration standards such as DIN 4150-3 and expert advice is to be sought from a Geotechnical Engineer.

5.6 CONSTRUCTION OUTSIDE OF NORMAL HOURS

The predictions indicate that the main noise producing activities (CFA piling and concrete pours) will generate noise levels exceeding the after-hours NML's for Saturday afternoon (and other after-hours periods). The ICNG guidelines would not normally permit these activities to occur after normal hours without justification.

6 NOISE AND VIBRATION MANAGEMENT PLAN & CONTROLS

6.1 MANAGEMENT PLAN

The assessment indicates that the proposed activities will produce noise or vibration that will exceed the adopted management levels. These impacts should be minimised by developing and adopting a project specific management plan to regulate site activities.

The plan should be revised as the works proceed in response to changing or latent conditions and to incorporate the results of additional analysis, monitoring or modified work practices implemented to minimise impacts.

The management plan should be prepared in accordance with ICNG guideline and include:

- Identification of sensitive receivers and applicable noise and vibration management levels
- A description of the main noise or vibration producing activities, processes and equipment that will be employed and an indicative construction programme.
- Proposed construction hours.
- A prediction of likely noise/vibration levels at the most impacted receivers.
- The assessment and recommendation of mitigation methods to be applied where the predicted levels exceed the management levels, as indicated below.
- A monitoring plan including the type and extent of monitoring, reporting procedures.
- Recommended management procedures including complaints handling, response to monitoring exceedances, reporting, site training, etc.
- Community liaison.

6.2 NOISE AND VIBRATION CONTROL

The flow chart that follows illustrate the process followed to assess construction activities prior to the start of work on site, and for the ongoing investigation of noise and vibration impacts during the construction period.

The ICNG recommends “feasible and reasonable” mitigation measures to be implemented where works generate noise levels above the out of normal hours NML but does not specify what mitigation measures or to what extent these measures should be applied.

The CNVG and CNVS provide a clear hierarchy of mitigation measures to be applied when noise reduction by substitution, reasonable and feasible engineering and administrative means have been exhausted.

6.2.1 General Noise Controls Methods

The determination of appropriate additional noise control measures will be dependent on the particular activities and the construction equipment and plant identified as requiring future acoustic treatments to those already identified in this report. This section provides an outline of available methods which have previously been used on similar construction sites and may be possible on this site.

6.2.1.1 Selection of Alternate Appliance or Process

Where a particular activity or plant and equipment is found to generate noise levels that exceed the management levels, it may be possible to select an alternative approach or plant and equipment. For example, the use of excavator mounted hydraulic hammers of the site may potentially generate high levels of noise. By carrying this activity by using concrete saws or smaller plant here practical, construction noise levels and/or length of exposure to construction noise levels may be reduced.

6.2.1.2 Acoustic Barriers

The placement of barriers at the source is generally only effective for static plant. Placing barriers at the source cannot effectively attenuate equipment which is on the move or working in rough or undulating terrain.

The degree of noise reduction provided by barriers is dependent on the amount by which the line of sight can be blocked by the barrier. If the receiver is totally shielded from the noise source, reductions of up to 15 dB(A) can be affected. Where only partial obstruction of line of sight occurs, noise reductions of 5 to 8 dB(A) may be achieved. Where the barrier does not obstruct line of sight, generally no noise reduction will occur.

Barriers are used to provide shielding and do not act as an enclosure. The material they are constructed from should have a noise reduction performance which is approximately 10dB(A) greater than the maximum reduction provided by the barrier screening. In this case, the use of a material such as 15mm plywood (or equivalent material) would be acceptable for the barriers.

6.2.1.3 Silencing Devices

Where construction methodologies or plant and equipment permit, investigate the use of silencing devices. These may take the form of engine shrouding, or special industrial silencers fitted to exhausts, for example.

6.2.1.4 Treatment of Specific Equipment

In certain cases, it may be possible to specially treat a piece of equipment to dramatically reduce the sound levels emitted.

6.2.1.5 Establishment of Site Practices

This involves the formulation of work practices to reduce noise generation. This includes, for example, investigating the possibility of locating fixed plant items as far as possible from residents, rotating plant and activities to provide respite to receivers, scheduling activities after the construction of buildings that will screen receivers, avoiding noise sensitive periods for receivers, identify "safe" working distances, etc.

6.2.1.6 Vibration Management

The following principles should be considered to manage adverse vibration impacts identified:

- Obtaining separate structural or specialist advice for critical or fragile structures as to the level of damage risk.
- Selection of processes that minimise structure and ground vibration – generally avoiding percussive methods.
- Use smallest plant that is able to efficiently undertake the work activity.
- Lay vibration absorbing mats to cushion impacts from falling debris.
- Application of vibration dampening pads to metal surfaces subject to impacts.
- When demolishing, cut control joints in structures to form vibration "breaks", or work away from sensitive receiver locations to form natural vibration breaks in propagation path.
- Monitoring of structures using attended and/or unattended monitors with alarms.
- Time scheduling works to minimise amenity impacts.
- Communicating with affected receivers.
- Identify "safe" working distances to sensitive receivers/structures for various activities by conducting site simulation tests, and limiting activities within those distances to those that are not likely to exceed vibration goals. Vary locations/equipment/techniques used as determined by the simulation testing. The following table provides an initial guide to working distances that should be confirmed by site measurement.

6.2.1.7 Notification

Notification of affected receivers of the progress of works, particularly when short-term activities likely to create higher noise levels occur, can in many cases minimise community reaction.

6.3 SUMMARY OF MITIGATION

The project specific mitigation and management to be adopted is summarised in the following sections.

6.3.1 Management Controls

Reporting Requirements

The following is an example of reporting which may be kept on site:

1. A register for complaints received/communication with the local community shall be maintained and kept on site with information as detailed below.
2. Where noise/vibration complaints require noise/vibration monitoring, results from the monitoring shall be retained on site at all times.
3. Any recorded exceedances including the actions taken and results of follow up monitoring.
4. A report detailing any complaints received and actions taken shall be presented.
5. All monitoring and reporting shall be conducted in conjunction with the conditions of consent.

Response Procedures

Complaints associated with noise and vibration generated by site activities shall be recorded on a Noise Complaint Form. The person(s) responsible for complaint handling and contact details for receiving of complaints shall be established on site prior to construction works commencing. A sign shall be displayed at the site indicating the Site Manager and the general public and their contact telephone number.

If a noise complaint is received the complaint should be recorded on a Noise Complaint Form. The complaint form may list:

- The name and address of the complainant (if provided).
- The time and date the complaint was received.
- The nature of the complaint and the time and date the noise was heard.
- The name of the employee who received the complaint.
- Actions taken to investigate the complaint, and a summary of the results of the investigation.
- Indicate what operations were occurring on site at the time of the complaint.
- Required remedial action, if required
- Validation of the remedial action.
- Summary of feedback to the complainant.

Notification

Notification of affected receivers of the progress of works, particularly when short-term activities likely to create higher noise levels occur, can in many cases minimise community reaction.

Community Consultation with Adjoining Receivers & Mitigation Strategies

In order for any construction noise management programme to work effectively, continuous communication is required between, all parties which may be potentially impacted upon, the builder and the regulatory authority.

This establishes a dynamic response process which allows for the adjustments of control methods and management levels for the benefit of all parties.

The objectives in undertaking a consultation process is to:

- Inform and educate the groups about the project and the noise controls being implemented.
- Increase understanding of all acoustic issues related to the project and options available.
- Identify group concerns generated by the project, so that they can be addressed.
- Ensure that concerned individuals or groups are aware of and have access to the Site Complaints Register which will be used to address and construction noise related problems should they arise.

To ensure that this process is effective, regular scheduled meetings may be required for a finite period, until all issues have been addressed, and the evidence of successful implementation is embraced by all parties. An additional step in this process is to produce a newsletter informing nearby residents of upcoming activities that are likely to generate higher noise/vibration levels.

It should be noted that Vaughan Constructions and previous operators have made efforts to consider and communicate potential constructions noise and vibration impacts with the community. Specific efforts to consult, notify and communicate with the nearby identified neighbours (including Heritage Item "*Acrow Building"* located at 7-11 Ferndell Street, South Granville). Vaughan Constructions have provided a copy of the development plans and Construction Noise and Vibration Management Plan to adjacent neighbours.

However, to date, Acoustic Logic have been advised that the outcome of the community consultation and notification process conducted thus far is that there have not been any direct responses/feedback from the community or Acrow Building operators.

Nonetheless, throughout the entire construction period, VC should continue to actively engage with the community and seek feedback, provide notification and work together to reduce noise and vibration impacts and implement mitigation strategies.

Vaughan Constructions are to continue to provide regularly updates to the community and invite comment, feedback and discussion regarding any high noise generating works or concerns. Updated and communication should include:

- Detailed notification letters and opportunities for community engagement and feedback. All letters should include details regarding:
    - Description of works
    - Name of contact.
    - Contact number
    - Contact email
    - Proposed construction activities and period of works.
- Vaughan Construction invite the notified members to provide feedback (including complaints) and stay informed regarding via email or WhatsApp in a newsletter style format.

To date, Vaughan Construction have made significant efforts to initiate and be proactive with community consultation. Examples of notices that have already been issued or plan to be issued to adjoining neighbours include:

- Notification of commencement of works to other surrounding residents.

- Notification of Asbestos works.
- Construction Noise and Vibration Management Plan
- Detailed copies of development plans; and
- Dilapidation Report and pre-construction work updates.

Dealing with Complaints

Should ongoing complaints of excessive noise or vibration recommendations occur immediate measures shall be undertaken to investigate the complaint, the cause of the exceedances and identify the required changes to work practices.

If a noise complaint is received the complaint should be recorded. Any complaint form should list:

- The name and address of the complainant (if provided);
- The time and date the complaint was received;
- The nature of the complaint and the time and date the noise was heard;
- The name of the employee who received the complaint;
- Actions taken to investigate the complaint, and a summary of the results of the investigation;
- Required remedial action, if required;
- Validation of the remedial action; and
- Summary of feedback to the complainant.

A permanent register of complaints should be held.

All complaints should be fully investigated and reported to management. The complaint should also be notified of the results and actions arising from the investigation.

The investigation of a complaint shall involve where applicable:

- Noise measurement at the affected receiver.
- An investigation of the activities occurring at the time of the incident.
- Inspection of the activity to determine whether any undue noise is being emitted by equipment; and
- Whether work practices were being carried out either within established guidelines or outside these guidelines.

Where an item of plant is found to be emitting excessive noise, the cause is to be rectified as soon as possible. Where work practices within established guidelines are found to result in excessive noise generated then the guidelines should be modified so as to reduce noise emissions to acceptable levels. Where guidelines are not being followed, the additional training and counselling of employees should be carried out.

Measurement or other methods shall validate the results of any corrective actions arising from a complaint where applicable.

6.3.2 Contingency Plans

Where non-compliance or noise complaints are raised the following methodology will be implemented.

1. Determine the offending plant/equipment/process.
2. Locate the plant/equipment/process further away from the affected receiver(s) if possible.
3. Implement additional acoustic treatment in the form of localised barriers, silencers etc where practical.
4. Selecting alternative equipment/processes where practical.
5. If necessary, setup noise and vibration monitoring devices at locations representing the nearest noise/vibration affected receivers and provide data or each complaint time period. Analysis is required to determine suitable mitigation measures.

Complaints associated with noise and vibration generated by site activities shall be recorded on a Complaint Form. The person(s) responsible for complaint handling and contact details for receiving of complaints shall be established on site prior to construction works commencing. A sign shall be displayed at the site indicating the Site Manager to the general public and their contact phone number.

6.3.3 Physical Controls

- Construction hoarding should be erected around the boundary at all times during proposed construction works.
- Where feasible and reasonable, equipment silencers should be implemented to reduce the emitted noise levels for louder machinery.
- During operation, care should be taken to orientate machinery away from nearby receivers so as to reduce the directivity of emissions.

6.3.4 Recommended Monitoring

Specific monitoring requirements of location and quantity of monitors are to be discussed in consultation with the client. In certain circumstances, additional monitoring may be required in response to complaints, site conditions, etc.

6.3.5 Safe Working Distances

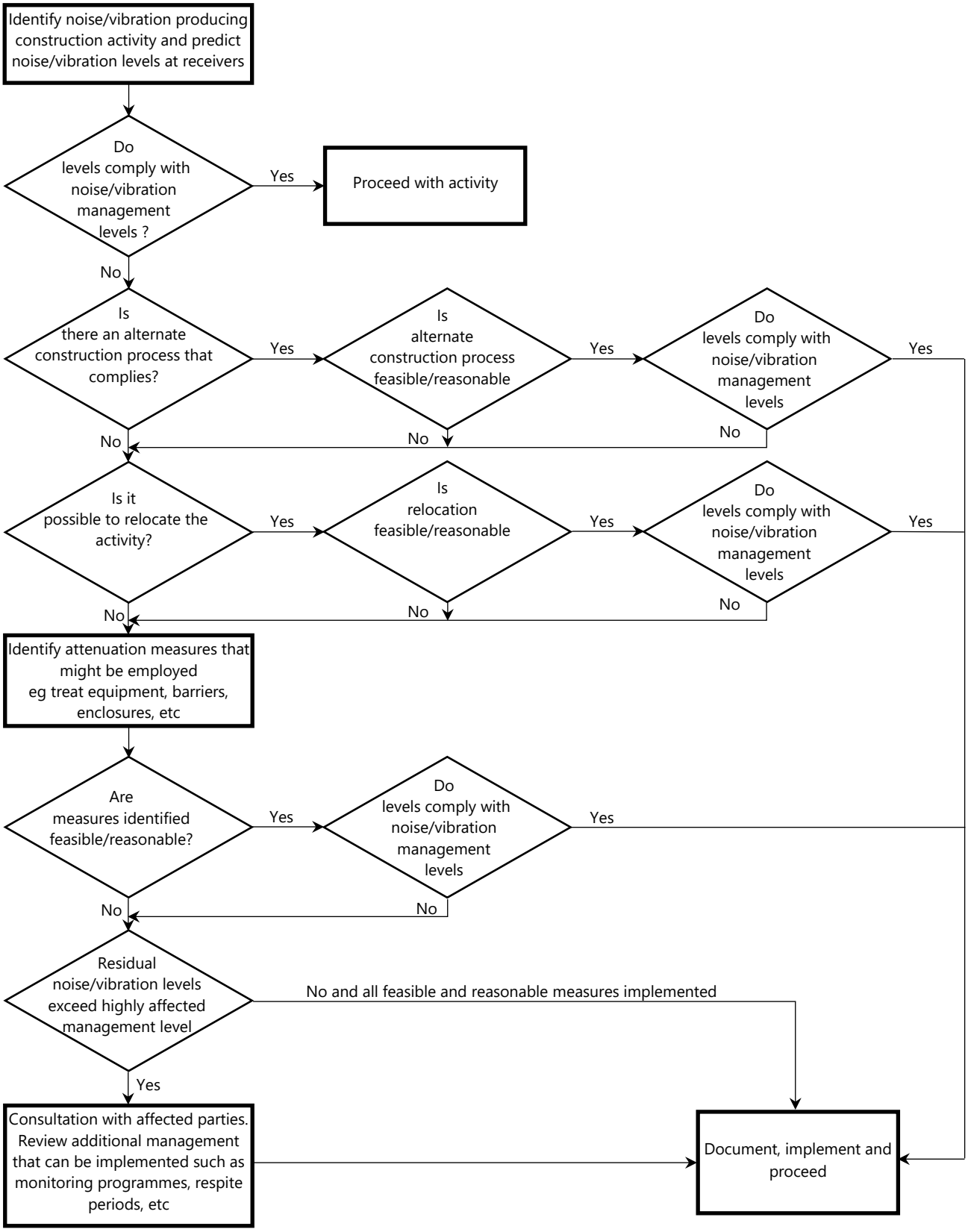
In the event that additional equipment/activities are proposed, generic minimum safe working distance presented in the table below for vibration intensive plant should be used with caution for guidance. It is noted that vibrating roller distances are based on asphalting road works and are not applicable to earthworks as the vibration frequencies are considerably lower, leading to a greater safe work distance requirement. Empirical formulae by Hiller and Crabb will be used in lieu.

Table 16 – Recommended Base Minimum Working Distances for Vibration Intensive Plant From Sensitive Receivers

Plant item	Rating / Description	Minimum Working Distance			
		Cosmetic Damage			Human Response
		Light-Framed Structure (BS 7385)	Residential Structures (DIN 4150)	Heritage and Other Sensitive Structures (DIN 4150)	NSW EPA's Vibration Guideline
Vibratory Roller	< 50 kN (Typically 1-2 tonnes)	5 m	18.5	14 m	15m
	< 100 kN (Typically 2-4 tonnes)	6 m	17.8	16 m	20 m
	< 200 kN (Typically 4-6 tonnes)	12 m	43	33 m	40 m
	< 300 kN (Typically 7-13 tonnes)	15 m	51.5	41 m	100 m
Medium Hydraulic Hammer	(900 kg – 12 to 18t excavator)	7 m	-	19 m	23 m
Large Hydraulic Hammer	(1600 kg – 18 to 34t excavator)	22 m	-	60 m	73 m
Pile Boring	≤ 800 mm	2 m (nominal)	-	5 m	7 m
Jackhammer	Hand held	1 m (nominal)	-	2 m	3 m
Profiler	Wirtgen W210	4 m	-	-	-
Steel Drum Roller	Hamm HD70 (Oscillating Mode)	2 m	-	-	-
Steel Drum Roller	Hamm HD70 (Static Mode)	1 m	-	-	-

6.4 ASSESSMENT OF METHODOLOGY AND MITIGATION METHODS

The flow chart presented below illustrates the process that will be followed in assessing construction activities.



7 CONCLUSION

This report assesses potential noise and vibration impacts from the construction of the proposed development at 26 Ferndell Street, South Granville & 464 Blaxcell Street, Guildford (Greystar Granville). The assessment uses the methodology contained in the EPA ICNG to:

- Determine appropriate noise and vibration management levels.
- Identify those activities are likely to impact nearby receivers.
- Indicate the measures that are likely to be required to minimise the impacts to the extent that is recommended in the ICNG.

The assessment indicates that:

- There will be receivers around the site (as identified in the assessment) that will be exposed to noise levels exceeding the ICNG management levels. Mitigation of these impacts has been recommended in the Plan.
- Although it is not possible to confirm, there may be receivers around the site that will be exposed to vibration levels exceeding the relevant vibration management levels for amenity, but not exceeding the damage risk vibration limits. Accordingly, as required by the ICNG, mitigation of these impacts has been recommended.

It is concluded that with the implementation of the mitigation and ongoing assessment recommended in Section 6, construction noise and vibration emissions from the proposed development will be minimised in accordance with the ICNG.

We trust this information is satisfactory. Please contact us should you have any further queries.

Yours faithfully,



Acoustic Logic Pty Ltd
Alex Washer

APPENDIX A CONSTRUCTION PLANT NOISE AND VIBRATION EMISSION LEVELS

This section provides the plant noise and vibration emission levels adopted in the assessment.

A.1 NOISE

The following table presents typical sound power levels for construction plant used in this assessment.

The following have been considered to establish typical plant A-weighted sound power levels:

- Transport for NSW Construction Noise and Vibration Strategy (April 2018).
- Previous measurements undertaken by Acoustic Logic.
- AS 2436-2010 "Guide to noise and vibration control on construction, demolition and maintenance sites (Appendix A).

The equipment sound power spectra are based on information in the DEFRA database, and when not available from that source, from manufacturer's data or from measured spectra taken by this office of similar machinery.

Items identified as having annoying characteristics have been penalised by adding 5dB to the levels in the Transport for NSW's noise data base.

The emission levels in the table assume that machinery operates continuously (i.e. 100% duty), which is not always be the case. For example, excavators may load trucks intermittently for 5 minutes in every 15-minute assessment period so their duty would be 33%. The duty correction used in the assessment is indicated in the table.

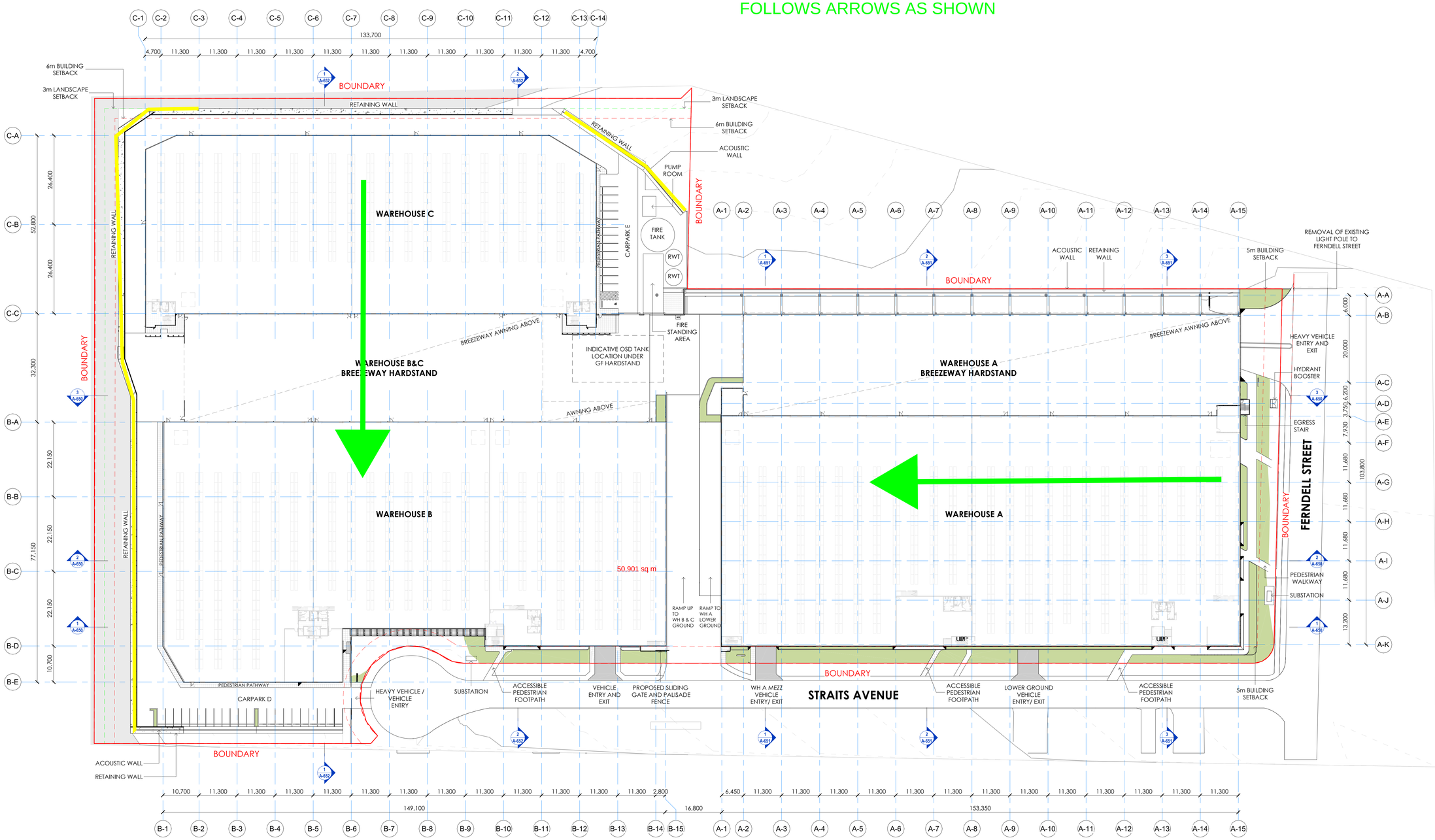
Construction, Demolition and Civil works Machinery Effective Sound Power Levels based on Continuous operation (100% duty)

Equipment	Approx. Size/ Weight/Model	Sound Power Level (dBA) 100% Duty (inc Penalties)	Duty	Unweighted Octave Band Sound Power Levels, dB (includes Applicable Penalties)							
				63	125	250	500	1000	2000	4000	8000
Crane - Fixed	-	113	50%	120	115	116	112	106	99	93	87
Crane - Truck mounted	20 to 60 tonne	108	25%	112	109	107	105	103	100	95	87
Crusher – Rock*	-	118	100%	135	128	121	123	117	113	108	101
Dozer	CAT D9	116	75%	112	116	114	114	111	108	102	94
Excavator - tracked	30 tonne	110	75%	113	113	107	107	105	102	97	91
As above + hydraulic hammer*	-	122	75%	125	123	119	123	121	121	118	114
Excavator - tracked	40 tonne	115	75%	111	114	113	110	110	109	104	97
Grinder*	-	105	50%	86	80	81	89	99	106	102	102
Piling Rig - Bored	-	112	100%	112	120	109	108	106	104	96	89
Pump - Concrete	-	109	100%	115	107	101	102	104	104	97	89
Saw – Concrete*	-	118	75%	120	122	114	114	113	114	118	116
Truck - Concrete	-	109	100%	112	103	95	98	99	107	89	84
Truck - Dump	15 tonne	110	10%	114	111	111	107	104	103	97	90
Truck - Medium rigid	20 tonne	103	10%	109	107	101	99	96	94	97	89
Truck - road truck/ truck and dog	30 tonne	108	10%	123	109	101	100	104	99	98	91
Vibrator – Concrete*	-	113	100%	122	120	120	113	109	112	110	105

APPENDIX B CONSTRUCTION METHODOLOGY

STAGE 1 - SHORING & ACOUSTIC WALLS

STAGE 1 (DEMO), 2, 3 AND 4 SEQUENCE
FOLLOWS ARROWS AS SHOWN

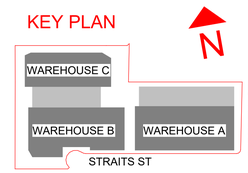


1 SITE PLAN
1 : 500

PACEARCHITECTS
A.B.N. 721 5926 6350
E: ppace@pacearchitects.com.au
P: 02 9452 1400
M: 0404 450 317
W: www.pacearchitects.com.au
A: Level 1, Suite 5-6 , Alexander Street, Crows Nest, NSW 2065

REVISION	DESCRIPTION	DATE
P1	PRELIMINARY ISSUE	13.12.24

KEY PLAN



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PRELIMINARY

CLIENT
GREYSTAR™

BUILDER / PROJECT MANAGER
VAUGHAN CONSTRUCTIONS

ARCHITECT
PACE ARCHITECTS

PROJECT
GREYSTAR GRANVILLE

ADDRESS
26 FERNDELL STREET
GRANVILLE NSW

DRAWING TITLE
SITE PLAN

PURPOSE PRELIMINARY

0 5 10 20 30 40 50
GRAPHIC SCALE 1:500

SCALE 1 : 500	B1	
PROJECT NO 24431		
DATE 13.12.24		
DWN DC	DWG NO 24431 - A-100	ISSUE P1

APPENDIX C AUTHOR CURRICULUM VITAE

Qualifications & Experience

Bachelor of Engineering (Mechanical) – 2018

2022 – current	Senior Engineer
2020 – 2022	Senior Project Engineer, Acoustic Logic
2017 - 2020	Project Engineer, Acoustic Logic
2007 – 2017	Foreman/Project Manager

Outline of Experience

Beginning at ALC in 2017, Alex has developed experience in a variety of areas of noise and vibration measurement and assessment. Having worked in the building and construction industry for over 10 years, Alex has extensive experience with construction practices and projects.

Since working at Acoustic Logic, Alex has been involved in building certification/compliance, detailed assessment of acoustic impacts from building/operational use, application of statutory codes and requirements & acoustic design of buildings and mechanical systems. A summary of relevant experience includes:

- Building acoustics and noise control
- Room acoustics
- Building services noise control, including acoustic design of mechanical systems.
- Environmental noise modelling and assessment, including ventilation design.
- Industrial noise control
- Construction noise and vibration, including to vibration sensitive equipment (medical treatment/imaging).
- NSW Liquor and Gaming acoustic assessment.
- Expert witness evidence as part of Land and Environment Court proceedings.

Project Experience

A sample of projects Alex has been or is currently involved with include the following:

Concord Hospital – Public Hospital Expansion

Macksville Hospital – New Public Hospital

The Ribbon Hotel – IMAX, Commercial & Hotel Development

77 Market Street, Sydney – Mixed Use Development

Rouse Hill Town Centre – Residential/Retail Town Centre Expansion

11 Gibbons Street, Redfern – Social Housing

Newmarket, Randwick – Residential Development

York & George – Residential Development

University of Wollongong – Western Building – Specialty Performance Spaces

Waitara Public School – School Expansion

Marsden Park Public School – New School Development (Planning, Design & Construction)

Appendix E Incident & Investigation Report Form

Construction Environmental Management Plan

SSD-51310208 - 26 Ferndell Street, South Granville and 464 Blaxcell Street, Guildford, NSW

Vaughan Constructions Pty Ltd

SLR Project No.: 630.031503.00001

INCIDENT & INVESTIGATION REPORT FORM

This form must be completed by site personnel and forwarded to Head Office for all "lost time, medical treatment injuries & near miss incidents that didn't but could have resulted in serious injury to a worker" to provide the basis for incident analysis directed towards injury prevention.

PART A INCIDENT NOTIFICATION			
Project Name:		Project No.	
Project Address:			
Report Completed By:		Position:	

Incident Classification		
☐ Safety	☐ Environment	☐ Other

Type of Occurrence		
☐ Near Miss	☐ Equipment/Property Damage	☐ Injury

Employer Details			
Employers Company Name			
Employers Company Address			
Employer Site Supervisor		Contact Phone No.	

Part A-1 Incident Details							
Incident First Reported to:							
Date of Incident:		Time of Incident:		Date Reported:		Time Reported:	
Describe the Incident and where it occurred:							
Immediate actions taken to control the incident area (protect other workers), if required, (brief):							

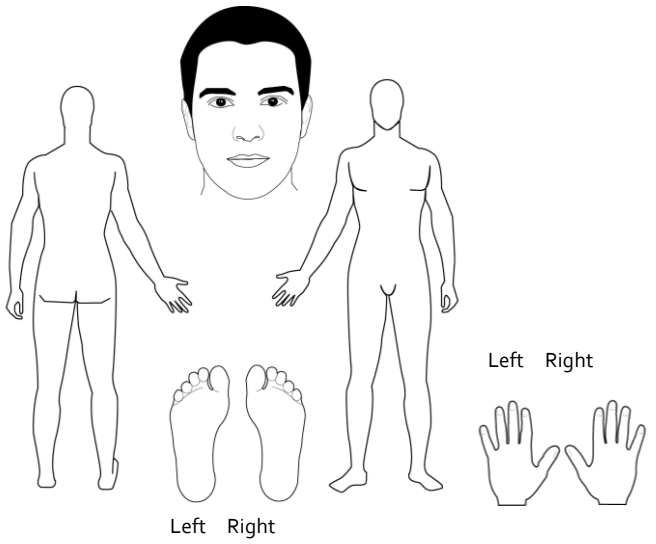
Worker / Witness Details				
Name of Worker / Witness:	Contact Number:	Employer:	Statement Attached	
			☐ Yes	☐ No
			☐ Yes	☐ No
			☐ Yes	☐ No
			☐ Yes	☐ No
			☐ Yes	☐ No
Statement details:				

Part A-2	Injured Worker Details		
Name of injured person:		Induction No.	
Gender		Date of Induction	
Date of Birth		Age	
Occupation		Contact Phone No.	
Main Tasks Performed			

Injury Details					
☐ Injury		☐ Illness		☐ No Injury/Illness Sustained	
Type of Injury/Illness (Tick appropriate box below):					
☐	Abrasion, scrapes	☐	Amputation	☐	Burn (chemical / heat)
☐	Chemical Exposure	☐	Crush injury	☐	Eye Injury
☐	Fracture / Dislocation	☐	Head Injury	☐	Laceration (cut, puncture)
☐	Sprain / Strain	☐	Other		

First Aid – Medical				
First Aid Treatment - Required?	☐ Yes	☐ No	☐ N/A	First Aiders name:
Medical Treatment - Required?	☐ Yes	☐ No	☐ N/A	Medical Centre/Hospital Details:

Diagram of Incident/Accident or Injury:

Indicate position of injury:	***Location:*** ***(Diagram of incident)***
	

Work Consequences - Status			
Returned to work (normal duties)	☐ Yes	☐ No	☐ N/A
Returned to work alternative duties (list alternate duties)	☐ Yes	☐ No	☐ N/A
Ceased work (unfit for duties - LTI) (Construction Manager to be notified immediately)	☐ Yes	☐ No	☐ N/A
Number of work days lost until returned to work (work days only)	No.		
Medical Certificate of Capacity supplied:	☐ Yes	☐ No	☐ N/A

Internal Notification				
Director / General manager	☐ Yes	☐ No	☐ N/A	
Construction Manager	☐ Yes	☐ No	☐ N/A	
Project Manager	☐ Yes	☐ No	☐ N/A	
Site Manager	☐ Yes	☐ No	☐ N/A	
HSE Coordinator	☐ Yes	☐ No	☐ N/A	
OHS Rep	☐ Yes	☐ No	☐ N/A	
RTW Coordinator	☐ Yes	☐ No	☐ N/A	
External Notification				
Client / Client Representative	☐ Yes	☐ No	☐ N/A	
Employer (if contractor / labour hire)	☐ Yes	☐ No	☐ N/A	
Other:	☐ Yes	☐ No	☐ N/A	Details:
Authority Notification:	☐ Yes	☐ No	☐ N/A	Reference Number:

PART B INCIDENT INVESTIGATION

Personnel Involved in Incident Investigation		
Name:	Contact Number:	Employer:

Work Environment								
Where did the incident occur?	☐	Inside	☐	Outside				
What were the weather conditions?	☐	Fine / Dry	☐	Rain / Wet	☐	Windy	☐	Other
Comment Other								
Shift (tick relevant):	☐	Day	☐	Afternoon	☐	Night	☐	Overtime
Shift worked prior to the incident/injury:		Start time:		% of shift worked:				

Incident Area Conditions (Were they adequate?)				Comments
Lighting	☐ Yes	☐ No	☐ N/A	
Temperature	☐ Yes	☐ No	☐ N/A	
Noise	☐ Yes	☐ No	☐ N/A	
Dust / Fumes / Ventilation	☐ Yes	☐ No	☐ N/A	
Barricading / Guardrails	☐ Yes	☐ No	☐ N/A	
Housekeeping	☐ Yes	☐ No	☐ N/A	

Safe Work Method Statement / Toolbox Talk / Permit			
Enter the relevant response next to each question All “no” and “N/A” answers MUST be explained in the comments section			
Had a Safe Work Method Statement (SWMS) been developed for the task?	☐ Yes	☐ No	☐ N/A
Had a Work Permit been issued for the task?	☐ Yes	☐ No	☐ N/A
Had the SWMS and / or permit(s) been breached?	☐ Yes	☐ No	☐ N/A
Had the person(s) involved in the task been tool-boxed/inducted and signed into the SWMS / Toolbox Talk?	☐ Yes	☐ No	☐ N/A
Comments:			

PART C	SEQUENCE OF EVENTS / CONTRIBUTING FACTORS	
1	Example: Hydraulic hose connection was loose and leaking oil not identified.	
2	Oil leaked from forklift hydraulic hose	
3	Outcome – Employee slipped on oil on the workshop floor.	
4		
5		
6		
7		
8		
9		
10		

PART D CORRECTIVE ACTIONS				
Action(s) to Prevent Re-occurrence	Action Priority	Action by Who (Responsibility)	Actioned When (Date)	Action Completion Sign Off

Note: Action Priority: 1 = Immediate 2 = Short-term (by end of shift) 3 = Medium-term (within 7 days)

PART E	INFORMATION REQUIRED FOR RECORD KEEPING (attach applicable documents)		
☐	Worker / Witness Induction Form(s) (copy)	☐	Applicable SWMS (copy)
☐	Plant Induction Form (copy)	☐	Applicable Prestart / Tool Box Form (copy)
☐	Applicable Permit(s) (copy)	☐	Authority Incident Notification Form (copy)
☐	Medical Certificate of Capacity	☐	Contractor / Employer Incident Report (copy)
☐	Additional Witness Statement(s)	☐	Photos (if applicable)
☐	Other		

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PART F REVIEW & SIGN OFF		
Note: Site Manager and Project Manager must not sign off until all corrective actions are verified as having been completed.		
Site Manager's Name:	Signature:	Date:
Comments:		
Project Manager's Name:	Signature:	Date:
Comments:		
Construction Manager's Name:	Signature:	Date:
Comments:		

Appendix F Complaints Register

Construction Environmental Management Plan

SSD-51310208 - 26 Ferndell Street, South Granville and 464 Blaxcell Street, Guildford, NSW

Vaughan Constructions Pty Ltd

SLR Project No.: 630.031503.00001

COMPLAINTS REGISTER

Project Name: Project No:

DATE	NATURE OF THE COMPLAINT	COMPLAINT REGESTERED BY: NAME & CONTACT DETAILS	REPORTED TO: NAME AND CONTACT DETAILS	INVESTIGATED BY: NAME AND CONTACT DETAILS	CORRECTIVE ACTION REQUIRED	PERSON RESPONSIBLE FOR IMPLEMENTING CORRECTIVE ACTION	DATE CORRECTIVE ACTION COMPLETED

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Appendix G Construction Traffic Management Plan

Construction Environmental Management Plan

SSD-51310208 - 26 Ferndell Street, South Granville and 464 Blaxcell Street, Guildford, NSW

Vaughan Constructions Pty Ltd

SLR Project No.: 630.031503.00001

Construction Traffic Management Plan

26 Ferndell Street, South Granville, NSW
State Significant Development SSD-51310208

Vaughan Constructions Pty Ltd

9A Commercial Road
Kingsgrove, NSW 2208

Prepared by:

SLR Consulting Australia Pty Ltd

Level 16, 175 Eagle Street, Brisbane QLD 4000, Australia

SLR Project No.: 640.031676.00001

13 May 2025

Revision: v3.0

Revision Record

Revision	Date	Prepared By	Checked By	Authorised By
v0.1	23 January 2025	A. Moxon	B. Rheinberger	
v1.0	10 February 2025	A.Moxon	B.Rheinberger	B. Rheinberger
v2.0	10 March 2025	A.Moxon	B.Rheinberger	B. Rheinberger
v3.0	13 May 2025	A.Moxon	B.Rheinberger	B. Rheinberger

Basis of Report

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

This report is for the exclusive use of the Client. No warranties or guarantees are expressed or should be inferred by any third parties. This report may not be relied upon by other parties without written consent from SLR.

SLR disclaims any responsibility to the Client and others in respect of any matters outside the agreed scope of the work.

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Appendix B Site Plans
Appendix C Drivers Code of Conduct
Appendix D Traffic Guidance Scheme
Appendix E Risk Assessment
Appendix F Council Conditions of Approval

1.0 Introduction

1.1 Context

SLR Consulting Australia Pty Ltd (**SLR**) has been engaged by Vaughan Constructions Pty Ltd (**VC**) to prepare a Construction Traffic Management Plan (**CTMP**) for the construction of a multi-level warehouse facility located at 26 Ferndell Street, South Granville, NSW.

This CTMP is required to satisfy Conditions B1, B2, B3, B5 and B6 of the Development Consent issued by NSW Government's Department of Planning, Housing and Infrastructure (**DPHI**). It is understood that DPHI requires the preparation of a CTMP prior to the commencement of construction works to be in compliance with the general development controls.

This CTMP has been prepared under the supervision of Brendyn Rheinberger, who is a suitably qualified and experienced person. Brendyn holds the following accreditation:

- Engineers Australia, Chartered Professional Engineer (**CPEng**).
- SafeWork NSW Traffic Control Work, Prepare A Work Zone Traffic Management Plan, Number: TCT1044529.
- Queensland Department of Transport and Main Roads, Traffic Management Design (**TMD**), Number: OP 951.

Brendyn's CV is provided at **Appendix A** for further details.

1.2 Conditions of Consent

The CTMP has been prepared to satisfy the requirements of the Development Consent in relation to application number SSD-51310208 and to manage the potential impacts of the traffic demands associated with the construction phase of the Development on the surrounding road network. The specific requirements of the Consent relevant to this CTMP are produced in **Table 1** along with a response as to how each requirement has been addressed herein.

Importantly, the consent contained a Deferred Commencement Condition that required approval by Cumberland City Council's Traffic Committee for the removal of all public on-street parking along Straits Avenue before the consent would commence. SLR understands that Prestige Worldwide Industrial South Granville Trust has obtained this approval as the Applicant of the site.

Table 1 Consolidated Consent: CTMP Requirements

Item No.	Condition Requirement	CTMP Section
B10	Where conditions of this consent require consultation with an identified party, the Applicant must:	-
(a)	consult with the relevant party prior to submitting the subject document to the Planning Secretary for approval; and	Section 1.3
(b)	provide details of the consultation undertaken including: (i) the outcome of that consultation, matters resolved and unresolved; and (ii) details of any disagreement remaining between the party consulted and the Applicant and how the Applicant has addressed the matters not resolved.	Section 1.3

Item No.	Condition Requirement	CTMP Section
C1	Prior to the commencement of construction of the development, the Applicant must prepare a Construction Traffic Management Plan for the development to the satisfaction of the Planning Secretary. The CTMP must form part of the CEMP required by condition D2 and must:	-
(a)	be prepared by a suitably qualified and experienced person(s);	Section 1.1
(b)	be prepared in consultation with Council;	Section 1.3
(c)	detail the measures that are to be implemented to ensure road safety and network efficiency during construction;	Section 5, Section 6.4
(d)	include details of: (i) vehicle types, heavy vehicle routes including any heavy vehicle restriction routes, parking and access arrangements; (ii) the strategies that would be implemented to minimise the number of construction workers who will drive to site; and (iii) any potential construction traffic impacts to general traffic, cyclists and pedestrians within the vicinity of the site;	Section 3.0 and Appendix B
(e)	include a Operational Driver Code of Conduct to: (i). minimise the impacts of earthworks and construction on the local and regional road network; (ii). minimise conflicts with other road users; (iii). minimise road traffic noise; and (iv). ensure truck drivers are aware of heavy vehicle traffic restriction and use specified routes;	Section 5.1 and Appendix C Note, SLR believe the intent of this condition is to deal with the construction phase Driver Code of Conduct, rather than Operational.
(f)	include a program to monitor the effectiveness of these measures; and	Section 6.0
(g)	If necessary, detail procedures for notifying residents and the community (including local schools), of any potential disruptions to routes.	Section 6.5
C2	The Applicant must:	-
(a)	not commence construction until the CTMP required by condition C1 is approved by the Planning Secretary; and	Noted and reiterated within Section 6.1
(b)	implement the most recent version of the CTMP approved by the Planning Secretary for the duration of construction.	Noted and reiterated within Section 6.1
D1	Management plans required under this consent must be prepared in accordance with relevant guidelines, and include:	Section 6
(a)	a condition compliance table for that plan;	
(b)	detailed baseline data, where required;	Section 1.3 and 3.6
(c)	details of: (i) the relevant statutory requirements (including any relevant approval, licence or lease conditions); (ii) any relevant limits or performance measures and criteria; and	Sections 1.2 and 5.4

Item No.	Condition Requirement	CTMP Section
	(iii) the specific performance indicators that are proposed to be used to judge the performance of, or guide the implementation of, the development or any management measures;	
(d)	a description of the measures to be implemented to comply with the relevant statutory requirements, limits, or performance measures and criteria;	Sections 4, 5 and 6
(e)	a program to monitor and report on the: (i) impacts and environmental performance of the development; and (ii) effectiveness of the management measures set out pursuant to paragraph (d) above;	Section 6
(f)	a contingency plan to manage any unpredicted impacts and their consequences and to ensure that ongoing impacts reduce to levels below relevant impact assessment criteria as quickly as possible;	Section 6.4
(g)	a program to investigate and implement ways to improve the environmental performance of the development over time;	Section 6
(h)	a protocol for managing and reporting any: (i). incident and any non-compliance (specifically including any exceedance of the impact assessment criteria and performance criteria); (ii). complaint; (iii). failure to comply with statutory requirements;	Sections 6.3.1 and 6.5
(i)	a protocol for periodic review of the plan	Section 6.2

1.3 Reference Documents and Stakeholder Consultation

Reference is made to the following documents which have been previously prepared in relation to the development as part of the State Significant Development Application:

- *Transport Management and Accessibility Plan,* dated 16 August 2024 prepared by Ason Group.

The above traffic and construction-related report is referred to herein where necessary.

Further to the above, this CTMP has been prepared to meet the requirements outlined in Appendix A and Appendix E, Section E.2 of the Transport for NSW (**TfNSW**) *Traffic Control at Work Sites Technical Manual* (Issue No. 6.1, Feb 2022).

In regard to authority consultation, this document, being the SLR CTMP Version 2.0, has been issued to Cumberland City Council LGA (Council) representatives, as the key stakeholders, for their review and comment as part of the development of this CTMP. This revision incorporates the Conditions of Approval received by Council on 5 March 2025 under the Application Number RDA2025/0170. They are included at Appendix F for reference and replicated below in **Table 2**. Where a comment requires an amendment to this CTMP, this has been incorporated within this version.

Table 2 Council Endorsement Conditions

No.	Condition
1	That all heavy construction vehicles attending the development site must follow the truck route as indicated in the CTMP.
2	That there will not be any roadway, footpath or nature strip closure on Ferndell St and Straits Avenue fronting the development site during the construction period. In the event a roadway, footpath or nature strip closure is required (i.e. stand plant permit, concrete pours, utility connections, crane works, driveway & footpath reconstruction, etc.), then prior to undertaking any closure, the applicant shall submit the Temporary Roadside Closure (TRC) Application to Council for approval.
3	That all deliveries such as steel, concrete pump, etc. shall be undertaken on site and not on the road or footway, unless otherwise approved by Council.
4	That there will not be any construction materials be placed on the public road, footpath or nature strip without approval from Council.
5	That safe pedestrian access is maintained at all times.
6	That all trucks shall enter/exit safely with adequate sight distance. Any traffic controllers will require a separate TRC application and shall be submitted to Council for approval. It is advised that any such application be received with adequate notice to allow for Council processing times.
7	That any damage to road pavement, footpath nature strip cause by construction activities shall be repaired by the applicant in no later than four weeks after the damage.
8	That the contractors shall not bag or block any traffic signs in this area without Council or Police approval.
9	That the proposed installation of Truck Warning Signs on Ferndell St South Granville is not approved by Council.
10	That there shall be no queuing on public roads by trucks deliveries to the construction site, unless otherwise approved by Council.
11	That any traffic or public issues that arise during the undertaking of the works shall be immediately notified to the Police and Council.

2.0 Development Overview

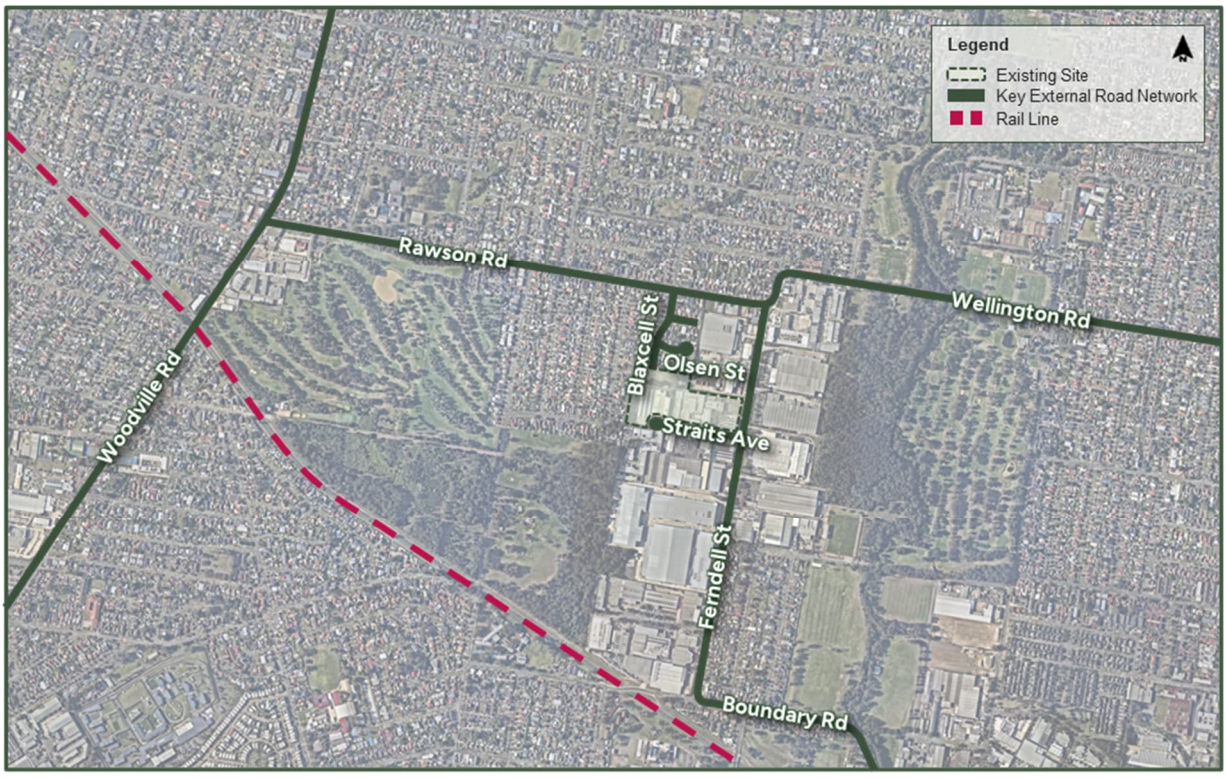
2.1 Site Location

The site is 26 Ferndell Street, South Granville, formally identified as Lot 201 DP 816219 and Lot 12 DP 233162. It is located approximately 6.7km south-west of Parramatta Central Business District (**CBD**). The project is located within the Cumberland Council Local Government Area (**LGA)**. The Transdev NSW-South Granville Bus Depot is situated to the northeast of the site.

The Ferndell Street site is currently occupied by six buildings which are used for multi purposes. The site has frontages to Ferndell Street and Straits Avenue.

The site is shown in the context of the surrounding area on **Figure 1**.

Figure 1 Site Location



2.2 Surrounding Road Network

Details of the key roads surrounding the subject site are provided in **Table 3**.

Table 3 Key Roads

Road Name	Classification	Description	Posted Speed
Rawson Road	Arterial Road	One lane in each direction plus localised widening provided at key intersections to facilitate turning lanes, including widening to two lanes in each direction at intersections with Blaxcell Road and Ferndell Street.	60km/h
Woodville Road	Arterial Road	Three lanes in each direction heading north south at intersection with Rawson	60km/h

Road Name	Classification	Description	Posted Speed
		Street. with a north-south orientation. Localised widening provided at key intersections to facilitate turning lanes.	
Ferndell Street	Local Road	12.5m cross section. One lane in each direction plus on-street parking.	60km/h
Straits Avenue	Local Road	7m cross section, one lane in each direction, no centreline markings.	60km/h

2.3 Approved Development

The Project (SSD-approved (SSD-51310208)) comprises three (3) warehouse buildings with nine (9) individual units of warehousing and associated office areas. The development consists of both single and two-storey warehouses and associated at-grade and under-croft car parking. The development includes site preparation works and the provision of associated infrastructure such as circulation areas and landscaping alongside bicycle, motorcycle and car parking provisions. The overall site plan for the approval is provided at **Appendix B**. At a high level, the broader estate comprises the following:

- Total Site Area: 36,700m^2;
- Warehouse buildings: 28,596m^2;
- Total Office & amenities Area: 2,945m^2;
- Landscaping: 5,159m^2
- Associated at grade and undercroft car parking totalling 169 spaces, common circulation areas

The approved estate layout and external access arrangements are indicatively illustrated in **Figure 2**.

Figure 2 Approved Estate Layout and External Access Arrangements



3.0 Construction Phase Overview

3.1 Construction Activities and Staging

Planned construction activities consist of the following works:

- Site establishment;
- Demolition of the existing buildings;
- Clearing of existing vegetation on site;
- Site preparation works, including in-ground services and foundations;
- Bulk earthworks, import of fill;
- Construction works associated with the development of the proposed warehouse facility
- On-site parking; and
- External pavements, complementary landscaping and offset planting.

Table 4 details the proposed construction programme as it currently stands at the time of writing. This may slightly change due to approval timeframes or inclement weather conditions.

Table 4 Planned Construction Programme

Construction Activity	Estimated Duration	Date for Works
Stage 1: Site Establishment, Demolition, and Piling Works.	7 months	March 2025 – October 2025
Stage 2: Civil Works, Retaining Walls, Services, Structures and Slabs.	15 months	July 2025 – September 2026
Stage 3: External pavements, Landscaping, Commissioning and Handover.	2 months	August 2026 – September 2026
Total Construction Period	**Up to 18 months**	**March 2025 to September 2026**

3.2 Construction Hours

All construction works will be undertaken within the following hours:

- Monday to Friday: 7AM to 6PM;
- Saturday: 8AM to 1PM.

It is acknowledged that no work will be undertaken on Sundays and public holidays. Works outside of these hours may be undertaken in the following circumstances:

- works that are inaudible at the nearest sensitive receivers;
- works agreed to in writing by the Planning Secretary;
- for the delivery of materials required outside these hours by the NSW Police Force or other authorities for safety reasons; or
- where it is required in an emergency to avoid the loss of lives, property or to prevent environmental harm.

Construction hours are also described within Section 2.2 of the Construction Environmental Management Plan (**CEMP**).

3.3 Site Contact Details

The nominated contact person during the construction activities is as follows:

- David Upton, Project Manager:
  - Mobile No.: 0412 719 623
  - Email: david.upton@vaughhans.com.au

The key contacts for the site during construction are provided within Section 2.4 of the CEMP.

3.4 Site Access

3.4.1 Construction Access Arrangements

Access is proposed to be provided to all construction vehicles via existing crossovers, one to Ferndell Street in the north-east corner of the site, and three along Straits Avenue. All crossovers will be used for entry and exit.

Refer to **Figure 3** for construction vehicle access arrangements for the site.

Figure 3 Construction Access Arrangements



3.4.2 Construction Vehicle Routes

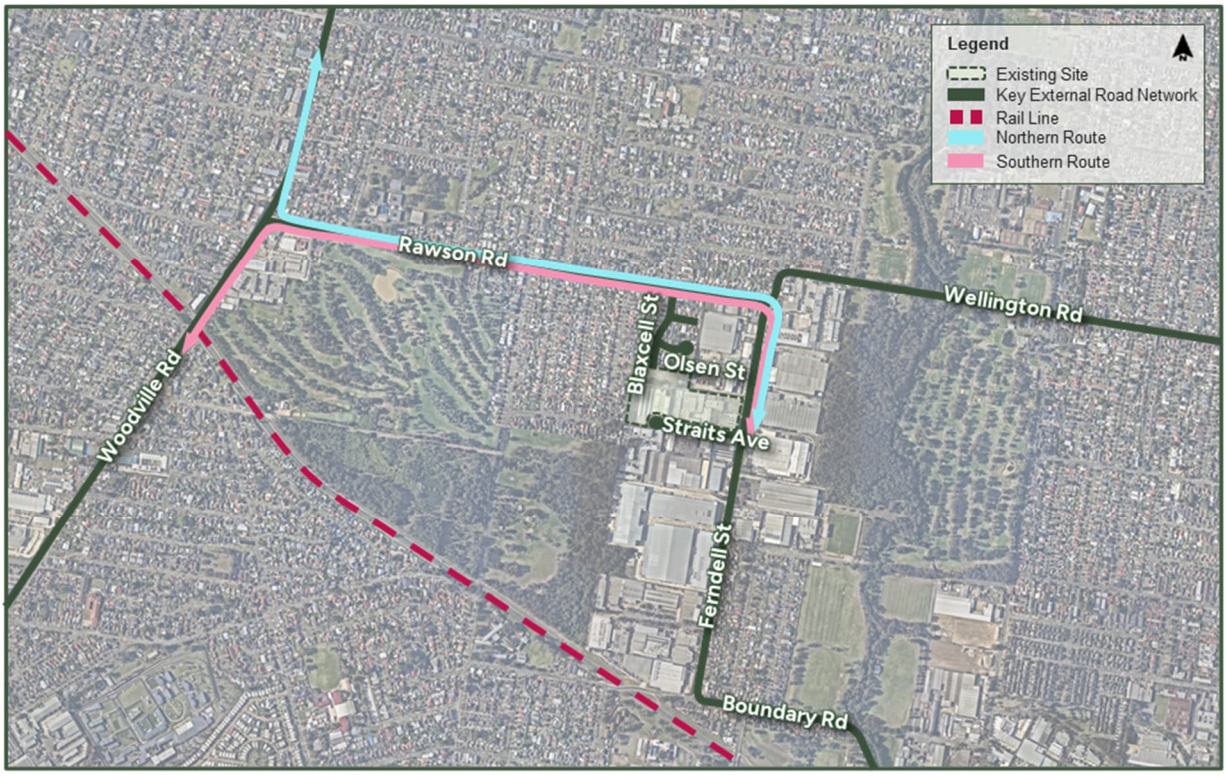
The routes to be utilised by all construction vehicles travelling to and from site are represented below in **Figure 4.**

Truck movements to and from the site on the surrounding road network will be restricted to designated truck routes and will be confined to the main road network through the area. The designated routes are as follows:

- Routes to the north: Ferndell Street, Rawson Street to Woodville Road heading north
- Routes to the south: Ferndell Street, Rawson Street to Woodville Road heading south

Routes to the south originating from Ferndell Street will not be available for Construction Traffic. Hector Street provides a connection from Ferndell Street to Hume Highway; however this contains 40km/h restricted School Zone from 8-9.30am and 2.30-4pm during School Days, this restriction would inevitable coincide with Construction Traffic timings with peak hour 7am-8am, and therefore Construction Vehicles will not be routed to the south of the site.

Figure 4 Construction Vehicle Routes



3.5 Internal Circulation Roads, Car Parking and Loading / Unloading Areas

During construction, the following areas will be designated within the site boundary. The location will vary depending on the build sequence and phase of works:

- An area for laydown shall be provided to facilitate loading/unloading of heavy vehicles;
- An area for material stockpiling/storage shall be provided within the site.
- All crane mobile locations from within the site will vary but will be contained within the site boundary;
- There are no plans for hoarding or scaffolding along the street frontage. Scaffolding will be required; however, it will be contained internally within the site and will be associated with constructing the warehouse building.

An on-site turning area will be provided within the future car park area so that movements to/from the site are undertaken in a forward direction at all times.

3.6 Construction Traffic impact for Non-Motorised Users

Construction activities may lead to temporary impacts on cyclists and pedestrians within the vicinity of the site.

There are two key points of interaction between construction vehicles and other road users:

- **On the external road network along construction routes**, where increased heavy vehicle movements may contribute to congestion.
- **At site accesses**, where turning movements and access requirements could pose risks to cyclists and pedestrians.

To mitigate these impacts:

- Construction vehicles will adhere to the **Drivers Code of Conduct**, ensuring safe interactions with all road users, including cyclists and pedestrians.
- A **Traffic Guidance Scheme (TGS)** will be implemented at site entrances along Ferndell Street and Straits Avenue to manage vehicle movements and minimise disruptions.
- Additional traffic management measures, such as signage and spotters, may be employed to enhance safety at key conflict points.

Further details on mitigation measures can be found in **Sections 5.1, 5.2** and **Appendix D**.

3.7 Construction Phase Traffic Demands

The following construction movement volumes have been provided by VC as described in **Table 5**.

Table 5 Construction Vehicle Movement Volumes

Description	General Construction
Worker Numbers	100
Peak Daily Heavy Vehicle Movements Peak Daily Light Vehicle Movements	190 (95 in/95 out) 200 (100 in/100 out)
Peak Hour Heavy Vehicle Movements Peak Hour Light Vehicle Movements	20 (10 in/10 out) 100 (100 in or 100 out)
Largest Vehicle Size (daytime hours)	19m AV and 20m truck and dog

Table 5 describes the maximum number of light vehicles to be generated by construction activities as 100 vehicles during construction. This would equate to a peak daily volume of 200 vpd or 100 vph during the peak hour period due to shift work. It should be noted that light vehicles would include construction worker utes predominantly

Heavy vehicles consisting of no larger than 19m AVs and 20m truck and dogs would reach a maximum of 190 movements per day or 20 per hour. Therefore, the anticipated maximum number of construction vehicles generated is:

- Peak Daily Heavy Vehicle Movements = 190;
- Peak Daily Light Vehicle Movements = 200;
- **Maximum Daily Construction Vehicle Movements = 390 movements per day;**
- Peak Hour Heavy Vehicle Movements = 20;
- Peak Hour Light Vehicle Movements = 100;
- **Maximum Peak Hour Construction Vehicle Movements = 120 movements per peak hour.**

The AM and PM peak hour periods relating to this assessment are for time periods as follows:

- AM Peak Hour = 7am to 8am.

- PM Peak Hour = 6pm to 7pm.

3.8 Construction Worker Transport Strategy

Construction workers travelling to the site with company vehicles will be encouraged to organise carpooling with other workers to reduce light vehicle traffic volumes.

Further, construction workers who do not have company vehicles will be encouraged to use public transport where appropriate for travelling to the site. This will be reiterated during site toolbox talks to encourage participation.

4.0 Safety Assessment

4.1 Site Access

The construction activities associated with this project do not propose amending the existing road condition arrangements on Ferndell Street and Straits Avenue.

Construction vehicle access to the site will be via four existing access points, as detailed in **Section 3.4** and depicted in **Figure 3**. The safety of vehicle and pedestrian movements will be managed at both access points by implementing site-specific traffic guidance schemes (**TGS**). This is further discussed in **Section 5.0**.

4.2 Emergency Vehicles

Emergency vehicle access to and from the site will be available at all times while the site is occupied by construction workers. There will be no disruption to emergency vehicles on any roads.

4.3 Closest Hospital / Medical Centre

There are several Medical Centres located in proximity to the site. Perhaps the most accessible is the Wellington Road Medical Practice at 46 Wellington Road, South Granville. The closest Public Hospital is the Westmead Hospital, located at the corner of Hawkesbury Road and Darcy Road, Westmead. It is approximately 7 km from the subject site.

5.0 Construction Phase Traffic Management Measures

5.1 Drivers Code of Conduct

A Drivers Code of Conduct (**DCoC**) was prepared by VC. This has been reproduced at **Appendix C** and is specific to the Proposed Site. New light and heavy vehicle operators will be required to read, understand and sign this DCoC before commencing work for the site. The DCoC contains driver conduct requirements, a map of the local road network detailing the approved heavy vehicle routes, as well as a register for inducted operators.

5.2 Traffic Guidance Scheme

A TGS will be required to manage construction site accesses located along Ferndell Street and Straits Avenue. Refer to **Appendix D** which contains a generic TGS for implementation associated with the management of construction site access from TCAWS 6.1. This CTMP requires a site-specific TGS, based on the generic TGS D.4.7, be prepared by a suitably qualified Traffic Control Work Training licence holder. Following the implementation of this TGS, monthly inspections of the temporary traffic management (**TTM**) on-site shall be conducted as per **Section 6.3** herein.

5.3 Site Management

The following procedures are to be observed by all vehicle drivers accessing the subject site:

- The construction site has a drug and alcohol policy which includes random testing;
- Drivers are to obey all site signage and the directions of site personnel;
- Vehicles are to use designated circulation roads within the site where possible;
- All heavy vehicles are to park and load/unload within the site using designated parking and loading areas where possible. Vehicles are not to park or load/unload within the public road reserve; and
- All drivers are required to operate vehicles in a safe and courteous manner, within and external to the subject site.

5.4 Heavy Vehicle Management

5.4.1 General Requirements

All heavy vehicle drivers accessing the subject site must abide by the following:

- Undertake a site induction carried out by authorised site personnel or suitably qualified person under the direction of the site manager;
- All drivers must hold a valid driver’s licence which is appropriate for the class of vehicle under their operation;
- All drivers are to ensure their load is legal, covered and secure before entering or exiting the site;
- All drivers must comply with Chain of Responsibility legislation;
- Vehicles entering the subject site are to be registered, roadworthy, and of sound mechanical condition. Site management may request to inspect any vehicle or request maintenance records for any vehicle and reserves the right to prohibit any vehicle from entering the subject site should there be any indication that the vehicle is not roadworthy or safe to operate;

- Any accidents, incidents, complaints, hazards, spillages or near misses must be reported immediately to the site manager. This includes incidents on the external road network.

5.4.2 Noise Management

To limit heavy vehicle noise associated with construction activities, drivers are to abide by the following requirements:

- Heavy vehicles using Ferndell Street/Straits Avenue should limit the use of engine or compression braking systems where possible;
- Posted speed limits on the external road network are to be observed, and vehicle speeds are to be restricted to 10km/h within the site;
- Vehicles are to be turned off when not in use.

5.4.3 Dust Management

To minimise the potential for dust production within the subject site, drivers are to abide by the following requirements:

- Vehicle speeds are to be restricted to 10km/h within the subject site;
- Vehicles are to use designated circulation roads within the site where possible;
- Drivers are to report excessive dust production from internal circulation roads to the site manager;

Water trucks will be used to wet down internal circulation roads during dry conditions and when excessive dust production is reported to the site manager on an as required basis.

5.5 Mitigation Measures

The impacts of construction traffic and the mitigating measures to be implemented are outlined in **Table 6.**

Table 6 Mitigation Measures – Responsibility and Timing

Mitigation Measures	Responsibility	Timing
Construction Traffic on Ferndell Street/Straits Avenue: Construction traffic will use the four construction accesses to enter/exit the site for the works. Construction traffic will remain extremely low to ensure the impacts to motorists within the area are minimal.	Site Engineer	Weekly.
Management of deliveries: The site manager will manage deliveries to ensure that construction vehicle movements will remain low.	Site Manager	As required.
Managing dirt on the public road network: The use of rumble grids positioned at the site's access points, as well as the use of water trucks and sweeper trucks for Ferndell Street/Straits Avenue shall ensure the existing network is free of dirt from the site.	Site Manager	As required.
Safety during construction: Safety to motorists and the public throughout the area will be maintained during construction through the preparation and execution of a Traffic Guidance Scheme (TGS). One TGS will be implemented to manage the accesses throughout	Project Manager	Reviewed at each stage of construction.

Mitigation Measures	Responsibility	Timing
construction, identify all reasonably foreseeable hazards, assess the hazards, and manage the hazards as best possible by either eliminating or minimising the risks. The TGS shall be monitored and updated accordingly throughout the project.		
Reporting: Reporting and monitoring of movements during peak periods are to be undertaken to ensure that drivers are adhering to restricted times, and to ensure that the approved traffic generation and subsequent impacts on the road network are in line with those approved.	Site Engineer	Weekly.
Induction to Drivers Code of Conduct: Vehicle operators accessing the construction site shall be inducted onto the Drivers Code of Conduct (**Appendix C**) on an as-required basis prior to entering the site. The Contractor is to maintain a register of inducted operators with evidence of induction by capturing operator signatures.	Site Manager/ Project Manager	As required.
Masjid Al Noor Activity Centre: Construction activities generating high construction vehicle movement volumes, such as bulk earthworks and material deliveries, shall not be scheduled during religious holidays, including but not limited to the month of Ramadan and Eid al-Fitr. Outside of these times, VC shall ensure that Masjid Al Noor is consulted as a key stakeholder to ensure construction impacts are managed appropriately.	Project Manager	Ramadan and Eid al-Fitr to occur from 17 February 2026 to 18 March 2026. Consultation to occur as required.

5.6 Risk Assessment

A risk assessment is intended to identify hazards and risks associated with the construction activities. The purpose is to determine the controls required for the protection of road workers and road users. A Risk Assessment associated with the construction works of this site has been completed and is attached at **Appendix E**.

6.0 CTMP Monitoring / Review & Improvement Process

6.1 Implementation

In accordance with Part B, Condition B2 of the Development Consent:

- Construction should not commence until this CTMP has been approved by the Planning Secretary; and
- The most recent version of this CTMP approved by the Planning Secretary should be implemented for the duration of construction.

6.2 Monitoring and Review

This CTMP shall be subject to a monthly review and will be updated accordingly. The on-site coordinator will undertake regular reviews during implementation and execution of this CTMP. Monitoring of this CTMP shall also be picked up in the Environmental checklists, with any incidents reported within the weekly site meeting. The monitoring shall be undertaken in accordance with Condition C1.

All and any reviews undertaken should be documented; however key considerations regarding the review of the CTMP shall be:

- To ensure the implementation of the CTMP and TGS's are consistent with the intent of this report and that the most recent version of the CTMP and TGS (as approved by the Planning Secretary) is being implemented.
- Tracking deliveries against the volumes outlined within this report. Deliveries will be tracked against approved volumes and a vehicle log will be maintained - including vehicle registration and time of entry - to assess the effectiveness of these monitoring programs.
- It is expected the Contractor will undertake a truck and car count/review to ensure volumes are within Condition Green of **Table 9** and will be undertaken once a month. In addition, the Contractor is required to retain a log of all vehicles accessing the Site daily.
- To identify any shortfalls and develop an updated action plan to address issues that may arise during construction (parking and access issues).
- To ensure TGSs are updated (if necessary) by "Prepare a Work Zone Traffic Management Plan" cardholders to ensure they remain consistent with the on-site set-up.
- Regular checks to ensure all loads are covered when entering and leaving the site, as outlined within this CTMP.

As such, **Table 7** provides triggers to monitor and review this CTMP.

Table 7 CTMP Monitoring and Review - Triggers

Type of Review	Frequency	Considerations
Scheduled	The scheduled CTMP review must be undertaken monthly or as specified otherwise.	The scheduled CTMP review must consider the following: • CTMP and TGS are approved; • Identify required variations to the TGS and ensure that they are updated, recorded, and approved; • Review any departures or variations of the CTMP and/or TGS to ensure they have been documented and approved; • Speed control effectiveness; • Construction vehicle entry/egress suitability, with no queuing on the public road network at any time; • Construction vehicle daily/peak hour movements are compliant with approved volumes, with monthly reviews of the contractor's daily logbook of vehicles required; • Periodic checks to ensure that heavy vehicles are using the correct access route; • Periodic checks of noise-generating items to ensure they are less than the prescribed noise limits.
Change Generated Review	The change-generated review must be undertaken when implementing new traffic stages, switches, or other construction-based activities.	The change-generated CTMP review must consider the following: • The work site is operating safely; • Delineation is effective with appropriate signage installed for changed conditions; • Safe passage is provided for all road users; • Road Safety Audits are arranged or confirmed as required; • Accountability for approval and inspection is well understood and documented.
Non-Compliance, Post Incident or Near Miss Review	The non-compliance, post-incident or near miss review must be undertaken following an incident or near miss.	Any non-compliance must be reported immediately to the supervisor. A non-compliance is anything other than 'Condition Green' as outlined in **Table 9**. All workplace incidents must be reported immediately to the supervisor, who will determine the responsibility for investigating the incident. The incident and investigation must also be recorded in an incident reporting system as applicable. The post-incident or near miss CTMP review must consider the following: • Causal factors; • Contributory factors or changes required; and • Identified changes to TGS are completed, approved, recorded, and communicated. For any incidents or near misses (where required), a safety alert must also be prepared and distributed by the Site Manager to share learnings with other work sites (as applicable).

This monitoring process is expected to form part of the monitoring plan required to be included as part of the overarching Construction Environmental Management Plan (**CEMP**), of which this CTMP forms a part. The roadway (including footpath) must be kept in a serviceable condition for the duration of construction. At the direction of Council, remedial treatments such as patching shall be undertaken at no cost to Council.

6.3 Work Site Inspections, Recording and Reporting

Recording and reporting of the monitoring programs shall be done in accordance with Section E.3 (Weekly TTM inspection checklist), E.4 (Shift/Daily TTM inspection checklist) and E.5 (Post completion inspection checklist) of the TfNSW *Traffic Control at Work Sites* Technical Manual Issue No. 6.1 (**TCAWS 6.1**). As such, the structure, schedule, and frequency of these activities have been considered and identified.

To inspect, review and audit the temporary traffic management (**TTM**) arrangements implemented on-site, the actions presented in **Table 8** are to be undertaken by suitably qualified personnel in accordance with TCAWS 6.1 requirements during all phases of construction.

Table 8 Review of Activities – Example Template

Activity			Frequency or Details
Shift Inspections	□ YES	□ NO	
Regular Inspections	□ YES	□ NO	
TMP Review	□ YES	□ NO	
Road Safety Audit	□ YES	□ NO	
Other	□ YES	□ NO	
Comments			

Given the duration of construction (19 months) and the fact that no regular works have been proposed externally to the site, monthly TTM inspections are considered sufficient.

6.3.1 Incident Management

For the purposes of this CTMP, an ‘incident’ is an occurrence or set of circumstances that causes or threatens to cause material harm and which may or may not be or cause a non-compliance. Furthermore, a ‘non-compliance’ is an occurrence, set of circumstances or development that breaches the consent.

All traffic-related incidents, including those of the Principal Contractor, subcontractors, and/or visitors that occur during construction works, will be managed in conjunction with the requirements outlined in VC’s Incident and Non-compliance Response and Handling Procedure (outlined within the CEMP).

Whilst it is noted that key Contractors will be implementing their own environmental management system procedures and processes, VC will be responsible for ensuring that these systems and processes satisfy the requirements of the CEMP, including the incident management components.

VC’s Project Manager must be notified immediately of any environmental incident or near miss related to traffic. Such incidents may include, but are not limited to:

- Vehicle crash or injury resulting from construction traffic related to the project;
- Queuing onto Ferndell Street or Straits Avenue in breach of the requirements set out under this CTMP;
- Spill of any dangerous goods or hazardous substance to ground or water;
- Substantiated complaints received from members of the community or regulatory authorities relating to traffic management;
- Land-based off-site sediment loss to the environment, including sediment tracking onto the roadway.

VC's Project Manager will be responsible for all notifiable environmental incidents in line with the regulatory notification requirements (outlined within the CEMP).

All environmental incidents will be reported immediately to DPHI in writing via the Planning Portal after VC become aware of the incident, as per Condition C9 of the conditions. Any notification to DPHI must identify the development, including the application number, and set out the location and nature of the incident.

If a notifiable non-compliance incident arises, the Principal Contractor will notify the Project Manager immediately, who is then required to notify DPHI in writing (via the Planning Portal) within 7 days, as per Condition C10 of the conditions. In accordance with Condition C11, any notification to DPHI must:

- identify the development, including the application number;
- set out the condition of consent that the development is non-compliant with;
- the way in which it does not comply;
- the reasons for the non-compliance (if known); and
- what actions have been taken, or will be undertaken, to address the non-compliance.

The CEMP also outlines procedures for incident and non-compliance response and handling within Section 3.5.

6.4 Contingency Plan

A contingency plan shall be established by the Contractor and is to be included in the overarching CEMP in accordance with Condition C1(f). Notwithstanding, **Table 9** outlines an indicative plan to be undertaken by the Contractor in the event that the monitoring program identifies the management plan as not effective in managing the construction impacts.

A Compliance Report must be submitted to the Department reviewing the environmental performance of the development to:

- identify any trends in the monitoring data over the life of the development;
- identify any discrepancies between the predicted and actual impacts of the development, and analyse the potential cause of any significant discrepancies; and
- describe what measures will be implemented over the next year to improve the environmental performance of the development.

Table 9 Contingency Plan

Risk		Condition Green	Condition Amber	Condition Red
Construction Movements	Trigger	Both peak hour and daily Construction traffic volumes are in accordance with volume and time constraints as outlined within Section 3.2 and Section 3.6 (200 LV & 190 HV movements per day / 100 LV & 20 HV movements in peak hour periods).	Construction traffic volumes exceeds programmed peak hour volumes but is within permissible daily volume constraints (200 LV & 190 HV movements per day / 100 LV & 20 HV movements in peak hour periods).	Construction traffic volumes exceeds permissible volume and time constraints (200 LV & 190 HV movements per day / 100 LV & 20 HV movements in peak hour periods).
	Response	No response required.	Review and investigate construction activities, and where appropriate, implement additional remediation measures such as: • Review CTMP and update where necessary; • Provide additional training.	As per Condition Amber, plus: • If it is concluded that construction activities were directly responsible for the exceedance, submit an incident report to government agencies. • Stop all transportation into and out of the site.
Queuing	Trigger	No queuing identified.	Queuing identified within site, but not on to public road.	Queuing identified on the public road.
	Response	No response required. Continue monitoring program.	Review the delivery schedule prepared by the builder. If drivers are not following the correct schedule, then they should be provided with additional training and an extra copy of the Driver Code of Conduct.	As per Condition, plus: • Review and investigate construction activities. • If it is concluded that construction activities were directly responsible for the exceedance, submit an incident report to government agencies. • Temporary halting of activities and resuming when conditions have improved. • Stop all transportation into and out of the site. • Review CTMP and update where

Risk		Condition Green	Condition Amber	Condition Red
				necessary, provide additional training.
Noise	Trigger	Noise levels do not exceed imposed noise limits, as outlined within the approved CNVMP nor has there been a traffic noise related complaint.	Noise levels in minor excess (<10dBA) of imposed noise limits per the approved CNVMP, or receipt of a single noise complaint.	Noise levels greatly in excess (>10dBA) of imposed noise limits per approved CNVMP, or consistent noise complaints.
	Response	No response required.	Undertake all feasible and reasonable mitigation and management measures to minimise noise impacts.	As with Condition Amber if noise levels cannot be kept below applicable limits, then a different construction method or equipment must be utilised.
Traffic Guidance Scheme	Trigger	No observable issues (TGS implemented according to plan).	Minor inconsistencies with TGS to onsite operations (such as covered signs, missing signs, fallen cones, etc.).	Near miss or incident occurring regardless of / as a result of the TGS being implemented.
	Response	No response required.	Traffic Controller to amend TGS on site and to keep a log of all changes.	Stop work until an investigation has been undertake into the incident. There are to be changes made to the TGS to ensure that the safety of all workers, students and civilians are catered for.
Dust	Trigger	No observable dust.	Minor quantities of dust in the air and tracking onto the road.	Large quantities of dust in the air and tracking onto the road.
	Response	No response required.	Review and investigate construction activities and respective control measures, where appropriate. Implement additional remedial measures, such as: • Deployment of additional water sprays. • Relocation or modification of dust-generating sources. • Check condition of vibrating grids to ensure they are	As per Condition Amber, plus: • If it is concluded that construction activities were directly responsible for the exceedance, submit an incident report to government agencies. • Implement relevant responses and undertake immediate review to avoid such occurrences in future.

Risk		Condition Green	Condition Amber	Condition Red
			functioning correctly. Temporary halting of activities and resuming when conditions have improved.	

6.5 Communications Strategy

The Contractor shall establish a communications strategy and is to be included in the overarching CEMP Section 1.7 (refer to the community consultation strategy prepared separately).

A Communications and Community Liaison Representative (**CCLR**) has been nominated as David Upton of Vaughan Constructions and shall be responsible for ensuring that the appropriate management response and handling procedures are instigated and carried through in the event of an environmental complaint.

All employees who are made aware of a complaint, either verbal or written, are to immediately notify the Contractor's Project Manager, who will then contact the CCLR. Upon becoming aware of a complaint, the protocol outlined in **Table 10** will be followed.

Table 10 Response Strategy

Ref	Protocol	Action
1	Record and acknowledge	Any employee who takes receipt of a complaint, either verbal or written, is to immediately notify the Contractor's Project Manager, who will then contact the CCLR. The Contractor's Project Manager will be available 24 hours a day, seven days a week and have the authority to stop or direct works. In the normal course of events, the first contact or complaints will usually be made in person or by telephone. The complainant's name, address, and contact details, along with the nature of the complaint, will be requested. If the complainant refuses to supply the requested information, a note will be made on the form, and the complainant will be advised of this.
2	Assess and prioritise	The CCLR will prioritise all complaints by severity for the risk to health and safety and will attempt to provide an immediate response via phone or email.
3	Investigate	An on-site investigation will be initiated to confirm details relevant to the complaint and the cause of the problem. Any monitoring information and/or records at and around the time of the complaint will be reviewed for any abnormality or incident that may have resulted in the complaint.
4	Action or rectify	Once the cause of the complaint has been established, every possible effort will be made to undertake appropriate action to rectify the cause and mitigate any further impact. The CCLR will assess whether the complaint is founded or unfounded and delegate the remediation of the issue to the Contractor's Project Manager for action, as required.
5.	Respond to Complainant	The CCLR will oversee rectifying the issue and respond to the complainant once the issue has been resolved. The complainant will be provided with a follow-up verbal response on what action is proposed within two hours during night-time works (between the hours of 6:00 pm and 10:00 pm) and 24 hours at other times.

Ref	Protocol	Action
		Where a complaint cannot be resolved by the initial or follow-up verbal response, a written response will be provided to the complainant within ten days.
6.	Record	It is imperative that an assessment of the situation is carried out and documented to minimise the potential for similar complaints in the future. On this basis, every complaint received is to be recorded in the Community Correspondence Register. A copy of the completed form will be maintained for at least five years
7.	Preventative Action	Once the complaint has been suitably handled, appropriate measures will be identified and implemented to negate the possibility of re-occurrence. The Community Correspondence Register is not finalised until the preventative actions are completed and recorded on the form.

In addition to the above, the CCLR is to notify the community liaison representative when traffic is expected to exceed the parameters set within “Condition Green” of **Table 9**. Notwithstanding, **Table 11** outlines an indicative communication strategy to ensure that adequate communication with key stakeholders has been met.

Table 11 Communications Strategy

Risk	Impact	Comms Channel
Wider Traffic Disruption	Wider community and stakeholders informed through local and wider advertising and notification	Stakeholder Meetings**.**
Construction related traffic	Ensure construction crews use traffic routes identified in the Traffic Management Plan, and Ensure residents in area are notified in advance of any traffic changes that may affect them.	Stakeholder email blast.

Furthermore, ongoing communication will be undertaken so that all stakeholders are kept up to date on the works and potential impacts.

Appendix A Curriculum Vitae – Brendyn Rheinberger

Brendyn is a highly dedicated and driven Traffic and Transport Engineer who thrives on working in a complex, challenging and problem-solving environment. Brendyn has extensive professional experience with over 15 years working in traffic and transport engineering, civil engineering, and project management roles in both public and private contexts throughout Queensland and NSW.

Skilled in integrated transport planning, traffic analysis, construction traffic management, traffic signal design, road network operations, road safety, car park design and project management. Brendyn has a proven ability to develop and foster strong relationships with organisations and authorities, through communication, honesty, and integrity.

Education and Qualifications

- Master of Engineering (Engineering Management), Griffith University (2015)
- Bachelor of Engineering (Civil), Griffith University (2012)
- Chartered Professional Engineer of Australia (CPEng)
- Professional Engineer of Queensland (RPEQ)
- Professional Engineer of Victoria (RPEV)
- Traffic Management Design (TMD) accredited, Department of Transport and Main Roads
- Prepare Traffic Management Plans and Traffic Guidance Schemes (TCT1044529), NSW Government
- Road Safety Auditor (RSA), Department of Transport and Main Roads

Project Experience

Springwood to Browns Plains Passenger Transport Corridor Study, TMR (2020)**
Brendyn and his team were commissioned by the Department of Transport and Main Roads to investigate public transport demands and infrastructure requirements between Springwood and Browns Plains to support future growth and improved multi-modal transport outcomes.

Brendyn was involved in the review of the existing bus network, setting strategic objectives and developed the options analysis framework for assessing proposed corridors.

Lae Drive, Runaway Bay Corridor Master Plan, CoGC (2020)**
Brendyn and his team were engaged by City of Gold Cost (CoGC) to provide a multi-modal corridor master plan for the Lae Drive corridor in Runaway Bay. The corridor includes numerous signalised and unsignalised intersections and roundabouts which were assessed, and intersection upgrades proposed as part of the project. The solutions for the corridor included individual intersection upgrades as well as corridor connections to suit the demographics and user profile of the corridor. The team prepared three briefing notes, a technical summary report and a graphically designed corridor master plan for public issue.

Brendyn oversaw the investigations into both the active and public transport networks for the corridor and provided guidance on intersection analysis using SIDRA intersection performance software.

Brendyn led workshops internally with the project team to determine individual mode-based solutions and derive the most suitable options using a SWOT analysis methodology.

Mackay Waterfront PDA Transport Model Analysis, MRC (2020)**
Brendyn and his team were engaged by Mackay Regional Council (MRC) to undertake an options analysis on the Sydney Street/River Street intersection located near the Pioneer River in the Mackay CBD. MRC and the Department of Transport and Main Roads identified

an issue with connectivity for the Blue Water Trail, an active transport shared path that travels along the Pioneer River coastline predominantly used for recreation. The existing intersection configuration of Sydney Street/River Street forced pedestrians and cyclists travelling along the trail to cross in two stages resulting in significant delays. The project investigated various options to modify the intersection and surrounding Blue Water Trail alignment to improve connectivity for pedestrians and cyclists. The project resulted in providing MRC with three preferred options suited to three differing timeframes for implementation, as well as enabling each option to be built upon one another as a progression of sorts towards an end vision for the Waterfront PDA.

Brendyn managed the project's budgetary and time requirements and was the key contact representing his project team. He oversaw the options development, intersection analysis and provided guidance on concept designs.

Brisbane Metro Program Management, TransLink (2019-2021)**
Brendyn undertook a role in representing Queensland Government for the Brisbane Metro project. He was responsible for coordinating design reviews of all design packages under Brisbane Move's scope. He was also responsible for briefing TransLink's executive team on upcoming bus service disruptions as a result of planned construction activities. Brendyn was a liaison for TransLink within several working groups and interfaced with BCC, the Project Verifiers and Brisbane Move representatives.

Kellyville Station Bus Interchange Concept Design, Sydney Metro (2019)**
Brendyn was the project manager for the concept design of the bus interchange at Kellyville station. This involved developing several options for buses to circulate through the station precinct including providing provisions for bus stop and bus priority infrastructure. Brendyn was in constant communication with Roads and Maritime, Transport for NSW and The Hills Shire Council in regard to road operational impacts, bus route service planning, bus lane enforcement and parking and signage changes. The work Brendyn performed was pivotal to all stakeholders coming to agreement and deciding on a preferred option to be added to the Station Precinct Design Plan.

Sydenham Temporary Bussing Optioneering, Sydney Metro (2019)**
Due to the proposed changes to the surrounding road network of Sydenham station as part of Metro upgrade works, new rail replacement bus routes and stop locations were required as a result of impacts to the existing Sydney Trains bus specifications during rail possessions. Brendyn developed eight different options for bus routes and stop locations and assessed each against a common set of criteria as part of a multi-criteria analysis. Through this process Brendyn was able to determine a preferred option and presented the findings of this optioneering assessment numerous times to Roads and Maritime, Sydney Coordination Office, Transport for NSW, Sydney Trains and Inner West Council. Brendyn ascertained in-principle support and approvals from the relevant stakeholders which was instrumental in implementing the preferred option.

Kellyville Park N Ride Demand Investigation, Sydney Metro (2019)**
Brendyn provided support to the investigation of the Park n Ride facility at Kellyville. This multi-storey car park consists of 1350 spaces and it was Brendyn's responsibility to assist with providing comparative findings of the forecasted demands versus the observed demands of the facility during peak traffic periods. These findings informed the traffic analysis that Brendyn managed for the precinct streets of Kellyville station and the surrounding key intersections. By understanding the demand profile of traffic volumes entering and exiting the Park n Ride facility, Brendyn was able to accurately stress test the local road network to determine its current design life before requiring capacity upgrades.

Sydenham To Bankstown Integrated Transport Planning, Sydney Metro (2019)**
Across the ten future southwest Metro stations, Brendyn's role was to oversee the identification of potential improvement opportunities to pedestrian and cyclist facilities, bus

stops and kiss n ride spaces surrounding the station precincts. Improvements included undertaking pedestrian capacity assessments, surrounding land use investigations, identifying pedestrian desire lines, a walking and cycling strategy, traffic modelling, concept designs and bus stop operational assessments of which Brendyn facilitated. Brendyn organised workshops to further develop concept designs and presented the recommended improvements to relevant stakeholders for in-principle agreement prior to the submission of a technical report for final approval. The improvement opportunities were selected to align with Transport for NSW's Movement and Place Framework.

Bankstown Line Temporary Transport Plan, Sydney Metro (2019)**
This project involved the development of a temporary transport plan designed to be implemented during the possession of the existing Bankstown heavy rail line to facilitate conversion works. Across a three week period, rail replacement bus services are planned to be in operation to transport rail customers inconvenienced by the Bankstown line rail possession. As Traffic Manager, Brendyn was responsible for assessing the road network planned to be utilised by rail replacement buses. The main objective of Brendyn's role was to ensure reliability and to improve bus travel time through a congested road network. Through traffic modelling, Brendyn was able to effectively identify locations suitable for temporary changes to on-street parking, traffic signal phasing modifications and locations for pedestrian management, all to support the temporary bus services. Finally, the list of recommended modifications and the justification behind each was presented as part of a handover by Brendyn to members of the Sydney Coordination Office and Transport Management Centre, who were tasked with operating the TTP.

Traffic Engineer, Sydney Light Rail Project, Acciona Infrastructure (2016-2018)**
This project involved the construction of a light rail network travelling through the Sydney CBD and extending through Surry Hills, Randwick, Kensington and Kingsford suburbs. The project addressed the capacity issues on the south eastern suburbs bus network by providing a high frequency 'turn up and go' service connecting the inner west suburbs with the south eastern suburbs through 12km of light rail network. As a Traffic Engineer on this high profile project, Brendyn's primary role was to prepare site-specific traffic management plans to facilitate construction of various utility and civil components throughout the Randwick, Kensington and Kingsford sections. In designing each TMP, Brendyn had a strong focus on pedestrian and cyclist safety as these facilities were designed in a temporary configuration in the vicinity of construction vehicle movements and activities. Overseeing all aspects of TMP development and obtaining approvals from state and local authorities was Brendyn's ultimate objective and was vital for construction activities to proceed.

Safer Roads Sooner Program, TMR (2016)**
As part of the south coast region for Transport and Main Roads, Brendyn oversaw the determination of potential road improvement projects where deficiencies in safety were evident due to historical accident data and trends being identified. Brendyn was responsible for undertaking cost benefit analysis for each potential project to develop a short list for submission to the Land Transport Safety team within TMR. For each of the short listed road improvement projects, Brendyn prepared a business case which highlighted the justification and benefits the projects would provide to the state controlled road network. These business cases were submitted to the Land Transport Safety team to determine funding allocations for the south coast region under the Safer Roads Sooner program.

M1 Motorway Exit 54 Interchange Upgrade, Traffic Signal Operational Support, TMR (2015-2016)**
As part of the Network Optimisation team within Transport and Main Roads, Brendyn provided traffic signal design and operational support to the contractor during each stage of construction of the Exit 54 interchange upgrade. This involved developing traffic signal plans that dictated the cycle times and phasing for the varying traffic demands throughout each day. Brendyn monitored the live traffic utilising a combination of permanent and temporary

CCTV cameras during the critical AM and PM peak periods to ensure queuing did not exceed the capacity of the on and off-ramps to the M1 motorway. Brendyn attended meetings with the contractor regularly and provided advice on construction staging in regard to traffic signal operations.

Metricon Stadium Venue Transport Planning, TMR (2020)**
Brendyn provided support to the Gold Coast Suns AFL club in regard to the operation of traffic signals as part of the Metricon Stadium transport planning for AFL game days. Liaising with the Gold Coast Suns, Queensland Police, QLD Ambulance, QLD Fire and Emergency, City of Gold Coast and the Traffic Management Centre, Brendyn was able to develop game day specific traffic signal plans for Nerang Broadbeach Road that catered for the needs of each stakeholder. This included the coordination of the corridor to support the major direction of traffic flow, extending pedestrian crossing times at key locations which would be supported by on-site traffic controllers, and providing bus priority signal phasing to assist with transporting spectators to and from games.

Memberships and Associations

- Member of Institution of Engineers Australia (MIEAust)
- Member of Australian Institute of Traffic Planning and Management (AITPM)

Appendix B Site Plans

GENERAL NOTES

REFER TO ACOUSTIC INVESTIGATION REPORT FOR FINAL DETAILS AND LOCATIONS OF PROPOSED ACOUSTIC WALLS

REFER TO CIVIL ENGINEER'S DRAWINGS FOR ALL SITEWORKS, STORMWATER DESIGN AND FINAL LEVELS.

ALL LEVELS SHOWN ± 0.5M AND SUBJECT TO FURTHER DETAILED CIVIL DESIGN.

ACOUSTIC NOTE:

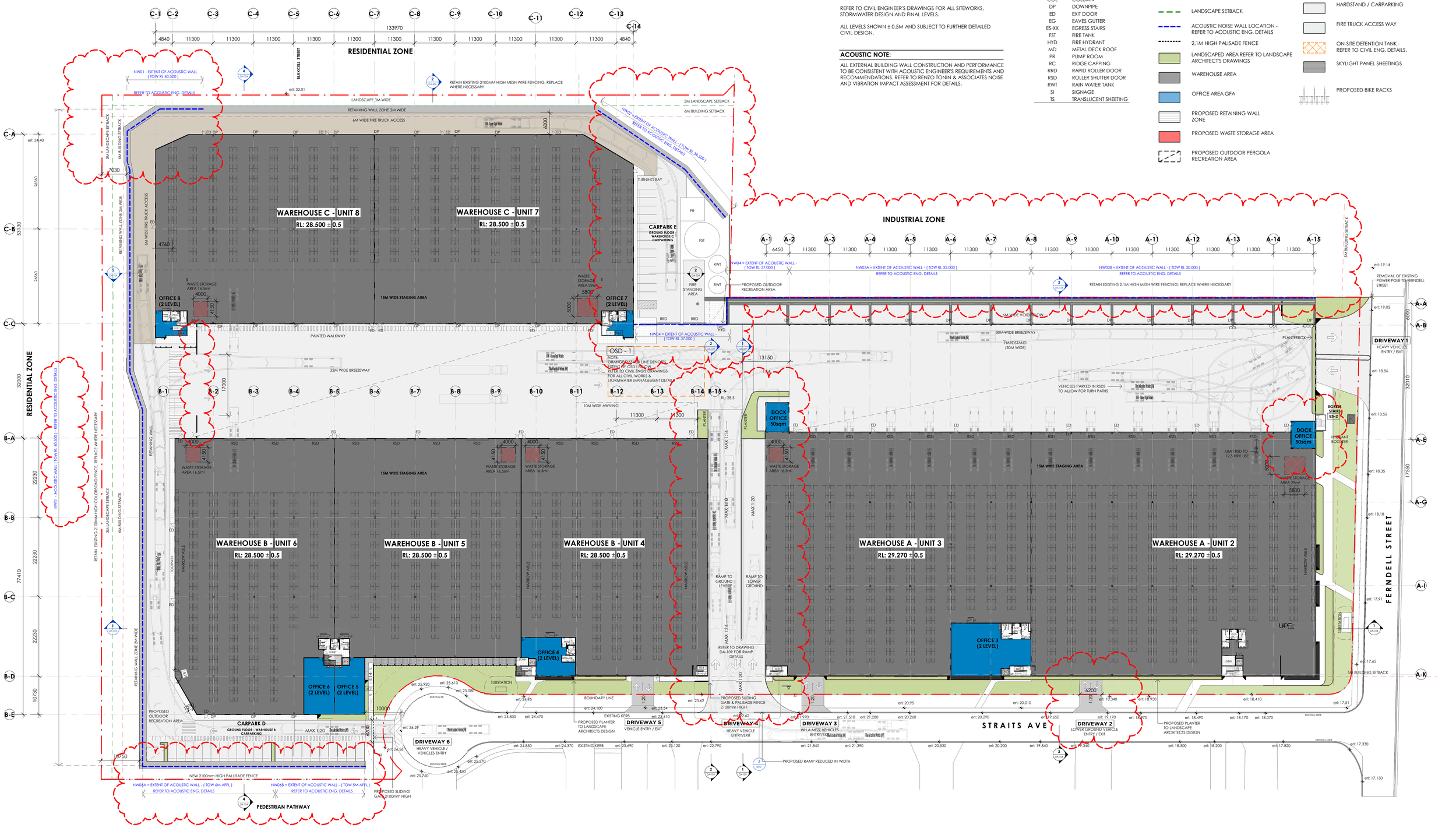
ALL EXTERNAL BUILDING WALL CONSTRUCTION AND PERFORMANCE TO BE CONSISTENT WITH ACOUSTIC ENGINEER'S REQUIREMENTS AND RECOMMENDATIONS, REFER TO RENZO TONIN & ASSOCIATES NOISE AND VIBRATION IMPACT ASSESSMENT FOR DETAILS.

KEYNOTE LEGEND

BC	BARGE CAPPING
COL	COLUMN
DP	DOWNPIPE
ED	EXIT DOOR
EG	EAVES GUTTER
ES-XX	EGRESS STAIRS
FST	FIRE TANK
HYD	FIRE HYDRANT
MD	METAL DECK ROOF
PR	PUMP ROOM
RC	RIDGE CAPPING
RRD	RAPID ROLLER DOOR
RSD	ROLLER SHUTTER DOOR
RWT	RAIN WATER TANK
SI	SIGNAGE
TS	TRANSLUCENT SHEETING

LEGEND

- BUILDING SETBACK
- LANDSCAPE SETBACK
- ACOUSTIC NOISE WALL LOCATION - REFER TO ACOUSTIC ENG. DETAILS
- 2.1M HIGH PALISADE FENCE
- LANDSCAPED AREA REFER TO LANDSCAPE ARCHITECT'S DRAWINGS
- WAREHOUSE AREA
- OFFICE AREA GFA
- PROPOSED RETAINING WALL ZONE
- PROPOSED WASTE STORAGE AREA
- PROPOSED OUTDOOR PERGOLA RECREATION AREA
- HARDSTAND / CARPARKING
- FIRE TRUCK ACCESS WAY
- ON-SITE DETENTION TANK - REFER TO CIVIL ENG. DETAILS.
- SKYLIGHT PANEL SHEETINGS
- PROPOSED BIKE RACKS



1 WH GROUND FLOOR PLAN
1 : 500

1:500 @A1 0 5 10 20 40m

[watch this SPACE design]

Architect
WATCH THIS SPACE DESIGN PTY LTD
STUDIO 12, LEVEL 3, 35 BUCKINGHAM STREET,
SURRY HILLS, NSW 2010
Email: info@watchthisspacedesign.com
www.watchthisspacedesign.com

copyright of this design remains the property of WTSD 2021

	Amendments	date
N	FOR INFORMATION	15/08/2024

GREYSTAR™

Client
GREYSTAR

Project
No: 26 FERNDELL STREET,
GRANVILLE NSW 2142

Drawn SM | Checked EC | Approved PM
Scale As indicated | Date 15/08/2024 | Date 15/08/2024

Drawing Title
GROUND FLOOR PLAN

Project Number
GS 26F DA

Drawing Number
DA-101

Status
SSDA

Rev
N

Appendix C Drivers Code of Conduct

Drivers Code of Conduct

Safe Driving Policy for Lot 21 DP 816219 and Lot 12 DP233162 located at 26 Ferndell Street, South Granville, NSW.

FOR ALL DRIVERS OF PLANT, TRUCKS & VEHICLES THAT ACCESS THIS PROJECT SITE.

A.1 Drivers Conduct Requirements (Conditions of entry):

- All drivers MUST call their delivery contact prior to entering site and be supervised by their contact person at all times while on site.
- Your delivery contact will direct you where to park and organise the unloading of your vehicle.
- All drivers are to adhere to all signposted directions.
- Vehicle movements within the site are restricted to 10km/h.
- Vehicles shall follow the designated traffic route at all times.
- Drivers (of deliveries) are not to move their vehicles around site with ‘unrestrained loads’. This means, any and all items must be adequately chained or tied down to the vehicle, prior to the vehicle’s movement on or around the site.
- All loads being removed from site shall be secured and/ or covered appropriately.
- Appropriate measures will be put in place to ensure that vehicles leaving the site do not deposit dirt or mud on surrounding roadways. Drivers are responsible for notifying the Site Supervisor if excessive dirt or dust can be seen surrounding the site.
- Vehicles shall not queue onto Ferndell Street or Straits Avenue from the site access.
- Vehicles shall enter and exit the site in a safe and orderly manner.
- Drivers must maintain a safe ‘buffer’ distance from any person/ or plant being operated by a person whilst moving on/ around the site.

A.2 Approved heavy vehicle routes

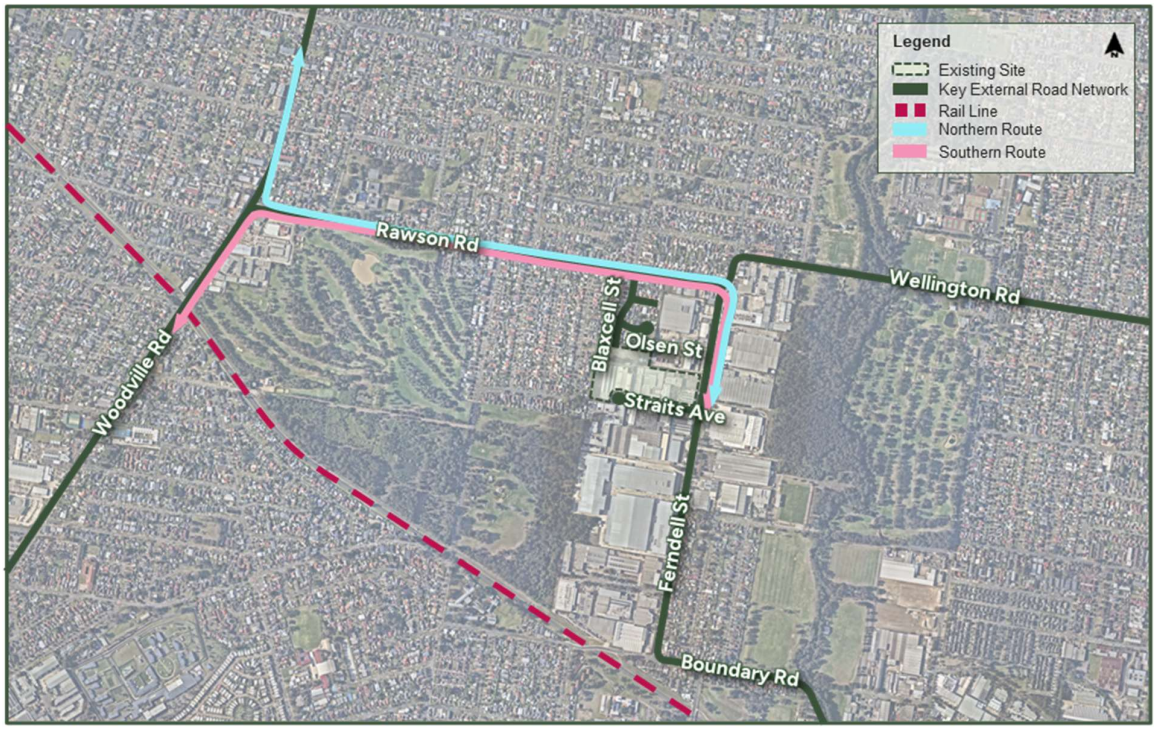
The routes to be utilised by all construction vehicles travelling to and from site are represented below in **Figure 1.**

Truck movements to and from the site on the surrounding road network will be restricted to designated truck routes and will be confined to the main road network through the area. The designated routes are as follows:

- Routes to the north: Ferndell Street, Rawson Street to Woodville Road northbound
- Routes to the south: Ferndell Street, Rawson Street to Woodville Road southbound

Refer to **Figure 1** for construction vehicle access arrangements for the site.

Figure 1 Construction Vehicle Routes



A.3 Sign Off Register

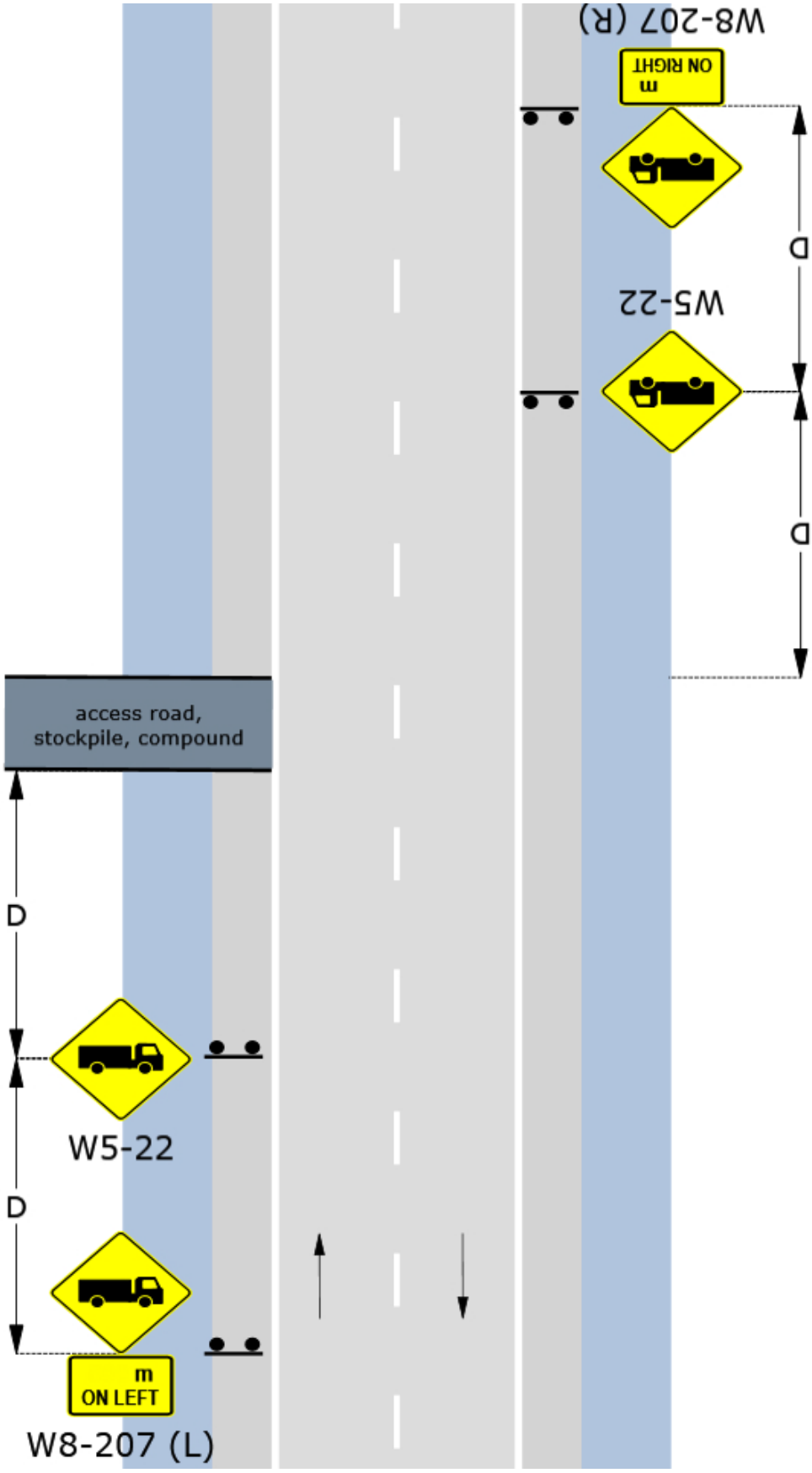
By signing the table below you are confirming that you have read, understood, and agree to the Drivers Code of Conduct for the 26 Ferndell Street, South Granville Site.

Name	Signature	Date

If you have any questions, please contact the Vaughans Construction Site Supervisor.

Appendix D Traffic Guidance Scheme

D.4.7 Static: Access to depot, stockpile, quarry, gravel pit etc. all roads (formerly TCP 195)



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Appendix E Risk Assessment

SLR Consulting Australia
Level 16, 175 Eagle Street, Brisbane QLD 4000, Australia

26 Ferndell Street CTMP

26 Ferndell Street, South Graville

RISK ASSESSMENT AND COMMUNICATION TOOL

Project Number	640.031676.00001
Project Name	26 Ferndell Street, CTMP
Site Location	26 Ferndell Street, South Granville, NSW
Date of Assessment	11 February 2024
Revision	Issue 1

Name	Company	Title

Document Control

Date Issued	Revision	Issued By	Checked By
11 February 2024	Draft	A.Moxon	B. Rheinberger

Risk Evaluation Matrix		**Consequences**					
Risk Ratings: Very high = **VH**; High = **H**; Medium = **M**; Low = **L**		Insignificant	Minor	Moderate	Major	Severe	Catastrophic
		C6	C5	C4	C3	C2	C1
Almost certain	L1	**M**	**H**	**H**	**VH**	**VH**	**VH**
Very likely	L2	**M**	**M**	**H**	**H**	**VH**	**VH**
Likely	L3	**L**	**M**	**M**	**H**	**H**	**VH**
Unlikely	L4	**L**	**L**	**M**	**M**	**H**	**H**
Very unlikely	L5	**L**	**L**	**L**	**M**	**M**	**H**
Almost unprecedented	L6	**L**	**L**	**L**	**L**	**M**	**M**

Consequence Rating	Description
Insignificant	• Illness, first aid or injury not requiring medical treatment. • No lost time.
Minor	• Minor injury or illness requiring medical treatment. • No lost time post medical treatment.
Moderate	Minor injuries or illnesses resulting in lost time.
Major	1 to 10 serious injuries or illnesses* resulting in lost time or potential permanent impairment.
Severe	Single fatality and/or 11 to 20 serious injuries or illnesses* resulting in lost time or potential permanent impairment.
Catastrophic	Multiple fatalities and/or more than 20 serious injuries or illnesses* resulting in lost time or potential permanent impairment.

* Serious injury or illness is defined by the WHS Act section 36

Likelihood Rating	Description
Almost certain	• Expected to occur multiple times (10 or more times) during any given year. • Expected to occur at least 1 in every 4 times the event or action occurs (more than 25% chance of occurrence). • This risk is known to occur frequently.
Very likely	• Expected to occur occasionally (1 to 10 times) during any given year. • Expected to occur between 1 in 4 and 1 in 10 times the event or action occurs (10 to 25% chance of occurrence). • This risk is known to occur often.
Likely	• Expected to occur once during any given year. • Expected to occur between 1 in 10 and 1 in 100 times the event or action. • occurs (1 to 10% chance of occurrence). • This risk is known to have occurred on occasions.
Unlikely	• Expected to occur once every 1 to10 years. • Expected to occur between 1 in 100 and 1 in 1,000 times the event or action occurs (0.1 to 1.0% chance of occurrence). • This risk could occur but not often.
Very unlikely	• Expected to occur once every 10 to100 years. • Expected to occur between 1 in 1,000 and 1 in 10,000 times the event or action occurs (0.01 to 0.1% chance of occurrence). • It is unusual that this risk occurs, but it has happened.
Almost unprecedented	• Not expected to occur in the next 100 years (less than once every 100 years). • Expected to occur less than 1 in 10,000 times (if ever) the event or action occurs (less than 0.01% chance of occurrence). • Any risk can occur, but it is very improbable that this risk will occur within a large number of events.

RISK ASSESSMENT AND COMMUNICATION TOOL

ID. Ref	Risk and/or Hazard	Risk Description	Location	Existing Control	Initial Risk Rating			Design Response to risk and/or hazard	Status of Risk	Assignment of risk or hazard	Residual risk rating		
					C	L	RR				C	L	RR
1	Unauthorised access to the site.	Site entry controls fail to prevent unauthorised access.	Entire site.	Nil.	3	3	High	Exclusion barriers will be provided as part of the main works. The design provides a defined separation between construction and work areas.	Design solution.	Main Contractor	5	4	Low
2	Interaction between pedestrians and vehicles.	Uncontrolled vehicle and pedestrian conflict points.	Entire site, car park and access road.	Nil.	2	3	High	Dedicated footpaths, pedestrian crossings and additional signage shall be provided to separate vehicles and pedestrians if required.	Design solution.	Main Contractor	4	4	Medium
3	Potential vehicle conflict points.	Vehicles can crash with each other while manoeuvring through the site.	Entire site, car park and access road.	Nil.	4	3	Medium	Roadways are capable of two-way flow. Nevertheless, Traffic Controllers shall limit movements within disrupted areas to limit any safety issues. Low speeds throughout the site also reduce the potential for crashes.	Design Solution.	Main Contractor	4	5	Low
4	Fatigue.	Injury caused by fatigue.	Entire site.	Nil.	2	3	High	Toolbox meetings and regular breaks (in line with WHS practices) to minimise fatigue.	Design Solution.	Main Contractor	2	5	Medium
5	Fall risks.	Injury due to falls (in general).	Entire site and car park area.	Nil.	1	4	High	Ensuring level changes across the site to be minimised as best possible, with additional black & yellow hazard tape/marking being installed where appropriate. Installation of handrails where level changes/ramp grades are significant.	Design Solution.	Main Contractor	2	5	Medium
6	Misdirected access into neighbouring site.	Vehicle in unsafe locations.	Entire site.	Nil.	4	4	Medium	Ensuring appropriate directional signage has been provided to ensure vehicles do not access the wrong construction site, which could create potential safety breaches and hazards for all parties.	Design Solution.	Main Contractor	4	5	Low
7	Conflicting traffic management.	Coordinating Traffic Controllers could create misleading and wrong advice.	Entire site.	Nil.	2	3	High	Toolbox meetings, regular liaison with all construction teams and review of signage plans on site in order to minimise contradicting signage	Design Solution.	Main Contractor	2	5	Medium

Appendix F Council Conditions of Approval

CUMBERLAND
CITY COUNCIL

Ref: RDA2025/0170

05 March 2025

Vaughan Constructions Pty Ltd
9A Commercial Road
KINGSGROVE NSW 2208

Dear Sir/ Madam,

Subject:	**Approval to Construction Traffic Management Plan (CTMP)**
Application No:	RDA2025/0170
Property Address:	26 Ferndell Street SOUTH GRANVILLE NSW 2142
Determination Date:	5 March 2025

Under Section 138 of the Road Act, 1993, approval is hereby granted to the proposed CTMP subject to the following conditions:

- That all heavy construction vehicles attending the development site must follow the truck route as indicated in the CTMP.
- That there will not be any roadway, footpath or nature strip closure on Ferndell St and Straits Avenue fronting the development site during the construction period. In the event a roadway, footpath or nature strip closure is required (i.e. stand plant permit, concrete pours, utility connections, crane works, driveway & footpath reconstruction, etc.), then prior to undertaking any closure, the applicant shall submit the Temporary Roadside Closure (TRC) Application to Council for approval.
- That all deliveries such as steel, concrete pump, etc. shall be undertaken on site and not on the road or footway, unless otherwise approved by Council.
- That there will not be any construction materials be placed on the public road, footpath or nature strip without approval from Council.
- That safe pedestrian access is maintained at all times.
- That all trucks shall enter/exit safely with adequate sight distance. Any traffic controllers will require a separate TRC application and shall be submitted to Council for approval. It is advised that any such application be received with adequate notice to allow for Council processing times.
- That any damage to road pavement, footpath nature strip caused by construction activities shall be repaired by the applicant in no later than four weeks after the damage.
- That the contractors shall not bag or block any traffic signs in this area without Council or Police approval.

- That the proposed installation of Truck Warning Signs on Ferndell St South Granviile is not approved by Council.

- That there shall be no queuing on public roads by trucks deliveries to the construction site, unless otherwise approved by Council.

- That any traffic or public issues that arise during the undertaking of the works shall be immediately notified to the Police and Council.

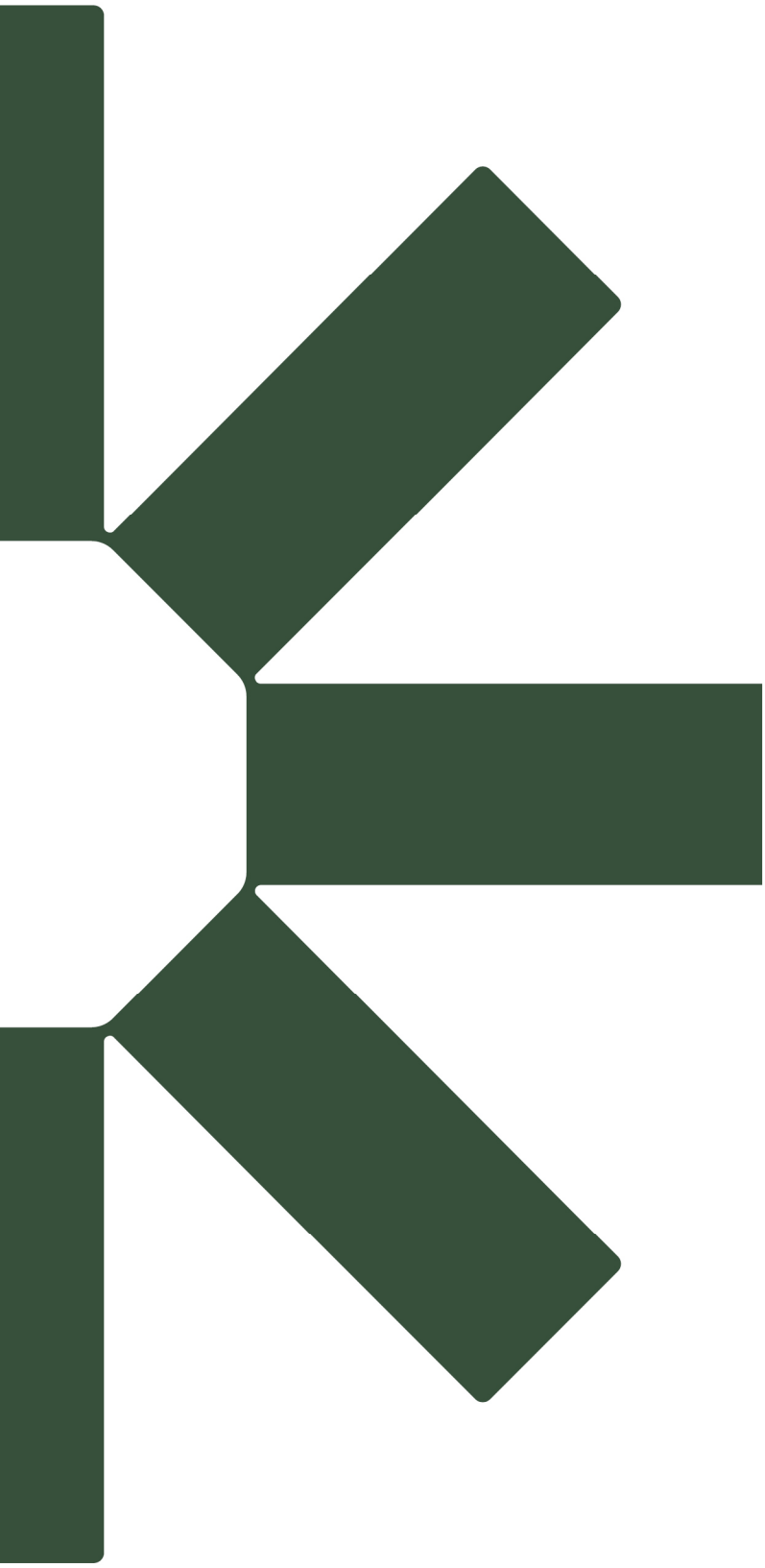
Council reserves the right to revoke an approval at any time.

Should you have any enquiries regarding this matter, please contact Thang Tran on 8757 9534 during normal business hours, Monday to Friday and quote reference RDA2025/0170.

Yours faithfully,



Thang Tran
Traffic and Transport Engineer



Making Sustainability Happen

Appendix H Erosion and Sediment Control & Details Plans

Construction Environmental Management Plan

SSD-51310208 - 26 Ferndell Street, South Granville and 464 Blaxcell Street, Guildford, NSW

Vaughan Constructions Pty Ltd

SLR Project No.: 630.031503.00001

GRATED INLET PIT FILTER
REFER TO DRAWING C251 FOR DETAIL.
TYPICAL

SILT FENCE ONLY
REFER DETAIL ON C251.
TYPICAL

LOT 12
DP 233162
7839m²

201
DP 816219

LOT 201
DP 816219
4.305ha

SILT FENCE ONLY
REFER DETAIL ON C251.
TYPICAL

FERNDELL STREET

STABALISED STOCKPILE
REFER TO DETAIL ON DRAWING C251.

PROVIDE CROSSING OVER
DIVERSION DRAIN
AS DETAILED ON C251

STABILISED SITE ENTRY
REFER TO DRG C251 FOR DETAILS

CULVERT CROSSING UNDERNEATH
THE ACCESS FOR DRAIN DIVERSION
REFER TO C250

TEMPORARY SEDIMENT BASIN
VOLUME = 1685m³

STRAITS AVENUE

SILT FENCE WITH CATCH DRAIN
REFER DETAIL ON C251.
TYPICAL

KERB INLET PIT PROTECTION
REFER TO DRG C251 FOR DETAILS
TYPICAL ALL PITS

EMERGENCY OVERFLOW WEIR PER
DETAIL TO EXISTING DISCHARGE PIT
WITHIN BOUNDARY

SILT FENCE ONLY
REFER DETAIL ON C251.
TYPICAL

EROSION AND SEDIMENT CONTROL PLAN
SCALE 1:500

LEGEND:

PROVIDE 1m RETURNS TO SILT FENCE AT 30m MAX. INTERVALS.
TYPICAL (N.S.O.P.)

- DENOTES DIVERSION DRAIN
- DENOTES SILT FENCE WITH CATCH DRAIN
- DENOTES SILT FENCE ONLY
- SW> - STORMWATER PIPE
- DENOTES CONSTRUCTION ENTRY
- DENOTES OVERLAND FLOW PATH

SEDIMENTATION BASIN NOTE:

FOR SEDIMENT & EROSION CONTROL DETAILS REFER TO DRAWING C015411.00-C250 & C251.
SEDIMENTATION BASIN SIZING BASED ON RECOMMENDATIONS OF 'SOILS AND CONSTRUCTION, MANAGING URBAN STORMWATER-THE BLUE BOOK'.
CAPACITY BASED UPON 5 DAY RAINFALL DEPTH AT 85th PERCENTILE INTENSITY (35.0mm).

APPROXIMATE AREA OF DISTURBED SITE = 5.08ha

SEDIMENT BASIN:
CATCHMENT AREA = 4.98ha
REQUIRED BASIN VOLUME = 1,673m³
BASE DIMENSIONS (L X W) = 53.0m x 15.0m
TOP DIMENSIONS (L X W) = 62.0m x 24.0m
MAX SIDE SLOPE = 1V:3H
DEPTH = 1.5m
PROVIDED BASIN VOLUME = 1,685m³

SEDIMENTATION BASIN TO COLLECT RUN-OFF IN EXTREME RAINFALL EVENTS. COLLECTED RUN-OFF TO BE ASSESSED BY A QUALIFIED LABORATORY FOR DOUSING RATES OF ALUM OR GYPSUM TO ENSURE COAGULATION OF SEDIMENTS PRIOR TO WATER BEING DISCHARGED TO COUNCIL STORMWATER SYSTEM.

EACH BASIN IS TO HAVE A MARKER PLACED AS PER THE DETAIL TO INDICATE WHEN SEDIMENT IS TO BE REMOVED. REMOVED SEDIMENT IS TO BE CLASSED AND DEWATERED PRIOR TO REMOVAL FROM SITE.

ALLOWANCE TO BE MADE DURING BENCHING OF SITE TO ENSURE RUN-OFF IS DIRECTED TO SEDIMENTATION BASINS.

NOTES:
1. ASSUME TYPE D SOIL (CLAY/SILTY CLAY)
2. ASSUME GROUP D SOIL (HIGH PLASTICITY AND SHRINK/SWELL PROPERTIES)

DUST CONTROL NOTES:

1. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO ENSURE DUST CONTROL MEASURES ARE APPLIED AND MAINTAINED IN ACCORDANCE WITH THE CONSTRUCTION ENVIRONMENTAL MANAGEMENT PLAN.
2. THE APPLICATION OF LIQUID BASED DUST SUPPRESSION MEASURES MUST BE SUCH THAT SEDIMENT LADEN RUNOFF RESULTING FROM SUCH MEASURES DOES NOT CREATE A TRAFFIC OR ENVIRONMENTAL HAZARD. (EG USING HAY BALES)
3. DUST GENERATION ASSOCIATED WITH WIND EROSION TO BE CONTROLLED USING WATER TRUCKS, DUST SUPPRESSING FOG, MIST GENERATORS, SEALANT PLACED OVER THE SOIL, SURFACE ROUGHENING OR RE-VEGETATION.
4. THE FOLLOWING ACTIVITIES SHALL BE ADOPTED, IF NECESSARY, TO MANAGE DUST CONTROL ON SITE:
   - LIMITING THE AREA OF SOIL DISTURBANCE AT ANY GIVEN TIME
   - REPLACING TOPSOIL AFTER COMPLETION OF EARTHWORKS.
   - PROGRAMMING WORK TO MINIMISE THE LIFE OF STOCKPILES.
   - TEMPORARILY STABILISING LONG-TERM STOCKPILES.
   - GRAVELLING UNSEALED ACCESS AND HAUL ROADS.
   - MINIMISING TRAFFIC MOVEMENT ON EXPOSED SURFACES.
   - LIMITING VEHICULAR TRAFFIC TO 15km/h.
   - RETAINING EXISTING VEGETATION AS WIND BREAKS.
5. OIL, LANDFILL GAS CONDENSATE OR ANY CONTAMINATED LEACHATE OR STORMWATER IS NOT TO BE USED FOR DUST SUPPRESSION.

SEDIMENT CONTROL BASIN NOTES:

1. TYPE D BASIN IS REQUIRED.
2. VOLUME OF THE BASINS SHALL BE AS NOMINATED ON DRAWING. NOMINAL POND LOCATIONS AND NOMINAL DIMENSIONS.
3. SEDIMENT BUILD UP TO NOT EXCEED 33% TOTAL CAPACITY OF BASIN.
4. DEWATERING OF BASIN TO BE PERFORMED TO THE BOTTOM OF THE SEDIMENT SETTLING ZONE FOLLOWING ACHIEVEMENT OF WQO's. MANAGEMENT OF DOSAGE AND DISCHARGE TO BE ACHIEVED WITHIN 5 DAYS OF THE INITIAL RAINFALL EVENT.
5. FOLLOWING DEWATERING PER NOTE 4, WATER LEVEL TO BE MAINTAINED AT 20% CAPACITY AFTER A FOUR DAY SETTLING PERIOD FOLLOWING A STORM EVENT.
6. WATER TO BE DOSED WITH GYPSUM TO ACCELERATE SETTLEMENT OF SUSPENDED SOLIDS AS REQUIRED.
7. GYPSUM DOSAGE RATE TO BE APPLIED AT APPROX. 32kg PER 100 CUBIC METRE OF COLLECTED RUNOFF.
8. THE USE OF ALUM (OR ANY OTHER ALTERNATIVE) AS A FLOCCULANT IS NOT RECOMMENDED. ALUM OR ANY OTHER FLOCCULANT IS TO BE USED ONLY FOLLOWING CONSULTATION WITH AND ACCEPTANCE FROM COUNCIL ESC OFFICERS.
9. DISCHARGE FROM POND IS PERMISSIBLE WHEN THE WATER PH IS 6.5-8.5 AND IS CLARIFIED TO AT OR BELOW A TSS OF 50mg/L. CLARIFICATION WOULD GENERALLY BE ACHIEVED IN 36-72 HOURS WITH THE USE OF GYPSUM. CORRELATION TESTS MUST BE UNDERTAKEN ON SITE TO ENSURE THIS IS ACHIEVED.
10. DEWATERING SHALL BE DONE IN SUCH A MANNER AS TO REMOVE THE CLEAN WATER (BEING WATER WITHIN THE ADOPTED CRITERIA) WITHOUT REMOVING OR DISTURBING THE SEDIMENT THAT HAS SETTLED. THE PUMP INTAKE PIPE IS NOT TO REST ON THE SETTLED SEDIMENT LAYER.
11. IF WATER EXCEEDS TSS OF 50mg/L DURING DEWATERING, PUMPING IS TO CEASE. RECORDS ARE TO BE KEPT (ON-SITE AT ALL TIMES) OF ALL MEASUREMENT PRIOR TO, DURING AND AFTER DISCHARGE. RECORDS TO BE MADE AVAILABLE TO COUNCIL OFFICERS UPON REQUEST.
12. PROVIDE SECURITY FENCE TO BASIN FOR SAFETY.

EROSION CONTROL NOTES:

ALL CONTROL WORK INCLUDING DIVERSION BANKS AND CATCH DRAINS, V-DRAINS AND SILT FENCES SHALL BE COMPLETED DIRECTLY FOLLOWING THE COMPLETION OF THE EARTHWORKS.

1. SILT FENCES AND SILT FENCE RETURNS SHALL BE ERECTED CONVEX TO THE CONTOUR TO POND WATER.
2. HAY BALE BARRIERS AND GEOFABRIC FENCES ARE TO BE CONSTRUCTED TO TOE OF BATTER, PRIOR TO COMMENCEMENT OF EARTHWORKS, IMMEDIATELY AFTER CLEARING OF VEGETATION AND BEFORE REMOVAL OF TOP SOIL.
3. ALL TEMPORARY EARTH BERMS, DIVERSION AND SILT DAM EMBANKMENTS ARE TO BE MACHINE COMPACTED, SEEDED AND MULCHED FOR TEMPORARY VEGETATION COVER AS SOON AS THEY HAVE BEEN FORMED.
4. CLEAR WATER IS TO BE DIVERTED AWAY FROM DISTURBED GROUND AND INTO THE DRAINAGE SYSTEM.
5. THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING AND PROVIDING ON GOING ADJUSTMENT TO EROSION CONTROL MEASURES AS REQUIRED DURING CONSTRUCTION.
6. ALL SEDIMENT TRAPPING STRUCTURES AND DEVICES ARE TO BE INSPECTED AFTER STORMS FOR STRUCTURAL DAMAGE OR CLOGGING, TRAPPED MATERIAL IS TO BE REMOVED TO A SAFE, APPROVED LOCATION.
7. ALL FINAL EROSION PREVENTION MEASURES INCLUDING THE ESTABLISHMENT OF GRASSING ARE TO BE MAINTAINED UNTIL THE END OF THE DEFECTS LIABILITY PERIOD.
8. ALL EARTHWORKS AREAS SHALL BE ROLLED ON A REGULAR BASIS TO SEAL THE EARTHWORKS.
9. ALL FILL AREAS ARE TO BE LEFT WITH A BUND AT THE TOP OF THE SLOPE AT THE END OF EACH DAYS EARTHWORKS. THE HEIGHT OF THE BUND SHALL BE A MINIMUM OF 200mm.
10. ALL CUT AND FILL SLOPES ARE TO BE SEEDED AND HYDROMULCHED WITHIN 10 DAYS OF COMPLETION OF FORMATION.
11. AFTER REVEGETATION OF THE SITE IS COMPLETE AND THE SITE IS STABLE IN THE OPINION OF A SUITABLY QUALIFIED PERSON ALL TEMPORARY WORK SUCH AS SILT FENCE, DIVERSION DRAINS ETC SHALL BE REMOVED.
12. ALL TOPSOIL STOCKPILES ARE TO BE SUITABLY COVERED TO THE SATISFACTION OF THE SITE MANAGER TO PREVENT WIND AND WATER EROSION.
13. ANY AREA THAT IS NOT APPROVED BY THE CONTRACT ADMINISTRATOR FOR CLEARING OR DISTURBANCE BY THE CONTRACTOR'S ACTIVITIES SHALL BE CLEARLY MARKED AND SIGN POSTED, FENCED OFF OR OTHERWISE APPROPRIATELY PROTECTED AGAINST ANY SUCH DISTURBANCE.
14. ALL STOCKPILE SITES SHALL BE SITUATED IN AREAS APPROVED FOR SUCH USE BY THE SITE MANAGER. A 6m BUFFER ZONE SHALL EXIST BETWEEN STOCKPILE SITES AND ANY STREAM OR FLOW PATH. ALL STOCKPILES SHALL BE ADEQUATELY PROTECTED FROM EROSION AND CONTAMINATION OF THE SURROUNDING AREA BY USE OF THE MEASURES APPROVED IN THE EROSION AND SEDIMENTATION CONTROL PLAN.
15. ACCESS AND EXIT AREAS SHALL INCLUDE SHAKE-DOWN OR OTHER METHODS APPROVED BY THE SITE MANAGER FOR THE REMOVAL OF SOIL MATERIALS FORM MOTOR VEHICLES.
16. THE CONTRACTOR IS TO ENSURE RUNOFF FROM ALL AREAS WHERE THE NATURAL SURFACE IS DISTURBED BY CONSTRUCTION, INCLUDING ACCESS ROADS, DEPOT AND STOCKPILE SITES, SHALL BE FREE OF POLLUTANTS BEFORE IT IS EITHER DISPERSED TO STABLE AREAS OR DIRECTED TO NATURAL WATERCOURSES.
17. THE CONTRACTOR SHALL PROVIDE AND MAINTAIN SLOPES, CROWNS AND DRAINS ON ALL EXCAVATIONS AND EMBANKMENTS TO ENSURE SATISFACTORY DRAINAGE AT ALL TIMES WATER SHALL NOT BE ALLOWED TO POND ON THE WORKS UNLESS SUCH PONDING IS PART OF AN APPROVED ESCP / SWMP.

5m 0 10 20 30 40 50m
SCALE 1:500 AT B1 SIZE SHEET

FOR INFORMATION

AMENDMENTS	DATE	ISSUE
ISSUED FOR INFORMATION	31.01.25	A

AMENDMENTS	DATE	ISSUE

ARCHITECT: PACE ARCHITECTS
CLIENT: GREYSTAR
BUILDER: VAUGHAN CONSTRUCTIONS

PROJECT
GREYSTAR GRANVILLE
26 FERNDELL STREET, SOUTH GRANVILLE
NSW, 2142

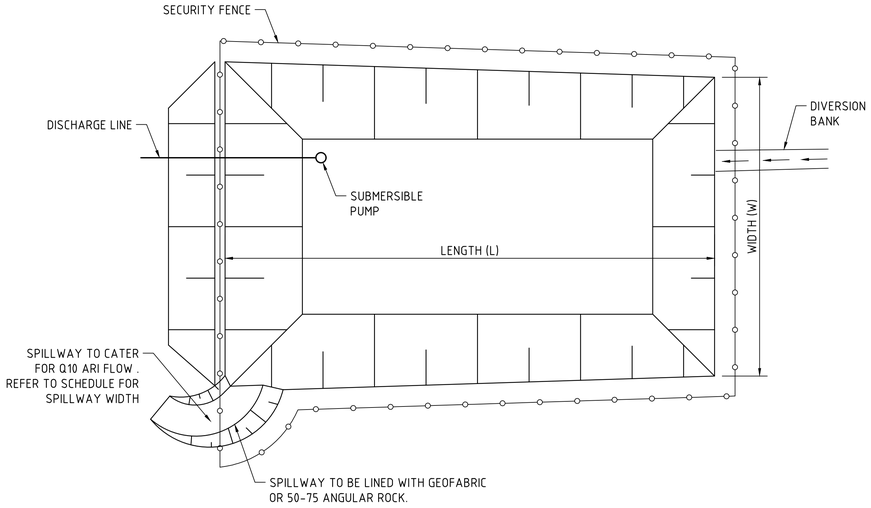
DESIGNED	DRAWN	DATE	CHECKED	SIZE	SCALE	CAD REF:
XC	HC	JAN'25		B1	AS SHOWN	C015411.00- 20

CONSULT AUSTRALIA

Costin Roe Consulting Pty Ltd.
ABN 50 003 696 446
PO Box N419 Sydney NSW 1220
Level 4, 8 Windmill Street, Millers Point NSW 2000
p: +61 2 9251 7699 f: +61 2 9241 3731
e: mail@costinroe.com.au w: costinroe.com.au
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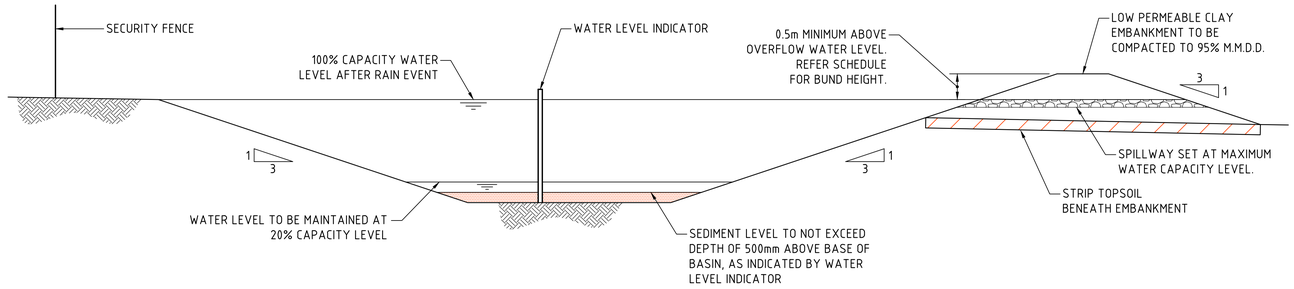
EROSION AND SEDIMENT CONTROL PLAN

DRAWING No C015411.00-C200 | ISSUE A



TYPICAL SEDIMENT CONTROL POND PLAN

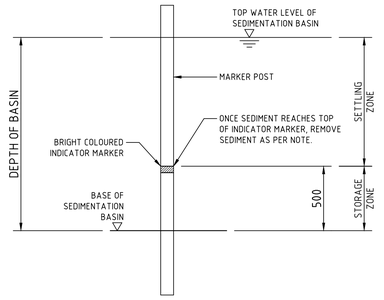
SCALE 1:250



TYPICAL SEDIMENT CONTROL BASIN SECTION

SCALE 1:50

SPILLWAY DETAIL & SCHEDULE					
CATCHMENT (Ha)	FLOW (m^3/s)	WIDTH (mm)	FLOW DEPTH (mm)	ROCK SIZE (mm)	BUND HEIGHT ABOVE SPILLWAY (mm)
0.20	0.14	1000	200	-	600
0.5	0.2	2000	200	-	600
1	0.3	2000	200	-	700
2	0.6	4000	200	-	700
5	1.4	5000	300	200	800



SEDIMENT STORAGE MARKER

SCALE 1:20

200mm 0 500 1000 1500 2000mm

SCALE 1:20 AT B1 SIZE SHEET

500mm 0 1 2 3 4 5m

SCALE 1:50 AT B1 SIZE SHEET

2m 0 5 10 15 20 25m

SCALE 1:250 AT B1 SIZE SHEET

FOR INFORMATION

ISSUED FOR INFORMATION	31.01.25	A
AMENDMENTS	DATE	ISSUE

AMENDMENTS	DATE	ISSUE

ARCHITECT: PACE ARCHITECTS

CLIENT: GREYSTAR

BUILDER: VAUGHAN CONSTRUCTIONS

PROJECT
GREYSTAR GRANVILLE
26 FERNDELL STREET, SOUTH GRANVILLE
NSW, 2142

DESIGNED	DRAWN	DATE	CHECKED	SIZE	SCALE	CAD REF:
XC	JB	OCT'24		B1	AS SHOWN	C015411.00-C252

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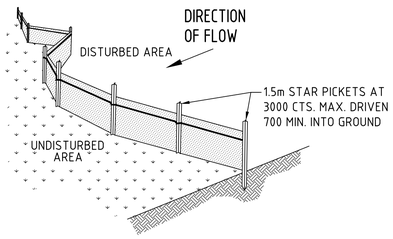
Costin Roe Consulting Pty Ltd.
ABN 50 003 696 446
PO Box N419 Sydney NSW 1220
Level 4, 8 Windmill Street, Millers Point NSW 2000
p: +61 2 9251 7699 f: +61 2 9241 3731
e: mail@costinroe.com.au w: costinroe.com.au

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EROSION AND SEDIMENT CONTROL DETAILS SHEET 2

DRAWING No C015411.00-C252

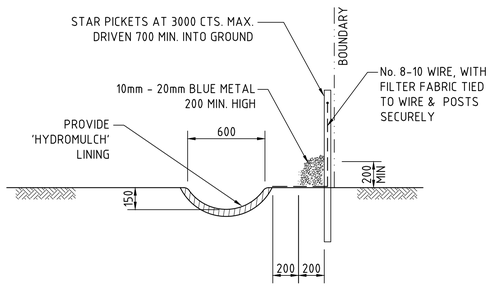
ISSUE A



TYPICAL SILT FENCE DETAIL

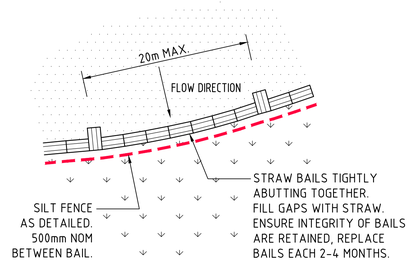
N.T.S

NOTE: PROVIDE 1m RETURNS AT 30m INTERVALS. TYPICAL



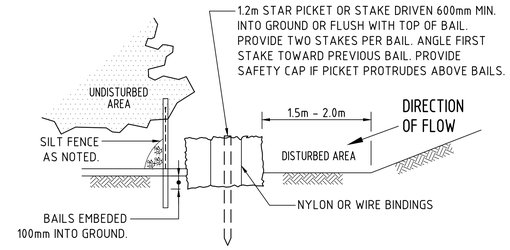
TYPICAL OPEN DRAIN & SILT FENCE

SCALE 1:20



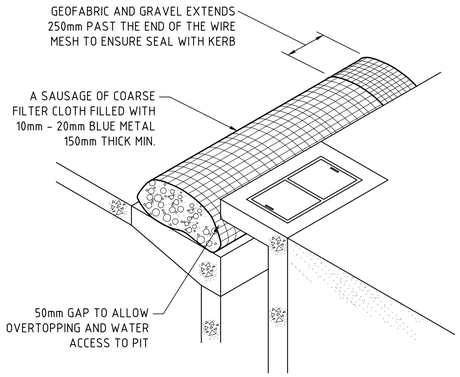
SILT FENCE WITH HAY BAIL PLAN

N.T.S



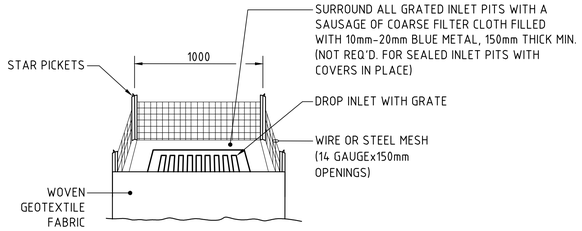
SILT FENCE WITH HAY BAIL DETAIL

N.T.S



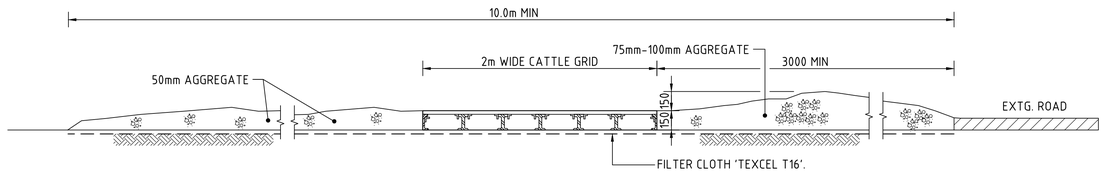
KERB INLET CONTROL

N.T.S



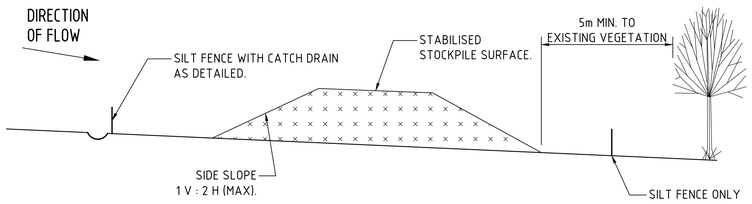
GRATED INLET PIT FILTER DETAIL

N.T.S



SECTION 1:20 (1 / C200) : STABILISED CONSTRUCTION ENTRANCE 'TRUCK SHAKER'

NOTE :
ADOPT ABOVE DETAILS AROUND ALL PITS WITHIN AREA ENCOMPASSED BY SILT FENCE & TO PITS ON THE ROAD ADJACENT TO SITE BOUNDARY.

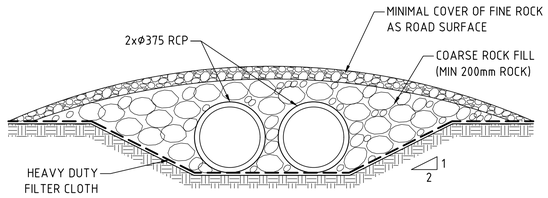


TYPICAL STOCKPILE DETAIL

N.T.S

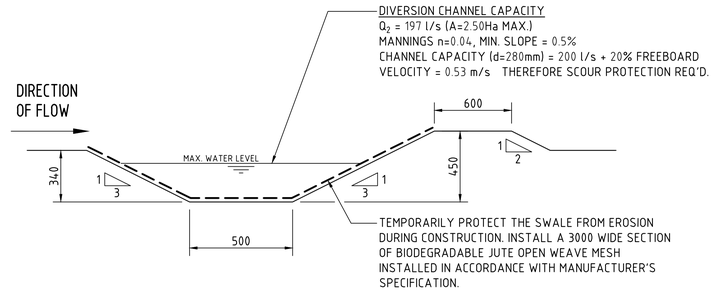
STOCKPILE NOTES

1. PLACE ALL STOCKPILES IN LOCATIONS MORE THAN 5m FROM EXISTING VEGETATION, ROADS & HAZARD AREAS.
2. CONSTRUCT ON THE CONTOUR AS LOW, FLAT ELONGATED MOUNDS. SIDE SLOPE TO BE 1 V: 2 H MAX.
3. WHERE THERE IS SUFFICIENT AREA, TOPSOIL STOCKPILES SHALL BE LESS THAN 2m IN HEIGHT.
4. WHERE STOCKPILES ARE TO BE IN PLACE FOR MORE THAN 10 DAYS, STABILISE USING WOOD CHIP MULCH - 16 TONNE/Ha.
5. CONSTRUCT SILT FENCE WITH CATCH DRAIN ON UPSLOPE SIDE TO DIVERT WATER AROUND STOCKPILES & SILT FENCE ONLY 1 TO 2m DOWNSLOPE AS SHOWN.



TYPICAL CROSSING OVER DIVERSION CHANNEL

SCALE 1:20



DIVERSION DRAIN SECTION

SCALE 1:20

NOTES:

ALL EROSION & SEDIMENT CONTROL MEASURES TO BE INSPECTED & MAINTAINED DAILY BY SITE MANAGER.

MINIMISE DISTURBED AREAS.

ROADS & FOOTPATHS TO BE SWEPT DAILY.

1.2m TURF TO BE PLACED BEHIND KERBS.

DUST MINIMISATION CONTROL BY WATERING TO BE IMPLEMENTED BY SITE MANAGER AS REQUIRED OR AS DIRECTED BY THE EPA.

200mm 0 500 1000 1500 2000mm

SCALE 1:20 AT B1 SIZE SHEET

FOR INFORMATION

ISSUED FOR INFORMATION	31.01.25	A
AMENDMENTS	DATE	ISSUE

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ARCHITECT: PACE ARCHITECTS

CLIENT: GREYSTAR

BUILDER: VAUGHAN CONSTRUCTIONS

PROJECT: GREYSTAR GRANVILLE
26 FERNDELL STREET, SOUTH GRANVILLE
NSW, 2142

DESIGNED	DRAWN	DATE	CHECKED	SIZE	SCALE	CAD REF:
XC	XC	JAN' 25		B1	AS SHOWN	C015411.00-C250

CONSULT AUSTRALIA

Costin Roe Consulting Pty Ltd.
ABN 50 003 696 446
PO Box N419 Sydney NSW 1220
Level 4, 8 Windmill Street, Millers Point NSW 2000
p: +61 2 9251 7699 f: +61 2 9241 3731
e: mail@costinroe.com.au w: costinroe.com.au
COSTIN ROE CONSULTING
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EROSION AND SEDIMENT CONTROL DETAILS SHEET 1

DRAWING No: C015411.00-C250

ISSUE: A

Appendix I Unexpected Finds Protocol

Construction Environmental Management Plan

SSD-51310208 - 26 Ferndell Street, South Granville and 464 Blaxcell Street, Guildford, NSW

Vaughan Constructions Pty Ltd

SLR Project No.: 630.031503.00001

Sydney Environmental Group

T: 1300 884 164
E: info@sydneyenvironmental.com.au
W: www.sydneyenvironmental.com.au
P: 36E Fitzroy Street, Marrickville NSW

1st April 2025
Ref: 2762-LTR-01-140125.v2f

David Upton
Project Director
Vaughan Constructions
By email: David.Upton@vaughans.com.au

RE: Unexpected Finds Protocol – 26 Ferndell Street, South Granville NSW

1 Introduction

1.1 Overview

Sydney Environmental Group Pty Ltd (SE) was commissioned by Vaughan Constructions Pty Ltd (the client) to prepare an Unexpected Finds Protocol (UFP) for the site at 26 Ferndell Street, South Granville NSW (hereafter referred to as 'the site').

In consultation with the client, SE has the following appreciation of the site:

- The site occupies an area of approximately 5.1 hectares;
- The site is proposed for redevelopment, comprising demolition of existing structures, constructions of multiple multi-storey warehouses and associated infrastructure, access roads and car parking areas, and includes bulk earthworks, fit out and operation of the warehouses;
- The proposed development is noted as State Significant Development (SSD) with application number SSD-5130108;
- A Combined Preliminary and Detailed Site Investigation carried out for the site by JBS&G Pty Ltd (2023) identified contamination within the site, and concluded that the site would require a management strategy to remediate and validate asbestos impacted materials, as well as conduct supplementary contamination tested to delineate trichloroethene (TCE) soil vapour impacts to ensure the site is suitable for the proposed commercial/industrial land use;
- A Remedial Action Plan (RAP) has been prepared for the site by JBS&G Pty Ltd (2023) outlining a management strategy for previously identified contamination and additional pre-remediation investigations, and outline the associated validation requirements as part of the remediation works;
- An Aboriginal Cultural Heritage Assessment report (ACHAR) completed by Artefact Heritage Services Pty Ltd (2023), found that the site was assessed as having low-nil potential for Aboriginal objects or sites, however recommended an unexpected finds procedure should be prepared on the chance that such objects or potential objects are uncovered; and
- The site requires an Unexpected Finds Protocol (UFP) as part of Conditions of Consent of the Infrastructure Approval, in the event unexpected contamination / Aboriginal / historical heritage finds are uncovered during the earthworks / civil works stages of the redevelopment.

1.2 Legislation

The Unexpected Finds Protocol (UFP) has been prepared in accordance with the following contamination and heritage legislation, which are relevant to this document and are to be construed as forming an integral part of this document:

- *Protection of the Environment Operations (POEO) Act* 1997.
- *Contaminated Land Management (CLM) Act 1997.*
- *Work Health and Safety Regulation 2017.*
- *Work Health and Safety Act 2011.*
- Heritage Act 1977 (NSW).
- National Parks and Wildlife Act 1974 (NSW).
- Aboriginal and Torres Strait Islander Heritage Protection Act 1984 (Cth).
- Coroner's Act 2009 (NSW).

2 Objectives

The objective of the Unexpected Finds Protocol is to:

- Manage potential unexpected contamination finds to mitigate associated human health and environmental risks, and address obligations under the Protection of the Environment Operations (POEO) Act 1997 (NSW) and Contaminated Land Management (CLM) Act 1997 (NSW);
- Manage potential unexpected heritage finds to address obligations under the Heritage Act 1977 (NSW), National Parks and Wildlife Act 1974 (NSW), Aboriginal and Torres Strait Islander Heritage Protection Act 1984 (Cth) and the Coroner's Act 2009 (NSW); and
- Satisfy Conditions 52 (Unexpected Contaminated Finds), 53 and 54 (Unexpected Aboriginal Heritage) and 55 and 56 (Environmental Heritage) outlined within the development consent (SSD-51310208-PA-1).

2.1 Development Consent Conditions

Refer to **Table 2.1** below for references to Sections within the UFP in accordance with the conditions outlined in SSD-51310208-PA-1.

Table 2.1. Relevant Development Consent Conditions

Development Consent Reference	Condition Requirements	Section of Report
Unexpected Contaminated Finds Procedure – Condition 52 (C52)	Prior to the commencement of earthworks, the Applicant must prepare a contaminated finds procedure to ensure that known or potentially contaminated material is appropriately managed. The procedure must form part of the CEMP in accordance with condition D2 and must ensure any surplus material identified as contaminated is disposed of in accordance with the POEO Act and its associated regulations.	**Sections 3.1** & **4.1**
Aboriginal Heritage – Unexpected Finds Protocol – Condition 53 (C53)	If any item or object of Aboriginal heritage significance is identified on site: (a) All work in the immediate vicinity of the suspected Aboriginal item or object must cease immediately; (b) A 10 m wide buffer area around the suspected item or object must be cordoned off; and (c) Heritage NSW must be contacted immediately.	**Sections 3.2** & **4.2**
Aboriginal Heritage – Unexpected Finds Protocol – Condition 54 (C54)	Work in the immediate vicinity of the Aboriginal item or object may only recommence in accordance with the provisions of Part 6 of the *National Parks and Wildlife Act 1974*.	**Section 4.2**
Non-Aboriginal Heritage – Unexpected Finds Protocol – Condition 55 (C55)	If any non-Aboriginal archaeological relics are uncovered during any works being carried out for the development: (a) All work in the immediate vicinity of the suspected relic(s) must cease immediately; (b) Heritage NSW must be contacted immediately; and (c) The suspected relic(s) must be evaluated, recorded, and if necessary, excavated by a suitably qualified and experienced expert in accordance with the requirements of Heritage NSW.	**Sections 3.2** & **4.2**
Non-Aboriginal Heritage – Unexpected Finds Protocol – Condition 56 (C56)	Work in the immediate vicinity of any suspected non-Aboriginal archaeological relic(s) must not recommence until this has been authorised by Heritage NSW.	**Sections 3.2** & **4.2**

3 Unexpected Finds

3.1 Unexpected Contamination Finds

Unexpected finds of potential contamination on site may be identified by visual (appearance / staining) and/or olfactory (odour) evidence. Features described in **Table 3.1** overleaf are typically encountered as unexpected finds.

Table 3.1. Identification of Unexpected Finds (Contamination)

Unexpected Find	Details
Buried or Surface Asbestos Containing Materials	Includes non-friable (bonded) and/or friable asbestos. Visibly identifying asbestos is possible, but requires sampling / analysis by a NATA accredited laboratory to confirm the presence / absence of asbestos fibres.
Hazardous Building Materials	A hazardous building material survey must be undertaken prior to any proposed demolition activities for all structures at the site to identify and confirm the presence / absence of hazardous building materials within the site.
Building Waste Materials	Includes a variety of waste materials, like wood, plastic, metal, building rubble and general household waste / rubbish. Waste materials could indicate uncontrolled filling / dumping.
Hydrocarbon Impacts	Identified as a hydrocarbon odour and/or visible staining, oily sheen and/or larger discolouration of soil strata.
Septic Tanks	Often identified by an organic odour (landfill/sewer/putrefied) of varying strength.
Underground Storage Tanks (UST)	Maybe identified by a buried cylindrical steel tank, bowsers, fill points, footings or steel pipelines, and is often accompanied by hydrocarbon odours or staining.
Acid Sulfate Soils (ASS)	While more than likely not relevant to this site, ASS is identified by sulfidic odour of varying strength and/or grey to dark brown and yellow / orange mottling.
Other Unexpected Finds	May include various chemical odours or staining, and discolouration of soils. It is possible to encounter indications of contamination that may not be specifically described in this UFP. If in doubt, a precautionary principal should be implemented and the Unexpected Finds Procedure outlined in **Section 4** followed.

3.2 Unexpected Heritage Finds

Unexpected finds of potential heritage on site may be categorised as either Aboriginal objects, Historic (non-Aboriginal) heritage items or human skeletal remains. Features described in **Table 3.2** below are typically encountered as unexpected finds.

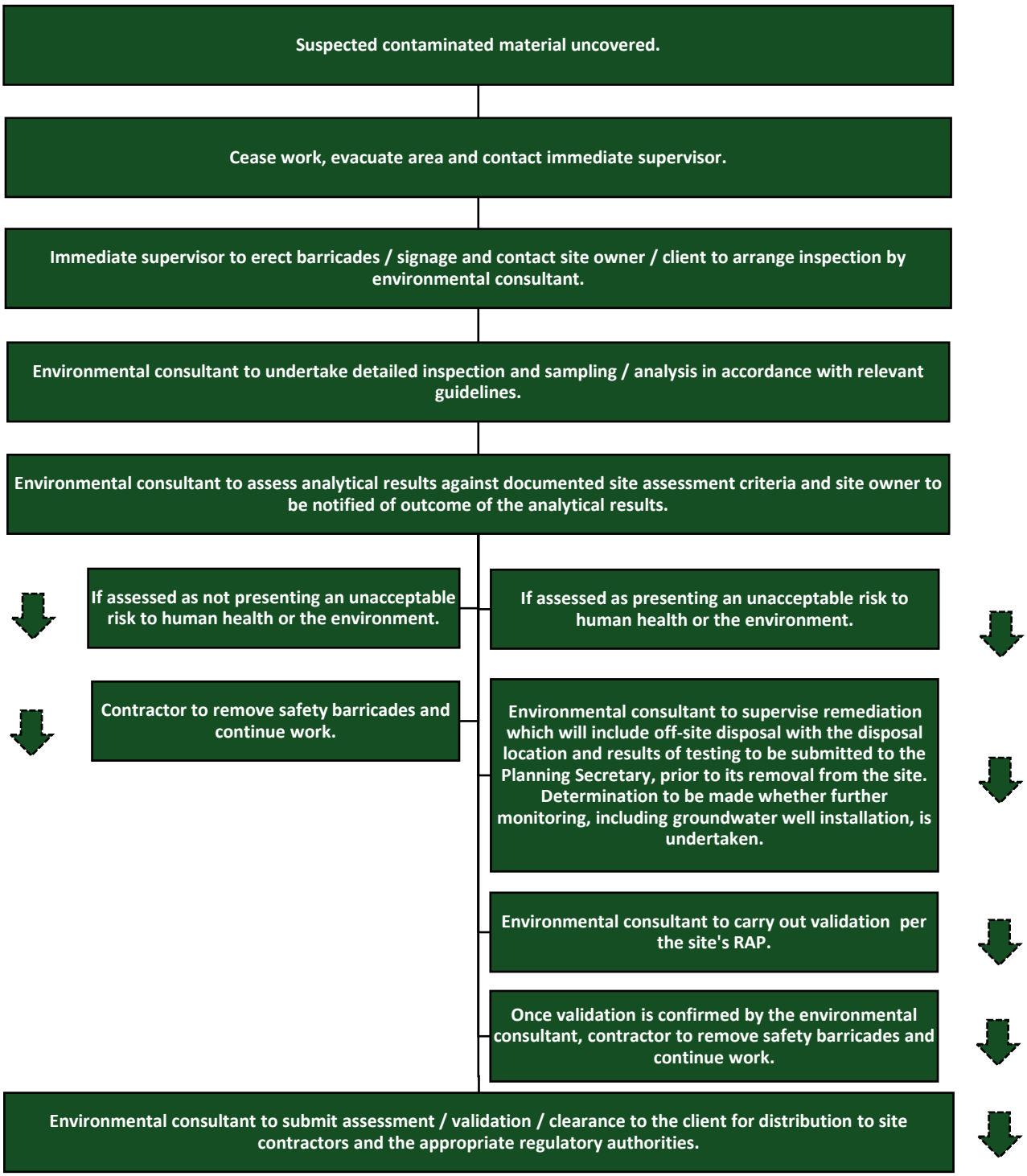
Table 3.2 Identification of Unexpected Finds (Heritage)

Unexpected Find	Details
Aboriginal Objects	Objects include stone tool artefacts, shell middens, axe grinding grooves, pigment or engraved rock art, burials and scarred trees.
Historic (non-Aboriginal) Heritage Items	Archaeological relics (including deposit, artefact, object or material evidence that relates to the settlement of the area that comprises NSW, not being Aboriginal settlement; and is of State or local heritage significance) and other historical items (include culverts, historic road formations, historic pavements, buried roads, retaining walls, tramlines, cisterns, fences, sheds, buildings and conduits
Human Skeletal Remains	Identified as bone fragments, which may not resemble human remains, to skeletal items in isolation (such as a skull) which can clearly be defined as human.

4 Unexpected Finds Procedure

4.1 Unexpected Finds Procedure (Contamination)

In the event that any suspected contamination is found during earthworks / construction phase scope, the following Unexpected Finds Procedure is to be followed:

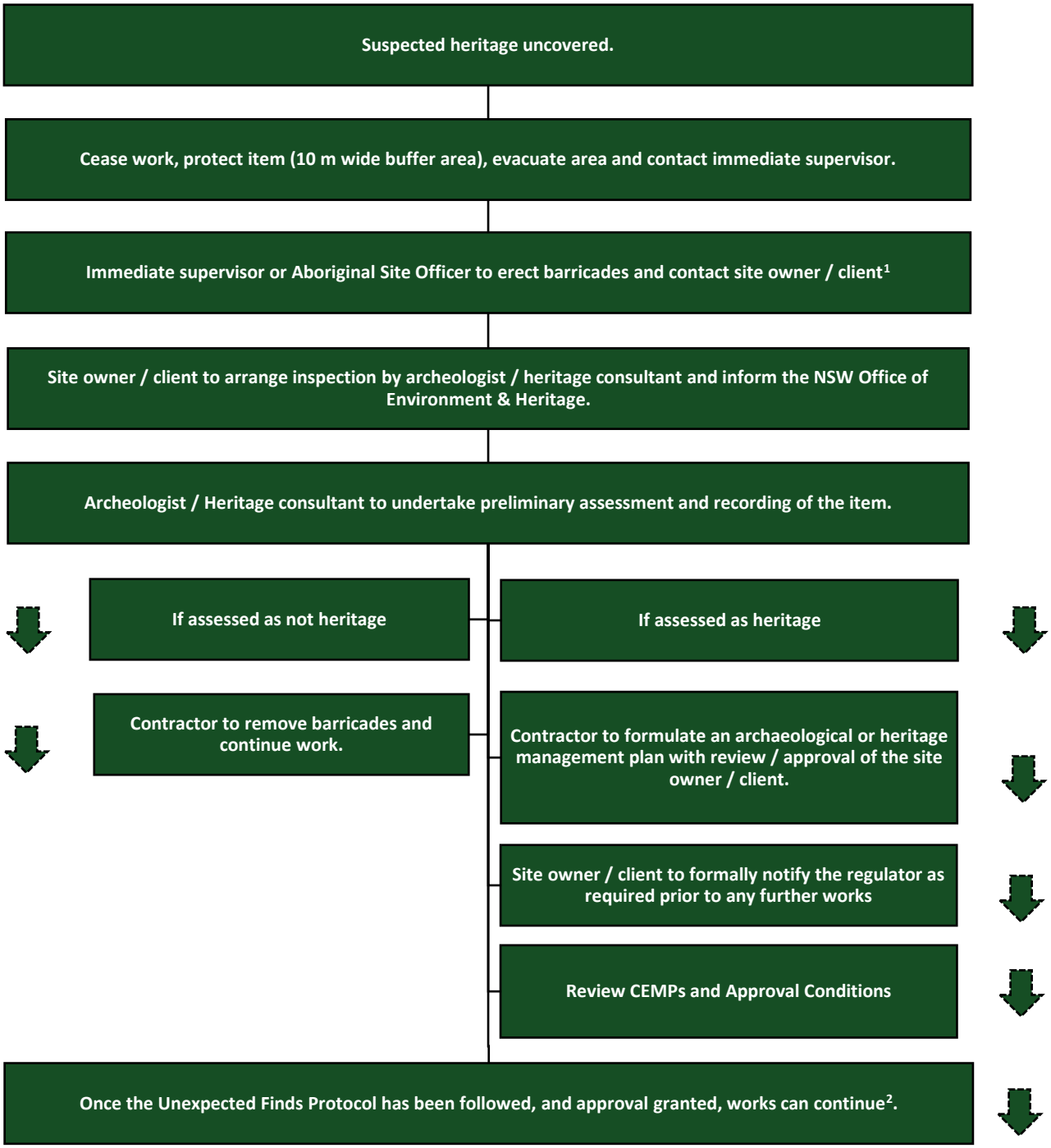


SE note that contamination must be managed in accordance with the following relevant guidelines:

- Work Health and Safety Regulation 2017;
- SafeWork NSW Code of Practice – How to Manage and Control Asbestos in the Workplace December 2022;
- SafeWork NSW Code of Practice – How to Safely Remove Asbestos December 2022; and
- Protection of the Environment Operations (Waste) Regulation 2014.

4.2 Unexpected Finds Procedure (Heritage)

In the event that any suspected heritage items are found during earthworks / construction phase scope, the following Unexpected Finds Procedure is to be followed:



Notes to UFP:

1. Per Section 8 of the ACHAR, if suspected human skeletal remains are uncovered, it is a requirement to contact the NSW Police (who may then contact the Coroner's Office). If remains are believed to be of Aboriginal Origin, the appropriate Aboriginal stakeholders and Heritage NSW must be notified.
2. Recommencement of works must be in accordance with the provisions of Part 6 of the National Parks and Wildlife Act (1974).

5 Training

All construction personnel are to be inducted on the identification of unexpected finds outlined in **Table 3.1** and **Table 3.2**, and the unexpected finds flowcharts outlined within **Section 4**. The induction into the UFP must be carried out by a suitably qualified person nominated by the client and should be part of a broader induction into the Construction Environmental Management Plan (CEMP) for the site.

All inducted personnel are to sign onto a training register following induction, with this UFP readily available as part of the CEMP during all earthworks / civil works and general construction phase scope.

6 Performance Criteria

The unexpected finds protocol is to be followed in the event an unexpected find related to contamination and/or heritage is uncovered during construction works. In the event a non-compliance related to failure to notify and engage an appropriate consultant upon uncovering an unexpected find, works must be stopped and the non-conformance recorded in the site's diary. All non-conformances will be reviewed monthly and actions put in place to avoid future non-conformances. Correct and/or follow up actions from investigations will be assigned to a suitable person with an appropriate timeframe for completion.

Reviews, and associated updates, of this UFP, will be required periodically.

In the event any complaints are made, a client representative will be informed and the client team will engage in communication to rectify the complaint. Please refer to the Project's Community Consultation and Complaints Management Strategy with regards to the handling / management of complaints.

7 Closure

We trust the information presented provides sufficient detail with regard to the procedures for identifying, characterising and managing / remediating unexpected contamination finds. As discussed, it is possible that indications of contamination not specifically covered in this UFP or any site inductions may be encountered. The precautionary principal should be applied, and the unexpected finds procedure activated in all such circumstances.

If you have any queries regarding this UFP, please to not hesitate to contact me.

Sincerely yours,



Managing Consultant
CEnvP, M.Sc. Envir. Sci., B.Sc. Meteorology
E: steve@sydneyenvironmental.com.au
M: 0434 215 998

Appendix J Remedial Action Plan

Construction Environmental Management Plan

SSD-51310208 - 26 Ferndell Street, South Granville and 464 Blaxcell Street, Guildford, NSW

Vaughan Constructions Pty Ltd

SLR Project No.: 630.031503.00001

Evolution MIT Services Pty Ltd atf Prestige Worldwide Industrial South Granville Trust

26 Ferndell Street and 464 Blaxcell Street South Granville, NSW 2142

Remedial Action Plan

JBS&G 64903 | 152899 Rev 0

4 August 2023

We acknowledge the Traditional Custodians of Country throughout Australia and their connections to land, sea and community.

We pay respect to Elders past and present and in the spirit of reconciliation, we commit to working together for our shared future.



Caring for Country The Journey of JBS&G
Artist: Patrick Caruso, Eastern Arrernte

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Appendices

Appendix A **Summary Tables**
Appendix B **Draft Concept Plans**

Abbreviations

Term	Definition
ACM	Asbestos Containing Materials
AF	Asbestos Fines
AEC	Areas of Environmental Concern
AHD	Australian Height Datum
ASRIS	Australian Soil Resource Information System
ASS	Acid Sulfate Soils
BTEXN	Benzene, Toluene, Ethylbenzene, Xylenes and Naphthalene
CLM Act	Contaminated Land Management Act
COC	Chain of Custody
COPC	Contaminants of Potential Concern
CSM	Conceptual Site Model
DBYD	Dial Before You Dig
DP	Development Plan
DQI	Data Quality Indicators
DQO	Data Quality Objectives
DSI	Detailed Site Investigation
EILs	Ecological Investigation Levels
EPA	NSW Environmental Protection Authority
ESA	Environmental Site Assessment
ESLs	Ecological Screening Levels
FA	Fibrous Asbestos
Ha	Hectare
HILs	Health Investigation Levels
HSLs	Health Screening Levels
JBS&G	JBS&G Australia Pty Ltd
JRA	Job Risk Assessment
LEP	Local Environmental Plan
LOR	Limit of Reporting
NATA	National Accreditation Testing Authority
OCP	Organochlorine Pesticides
PAH	Polycyclic Aromatic Hydrocarbons
PCB	Polychlorinated Biphenyls
PID	Photo-ionisation Detector
POEO Act	Protection of Environment Operations Act
PSI	Preliminary Site Investigation
QA/QC	Quality Assurance/Quality Control
RAP	Remedial Action Plan

RPD	Relative Percentage Difference
SAQP	Sampling Analytical and Quality Plan
SWMS	Safe Work Method Statement
TCE	Trichloroethene
TRH	Total Recoverable Hydrocarbons
VOC	Volatile Organic Compounds

Executive Summary

JBS&G Australia Pty Ltd (JBS&G) was engaged by Evolution MIT Services Pty Ltd atf Prestige Worldwide Industrial South Granville Trust (the client), to prepare a remedial action plan (RAP) for 26 Ferndell Street and 464 Blaxcell Street South Granville, NSW 2142 (the site). The site is formally identified as Lot 201 in DP816219 and Lot 12 in DP233162 and comprises a total area of 5.9 hectares (ha). The site location and site layout are shown in **Figures 1** and **2** respectively.

JBS&G understands that the client is seeking to redevelop the site for continued commercial/industrial (warehousing) uses. Draft concept plans (**Appendix B**) have been provided which details the proposed redevelopment will comprise the construction of multiple multi-storey warehouses and associated access roads, external on-grade and under-croft car parking areas. It is understood that significant cut earthworks will be conducted across the site to facilitate the proposed redevelopment that will result in approximately 120,000 m^3 of surplus materials.

During these works it is anticipated that remediation/management of identified contamination sources and areas of contamination impact will be implemented, such that upon completion of the rehabilitation/remediation works the site (or portions thereof) will be considered suitable for commercial/industrial use.

Previous environmental investigations conducted by others identified the site had been utilised as a tobacco manufacturing facility, with the presence of existing and historical petroleum underground storage tanks (USTs)/above-ground storage tanks (ASTs) and associated infrastructure, chemical storage areas, truck washing areas, the potential presence of bonded asbestos containing materials (ACM) fragments in fill, in addition to potential isolated areas of soil contamination from previous site uses.

A recent combined preliminary site investigation/detailed site investigation (PSI/DSI) completed by JBS&G (2023[1]) identified asbestos containing material (ACM) fragments in surficial soils across unsealed areas of the site as well as within subsurface fill at two locations. Trichloroethene (TCE) was also identified in soil vapour at one location, exceeding the adopted soil vapour health screening level.

It is understood that a State Significant Development Application (SSDA, SSD-51310208) has been lodged for early consultation, with Planning Secretary's Environmental Assessment Requirements (SEARs) provided by the Department of Planning and Environment (DPE) for the proposed commercial (warehousing) land use. Item 16 of the SEARS nominates the contamination status of the site to be assessed in accordance with Chapter 4 of the Resilience and Hazards State Environmental Planning Policy (Resilience and Hazards SEPP) to assess and quantify any soil or groundwater contamination and demonstrate that the site is suitable (or will be suitable, after remediation) for the redevelopment. This RAP has been prepared to address this comment and presents a summary of known and suspected site contamination conditions in relation to the proposed development scheme, additional pre-remediation investigations, an evaluation of potential contamination remedial strategies, identification of preferred strategies and details of site management and associated validation requirements to be implemented during the proposed remediation works at the site.

Overall, it is considered that the proposed actions outlined in this RAP conform to the requirements of the *Contaminated Sites Guidelines for the NSW Site Auditor Scheme (3rd Edition)* (EPA 2017) because they are: technically feasible; environmentally justifiable; and consistent with relevant laws policies and guidelines endorsed by NSW EPA.

---

[1] *Preliminary and Detailed Site Investigation, 26 Ferndell Street and 464 Blaxcell Street South Granville NSW 2142,* JBS&G Australia Pty Ltd, Rev A, 14 June 2023, Ref: 64903/152537 (JBS&G 2023)

Subject to the successful implementation of the measures described in this RAP, including additional pre-remedial investigations and with consideration to the Limitations presented in **Section 11**, it is considered that the site can be made suitable for the intended uses and that the risks posed by the identified contamination can be managed in such a way as to be adequately protective of human health and the environment.

1. Introduction

1.1 Background

JBS&G Australia Pty Ltd (JBS&G) was engaged by Evolution MIT Services Pty Ltd atf Prestige Worldwide Industrial South Granville Trust (the client), to prepare a remedial action plan (RAP) for 26 Ferndell Street and 464 Blaxcell Street South Granville, NSW 2142 (the site). The site is formally identified as Lot 201 in DP816219 and Lot 12 in DP233162 and comprises a total area of 5.9 hectares (ha). The site location and site layout are shown in **Figures 1** and **2** respectively.

JBS&G understands that the client is seeking to redevelop the site for continued commercial/industrial (warehousing) uses. Draft concept plans (**Appendix B**) have been provided which details the proposed redevelopment will comprise the construction of multiple multi-storey warehouses and associated access roads, external on-grade and under-croft car parking areas. It is understood that significant cut earthworks will be conducted across the site to facilitate the proposed redevelopment that will result in approximately 120,000 m^3 of surplus materials.

Previous environmental investigations conducted by others identified the site had been utilised as a tobacco manufacturing facility, with the presence of existing and historical petroleum underground storage tanks (USTs)/above-ground storage tanks (ASTs) and associated infrastructure, chemical storage areas, truck washing areas, the potential presence of bonded asbestos containing materials (ACM) fragments in fill, in addition to potential isolated areas of soil contamination from previous site uses.

A recent combined preliminary site investigation/detailed site investigation (PSI/DSI) completed by JBS&G (2023[2]) identified asbestos containing material (ACM) fragments in surficial soils across unsealed areas of the site as well as within subsurface fill at two locations. Trichloroethene (TCE) was also identified in soil vapour at one location, exceeding the adopted soil vapour health screening level.

It is understood that a State Significant Development Application (SSDA, SSD-51310208) has been lodged for early consultation, with Planning Secretary's Environmental Assessment Requirements (SEARs) provided by the Department of Planning and Environment (DPE) for the proposed commercial (warehousing) land use. Item 16 of the SEARS nominates the contamination status of the site to be assessed in accordance with Chapter 4 of the Resilience and Hazards State Environmental Planning Policy (Resilience and Hazards SEPP) to assess and quantify any soil or groundwater contamination and demonstrate that the site is suitable (or will be suitable, after remediation) for the redevelopment.

This RAP has been prepared to address SEARS and presents a summary of known and suspected site contamination conditions in relation to the proposed development scheme, additional pre-remediation investigations, an evaluation of potential contamination remedial strategies, identification of preferred strategies and details of site management and associated validation requirements to be implemented during the proposed remediation works at the site.

This RAP has been completed in general accordance with NEPC (2013[3]) and guidelines made or approved by the NSW Environment Protection Authority (EPA) and relevant Australian Standards.

1.2 Objectives

The objectives of this RAP are to:

[2] *Preliminary and Detailed Site Investigation, 26 Ferndell Street and 464 Blaxcell Street South Granville NSW 2142,* JBS&G Australia Pty Ltd, Rev A, 14 June 2023, Ref: 64903/152537 (JBS&G 2023)

[3] *National Environmental Protection (Assessment of Site Contamination) Measure 2013*. National Environment Protection Council, 2013 (NEPC 2013).

- Characterise and document the known extent of environmental/aesthetic impacts within the site via presentation of a conceptual site model (CSM);
- Identify the remedial strategy(ies)/framework to be adopted by an assessment of remedial options and development objectives;
- Identify and describe any pre-remedial investigations required prior to final design / implementation of remedial works; and
- Document the procedures and standards to be followed in order to remove the risks posed by contaminated soils and aesthetic impacts to make the site suitable for suitable for the proposed commercial/industrial land use, while ensuring the protection of human health and the surrounding environment.

1.3 Proposed Development

It is understood that the client is proposing to redevelop the site for commercial/industrial (warehousing) use. Draft concept plans (**Appendix B**) have been provided which details the proposed redevelopment will comprise the construction of multiple multi-storey warehouses and associated access roads, external on-grade and under-croft car parking areas. It is understood that significant cut earthworks will be conducted across the site to facilitate the proposed redevelopment.

2. Site Condition, History & Surrounding Environment

2.1 Site Identification

The location of the site is shown on **Figure 1**, with the current layout presented in Error! Reference source not found.. Site details are summarised in **Table 2.1**.

Table 2.1 Site Identification and Details

Lot / DP	Lot 201 in DP816219 and Lot 12 in DP233162
Current Zoning	E4 General Industrial
Local Government Authority	Cumberland City Council
Approximate MGA Coordinates (GDA 94, MGA 56)	Easting: 3156550 Northing: 6250880
Previous Use	Commercial/Industrial
Current Use	Commercial/Industrial
Approximate Site Area	5.9 hectares

2.2 Site Description

A detailed site inspection was completed on 2 May 2023 by one of JBS&G's qualified and experienced field scientists as part of the combined PSI/DSI (JBS&G 2023). Key elements of the site are presented on **Figure 2**.

The site comprised an irregular shaped parcel of land comprising two lots, multiple warehouses and associated sealed access roads/carparking which covered the majority of the site's footprint (Lot 210 DP 816219) with some isolated vegetated/landscaped areas. A vacant lot was present in the northwestern portion of the site accessed via an electric gate (Lot 12 DP 233162). The vacant lot appeared to be used as a storage/holding yard for trucks and vehicles and comprised portions of sealed and unsealed areas with isolated areas of crushed terracotta across the ground surface. Bonded ACM fragments were observed in the central portion of this lot (**Figure 2**). The vacant lot provided access via a lockable gate to vegetated area (northern portion of Lot 201 DP 816219), which contained a fire water tank and a pump house and a vegetated mound in the northern portion.

In Lot 201 DP 816219, asphalt sealed carparks were observed in the north and south-eastern portions of the site, accessed from Ferndell Street, in addition to an asphalt/concrete sealed carpark located in the western portion of the site accessed via a main driveway providing access from Straits Avenue. An under-croft car park was also observed beneath Warehouse 18. Site access was gained from Ferndell Street from the north-eastern portion of the site via a concrete paved ring road providing one-way access around the site buildings to exit via a gate at the end of Straits Avenue. Multiple intermediate bulk containers (IBCs) and drums storing printing ink and hydraulic oil were observed to be stored in a lockable chemical storage shed and external to the chemical storage shed in the western portion of the site (**Figure 2**). A north-south aligned, sealed drainage channel was observed to the east behind the chemical storage shed.

Shipping containers were noted in the western portion of the site and in Lot 12 in the northwestern portion of the site. The contents of the containers were unknown. A potential historical refuelling station with an associated concrete slab adjacent to the station and the presence of a foam filled fire extinguisher at this location, indicating the potential for an historical AST, were observed to the north of Warehouse 20. Various other external areas were observed to be used for storage of printing products including printing ink drums and associated printing consumables.

The site was suspected to have undergone excavation works to facilitate development of the site, with the highest point observed in the western portion of the site and sloped downwards towards Ferndell

Street, with the warehouse footprints appearing relatively flat. Site surfaces mainly comprised concrete/asphalt, with isolated areas of garden beds and grassed/vegetated/landscaped areas. No signs of distressed vegetation were observed in landscaped areas. Isolated areas of bonded potential ACM fragments were observed across unsealed areas/garden beds across the site as shown on **Figure 2**. It was noted that warning signage detailing existing asbestos containing material was present at the site and that an asbestos and hazardous materials register was present, however, the existing site manager (Colliers) did not hold a copy of the document. Unsealed vegetated embankments were observed in the vacant Lot in the northwestern portion of the site bordering the northern and western adjacent properties. In addition, electrical substations were observed in the central western portion and southern portion of the site bordering Straits Avenue.

Multiple underground services were identified to be located beneath the site including natural gas, electricity, stormwater and associated detention basins, potable water, fire water, irrigation water, and communications. A series of redundant services is expected to be found within inground soils beneath the site, noted from multiple redundant pipes observed to be cut across the external facades of the warehouses. It is noted that as part of the Dial Before You Dig (DBYD) search conducted for the site, asbestos warning indicators were identified on the plans for Endeavour Energy and Telstra indicating conduits associated with these underground services are likely to comprise asbestos containing materials.

Indicators of a potential underground storage tank (UST) were observed on the roadway in the western portion of the site, north of Warehouse 18. In addition, a previous environmental investigation (URS 2000[4]) noted the presence of a UST within Warehouse 18. JBS&G could not visibly identify indications of a UST within Warehouse 18 during the site inspection, noting the inspection of the building floor was limited due to stored infrastructure associated with the existing tenancy. However, a diesel bowser was observed in the corridor adjacent to Warehouse 18 and the potential UST location. In addition, an above ground diesel storage tank (AST) was observed in the under-croft carpark underlying Warehouse 18.

The key features noted within each warehouse are discussed in the following sections and shown on **Figure 2.**

Warehouse 1

The warehouse comprised a brick structure and was located in the southeastern portion of the site and was accessed via a gate from Ferndell Street. The warehouse was used by Trafalgar as a manufacturing warehouse of fire containment products and systems. The warehouse comprised an office area in the eastern portion and the production area which contained multiple machines used in the manufacturing process in addition to an area in south that was used for spray painting the products. The warehouse floor was concrete paved, with odours or staining only observed within the in the southern portion associated warehouse associated with the spray-painting area. Multiple flammable and corrosive liquids storage cabinets were located within the warehouse.

The external area to the north of the main warehouse contained shipping containers, a flammable storage container, drums, pallets, cardboards, and skip bins.

Warehouse 4

The warehouse comprised a two-storey structure located west of the northeast carpark and was accessed via the main roadway running along the northern boundary of the site. The first floor was used by Trafalgar as an office for administrative works while the lower ground floor was used as a workshop. A driveway sloping south provided access into the workshop which was observed to have stained surfaces in some areas adjacent to the workshop entry door.

[4] *Environmental Site Assessment, 26 Ferndell Street, Granville, NSW*, URS Australia Pty Ltd, 5 December 2000 (URS 2000)

Warehouse 5

The warehouse comprised a brick structure and was located west of Warehouse 4. The warehouse was used by Trafalgar for storing and packaging of products. The warehouse surface was concrete sealed, and no odours or staining were present within the warehouse. Forklifts were used within the warehouse to move pallets and products and to load products into truck for delivery.

Warehouse 6

The warehouse comprised a two-storey structure located south of Warehouse 5 and was accessed via a corridor west of Warehouse 5. The first floor was used by Trafalgar for storing and packaging of products and housed some unused machinery. The ground floor was vacant and appeared to have undergone some demolition work.

Adjacent to the ground floor to the east was a landscaped area with some tables and chairs used as an outdoor eating area by site workers.

Warehouse 7

The area comprised vacant rooms which were previously used as amenities and comprised a mixture of carpet and concrete floors with a hallway in the southeast which led to Warehouse 6.

Warehouses 8-10

The warehouses comprised brick structures and were located west of Warehouse 5 and north of Warehouse 7. The warehouses were used by Trafalgar for storage of products. The warehouse surfaces were concrete sealed, and no odours or staining were present. Forklifts were used within the warehouses to move pallets and products. A drum containing dibutyl phthalate used as a plasticizer which enhances the utility of engineering plastics was observed in the northern portion of Warehouse 8.

Warehouses 11, 15 and 16

The warehouses comprised a brick structure and were located west of Warehouses 8-10. The warehouses were used by Focus Printing Group for printing purposes. Printing machines covered the majority of Warehouse 11 with a storage area containing multiple flammable liquids storage cabinets and hydraulic oil containers observed in the amenities room in eastern portion of Warehouse 11. Containers of solvent-based paint were observed stored on shelves across the warehouse.

Warehouse 15 contained printing equipment in the southern portion and shelves for storing material in the northern portion. Drums (205 L capacity) containing flammable liquids were observed in the northeastern portion of the warehouse.

Warehouse 16 contained heavy duty printing equipment in the southern portion and unused equipment stored in the northern portion. Multiple IBCs, drums and paint/printing ink containers were observed in the southern portion of the warehouse, with a storage container used for storing printing solvents noted in the central portion of the warehouse. Strong odours associated with the printing inks were noted within the southern portion of this warehouse.

A vacant room was located to the north of Warehouse 16 (north of substation 6223). Based on markings on the warehouse floor, it appeared that associated machinery appeared had been removed, with disused condensers/cooling towers observed across the roof. No stained surfaces or odours were observed.

Warehouse 12

The warehouse comprised offices used for administrative purposes by Trafalgar in the eastern portion and Focus Printing Group in the western portion.

Warehouse 18

The warehouse comprised a brick structure located west of Warehouses 11, 15 and 16. The warehouse was used by Hanseatic Fine Foods for food processing. The warehouse was split into three portions, with the eastern portion comprising a cold storage area, which was inaccessible at the time of site inspection and investigation due to hygiene concerns. The central portion comprised a cool room, fridge area, offices and lunchroom, with the cool room and fridge area inaccessible at the time of site inspection and investigation due to hygiene concerns. JBS&G was given clearance for a brief inspection of the cool room to validate the presence/absence of a suspected UST in the eastern portion as reported by URS (2000) (**Section 4**). There were multiple goods stored across the warehouse floor, however, where the floor was visible, there were no indicators of the presence of a UST observed. It is noted that a diesel bowser presumed to be associated with the UST was observed directly east of this location.

The western portion of the warehouse was used as a storage area. A disused pump room and generator room containing six generators were observed in the southern portion of the warehouse.

An under-croft carpark was located under the central and eastern portion of the warehouse and accessed via Straits Avenue. A small, dedicated room in the southern portion of the car park housed a diesel AST and was located adjacent to a room used for storage of buckets of printing ink. A trade/food waste processing unit was located in the northwestern portion of the car park.

A small structure was observed north of the warehouse that was noted to contain rubbish bins, a vacant garage and a room which contained cleaning detergents.

Warehouse 19

The warehouse comprised a brick structure located west of Warehouse 18 and was used by Box Divvy for storing and packaging of fruits and vegetables. The southern portion was used for the handling and packaging of goods while the northern portion comprised a refrigerated area for the storage of goods.

Warehouses 20-21

The warehouses comprised a brick structure located west of Warehouse 19 and were used by Focus Printing Group for storing and packaging of printing products. Warehouse 20 was used for the storing and packaging of printed products while Warehouse 21 was used for storing printing equipment. Slight hydrocarbon odours were noted in the northern portion of Warehouse 21, with some isolated stained surfaces observed in the vicinity of the odours.

2.3 Surrounding Land Uses

Current features surrounding the site are summarised following:

- North: The Transdev NSW South Granville Bus Depot occupies the land immediately to the north of the eastern portion of the site. Commercial/industrial warehousing is located further afield along Ferndell Street, with low density residential properties located to the north of the western portion of the site, along Rawson Road, Blaxcell and Olsen Streets.
- East: Ferndell Street with commercial/industrial warehousing with Wategora Reserve and Auburn Golf Course beyond.
- South: Straits Avenue, followed by commercial/industrial warehousing beyond and Campbell Hill Pioneer Reserve to the southwest.
- West: Low density residential properties followed by Woodville Golf Course further afield.

2.4 Environmental Setting

The environmental setting of the site has been detailed in the combined PSI/DSI (JBS&G 2023). A summary has been provided in **Table 2.2**.

Table 2.2 Summary of Site Environmental Characteristics

Environmental Aspect	Characteristic
Topography and Hydrology	Review of published regional topographic data via the Spatial Information exchange (Six Maps[5]) indicated that the site lies within an area of typical elevations of between approximately 20-32 m Australian Height Datum (AHD). The site is located on a gently undulating slope, which generally falls to the east, towards Duck River. Duck River is located approximately 450 m east of the site and flows to north north-east to meet the Parramatta River approximately 6.5 km to the north-east of the site. As discussed in the PSI/DSI (JBS&G 2023), the site is largely covered by hardstand and warehouse structures, which would limit infiltration of precipitation to underlying surfaces across the site. Areas of exposed soils are limited to smaller unsealed/vegetated areas or isolated landscaped areas/garden beds on site, as such it is anticipated that minimal infiltration of precipitation falling onto the site will occur. In periods of heavy or prolonged rainfall, it is anticipated that excess water movement will be directed by the local stormwater system to Duck River (freshwater) to the east of the site.
Geology / Soil	Reference to the online ESPADE 2.0 tool hosted by the NSW Office of Environment and Heritage (OEH 2020[6]) and the 1:100 000 Geological Series Sydney Geological Survey of NSW Sheet 9130 (DMR 1983[7]) indicates that site is present within the following natural geological and soil landscapes: • **Geology**: Bringelly Shale (Wianamatta Group) – comprising shale, carbonaceous claystone, laminite, fine to medium grained lithic sandstone and rare coal. • **Landscape**: the natural soil profile of the site comprises the residual Blacktown landscape. The Blacktown landscape features gently undulating rises on Wianamatta shales, broad rounded crests and ridges with gently inclined slopes. Local relief to 30 m, slopes usually >5%. • **Soils**: Consistent with the Landscape, the site is characterised by soils of the 'Blacktown Residual Landscape' – shallow to moderately deep (>100 cm) hard setting mottled texture contrast soils, red and brown podzolic soils on crests grading to yellow podzolic soils on lower slopes and in drainage lines. • **Limitations**: Limitations of the 'Blacktown Residual landscape' include – localised seasonal waterlogging, localised water erosion hazard, moderately reactive highly plastic subsoil, localised surface movement potential.
Acid Sulfate Soils (ASS)	DLWC (19988) states that acid sulfate soils (ASS) are likely to be located in coastal lowlands up to about 10 m Australian Height Datum (AHD). No risk map for the area encompassing the site was provided as part of the DLWC (1998) acid sulfate soil risk

[5] *Six Maps website,* https://maps.six.nsw.gov.au/ accessed 1 May 2023.
[6] *ESPADE 2.0.* NSW Office of Environment and Heritage accessed 1 May 2023, (OEH 2020)
[7] *Sydney Geological Series Sheet 9130 (Edition 1) 1983*. Geological Survey of NSW, Department of Mineral and Resources (DMR 1983)
[8] *Guidelines for the Use of Acid Sulfate Soil Risk Maps*, *2nd Edition*, Department of Land and Water Conservation, March 1998.

	map series, typically indicating that such conditions have not been identified based on regional mapping of geology and soil. Review of accessible data using the SEED tool, hosted by NSW OEH (20189) indicates the area occupied by the site has not been required to be assessed for the presence of ASS based on the outcomes of a preliminary evaluation. All sites above 10 m AHD are by default characterised as "no known occurrence", being defined as areas where land management activities are not likely to be affected by ASS materials. Planning certificates, as reviewed in the DSI (JBS&G 2023), identified the site as being affected by Acid Sulfate Soils Class 5. Class 5 works involves Class 1, 2, 3 or 4 land that is below 5 metres Australian Height Datum (m AHD) and by which the water table is likely to be lowered below 1 m AHD on adjacent Class 1, 2, 3 or 4 land. The site is not identified to be within 500 m of such land. Review of the geographical and topographical location of the assessment area, in addition to the geological conditions identified at the site has indicated that there is no appreciable risk of ASS occurrence in natural soils and/or rock at the site. On this basis, there is no further requirement for consideration of ASS conditions and/or management of such during potential future ground disturbance activities.
Salinity	The *Salinity Potential in Western Sydney* map (DIPNR 2002[10]) indicates that the assessment area exists within an area of 'moderate salinity potential'. Areas of moderate salinity generally consist of areas susceptible to saline affectation if disturbed particularly if saline groundwater/seepage is intercepted and/or if areas of water logging can occur. Areas with this classification exhibit scattered scalding and indicator vegetation, but soil concentrations have not been mapped. Saline soils are identified as potentially existing within these areas. Soils surrounding Duck River and topographical drainage features have a 'high salinity potential', situated adjacent to the south and east of the assessment area. Areas of high saline risk generally occur lower in the landscape, or at zones of permeability contrast, where saline groundwater may come near to the ground surface or where seepage causes waterlogged conditions, thereby concentrating soils. Typically scattered saline indicator vegetation occurs in these areas. The Section 10.7 planning certificate obtained from Council as reviewed in the DSI (JBS&G 2023), did not identify the site to be affected by a salinity policy, however, it was noted that Council has not adopted a policy on salinity. The certificate referred to the Salinity maps found under the Cumberland Local Environmental Plan (LEP) 2021, with the site not identified to have a known salinity risk present at the site.
Hydrogeology	Registered groundwater bore information within a 2 km radius of the site was obtained from Water NSW online search tool (Water NSW 2023[11]), as detailed in the PSI/DSI (JBS&G 2023). Based on available information and observations made during groundwater investigation works, site groundwater is anticipated to exist within a semi-confined/confined system in shale bedrock. A review of site topography identifies that localised groundwater is likely to generally flow to the east/southeast towards Duck River (approximately 400 m to the east of the site boundary), in-line with the local topography. Intrusive investigation at the site identified groundwater at depths between 2.3 m and 6.4 m below ground surface.

[9] *Sharing and Enabling Environmental Data (SEED)*. https://www.seed.nsw.gov.au/ accessed 2 May 2023.
[10] *Salinity Potential in Western Sydney*. Department of Infrastructure, Planning and Natural Resources, March 2003, DIPNR 2002.
[11] *Water NSW* website accessed 1 May 2023, http://allwaterdata.water.nsw.gov.au/water.stm,

Meteorology	A review of average climatic data for the nearest Bureau of Meteorology monitoring location (Bankstown Airport AWS[12]) indicates the Site is located within the following meteorological setting: • Average maximum temperatures range from 17.4°C in July to 28.5°C in January; • Average minimum temperatures range from 5.2°C in July to 18.3°C in January; • The average annual rainfall is approximately 890.5 mm with rainfall greater than 1mm occurring on an average of 82.6 days per year; and • Monthly rainfall varies from 44.5 mm in September to 115 mm in March with the wettest periods occurring on average in February and March.

[12] http://www.bom.gov.au/climate/averages/tables/cw_066137.shtml. Commonwealth of Australia, 2013 Bureau of Meteorology, Product IDCJCM0028 and accessed by JBS&G on 1 May 2023.

3. Summary Site History and Previous Site Investigations

3.1 Summary of Site History

A detailed assessment of the site history has been presented in the PSI/DSI (JBS&G 2023). From review of historical site information, the site was a mostly cleared vacant or agricultural land until the early 1950s, when construction of the existing structures commenced. The site had been completely developed for commercial/industrial use by 1965 with few minor developments occurring since that time up until the present day.

3.2 Previous Site Investigations

3.2.1 URS 2000[13] Environmental Site Assessment

URS Australia Pty Ltd (URS) was engaged by British American Tobacco Australia (BATA) to conduct an environmental site assessment (ESA) of the former BATA manufacturing site within the 26 Ferndell Street site to support divestment processes. The objectives of the ESA were stated to be:

- Characterise the nature and extent of contamination at the site;
- Assist BATA in satisfying due diligence requirements associated with the divestment of the site; and
- Resolve as many outstanding issues as possible prior to divestment of the site.

The scope of works comprised a site history review (including aerial photographs and descriptions of the installation and uses of underground storage tanks (USTs) and aboveground storage tanks (ASTs), a detailed site inspection, a review of prior investigations, the advancement of 61 sampling locations for soil investigations and the installation of three groundwater monitoring wells. Findings related to the ESA are summarised below.

The report detailed that the main site building constructions were concrete slabs on ground, with brick and/or fibre cement wall cladding and fibre cement roofing. Asbestos containing cladding was reportedly used for building construction, however, the materials had been removed at the time of the report. No concrete flooring was originally present in the warehouse building (assumed to be Warehouses 8-21). Warehouse 1 was used as a marketing building, with a small photographic processing laboratory during the 1990s. Liquid wastes (including silver) were directed into a trade waste pit, with an accidental spill of developer and fixer chemical understood to have occurred.

The report detailed that a 26,500 L capacity petrol UST was installed beneath the roadway directly adjacent to the existing garage (north of Warehouse 18), with regular testing undergone since 1990. The report detailed that BATA were intending to remove this UST prior to divestment. A 115,000 L diesel UST was installed below ground within the previous leaf factory (Warehouse 18) in 1990. It was understood that this tank was protected by four cathodic anodes and supplied fuel to a 14,000 L AST in the southern portion of the site which serviced the site generators above the AST. There were no records of any major spills occurring during refuelling of the USTs on site. The 115,000 L diesel tank has been subject to tank integrity testing which indicated that the tank and associated suction line was sound.

A 14,000 L petrol UST was also installed in the main car park to the east of the security gatehouse, with integrity testing in 1997 indicating that the tank was no longer sound, and the tank was subsequently removed. During removal, soils directly beneath the tank was found to be impacted by hydrocarbons and was subsequently excavated and disposed from site.

[13] *Environmental Site Assessment, 26 Ferndell Street, Granville, NSW*, URS Australia Pty Ltd, 5 December 2000 (URS 2000)

A number of diesel ASTs were present from the 1960s to the 1980s, located within the underground carparking area (beneath Warehouse 18) and were housed within bunds, with no records of major spillages or leaks from these tanks. A generator was also located in the plant room of the previous Canteen Building (Warehouse 6) with diesel fuel supplied from a 700 L AST, filled using a mobile tanker from the existing 115,000 L UST.

The report noted that prior to the mid-1960s, two thermal incinerators were used on site to dispose of non-production wastes, located in the vicinity of the previous central services building and main factory dust collection building (existing location unknown). URS 2000 detailed that the areas where the incinerators stood were excavated prior to the construction of the buildings and it was therefore unlikely that any ash or chemical residues from incineration operations remain present on the site.

The investigation identified multiple chemical uses and drum storage areas on site including machine lubricating oil, 1,1,1-trichloroethane solvent, ethanol, menthol solutions, glycerine, plasticisers and PVA adhesives. It was understood that from the mid-1970s lubricating oils and potentially gardening related chemicals were stored in a garden shed in the western rear of the site. It was understood that during the mid-1980s, there were several incidents where waste oils may have been poured onto the grass in the western portion of the site. It is understood that Analchem undertook soil contamination testings with no significant issues of concern reported.

The water tank and pump house area were originally part of a separate lot owned by Blackwood Hodge and was used as an idle equipment storage area. This portion of the site was purchased by Rothmans in the 1990s when the fire protection facility was built. Blackwood Hodge reportedly removed all stockpiled material from the area prior to sale. It was understood that no environmental investigations were undertaken across this portion of the site, with some minor earthworks/regrading activities conducted following possession by Rothmans.

Multiple oil collection/trade waste collection systems and chemical storage areas were observed across the site. Multiple transformers were also observed across the site, with site personnel indicating that polychlorinated biphenyls (PCBs) had been removed from all infrastructure in the early 1990s.

It was also noted that existing site operators reported that a batch of defective tobacco was buried somewhere on the site during the 1960s, probably within an area which is now beneath a building, however, it was understood that this would be green waste only.

The report noted COPCs to include:

- Petroleum hydrocarbons and lead from potential leaks/spills from past and present USTs and ASTs;
- Heavy metals and polycyclic aromatic hydrocarbons (PAHs) from fill materials and roadways;
- Heavy metals, volatile organic compounds (VOCs), semi volatile organic compounds (SVOCs), pesticides, oxygenated compounds (OCs), petroleum hydrocarbons, PAHs and chlorinated solvents from chemical spills/leaks and the storage of waste material on site;
- PCBs from potential transformer oil leaks;
- Silver from potential trade waste pit leaks; and
- Asbestos fragments/fibres from construction materials.

An intrusive soil sampling program was undertaken and collected samples were analysed for heavy metals, total petroleum hydrocarbons (TPH), BTEX, PAHs, SVOCs, VOCs, OCs, PCBs and organochlorine and organophosphorus pesticides (OCPs and OPPs). A total of seven groundwater monitoring wells (three newly installed and four existing from a previous investigation in 1997) were sampled and

analysed for heavy metals, TPH, BTEX and VOCs. Key contaminants detected in the invasive sampling program included:

- Elevated arsenic in surface soils at one location in the vicinity of a flammable liquids store;
- Elevated petroleum hydrocarbons were reported in shallow soils at one location in the vicinity of the fire water tank;
- Petroleum hydrocarbons were detected in shallow soils collected from the diesel tank bowser area, below the adopted criteria;
- Low levels of pesticides and arsenic were detected below the adopted criteria in soils across the south-western corner of the site, attributed to potential past application of pesticides and/or localised spills/leaks of chemicals previously stored in the area;
- OCPs in surface soils at two locations in the vicinity of the flammable liquids store;
- A fragment containing chrysotile asbestos at one location;
- Elevated copper in groundwater at six locations;
- Elevated lead in groundwater at three locations;
- Low concentrations of TPH and benzene reported below the adopted criteria in groundwater in the eastern carpark, attributed to the previous petrol UST present (since removed); and
- TPH in groundwater at one location adjacent to a former UST pit.

Following the review of previous reports and discussion of the results of the intrusive soil and groundwater sampling program, the report concluded that the site was suitable for commercial/industrial land use. It is noted that a sampling location map and borehole logs were not provided within the report.

3.2.2 ENVIRON 2008[14] Baseline Environmental Assessment

ENVIRON Australia Pty Ltd (ENVIRON) was engaged by Sirius NZ Holdco Ltd and McMillan Printing Unit Custodian Pty Ltd to conduct a baseline environmental assessment of the 26 Ferndell Street site. The objective of the assessment was to assess the effects of McMillan Press activities since the previous contamination investigations (URS 2000) and since the removal of a 26,500 L petrol UST in 2000. It is understood that validation following UST removal was conducted by URS in 2001 with the report cited in ENVIRON 2008, however, URS 2001 was not provided to JBS&G for review.

The scope of works consisted of a limited invasive soil and groundwater sampling program undertaken by JBS Environmental Pty Ltd for ENVIRON, targeting data gap areas identified during a Preliminary Environmental Review conducted by ENVIRON in June 2005 (report not supplied). Area targeted in the assessment included:

- The western grassed area which stored drums of solvents and solvent waste;
- The hazardous waste storage shed in the western portion of the site due to potential leakage and spillage of solvents and other chemicals from the printing operations;
- The water tank and pumphouse area which contained elevated TPH (URS 2000) which were not remediated;
- The area surrounding the 115,000 L diesel UST which was still in use in 2008;

[14] *Project Fox Baseline Environmental Assessment 26 Ferndell St Granville*. ENVIRON Australia Pty Ltd, 5 February 2008 (ENVIRON 2008)

- The waste skip where potentially contaminated fluid was observed to be seeping into the ground; and
- Groundwater assessment inclusive of resampling the existing network of nine monitoring wells.

The scope of the report also included integrity testing of the 115,000 L diesel UST performed by MassTech Australia.

The soil and groundwater sampling program consisted of soil sampling from twelve hand augered locations, sampling seven existing groundwater monitoring wells (noting two groundwater monitoring wells were unable to be sampled due to the well presenting dry or damaged). Soil samples were analysed for heavy metals, TPH, VOCs and BTEX. Groundwater was analysed for heavy metals, TPH, VOCs, BTEX and PAHs. Key results of the sampling program included:

- Possible bonded asbestos fragments on the ground surface at three sample locations (two within the northern portion of Warehouse 21, one within the walkway between Warehouse 5 and 8) and within subsurface fill at the location advanced adjacent to the fire water tank. A review of the borehole logs indicated these areas may have been unsealed at the time of the investigation;
- No instances of elevated heavy metal, TPH, VOC or BTEX concentrations were reported at any sample locations;
- Low levels of middle and heavy fraction TPH were reported in groundwater at one monitoring well location (eastern boundary of the site) which was attributed to former storage and potential spillage of hydrocarbons in the area; and
- No BTEX, PAHs or chlorinated compounds were detected in any sample analysed.

The result of the UST integrity testing determined that the tank passed the test and that a minor weep on the manway was identified and recommended to be repaired. Groundwater samples collected downgradient of the tank did not detect hydrocarbons within groundwater.

The report concluded that there was no indications of material soil or groundwater contamination associated with former site activities, with the exception of some scattered bonded asbestos fragments on the ground surface in some areas. The asbestos contamination was not considered to be a risk for current land use, but the report recommended the clearance of asbestos fragments and the installation of signage in the affected area.

3.2.3 CBRE 2022[15] Technical Due Diligence Report

CBRE Building, Depreciation and Cost Consultancy (CBRE) was engaged by Greystar Australia Pty Ltd (Greystar) to conduct a Technical Due Diligence report (TDD) of the 26 Ferndell Street site to assess condition of the structures and services on site.

The scope of works comprised a general asset description, an assessment of the structure and building fabric, and an assessment of the building services including mechanical, electrical, fire, hydraulic and lifts.

The key findings of the report are summarised below:

- The site is currently tenanted for warehousing, cold storage, manufacturing, printing, food production and food distribution and building material production uses;

[15] *Technical Due Diligence Report, 26 Ferndell Street*. CBRE Building, Depreciation & Cost Consultancy, 7 April 2022 (CBRE 2022)

- The façades of the building appear to be in fair to good condition;
- The site is mainly covered by hardstands inclusive of asphalted car parks with minor disrepairs;
- The current roofing is considered to be in a fair condition, and is reported to have been fully replaced by the previous owners, circa 2000;
- The original chillers, cooling towers, boilers and pumps which previously provided factory air conditioning have been decommissioned, however, remain in place;
- Electrical plant and equipment are in reasonably fair condition. It is noted the site contains high voltage power with three Endeavour Energy kiosk pad mount substations and two Endeavour Energy industrial transformers in chain wire yards;
- A fire water storage tank and associated pump house was identified in the northern portion of the site. Multiple fire services were observed across the site including boosters, hydrants, hose reels, sprinkler systems and pumps. The fire services were found to be in reasonable condition; and
- Five decommissioned diesel generators are present in the southern portion of the site which were previously used for manufacturing processes, which were fed from a 110,000 L underground storage tank (UST), still in place. The tank was last tested in 2007 with a minor weep in the manway to be repaired.

No environmental or intrusive investigations were undertaken as part of this report.

3.2.4 Reditus 2022[16] Environmental Due Diligence Assessment

Reditus Consulting Pty Ltd (Reditus) was engaged by Greystar Australia Pty Ltd (Greystar) to complete an environmental due diligence assessment for the proposed acquisition the 26 Ferndell Street site. The objective of the report was to provide advice for the prospective purchaser to inform due diligence requirements for the proposed acquisition and redevelopment of the site.

The scope of the works comprised:

- A desktop review of previous investigations and the environmental setting of the site;
- A desktop review of the historical land uses, and business data based on a Due Diligence Insight Report prepared by Land Insight;
- A site inspection to confirm reported conditions and to identify areas of potential contamination;
- The advancement of three boreholes using push tube and solid flight auger drilling techniques for targeted intrusive soil sampling; and
- The conversion of the three boreholes into groundwater monitoring wells for sampling.

The desktop review confirmed conclusions made from this report and previous reports (URS 2000 and ENVIRON 2008) regarding environmental setting. The desktop review of historical land uses, and business data revealed the predominant businesses onsite since the 1950s to be tobacco manufacturing, printing, fire prevention materials manufacturing and fire prevention consulting.

The site inspection identified various tenants on the site, consistent with the existing tenants observed by JBS&G as part of the current 2023 investigation. Several chemical drums containing printing products were observed to the north of Warehouse 10 and 11, empty drums and IBCs were identified

[16] *Environmental Due Diligence Assessment, Former McMillan Press, 26 Ferndell Steet, South Granville NSW,* Reditus Consulting Pty Ltd, 12 April 2022 (Reditus 2022)

within the lockable waste drum storage area to the west of Warehouse 21 and multiple smaller capacity chemical containers were observed within the southern portion of the printing premises.

A targeted intrusive sampling program was conducted to determine the extent of potential contamination migrating off site. Three boreholes/groundwater monitoring wells were positioned along the southern border of the site. Collected soil samples were analysed for TRH, BTEX, PAHs, heavy metals, OCPs, OPPs, PCBs, asbestos, VOCs and PFAS. Groundwater samples were analysed for TRH, BTEX, PAHs, OCPs, OPPs, phenols, PCBs, VOCs and PFAS.

Laboratory analysis of soil samples detected no COPCs above the adopted site criteria. Heavy metal concentrations were detected above the adopted criteria in all three groundwater monitoring well locations but were deemed to be consistent with background concentrations. Concentrations of perfluorooctanesulfonic acid (PFOS) above the adopted ecological criteria was detected at one location (0.19 µg/L PFOS in MW01).

JBS&G notes that the PFOS concentration recorded in MW01 was below the PFOS 95% freshwater protection level of 0.48 µg/L provided in ANZG (2023[17]).

The report concluded that:

Based on the scope of environmental due diligence assessment and targeted environmental sampling, the site presents an acceptable level of environmental risk in relation to the proposed acquisition. This appraisal was made following a discussion of findings with the client and with consideration to:

- *The site is not currently subject to notification or regulation NSW EPA.*
- *Chemical concentrations in soil were below the adopted site assessment criteria indicating that shallow fill outside of the operational areas was not affected by contamination.*
- *Contaminant concentrations in groundwater were mostly below the adopted site assessment criteria or indicative of background conditions.*
- *The concentration of PFOS observed in MW01 (east of the marketing building) was marginally above the adopted ecological criteria. This could be demonstrated to be acceptable following completion of a site-specific risk assessment, with consideration to the restricted groundwater flow in a low yield shale aquifer and the distance/pathways to ecological receptors.*
- *The client has acknowledged during the teleconference on 24 March 2022 that remediation within the site boundary could be completed during the development phase following acquisition.*

The conclusions of the report were subject to implementation of the following recommendations:

- Completion of a detailed site investigation across operational areas that were inaccessible at the time of the investigation;
- Preparation of a site-specific risk assessment for PFOS migration off site;
- Preparation of a remedial action plan (RAP) outlining works involving UST and AST removal and remediation of contaminated soil, groundwater and soil vapour where encountered; and
- Completion of remediation and validation work.

It is noted that borehole logs were not provided with the report.

[17] *Toxicant default guideline values for aquatic ecosystem protection: Perfluorooctane sulfonate (PFOS) in freshwater*. Australian and New Zealand Guidelines for Fresh and Marine Water Quality. CC BY 4.0. Australian and New Zealand Governments and Australian state and territory governments, Canberra, ACT, Australia (ANZG 2023)

3.2.5 JBS&G 2023 Combined PSI/DSI

JBS&G Australia Pty Ltd (JBS&G) was engaged by Evolution MIT Services Pty Ltd atf Prestige Worldwide Industrial South Granville Trust to conduct a combined preliminary and detailed site investigation (PSI/DSI) for the site.

The scope of works comprised a review of available site history information, previous investigation reports and publicly available information to identify potential areas of environmental concern (AECs) and associated contaminants of potential concern (COPC); soil, groundwater and soil vapour sampling, analysis of selected samples for identified COPCs; comparison of collected data against relevant EPA endorsed criteria; and preparation of a combined PSI/DSI report in general accordance with relevant EPA endorsed guidelines.

The site investigation works comprised a detailed site inspection and advancement of 58 boreholes across the site with selected soil samples submitted for laboratory analysis to sufficiently characterise site conditions. Five boreholes were completed as groundwater monitoring wells with groundwater samples collected from newly installed wells and three existing monitoring wells submitted for laboratory analysis. Sub-slab soil vapour was sampled at twenty-five locations to assess subsurface impacts within existing buildings due to the current and historical use of solvent-based chemicals across the site.

Based on the scope of work completed for the investigation, the findings of the investigation included:

- From review of historical site information, the site was a mostly cleared vacant or agricultural land parcel until the early 1950s, when construction of the industrial structures began. The site was completely developed for commercial/industrial use by 1965 with few minor developments occurring up until the present day. The site was previously used as a tobacco manufacturing facility and subsequently used as a printing facility. The present-day tenancies at the site include general warehouse storage, active printing activities, refrigerated food storage, fire protection service production and associated offices/amenities.
- Potential sources of contamination identified as part of the site history review and site inspection included: fill materials of unknown origin imported to the site; cross contamination or leaching from historically overlying fill materials to natural materials; spills or leaks associated with chemical/fuel storage or use within factory machinery; manufacturing, printing and industrial activities; hazardous materials associated with former/current structures across the site; former agricultural use and the presence of USTs/ASTs.
- Representative samples of fill and natural soil were selected and analysed for a range of identified potential contaminants of concern including heavy metals, polycyclic aromatic hydrocarbons (PAHs), total recoverable hydrocarbons (TRH), benzene, toluene, ethylbenzene and xylenes (BTEX), organochlorine pesticides (OCPs), per- and poly-fluoroalkyl substances (PFAS), polychlorinated biphenyls (PCBs) and asbestos. The reported concentrations of all contaminants of concern within analysed soil samples were below the adopted criteria protective of ecological and human health with the exception of one friable asbestos (FA) in soil concentration at BH39 (0.2-0.3 m), which exceeded the human health FA/asbestos fines (AF) criterion.
- Groundwater monitoring wells installed at targeted locations were sampled for contaminants of potential concern including heavy metals, TRH/BTEX, volatile organic compounds (VOCs), PFAS and PAHs. Elevated levels of heavy metals were recorded in several monitoring wells at the site, however, the metals concentrations are considered to reflect background conditions within the hydrogeological setting of the site. All petroleum hydrocarbon and PFAS concentrations were below the limit of reporting at the groundwater sampling locations.

- The soil vapour investigation identified trichloroethene (TCE) exceeding the adopted soil vapour health screening level at one location (SV25). Further assessment is recommended to delineate the extent of TCE impacts to identify the requirements for remediation/management during redevelopment.
- Based on the completed scope of works, the risk of migration of contaminants from the site is considered to be low based on the soil and groundwater contamination conditions identified.

Based on the findings of the investigation and subject to the limitations presented in **Section 14** of the report, it was considered that the site could be made suitable for the proposed commercial land-use, subject to the remediation/management of asbestos impacted soil and delineation of identified TCE impacts in soil vapour. It is considered that potential risks associated with the identified impacts can be remediated/managed through readily available standard industry practices.

It was recommended that a Remedial Action Plan (RAP) be prepared to identify remediation and/or management of asbestos impacts to soil and validation requirements for removal of USTs and associated infrastructure, following completion of a data gap investigation to delineate the extent of TCE impact in soil vapour that may require remediation at the site, to make the site suitable for the proposed use.

4. Conceptual Site Model

4.1 Potential Areas of Environmental Concern

Based on the history review and observations made during the JBS&G inspection of the site, areas of environmental concern (AECs) have been identified and are presented in **Table 4.1**.

Table 4.1 Summary of Decision Rules

AEC	COPC	Potential Impacted Media
Fill of unknown origin used to generate current site levels	Asbestos in soils Heavy metals TRHs BTEX	Soil Groundwater Soil Vapour
Natural Materials – cross contamination or leaching from overlying fill or contaminating manufacturing/industrial processes	PAHs OCPs PCBs VOCs per-and poly-fluoroalkyl substances (PFAS) Aesthetic impacts from anthropogenic materials	Soil Groundwater Soil Vapour
Spills or leaks associated with chemical/oil/fuel storage or use within factory machinery, and/or maintenance of vehicles/plant, vehicle washing etc.	Heavy metals, TRH/BTEX, PAH, VOCs.	Soil Groundwater Soil Vapour
Site building structures	Asbestos, lead and PCBs	Soil
Manufacturing, printing and industrial activities	Heavy metals, TRH, BTEX, PAHs, PCBs, PFAS and VOCs	Soil Groundwater Soil Vapour
Presence of USTs and ASTs	Heavy metals, TRH, BTEX, PAHs	Soil Groundwater Soil Vapour
Former agricultural use	Heavy metals, OCPs	Soil

4.2 Site Contamination Status Summary

The contamination status of the site is summarised in **Table 4.2.**

Table 4.2 Contamination Status

Issue	Area of Site	Criteria Exceeded
Existing underground and above ground fuel infrastructure and potentially impacted soils	Central portion of the site	-
The potential for underground ACM conduits (as indicated in Endeavour Energy and Telstra dial before you dig plans).	Underground service infrastructure across the site	WHS

Surface soils impacted by bonded ACM fragments across unsealed areas of the site	Eastern, western and northern portions of the site (**Figure 3**)	WHS and qualitative HSL-D
Subsurface soils impacted by bonded ACM and AF/FA	BH32 and BH39	WHS and HSL-D
TCE in soil vapour at location SV25	South-eastern portion of the site beneath Warehouse 1	HIL-D

4.3 Potential for Migration from Site

Contaminants generally migrate from site via a combination of windblown dusts, rainwater infiltration, groundwater migration and surface water runoff. The potential for contaminants to migrate is a combination of:

- The nature of the contaminants (solid/liquid and mobility characteristics);
- The extent of the contaminants (isolated or widespread);
- The location of the contaminants (surface soils or at depth); and
- The site topography, geology, hydrology and hydrogeology.

The COPCs identified as part of the site history review and previous contamination assessments are generally in solid form (e.g. asbestos), liquid form (e.g. TRH, BTEX, OCPs and PCBs) or gaseous form (e.g. TCE).

The ground surfaces overlying the site are primarily comprised of sealed pavements and building footprints with limited unsealed or vegetated ground thereby limiting the total extent of surface water infiltration into the subsurface. The migration of in-situ impacted soil via windblown dust is considered to be unlikely provided the hardstands are maintained across the site.

The potential solubility of chemical contaminants in soil, in addition to the rate of surface water intrusion, perched water seepage and groundwater movement across the site will influence the potential for migration of soil and groundwater-based contamination within and from the site. As impacted groundwater has not been identified across the site, the potential off-site migration of contaminants in groundwater has not been considered.

Natural soils at the site comprise relatively impermeable clay and residual shale/inter-bedded siltstone/sandstone. Notwithstanding, migration of potentially impacted groundwater may occur at depth over moderate to long time periods. Migration of contaminants from the site via infiltration into groundwater is considered to be a potential pathway if there is significant liquid or liquid soluble (e.g. hydrocarbon, PFAS) COPCs, which has not been identified to date across the site.

If petroleum hydrocarbon or volatile compound contamination occurs in soil or groundwater, there is the potential for these impacts to also occur in soil vapour underlying the site. These constituents can migrate laterally from the site through diffusive/advective processes as well as through preferential pathways. Vapour movement in proximity to buildings can be highly influenced by potential advective effects as caused by local pressure gradients associated with the extent of the building footprint.

It is noted that TCE has been identified in soil vapour at SV25 (**Figure 4C**), with no other indications of petroleum hydrocarbon of volatile compound contamination identified across the site to date. The reported TCE is likely associated with the use of solvents potentially being used or historically used within Warehouse 1. No chlorinated vapour impacts have been reported in other portions of the site, with impacts considered likely limited to the unsaturated fill zone beneath Warehouse 1 (depending on the nature of source impact).

Should elevated levels of volatile contaminants be identified during subsequent investigations or remedial activities or found to extend laterally to the site boundaries, then the potential off-site migration of these constituents will require further consideration.

4.4 Receptors and Exposure Pathways

Potential human receptors for the proposed development include future construction and maintenance workers and future site occupants who may potentially be exposed to COPC through direct contact with impacted site soils/groundwater and/or inhalation of dusts/fibres/vapours associated with impacted sub-strata.

Potential ecological receptors include flora and fauna present across the site, albeit of limited extent and in nearby topographically down-gradient areas.

4.5 Preferential Pathways

For the purpose of this assessment, preferential pathways have been identified as natural and/or man-made pathways that result in the preferential migration of COPCs as either liquid or gases.

Man-made preferential pathways at the site are limited to;

- Fill materials used in construction of existing site levels which typically have a higher permeability than natural soils; and
- Underground service infrastructure present at the site potentially acting as preferential pathways for mobile liquid and vapour contaminants.

Where environmental impact (particularly in liquid or gaseous form) is observed within fill materials, further consideration to the potential migration of these impacts will be required.

4.6 Data Gaps

The following data gaps have been identified:

- The source and nature/extent (including potential migration) of TCE impacts beneath Warehouse 1 are unknown. The lateral extent of TCE requires further delineation to identify the extent of remediation required across the area. It is inferred that the extent of TCE impacts is limited to the underlying fill lithology above the underlying natural clay lithologies, noting that TCE was not detected within groundwater at downgradient wells from the identified location;
- The potential for soil impacts beneath existing above ground chemical/petroleum storage areas are unknown;
- The lateral extent of asbestos impacts in subsurface fill has not been delineated at locations BH32 and BH39; and
- Vertical extent of petroleum impacts below the USTs and associated infrastructure is unknown.

It is noted that the data gaps do not preclude an assessment of the requirement for remediation or otherwise selection of the most appropriate remedial methods.

5. Remedial Options

5.1 Remedial Goals

The remediation objectives for site impacts as identified are outlined as follows:

- Removal of unacceptable risks to human health from the identified asbestos contaminated fill, such that the site is suitable for the proposed commercial/industrial use;
- Validate the remedial works in accordance with the relevant NSW EPA Guidelines and with reference to the adopted site criteria; and
- Document the validation process.

Furthermore, the remedial strategy should be consistent with Ecologically Sustainable Development (ESD) principles including the onsite reuse and retention of materials where possible (i.e., waste minimisation).

5.2 Guidance Framework

The RAP has been prepared with consideration to the following list of NSW EPA made or endorsed guidelines:

- *National Environment Protection (Assessment of Site Contamination) Measure 1999, Amendment No.1 2013*, National Environment Protection Council (NEPC 2013).
- *Consultants Reporting on Contaminated Land, Contaminated Land Guidelines*, May 2020 (EPA 2020).
- *Contaminated Sites: Guidelines for NSW Site Auditor Scheme, 3rd edition*, October 2017 (EPA 2017).
- *Contaminated Sites: Guidelines for the Assessment and Management of Groundwater Contamination*. March 2007 (DEC 2007).

In addition, consideration is also required to guidelines made or endorsed by the EPA under the *Protection of the Environment Operations (POEO) Act 1997* and associated regulations, including the *Waste Classification Guidelines, Part 1 - Classifying Waste*. NSW EPA 2014.

Other guidance that should also be considered in relation to site conditions includes:

- *Work Health and Safety Regulation 2019.* NSW Government Legislation. (WHS Regulations 2017)*;*
- *Code of Practice for How to Manage and Control Asbestos in the Workplace,* SafeWork NSW, December 2022 (SafeWork 2022a); *and*
- *Code of Practice for How to Remove Asbestos,* SafeWork NSW, December 2022 (SafeWork 2022b).

5.3 Extent of Remediation

As discussed in **Section 4**, there are a range of site conditions and associated existing infrastructure that will require management to address known and potential site contamination risks such that upon completion of the works, the site can be considered suitable for the proposed commercial/ industrial use.

In summary, these comprise:

- Removal of known current or suspected historical above and below ground chemical/petroleum storage infrastructure (ASTs/USTs and associated infrastructure, chemical storage areas) inclusive of associated impacted soils, if identified;
- Remediation of soils impacted by asbestos;
- Remediation of TCE impacts across the south-eastern portion of the site (extent to be confirmed during additional investigations); and
- Assess existing data gaps.

5.4 Assessment of Remedial Options

The approach adopted in this RAP is consistent with the preferred hierarchy of options for site clean-up and/or management provided in NEPC (2013) and (EPA 2017), which are listed as follows:

- on-site treatment so that the contaminant is either destroyed or the associated hazard is reduced to an acceptable level;
- off-site treatment of excavated soil 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,

- consolidation and isolation of the soil on-site by containment within a properly designed barrier; and
- removal of contaminated soil to an approved site or facility, followed where necessary, by replacement with appropriate material;

or

- where the assessment indicates remediation would have no net environmental benefit or would have a net adverse environmental effect, implementation of an appropriate management strategy.

In addition, it is also a requirement that 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 are required to be considered or developed (EPA 2017).

Remedial options have been assessed for the site as detailed in **Table 5.1** following. Remedial options have been considered specific to each of the site contamination issues identified as requiring to be addressed by this RAP.

Table 5.1 Remedial Options

Remedial Option	Applicability	Assessment
1. On-site treatment so that the contaminants are either destroyed or the associated hazards are reduced to an acceptable level.	<u>Asbestos Containing Infrastructure / Asbestos Impacted Soils</u> Asbestos containing material infrastructure including underground pipes etc as identified during/following demolition works will be removed. There is no known technology to remove asbestos fibres from soils. Asbestos present in non-friable and friable forms cannot be remediated by screening in line with existing NSW EPA advice.	Not a suitable option.
	<u>Historical Petroleum Storage/Petroleum Hydrocarbon Impacted Materials</u> Petroleum infrastructure will be removed where identified. Hydrocarbon impacted soils may be in proximity of petroleum infrastructure. Given that soil contaminants associated with petroleum storage consist of hydrocarbon constituents, there is a potential that they may be able to be remediated on site by a bioremediation style remediation method. Bioremediation occurs where contaminants are chemically broken-down by the metabolic processes of micro-organisms into less toxic or non-toxic forms. NSW EPA guidance requires bioremediation methods to demonstrate that pollutant emissions are not discharged to the atmosphere. On this basis, the lateral extent of the bioremediation activity is required to ensure that air emissions are appropriately managed and if conditions require it, biopiles, comprising covered stockpiled are generated to complete the works. These requirements are in some instances time and labour intensive.	Where limited volumes of petroleum hydrocarbon impacted material is identified in proximity to infrastructure, and there is sufficient time/space to facilitate bioremediation, this may be a viable remedial option, subject to evaluation of the time and potential environmental emission management requirements.
	<u>TCE Impacted Soil</u> Contaminated soil would require to be accessed to allow the application of a treatment method, or otherwise a method to remove the contaminant so that treatment of the contaminant can occur. Each of the contaminants posing a potential health risk is characterised as being volatile. Where a vacuum is able to be applied to the affected soils, then the contaminants are able to be stripped off. The contaminants as present in the resultant waste stream from the vacuum can be treated to remove the contaminant. However, vacuum based remedial methods typically require permeable / granular soils to be present, as opposed to the clayey fill soils observed beneath Warehouse 1.	Not a suitable option. Soil vapour extraction is a proven technology for removal of chlorinated hydrocarbons and petroleum hydrocarbons from unsaturated soils. However, it is generally ineffective in clay-based soils as present across this portion of the site.
2. Off-site treatment so that the contaminants are either destroyed or the associated hazards are reduced to an acceptable	<u>Asbestos Containing Infrastructure / Asbestos Impacted Soils</u> There are no energy efficient means of destroying contaminants (including asbestos) in large volumes of soils. As above (Option 1), and there are no licensed facilities in proximity of the site that could complete this form of treatment.	Not a suitable option.

Remedial Option	Applicability	Assessment
level, after which the soil is returned to the site.	Historical Petroleum Storage/Petroleum Hydrocarbon Impacted Materials As above (Option 1), however, additional time, energy and costs are incurred to take soils off site and return them to the site.	Not a suitable option. Energy/resource use associated with the transport and return of materials is not considered consistent with ESD principles.
	TCE Impacted Soil This option is only applicable where the contaminated media can be excavated and transferred to an off-site location. The nearest off-site facilities that are able to treat these contaminants to destroy the hazard are located in the Melbourne metropolitan region.	Not a suitable option. Requirement of transport of a potentially significant quantity of soils to Melbourne is not consistent with ESD principles.
3. Consolidation and isolation of the soil by on-site containment within a properly designed barrier and ongoing management	Asbestos Impacted Soils As the existing site assessment data has confirmed that the material does not pose a potential groundwater risk and with the exception of material present beneath Warehouse 1 and the petroleum impacted material (both addressed separately), does not present a potential inhalation risk as demonstrated by the assessment of vapours, the asbestos impacted fill materials are suitable for retention on the site in areas where human / ecological exposures can be restricted. This option provides for the retention of asbestos impacted material on-site beneath a physical barrier such that there are no complete exposure pathways available between the contaminated material and sensitive human receptors. Across the area that the asbestos impacted material is to be retained, the barrier will comprise a demarcation indicator (marker layer) and capping layer. An Environmental Management Plan (EMP) will be required to be documented providing a framework for ongoing management of potential risks associated with the retained material.	A suitable option for managing asbestos impacted soils as it aligns with ESD principles.
	Historical Petroleum Storage/Petroleum Hydrocarbon Impacted Materials Dependent upon the volatility, presence of odours and leachability of contaminants identified, on-site containment of material from petroleum infrastructure remedial works may be an option. If unacceptable concentrations of volatile compounds or the potential for leaching is identified during characterisation activities, on-site containment would not be considered a suitable option. It is noted that containment of contaminated soil would require such material to be addressed via the implementation of a site EMP to ensure any future potential exposures are appropriately managed. Implementation of a EMP is considered feasible for the site given the proposed land use, subject to considerations as noted above. Any containment system would require a specialised engineered design to mitigate the potential for leaching / leakage and further to prevent potential migration of vapours if identified.	This is a potentially suitable option, particularly for quantities of material with marginal contaminant concentrations, however further assessment may be required to demonstrate the suitability of material to address the minimum requirements.

Remedial Option	Applicability	Assessment
	TCE Impacted Soil The barrier to consolidate this impact would require a vapour proof liner to preclude vapour intrusion to future building(s). This would be required to be placed following removal of existing slabs prior to a new pavement poured over the liner.	Not a suitable option. As described for hydrocarbon based impact a specific engineered design is required to eliminate vapour and leachate migration.
4. Excavation and off-site removal of the impacted material.	All materials For this option material is required to be transported to a facility lawfully able to accept the type of waste and associated fees including government waste levies. There are facilities within the Sydney region able to accept material classified as General Solid Waste (GSW), Special (asbestos) Waste, Restricted Solid Waste (RSW) and certain types of Hazardous Waste. In the unlikely event that material is identified to be impacted such that contaminant concentrations that exceed the thresholds for characterisation as GSW, GSW mixed with Special or RSW, material may require to be treated prior to off-site disposal to a lawful facility as discussed above. Social impacts, including high volume truck movements and potential environmental emissions associated with on-site activities and vehicle movements also require consideration with regard to this strategy.	A suitable option for all contaminant types. Not preferred for petroleum hydrocarbon contaminated soils as on-site treatment otherwise available, but available as the most preferred contingency if treatment fails. A suitable option for chlorinated hydrocarbon contaminated soils, in lieu of treatment methods being otherwise available.

Should further impacted material (i.e., not previously identified in historical investigations) be identified as part of an unexpected find during civil construction works, the remedial options screening matrix in **Table 5.1** will be required to be reviewed. Notwithstanding, it is anticipated that any impacts will be relatively isolated and could be appropriately managed through the controlled excavation and either treatment and/or off-site disposal of impacted materials potentially acting as source material to on-going environmental impact.

5.5 Preferred Remedial Strategy

A number of potential remedial options have been considered in **Table 5.1**. The preferred remedial strategy for the site is:

- Identification and excavation of asbestos impacted soils and either transferral into a containment cell within the site subject to in-situ management of the soil by capping and cover with ongoing management, or offsite disposal to a licensed facility;
- Decommissioning and removal of petroleum infrastructure by off-site disposal;
- Excavation and bioremediation of hydrocarbon impacted fill/soil onsite (where materials are identified as suitable for treatment) or offsite disposal; and
- Excavation and off-site disposal of chlorinated hydrocarbon contaminated soils.

6. Remedial Plan

6.1 Approvals, licences and notifications

SEPP (Resilience and Hazards) 2021 – Chapter 4 Remediation of Land (Resilience and Hazards SEPP

As discussed in **Section 10.1** of this RAP, the proposed remediation works as they are currently understood are considered to be Category 2 remediation work. The notification requirements of the Resilience and Hazards SEPP include notification to council 30 days before Category 2 remediation works commence. The notification will also include relevant contact details and a proposed remediation schedule.

Asbestos Works

The remediation of fill containing asbestos will be managed in accordance with the *Work Health and Safety Act 2011, WHS Regulations 2017*, How to Manage and Control Asbestos in the Workplace Code of Practice (SafeWork 2022a) and How to Safely Remove Asbestos Code of Practice (SafeWork 2022b).

Excavation, onsite remediation and removal of asbestos impacted soils are required to be conducted by a Class A (Friable and bonded impacted soils), where friable asbestos has been identified, or Class B (only bonded impacted soils) Asbestos Removal licensed contractor.

All airborne asbestos fibre monitoring works must be undertaken by a competent person or Licenced Asbestos Assessor (for friable asbestos), in accordance with SafeWork NSW requirements.

Before starting the affected works, licensed asbestos removal contractor shall be responsible for submitting the appropriate WorkSafe NSW permit (friable and non-friable) to remove asbestos at least seven days prior to the proposed works where required.

Remediation works shall not commence until all required approvals, licences and notifications have been granted and/or received.

6.2 Data Gap Investigations

The following data gaps remain present at the site and require further assessment or consideration prior to, or during demolition/remediation works at the site such that appropriate assessment of contamination risks may be managed/resolved and the site may be validated as suitable for the proposed land use.

Where data gap investigations identify the presence of contamination at concentrations above the site validation criteria, the area and associated result will be considered to require remediation/management under this RAP, noting that for consideration of asbestos or petroleum infrastructure, such conditions may be added to the areas requiring the documented management protocols. Should additional contamination conditions be identified beyond the existing contamination issues identified within the RAP, consideration of potential requirements for management will be completed in accordance with the Unexpected Finds Protocol provisions. It is noted that this may require development and issue of an addendum to this RAP under these circumstances.

Alternatively, where contamination is not identified in the samples by laboratory analysis, the area will be deemed to have adequately assessed and not requiring remediation.

Requirements for the assessment of known data gaps are discussed following.

6.2.1 Asbestos In Soil Delineation

Should asbestos in subsurface fill require delineation either for waste classification purposes or for site suitability assessment, further investigations shall be conducted across the known areas of asbestos in fill (BH32 and BH39, **Figure 5**) and across similar fill types where asbestos has been identified either as in insitu assessment or in stockpiles following excavation.

6.2.2 TCE Delineation

Aesthetic (visual or olfactory) indicators do not generally occur with elevated levels of chlorinated organic compounds in soil that would allow the extent of impact to be discerned during the remedial works. The extent of remediation that is required to achieve remediation for chlorinated organic compounds can only be measured with precision on the basis of soil vapour data.

The following works shall be undertaken to determine the extent of chlorinated organic compound impacts:

- A detailed soil vapour survey on a 5 m grid around the initial SV25 location to identify the extent of TCE source. This shall be undertaken on the basis of sub-slab locations as initially assessed using a photo-ionisation detector (PID) and followed by soil vapour analysis;
- Soil sampling and analysis of soils within the inferred contaminated soils zone for the purpose of obtaining waste classification data.

6.3 Fuel Infrastructure Decommissioning and Associated Petroleum Impact Remedial Works

As defined by previous site assessment activities, there are a number of known fuel infrastructure areas at the site and several historical suspected storage systems, including but not limited to above ground storage tanks (ASTs), underground petroleum pits/sumps, diesel bowsers and associated pipework. In order to remove these potential sources of site contamination and all associated impacts the following plan will be implemented.

6.3.1 Define the Extent of Works

Known and suspected infrastructure locations are presented on **Figure 3**. The first task of the remedial works shall be to define the extent of the site fuel related infrastructure. This shall comprise the field location of each of the ASTs/USTs, chemical storage areas, any waste oil tanks, the fuel/hydraulic oil dispensers and transfer lines between fill points, dispensers and vents. Based on the extent of completed assessment to date, the potential hydrocarbon impacted soils are expected to be located in proximity of these areas.

6.3.2 Site Establishment

Dependent upon the nature and sequencing of plant decommissioning activities, it is anticipated that following identification of the fuel infrastructure locations, above ground infrastructure will be removed at this time including ASTs, fuel dispensers, fill points and associated vent lines.

The contents of ASTs will require to be pumped, following which de-gassing/gas-freeing of this infrastructure will occur with off-site disposal in accordance with the EPA (2014) *Waste Classification Guidelines*.

Bund structures associated with ASTs etc may be demolished and removed from the site at this time. Pavements in proximity to the identified pipework, lines, bowser plinths and overlying USTs (if identified) will be removed to access underlying underground petroleum storage systems (UPSS) and associated pipework and lines.

6.3.3 Below Ground Infrastructure Removal

Removal of the fuel infrastructure and associated TRH impacted soils will include the following:

- Removal and disposal of any pavements/hardstand over the USTs and associated infrastructure and any concrete anchors that may be in place;
- Inspection and removal of any residual liquid contents from the USTs and pipe/linework (e.g. fuel, water and rust inhibiter mix) and off-site disposal in accordance with EPA (2014); and
- Excavation and off-site disposal of all fuel related infrastructure including tanks, fill points, lines, etc to a licensed destruction facility (retaining destruction documentation for validation purposes).

Decommissioning, removal, transport and disposal of the ASTs/USTs (if identified)/hydraulic oil infrastructure and removal and disposal of any residual contents should be undertaken with consideration of applicable legislation, standards and guidelines, including but not limited to:

- *Work, Health and Safety Act* and associated regulations;
- *Protection of the Environment Operations (Underground Petroleum Storage Systems) Regulation 2019* (UPSS Regulation);
- *Guidelines for Implementing the Protection of the Environment Operations (Underground Petroleum Storage Systems) Regulation 2019*, EPA (2019) UPSS Guidelines;
- *Australian Standard AS1940-2004 The storage and handling of flammable and combustible liquid*;
- *AS 4976-2008 The removal and disposal of underground petroleum storage tanks*; and
- *WorkCover (2005) Code of Practice: Storage and Handling of Dangerous Goods (*as a guide only).

6.3.4 Excavation of Impacted Soils

Where petroleum infrastructure is identified to be present within soil/backfill as opposed to a concrete lined pit, the soil/fill will be excavated in proximity of the fuel infrastructure to expose all structures and lines and allow for subsequent removal as per the above. These soils shall be inspected by an environmental consultant during excavation to identify material which is potentially subject to aesthetic indicators of petroleum hydrocarbon contamination. Noting the site is proposed to be validated to a standard for commercial/industrial use with minimal access to soils, this shall include aesthetic indicators which are considered to be significant, and not those which are considered to be slight. This shall be interpreted as:

- All soils which have visual indications of petroleum hydrocarbon impact (i.e., staining, discolouration, etc);
- Soils which have a significant petroleum odour, i.e., odours specific to the soils when the assessor is standing a distance of at least 1.5 m from the soils. Odours which are slightly recognisable as petroleum based odours shall be interpreted as slight odours and not considered to pose an aesthetic risk with respect to remediation of the site; and
- Soils which contain anthropogenic materials which are obviously related to petroleum uses of the site (i.e., pipework, fuel hoses, etc). Anthropogenic materials may be removed to cause the soils to be acceptable.

It is further noted that aesthetic indicators of impact are likely to be the most sensitive validation criteria as applied to the site. Soils which do not have aesthetic indicators of impact that exceed the thresholds as nominated here, are unlikely to have levels of chemical (petroleum) constituents that will exceed the chemical constituent-based criteria nominated for the site.

Excavations in the vicinity of the petroleum infrastructure shall be extended with the impacted material 'chased out' laterally and vertically until such time as there remain no visual and/or odorous soils (as defined above) on excavation faces. The success of these works will be confirmed via sampling and laboratory analysis that the remaining soils/shale faces meet the adopted validation criteria.

The impacted soils are to be sorted and separately stockpiled during the petroleum infrastructure removal works. The stockpile shall be located to mitigate potential impacts of environmental emissions from the stockpiled soils and be clearly delineated from stockpiles of materials otherwise present on the site.

6.3.5 Bioremediation of Excavated Petroleum Impacted Soil

Where petroleum impacted material, comprising tankpit/services backfill, near surface fill material, natural clay or shale/siltstone material is encountered in proximity of the petroleum infrastructure, this material will be excavated and assessed with regard to potential suitability for bio-remediation.

Evaluation of Suitability

With reference to the requirements of the *Best Practice Note: Landfarming*, April 2014, NSW EPA (EPA 2014b), consideration is necessary of several factors that affect the potential suitability of contaminants and soils to be remediated by bioremediation (known as landfarming in the guideline). Each of the factors has been assessed for the site in **Table 6.1** to assess the appropriateness of the adoption of bioremediation by landfarming as the preferred remedial method for the site.

Table 6.1 Assessment of Factors Affecting Bioremediation / Landfarming Suitability

EPA 2014 Factor	Assessment
Contaminant types	Landfarming is nominated as a suitable treatment method for petroleum hydrocarbons in soils. Biodegradation is nominated as causing the reduction of petroleum hydrocarbons in landfarmed soils. Landfarming is proposed for petroleum hydrocarbon impacts only.
Contaminant concentrations	A screening criteria of 8% total petroleum hydrocarbon concentrations (80 000 mg/kg) is a nominated screening for suitability of soils for landfarming. In general, the maximum levels of petroleum hydrocarbons in soils on the site are well below this level. Soils which are impacted with gross levels of petroleum hydrocarbons above this level will require to be mixed with non-impacted soils. This inevitably occurs with the excavation of impacted soils and/or the establishment of soils within a landfarm and/or the turning of soils within the landfarm. It is noted that soils are potentially malodorous, and where potentially offensive odours are detected at the site boundary, then air emissions management will be required for the soils.
Volume of contaminated soils	Based on the current investigation outcomes, there is no significant widespread indications of petroleum contamination associated with the site. However, it is anticipated that impacted material will likely occur in proximity to infrastructure requiring removal. Volumes are therefore unclear, however, the potential volume of soils should be considered as relative to the overall area of the site. To this extent the site area potentially available to set aside for bio-remediation activities is substantial. The extent of earthworks as required with the formation of landfarming / biopile areas for bioremediation is noted to be insignificant in comparison to the extent of earthworks that will be undertaken to facilitate site redevelopment.
Site area	As noted in the previous response, the site area is substantial and extensive area for the construction of bioremediation areas is available. The site is larger than the 0.5 hectare (5000 m^2) threshold nominated in EPA (2014b).
Site topography	EPA (2014b) reports sites with steep gradients are not suitable for landfarming. The site is level, or there is the opportunity to make areas level, which would allow ready management of potential emissions / sediment / leachates from landfarmed soils.
Local geology	The local geology for the site is well understood. It is noted that impacted soils will potentially consist of fill sands, silty sands and gravelly sands, as associated with tankpit backfill materials and fill based soils on the site in addition to clay soil and shale/siltstone material underlying the plant portion of the site. Fill sand/sandy gravel, which will have the highest level of petroleum hydrocarbon impact as they are closest to the source of petroleum hydrocarbons, will readily aerate and disaggregate for bioremediation. Consideration will be required to the less tractable nature of clay soils in design and implementation of a bio-remediation program, potentially including separation of material types. There are sufficient areas of the site where pavements may be retained so as to provide a platform base for the bioremediation works. This is suitable ground cover to minimise potential cross contamination from landfarmed soils to underlying soils / materials.
Hydrogeology	As noted in **Section 2.4** groundwater on the site has not been encountered at depths shallower than 2.3 m bgs and across the site. As such it is considered to be present at a depth

	that would be unaffected by the landfarming activities. Furthermore, retention of pavements in areas to enable bioremediation activities would ensure the potential for the above ground landfarmed soils to impact groundwater at depth would be negligible when the designated landfarming area is restricted to these areas where sealed surfaces exist, or alternative low permeability measures are implemented.
Meteorology	The Granville area has a temperate climate with a seasonal rainfall maximum during the late summer and autumn. The average rainfall for the suburb is 890 mm with more than 1 mm of rain occurring on average 82 days per year. The area has a history of droughts, which are broken by periods of heavy rainfall resulting in significant recharges to groundwater resources. The predominant wind direction occurs from a south-westerly direction in all seasons with more constant wind patterns in autumn and winter than in spring and summer. Previous bioremediation works undertaken in the Western Sydney region have found that meteorological conditions are amenable to the bioremediation of hydrocarbon impacted soils.
Distance to sensitive receptors	Given the lack of sensitive land uses in close proximity of the eastern portion of the site,it is considered that under normal conditions emissions from outdoor bioremediation will not present an unacceptable health risk in this portion of the site. Initial bioremediation works are therefore proposed to be completed in the absence of control, capture and treatment of volatile emissions, rather it is proposed that emissions shall be monitored (via PID boundary monitoring). The use of covers, structural enclosures, and abatement techniques shall be considered where boundary PID results are above a background value of 100 ppm.
Time	EPA (2014b) reports that timeframes associated with bioremediation will potentially vary. Provision has been made in preparation of this plan for remedial timeframes to be between one and six months. Where bioremediation cannot be achieved in these timeframes, contingency actions are available to allow the soils to be disposed off-site.
Cost	EPA (2014b) notes that landfarming should not be considered a cheap remedial option and costs may become prohibitive to undertake landfarming properly. To this extent, it is considered that the cost to undertake landfarming is typically a function of the site area available to undertake the landfarming works and the resources required to control environmental emissions from the works. A substantial site area is available on the site, in a location that is not in close proximity to potentially sensitive receptors and given the ongoing nature of site operations planned during the remediation phase to prepare other sections of the site, it is anticipated that over and above costs to monitor and observe bioremediation areas will not be substantial. As such, landfarming / bioremediation will be a cost effective option for the site.

On the basis of the assessment undertaken in **Table 6.1**, landfarming / bioremediation is considered an appropriate remediation method to be attempted at the site. As with all bioremediation projects, there is noted to be some uncertainty. To this extent, should conditions favour adoption of landfarming, appropriate environmental monitoring, tracking of the progress of bioremediation and monitoring of environmental emissions will require to be undertaken. An Odour Management Plan will be prepared in accordance with the requirements of EPA (2014b), including identification of contingency actions to be undertaken where bioremediation cannot be undertaken will be documented prior to commencement of any/all remediation works associated with petroleum impacted, or otherwise odorous soil material.

Bioremediation Strategy

The strategy for completing bioremediation of soils is outlined below:

- Based on remediation planning, an appropriate area of retained concrete pavements will be converted into the designated landfarming area, with consideration to the quantity of material and anticipated duration of bioremediation activities. Site security, to restrict access to the designated landfarming area and relevant signage shall be consistent with requirements for the other elements of the RAP.
- Dependent upon the type and quantity of material to be landfarmed, consideration may be given to complete bioremediation of soils in a number of events/stages. For each event soils placed in the landfarming area shall be spread out no more that 1m high for bioremediation. Excavation of soil

impacts through the southern area of the site shall be paused until soils within the landfarming area have been validated for on-site reuse

- The retained pavement as a ground surface is also considered suitable to assist with management of potential run-off/migration away from the bio-remediation area and is also resistant to damage during routine tilling and movement of the soils undergoing bioremediation. Use of the existing sealed surface will negate the need for a sacrificial soil layer to be placed prior to the commencement of landfarming.
- Controls to prevent sediment run-off will be placed around this area in the form of an earthen bund constructed around the perimeter not greater than 0.25m high.
- Run off management will occur as required i.e., when surface runoff is observed to be ponding inside the bund, then a mobile pump will be used to remove the pooled water into designated IBCs for collection by a licenced liquid waste contractor as required.
- Air emission controls initially will comprise the monitoring of PID readings at 8 locations on the boundary of the designated landfarming area. The PID readings will be taken hourly during any active works in the landfarming area (i.e., soil placement, turning or removal). The exceedance of 100 ppm at any boundary point for more than 3 consecutive hours will trigger the need to consider active controls to prevent unacceptable omissions.
- Impacted soils will be spread out in a designated landfarming area and will be subject to bioremediation prior to an assessment of whether the soils are suitable for re-use on site. The assessment of whether soils are suitable for re-use shall be undertaken in accordance with the site validation plan (**Section 7**) which nominates the sampling frequency and laboratory analytical suite required for bioremediated soil.
- If undertaken, it is proposed that the impacted soils be turned on a two weekly to monthly frequency, dependent upon soil contaminant concentrations and weather conditions, for a period of two to three months. Material should be inspected at a monthly frequency, and where found to be suitable by field analysis, undertake validation sampling and analysis to demonstrate the suitability of the material to be used as backfill at the site.
- Suitable bioremediated material will be used as backfill on-site. Prior to using bioremediated material in the vicinity or below the site's groundwater table, should it be required, an assessment will be conducted to assess the potential risks to groundwater quality. Material considered not suitable for reuse on-site will be classified in accordance with the *Waste Classification Guidelines* (EPA 2014) prior to off-site disposal.
- As discussed in **Table 6.1** in relation to timing provision has been made for bioremediation timeframes to be between one and six months.

It is however noted that decisions relating to how all items listed in EPA (2014b) will be addressed are best made by the Contractor engaged to complete the remediation. A bioremediation Remedial Works Plan (RWP) will be prepared if bioremediation is to be conducted by the nominated contractor, prior to commencing works.

6.3.6 Off-Site Disposal of Soils

Should it be decided that some or all excavated material will require off-site disposal, following confirmation of the extent of soils as aesthetically impacted, or otherwise failing the site validation criteria have been removed from the excavation, a waste classification assessment of the stockpiled material shall be prepared for the relevant material in accordance with the *Waste Classification Guidelines* (EPA, 2014). This advice will be provided to the transporter to facilitate the lawful disposal of material to an appropriately licensed facility.

6.4 Asbestos Impacted Soil Management Works

6.4.1 Establishment of Asbestos Works Areas

Establishment of asbestos removal works areas with temporary exclusion measures will be required. Given the size of the site, it is anticipated that remediation areas will be identified and implemented on a progressive basis across the site based on an overall program of exposure, management/remediation and clearance.

Due to the nature of the site, requirements for establishment of the asbestos works area may vary dependent upon the location of the works area. Temporary fixed fencing covered in dust cloth will be applied within existing paved areas of the site, including the former plant area and surrounds.

Prior to asbestos removal works, an Asbestos Management Plan will be prepared by the appointed asbestos removalist or NSW Licenced Asbestos Assessor (LAA). Friable asbestos removal works is to be completed by a NSW Class A Asbestos Removalist under the supervision of a LAA. All control measures, monitoring and PPE requirements will be reviewed and endorsed by the appointed NSW LAA.

Bonded asbestos removal works is to be completed by a NSW Class A or Class B Asbestos Removalist under the supervision of a NSW Competent Person.

Independent upon the fencing arrangements, the requirements for establishment of asbestos removal areas prior to asbestos removal works will require as follows:

- The zone will be established by the contractors with sufficient room to enable machinery to work wholly within the zone. Asbestos removal caution signage will be posted at the works area extent and remain in place until a clearance is provided by the LAA;
- A decontamination area shall be established for asbestos removal areas for personnel to enter and exit the asbestos removal area;
- A similar plant/machinery decontamination area shall also be established as appropriate to enable decontamination of plant/machinery prior to exit from the works area;
- Static air monitoring, shall be completed at locations surrounding all the asbestos remediation works. Air monitoring shall be conducted for the duration of each shift and shall be completed in accordance with the *Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres 2nd Edition [NOHSC: 3003(2005)]* for the duration of asbestos removal works.
- The remediation contractor shall be responsible for undertaking a pre-start 'toolbox' talk with all personnel involved. No unauthorised/non-inducted personnel may enter any asbestos removal area.
- Prior to excavation and removal works occurring, the appointed asbestos removal contractor shall conduct a site induction and toolbox talks to make workers aware of the presence of asbestos at the site and of the required procedures to work safety with respect to the risks posed by asbestos. No unauthorised/non-inducted personnel may enter the asbestos removal area; and
- The asbestos removal contractor shall ensure that sufficient asbestos related personal protective equipment (PPE), in addition to normal site PPE requirements, is available for all personnel for the duration of the proposed asbestos remediation works including:
    - Disposable coveralls must be worn (Type 5, Category 3 or better);
    - Disposable gloves – non disposable gloves must be cleaned within the decontamination unit;
    - P2 class respirator or higher – non disposable respirators must be cleaned in the decontamination area. Respirators should be issued for personal use only and shall be kept in a clean condition; and
    - Laceless steel capped rubber soled work shoes or gumboots.

- Plant operators undertaking sub-surface intrusive works must close cabin doors and windows and set air conditioning to re circulate when operating within the asbestos work zone or alternatively, the plant must be fitted with HEPA filters to the air conditioner inlet vents to ensure a suitable air supply. Should plant operators need to leave the isolated cabin within the asbestos removal works zone, they will be required to don the PPE requirements as outlined above.

Employees must receive instruction in the correct method of using the respirator and on the importance of correct facial fit and maintenance. No person with a beard shall be allowed within the asbestos work area except using an approved positive pressure continuous airflow hood. Alcohol based antiseptic swabs should be made available for the cleaning of respirators. Any respirator defects should be reported for subsequent repair. They should be maintained in a clean and safe working condition.

It is further noted that, as part of the WorkSafe NSW permitting process, additional PPE may be required. If this occurs, then the above PPE requirements will be upgraded to reflect SafeWork NSW requirements.

The decontamination procedures specified below will be followed whenever personnel, plant or equipment leave the asbestos works areas:

Personnel

The following steps should be taken to ensure personnel do not leave the works areas with potentially contaminated clothing:

- Wash boots with clean water;
- Remove outer gloves and store for reuse;
- Remove overalls and place in the skip for the asbestos wastes for disposal;
- Remove respirator and goggles (if used) and store clean for reuse or decontamination, as appropriate; and
- Thoroughly wash hands and face.

Vehicle, Plant and Equipment

All equipment, including personal protective equipment, will be washed or otherwise cleaned to ensure that contaminated soil, water or dust is removed before it leaves the asbestos works area. All plant and equipment will have their outer bodies thoroughly cleaned of soil and sediment before moving away from the asbestos works area.

6.4.2 Asbestos Excavation Activities

The known areas of asbestos impact are shown on **Figure 5**, including the areas of bonded ACM identified in surficial soils and areas of subsurface soil impact identified during previous investigation activities. It is anticipated that further areas of asbestos impacts may be encountered during earthwork activities.

Excavation works for asbestos impacted soil may include one or more of moving the impacted material via push or stockpiling to one side, or alternatively, loading directly into transport vehicles fitted with suitable covers for movement to the containment cell placement location (preferred option). During these works the following procedures will apply:

- The asbestos removal contractor shall have total control of the asbestos work area for the duration of the asbestos remediation works and shall undertake all works in accordance with the requirements of their license;
- All personnel entering the asbestos remediation area shall do so through the decontamination area/unit and don the required PPE at all times when within the asbestos removal area;

- The proposed asbestos removal area shall be kept damp by water spraying at all times during disturbance to reduce the possibility of dust generation;
- Excavated asbestos impacted soils shall be loaded directly into suitable transport vehicles for immediate movement to the placement area within the works zone. Subject to vehicles not being required to leave the works zone, the vehicles will not require to be covered, however the material should be sufficiently damp so as to minimise the potential for dust generation during movement/placement.
- When excavation works approach the vertical and/or lateral extent of the known/suspected impact, the LAA will monitor the excavation work activities and provide advice on appropriate removal depths based on visual observations in conjunction with the licensed removal contractor;
- Excavation works will continue until such time as the side and base margins of the excavation are visually free of asbestos containing material;
- Following the removal of asbestos impacted materials, the post excavation surface will be required to be cleared and validated as per **Section 7** below.

The final site surface within the subject site will also be required to be cleared of visible asbestos in accordance with the validation procedures in **Section 7**.

6.4.3 Removal of Below Ground Asbestos Containing Infrastructure

Information documented in dial before you dig surveys identified the potential presence of underground asbestos conduits across the site. If these services are proposed to be removed, this will comprise implementation of the following procedure:

- Upon commencement of decommissioning activities, the known ACM pipework will be tagged and their below ground entry/exit point locations recorded by a registered surveyor for identification following removal;
- Dependent upon the known information, potholing activities will be undertaken to confirm the location and depth of the ACM containing services (under asbestos conditions) prior to the commencement of works;
- If there is a high degree of confidence as to the services locations, following installation of the asbestos works zone arrangements, strip cutting of the overlying pavements will be undertaken with the concrete set aside beyond the works zone once cleared by the LAA;
- In the event of significant uncertainty as to the location of the services, consideration should be given to activities including geophysical and/or tracer wire assessment of the pipework from accessible ends. Should this not result in an improvement in the understanding of locations, the following will be implemented. Broad pavement removal will occur in anticipated location of the services. Working from the entry/exit points, discrete excavation will be undertaken to expose the pipe runs;
- In both instances, careful excavation of service backfill material overlying the service location will be undertaken with the material temporarily stockpiled to the side of the excavation (on hardstand, were available);
- Upon exposure, the pipe sections will be discretely separated and placed in a HDPE lined waste bin transport either to the containment cell, or otherwise off-site disposal in accordance with the requirements of an asbestos removal plan (ARP) to be prepared separately;
- Following removal of the pipework, an inspection will be completed by the LAA of the trench base and sides to identify the potential presence of associated asbestos impacts within the soil. Where physical indicators of asbestos impact are not identified, the excavation will be the subject of validation sampling in accordance with the requirements of **Section 7**. Should visual indicators of asbestos impact

remain, the excavation will be extended vertically and/or laterally to remove the impacted material, which will be stockpiled separately to the overburden, or otherwise directly loaded for transport to the containment cell. Once the faces are assessed as visually clear, validation sampling will be undertaken; and

- Should the pipework excavation works identify the presence of more widespread asbestos impacted soil conditions, no attempt will be undertaken to discretely validate the trench, or chase out the complete extent of impact. The area unable to be validated as a trench will be reassigned as requiring implementation under the procedures outlined in **Section 6.4.2**.

Where inground asbestos infrastructure remains across the site and are proposed to remain in-situ, the locations will be detailed in an Asbestos Management Plan prepared for the site following redevelopment.

6.4.4 Long Term On-site Containment of Asbestos Impacted Material – Potential Option

Should asbestos impacted soils be retained onsite, it is anticipated that advice on preparation of the placement area and requirements for placing the material will be provided under a separate cover by the project geotechnical and design engineers and as such these considerations are beyond the scope of this RAP. Details on the proposed remedial requirements has bene detailed below should this option be considered feasible.

Temporary Stockpile Management

It is anticipated that the works will be sequenced where possible to provide for the direct excavation, transport and placement of material at the final containment location, without the need for significant temporary stockpiling of large quantities of materials. However, it is acknowledged that as a result of accessibility there will potentially be instances where temporary stockpiling of material will occur either adjacent to the initial excavation, at a designated intermediate (consolidation) and/or adjacent to the final placement location (ie. within the asbestos works zone). In these instances, the following procedures will be followed:

- The condition of the temporarily stockpiles will be monitored and damped down as required to minimise the potential for dust (airborne asbestos fibre generation);
- Should works cease, or stockpiles remain, for more than a day, consideration of longer term dust management measures will be required, comprising cover of the stockpiles with a more durable cover, such as a UV resistant pegged geotextile or heavy duty plastic sheeting, Dustblock spray, sacrificial non-asbestos impacted clay cover (say 50 mm in thickness), or similar; and
- Regular inspections of the stockpile conditions be undertaken to identify any obvious signs of breaches/deterioration of the interim covering measures. Should any deterioration be identified, rectification of the surface condition will be required as soon as practicable. The frequency of inspections will be dependent upon the cover measures and weather conditions. A written record of completion of the inspections and any management measures should be maintained.

Final Containment Area Placement

It is anticipated that the appointed contractor will facilitate excavation of the proposed placement area to produce a void of the required volume prior to the commencement of asbestos material movement activities. The non-impacted excavated material generated in construction of the cell void will be utilised elsewhere within the broader quarry site/redevelopment site.

Works associated with placement of the asbestos contaminated/impacted material at this final location will comprise a repeat of procedures as outlined above for the temporary storage of the material in addition to the following:

- Material will be placed within the containment area in a manner consistent with requirements to be confirmed by project civil/geotechnical engineers;

- Where feasible, it is anticipated that works will be sequenced in a manner to place the friable asbestos impacted material at greater depth, followed by material known to be contaminated with bonded asbestos and then material potentially impacted with asbestos, noting that it is not proposed to temporarily stockpile and re-layer material previously placed in this manner within the temporary containment cell;
- Once all asbestos contaminated and potentially impacted material has been removed from the known areas of impact, the contractor will work to clear the balance of the asbestos removal works zones of any residual asbestos impacted materials to ensure the resulting ground surfaces are successfully validated as being free of asbestos fibre impacts prior to placement of the final containment cell capping;
- Upon completion of all known asbestos or potentially impacted material within the containment area, the final surface will be covered with a marker layer consistent with an easily identifiable non-woven permeable polyester continuous filament or PET (such as non-woven geotextiles). The marker layer must:
    - Be easily recognisable within soils (e.g., bright orange in colour, or otherwise contrasting with the surrounding soil colour);
    - Be durable as a long term marker layer (i.e., > 150 grams per square metre);
    - Be sufficiently permeable to allow water to penetrate through; and
    - Maintain integrity during remedial/civil works such as capping layer installation.
- The LAA/competent person shall inspect and document the installation of geofabric marker layers, including collection of a photographic record of site conditions during/following placement of the marker layer;
- A registered surveyor will be required to survey the elevation and upper lateral extent of the containment area, marker layer and capping layer and provide this to the client and environmental consultant; and
- Subsequent to placement of the marker layer, a capping layer with a minimum thickness of 0.5 m (after compaction) of non-impacted material will be placed above the marker layer. Material selected for use as a capping layer will be required to be environmentally and geotechnically suitable engineered fill, sourced from either the broader site, or lawfully imported under existing site approvals. Following, the installation of the capping layer, a final clearance inspection will be completed by the LAA, with details to be included in the final validation report.

6.4.5 Off-Site Disposal of Soils

Should it be the preferred option that some or all excavated material will require off-site disposal, a waste classification assessment of the stockpiled material shall be prepared for the relevant material in accordance with the *Waste Classification Guidelines* (EPA, 2014). This advice will be provided to the transporter to facilitate the lawful disposal of material to an appropriately licensed facility.

6.5 TCE Impacted Soils

The precise extent of TCE impacts will have been delineated by the pre-remedial investigation works as undertaken as described in **Section 6.2**.

6.5.1 Site Establishment

The precise extent of remediation will have been detailed in the pre-remedial investigations.

The remedial contractor shall secure the site to ensure that all safety and environmental controls are implemented. These controls will include, but not be limited to:

- Locate and isolate all required utilities in proximity of the works;
- Assess need for and implement of any necessary traffic controls;
- Work area security fencing;
- Site signage and contact numbers;
- Stabilised site entry gate;
- Appropriate decontamination areas for personnel and plant, if required;
- Sediment fencing (attached to security fencing); and
- Stormwater runoff and sediment controls (e.g. silt fences and hay bales).

6.5.2 TCE Soils Excavation

The extent of TCE contaminated soils will be defined in pre-remedial investigations. A waste classification shall further be available prior. The lateral extent of the soil excavation shall be defined on-site and excavation undertaken under the instruction of the Environmental Consultant.

Impacted soils shall be transferred directly to road tippers for off-site disposal. Where saturated soils are excavated, it shall be ensured that tipper buckets are sealed.

6.6 Excavation Backfilling

Excavations shall be backfilled using site available treated materials, or otherwise imported soils as sufficient to make the excavation 'safe'. Where treated soils are used – it shall be ensured that the treated soils have been validated consistent with **Section 7** and the particular contaminants present. Backfilling is required to be undertaken to the extent to make site excavations 'safe'.

Imported soils shall consist of a material that is classified as virgin excavated natural material (VENM) or otherwise meets an appropriate Resource Recovery Order (RRO) including Excavated Natural Material (ENM). A minor deficit of fill materials is anticipated on the site as a result of off-site disposal of sub-surface UPSS and off-site disposal of chlorinated organic compound contaminated soils.

It is preferred that backfill material is geotechnically similar to materials present on-site, but alternate materials may be used.

6.7 Material Tracking Requirements

The movement of all earth/aggregate based materials on the site, to the site and from the site is required to be subject to a Material Tracking Plan (MTP). The MTP shall be administered by the Remediation Consultant with the provision of all required information by the Contractor.

Material tracking shall be required for all materials that are moved / excavated from a location on the site and not wholly replaced in the same locations within 12 hours of material movement (i.e., soils excavated for testpitting / assessment do not require material tracking, however all other material will require tracking).

To this extent, all excavation and filling works as undertaken for the purposes of site remediation require the following information to be recorded by the Contractor on Material Tracking Forms (MTFs) and in an electronic Material Tracking Spreadsheet (MTS) and verified by the Remediation Consultant, with respect to material placement activities:

- Date (yyyy/mm/dd);
- Unique MTF identification (starting at 001);
- Site figure showing source (cut) and placement (fill);

- Estimated volume (cubic metres);
- Type of material;
- Depth of source (RL)
- Depth of placement (RL);
- Source (from) information in terms of MGA56 co-ordinates as established by site GPS and/or survey;
- Placement (to) information in terms of MGA56 co-ordinates as established by site GPS and/or survey;
- Source (from) information in terms of site feature (e.g. Remedial Zone);
- Placement (to) information in terms of site feature (e.g. Remedial Zone);
- Source (from) information from off-site source site (e.g., Area A);
- Placement (to) information for off-site disposal (e.g., tip, EPA tracking number, docket reference);
- Reference document (where necessary, i.e., virgin excavated natural material / excavated natural material classification);
- Purpose of placement (i.e., containment, surplus to site requirements etc); and
- Comments (when required).

For material which has been removed for the purposes of environmental remediation, and is proposed to be moved again subsequent to the completion / validation of environmental remediation works, MTFs for the replacement of the material shall make reference to the initial MTFs generated by the excavation of the materials for remediation. As part of the validation of the material tracking forms, mass / material balances shall be assessed at each stage where additional material tracking forms are generated for particular site material.

It is the responsibility of the Contractor to ensure the MTF(s) are completed and submitted to the Remediation Consultant at the end of each day's work. The Remediation Consultant has ownership of the MTFs on receipt of all the necessary information from the Contractor.

The Remediation Consultant is required to review the submitted MTFs and to investigate/resolve any discrepancies. Following this review, a copy of the MTFs will be forwarded to the Principal. Ideally this would occur within two days of the Remediation Consultant verifying the MTFs from the Contractor.

The MTP is considered an active process and revisions of the MTP will be undertaken to improve the MTFs and MTS to ensure comprehensive and efficient material tracking.

6.8 Surveying

A qualified surveyor will conduct surveying of excavations, stockpiles and remedial extent such that the remedial/validation objectives can be achieved.

6.9 Validation

Validation of the remedial works will be conducted by the environmental consultant to demonstrate that the remediation objectives have been achieved. Details of the validation program are provided in **Section 7.**

6.10 Site Disestablishment

On completion of the remediation works all plant/equipment and safety/environmental controls shall be removed from the site by the appointed remedial contractor. All equipment used during remediation works will need to be appropriately decontaminated or disposed of as waste in accordance with relevant waste regulations.

7. Validation Plan

7.1 Overview

Validation data is required to be collected to verify the effectiveness of the remedial works and document the final site conditions as being suitable for the proposed future use(s).

The following sections establish the data quality objectives (DQOs) to be adopted during validation of the site remediation works.

7.1.1 State the Problem

Previous investigations as evaluated in **Section 3** have identified that management of a range of site contamination issues is required such that at the completion of works, a final validation assessment may confirm the suitability of the site for the proposed commercial/industrial use.

As such, during remediation activities, sufficient further site characterisation activities and validation of site remedial/management actions are required to demonstrate that the identified environmental impacts and associated health risks to site receptors have been adequately managed to render the site suitable for the proposed land use.

7.1.2 Identify the Decision

The decisions which are required to be made for validation of the site are as follows:

- Are there any unacceptable risks to future on-site receptors from any residual contamination following the implementation of the proposed remediation/civil works at the site?
- Were the impacted/surplus materials classified and disposed off-site to a facility licensed to accept the classified waste?
- Has all material imported to site to achieve development objectives been demonstrated as suitable for use?
- Have site works been completed in accordance with the RAP requirements, or where variations to the works required by the RAP have occurred, have these been appropriate to meet the objectives of the RAP, with respect to site validation?
- Is all validation data considered reliable?
- Is the site suitable for the proposed use?

During the remediation activities, sufficient validation of site activities is required to demonstrate that the identified environmental and health-based risks to future use(s) of the site have been adequately managed to render the site suitable for the proposed land use.

7.1.3 Identify Inputs to the Decision

The inputs to the decision are:

- Previous investigation results as discussed in **Section 3**;
- Soil and soil vapour as collected with pre-remediation investigations to confirm the extent of TCE and asbestos impacts;
- Field observations in relation to inspection of all excavation bases, walls and stockpiles for odours, sheen, discolouration, and other indicators of potential contamination;
- Environmental data as collected from the validation of remedial excavations;

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- Waste classification and material characterisation data obtained during assessment of surplus material (if any) prior to off-site disposal;
- Disposal dockets and relevant documents in relation to appropriate disposal of material (if required) to be removed from site as part of the remediation works (landfill dockets, beneficial reuse / recycling dockets, trade waste disposal, tank destruction certificates, etc.);
- Material tracking data associated with the movement/placement of all material within the site, inclusive of asbestos impacted soils;
- Material characterisation data (including field observations, sampling and analytical data) obtained during assessment of material proposed to be imported to the site;
- Survey information on the height and lateral extent of the marker and barrier layers, if required;
- Relevant guideline criteria for validation and waste classification;
- Management measures documented within an Environmental Management Plan (EMP) (if required) to be prepared for the site following remediation to ensure the site remains suitable for the proposed use; and
- Data quality indicators (DQIs) as assessed by quality assurance / quality control (QA/QC).

7.1.4 Define the Study Boundaries

The validation study boundaries are restricted to the lateral extent the subject site as shown on **Figure 2**. The vertical extent of the validation study is anticipated to be restricted to the maximum depth of excavation works and/or stockpile movement activities required to achieve site validation requirements.

7.1.5 Develop a Decision Rule

The decision rules adopted to answer the decisions identified in **Section 7.1.2** are discussed below in **Table 7.1** following.

Table 7.1 Summary of Decision Rules

Decision Required to be Made	Decision Rule
1. Are there any unacceptable risks to future on-site receptors from any residual contamination following the remediation of contaminated materials on-site?	At the completion of all fill relocation/site remediation/management works, if the site surface comprises natural soils and is free of residual fill soils, anthropogenic inclusions, ACM, TCE and petroleum infrastructure impacts, the answer to the decision is No. Otherwise, the answer to the decision will be Yes.
2. Were the impacted/surplus materials (if any) classified and disposed off-site to a facility licensed to accept the classified waste?	Soil analytical data will be compared against EPA (2014) criteria. Statistical analysis (comprising a review of 95% UCL of the mean, standard deviation and maximum values of dataset) of the data in accordance with relevant guidance documents will be undertaken, where appropriate, to facilitate the decisions (as detailed above). Documentation from the operation receiving the material including the dates, tonnage and classification of the accepted material will be required to facilitate the decision. If the statistical criteria stated above are satisfied, the answer to the decision is Yes, and if receipts are provided recording the disposal of material to an off-site licensed facility, the second decision is Yes. If the material exceeds the criteria, and/or no disposal receipts are provided, the answer is No.

3. Has all material imported to site to achieve development objectives been demonstrated as suitable for use?	Analytical data sets and inspection data will be reviewed for each proposed material type/source against established definitions for acceptable material (i.e., VENM, resource recovery exemptions, etc) and also EPA endorsed criteria established in the RAP as validation criteria. If the complete data set for the applicable material meets the requirements relevant to the material type, the answer to the decision is Yes and material may be imported to site. If the data set exceeds the adopted criterion, the answer to the decision is No and the material cannot be imported to site for use in development activities.
4. Have remedial and validation works met the requirements of the RAP?	Was an answer to Question 1 to 3 Yes and Question 4 to 5 No, the answer to the decision is No. Further assessment is required to establish the nature and extent of additional remediation/management as may be required. If the RAP requirements were addressed, and there are no outstanding issues, the answer to the decision is Yes.
5. Is validation data considered reliable?	Did analysis of the Data Quality Indicators as provided in **Table 7.2** indicate the validation data was reliable? If Yes, the answer to the decision is Yes. Otherwise, the answer to the decision is No.
6. Is the site suitable for the proposed use?	Is the answer to Questions 5 and 6 is Yes, then the answer to the decision is also Yes. Otherwise, the answer to the decision is No. In this instance further remediation/ management actions will require to be implemented and appropriately documented such that a future review of the above decisions may result in a different decision outcome.

7.1.6 Specify Limits of Decision Error

This step is to establish the decision maker's tolerable limits on decision errors, which are used to establish performance goals for limiting uncertainty in the data. Data generated during this project must be appropriate to allow decisions to be made with confidence.

Specific limits for this project have been adopted in accordance with the appropriate guidance from the NSW EPA including NEPC (2013), appropriate indicators of data quality (DQIs used to assess QA/QC) and standard JBS&G procedures for field sampling and handling.

The pre-determined DQIs established for the project are discussed below in relation to precision, accuracy, representativeness, comparability, completeness and sensitivity (PARCCS parameters), and are shown in **Table 7.2**.

- **Precision** - measures the reproducibility of measurements under a given set of conditions. The precision of the laboratory data and sampling techniques is assessed by calculating the Relative Percent Difference (RPD) of duplicate samples.
- **Accuracy** - measures the bias in a measurement system. The accuracy of the laboratory data that are generated during this study is a measure of the closeness of the analytical results obtained by a method to the 'true' value. Accuracy is assessed by reference to the analytical results of laboratory control samples, laboratory spikes and analyses against reference standards.
- **Representativeness** –expresses the degree which sample data accurately and precisely represent a characteristic of a population or an environmental condition. Representativeness is achieved by

collecting samples on a representative basis across the site, and by using an adequate number of sample locations to characterise the site to the required accuracy.

- **Comparability** - expresses the confidence with which one data set can be compared with another. This is achieved through maintaining a level of consistency in techniques used to collect samples; ensuring analysing laboratories use consistent analysis techniques and reporting methods.
- **Completeness** – is defined as the percentage of measurements made which are judged to be valid measurements. The completeness goal is set at there being sufficient valid data generated during the study.
- **Sensitivity** – expresses the appropriateness of the chosen laboratory methods, including the limits of reporting, in producing reliable data in relation to the adopted criteria.

If any of the DQIs are not met, further assessment of the data set will be required in order to determine whether the non-conformance has significant effects on the usefulness of the data. Corrective action to correct an adverse impact on the reliability of the dataset may include, but is not limited to, the request of further information from samplers and/or analytical laboratories, downgrading of the quality of the data or alternatively, re-collection of the data.

Table 7.2 Summary of Quality Assurance/Quality Control Program

Data Quality Indicators	Frequency	Data Quality Criteria
Precision		
Split duplicates (intra laboratory)	1 / 20 samples	<30 % RPD[1]
Blind duplicates (inter laboratory)	1 / 20 samples (not required for soil vapour sampling)	<30 % RPD[1]
Laboratory Duplicates	1 / 20 samples	<30 % RPD[1]
Accuracy		
Surrogate spikes	All organic samples	70-130 %
Laboratory control samples	1 per lab batch	70-130 %
Matrix spikes	1 per lab batch	70-130 %
Representativeness		
Sampling appropriate for media and analytes	All samples	-[2]
Samples extracted and analysed within holding times	All samples	Soil: organics (14 days, other than vinyl chloride – 7 days), inorganics (6 months) Groundwater: metals (6 months, other than mercury – 28 days), sVOCs (PAHs, TRH<C_{10} – 7 days), VOCs/TRH>C_{10} – 14 days).
Laboratory Blanks	1 per lab batch	<LOR
Trip spike (not waste classification samples)	1 per lab batch (for volatile contaminants)	70-130% recovery
Storage blank (not waste classification samples)	1 per lab batch (for volatile contaminants)	<LOR
Rinsate sample (not waste classification samples)	1 per sampling event/media (when	<LOR

Data Quality Indicators	Frequency	Data Quality Criteria
	sampling with reusable equipment)	
Comparability		
Standard operating procedures for sample collection & handling	All Samples	All Samples
Standard analytical methods used for all analyses	All Samples extracted and analysed within holding times	NATA accredited methods for all sample analysis
Consistent field conditions, sampling staff and laboratory analysis	All Samples	All samples[2]
Limits of reporting appropriate and consistent	All Samples extracted and analysed within holding times	All samples[2]
Completeness		
Sample description and chain of custody completed and appropriate	All Samples	All samples[2]
Appropriate documentation	All Samples	All samples[2]
Satisfactory frequency and result for QC samples		95% compliance
Data from critical samples is considered valid	-	Critical samples valid
Sensitivity		
Analytical methods and limits of recovery appropriate for media and adopted Site assessment criteria	All samples	LOR<= Site assessment criteria

(1) If the RPD between duplicates is greater than the pre-determined data quality indicator, a judgment will be made as to whether the excess is critical in relation to the validation of the data set or unacceptable sampling error is occurring in the field.
(2) A qualitative assessment of compliance with standard procedures and appropriate sample collection methods will be made

7.1.7 Optimise the Design for Obtaining Data

The purpose of this step is to identify a resource-effective field validation sampling design that generates data that are expected to satisfy the decision performance criteria, as specified in the preceding steps of the DQO process. The output of this step is the sampling design that will guide development of the field sampling and analysis plan. This step provides a general description of the activities necessary to generate and select data collection designs that satisfy decision performance criteria.

The remediation validation and subsequent laboratory analysis program as outlined in the following sections will need to be implemented during site remediation activities to demonstrate the successful completion of works in compliance with the RAP goals. The validation/characterisation sampling and analytical program for the site is outlined in **Tables 7.3** following.

Table 7.3 Characterisation/Remediation Validation Program – Soil Sampling

Item	Sampling Frequency			Analytes
	Excavation Base	Excavation Walls	Materials	
Petroleum Infrastructure and Associated Impacted Soil				
Excavations formed by the removal of USTs, ASTs and associated impacted soils	1 sample / 100 m^2 (10 m grid), minimum of 2 per base	1 sample / 10 linear metres, minimum of 1 per excavation face; and 1 sample / per strata type	N/A	Lead, PAHs, TRH/BTEXN, heavy metals (where applicable) and phenols.

Item	Sampling Frequency			Analytes
	Excavation Base	Excavation Walls	Materials	
Fuel feed lines	1 sample / 5 m line	N/A	N/A	Lead, PAHs, TRH/BTEXN and phenols
Bowsers	1 sample / bowser	N/A	N/A	Lead, PAHs, TRH/BTEXN and phenols
Oil/Water Separator Units	1 sample / unit	N/A	N/A	Lead, PAHs, TRH/BTEXN and phenols
Remote Fill Points	1 sample / fill point	N/A	N/A	Lead, PAHs, TRH/BTEXN and phenols
Fill materials associated with USTs	N/A	N/A	1 sample / 25 m^3 up to 100 m^3. Minimum of three samples per stockpile. Reduced sampling density for volumes > 100 m^3 based on a statistically representative data set	Lead, PAHs, TRH/BTEXN and phenols (plus asbestos for off-site disposal)
Temporary stockpile/bioremediation footprints not on hardstand	In unpaved areas: 1 sample / 100 m^2 (10 m grid), minimum of 2 per base Paved Areas: N/A	N/A	N/A	Heavy metals, PAHs, TRH/BTEXN and phenols
Asbestos Impacted Materials				
Excavations formed by the removal of friable asbestos impacted soils	1 sample / 100 m^2 (10 m grid), minimum of 2 per base (may be reduced for large areas)	1 sample / 10 linear metres; and 1 sample / 1 m depth	N/A	Asbestos (500 ml) for validation of friable impacted soils. As determined by the nature of the impact
Excavations formed by the removal of bonded asbestos impacted materials.	Confirmation that the excavation walls and base are free of visible ACM impacts.			Visual Inspection required.
Stockpile footprints not on hardstand	1/100 m^2 (10 m grid) with a minimum of 2 samples	N/A	N/A	Relevant COPCs as per impacted material type
TCE Excavation(s)				
Excavation less than 100 m^2 extent	If dry / unsaturated soils 1 per 25 m2 (5 m grid) or minimum 1x sample per base. Installation of soil vapour probe.	1 per 5 m lineal Installation of soil vapour probe at 2 m distance outwards from excavation wall, or otherwise installed through excavation wall if excavation safe to enter.	N/A	VOCs
Excavation greater than 100 m^2 extent	1 per 100 m2 (10 m grid) or minimum 1x sample per base. Installation of soil vapour probe	1 per 10 m lineal Installation of soil vapour probe at 2 m distance outwards from excavation wall, or otherwise installed through excavation wall if excavation safe to enter.	N/A	VOCs
Miscellaneous				

Waste classification of materials requiring offsite disposal	N/A	N/A	Minimum of 3 samples and/or in accordance with EPA (2022) sampling design guidelines	Heavy Metals TRH/BTEX OCPs/PCBs PAHs Asbestos (500mL) (plus COPCs as appropriate to material source)
Imported Materials of VENM, if required	N/A	N/A	Minimum 3 samples per source site. Maximum of 10 samples.	<u>As a minimum:</u> Heavy metals TRH/BTEX PAHs OCPs/PCBs Asbestos (500mL)
Imported Materials of ENM, if required	N/A	N/A	As per ENM Order.	Heavy metals TPH/BTEX PAHs pH EC RTA 276 (foreign materials) Asbestos (500mL)
Quarried Imported Materials, if required	N/A	N/A	Confirmation that the material is quarried rock (VENM) prior to importation, and visual confirmation.	Site Inspection required.
Recycled/Recovered Products	N/A	N/A	Minimum 3 samples per source site and supplier information verifying the material meets the respective resource recover order/exemption	<u>As a minimum:</u> Heavy metals TRH/BTEX PAHs OCPs/PCBs Asbestos (500mL)

The sampling methodologies as specific to each media are discussed in the following sections.

7.2 Soil Sampling Methodology

7.2.1 Validation of Excavation(s)

Samples will need to be collected by an appropriately trained and experienced environmental scientist/engineer using a hand trowel or from the bucket of mechanical excavation equipment, at the required densities to meet the project DQOs.

Prior to collection of each sample, hand tools will need to be thoroughly decontaminated using phosphate free detergent and distilled water as per **Section 7.4.3**.

During the collection of soil samples, features such as seepage, discolouration, staining, odours and other indicators of contamination will need to be noted on the field documentation.

7.2.2 Stockpile Sampling

For stockpile sampling, material will be obtained from a minimum depth of 0.3 m into the surface of the stockpile at the time of sampling. Appropriate decontamination activities shall be followed following the collection of each sample.

During the collection of soil samples, features such as seepage, discolouration, staining, odours and other indications of contamination will be noted on the field documentation.

7.3 Soil Vapour Sampling Methodology

Soil vapour validation samples are required in all instances where TCE impacted soils have been remediated. Specific soil vapour samples are required as the detection limits in soils for the hazardous chlorinated hydrocarbon constituents are not sufficiently low enough to be protective of potentially hazardous levels of soil vapour.

7.3.1 Excavations

Soil vapour validation samples shall be collected from the base of an excavation in instances where unsaturated soils are present and adjoining the walls of an excavation. The soil vapour samples shall be collected by the installation of a soil vapour probe to a typical depth of 1 m (potentially shallower if placed at the base of an excavation and able to be sealed to prevent leakage). Soil vapour probes for wall validation shall be installed at a spacing of 2 m outwards from the wall of the excavation within undisturbed soils. The soil vapour probe:

- Shall be installed within a 100 mm diameter borehole:
- Be constructed of 6 mm diameter LDPE tubing as provided with a stainless steel gauze at the end of the tubing;
- Be backfilled with washed 1-2 mm sand adjoining the end of the tubing, a shallow depth of bentonite granules and completed with a bentonite based grout; and
- Be allowed to stabilise for a period of 24 hours prior to sampling.

For the collection of wall vapour validation samples, it is noted that the base of the soil vapour probe shall not extend below the base of the overall excavation. This will only be relevant for the case of shallow excavations.

It is noted that following successful wall validation of excavations, excavations may require to be battered to allow safe worker entry to complete base validation. Alternately soil vapour probes may also be installed within the battered / excavated wall surface.

7.3.2 Collection of Soil Vapour Validation Samples – Soil Vapour Probe

Soil vapour validation samples are required in all instances where chlorinated hydrocarbon impacted soils have been required to be remediated. Specific soil vapour samples are required as the detection limits for the hazardous hydrocarbon constituents are not sufficiently low enough to be protective of potentially hazardous levels of soil vapour.

Soil vapour samples shall be collected from installed soil vapour probes or otherwise a steel probe to stockpiles (if required to confirm field screening readings). The following sampling methodology shall be adopted:

- The top of the soil vapour tubing / steel pole will be connected to a three-way value (set to the ‘off’ position) via a piece of silicon;
- The three-way valve will be ‘opened’ and a syringe used to check for water held within the probe. If the probe is flooded, it will be removed and re-installed nearby;
- Purging of each probe using a Landfill Gas Meter (GA5000 meter with dedicated methane sensor, also measuring oxygen, carbon dioxide, carbon monoxide, hydrogen sulfide and instantaneous flow) and PID until stabilisation of readings;
- Following purging, a leak detection test will be completed via placement of an isopropyl alcohol-soaked rag around the top of the vapour probe, and the system closed by a large plastic tub / shroud. A long piece of silicon will be connected to the three-way valve to allow sampling outside the shroud. The PID reading inside the shroud will be recorded, and measured from the vapour probe again. Where VOC concentrations were significantly altered (greater than 10 % different) from the stabilised level,

this would indicate there to be a leak, and the soil vapour probe will be reinstalled until the leak detection test is passed;

- Following the leak detection test, a 25 L soil vapour sample will be collected using a calibrated low-flow air pump over a period of 125 minutes. A glass tube containing carbon sorbent media (carbon tube) will be fixed to the end of the nylon tubing and the low flow air pump attached to the rear end of the carbon tube. The air pump will be pre-calibrated and set to withdraw soil vapour at the required flow rate (0.2 L/min) through the carbon tube to allow adsorption of VOCs onto the carbon tube;
- Carbon tube samples will be immediately sealed with end-caps, labelled and stored in individually labelled zip-lock bags (away from sunlight). Carbon tube samples will be transferred with chain of custody documentation to the receiving lab in a small sealed esky at room temperature; and
- A repeat measurement shall be undertaken of the soil vapour probe using the PID following collection of the sample and further using a multi-gas meter. The PID measured levels of volatile, as well as fixed gases including oxygen, carbon dioxide, carbon monoxide, methane and hydrogen sulfide shall be recorded.

7.4 General Sampling Requirements

7.4.1 Sample Handling

Collected samples will be immediately transferred to sample containers of appropriate composition (glass jars for chemical analysis, carbon tubes for soil vapour). Sample labels recorded: job number; sample identification number; and date of sampling.

Sample containers will be transferred to a chilled ice box for sample preservation prior to and during shipment to the testing laboratory. A chain-of-custody form will be completed and forwarded with the samples to the testing laboratory.

7.4.2 Duplicate and Triplicate Sample Preparation and QA/QC Requirements

Field duplicate and triplicate samples for the characterisation/validation assessment will be obtained during sampling using the procedures outlined at a frequency outlined in **Table 7.2**. The primary sample will be divided laterally into three samples with minimal disturbance to reduce the potential for loss of volatiles and placed in three clean glass jars and / or plastic bags. Vapour and soil samples will be split during sample collection to fill multiple sample containers. For soil vapour, only intra duplicates will be required.

All sample containers will be filled completely with no headspace to reduce the potential for loss of volatiles and separately labelled as the primary, duplicate and triplicate samples before being placed in the same chilled esky for laboratory transport.

Trip spike, storage blank and rinsate samples will be collected as per **Table 7.2**.

7.4.3 Sampling Equipment Decontamination

The following procedure will be used to clean non-disposable equipment, including the trowel, pick etc., prior to the collection of each sample:

- Scrubbing with a wire brush to remove gross contamination;
- Pressure spray with Decon 90 detergent and potable water mix; and
- Rinse with potable water.

Rinsate samples will be obtained during the field decontamination procedures at regular intervals during characterisation/validation sampling activities. Each rinsate sample will be obtained by rinsing the non-disposable equipment with laboratory grade demineralised water following the decontamination procedure.

The water sample will be appropriately preserved and stored with the site samples prior to transport to the laboratory for chemical analysis.

7.4.4 Laboratory Analyses

All laboratories proposed for laboratory analysis of validation samples shall be National Association of Testing Authorities (NATA) registered for the relevant analyses.

7.5 Validation Criteria

Based on the proposed development details and in accordance with the decision process for assessment of urban redevelopment sites (EPA 2017), validation criteria sourced from the publications have been adopted:

- Health Investigation Levels (HILs) for commercial/industrial land use (NEPC 2013) HIL-D;
- Health Screening Levels (HSLs) for petroleum hydrocarbons considering potential for vapour intrusion, clay and sand for commercial/industrial land use (NEPC 2013);
- HSLs for asbestos in soil for commercial/industrial land use (HSL D);
- Management limits for TRH fractions for commercial/industrial land use, coarse and fine soils;
- Derived ecological Investigation levels (EILs) and ecological screening Levels (ESLs) for commercial/industrial land use, coarse and fine soil;
- ASC NEPM (NEPC 2013) HSLs for soil vapour (for TRHs, BTEXN); and
- ASC NEPM (NEPC 2013) HILs for soil vapour (for volatile organic chlorinated compounds (VOCCs))

Where there are no NSW EPA endorsed thresholds the laboratory LOR will be adopted as an initial screening value for the purposes of this validation assessment;

Refence will be made to NEPC (2013) under a commercial land use setting to establish what constitutes an aesthetics issue.

7.5.1 Application of Soil Assessment Criteria

As per **Table 7.1**, for soils to be considered as meeting the health/ecological based assessment criteria (i.e., not posing an unacceptable risk), the following criteria will be adopted:

Either:

- All contaminant concentrations are less than the adopted site assessment criteria,

Or:

- The upper 95% confidence limit on the average concentration for each analyte (calculated for samples collected from consistent soil horizons, stratigraphy or material types) is below the adopted criterion;
- No single analyte concentration exceeds 250% of the adopted criterion; and
- The standard deviation of the results are less than 50% of the criterion.

7.6 Off-site Disposal

Where contaminated fill/soil is not suitable for on-site retention or is surplus to site requirements, materials are proposed to be remediated by off-site removal and disposal. Materials shall be classified in accordance with EPA (2014) *Waste Classification Guidelines* or an appropriate resource recovery order/exemption (RRO/RRE) as created under the *Protection of the Environment Operations (Waste) Regulation 2014*.

Material will require to be removed to a facility lawfully able to receive it.

7.7 Imported Materials

In accordance with current EPA policy, only material that does not represent an environmental or human health risk at the receiving site may be considered for resource recovery. Imported materials will only be accepted to the site if they meet the restrictions placed on these materials and meet the definition of:

- Quarried natural materials;
- VENM as defined in as defined in EPA (2014) *Waste Classification Guidelines* and the *Protection of the Environment Operations Act* (1997) Schedule 1;
- Excavated Natural Material (ENM) as defined in the ENM RRO/RRE; or
- Recycle materials as per relevant RRO/RRE.

All material imported onto site are required to be accompanied by appropriate documentation that has been verified by the appointed site contamination (environmental) consultant.

Sampling of materials as per relevant RRO/RRE (recycled products) is required to be undertaken by the facility prior to import. In addition, where materials are proposed for beneficial reuse under a relevant RRO/RRE (i.e. imported to the site), fill material will need to be further assessed by JBS&G for land use suitability.

7.8 Final Site Inspection

A final site inspection shall be undertaken following all works to confirm the following:

- No evidence of remaining asbestos, site petroleum based or related infrastructure;
- No visual aesthetic indicators of impact; and
- No recognisable petroleum odours as present at walking height over the extent of the site surface.

7.9 Validation Report

At the completion of the remedial works, a validation report will be prepared in general accordance with the *Consultants Reporting on Contaminated Land Contaminated Land Guidelines* (EPA 2020), documenting the works as completed. The report will contain information including:

- Update relevant portions of the site description and contamination status as prepared in this RAP to the condition of the validation assessment footprint at the time of the validation assessment;
- Present all sampling field notes and laboratory data including calibration certificates for field monitoring equipment, environmental monitoring etc.;
- Undertake an assessment of QA/QC of analytical data generated by the works and identify data that is reliable for use in characterising the site;
- Sort data into data sets as required by the decision rules;
- Assess whether sufficient data has been obtained to meet required limits on decision error;
- Undertake assessment to the decision rules;
- Provide a summary of waste disposal/off-site removal activities (if any) and volumes of material removed from the site including supply of all waste disposal dockets confirming final waste disposal/landfill destination;
- Provide a summary of material imported to site for remediation (if any) including material source, type, assessment of suitability, approximate quantities, date of importation and final placement location;
- Details of the remediation works conducted;

- Information demonstrating that the objectives of the RAP have been achieved, in particular the validation sample results and assessment of the data against both the pre-defined data quality objectives and the remediation acceptance (validation) criteria;
- Information demonstrating compliance with appropriate regulations and guidelines;
- Document any variations to the strategy undertaken during the implementation of the remedial works;
- Details of any environmental incidents occurring during the course of the remedial works and the actions undertaken in response to these incidents;
- Other information as appropriate, including requirements (if any) for ongoing monitoring / management; and
- Provide a comment on the suitability of the site for the proposed use and requirements for any ongoing monitoring/management (where applicable).

The report will serve to document the remediation works for future reference.

8. Contingency Plan

A review of the proposed contamination-related aspects of the works associated with development of the site has been undertaken and has identified a number of potential risks, outlined in the following sections that required the development of contingencies to ensure that the objectives of this RAP are met.

8.1 Unexpected Finds

The possibility exists for hazards that have not been identified to date to be present within fill materials or underlying pavements/building on the site. The nature of hazards which may be present, and which may be discovered at the site are generally detectable through visual or olfactory means, for example:

- The presence of significant aggregates of friable asbestos materials (visible) as opposed to minor occurrences of fibre bundles in soil; and/or
- Excessive quantities of construction/demolition waste that represents an aesthetics issue beyond that reported to date (visible); and/or
- Hydrocarbon/chemical impacted materials beyond that reported to date (visible/odorous); and/or
- Drums, waste pits (visible); and/or
- Oily Ash and/or oily slag contaminated soils/fill materials (visible/odorous); and/or
- Tarry like impacted soil/fill material (visible/odorous); and/or
- Potential chlorinated hydrocarbon impact (sweet odour in soils).

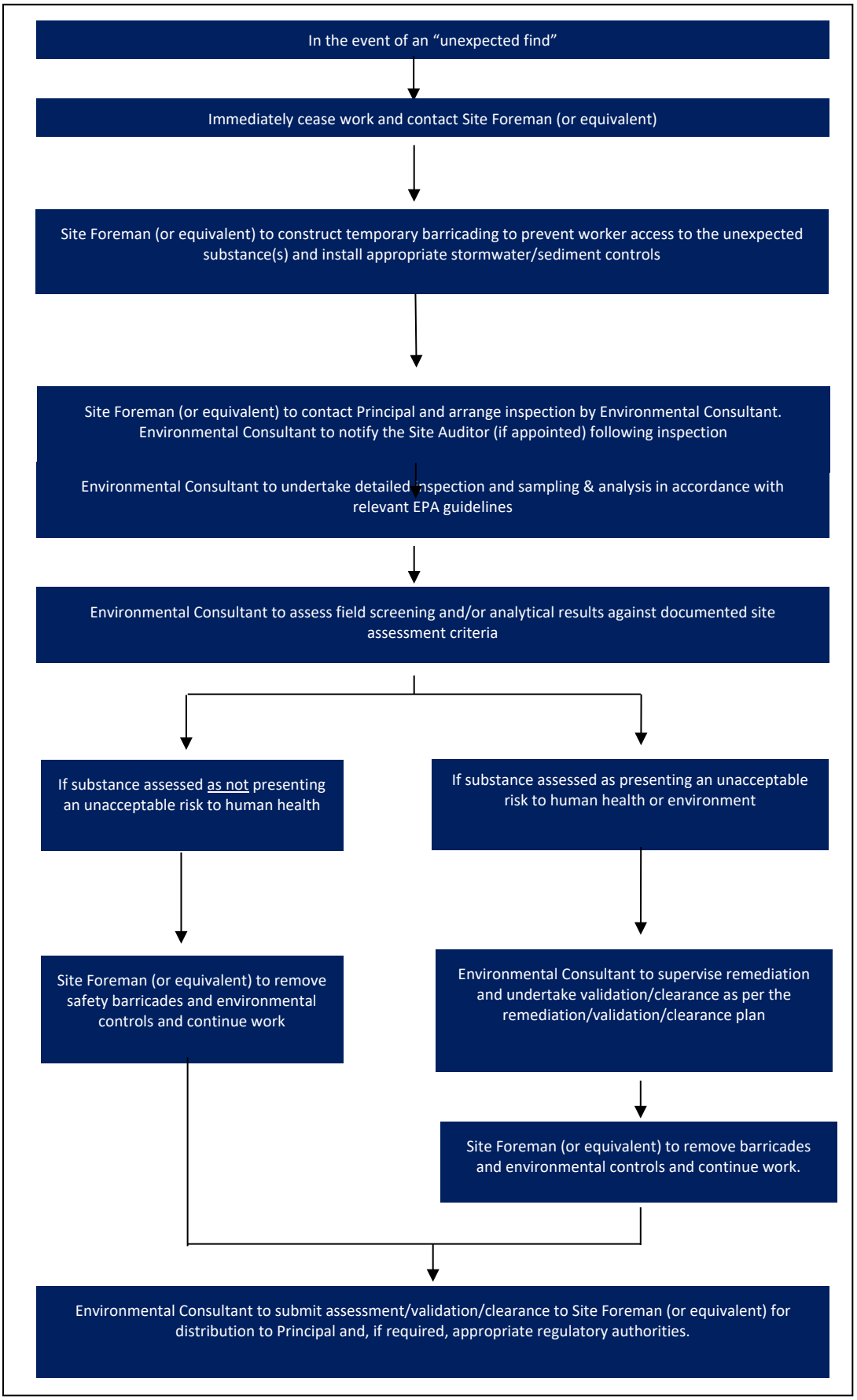
As a precautionary measure to ensure the protection of the workforce and surrounding community, should any of the abovementioned substances (or any other unexpected potentially hazardous substance) be identified, the procedure summarised in **Flow Chart 8.1** is to be followed.

An enlarged version of the Unexpected Finds Protocol, suitable for use on the site, should be posted in the Site Office and referred to during the site-specific induction by the Principal Contractor.

The sampling strategy for each “unexpected find” shall be designed by the environmental consultant. The strategy will, however, be aimed at determining the nature of the substance – that is, is it hazardous and, if so, is it at concentrations which pose an unacceptable risk to human health or the environment.

The sampling frequency of the identified substance/materials shall meet the minimum requirements outlined in EPA (2022) in addition to those outlined in **Section 7**.

Figure 8.1: Unexpected Finds Protocol



8.1.1 Identification of Oily or Tarry Materials

In the event that oily/tarry materials are encountered, the provisions outlined in the Unexpected Finds Protocol will be implemented, comprising inspection, testing and appropriate action as advised by the Environmental Consultant.

Any suspected oily/tarry materials must be segregated from other excavated materials and placed in a designated area with appropriate odour and sediment controls until such time as appropriate assessment is completed and a methodology is confirmed for their appropriate management. In the event that the oily/tarry materials do not meet the site validation criteria, then they shall be stored in a secure area for later treatment or classified and removed from the site for treatment and/or disposal at an appropriately licensed facility.

8.1.2 Identification of Other Petroleum or Chlorinated Hydrocarbon Impact

In the event that petroleum or chlorinated hydrocarbon impacted materials are encountered in areas where none are anticipated, the provisions outlined in the Unexpected Finds Protocol will be implemented, comprising inspection, testing and appropriate action as advised by the Environmental Consultant.

Any suspected impacted materials must be segregated from other excavated materials and placed in a designated area with appropriate odour and sediment controls until such time as appropriate assessment is completed and a methodology is confirmed for their appropriate management. In the event that the materials do not meet the site validation criteria, then they shall be stored in a secure area for later treatment or classified and removed from the site for treatment and/or disposal at an appropriately licensed facility.

8.2 Material Storage Breach

In the event that any materials storage containment controls are breached and stockpiled materials have escaped (or have the potential to escape), then the management controls shall be rectified, and investigations undertaken to review the adequacy of the controls and any improvements implemented. The site management plan (**Section 9**) shall include a documented process for identifying and responding to such incidents.

8.3 Emissions Complaints

Due to the nature of the activities and type of contaminants identified at the site, it is unlikely that there will be complaints received from members of the public relating to environmental emissions.

Monitoring of all environmental emissions shall be undertaken during the works as detailed in the Site Management Plan (discussed in **Section 9**) and appropriate actions taken to further control emissions following receipt of a complaint. The site management plan shall contain provision for contingency actions where excessive emissions occur, however it is anticipated that one or more of the following actions will be considered:

- Increased application of odour screening/masking chemicals on odorous materials;
- Disturbance of soils during meteorologically favourable periods only; and/or
- Covering of impacted soils.

8.4 Excavation Validation Failure

In the unforeseen event that the proposed remediation works do not meet the validation criteria, or if the selected remedial strategy is unsuccessful, the following actions will be considered to ensure firstly the safety and health of people and the environment and secondly that the overall project objectives are achieved:

- Continued controlled excavation and off-site disposal or treatment of impacted/ contaminated material until validation is achieved; and

- Reassessment of remedial options for excavated materials, including:
- Alternate on-site treatment options; and/or
- On-site containment.

9. Site Management Plan

Prior to commencement of remediation works, a Site Management Plan (SMP) shall be prepared by the remedial contractor which documents the environmental monitoring and management measures required to be implemented during the remediation and construction related activities associated with the construction of the site.

The SMP shall address each of the nominated items in the following sections and shall include the Contingency Plan, referred to in **Section 8**. Additional environmental management requirements may be required as part of development consent.

9.1 Hours of Operation

All remediation works shall be conducted within the following hours or those specified within the SSDA:

- Monday to Friday: 7am to 5 pm.
- Saturdays: 8 am to 1 pm.
- Sunday and public holidays: No work permitted.

9.2 Erosion and Sediment Control Policy

All works shall be conducted in general accordance with Soils and Construction Managing Urban Stormwater Standards (Landcom 2004) or as updated, which outlines the general requirements for the preparation of a soil and water management plan.

9.3 Stockpile Management

All materials stockpiled onsite will be managed by the Contractor. Unique numbers will be provided for each stockpile, the source of the stockpile, its estimated volume, material characterisation and its location onsite will also be recorded.

The following general procedures will be implemented by the Contractor:

- No stockpiles of soil or other materials shall be placed on footpaths or road reserves unless prior Council approval has been obtained; and
- All stockpiles of soil or other materials shall be placed away from drainage lines, gutters or stormwater pits or inlets.

9.4 Temporary and Long Term Management

All stockpiles will be required to be managed in accordance with the procedures in **Section 6**.

9.5 Site Access

All vehicle access to the site shall be stabilised to prevent the tracking of sediment onto the roads and footpaths. All materials must be removed from the roadway on a daily or as required basis. All vehicles leaving the asbestos works area must be decontaminated in accordance with the procedures in **Section 6.4**.

9.6 Excavation Dewatering

No dewatering is proposed. There is a potential for minor quantities of seepage to enter the deepest excavations. This is not anticipated to affect the undertaking of the works and will be able to be managed in lieu of a requirement to dewater.

9.7 Noise

Remediation work shall not give rise to 'offensive noise' as defined in the *Protection of the Environment Operations* (POEO) Act 1997. All equipment and machinery associated with the remediation work shall be operated by the Contractor in accordance with the *POEO Act* (*1997*) and its *Noise Control Regulations 2000*.

Noise generated should be managed so as not to adversely impact the amenity or residents/business adjoining or nearby the site.

All machinery and equipment used on site will be in good working order and fitted with appropriate silencers when necessary.

9.8 Vibration

Vibration generated should be managed so as not to adversely impact the amenity or residents/ business adjoining or nearby the site.

9.9 Odour / Volatile Emissions Control

No odours should be detectable at the site boundary and volatile emissions of other potentially volatile substances shall be controlled. Appropriate actions will be taken by the contractor to reduce the odours, which may include odour suppressants or maintenance of equipment. Where possible, stockpiles of malodorous material shall be transferred to off-site locations as soon as possible.

Equipment and machinery will be adequately maintained to minimise exhaust emissions. No materials shall be burnt on the site.

9.10 Dust Control

During the remedial works, as necessary, excavation areas will be wetted down using a water spray to minimise the potential for dust to be generated by the Contractor. A wetting or bonding agent may be used to further bind the soil to minimise asbestos fibre release.

All asbestos impacted soils must be wetted (but not flooded) prior to and during excavation and movement of the soils. To control dust in significant areas of exposed asbestos contaminated fill, industrial misting fans, placed at the outer extents of remedial/excavation areas, must be utilised by the Contractor.

Dust shall also be controlled by ensuring vehicles leave via the designated (stabilised) site access and all equipment have dust suppressors fitted by the Contractor.

Where significant fugitive emissions are observed from asbestos inspection / treatment pads, or bioremediation areas, these areas shall be wetted and/or covered by the Contractor.

Meteorological conditions will be monitored by the Remediation Consultant and Contractor. Remedial work will be stopped or modified where meteorological conditions are adverse (i.e., dry conditions and strong winds towards sensitive receptors).

Plant and vehicles should limit their speed when working within asbestos exclusion zones and only traverse wetted haul roads. Only essential vehicles are permitted to traverse the asbestos exclusion zone.

9.11 Air Quality

Airborne Asbestos Fibre Monitoring

Airborne asbestos fibre monitoring will be conducted in accordance with the requirements of the National Occupational Health and Safety Commission (NOHSC*) Asbestos Code of Practice and Guidance Notes*, in particular the *Guidance note for the estimation of airborne asbestos dust* [NOHSC 3002:2005]. The consultant shall undertake airborne asbestos fibres monitoring at a minimum of five static locations daily during

remediation works that will disturb asbestos impacted or contaminated materials. Monitoring locations will include site perimeter locations and downwind locations. Wind Rose information available from the Bureau of Meteorology (BOM) for the nearest weather stations will be used to determine common prevailing winds in the area.

Air filters shall be analysed by a NATA accredited laboratory and results shall be required to be below 0.01 fibres/mL. All detections of fibres shall be further analysed by scanning electron microscope (SEM) to confirm the fibres are asbestos.

If respirable asbestos fibres are confirmed and present between 0.01 and 0.02 fibres/mL, the following controls must be implemented by the licensed asbestos removalist, in accordance with the *WHS Regulations 2017*;

- Review control measures;
- Investigate the cause; and
- Implement controls to eliminate or minimise exposure and prevent further release.

If respirable asbestos fibres are confirmed and present above 0.02 fibres/mL, the following controls must be implemented by the licensed asbestos removalist, in accordance with *WHS Regulations 2017*;

- Stop removal work;
- Notify SafeWork NSW by phone, then by fax or written statement that work has ceased;
- Investigate the cause;
- Implement controls to eliminate or minimise exposure and prevent further release; and
- Do not recommence removal work until further air monitoring is conducted and fibre levels are detected below 0.01 fibres/mL.

A daily report air monitoring report will be prepared documenting the previous/same days airborne asbestos fibre air monitoring results. This report will be made available to all relevant stakeholders.

9.12 Dust Monitoring

Dust emissions shall be confined within the site boundary. The following dust control procedures may be employed to comply with this requirement:

- Erection of dust screens around the perimeter of the site;
- Securely covering all loads entering or exiting the site;
- Use of water sprays across the site to suppress dust;
- Covering of all stockpiles of contaminated soil remaining more than 24 hours (where practical); and
- Keeping excavation surfaces moist.

9.13 Transport of Material Offsite

In the event that materials are required to be transported off-site, all trucks will be loaded in designated areas and decontaminated (when leaving the asbestos works area) in accordance with site management procedures. The Contractor shall ensure that there is no material tracked out onto the street and that the load is securely covered. In addition, all site vehicles must leave the site in a forward direction.

The Contractor shall also log truck movements and approximate volume, via registration number and consignment number (where applicable), into and out of the site. Truck load details will be included as part of the Validation Report.

All appropriate road rules shall be observed and state roads will be selected as far as practicable over local roads when deciding on the transport route to the off-site material disposal location.

All plant and vehicles will be required to obey all site-specific rules when travelling within the site. In addition, all plant and vehicles should limit their speed when working within asbestos exclusion zones and only traverse designated paths.

9.14 Hazardous Materials

Hazardous and/or intractable wastes arising from the remediation work shall be removed and disposed of in accordance with the requirements of NSW EPA, SafeWork NSW and the relevant regulations by the Contractor.

In particular, any hazardous wastes will be transported by a NSW EPA licensed transporter.

9.15 Disposal of Contaminated Soil

All soils will be classified, managed and disposed in accordance with the *Waste Classification Guidelines* (EPA 2014). Documentary evidence for all soil disposal shall be kept for inclusion in the Validation Report.

Trucks will be loaded in designated areas. The Contractor shall ensure that there is no material tracked out onto the street and that the load is securely covered. In addition, all site vehicles must leave the site in a forward direction.

The Contractor shall also log truck movements and approximate volume, via registration number and consignment number (where applicable), into and out of the site.

All appropriate road rules shall be observed and state roads will be selected as far as practicable over local roads when deciding on the transport route to the off-site material disposal location.

Plant and vehicles should limit their speed when working within asbestos exclusion zones and only traverse designated paths.

WasteLocate is now operational within NSW and any loads of asbestos waste that trigger the values of WasteLocate must be tracked via the online system.

9.16 Site Signage and Contact Numbers

A sign/s shall be displayed adjacent to the site access point/s throughout the duration of the works with the contact details of the Contractor and project manager as provided and maintained by the Contractor.

9.17 Site Security

The remedial areas shall be secured against unauthorised access by means of an appropriate fence or barricade or other means by the Contractor. All persons working in asbestos remedial areas must be inducted, have undertaken required training and don appropriate PPE. The access gates to the site will be locked at all times when remedial works are not occurring.

9.18 Community Consultation

Site workers within the broader site will be advised via an internal consultation process of the intention to complete works at least 7 days prior to the commencement of site remediation activities. In addition, owners and/or occupants of adjacent premises and across the road from the site will be notified at least 7 days prior to the commencement of preparation for the remediation works. As a minimum, the notification shall include the details of an appropriate contact person.

9.19 Health and Safety Management

A Work Health & Safety Management Plan (WHSP) shall be prepared by the Contractor prior to commencement of remediation works on the site. The Plan shall contain procedures and requirements that are to be implemented as a minimum during the works.

The objectives of the WHSP are:

- Ensure all regulatory requirements for the proposed works are satisfied;
- To apply standard procedures that minimises risks resulting from the works;
- To ensure all employees are provided with appropriate training, equipment and support to consistently perform their duties in a safe manner; and
- To have procedures to protect other site workers and the general public.

These objectives will be achieved by:

- Assignment of responsibilities;
- An evaluation of hazards;
- Establishment of personal protection standards, mandatory safety practices and procedures;
- Monitoring of potential hazards and implementation of corrective measures; and

Provision for contingencies that may arise while operations are being conducted at the site.

9.20 Additional Site-Specific Elements/Procedures

In addition to the normal construction-related matters, the WHSP shall address the following site-specific hazards associated with the works relating to the management of contaminated soil:

- Under/aboveground services, specifically former petroleum infrastructure;
- Use of plant and machinery within confined spaces (i.e. tank pit excavations);
- Contact with contaminated soil (asbestos, VOCs); and
- Heat/cold stress.

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10. Regulatory Approvals / Licensing

10.1 Resilience and Hazards SEPP

Development consent requirements for remediation works is addressed by reference to the Resilience and Hazards SEPP and associated Planning Guidelines.

At this stage, based on the known volume of contaminated material expected to be present at the site and the proposed scope of remediation works, they are considered to classified as 'Category 2' Remediation Works – i.e., not requiring consent. The notification requirements of SEPP 55 include notification to council 30 days before Category 2 remediation works commence. It is noted that development consent will be required for building demolition to enable remediation works to proceed.

The proposed works do not constitute Category 1 works because:

- The work is not Designated Development under Schedule 3 of the EPA&A Regulation or under a planning instrument.
- The work proposed is not on land identified as critical habitat under the Threatened Species Conservation Act 1995.
- Consideration of s.5A of the EP&A Act indicates the remediation work is not likely to have a significant effect on threatened species, populations, ecological communities or their habitats.
- The work is not proposed in an area or zone to which any classifications to the following effect apply under an environmental planning instrument:
    - coastal protection;
    - conservation or heritage conservation;
    - habitat area, habitat protection area, habitat or wildlife corridor;
    - environmental protection;
    - escarpment, escarpment protection or escarpment preservation;
    - floodway;
    - littoral rainforest;
    - nature reserve;
    - scenic area or scenic protection;
    - wetland, or
    - carried out or to be carried out on any land in a manner that does not comply with a policy made under the contaminated land planning guidelines by the council for any local government area in which the land is situated (or if the land is within the unincorporated area, the Western Lands Commissioner).
- The work does not require consent under another SEPP or regional environmental plan.

In addition, the notification will also include relevant contact details and a proposed remediation schedule. Notice is also required to be given to Council within 30 days of remediation works completion.

10.2 Protection of the Environment Operations Act 1997

The proposed remediation/validation activities are not required to be licensed under *the Protection of the Environment Operation Act (1997)* since the works as they are currently understood do not involve:

- Treat otherwise than by incineration and store more than 30 000 cubic metres of contaminated soil originating exclusively from the site, or
- Disturb more than an aggregate area of 3 hectares of contaminated soil originating exclusively from the site.

10.3 Protection of The Environment Operations (Waste) Regulation 2014

The regulations make requirements relating to non-licensed waste activities and waste transporting. The proposed works on the site will not require to be licensed.

Under Clauses 76 and 79 of the POEO Regulation 2014, asbestos waste (>100 kgs, or more than 10 m^2 in a single load), must be tracked using WasteLocate.

Section 42 of the Regulation stipulates special transportation, reporting, re-use and recycling requirements relating to asbestos waste and must be complied with regardless whether the activity is licensed.

The requirements for the transportation of asbestos waste include:

- Bonded asbestos material must be securely packaged at all times;
- Friable asbestos material must be kept in a sealed container;
- Asbestos-contaminated soils must be wetted down; and
- All asbestos waste must be transported in a covered, leak-proof vehicle.

The transporter of asbestos waste must cause the following information to be given to the EPA prior to the transportation of asbestos waste loads:

- Source site details including address, name and contact details;
- Date of proposed transportation commencement;
- Name, address and contact details of disposal site; and
- Approximate weight of each class of asbestos in each load.

The transporter of asbestos waste must ensure the following information is given to the disposal site before or at delivery:

- Unique consignment code issued by EPA in relation to that load; and
- Any other information specified in the Asbestos and Waste Tyres Guidelines.

The requirements relating to the off-site disposal of asbestos waste are as follows:

- Asbestos waste in any form must be disposed of only at a landfill site that may lawfully receive the waste,
- When asbestos waste is delivered to a landfill site, the occupier of the landfill site must be informed by the person delivering the waste that the waste contains asbestos,
- When unloading and disposing of asbestos waste at a landfill site, the waste must be unloaded and disposed of in such a manner as to prevent the generation of dust or the stirring up of dust,
- Asbestos waste disposed of at a landfill site must be covered with virgin excavated natural material or other material as approved in the facility's environment protection licence.

Section 48 of the Regulation requires that wastes are stored in an environmentally safe manner. It also stipulates that vehicles used to transport waste must be covered when loaded.

10.4 Protection of the Environment Operations (Underground Petroleum Storage Systems) Regulation 2014

The removal of petroleum infrastructure will be undertaken in accordance with SafeWork NSW requirements, and a validation report will be provided in accordance with the provisions of the *Protection of the Environment Operations (UPSS) Regulation 2014*. The validation process in this RAP meets the requirements of the regulation and associated EPA guidance.

In addition, all removal works will be required to be undertaken in accordance with relevant Australian standards, regulations and codes of practice including Australian Standard AS 4976-2008: *The removal and disposal of underground petroleum storage tanks*, and AS 1940-2004: *Storage and handling of flammable and combustible liquids*), as amended.

10.5 Waste Classification Guidelines (EPA 2014)

All wastes generated and proposed to be disposed offsite shall be assessed, classified and managed in accordance with this guideline. Where wastes require immobilisation prior to offsite disposal (to reduce waste classifications) an immobilisation approval shall be sought in accordance with Part 2 of this guideline. Immobilisations are only anticipated to be required with unexpected finds that cannot be retained on site and cannot be disposed directly offsite to a licensed facility.

10.6 Asbestos Removal Regulations and Codes of Practice

The remediation of fill containing asbestos will be managed in accordance with the *Work Health and Safety Act 2011* (WHS Act) and associated Work Health and Safety (WHS) Regulation (2019) including those related to asbestos. Noting that asbestos impacts (both friable and bonded) have been identified within site soils, and works that will result in the disturbance of these soils will be required to be managed in accordance with the WHS Act, Regulations and How to Manage and Control Asbestos in the Workplace Code of Practice (SafeWork 2022a) and How to Safely Remove Asbestos Code of Practice (SafeWork 2022b).

Excavation, onsite remediation and removal/containment of asbestos impacted soils are required to be conducted by a Class A (for the Friable impacted soils) or B (for Bonded impacted soils) Asbestos Removal licensed contractor.

All airborne asbestos fibre monitoring works must be undertaken by a competent person or Licenced Asbestos Assessor, in accordance with SafeWork NSW requirements.

Before starting the affected works, licensed asbestos removal contractor shall be responsible for submitting the appropriate WorkSafe NSW permit (friable and non-friable) to remove asbestos at least seven days prior to the proposed works where required.

11. Conclusions

Subject to the limitations provided as **Section 12**, it is considered that the proposed actions outlined in this RAP conform to the requirements of the *Contaminated Sites Guidelines for the NSW Site Auditor Scheme (3rd Edition)* (EPA 2017) because they are: technically feasible; environmentally justifiable; and consistent with relevant laws policies and guidelines endorsed by NSW EPA.

Subject to the successful implementation of the measures described in this RAP, including additional pre-remedial investigations, and the recommendations below, it is concluded that the site can be made suitable for the intended uses and that the risks posed by contamination can be managed in such a way as to be adequately protective of human health and the environment.

12. Limitations

This report has been prepared for use by the client who has commissioned the works in accordance with the project brief only, and has been based in part on information obtained from the client and other parties.

The advice herein relates only to this project and all results conclusions and recommendations made should be reviewed by a competent person with experience in environmental investigations, before being used for any other purpose.

JBS&G accepts no liability for use or interpretation by any person or body other than the client who commissioned the works. This report should not be reproduced without prior approval by the client, or amended in any way without prior approval by JBS&G, and should not be relied upon by other parties, who should make their own enquires.

Sampling and chemical analysis of environmental media is based on appropriate guidance documents made and approved by the relevant regulatory authorities. Conclusions arising from the review and assessment of environmental data are based on the sampling and analysis considered appropriate based on the regulatory requirements.

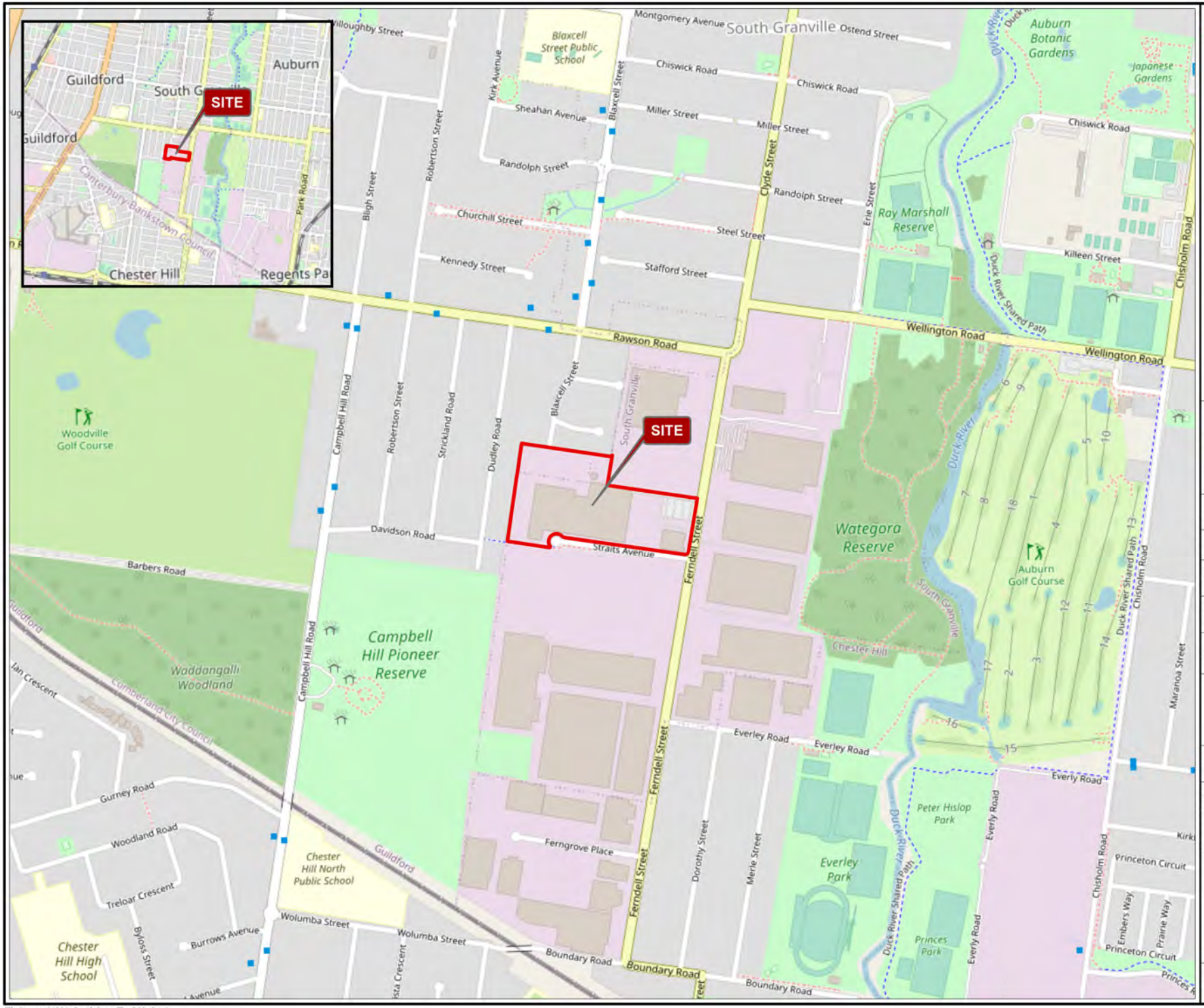
Limited sampling and laboratory analyses were undertaken as part of the investigations undertaken, as described herein. Ground conditions between sampling locations and media may vary, and this should be considered when extrapolating between sampling points. Chemical analytes are based on the information detailed in the site history. Further chemicals or categories of chemicals may exist at the site, which were not identified in the site history and which may not be expected at the site.

Changes to the subsurface conditions may occur subsequent to the investigations described herein, through natural processes or through the intentional or accidental addition of contaminants. The conclusions and recommendations reached in this report are based on the information obtained at the time of the investigations.

This report does not provide a complete assessment of the environmental status of the site, and it is limited to the scope defined herein. Should information become available regarding conditions at the site including previously unknown sources of contamination, JBS&G reserves the right to review the report in the context of the additional information.

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Figures



Legend:

Approximate Site Boundary

JBS&G

Job No: 64903	
Client: Project Strategy	
Version: R02 Rev A	Date 29/06/2023
Drawn By: EC/LJ	Checked By: GP

Scale 1:10,000

0 100 200

metres

Coord. Sys. GDA 1994 MGA Zone 56

26 Ferndell Street
South Granville, NSW

SITE LOCATION

FIGURE 1

File Name: 64903_SouthGranville_R02_RevA

Reference: © OpenStreetMap (and) contributors, CC-BY-SA



Legend:

- Approximate Site Boundary
- NSW Cadastre
- Site Feature
- Building Footprint
- Potential UST
- Mounded Area
- AST: in underground carpark
- UST
- Chemical Storage Area
- Bonded ACM on Surface

JBS&G

Job No: 64903	
Client: Project Strategy	
Version: R02 Rev A	Date 6/07/2023
Drawn By: EC/ACB	Checked By: GP
Scale 1:1,750	

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metres

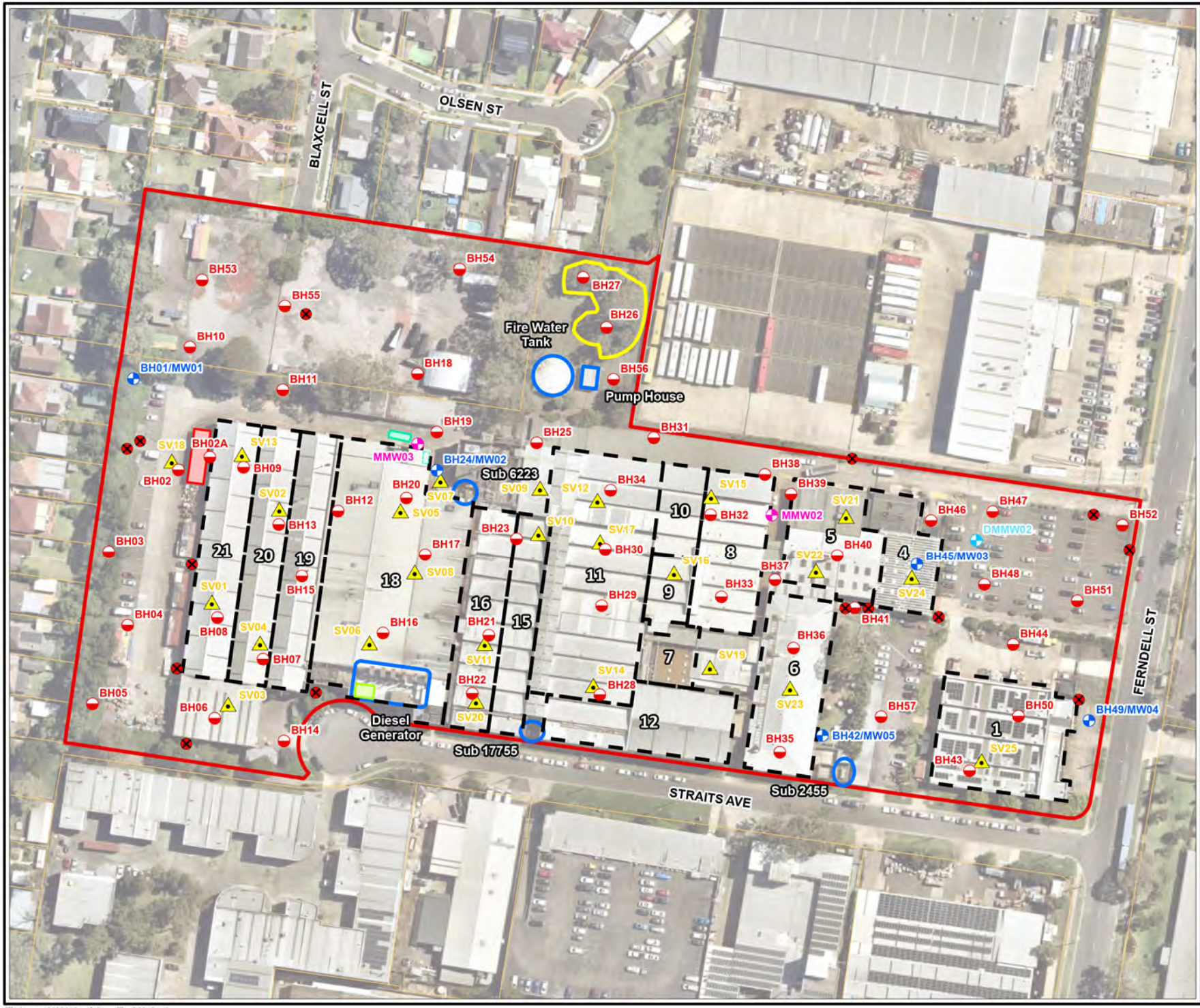
Coord. Sys. GDA 1994 MGA Zone 56

26 Ferndell Street
South Granville, NSW

SITE LAYOUT AND FEATURES

FIGURE 2

File Name: 64903_SouthGranville_R02_RevA
Reference: Nearmap www.nearmap.com 20230319



Legend:

- Approximate Site Boundary
- NSW Cadastre

Site Features

- Building Footprint
- Potential UST
- Mounded Area
- AST: in underground carpark
- UST
- Chemical Storage Area
- Site Feature

Sample Locations

- Bonded ACM on Surface
- Soil Vapour Location
- Borehole Location
- Monitoring Well (JBS&G 2023)
- Monitoring Well (JBS 2007)
- Monitoring Well (URS 2000)

JBS&G

Job No: 64903	
Client: Project Strategy	
Version: R02 Rev A	Date 6/07/2023
Drawn By: EC/ACB	Checked By: GP
Scale 1:1,766	

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metres

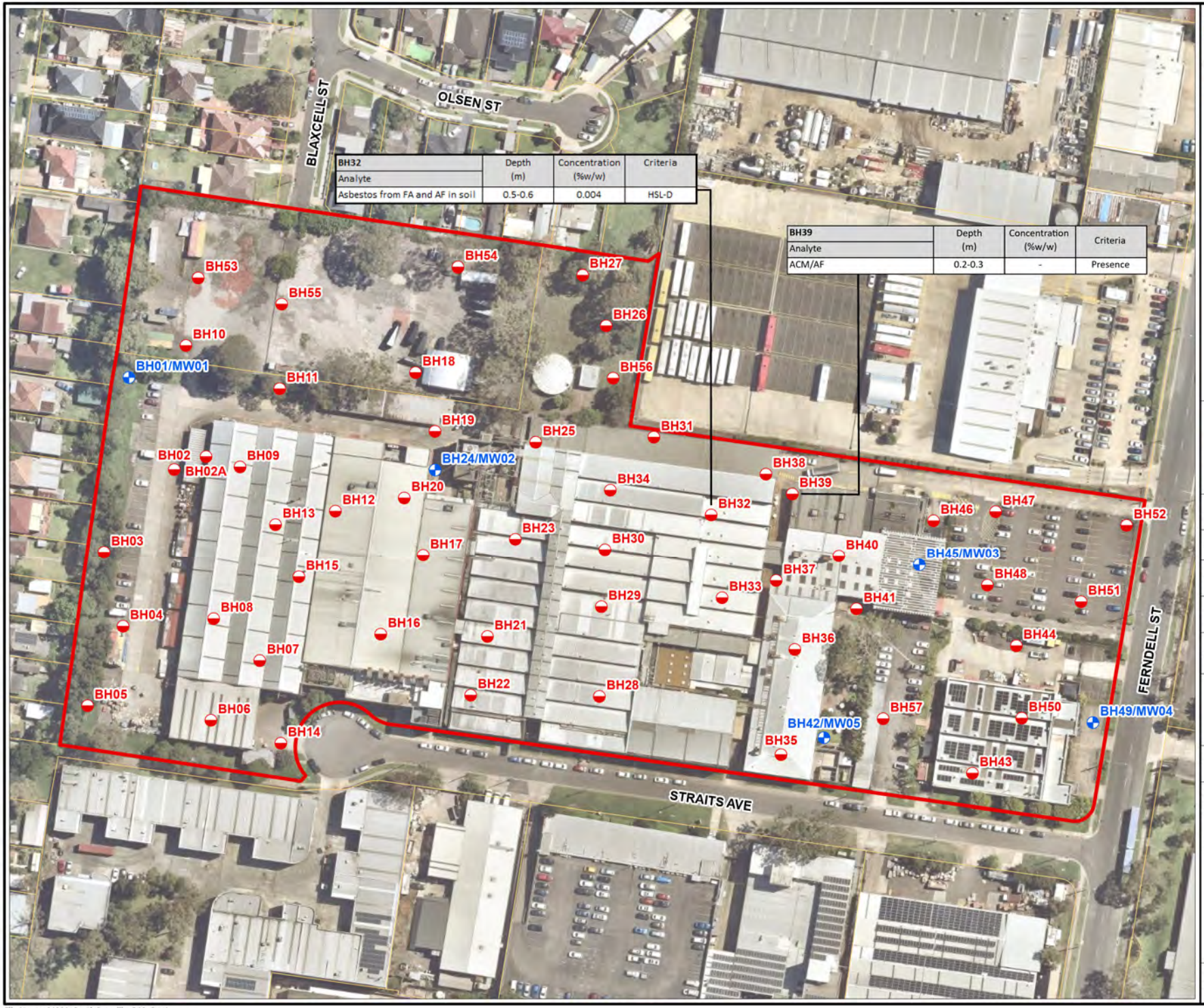
Coord. Sys. GDA 1994 MGA Zone 56

26 Ferndell Street
South Granville, NSW

SAMPLE LOCATIONS

FIGURE 3

File Name: 64903_SouthGranville_R02_RevA
Reference: Nearmap www.nearmap.com 20230319



BH32	Depth (m)	Concentration (%w/w)	Criteria
Analyte			
Asbestos from FA and AF in soil	0.5-0.6	0.004	HSL-D

BH39	Depth (m)	Concentration (%w/w)	Criteria
Analyte			
ACM/AF	0.2-0.3	-	Presence

Legend:

- Approximate Site Boundary
- NSW Cadastre

Sample Locations

- Borehole Location
- Monitoring Well (JBS&G 2023)

JBS&G

Job No: 64903

Client: Project Strategy

Version: R02 Rev A	Date 6/07/2023
Drawn By: EC/ACB	Checked By: GP

Scale 1:1,750

0 10 20

metres

Coord. Sys. GDA 1994 MGA Zone 56

26 Ferndell Street
South Granville, NSW

ASBESTOS EXCEEDANCES

FIGURE 4A

File Name: 64903_SouthGranville_R02_RevA
Reference: Nearmap www.nearmap.com 20230319



MMW03	Concentration		Criteria
Analyte			
Arsenic (Filtered)	0.027	mg/L	ANZG (2018) Freshwater 95% toxicant DGVs
Zinc (Filtered)	0.029		

RWTANK-01	Concentration		Criteria
Analyte			
Copper (Filtered)	0.034	mg/L	ANZG (2018) Freshwater 95% toxicant DGVs
Zinc (Filtered)	0.045		

MMW02	Concentration		Criteria
Analyte			
Copper (Filtered)	0.002	mg/L	ANZG (2018) Freshwater 95% toxicant DGVs

MW03	Concentration		Criteria
Analyte			
Copper (Filtered)	0.002	mg/L	ANZG (2018) Freshwater 95% toxicant DGVs

MW02	Concentration		Criteria
Analyte			
Copper (Filtered)	0.005	mg/L	ANZG (2018) Freshwater 95% toxicant DGVs
Zinc (Filtered)	0.015		

MW05	Concentration		Criteria
Analyte			
Zinc (Filtered)	0.012	mg/L	ANZG (2018) Freshwater 95% toxicant DGVs

MW04	Concentration		Criteria
Analyte			
Cadmium (Filtered)	0.0003	mg/L	ANZG (2018) Freshwater 95% toxicant DGVs
Zinc (Filtered)	0.01		

Legend:

- Approximate Site Boundary
- NSW Cadastre
- Site Feature

Sample Locations

- Monitoring Well (JBS&G 2023)
- Monitoring Well (JBS 2007)
- Monitoring Well (URS 2000)

JBS&G

Job No: 64903

Client: Project Strategy

Version: R02 Rev A | Date 29/06/2023

Drawn By: EC/ACB | Checked By: GP

Scale 1:1,750

0 10 20
metres

Coord. Sys. GDA 1994 MGA Zone 56

26 Ferndell Street
South Granville, NSW

GROUNDWATER EXCEEDANCES

FIGURE 4B

File Name: 64903_SouthGranville_R02_RevA
Reference: Nearmap www.nearmap.com 20230319



SV25	Concentration		Criteria
Analyte			
Trichloroethene	2	mg/m^3	NEPM 2013 Table 1A(2) Comm/Ind D Soil Vap VOCC HILs

Legend:

- Approximate Site Boundary
- NSW Cadastre

Sample Locations

- Soil Vapour Location

JBS&G

Job No: 64903

Client: Project Strategy

Version: R02 Rev A	Date 29/06/2023
Drawn By: EC/ACB	Checked By: GP

Scale 1:1,750

0 10 20

metres

Coord. Sys. GDA 1994 MGA Zone 56

26 Ferndell Street
South Granville, NSW

SOIL VAPOUR EXCEEDANCES

FIGURE 4C

File Name: 64903_SouthGranville_R02_RevA
Reference: Nearmap www.nearmap.com 20230319

BH32	Depth (m)	Concentration (%w/w)	Criteria
Analyte			
Asbestos from FA and AF in soil	0.5-0.6	0.004	HSL-D

BH39	Depth (m)	Concentration (%w/w)	Criteria
Analyte			
ACM/AF	0.2-0.3	-	Presence

BH32

BH39

SV25

SV25	Concentration		Criteria
Analyte			
Trichloroethene	2	mg/m^3	NEPM 2013 Table 1A(2) Comm/Ind D Soil Vap VOCC HILs

Legend:

- Approximate Site Boundary

Site Features

- Potential UST
- AST: in underground carpark
- UST
- Chemical Storage Area

Sample Locations

- Bonded ACM on Surface
- Soil Vapour Location
- Borehole Location and Asbestos in Fill - Extent Unkown
- TCE Data Gap Investigation Location

JBS&G

Job No: 64903

Client: Project Strategy

Version: R02 Rev A	Date 7/07/2023
Drawn By: LJ	Checked By: JS

Scale 1:1,750

0 25 50

metres

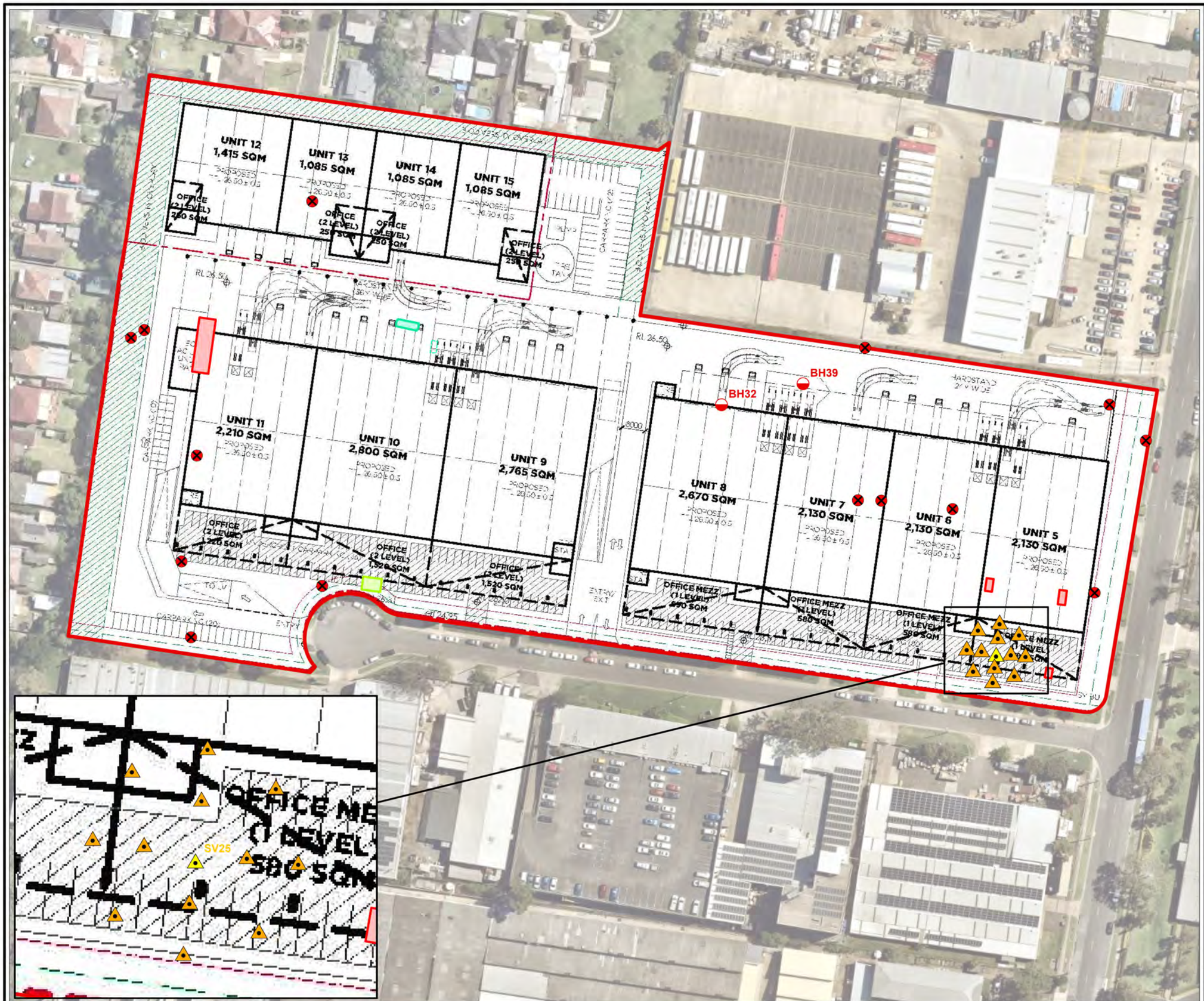
Coord. Sys. GDA 1994 MGA Zone 56

26 Ferndell Street
South Granville, NSW

REMEDIAL EXTENTS

FIGURE 5

File Name: 64903_SouthGranville_R02_RevA
Reference: Nearmap www.nearmap.com 20230319



Legend:

- Approximate Site Boundary

Site Features

- Potential UST
- AST: in underground carpark
- UST
- Chemical Storage Area

Sample Locations

- Bonded ACM on Surface
- Soil Vapour Location
- Borehole Location and Asbestos in Fill - Extent Unkown
- TCE Data Gap Investigation Location

JBS&G

Job No: 64903	
Client: Project Strategy	
Version: R02 Rev A	Date 7/07/2023
Drawn By: LJ	Checked By: JS
Scale 1:1,750	

0 25 50
metres

Coord. Sys. GDA 1994 MGA Zone 56

26 Ferndell Street
South Granville, NSW

REMEDIAL EXTENTS AND PROPOSED DEVELOPMENT SCENARIO

FIGURE 6

File Name: 64903_SouthGranville_R02_RevA
Reference: Nearmap www.nearmap.com 20230319

Appendix A Summary Tables

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Table A - Chemical Lab Results
Project Number: 64903
Project Name: South Granville DSI

				Metals & Metalloids								TPHs (NEPC 1999)					TRHs (NEPC 2013)							BTEXN						
				Arsenic	Cadmium	Chromium (III+VI)	Copper	Lead	Mercury	Nickel	Zinc	C6-C9 Fraction	C10-C14 Fraction	C15-C28 Fraction	C29-C36 fraction	C10-C36 Fraction (sum of Total)	C6-C10	C10-C16	C16-C34	C34-C40	C10-C40 (Sum of total)	F1 (C6-C10 minus BTEX)	F2 (C10-C16 less Naphthalene)	Benzene	Toluene	Ethylbenzene	Xylene (o)	Xylene (m & p)	Xylene Total	Naphthalene_VOC
				mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL				2	0.4	1	1	1	0.1	1	1	20	20	50	50	50	20	50	100	100	50	20	50	0.1	0.1	0.1	0.1	0.2	0.3	0.5
NEPC 2013 EIL, Site Specific				160		570	330	1800		570	1500																			370
NEPM 2013 Table 1B(6) ESLs for Comm/Ind, Fine Soil																			2500	6600		215	170	95	135	185			95	
NEPM 2013 Table 1B(6) ESLs for Comm/Ind, Coarse Soil																			1700	3300		215	170	75	135	165			180	
NEPM 2013 Table 1A(1) HILs Comm/Ind D Soil				3000	900	3600	240000	1500	730	6000	400000																			
NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Clay, 0-1m																						310	NL	4	NL	NL			NL	NL
NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Sand, 0-1m																						260	NL	3	NL	NL			230	NL
NEPM 2013 Table 1B(7) Management Limits Comm / Ind, Fine Soil																	800	1000	5000	10000										
NEPM 2013 Table 1B(7) Management Limits Comm / Ind, Coarse Soil																	700	1000	3500	10000										
CRC Care B(a)P Guidance Tech Report 39 Commercial / Industrial																														

Sample ID	Date	Lab Report No.	Fill Type																											
BH01-0.2-0.3	8/05/2023	988407	Fine	16	<0.4	15	19	36	<0.1	<5	55	<20	<20	<50	<50	<50	<20	<50	<100	<100	<100	<20	<50	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5
BH01-0-0.1	8/05/2023	988407	Fine	29	0.5	21	87	79	0.1	10	340	<20	<20	<50	<50	<50	<20	<50	<100	<100	<100	<20	<50	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5
QC20230508_01 (duplicate of BH01-0-0.1)	8/05/2023	988407	Fine	23	0.7	19	83	69	0.1	9.6	320	<20	24	130	220	374	<20	<50	270	140	410	<20	<50	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5
QA20230508_01 (triplicate of BH01-0-0.1)	8/05/2023	322803	Fine	23	0.7	21	94	67	0.1	9	280	<25	<50	<100	120	120	<25	<50	130	<100	130	<25	<50	<0.2	<0.5	<1	<1	<2	<1	<1
BH01-3.2-3.3	8/05/2023	988407	Fine	4.1	<0.4	13	40	24	<0.1	44	85	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH02A-0.2-0.3	9/05/2023	988407	Fine	150	<0.4	24	26	39	<0.1	12	29	<20	<20	<50	<50	<50	<20	<50	<100	<100	<100	<20	<50	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5
BH02A-1.5-1.6	9/05/2023	988407	Fine	6.2	<0.4	5	35	10	<0.1	5.1	25	<20	<20	<50	<50	<50	<20	<50	<100	<100	<100	<20	<50	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5
BH03-0-0.1	8/05/2023	988407	Fine	16	<0.4	19	16	27	<0.1	6.1	56	<20	<20	<50	<50	<50	<20	<50	<100	<100	<100	<20	<50	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5
BH04-0.2-0.3	8/05/2023	988407	Coarse	6.5	<0.4	21	53	<5	<0.1	70	46	<20	<20	<50	<50	<50	<20	<50	<100	<100	<100	<20	<50	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5
QC20230508_03 (duplicate of BH04-0.2-0.3)	8/05/2023	988407	Coarse	8.7	<0.4	19	45	6.1	<0.1	61	55	<20	<20	<50	61	61	<20	<50	<100	<100	<100	<20	<50	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5
QA20230508_03 (triplicate of BH04-0.2-0.3)	8/05/2023	322803	Coarse	<4	<0.4	14	53	2	<0.1	57	28	<25	<50	<100	<100	<50	<25	<50	<100	<100	<50	<25	<50	<0.2	<0.5	<1	<1	<2	<1	<1
BH05-0.9-0.1	8/05/2023	988407	Fine	14	<0.4	<5	16	9.4	<0.1	<5	9.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH05-0-0.1	8/05/2023	988407	Fine	13	<0.4	14	14	20	<0.1	9.3	49	<20	<20	<50	58	58	<20	<50	<100	<100	<100	<20	<50	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5
BH06-0.15-0.25	8/05/2023	988407	Fine	13	<0.4	37	26	16	<0.1	20	30	<20	<20	<50	<50	<50	<20	<50	<100	<100	<100	<20	<50	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5
BH06-0.3-0.4	8/05/2023	988407	Fine	11	<0.4	27	16	18	<0.1	16	30	<20	<20	120	310	430	<20	<50	320	290	610	<20	<50	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5
BH07-0.15-0.25	11/05/2023	989589	Coarse	<2	<0.4	<5	14	<5	<0.1	5.9	14	<20	<20	<50	<50	<50	<20	<50	<100	<100	<100	<20	<50	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5
BH07-1-1.1	11/05/2023	989589	Fine	21	<0.4	19	12	22	<0.1	8.7	23	<20	<20	<50	<50	<50	<20	<50	<100	<100	<100	<20	<50	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5
BH08-0.2-0.3	11/05/2023	989589	Coarse	7.5	<0.4	9.1	18	11	<0.1	<5	16	<20	<20	<50	<50	<50	<20	<50	<100	<100	<100	<20	<50	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5
BH08-0.5-0.6	11/05/2023	989589	Fine	8.4	<0.4	9	19	14	<0.1	<5	20	<20	<20	<50	<50	<50	<20	<50	<100	<100	<100	<20	<50	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5
QC20230511-01 (duplicate of BH08-0.5-0.6)	11/05/2023	989589	Fine	13	<0.4	13	22	17	<0.1	5.1	21	<20	<20	<50	<50	<50	<20	<50	<100	<100	<100	<20	<50	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5
QA20230511_01 (triplicate of BH08-0.5-0.6)	11/05/2023	323044	Fine	11	<0.4	16	24	16	<0.1	5	22	<25	<50	<100	<100	<50	<25	<50	<100	<100	<50	<25	<50	<0.2	<0.5	<1	<1	<2	<1	<1
BH09-0.2-0.3	11/05/2023	989589	Coarse	<2	<0.4	11	78	<5	<0.1	51	86	<20	<20	<50	<50	<50	<20	<50	<100	<100	<100	<20	<50	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5
BH10-0.2-0.3	8/05/2023	988407	Coarse	3.2	<0.4	100	27	7.3	<0.1	100	61	<20	<20	<50	<50	<50	<20	<50	<100	<100	<100	<20	<50	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5
BH11-0-0.1	9/05/2023	988407	Fine	9.3	<0.4	13	29	22	<0.1	18	81	<20	<20	62	60	122	<20	<50	120	<100	120	<20	<50	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5
BH12-0.3-0.4	11/05/2023	989589	Fine	4.5	<0.4	18	37	26	<0.1	31	67	<20	<20	<50	<50	<50	<20	<50	<100	<100	<100	<20	<50	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5
BH12-0.8-0.9	11/05/2023	989589	Coarse	<2	<0.4	12	55	<5	<0.1	56	55	<20	<20	<50	<50	<50	<20	<50	<100	<100	<100	<20	<50	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5
BH13-0.15-0.25	11/05/2023	989589	Coarse	17	<0.4	24	12	18	<0.1	13	24	<20	<20	<50	77	77	<20	<50	<100	<100	<100	<20	<50	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5
BH13-0.3-0.4	11/05/2023	989589	Fine	12	<0.4	15	15	16	<0.1	9.6	23	<20	<20	<50	<50	<50	<20	<50	<100	<100	<100	<20	<50	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5
BH14-0.15-0.25	8/05/2023	988407	Fine	10	<0.4	20	16	13	<0.1	11	22	<20	<20	<50	<50	<50	<20	<50	<100	<100	<100	<20	<50	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5
BH15-0.15-0.25	12/05/2023	989589	Coarse	4.8	<0.4	<5	<5	<5	<0.1	<5	<5	<20	<20	<50	<50	<50	<20	<50	<100	<100	<100	<20	<50	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5
BH16-0.15-0.25	11/05/2023	989589	Coarse	2.5	<0.4	63	51	<5	<0.1	130	69	<20	<20	<50	<50	<50	<20	<50	<100	<100	<100	<20	<50	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5
BH17-0.1-0.2	11/05/2023	989589	Coarse	<2	<0.4	20	67	<5	<0.1	170	71	<20	<20	<50	<50	<50	<20	<50	<100	<100	<100	<20	<50	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5
BH18-0.2-0.3	8/05/2023	988407	Fine	9.5	1.5	18	18	19	<0.1	5.7	760	<20	<20	<50	<50	<50	<20	<50	<100	<100	<100	<20	<50	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5
BH18-0.9-0.1	8/05/2023	988407	Fine	9.2	0.6	18	20	25	<0.1	13	310	<20	<20	<50	<50	<50	<20	<50	<100	<100	<100	<20	<50	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5
BH19-0.5-0.6	11/05/2023	989589	Fine	5.8	<0.4	8.5	24	12	<0.1	<5	25	<20	<20	<50	<50	<50	<20	<50	<100	<100	<100	<20	<50	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5
BH20-0.15-0.25	11/05/2023	989589	Coarse	<2	<0.4	24	64	<5	<0.1	180	73	<20	<20	<50	<50	<50	<20	<50	<100	<100	<100	<20	<50	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5
BH21-0.1-0.2	10/05/2023	988760	Coarse	<2	<0.4	<5	<5	<5	<0.1	5.8	<5	<20	<20	<50	<50	<50	<20	<50	<100	<100	<100	<20	<50	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5
BH21-0.5-0.6	10/05/2023	988760	Fine	12	<0.4	9.6	12	8.7	<0.1	<5	27	<20	<20	<50	<50	<50	<20	<50	<100	<100	<100	<20	<50	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5
BH22-0.15-0.25	10/05/2023	988760	Coarse	<2	<0.4	<5	<5	<5	<0.1	<5	<5	<20	<20	<50	<50	<50	<20	<50	<100	<100	<100	<20	<50	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5
BH22-0.3-0.4	10/05/2023	988760	Fine	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-
BH23-0.15-0.25	10/05/2023	988760	Coarse	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-
BH23-0.5-0.6	10/05/2023	988760	Fine	11	<0.4	14	24	14	<0.1	17	42	<20	<20	<50	<50	<50	<20	<50	<100	<100	<100	<20	<50	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5
BH24-0.3-0.4	15/05/2023	989628	Fine	5	<0.4	19	44	18	<0.1	31	330	<20	<20	79	<50	79	<20	<50	<100	<100	<100	<20	<50	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5
BH24-0.5-0.8	15/05/2023	989628	Coarse	5.1	<0.4	<5	<5	<5	<0.1	<5	<5	<20	<20	<50	<50	<50	<20	<50	<100	<100	<100	<20	<50	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5
BH25-0.15-0.25	10/05/2023	988760	Coarse	3	<0.4	61	41	8.2	<0.1	90	78	<20	<20	<50	<50	<50	<20	<50	<100	<100	<100	<20	<50	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5
BH25-0.5-0.6	10/05/2023	988760	Fine	13	<0.4	9.6	30	27	<0.1	28	95	<20	<20	160	81	241	<20	<50	190	<100	190	<20	<50	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5
BH26-0.3-0.4	11/05/2023	989589	Coarse	8.7	3.4	69	120	300	<0.1	46	180	<20	<20	520	950	1470	<20	<50	1200	570	1770	<20	<50	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5
BH26-0.5-0.6	11/05/2023	989589	Fine	7.2	<0.4	15	25	20	<0.1	8.2	37	<20	<20	<50	75	75	<20	<50	<100	<100	<100	<20	<50	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5
BH26-0-0.1	11/05/2023	989589	Fine	3.5	<0.4	<5	13	8	<0.1	<5	12	<20	<20	<50	67	67	<20	<50	<100	<100	<100	<20	<50	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5

Table A - Chemical Lab Results
Project Number: 64903
Project Name: South Granville DSI

				Metals & Metalloids								TPHs (NEPC 1999)					TRHs (NEPC 2013)							BTEXN						
				Arsenic	Cadmium	Chromium (III+VI)	Copper	Lead	Mercury	Nickel	Zinc	C6-C9 Fraction	C10-C14 Fraction	C15-C28 Fraction	C29-C36 Fraction	C10-C36 Fraction (sum of Total)	C6-C10	C10-C16	C16-C34	C34-C40	C10-C40 (Sum of total)	F1 (C6-C10 minus BTEX)	F2 (C10-C16 less Naphthalene)	Benzene	Toluene	Ethylbenzene	Xylene (o)	Xylene (m & p)	Xylene Total	Naphthalene_VOC
				mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL				2	0.4	1	1	1	0.1	1	1	20	20	50	50	50	20	50	100	100	50	20	50	0.1	0.1	0.1	0.1	0.2	0.3	0.5
NEPC 2013 EIL, Site Specific				160		570	330	1800		570	1500																			370
NEPM 2013 Table 1B(6) ESLs for Comm/Ind, Fine Soil																			2500	6600		215	170	95	135	185			95	
NEPM 2013 Table 1B(6) ESLs for Comm/Ind, Coarse Soil																			1700	3300		215	170	75	135	165			180	
NEPM 2013 Table 1A(1) HILs Comm/Ind D Soil				3000	900	3600	240000	1500	730	6000	400000																			
NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Clay, 0-1m																						310	NL	4	NL	NL			NL	NL
NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Sand, 0-1m																						260	NL	3	NL	NL			230	NL
NEPM 2013 Table 1B(7) Management Limits Comm / Ind, Fine Soil																	800	1000	5000	10000										
NEPM 2013 Table 1B(7) Management Limits Comm / Ind, Coarse Soil																	700	1000	3500	10000										
CRC Care B(a)P Guidance Tech Report 39 Commercial / Industrial																														
BH27-0-0.1	11/05/2023	989589	Fine	39	<0.4	19	37	44	<0.1	11	100	<20	<20	460	600	1060	<20	<50	940	270	1210	<20	<50	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5
BH28-0.2-0.3	10/05/2023	988760	Coarse	<2	<0.4	<5	7.6	<5	<0.1	<5	<5	<20	<20	<50	<50	<50	<20	<50	<100	<100	<100	<20	<50	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5
BH28-0.5-0.6	10/05/2023	988760	Fine	13	<0.4	22	11	26	<0.1	6.1	23	<20	<20	<50	<50	<50	<20	<50	<100	<100	<100	<20	<50	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5
BH29-0.7-0.8	10/05/2023	988760	Fine	16	<0.4	22	14	17	<0.1	6.7	16	<20	20	<50	<50	<50	<20	<50	<100	<100	<100	<20	<50	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5
BH30-0.2-0.3	10/05/2023	988760	Coarse	<2	<0.4	<5	27	<5	<0.1	<5	6.1	<20	<20	<50	<50	<50	<20	<50	<100	<100	<100	<20	<50	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5
BH30-0.5-0.6	10/05/2023	988760	Fine	23	<0.4	28	18	26	<0.1	<5	26	<20	<20	<50	<50	<50	<20	<50	<100	<100	<100	<20	<50	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5
BH31-0.3-0.4	11/05/2023	989589	Coarse	<2	<0.4	20	67	<5	<0.1	76	62	<20	<20	<50	<50	<50	<20	<50	<100	<100	<100	<20	<50	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5
BH32-0.2-0.3	10/05/2023	988760	Coarse	3.8	<0.4	<5	6.2	<5	<0.1	<5	6.1	<20	<20	<50	<50	<50	<20	<50	<100	<100	<100	<20	<50	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5
QC20230510_02 (duplicate of BH32-0.2-0.3)	10/05/2023	988760	Coarse	3.3	<0.4	<5	12	<5	<0.1	<5	<5	<20	<20	<50	<50	<50	<20	<50	<100	<100	<100	<20	<50	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5
QA20230510_02 (triplicate of BH32-0.2-0.3)	10/05/2023	322927	Coarse	4	<0.4	2	13	4	<0.1	3	8	<25	<50	<100	<100	<50	<25	<50	<100	<100	<50	<25	<50	<0.2	<0.5	<1	<1	<2	<1	<1
BH32-0.5-0.6	10/05/2023	988760	Fine	12	<0.4	16	14	11	<0.1	5.2	22	<20	<20	<50	<50	<50	<20	<50	<100	<100	<100	<20	<50	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5
BH33-0.2-0.3	10/05/2023	988760	Coarse	<2	<0.4	<5	<5	<5	<0.1	<5	<5	<20	<20	<50	<50	<50	<20	<50	<100	<100	<100	<20	<50	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5
BH33-1-1.1	10/05/2023	988760	Fine	8.1	<0.4	10	12	11	<0.1	<5	18	<20	<20	<50	<50	<50	<20	<50	<100	<100	<100	<20	<50	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5
BH33-2.1-2.2	10/05/2023	988760	Fine	7.7	<0.4	16	15	14	<0.1	6.9	23	<20	<20	<50	<50	<50	<20	<50	<100	<100	<100	<20	<50	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5
BH34-0.15-0.25	10/05/2023	988760	Coarse	<2	<0.4	8.1	21	<5	<0.1	74	28	<20	<20	<50	<50	<50	<20	<50	<100	<100	<100	<20	<50	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5
BH34-0.4-0.5	10/05/2023	988760	Fine	14	<0.4	17	15	22	<0.1	6.9	22	<20	<20	<50	<50	<50	<20	<50	<100	<100	<100	<20	<50	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5
BH35-0.2-0.3	9/05/2023	988407	Coarse	2.6	<0.4	100	25	<5	<0.1	84	57	<20	<20	<50	<50	<50	<20	<50	<100	<100	<100	<20	<50	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5
BH36-0.2-0.3	9/05/2023	988407	Coarse	<2	<0.4	88	25	<5	<0.1	83	47	<20	<20	<50	<50	<50	<20	<50	<100	<100	<100	<20	<50	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5
BH37-0.15-0.25	11/05/2023	989589	Coarse	2.2	<0.4	62	15	<5	<0.1	58	29	<20	<20	<50	<50	<50	<20	<50	<100	<100	<100	<20	<50	-	-	-	-	-	-	<0.5
BH38-0.15-0.25	11/05/2023	989589	Coarse	2.4	<0.4	37	49	18	<0.1	75	68	<20	<20	<50	<50	<50	<20	<50	<100	<100	<100	<20	<50	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5
BH39-0.2-0.3	10/05/2023	988760	Coarse	<2	<0.4	20	51	<5	<0.1	65	44	<20	<20	<50	<50	<50	<20	<50	<100	<100	<100	<20	<50	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5
QC20230510_01 (duplicate of BH39-0.2-0.3)	10/05/2023	988760	Coarse	<2	<0.4	21	39	<5	<0.1	85	45	<20	<20	<50	<50	<50	<20	<50	<100	<100	<100	<20	<50	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5
QA20230510_01 (triplicate of BH39-0.2-0.3)	10/05/2023	322927	Coarse	<4	<0.4	18	55	6	<0.1	63	32	<25	<50	<100	110	110	<25	<50	100	140	240	<25	<50	<0.2	<0.5	<1	<1	<2	<1	<1
BH40-0.5-0.6	10/05/2023	988760	Fine	14	<0.4	20	23	48	<0.1	12	69	<20	<20	<50	<50	<50	<20	<50	<100	<100	<100	<20	<50	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5
BH40-1-1.1	10/05/2023	988760	Fine	9.2	<0.4	18	30	220	<0.1	21	200	<20	<20	<50	<50	<50	<20	<50	<100	<100	<100	<20	<50	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5
BH41-0.2-0.3	9/05/2023	988407	Fine	8.1	<0.4	16	21	29	<0.1	9.1	52	<20	<20	<50	<50	<50	<20	<50	<100	<100	<100	<20	<50	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5
BH41-0-0.1	9/05/2023	988407	Coarse	2.1	<0.4	9.5	36	21	<0.1	<5	290	<20	<20	<50	<50	<50	<20	<50	<100	<100	<100	<20	<50	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5
BH42-0-0.1	12/05/2023	989589	Fine	7.9	<0.4	16	120	39	<0.1	8.4	55	<20	<20	<50	<50	<50	<20	<50	<100	<100	<100	<20	<50	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5
BH43-0.15-0.25	11/05/2023	989589	Fine	9.4	<0.4	24	24	27	<0.1	8.1	30	<20	<100	760	750	1510	<20	<250	1300	570	1870	<20	<250	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5
BH44-0.2-0.3	9/05/2023	988407	Coarse	2.2	<0.4	97	25	5.7	<0.1	100	57	<20	<20	51	60	111	<20	<50	<100	<100	<100	<20	<50	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5
BH45-0.15-0.25	12/05/2023	989589	Coarse	<2	<0.4	8.4	86	<5	<0.1	52	56	<20	<20	<50	<50	<50	<20	<50	<100	<100	<100	<20	<50	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5
BH46-0.15-0.25	11/05/2023	989589	Coarse	2.6	<0.4	24	100	<5	<0.1	58	61	<20	<20	<50	<50	<50	<20	<50	<100	<100	<100	<20	<50	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5
BH46-0.3-0.4	11/05/2023	989589	Coarse	4.6	<0.4	5.5	77	7.5	<0.1	<5	23	<20	<20	<50	<50	<50	<20	<50	<100	<100	<100	<20	<50	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5
BH47-0.2-0.3	9/05/2023	988407	Fine	3	<0.4	11	44	6.4	<0.1	23	44	<20	<20	<50	<50	<50	<20	<50	<100	<100	<100	<20	<50	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5
BH47-0.5-0.6	9/05/2023	988407	Coarse	<2	<0.4	8.9	57	<5	<0.1	33	56	<20	<20	<50	<50	<50	<20	<50	<100	<100	<100	<20	<50	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5
BH48-0.2-0.3	9/05/2023	988407	Coarse	<2	<0.4	8.9	65	<5	<0.1	44	55	<20	<20	97	280	377	<20	<50	290	390	680	<20	<50	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5
BH49-0.1-0.2	12/05/2023	989589	Coarse	<2	<0.4	11	63	<5	<0.1	76	40	<20	<20	<50	<50	<50	<20	<50	<100	<100	<100	<20	<50	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5
BH49-0.5-0.6	12/05/2023	989589	Fine	13	<0.4	22	20	18	<0.1	5.4	25	<20	<20	<50	<50	<50	<20	<50	<100	<100	<100	<20	<50	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5
BH50-0.15-0.25	11/05/2023	989589	Fine	8.3	<0.4	17	21	24	<0.1	9.3	56	<20	<20	82	97	179	<20	<50	150	<100	150	<20	<50	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5
BH50-0.5-0.6	11/05/2023	989589	Fine	10	<0.4	20	16	15	<0.1	7.7	41	<20	<20	<50	<50	<50	<20	<50	<100	<100	<100	<20	<50	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5
BH51-0-0.1	9/05/2023	988407	Coarse	<2	<0.4	15	59	<5	<0.1	72	51	<20	<20	<50	<50	<50	<20	<50	<100	<100	<100	<20	<50	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5
BH52-0.2-0.3	9/05/2023	988407	Coarse	<2	<0.4	9.8	65	<5	<0.1	50	62	<20	<100	<250	<250	<250	<20	<250	<500	<500	<500	<20	<250	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5
BH53-0-0.1	8/05/2023	988407	Coarse	9.7	<0.4	67	24	12	<0.1	68	57	<20	<20	<50	<50	<50	<20	<50	<100	<100	<100	<20	<50	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5
BH54-0.2-0.3	8/05/2023	988407	Fine	8.7	<0.4	18	18	34	<0.1	13	45	<20	<20	<50	<50	<50	<20	<50	<100	<100	<100	<20	<50	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5
BH55-0-0.1	8/05/2023	988407	Coarse	10	<0.4	54	33	29	<0.1	51	110	<20	<20	<50	62	62	<20	<50	<100	<100	<100	<20	<50	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5
BH56-0.3-0.4	11/05/2023	989589	Coarse	15	<0.4	35	66	79	<0.1	47	150	<20	<20	<50	<50	<50	<20	<50	<100	<100	<100	<20	<50	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5
BH56-0-0.1	11/05/2023	989589	Fine	12	<0.4	16	18	21	<0.1	10	36	<20	<20	<50	<50	<50	<20	<50	<100	<100	<100	<20	<50	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5
BH57-0-0.1	15/05/2023	989628	Coarse	2.1	<0.4	110	25	<5	<0.1	140	65	<20	<20	<50	83	83	<20	<50	<100	110	110	<20	<50	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5

Table A - Chemical Lab Results
Project Number: 64903
Project Name: South Granville DSI

			PAH																					
			Acenaphthene	Acenaphthylene	Anthracene	Benz(a)anthracene	Benzo(a)pyrene	Benzo(a)pyrene TEQ (LOR)	Benzo(a)pyrene TEQ calc (Half)	Benzo(a)pyrene TEQ calc (Zero)	Benzo(b+j)fluoranthene	Benzo(b+j+k)fluoranthene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Chrysene	Dibenz(a,h)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-c,d)pyrene	Naphthalene	Phenanthrene	Pyrene	PAHs (Sum of total)
			mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL			0.1	0.1	0.1	0.1	0.05	0.5	0.5	0.5	0.5	0.2	0.1	0.5	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.05
NEPC 2013 EIL, Site Specific																				370			
NEPM 2013 Table 1B(6) ESLs for Comm/Ind, Fine Soil							1.4																
NEPM 2013 Table 1B(6) ESLs for Comm/Ind, Coarse Soil							1.4																
NEPM 2013 Table 1A(1) HILs Comm/Ind D Soil								40	40	40													4000
NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Clay, 0-1m																				NL			
NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Sand, 0-1m																				NL			
NEPM 2013 Table 1B(7) Management Limits Comm / Ind, Fine Soil																							
NEPM 2013 Table 1B(7) Management Limits Comm / Ind, Coarse Soil																							
CRC Care B(a)P Guidance Tech Report 39 Commercial / Industrial							67																

Sample ID	Date	Lab Report No.																					
BH01-0.2-0.3	8/05/2023	988407	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
BH01-0-0.1	8/05/2023	988407	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
QC20230508_01 (duplicate of BH01-0-0.1)	8/05/2023	988407	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
QA20230508_01 (triplicate of BH01-0-0.1)	8/05/2023	322803	<0.1	<0.1	<0.1	<0.1	<0.05	<0.5	<0.5	<0.5	-	<0.2	<0.1	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05
BH01-3.2-3.3	8/05/2023	988407	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH02A-0.2-0.3	9/05/2023	988407	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
BH02A-1.5-1.6	9/05/2023	988407	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
BH03-0-0.1	8/05/2023	988407	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
BH04-0.2-0.3	8/05/2023	988407	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
QC20230508_03 (duplicate of BH04-0.2-0.3)	8/05/2023	988407	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
QA20230508_03 (triplicate of BH04-0.2-0.3)	8/05/2023	322803	<0.1	<0.1	<0.1	<0.1	<0.05	<0.5	<0.5	<0.5	-	<0.2	<0.1	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05
BH05-0.9-0.1	8/05/2023	988407	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH05-0-0.1	8/05/2023	988407	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
BH06-0.15-0.25	8/05/2023	988407	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
BH06-0.3-0.4	8/05/2023	988407	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
BH07-0.15-0.25	11/05/2023	989589	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
BH07-1-1.1	11/05/2023	989589	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
BH08-0.2-0.3	11/05/2023	989589	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
BH08-0.5-0.6	11/05/2023	989589	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
QC20230511-01 (duplicate of BH08-0.5-0.6)	11/05/2023	989589	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
QA20230511_01 (triplicate of BH08-0.5-0.6)	11/05/2023	323044	<0.1	<0.1	<0.1	<0.1	<0.05	<0.5	<0.5	<0.5	-	<0.2	<0.1	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05
BH09-0.2-0.3	11/05/2023	989589	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
BH10-0.2-0.3	8/05/2023	988407	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
BH11-0-0.1	9/05/2023	988407	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
BH12-0.3-0.4	11/05/2023	989589	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
BH12-0.8-0.9	11/05/2023	989589	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
BH13-0.15-0.25	11/05/2023	989589	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
BH13-0.3-0.4	11/05/2023	989589	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
BH14-0.15-0.25	8/05/2023	988407	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
BH15-0.15-0.25	12/05/2023	989589	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
BH16-0.15-0.25	11/05/2023	989589	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
BH17-0.1-0.2	11/05/2023	989589	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
BH18-0.2-0.3	8/05/2023	988407	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
BH18-0.9-0.1	8/05/2023	988407	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
BH19-0.5-0.6	11/05/2023	989589	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
BH20-0.15-0.25	11/05/2023	989589	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
BH21-0.1-0.2	10/05/2023	988760	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
BH21-0.5-0.6	10/05/2023	988760	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
BH22-0.15-0.25	10/05/2023	988760	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
BH22-0.3-0.4	10/05/2023	988760	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH23-0.15-0.25	10/05/2023	988760	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH23-0.5-0.6	10/05/2023	988760	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
BH24-0.3-0.4	15/05/2023	989628	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
BH24-0.5-0.8	15/05/2023	989628	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
BH25-0.15-0.25	10/05/2023	988760	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
BH25-0.5-0.6	10/05/2023	988760	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
BH26-0.3-0.4	11/05/2023	989589	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
BH26-0.5-0.6	11/05/2023	989589	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
BH26-0-0.1	11/05/2023	989589	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5

Table A - Chemical Lab Results
Project Number: 64903
Project Name: South Granville DSI

			PAH																					
			Acenaphthene	Acenaphthylene	Anthracene	Benz(a)anthracene	Benzo(a)pyrene	Benzo(a)pyrene TEQ (LOR)	Benzo(a)pyrene TEQ calc (Half)	Benzo(a)pyrene TEQ calc (Zero)	Benzo(b+j)fluoranthene	Benzo(b+j+k)fluoranthene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Chrysene	Dibenz(a,h)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-c,d)pyrene	Naphthalene	Phenanthrene	Pyrene	PAHs (Sum of total)
			mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL			0.1	0.1	0.1	0.1	0.05	0.5	0.5	0.5	0.5	0.2	0.1	0.5	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.05
NEPC 2013 EIL, Site Specific																				370			
NEPM 2013 Table 1B(6) ESLs for Comm/Ind, Fine Soil							1.4																
NEPM 2013 Table 1B(6) ESLs for Comm/Ind, Coarse Soil							1.4																
NEPM 2013 Table 1A(1) HILs Comm/Ind D Soil								40	40	40													4000
NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Clay, 0-1m																				NL			
NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Sand, 0-1m																				NL			
NEPM 2013 Table 1B(7) Management Limits Comm / Ind, Fine Soil																							
NEPM 2013 Table 1B(7) Management Limits Comm / Ind, Coarse Soil																							
CRC Care B(a)P Guidance Tech Report 39 Commercial / Industrial							72																
BH27-0-0.1	11/05/2023	989589	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
BH28-0.2-0.3	10/05/2023	988760	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
BH28-0.5-0.6	10/05/2023	988760	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
BH29-0.7-0.8	10/05/2023	988760	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
BH30-0.2-0.3	10/05/2023	988760	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	-	<0.5	<0.5	0.6	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6
BH30-0.5-0.6	10/05/2023	988760	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
BH31-0.3-0.4	11/05/2023	989589	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
BH32-0.2-0.3	10/05/2023	988760	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
QC20230510_02 (duplicate of BH32-0.2-0.3)	10/05/2023	988760	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
QA20230510_02 (triplicate of BH32-0.2-0.3)	10/05/2023	322927	<0.1	<0.1	<0.1	<0.1	<0.05	<0.5	<0.5	<0.5	-	<0.2	<0.1	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05
BH32-0.5-0.6	10/05/2023	988760	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
BH33-0.2-0.3	10/05/2023	988760	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
BH33-1-1.1	10/05/2023	988760	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
BH33-2.1-2.2	10/05/2023	988760	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
BH34-0.15-0.25	10/05/2023	988760	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
BH34-0.4-0.5	10/05/2023	988760	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
BH35-0.2-0.3	9/05/2023	988407	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
BH36-0.2-0.3	9/05/2023	988407	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
BH37-0.15-0.25	11/05/2023	989589	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH38-0.15-0.25	11/05/2023	989589	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
BH39-0.2-0.3	10/05/2023	988760	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
QC20230510_01 (duplicate of BH39-0.2-0.3)	10/05/2023	988760	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
QA20230510_01 (triplicate of BH39-0.2-0.3)	10/05/2023	322927	<0.1	<0.1	<0.1	<0.1	<0.05	<0.5	<0.5	<0.5	-	<0.2	<0.1	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05
BH40-0.5-0.6	10/05/2023	988760	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
BH40-1-1.1	10/05/2023	988760	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
BH41-0.2-0.3	9/05/2023	988407	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
BH41-0-0.1	9/05/2023	988407	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
BH42-0-0.1	12/05/2023	989589	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
BH43-0.15-0.25	11/05/2023	989589	1.7	<0.5	2.3	5.8	9.1	13	13	13	5.6	-	6.7	7.8	7.4	1.3	16	1.1	5.1	<0.5	6.7	19	96
BH44-0.2-0.3	9/05/2023	988407	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
BH45-0.15-0.25	12/05/2023	989589	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
BH46-0.15-0.25	11/05/2023	989589	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
BH46-0.3-0.4	11/05/2023	989589	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
BH47-0.2-0.3	9/05/2023	988407	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	0.6	<0.5	<0.5	<0.5	<0.5	0.6	1.2
BH47-0.5-0.6	9/05/2023	988407	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
BH48-0.2-0.3	9/05/2023	988407	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
BH49-0.1-0.2	12/05/2023	989589	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
BH49-0.5-0.6	12/05/2023	989589	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
BH50-0.15-0.25	11/05/2023	989589	<0.5	<0.5	<0.5	0.8	1.1	1.9	1.7	1.4	0.9	-	0.9	0.9	1	<0.5	1.3	<0.5	0.7	<0.5	<0.5	1.6	9.2
BH50-0.5-0.6	11/05/2023	989589	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
BH51-0-0.1	9/05/2023	988407	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
BH52-0.2-0.3	9/05/2023	988407	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
BH53-0-0.1	8/05/2023	988407	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
BH54-0.2-0.3	8/05/2023	988407	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
BH55-0-0.1	8/05/2023	988407	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
BH56-0.3-0.4	11/05/2023	989589	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
BH56-0-0.1	11/05/2023	989589	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
BH57-0-0.1	15/05/2023	989628	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5

Table A - Chemical Lab Results
Project Number: 64903
Project Name: South Granville DSI

			Organochlorine Pesticides																							Chlorinated Alkanes																				Chlorinated Alkenes											
			4,4-DDE	a-BHC	b-BHC	d-BHC	g-BHC (Lindane)	Aldrin	Dieldrin	Aldrin + Dieldrin	Chlordane	Chlordane (cis)	Chlordane (trans)	DDT	DDD	DDT+DDE+DDD	Endosulfan I	Endosulfan II	Endosulfan sulphate	Endrin	Endrin aldehyde	Endrin ketone	Heptachlor	Heptachlor Epoxide	Methoxychlor	Toxaphene	1,1,1,2-tetrachloroethane	1,1,1-trichloroethane	1,1,2,2-tetrachloroethane	1,1,2-trichloroethane	1,1-dichloroethane	1,2,3-trichloropropane	1,2-dibromo-3-chloropropane	1,2-dichloroethane	1,2-dichloropropane	1,3-dichloropropane	2,2-dichloropropane	Bromochloromethane	Carbon tetrachloride	Chloroethane	Chloromethane	Dichlorodifluoromethane	Dichloromethane	Trichlorofluoromethane	1,1-dichloroethene	1,1-dichloropropene	2-chlorotoluene	3-chloropropene	4-chlorotoluene	cis-1,2-dichloroethene	cis-1,3-dichloropropene	Tetrachloroethene	trans-1,2-dichloroethene	trans-1,3-dichloropropene	Trichloroethene	Vinyl Chloride
			mg/kg	mg/kg	mg/kg

Table A - Chemical Lab Results
Project Number: 64903
Project Name: South Granville DSI

			Organochlorine Pesticides																							Chlorinated Alkanes																			Chlorinated Alkenes											
			4,4-DDE	a-BHC	b-BHC	d-BHC	g-BHC (Lindane)	Aldrin	Dieldrin	Aldrin + Dieldrin	Chlordane	Chlordane (cis)	Chlordane (trans)	DDT	DDD	DDT+DDE+DDD	Endosulfan I	Endosulfan II	Endosulfan sulphate	Endrin	Endrin aldehyde	Endrin ketone	Heptachlor	Heptachlor Epoxide	Methoxychlor	Toxaphene	1,1,1,2-tetrachloroethane	1,1,1-trichloroethane	1,1,2,2-tetrachloroethane	1,1,2-trichloroethane	1,1-dichloroethane	1,2,3-trichloropropane	1,2-dibromo-3-chloropropane	1,2-dichloroethane	1,2-dichloropropane	1,3-dichloropropane	2,2-dichloropropane	Bromochloromethane	Carbon tetrachloride	Chloroethane	Chloromethane	Dichlorodifluoromethane	Dichloromethane	Trichlorofluoromethane	1,1-dichloroethene	1,1-dichloropropene	2-chlorotoluene	3-chloropropene	4-chlorotoluene	cis-1,2-dichloroethene	cis-1,3-dichloropropene	Tetrachloroethene	trans-1,2-dichloroethene	trans-1,3-dichloropropene	Trichloroethene	Vinyl Chloride
			mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL			0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.1	0.1	0.1	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.5	0.5	0.5	0.5	0.5	0.5	1	0.5	0.5	0.5	1	0.5	0.5	0.5	0.5	0.5	0.5	0.5	1	1	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
NEPC 2013 EIL, Site Specific														640																																													
NEPM 2013 Table 1B(6) ESLs for Comm/Ind, Fine Soil																																																										
NEPM 2013 Table 1B(6) ESLs for Comm/Ind, Coarse Soil																																																									
NEPM 2013 Table 1A(1) HILs Comm/Ind D Soil										45	530					3600				100			50		2500	160																																	
NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Clay, 0-1m																																																									
NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Sand, 0-1m																																																									
NEPM 2013 Table 1B(7) Management Limits Comm / Ind, Fine Soil																																																									
NEPM 2013 Table 1B(7) Management Limits Comm / Ind, Coarse Soil																																																									
CRC Care B(a)P Guidance Tech Report 39 Commercial / Industrial																																																									
BH27-0-0.1	11/05/2023	989589	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH28-0.2-0.3	10/05/2023	988760	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
BH28-0.5-0.6	10/05/2023	988760	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	-	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH29-0.7-0.8	10/05/2023	988760	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
BH30-0.2-0.3	10/05/2023	988760	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<10	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
BH30-0.5-0.6	10/05/2023	988760	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	-	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH31-0.3-0.4	11/05/2023	989589	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	-	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH32-0.2-0.3	10/05/2023	988760	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	-	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
QC20230510_02 (duplicate of BH32-0.2-0.3)	10/05/2023	988760	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	-	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
QA20230510_02 (triplicate of BH32-0.2-0.3)	10/05/2023	322927	<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	-	<1	<1	<1	<1	<1	<1	<1	-	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
BH32-0.5-0.6	10/05/2023	988760	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH33-0.2-0.3	10/05/2023	988760	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
BH33-1-1.1	10/05/2023	988760	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH33-2.1-2.2	10/05/2023	988760	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH34-0.15-0.25	10/05/2023	988760	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
BH34-0.4-0.5	10/05/2023	988760	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH35-0.2-0.3	9/05/2023	988407	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
BH36-0.2-0.3	9/05/2023	988407	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	-	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
BH37-0.15-0.25	11/05/2023	989589	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH38-0.15-0.25	11/05/2023	989589	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH39-0.2-0.3	10/05/2023	988760	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<10	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
QC20230510_01 (duplicate of BH39-0.2-0.3)	10/05/2023	988760	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<10	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
QA20230510_01 (triplicate of BH39-0.2-0.3)	10/05/2023	322927	<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	-	<1	<1	<1	<1	<1	<1	<1	-	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
BH40-0.5-0.6	10/05/2023	988760	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	-	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
BH40-1-1.1	10/05/2023	988760	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH41-0.2-0.3	9/05/2023	988407	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH41-0-0.1	9/05/2023	988407	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	-	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH42-0-0.1	12/05/2023	989589	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	-	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH43-0.15-0.25	11/05/2023	989589	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<10	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
BH44-0.2-0.3	9/05/2023	988407	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
BH45-0.15-0.25	12/05/2023	989589	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH46-0.15-0.25	11/05/2023	989589	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH46-0.3-0.4	11/05/2023	989589	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<10	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
BH47-0.2-0.3	9/05/2023	988407	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	-	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH47-0.5-0.6	9/05/2023	988407	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH48-0.2-0.3	9/05/2023	988407	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH49-0.1-0.2	12/05/2023	989589	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH49-0.5-0.6	12/05/2023	989589	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
BH50-0.15-0.25	11/05/2023	989589	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<10	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
BH50-0.5-0.6	11/05/2023	989589	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH51-0-0.1	9/05/2023	988407	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH52-0.2-0.3	9/05/2023	988407	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH53-0-0.1	8/05/2023	988407	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	-	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH54-0.2-0.3	8/05/2023	988407	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH55-0-0.1	8/05/2023	988407	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH56-0.3-0.4	11/05/2023	989589	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	-	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
BH56-0-0.1	11/05/2023	989589	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH57-0-0.1	15/05/2023	989628	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Table A - Chemical Lab Results
Project Number: 64903
Project Name: South Granville DSI

			Solvents	Polychlorinated Biphenyls								MAH										Miscellaneous Hydrocarbons							Chlorinated Benzenes							Trihalomethanes				Organic Sulfur Compounds	Chlorinated Hydrocarbons
			Acetone	Arochlor 1016	Arochlor 1221	Arochlor 1232	Arochlor 1242	Arochlor 1248	Arochlor 1254	Arochlor 1260	PCBs (Sum of total)	1,2,4-trimethylbenzene	1,3,5-trimethylbenzene	n-butylbenzene	n-propylbenzene	p-isopropyltoluene	sec-butylbenzene	Styrene	tert-butylbenzene	Total MAH	Bromobenzene	Isopropylbenzene	1,2-dibromoethane	Bromomethane	Cyclohexane	Dibromomethane	Iodomethane	4-Methyl-2-pentanone	Methyl Ethyl Ketone	1,2,3-trichlorobenzene	1,2,4-trichlorobenzene	1,2-Dichlorobenzene	1,3-dichlorobenzene	1,4-dichlorobenzene	Chlorobenzene	Hexachlorobenzene	Dibromochloromethane	Chloroform	Tribromomethane	Bromodichloromethane	Carbon disulfide	Hexachlorobutadiene
			mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL			0.5	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.5	0.5	1	1	1	1	0.5	1	0.5	0.5	0.5	0.5	0.5	1	0.5	0.5	0.5	0.5	1	1	0.5	0.5	0.5	0.5	0.05	0.5	0.5	0.5	0.5	0.5	1
NEPC 2013 EIL, Site Specific																																									
NEPM 2013 Table 1B(6) ESLs for Comm/Ind, Fine Soil																																									
NEPM 2013 Table 1B(6) ESLs for Comm/Ind, Coarse Soil																																									
NEPM 2013 Table 1A(1) HILs Comm/Ind D Soil											7																									80						
NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Clay, 0-1m																																									
NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Sand, 0-1m																																									
NEPM 2013 Table 1B(7) Management Limits Comm / Ind, Fine Soil																																									
NEPM 2013 Table 1B(7) Management Limits Comm / Ind, Coarse Soil																																									
CRC Care B(a)P Guidance Tech Report 39 Commercial / Industrial																																									
Sample ID	**Date**	**Lab Report No.**																																								
BH01-0.2-0.3	8/05/2023	988407	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH01-0-0.1	8/05/2023	988407	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	-	-	-
QC20230508_01 (duplicate of BH01-0-0.1)	8/05/2023	988407	-	<1	<1	<1	<1	<1	<1	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	-	-	-	-	-
QA20230508_01 (triplicate of BH01-0-0.1)	8/05/2023	322803	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	-	-	-	-	-
BH01-3.2-3.3	8/05/2023	988407	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH02A-0.2-0.3	9/05/2023	988407	<0.5	-	-	-	-	-	-	-	-	<0.5	<0.5	-	-	-	-	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	-
BH02A-1.5-1.6	9/05/2023	988407	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.5	<0.5	-	-	-	-	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.05	<0.5	<0.5	<0.5	<0.5	<0.5	-
BH03-0-0.1	8/05/2023	988407	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	-	-	-
BH04-0.2-0.3	8/05/2023	988407	-	<1	<1	<1	<1	<1	<1	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	-	-	-	-	-
QC20230508_03 (duplicate of BH04-0.2-0.3)	8/05/2023	988407	-	<1	<1	<1	<1	<1	<1	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	-	-	-	-	-
QA20230508_03 (triplicate of BH04-0.2-0.3)	8/05/2023	322803	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	-	-	-	-	-
BH05-0.9-0.1	8/05/2023	988407	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH05-0-0.1	8/05/2023	988407	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	-	-	-
BH06-0.15-0.25	8/05/2023	988407	<0.5	-	-	-	-	-	-	-	-	<0.5	<0.5	-	-	-	-	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	-
BH06-0.3-0.4	8/05/2023	988407	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH07-0.15-0.25	11/05/2023	989589	<0.5	-	-	-	-	-	-	-	-	<0.5	<0.5	-	-	-	-	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	-
BH07-1-1.1	11/05/2023	989589	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	-	-	-
BH08-0.2-0.3	11/05/2023	989589	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH08-0.5-0.6	11/05/2023	989589	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	-	-	-
QC20230511-01 (duplicate of BH08-0.5-0.6)	11/05/2023	989589	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	-	-	-
QA20230511_01 (triplicate of BH08-0.5-0.6)	11/05/2023	323044	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	-	-	-	-	-
BH09-0.2-0.3	11/05/2023	989589	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.5	<0.5	-	-	-	-	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.05	<0.5	<0.5	<0.5	<0.5	<0.5	-
BH10-0.2-0.3	8/05/2023	988407	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH11-0-0.1	9/05/2023	988407	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	-	-	-
BH12-0.3-0.4	11/05/2023	989589	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	-	-	-
BH12-0.8-0.9	11/05/2023	989589	<0.5	-	-	-	-	-	-	-	-	<0.5	<0.5	-	-	-	-	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	-	-	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-
BH13-0.15-0.25	11/05/2023	989589	<0.5	-	-	-	-	-	-	-	-	<0.5	<0.5	-	-	-	-	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	-	-	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-
BH13-0.3-0.4	11/05/2023	989589	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	-	-	-
BH14-0.15-0.25	8/05/2023	988407	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	-	-	-
BH15-0.15-0.25	12/05/2023	989589	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH16-0.15-0.25	11/05/2023	989589	<0.5	-	-	-	-	-	-	-	-	<0.5	<0.5	-	-	-	-	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	-	-	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-
BH17-0.1-0.2	11/05/2023	989589	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH18-0.2-0.3	8/05/2023	988407	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	-	-	-
BH18-0.9-0.1	8/05/2023	988407	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH19-0.5-0.6	11/05/2023	989589	<0.5	-	-	-	-	-	-	-	-	<0.5	<0.5	-	-	-	-	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	-	-	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-
BH20-0.15-0.25	11/05/2023	989589	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.5	<0.5	-	-	-	-	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.05	<0.5	<0.5	<0.5	<0.5	<0.5	-
BH21-0.1-0.2	10/05/2023	988760	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.5	<0.5	-	-	-	-	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	-	-	<0.5	<0.5	<0.5	<0.5	-	<0.05	<0.5	<0.5	<0.5	<0.5	<0.5	-
BH21-0.5-0.6	10/05/2023	988760	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH22-0.15-0.25	10/05/2023	988760	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.5	<0.5	-	-	-	-	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	-	-	<0.5	<0.5	<0.5	<0.5	-	<0.05	<0.5	<0.5	<0.5	<0.5	<0.5	-
BH22-0.3-0.4	10/05/2023	988760	<0.5	-	-	-	-	-	-	-	-	<0.5	<0.5	-	-	-	-	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	-	-	<0.5	<0.5	<0.5	<0.5	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	-
BH23-0.15-0.25	10/05/2023	988760	<0.5	-	-	-	-	-	-	-	-	<0.5	<0.5	-	-	-	-	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	-	-	<0.5	<0.5	<0.5	<0.5	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	-
BH23-0.5-0.6	10/05/2023	988760	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.5	<0.5	-	-	-	-	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	-	-	<0.5	<0.5	<0.5	<0.5	-	<0.05	<0.5	<0.5	<0.5	<0.5	<0.5	-
BH24-0.3-0.4	15/05/2023	989628	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	-	-	-
BH24-0.5-0.8	15/05/2023	989628	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH25-0.15-0.25	10/05/2023	988760	-	<1	<1	<1	<1	<1	<1	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	-	-	-	-	-
BH25-0.5-0.6	10/05/2023	988760	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH26-0.3-0.4	11/05/2023	989589	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH26-0.5-0.6	11/05/2023	989589	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	-	-	-
BH26-0-0.1	11/05/2023	989589	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	-	-	-

Table A - Chemical Lab Results
Project Number: 64903
Project Name: South Granville DSI

			Solvents	Polychlorinated Biphenyls								MAH										Miscellaneous Hydrocarbons							Chlorinated Benzenes							Trihalomethanes				Organic Sulfur Compounds	Chlorinated Hydrocarbons
			Acetone	Arochlor 1016	Arochlor 1221	Arochlor 1232	Arochlor 1242	Arochlor 1248	Arochlor 1254	Arochlor 1260	PCBs (Sum of total)	1,2,4-trimethylbenzene	1,3,5-trimethylbenzene	n-butylbenzene	n-propylbenzene	p-isopropyltoluene	sec-butylbenzene	Styrene	tert-butylbenzene	Total MAH	Bromobenzene	Isopropylbenzene	1,2-dibromoethane	Bromomethane	Cyclohexane	Dibromomethane	Iodomethane	4-Methyl-2-pentanone	Methyl Ethyl Ketone	1,2,3-trichlorobenzene	1,2,4-trichlorobenzene	1,2-Dichlorobenzene	1,3-dichlorobenzene	1,4-dichlorobenzene	Chlorobenzene	Hexachlorobenzene	Dibromochloromethane	Chloroform	Tribromomethane	Bromodichloromethane	Carbon disulfide	Hexachlorobutadiene
			mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL			0.5	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.5	0.5	1	1	1	1	0.5	1	0.5	0.5	0.5	0.5	0.5	1	0.5	0.5	0.5	0.5	1	1	0.5	0.5	0.5	0.5	0.05	0.5	0.5	0.5	0.5	0.5	1
NEPC 2013 EIL, Site Specific																																										
NEPM 2013 Table 1B(6) ESLs for Comm/Ind, Fine Soil																																										
NEPM 2013 Table 1B(6) ESLs for Comm/Ind, Coarse Soil																																										
NEPM 2013 Table 1A(1) HILs Comm/Ind D Soil											7																										80						
NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Clay, 0-1m																																										
NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Sand, 0-1m																																										
NEPM 2013 Table 1B(7) Management Limits Comm / Ind, Fine Soil																																										
NEPM 2013 Table 1B(7) Management Limits Comm / Ind, Coarse Soil																																										
CRC Care B(a)P Guidance Tech Report 39 Commercial / Industrial																																										
BH27-0-0.1	11/05/2023	989589	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH28-0.2-0.3	10/05/2023	988760	<0.5	-	-	-	-	-	-	-	-	<0.5	<0.5	-	-	-	-	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	-	-	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	-
BH28-0.5-0.6	10/05/2023	988760	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	-	-	-	-
BH29-0.7-0.8	10/05/2023	988760	<0.5	-	-	-	-	-	-	-	-	<0.5	<0.5	-	-	-	-	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	-	-	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	-
BH30-0.2-0.3	10/05/2023	988760	<0.5	<1	<1	<1	<1	<1	<1	<1	<1	<0.5	<0.5	-	-	-	-	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-
BH30-0.5-0.6	10/05/2023	988760	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	-	-	-	-
BH31-0.3-0.4	11/05/2023	989589	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	-	-	-	-
BH32-0.2-0.3	10/05/2023	988760	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.5	<0.5	-	-	-	-	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	-	-	<0.5	<0.5	<0.5	<0.5	<0.05	<0.5	<0.5	<0.5	<0.5	<0.5	-
QC20230510_02 (duplicate of BH32-0.2-0.3)	10/05/2023	988760	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.5	<0.5	-	-	-	-	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	-	-	<0.5	<0.5	<0.5	<0.5	<0.05	<0.5	<0.5	<0.5	<0.5	<0.5	-
QA20230510_02 (triplicate of BH32-0.2-0.3)	10/05/2023	322927	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	<1	<1	<1	<1	-	-	-	-	<1	<1	<1	<1	<1	<1	<0.1	<1	<1	<1	<1	-	<1
BH32-0.5-0.6	10/05/2023	988760	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH33-0.2-0.3	10/05/2023	988760	<0.5	-	-	-	-	-	-	-	-	<0.5	<0.5	-	-	-	-	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	-	-	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	-
BH33-1-1.1	10/05/2023	988760	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH33-2.1-2.2	10/05/2023	988760	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH34-0.15-0.25	10/05/2023	988760	<0.5	-	-	-	-	-	-	-	-	<0.5	<0.5	-	-	-	-	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	-	-	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	-
BH34-0.4-0.5	10/05/2023	988760	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH35-0.2-0.3	9/05/2023	988407	<0.5	-	-	-	-	-	-	-	-	<0.5	<0.5	-	-	-	-	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	-	-	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	-
BH36-0.2-0.3	9/05/2023	988407	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.5	<0.5	-	-	-	-	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	-	-	<0.5	<0.5	<0.5	<0.5	<0.05	<0.5	<0.5	<0.5	<0.5	<0.5	-
BH37-0.15-0.25	11/05/2023	989589	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH38-0.15-0.25	11/05/2023	989589	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH39-0.2-0.3	10/05/2023	988760	<0.5	<1	<1	<1	<1	<1	<1	<1	<1	<0.5	<0.5	-	-	-	-	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-
QC20230510_01 (duplicate of BH39-0.2-0.3)	10/05/2023	988760	<0.5	<1	<1	<1	<1	<1	<1	<1	<1	<0.5	<0.5	-	-	-	-	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-
QA20230510_01 (triplicate of BH39-0.2-0.3)	10/05/2023	322927	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	<1	<1	<1	<1	-	-	-	-	<1	<1	<1	<1	<1	<1	<0.1	<1	<1	<1	<1	-	<1
BH40-0.5-0.6	10/05/2023	988760	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.5	<0.5	-	-	-	-	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	-	-	<0.5	<0.5	<0.5	<0.5	<0.05	<0.5	<0.5	<0.5	<0.5	<0.5	-
BH40-1-1.1	10/05/2023	988760	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH41-0.2-0.3	9/05/2023	988407	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH41-0-0.1	9/05/2023	988407	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	-	-	-	-
BH42-0-0.1	12/05/2023	989589	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	-	-	-	-
BH43-0.15-0.25	11/05/2023	989589	<0.5	<1	<1	<1	<1	<1	<1	<1	<1	<0.5	<0.5	-	-	-	-	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-
BH44-0.2-0.3	9/05/2023	988407	<0.5	-	-	-	-	-	-	-	-	<0.5	<0.5	-	-	-	-	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	-	-	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	-
BH45-0.15-0.25	12/05/2023	989589	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH46-0.15-0.25	11/05/2023	989589	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH46-0.3-0.4	11/05/2023	989589	<0.5	<1	<1	<1	<1	<1	<1	<1	<1	<0.5	<0.5	-	-	-	-	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-
BH47-0.2-0.3	9/05/2023	988407	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	-	-	-	-
BH47-0.5-0.6	9/05/2023	988407	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH48-0.2-0.3	9/05/2023	988407	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH49-0.1-0.2	12/05/2023	989589	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH49-0.5-0.6	12/05/2023	989589	<0.5	-	-	-	-	-	-	-	-	<0.5	<0.5	-	-	-	-	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	-	-	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	-
BH50-0.15-0.25	11/05/2023	989589	<0.5	<1	<1	<1	<1	<1	<1	<1	<1	<0.5	<0.5	-	-	-	-	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-
BH50-0.5-0.6	11/05/2023	989589	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH51-0-0.1	9/05/2023	988407	-	<1	<1	<1	<1	<1	<1	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	-	-	-	-	-	-
BH52-0.2-0.3	9/05/2023	988407	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH53-0-0.1	8/05/2023	988407	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	-	-	-	-
BH54-0.2-0.3	8/05/2023	988407	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH55-0-0.1	8/05/2023	988407	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH56-0.3-0.4	11/05/2023	989589	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.5	<0.5	-	-	-	-	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	-	-	<0.5	<0.5	<0.5	<0.5	<0.05	<0.5	<0.5	<0.5	<0.5	<0.5	-
BH56-0-0.1	11/05/2023	989589	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH57-0-0.1	15/05/2023	989628	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Table B - PFAS Lab Results
Project Number: 64903
Project Name: South Granville DSI

			PFAS																																				
			Perfluorobutanoic acid (PFBA)	Perfluoropentanoic acid (PFPeA)	Perfluorohexanoic acid (PFHxA)	Perfluoroheptanoic acid (PFHpA)	Perfluorooctanoic acid (PFOA)	Perfluorononanoic acid (PFNA)	Perfluorodecanoic acid (PFDA)	Perfluoroundecanoic acid (PFUnDA)	Perfluorododecanoic acid (PFDoDA)	Perfluorotridecanoic acid (PFTrDA)	Perfluorotetradecanoic acid (PFTeDA)	Perfluorooctane sulfonamide (FOSA)	N-Methyl perfluorooctane sulfonamide (NMeFOSA)	N-Ethyl perfluorooctane sulfonamide (NEtFOSA)	N-Methylperfluorooctanesulfonamidoethanol (N-MeFOSE)	N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	N-methylperfluorooctane sulfonamidoacetic acid (NMeFOSAA)	N-ethyl-perfluorooctanesulfonamidoacetic acid (NEtFOSAA)	Perfluoropropanesulfonic acid (PFPrS)	Perfluorobutanesulfonic acid (PFBS)	Perfluoropentanesulfonic acid (PFPeS)	Perfluorohexanesulfonic acid (PFHxS)	Perfluoroheptane sulfonic acid (PFHpS)	Perfluorooctanesulfonic acid (PFOS)	Perfluorodecanesulfonic acid (PFDS)	1H,1H,2H,2H-perfluorohexanesulfonic acid (4:2 FTSA)	1H,1H,2H,2H-perfluorooctanesulfonic acid (6:2 FTSA)	1H,1H,2H,2H-perfluorodecanesulfonic acid (8:2 FTSA)	1H,1H,2H,2H-perfluorododecanesulfonic acid (10:2 FTSA)	Sum of PFHxS and PFOS	Sum of enHealth PFAS (PFHxS + PFOS + PFOA)*	Sum of US EPA PFAS (PFOS + PFOA)*	Sum of WA DWER PFAS (n=10)*	Sum of PFAS	Perfluorononanesulfonic acid ion
			mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/KG	mg/kg	mg/kg
EQL			0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.01	0.005	0.005
PFAS NEMP 2020 Table 2 Health Industrial/Commercial							50																	20		20							20						
PFAS NEMP 2020 Table 3 Interim EDE All land uses							10																			1													
Sample ID	**Date**	**Lab Report No.**																																					
BH09-0.2-0.3	11/05/2023	989589	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.01	<0.01	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.01	<0.05	<0.005
BH21-0.1-0.2	10/05/2023	988760	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.01	<0.01	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.01	<0.05	<0.005
BH22-0.15-0.25	10/05/2023	988760	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.01	<0.01	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.01	<0.05	<0.005
BH23-0.15-0.25	10/05/2023	988760	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.01	<0.01	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.01	<0.05	<0.005
BH28-0.2-0.3	10/05/2023	988760	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.01	<0.01	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.01	<0.05	<0.005
BH29-0.7-0.8	10/05/2023	988760	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.01	<0.01	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.01	<0.05	<0.005
BH30-0.2-0.3	10/05/2023	988760	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.01	<0.01	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.01	<0.05	<0.005
BH33-0.2-0.3	10/05/2023	988760	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.01	<0.01	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.01	<0.05	<0.005
QC20230510_02 (duplicate of BH33-0.2-0.3)	10/05/2023	988760	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.01	<0.01	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.01	<0.05	<0.005
QA20230510_02 (triplicate of BH33-0.2-0.3)	10/05/2023	322927	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	-	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	-	<0.005	-	<0.005	-
BH34-0.15-0.25	10/05/2023	988760	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.01	<0.01	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.01	<0.05	<0.005
BH36-0.2-0.3	9/05/2023	988407	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.01	<0.01	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.01	<0.05	<0.005
BH38-0.15-0.25	11/05/2023	989589	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.01	<0.01	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.01	<0.05	<0.005
BH40-0.15-0.25	10/05/2023	988760	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.01	<0.01	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.01	<0.05	<0.005
BH43-0.15-0.25	11/05/2023	989589	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.01	<0.01	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.01	<0.05	<0.005
BH49-0.2-0.3	12/05/2023	989589	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.01	<0.01	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.01	<0.05	<0.005
BH56-0.3-0.4	11/05/2023	989589	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.01	<0.01	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.01	<0.05	<0.005

Table C - Asbestos Lab Results
Project Number: 64903
Project Name: South Granville DSI

			Asbestos - Eurofins															Asbestos - Envirolab			
			Approximate Sample Mass	Mass ACM	Mass Asbestos in ACM	Asbestos from ACM in Soil	Mass FA	Mass Asbestos in FA	Mass AF	Mass asbestos in AF	Asbestos from FA & AF in Soil	Mass Asbestos in FA & AF	ACM - Comment	FA- Comment	AF - Comment	Organic Fibres - Comment	Respirable Fibres - Comment	Synthetic Fibres - Comment	Asbestos Reported Result	Asbestos ID in Soil	Total Asbestos	Asbestos (ACM >7mm) Estimation	Asbestos in soil (<2mm AF/FA) (%w/w)
			g	g	g	% (w/w)	g	g	g	g	% (w/w)	g	Comment	Comment	Comment	Comment	Comment	Comment	Comment	g/kg	g/kg	% (w/w)	% (w/w)
EQL																					0	0	0
NEPM 2013 Table 7 Comm/Ind D Soil HSL for Asbestos in Soil						0.05					0.001											0.05	0.001
Sample ID	Date	Lab Report No.																					
BH01-0-0.1	8/05/2023	988407	469	0	0	0	0	0	0	0	0	0	Nil	Nil	Nil	Organic fibres detected.	No trace asbestos detected.	Nil	No asbestos detected at the reporting limit of 0.001% w/w	-	-	-	-
QC20230508_01 (duplicate of BH01-0-0.1)	8/05/2023	988407	430	0	0	0	0	0	0	0	0	0	Nil	Nil	Nil	Organic fibres detected.	No trace asbestos detected.	Nil	No asbestos detected at the reporting limit of 0.001% w/w	-	-	-	-
QA20230508_01 (triplicate of BH01-0-0.1)	8/05/2023	322803	385	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	<0.1	<0.01	<0.001
BH02A-0.2-0.3	9/05/2023	988407	678	0	0	0	0	0	0	0	0	0	Nil	Nil	Nil	Organic fibres detected.	No trace asbestos detected.	Nil	No asbestos detected at the reporting limit of 0.001% w/w	-	-	-	-
BH03-0-0.1	8/05/2023	988407	545	0	0	0	0	0	0	0	0	0	Nil	Nil	Nil	Organic fibres detected.	No trace asbestos detected.	Nil	No asbestos detected at the reporting limit of 0.001% w/w	-	-	-	-
BH04-0.2-0.3	8/05/2023	988407	975	0	0	0	0	0	0	0	0	0	Nil	Nil	Nil	Organic fibres detected.	No trace asbestos detected.	Nil	No asbestos detected at the reporting limit of 0.001% w/w	-	-	-	-
QC20230508_03 (duplicate of BH04-0.2-0.3)	8/05/2023	988407	971	0	0	0	0	0	0	0	0	0	Nil	Nil	Nil	Organic fibres detected.	No trace asbestos detected.	Nil	No asbestos detected at the reporting limit of 0.001% w/w	-	-	-	-
QA20230508_03 (triplicate of BH04-0.2-0.3)	8/05/2023	322803	940	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	<0.1	<0.01	<0.001
BH05-0-0.1	8/05/2023	988407	590	0	0	0	0	0	0	0	0	0	Nil	Nil	Nil	Organic fibres detected.	No trace asbestos detected.	Nil	No asbestos detected at the reporting limit of 0.001% w/w	-	-	-	-
BH07-1-1.1	11/05/2023	989589	647	0	0	0	0	0	0	0	0	0	Nil	Nil	Nil	Organic fibres detected.	No trace asbestos detected.	Nil	No asbestos detected at the reporting limit of 0.001% w/w	-	-	-	-
BH08-0.5-0.6	11/05/2023	989589	615	0	0	0	0	0	0	0	0	0	Nil	Nil	Nil	Organic fibres detected.	No trace asbestos detected.	Nil	No asbestos detected at the reporting limit of 0.001% w/w	-	-	-	-
QC20230511-01 (duplicate of BH08-0.5-0.6)	11/05/2023	989589	735	0	0	0	0	0	0	0	0	0	Nil	Nil	Nil	Organic fibres detected.	No trace asbestos detected.	Synthetic mineral fibres detected.	No asbestos detected at the reporting limit of 0.001% w/w	-	-	-	-
QA20230511_01 (triplicate of BH08-0.5-0.6)	11/05/2023	323044	582	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	<0.1	<0.01	<0.001
BH09-0.2-0.3	11/05/2023	989589	728	0	0	0	0	0	0	0	0	0	Nil	Nil	Nil	Organic fibres detected.	No trace asbestos detected.	Nil	No asbestos detected at the reporting limit of 0.001% w/w	-	-	-	-
BH10-0-0.1	8/05/2023	988407	935	0	0	0	0	0	0	0	0	0	Nil	Nil	Nil	Organic fibres detected.	No trace asbestos detected.	Nil	No asbestos detected at the reporting limit of 0.001% w/w	-	-	-	-
BH11-0-0.1	9/05/2023	988407	789	0	0	0	0	0	0	0	0	0	Nil	Nil	Nil	Organic fibres detected.	No trace asbestos detected.	Nil	No asbestos detected at the reporting limit of 0.001% w/w	-	-	-	-
BH12-0.8-0.9	11/05/2023	989589	691	0	0	0	0	0	0	0	0	0	Nil	Nil	Nil	Organic fibres detected.	No trace asbestos detected.	Nil	No asbestos detected at the reporting limit of 0.001% w/w	-	-	-	-
BH13-0.3-0.4	11/05/2023	989589	520	0	0	0	0	0	0	0	0	0	Nil	Nil	Nil	Organic fibres detected.	No trace asbestos detected.	Nil	No asbestos detected at the reporting limit of 0.001% w/w	-	-	-	-
BH14-0.15-0.25	8/05/2023	988407	737	0	0	0	0	0	0	0	0	0	Nil	Nil	Nil	Organic fibres detected.	No trace asbestos detected.	Nil	No asbestos detected at the reporting limit of 0.001% w/w	-	-	-	-
BH15-0.15-0.25	12/05/2023	989589	736	0	0	0	0	0	0	0	0	0	Nil	Nil	Nil	Organic fibres detected.	No trace asbestos detected.	Nil	No asbestos detected at the reporting limit of 0.001% w/w	-	-	-	-
BH16-0.15-0.25	11/05/2023	989589	968	0	0	0	0	0	0	0	0	0	Nil	Nil	Nil	Organic fibres detected.	No trace asbestos detected.	Nil	No asbestos detected at the reporting limit of 0.001% w/w	-	-	-	-
BH17-0.1-0.2	11/05/2023	989589	799	0	0	0	0	0	0	0	0	0	Nil	Nil	Nil	Organic fibres detected.	No trace asbestos detected.	Nil	No asbestos detected at the reporting limit of 0.001% w/w	-	-	-	-
BH18-0.9-0.1	8/05/2023	988407	663	0	0	0	0	0	0	0	0	0	Nil	Nil	Nil	Organic fibres detected.	No trace asbestos detected.	Nil	No asbestos detected at the reporting limit of 0.001% w/w	-	-	-	-
BH18-0-0.1	8/05/2023	988407	850	0	0	0	0	0	0	0	0	0	Nil	Nil	Nil	Organic fibres detected.	No trace asbestos detected.	Nil	No asbestos detected at the reporting limit of 0.001% w/w	-	-	-	-
BH19-0.2-0.3	11/05/2023	989589	844	0	0	0	0	0	0	0	0	0	Nil	Nil	Nil	Organic fibres detected.	No trace asbestos detected.	Nil	No asbestos detected at the reporting limit of 0.001% w/w	-	-	-	-
BH20-0.15-0.25	11/05/2023	989589	602	0	0	0	0	0	0	0	0	0	Nil	Nil	Nil	Organic fibres detected.	No trace asbestos detected.	Nil	No asbestos detected at the reporting limit of 0.001% w/w	-	-	-	-
BH21-0.1-0.2	10/05/2023	988760	995	0	0	0	0	0	0	0	0	0	Nil	Nil	Nil	Organic fibres detected.	-	Nil	No asbestos detected at the reporting limit of 0.001% w/w	-	-	-	-
BH21-0.5-0.6	10/05/2023	988760	51	0	0	0	0	0	0	0	0	0	Nil	Nil	Nil	Organic fibres detected.	No trace asbestos detected.	Nil	No asbestos detected at the reporting limit of 0.001% w/w	-	-	-	-
BH22-0.3-0.4	10/05/2023	988760	678	0	0	0	0	0	0	0	0	0	Nil	Nil	Nil	Organic fibres detected.	0	Nil	No asbestos detected at the reporting limit of 0.001% w/w	-	-	-	-
BH23-0.5-0.6	10/05/2023	988760	850	0	0	0	0	0	0	0	0	0	Nil	Nil	Nil	Nil	No trace asbestos detected.	Nil	No asbestos detected at the reporting limit of 0.001% w/w	-	-	-	-
BH24-0.2-0.3	15/05/2023	989628	923	0	0	0	0	0	0	0	0	0	Nil	Nil	Nil	Organic fibres detected.	No trace asbestos detected.	Nil	No asbestos detected at the reporting limit of 0.001% w/w	-	-	-	-
BH25-0.15-0.25	10/05/2023	988760	941	0	0	0	0	0	0	0	0	0	Nil	Nil	Nil	Organic fibres detected.	No trace asbestos detected.	Nil	No asbestos detected at the reporting limit of 0.001% w/w	-	-	-	-
BH26-0.5-0.6	11/05/2023	989589	783	0	0	0	0	0	0	0	0	0	Nil	Nil	Nil	Organic fibres detected.	No trace asbestos detected.	Nil	No asbestos detected at the reporting limit of 0.001% w/w	-	-	-	-
BH27-0-0.1	11/05/2023	989589	760	0	0	0	0	0	0	0	0	0	Nil	Nil	Nil	Organic fibres detected.	No trace asbestos detected.	Nil	No asbestos detected at the reporting limit of 0.001% w/w	-	-	-	-
BH28-0.5-0.6	10/05/2023	988760	575	0	0	0	0	0	0	0	0	0	Nil	Nil	Nil	Nil	No trace asbestos detected.	Nil	No asbestos detected at the reporting limit of 0.001% w/w	-	-	-	-
BH30-0.2-0.3	10/05/2023	988760	970	0	0	0	0	0	0	0	0	0	Nil	Nil	Nil	Nil	No trace asbestos detected.	Nil	No asbestos detected at the reporting limit of 0.001% w/w	-	-	-	-
BH31-0.3-0.4	11/05/2023	989589	968	0	0	0	0	0	0	0	0	0	Nil	Nil	Nil	Organic fibres detected.	No trace asbestos detected.	Nil	No asbestos detected at the reporting limit of 0.001% w/w	-	-	-	-
BH32-0.2-0.3	10/05/2023	988760	776	0	0	0	0	0	0	0	0	0	Nil	Nil	Nil	Organic fibres detected.	No trace asbestos detected.	Nil	No asbestos detected at the reporting limit of 0.001% w/w	-	-	-	-
QC20230510_02 (duplicate of BH32-0.2-0.3)	10/05/2023	988760	742	0	0	0	0	0	0	0	0	0	Nil	Nil	Nil	Organic fibres detected.	No trace asbestos detected.	Nil	No asbestos detected at the reporting limit of 0.001% w/w	-	-	-	-
QA20230510_02 (triplicate of BH32-0.2-0.3)	10/05/2023	322927	90	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	-
BH32-0.5-0.6	10/05/2023	988760	659	0	0	0	0.0898	0.02694	0	0	0.0041	0.02694	Nil	FA:Chrysotile asbestos detected in weathered fibre cement material.	Nil	Organic fibres detected.	No trace asbestos detected.	Nil	Total estimated asbestos concentration in FA = 0.0041% w/w	-	-	-	-
BH33-0.5-0.6	10/05/2023	988760	739	0	0	0	0	0	0	0	0	0	Nil	Nil	Nil	Organic fibres detected.	No trace asbestos detected.	Nil	No asbestos detected at the reporting limit of 0.001% w/w	-	-	-	-
BH33-2.1-2.2	10/05/2023	988760	853	0	0	0	0	0	0	0	0	0	Nil	Nil	Nil	Organic fibres detected.	No trace asbestos detected.	Nil	No asbestos detected at the reporting limit of 0.001% w/w	-	-	-	-
BH34-0.4-0.5	10/05/2023	988760	687	0	0	0	0	0	0	0	0	0	Nil	Nil	Nil	Organic fibres detected.	No trace asbestos detected.	Nil	No asbestos detected at the reporting limit of 0.001% w/w	-	-	-	-
BH35-0.2-0.3	9/05/2023	988407	721	0	0	0	0	0	0	0	0	0	Nil	Nil	Nil	Organic fibres detected.	No trace asbestos detected.	Nil	No asbestos detected at the reporting limit of 0.001% w/w	-	-	-	-
BH36-0.2-0.3	9/05/2023	988407	880	0	0	0	0	0	0	0	0	0	Nil	Nil	Nil	Organic fibres detected.	No trace asbestos detected.	Nil	No asbestos detected at the reporting limit of 0.001% w/w	-	-	-	-
BH38-0.15-0.25	11/05/2023	989589	903	0	0	0	0	0	0	0	0	0	Nil	Nil	Nil	Organic fibres detected.	No trace asbestos detected.	Nil	No asbestos detected at the reporting limit of 0.001% w/w	-	-	-	-
BH39-0.2-0.3	10/05/2023	988760	958	0.12	0.0058	0.0006	0	0	0	0	0	0	Chrysotile asbestos detected in fibre cement material.	Nil	Nil	Organic fibres detected.	No trace asbestos detected.	Nil	Total estimated asbestos concentration = 0.00060% w/w	-	-	-	-
QC20230510_01 (duplicate of BH39-0.2-0.3)	10/05/2023	988760	846	0	0	0.0017	0	0	0	0	0.00021	0	Chrysotile asbestos detected in fibre cement material.	Nil	AF: Chrysotile asbestos detected in loose fibre bundles.	Organic fibres detected.	No trace asbestos detected.	Nil	Total estimated asbestos concentration = 0.00017% w/w	-	-	-	-
QA20230510_01 (triplicate of BH39-0.2-0.3)	10/05/2023	322927	90	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	-
BH40-0.5-0.6	10/05/2023	988760	705	0	0	0	0	0	0	0	0	0	Nil	Nil	Nil	Organic fibres detected.	No trace asbestos detected.	Nil	No asbestos detected at the reporting limit of 0.001% w/w	-	-	-	-
BH41-0-0.1	9/05/2023	988407	718	0	0	0	0	0	0	0	0	0	Nil	Nil	Nil	Organic fibres detected.	No trace asbestos detected.	Nil	No asbestos detected at the reporting limit of 0.001% w/w	-	-	-	-
BH42-0-0.1	12/05/2023	989589	674	0	0	0	0	0	0	0	0	0	Nil	Nil	Nil	Organic fibres detected.	No trace asbestos detected.	Nil	No asbestos detected at the reporting limit of 0.001% w/w	-	-	-	-
BH43-0.15-0.25	11/05/2023	989589	699	0	0	0	0	0	0	0	0	0	Nil	Nil	Nil	Organic fibres detected.	No trace asbestos detected.	Nil	No asbestos detected at the reporting limit of 0.001% w/w	-	-	-	-
BH45-0.15-0.25	12/05/2023	989589	996	0	0	0	0	0	0	0	0	0	Nil	Nil	Nil	Organic fibres detected.	No trace asbestos detected.	Nil	No asbestos detected at the reporting limit of 0.001% w/w	-	-	-	-
BH46-0.3-0.4	11/05/2023	989589	912	0	0	0	0	0	0	0	0	0	Nil	Nil	Nil	Organic fibres detected.	No trace asbestos detected.	Nil	No asbestos detected at the reporting limit of 0.001% w/w	-	-	-	-
BH47-0.2-0.3	9/05/2023	988407	1078	0	0	0	0	0	0	0	0	0	Nil	Nil	Nil	Organic fibres detected.	No trace asbestos detected.	Nil	No asbestos detected at the reporting limit of 0.001% w/w	-	-	-	-
BH48-0.2-0.3	9/05/2023	988407	916	0	0	0	0	0	0	0	0	0	Nil	Nil	Nil	Organic fibres detected.	-	Nil	No asbestos detected at the reporting limit of 0.001% w/w	-	-	-	-
BH50-0.15-0.25	11/05/2023	989589	639	0	0	0	0	0	0	0	0	0	Nil	Nil	Nil	Organic fibres detected.	No trace asbestos detected.	Nil	No asbestos detected at the reporting limit of 0.001% w/w	-	-	-	-
BH51-0-0.1	9/05/2023	988407	913	0	0	0	0	0	0	0	0	0	Nil	Nil	Nil	Organic fibres detected.	No trace asbestos detected.	Nil	No asbestos detected at the reporting limit of 0.001% w/w	-	-	-	-
BH52-0.2-0.3	9/05/2023	988407	910	0	0	0	0	0	0	0	0	0	Nil	Nil	Nil	Organic fibres detected.	No trace asbestos detected.	Nil	No asbestos detected at the reporting limit of 0.001% w/w	-	-	-	-
BH53-0-0.1	8/05/2023	988407	841	0	0	0	0	0	0	0	0	0	Nil	Nil	Nil	Organic fibres detected.	No trace asbestos detected.	Nil	No asbestos detected at the reporting limit of 0.001% w/w	-	-	-	-
BH54-0-0.1	8/05/2023	988407	758	0	0	0	0	0	0	0	0	0	Nil	Nil	Nil	Organic fibres detected.	-	Nil	No asbestos detected at the reporting limit of 0.001% w/w	-	-	-	-
BH55_S_FRAG	8/05/2023	988407	11	-	-	-	0	0	0	0	0	0	Nil	Nil	Nil	Organic fibres detected.	No trace asbestos detected.	Nil	Chrysotile asbestos detected. Organic fibre detected.	-	-	-	-
BH55-0.2-0.3	8/05/2023	988407	840	0	0	0	0	0	0	0	0	0	Nil	Nil	Nil	Organic fibres detected.	No trace asbestos detected.	Nil	No asbestos detected at the reporting limit of 0.001% w/w	-	-	-	-
BH55-0-0.1	8/05/2023	988407	827	0	0	0	0	0	0	0	0	0	Nil	Nil	Nil	Organic fibres detected.	No trace asbestos detected.	Nil	No asbestos detected at the reporting limit of 0.001% w/w	-	-	-	-
BH56-0.3-0.4	11/05/2023	989589	763	0	0	0	0	0	0	0	0	0	Nil	Nil	Nil	Organic fibres detected.	No trace asbestos detected.	Nil	No asbestos detected at the reporting limit of 0.001% w/w	-	-	-	-
BH56-0-0.1	11/05/2023	989589	516	0	0	0	0	0	0	0	0	0	Nil	Nil	Nil	Organic fibres detected.	No trace asbestos detected.	Nil	No asbestos detected at the reporting limit of 0.001% w/w	-	-	-	-
BH57-0-0.1	15/05/2023	989628	830	0	0	0	0	0	0	0	0	0	Nil	Nil	Nil	Organic fibres detected.	No trace asbestos detected.	Nil	No asbestos detected at the reporting limit of 0.001% w/w	-	-	-	-

Table D - Groundwater Lab Results
Project Number: 64903
Project Name: South Granville DSI

				Metals & Metalloids								TPHs (NEPC 1999)					TRHs (NEPC 2013)							BTEXN						
				Arsenic (Filtered)	Cadmium (Filtered)	Chromium (III+VI) (Filtered)	Copper (Filtered)	Lead (Filtered)	Mercury (Filtered)	Nickel (Filtered)	Zinc (Filtered)	C6-C9 Fraction	C10-C14 Fraction	C15-C28 Fraction	C29-C36 Fraction	C10-C36 Fraction (Sum of Total)	C6-C10	C10-C16	C16-C34	C34-C40	C10-C40 (Sum of total)	F1 (C6-C10 minus BTEX)	F2 (C10-C16 less Naphthalene)	Benzene	Toluene	Ethylbenzene	Xylene (o)	Xylene (m & p)	Xylene Total	Naphthalene_VOC
				mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
EQL				0.001	0.0002	0.001	0.001	0.001	0.0001	0.001	0.005	0.02	0.05	0.1	0.1	0.1	0.02	0.05	0.1	0.1	0.1	0.02	0.05	0.001	0.001	0.001	0.001	0.002	0.003	0.01
ANZG (2018) Freshwater 95% toxicant DGVs				0.013[#8]	0.0002[#9]	0.001[#10]	0.0014[#9]	0.0034[#11]	0.0006[#12]	0.011[#13]	0.008[#14]													0.95[#11]	0.18[#15]	0.08[#15]	0.35[#13]	0.075[#16]		0.016[#13]
ADWG (2011) Health x 10 (Recreational) - Updated March-2021				0.1	0.02	0.5[#2]	20	0.1	0.01	0.2	[#3]													0.01	8	3	6[#1]	6[#1]	6	
NEPM 2013 Table 1A(4) Comm/Ind HSL D GW for Vapour Intrusion, Clay																														
2-4m																						NL[#20]	NL[#21]	30	NL	NL			NL	NL
4-8m																						NL[#20]	NL[#21]	30	NL	NL			NL	NL
>8m																						NL[#20]	NL[#21]	35	NL	NL			NL	NL
PFAS NEMP 2020 Table 1 Health Recreational Water																														
PFAS NEMP 2020 Table 5 Freshwater 95%																														
Sample ID	**Well ID**	**Date**	**Lab Report No.**																											
DMMW2	DMMW2	22/05/2023	992116	0.003	<0.0002	<0.001	<0.001	<0.001	<0.0001	0.003	<0.005	<0.02	<0.05	<0.1	<0.1	<0.1	<0.02	<0.05	<0.1	<0.1	<0.1	<0.02	<0.05	<0.001	<0.001	<0.001	<0.001	<0.002	<0.003	<0.01
MMW02	MMW02	22/05/2023	992116	0.001	<0.0002	<0.001	0.002	<0.001	<0.0001	0.002	0.006	<0.02	<0.05	<0.1	<0.1	<0.1	<0.02	<0.05	<0.1	<0.1	<0.1	<0.02	<0.05	<0.001	<0.001	<0.001	<0.001	<0.002	<0.003	<0.01
MMW03	MMW03	22/05/2023	992116	0.027	<0.0002	<0.001	<0.001	<0.001	<0.0001	0.002	0.029	<0.02	<0.05	<0.1	<0.1	<0.1	<0.02	<0.05	<0.1	<0.1	<0.1	<0.02	<0.05	<0.001	<0.001	<0.001	<0.001	<0.002	<0.003	<0.01
MW01	BH01/MW01	22/05/2023	992116	0.007	<0.0002	<0.001	0.001	<0.001	<0.0001	0.006	0.007	<0.02	<0.05	0.2	<0.1	0.2	<0.02	<0.05	0.2	<0.1	0.2	<0.02	<0.05	<0.001	<0.001	<0.001	<0.001	<0.002	<0.003	<0.01
MW02	BH24/MW02	22/05/2023	992116	<0.001	<0.0002	<0.001	<0.001	<0.001	<0.0001	0.003	<0.005	<0.02	<0.05	<0.1	<0.1	<0.1	<0.02	<0.05	<0.1	<0.1	<0.1	<0.02	<0.05	<0.001	<0.001	<0.001	<0.001	<0.002	<0.003	<0.01
QAW01	BH24/MW02	22/05/2023	323756	0.001	<0.0001	<0.001	0.005	<0.001	<0.00005	0.003	0.015	<0.01	<0.05	<0.1	<0.1	<0.05	<0.01	<0.05	<0.1	<0.1	<0.05	<0.01	<0.05	<0.001	<0.001	<0.001	<0.001	<0.002	-	<0.001
QCW01	BH24/MW02	22/05/2023	992116	<0.001	<0.0002	<0.001	<0.001	<0.001	<0.0001	0.003	<0.005	<0.02	<0.05	<0.1	<0.1	<0.1	<0.02	<0.05	<0.1	<0.1	<0.1	<0.02	<0.05	<0.001	<0.001	<0.001	<0.001	<0.002	<0.003	<0.01
MW03	BH45/MW03	22/05/2023	992116	<0.001	<0.0002	<0.001	0.002	<0.001	<0.0001	0.002	<0.005	<0.02	<0.05	<0.1	<0.1	<0.1	<0.02	<0.05	<0.1	<0.1	<0.1	<0.02	<0.05	<0.001	<0.001	<0.001	<0.001	<0.002	<0.003	<0.01
MW04	BH49/MW04	22/05/2023	992116	0.002	0.0003	<0.001	<0.001	<0.001	<0.0001	0.004	0.01	<0.02	<0.05	<0.1	<0.1	<0.1	<0.02	<0.05	<0.1	<0.1	<0.1	<0.02	<0.05	<0.001	<0.001	<0.001	<0.001	<0.002	<0.003	<0.01
MW05	BH42/MW05	22/05/2023	992116	0.004	<0.0002	<0.001	<0.001	<0.001	<0.0001	0.008	0.012	<0.02	<0.05	<0.1	<0.1	<0.1	<0.02	<0.05	<0.1	<0.1	<0.1	<0.02	<0.05	<0.001	<0.001	<0.001	<0.001	<0.002	<0.003	<0.01
RWTANK-01	RWTANK-01	22/05/2023	992116	<0.001	<0.0002	<0.001	0.034	<0.001	<0.0001	<0.001	0.045	<0.02	<0.05	<0.1	<0.1	<0.1	<0.02	<0.05	<0.1	<0.1	<0.1	<0.02	<0.05	<0.001	<0.001	<0.001	<0.001	<0.002	<0.003	<0.01

Table D - Groundwater Lab Results
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				PAH																	
				Acenaphthene	Acenaphthylene	Anthracene	Benz(a)anthracene	Benzo(a)pyrene	Benzo(a)pyrene TEQ	Benzo(b+j)fluoranthene	Benzo(b+j+k)fluoranthene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Chrysene	Dibenz(a,h)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-c,d)pyrene	Naphthalene	Phenanthrene	Pyrene	PAHs (Sum of total)
				mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
EQL				0.00001	0.00001	0.00001	0.00001	0.00001	0.0005	0.00001	0.0002	0.00001	0.00001	0.00001	0.00001	0.00001	0.00001	0.00001	0.00001	0.00001	0.00001	0.00001
ANZG (2018) Freshwater 95% toxicant DGVs						0.0004[#17]		0.0002[#17]								0.0014[#17]			0.016[#13]	0.002[#17]		
ADWG (2011) Health x 10 (Recreational) - Updated March-2021								0.0001[#4]														
NEPM 2013 Table 1A(4) Comm/Ind HSL D GW for Vapour Intrusion, Clay																						
2-4m																			NL			
4-8m																			NL			
>8m																			NL			
PFAS NEMP 2020 Table 1 Health Recreational Water																						
PFAS NEMP 2020 Table 5 Freshwater 95%																						

Sample ID	Well ID	Date	Lab Report No.																		
DMMW2	DMMW2	22/05/2023	992116	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	-	<0.00001	-	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001
MMW02	MMW02	22/05/2023	992116	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	-	<0.00001	-	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001
MMW03	MMW03	22/05/2023	992116	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	-	<0.00001	-	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001
MW01	BH01/MW01	22/05/2023	992116	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	-	<0.00001	-	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001
MW02	BH24/MW02	22/05/2023	992116	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	-	<0.00001	-	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001
QAW01	BH24/MW02	22/05/2023	323756	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0005	-	<0.0002	<0.0001	-	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0002	<0.0001	<0.0001	<0.0001
QCW01	BH24/MW02	22/05/2023	992116	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	-	<0.00001	-	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001
MW03	BH45/MW03	22/05/2023	992116	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	-	<0.00001	-	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001
MW04	BH49/MW04	22/05/2023	992116	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	-	<0.00001	-	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001
MW05	BH42/MW05	22/05/2023	992116	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	-	<0.00001	-	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001
RWTANK-01	RWTANK-01	22/05/2023	992116	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	-	<0.00001	-	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001

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				Chlorinated Alkanes																			Chlorinated Alkenes												Solvents
				1,1,1,2-tetrachloroethane	1,1,1-trichloroethane	1,1,2,2-tetrachloroethane	1,1,2-trichloroethane	1,1-dichloroethane	1,2,3-trichloropropane	1,2-dibromo-3-chloropropane	1,2-dichloroethane	1,2-dichloropropane	1,3-dichloropropane	2,2-dichloropropane	Bromochloromethane	Carbon tetrachloride	Chloroethane	Chloromethane	Dichlorodifluoromethane	Dichloromethane	Trichlorofluoromethane	1,1-dichloroethene	1,1-dichloropropene	2-chlorotoluene	3-chloropropene	4-chlorotoluene	cis-1,2-dichloroethene	cis-1,3-dichloropropene	Tetrachloroethene	trans-1,2-dichloroethene	trans-1,3-dichloropropene	Trichloroethene	Vinyl Chloride	Acetone
				mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
EQL				0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.005	0.005	0.005	0.005	0.005	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.005	0.005
ANZG (2018) Freshwater 95% toxicant DGVs					0.27[#15]	0.4[#15]	6.5[#11]				1.9[#15]	0.9[#15]	1.1[#15]			0.24[#15]				4[#15]		0.7[#15]								0.07[#15]			0.33[#15]	0.1[#15]	
ADWG (2011) Health x 10 (Recreational) - Updated March-2021					[#3]			[#3]			0.03					0.03				0.04[#5]		0.3				0.6		0.5	0.6		[#3]	0.003	140[#6]
NEPM 2013 Table 1A(4) Comm/Ind HSL D GW for Vapour Intrusion, Clay																																			
2-4m																																			
4-8m																																			
>8m																																			
PFAS NEMP 2020 Table 1 Health Recreational Water																																			
PFAS NEMP 2020 Table 5 Freshwater 95%																																			

Sample ID	Well ID	Date	Lab Report No.																																
DMMW2	DMMW2	22/05/2023	992116	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.001	<0.001	-	<0.001	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.001	-	-	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.005	<0.005
MMW02	MMW02	22/05/2023	992116	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.001	<0.001	-	<0.001	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.001	-	-	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.005	<0.005
MMW03	MMW03	22/05/2023	992116	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.001	<0.001	-	<0.001	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.001	-	-	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.005	<0.005
MW01	BH01/MW01	22/05/2023	992116	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.001	<0.001	-	<0.001	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.001	-	-	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.005	<0.005
MW02	BH24/MW02	22/05/2023	992116	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.001	<0.001	-	<0.001	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.001	-	-	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.005	<0.005
QAW01	BH24/MW02	22/05/2023	323756	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.01	<0.01	<0.01	-	<0.01	<0.001	<0.001	<0.001	-	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.01	-
QCW01	BH24/MW02	22/05/2023	992116	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.001	<0.001	-	<0.001	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.001	-	-	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.005	<0.005
MW03	BH45/MW03	22/05/2023	992116	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.001	<0.001	-	<0.001	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.001	-	-	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.005	<0.005
MW04	BH49/MW04	22/05/2023	992116	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.001	<0.001	-	<0.001	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.001	-	-	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.005	<0.005
MW05	BH42/MW05	22/05/2023	992116	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.001	<0.001	-	<0.001	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.001	-	-	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.005	<0.005
RWTANK-01	RWTANK-01	22/05/2023	992116	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.001	<0.001	-	<0.001	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.001	-	-	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.005	<0.005

Table D - Groundwater Lab Results
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				PFAS																	
				Perfluorobutanoic acid (PFBA)	Perfluoropentanoic acid (PFPeA)	Perfluorohexanoic acid (PFHxA)	Perfluoroheptanoic acid (PFHpA)	Perfluorooctanoic acid (PFOA)	Perfluorononanoic acid (PFNA)	Perfluorodecanoic acid (PFDA)	Perfluoroundecanoic acid (PFUnDA)	Perfluorododecanoic acid (PFDoDA)	Perfluorotridecanoic acid (PFTrDA)	Perfluorotetradecanoic acid (PFTeDA)	Perfluorooctane sulfonamide (FOSA)	N-Methyl perfluorooctane sulfonamide (NMeFOSA)	N-Ethyl perfluorooctane sulfonamide (NEtFOSA)	N-Methylperfluorooctanesulfonamidoethanol (N-MeFOSE)	N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	N-methylperfluorooctane sulfonamidoacetic acid (NMeFOSAA)
				mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
EQL				0.00005	0.00001	0.00001	0.00001	0.00001	0.00001	0.00001	0.00001	0.00001	0.00001	0.00001	0.00005	0.00005	0.00005	0.00005	0.00005	0.00005
ANZG (2018) Freshwater 95% toxicant DGVs																				
ADWG (2011) Health x 10 (Recreational) - Updated March-2021								0.0056												
NEPM 2013 Table 1A(4) Comm/Ind HSL D GW for Vapour Intrusion, Clay																				
2-4m																				
4-8m																				
>8m																				
PFAS NEMP 2020 Table 1 Health Recreational Water								0.01[#24]												
PFAS NEMP 2020 Table 5 Freshwater 95%								0.22												
Sample ID	**Well ID**	**Date**	**Lab Report No.**																	
DMMW2	DMMW2	22/05/2023	992116	<0.00005	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005
MMW02	MMW02	22/05/2023	992116	<0.00005	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005
MMW03	MMW03	22/05/2023	992116	<0.00005	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005
MW01	BH01/MW01	22/05/2023	992116	<0.00005	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005
MW02	BH24/MW02	22/05/2023	992116	<0.00005	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005
QAW01	BH24/MW02	22/05/2023	323756	<0.00002	<0.00002	<0.00001	<0.00001	<0.00001	<0.00001	<0.00002	<0.00002	<0.00005	<0.0001	<0.0005	<0.0001	<0.00005	<0.0001	<0.00005	<0.0005	<0.00002
QCW01	BH24/MW02	22/05/2023	992116	<0.00005	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005
MW03	BH45/MW03	22/05/2023	992116	<0.00005	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005
MW04	BH49/MW04	22/05/2023	992116	<0.00005	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005
MW05	BH42/MW05	22/05/2023	992116	<0.00005	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005
RWTANK-01	RWTANK-01	22/05/2023	992116	<0.00005	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005

Table D - Groundwater Lab Results
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				PFAS																		
				N-ethyl-perfluorooctanesulfonamidoacetic acid (NEtFOSAA)	Perfluoropropanesulfonic acid (PFPrS)	Perfluorobutanesulfonic acid (PFBS)	Perfluoropentanesulfonic acid (PFPeS)	Perfluorohexanesulfonic acid (PFHxS)	Perfluoroheptane sulfonic acid (PFHpS)	Perfluorooctanesulfonic acid (PFOS)	Perfluorodecanesulfonic acid (PFDS)	1H,1H,2H,2H-perfluorohexanesulfonic acid (4:2 FTSA)	1H,1H,2H,2H-perfluorooctanesulfonic acid (6:2 FTSA)	1H,1H,2H,2H-perfluorodecanesulfonic acid (8:2 FTSA)	1H,1H,2H,2H-perfluorododecanesulfonic acid (10:2 FTSA)	Sum of PFHxS and PFOS	Sum of enHealth PFAS (PFHxS + PFOS + PFOA)*	Sum of US EPA PFAS (PFOS + PFOA)*	Sum of WA DWER PFAS (n=10)*	Sum of PFAS	Perfluorononanesulfonic acid ion
				mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	UG/L	mg/L	mg/L
EQL				0.00005	0.00001	0.00001	0.00001	0.00001	0.00001	0.00001	0.00001	0.00001	0.00005	0.00001	0.00001	0.00001	0.00001	0.00001	0.05	0.0001	0.00001
ANZG (2018) Freshwater 95% toxicant DGVs										0.48											
ADWG (2011) Health x 10 (Recreational) - Updated March-2021								0.0007		0.0007						0.0007					
NEPM 2013 Table 1A(4) Comm/Ind HSL D GW for Vapour Intrusion, Clay																					
2-4m																					
4-8m																					
>8m																					
PFAS NEMP 2020 Table 1 Health Recreational Water								0.002[#24]		0.002[#24]						0.002[#24]					
PFAS NEMP 2020 Table 5 Freshwater 95%										0.00013											
Sample ID	**Well ID**	**Date**	**Lab Report No.**																		
DMMW2	DMMW2	22/05/2023	992116	<0.00005	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00005	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.05	<0.0001	<0.00001
MMW02	MMW02	22/05/2023	992116	<0.00005	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00005	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.05	<0.0001	<0.00001
MMW03	MMW03	22/05/2023	992116	<0.00005	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00005	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.05	<0.0001	<0.00001
MW01	BH01/MW01	22/05/2023	992116	<0.00005	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00005	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.05	<0.0001	<0.00001
MW02	BH24/MW02	22/05/2023	992116	<0.00005	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00005	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.05	<0.0001	<0.00001
QAW01	BH24/MW02	22/05/2023	323756	<0.00002	-	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00002	<0.00001	<0.00001	<0.00002	<0.00001	-	<0.00001	-	<0.00001	-
QCW01	BH24/MW02	22/05/2023	992116	<0.00005	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00005	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.05	<0.0001	<0.00001
MW03	BH45/MW03	22/05/2023	992116	<0.00005	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00005	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.05	<0.0001	<0.00001
MW04	BH49/MW04	22/05/2023	992116	<0.00005	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00005	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.05	<0.0001	<0.00001
MW05	BH42/MW05	22/05/2023	992116	<0.00005	0.00001	0.00002	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00005	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.05	<0.0001	<0.00001
RWTANK-01	RWTANK-01	22/05/2023	992116	<0.00005	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00005	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.05	<0.0001	<0.00001

Table D - Groundwater Lab Results
Project Number: 64903
Project Name: South Granville DSI

				MAH											Miscellaneous Hydrocarbons							Chlorinated Benzenes						Trihalomethanes				Organic Sulfur Compounds	Chlorinated Hydrocarbons
				1,2,4-trimethylbenzene	1,3,5-trimethylbenzene	n-butylbenzene	n-propylbenzene	p-isopropyltoluene	sec-butylbenzene	Styrene	tert-butylbenzene	Total MAH	Bromobenzene	Isopropylbenzene	1,2-dibromoethane	Bromomethane	Cyclohexane	Dibromomethane	Iodomethane	4-Methyl-2-pentanone	Methyl Ethyl Ketone	1,2,3-trichlorobenzene	1,2,4-trichlorobenzene	1,2-Dichlorobenzene	1,3-dichlorobenzene	1,4-dichlorobenzene	Chlorobenzene	Dibromochloromethane	Chloroform	Tribromomethane	Bromodichloromethane	Carbon disulfide	Hexachlorobutadiene
				mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
EQL				0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.003	0.001	0.001	0.001	0.005	0.001	0.001	0.001	0.005	0.005	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.005	0.001	0.001	0.001	0.001
ANZG (2018) Freshwater 95% toxicant DGVs														0.03[#15]								0.01[#18]	0.17[#19]	0.16[#13]	0.26[#13]	0.06[#11]	0.055[#15]		0.77[#17]				
ADWG (2011) Health x 10 (Recreational) - Updated March-2021										0.3					0.01[#7]	0.01								15	[#3]	0.4	3						0.007
NEPM 2013 Table 1A(4) Comm/Ind HSL D GW for Vapour Intrusion, Clay																																	
2-4m																																	
4-8m																																	
>8m																																	
PFAS NEMP 2020 Table 1 Health Recreational Water																																	
PFAS NEMP 2020 Table 5 Freshwater 95%																																	
Sample ID	**Well ID**	**Date**	**Lab Report No.**																														
DMMW2	DMMW2	22/05/2023	992116	<0.001	<0.001	-	-	-	-	<0.001	-	<0.003	<0.001	<0.001	<0.001	<0.005	-	<0.001	<0.001	<0.005	<0.005	-	-	<0.001	<0.001	<0.001	<0.001	<0.001	<0.005	<0.001	<0.001	<0.001	-
MMW02	MMW02	22/05/2023	992116	<0.001	<0.001	-	-	-	-	<0.001	-	<0.003	<0.001	<0.001	<0.001	<0.005	-	<0.001	<0.001	<0.005	<0.005	-	-	<0.001	<0.001	<0.001	<0.001	<0.001	<0.005	<0.001	<0.001	<0.001	-
MMW03	MMW03	22/05/2023	992116	<0.001	<0.001	-	-	-	-	<0.001	-	<0.003	<0.001	<0.001	<0.001	<0.005	-	<0.001	<0.001	<0.005	<0.005	-	-	<0.001	<0.001	<0.001	<0.001	<0.001	<0.005	<0.001	<0.001	<0.001	-
MW01	BH01/MW01	22/05/2023	992116	<0.001	<0.001	-	-	-	-	<0.001	-	<0.003	<0.001	<0.001	<0.001	<0.005	-	<0.001	<0.001	<0.005	<0.005	-	-	<0.001	<0.001	<0.001	<0.001	<0.001	<0.005	<0.001	<0.001	<0.001	-
MW02	BH24/MW02	22/05/2023	992116	<0.001	<0.001	-	-	-	-	<0.001	-	<0.003	<0.001	<0.001	<0.001	<0.005	-	<0.001	<0.001	<0.005	<0.005	-	-	<0.001	<0.001	<0.001	<0.001	<0.001	<0.005	<0.001	<0.001	<0.001	-
QAW01	BH24/MW02	22/05/2023	323756	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.001	<0.001	<0.01	<0.001	<0.001	-	-	-	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	-	<0.001
QCW01	BH24/MW02	22/05/2023	992116	<0.001	<0.001	-	-	-	-	<0.001	-	<0.003	<0.001	<0.001	<0.001	<0.005	-	<0.001	<0.001	<0.005	<0.005	-	-	<0.001	<0.001	<0.001	<0.001	<0.001	<0.005	<0.001	<0.001	<0.001	-
MW03	BH45/MW03	22/05/2023	992116	<0.001	<0.001	-	-	-	-	<0.001	-	<0.003	<0.001	<0.001	<0.001	<0.005	-	<0.001	<0.001	<0.005	<0.005	-	-	<0.001	<0.001	<0.001	<0.001	<0.001	<0.005	<0.001	<0.001	<0.001	-
MW04	BH49/MW04	22/05/2023	992116	<0.001	<0.001	-	-	-	-	<0.001	-	<0.003	<0.001	<0.001	<0.001	<0.005	-	<0.001	<0.001	<0.005	<0.005	-	-	<0.001	<0.001	<0.001	<0.001	<0.001	<0.005	<0.001	<0.001	<0.001	-
MW05	BH42/MW05	22/05/2023	992116	<0.001	<0.001	-	-	-	-	<0.001	-	<0.003	<0.001	<0.001	<0.001	<0.005	-	<0.001	<0.001	<0.005	<0.005	-	-	<0.001	<0.001	<0.001	<0.001	<0.001	<0.005	<0.001	<0.001	<0.001	-
RWTANK-01	RWTANK-01	22/05/2023	992116	<0.001	<0.001	-	-	-	-	<0.001	-	<0.003	<0.001	<0.001	<0.001	<0.005	-	<0.001	<0.001	<0.005	<0.005	-	-	<0.001	<0.001	<0.001	<0.001	<0.001	<0.005	<0.001	<0.001	<0.001	-

Table E - Soil Vapour Results
Project Number: 64903
Project Name: South Granville DSI

	TRHs (NEPC 2013)				BTEXN				PAH	Chlorinated Alkanes														
	C6-C10	C10-C16	F1 (C6-C10 minus BTEX)	F2 (C10-C16 less Naphthalene)	Benzene	Toluene	Ethylbenzene	Xylene Total	Naphthalene	1,1,1,2-tetrachloroethane	1,1,1-trichloroethane	1,1,2,2-tetrachloroethane	1,1,2-trichloroethane	1,1-dichloroethane	1,2,3-trichloropropane	1,2-dibromo-3-chloropropane	1,2-dichloroethane	1,2-dichloropropane	1,3-dichloropropane	2,2-dichloropropane	Bromochloromethane	Carbon tetrachloride	Trichlorofluoromethane
	mg/m3	mg/m3	mg/m3	mg/m3	mg/m3	mg/m3	mg/m3	mg/m3	mg/m3	mg/m3	mg/m3	mg/m3	mg/m3	mg/m3	mg/m3	mg/m3	mg/m3	mg/m3	mg/m3	mg/m3	mg/m3	mg/m3	mg/m3	mg/m3
EQL	2.63	2.63	2.63	2.63	0.07	0.07	0.07	0.2	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07
NEPM 2013 Table 1A(2) Comm/Ind D Soil Vap VOCC HILs											230													
NEPM 2013 Table 1A(5) Comm/Ind D Soil Vapour HSL for Vapour Intrusion, Clay 0-1m			1000[#1]	800[#2]	5	6500	1800	1200	4															
NEPM 2013 Table 1A(5) Comm/Ind D Soil Vapour HSL for Vapour Intrusion, Sand 0-1m			680[#1]	500[#2]	4	4800	1300	840	3															

Sample ID	Sample Location	Date	Volume Sampled (L)	Lab Report No.																						
SV01	SV01	17/05/2023	7	991084	<2.9	<2.9	<2.9	<2.9	<0.07	<0.07	<0.07	<0.21	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07
SV02	SV02	17/05/2023	7.6	991084	<2.63	<2.63	<2.63	<2.63	<0.07	<0.07	<0.07	<0.20	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07
SV03	SV03	17/05/2023	7	991084	<2.9	<2.9	<2.9	<2.9	<0.07	<0.07	<0.07	<0.21	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07
SV04	SV04	17/05/2023	7	991084	<2.9	<2.9	<2.9	<2.9	<0.07	<0.07	<0.07	<0.21	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07
SV05	SV05	17/05/2023	7	991084	<2.9	<2.9	<2.9	<2.9	<0.07	<0.07	<0.07	<0.21	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07
SV06	SV06	17/05/2023	7	991084	<2.9	<2.9	<2.9	<2.9	<0.07	<0.07	<0.07	<0.21	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07
SV07	SV07	17/05/2023	7	991084	<2.9	<2.9	<2.9	<2.9	<0.07	<0.07	<0.07	<0.21	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07
SV08	SV08	17/05/2023	7	991084	<2.9	<2.9	<2.9	<2.9	<0.07	<0.07	<0.07	<0.21	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07
SV09	SV09	17/05/2023	7	991084	<2.9	<2.9	<2.9	<2.9	<0.07	<0.07	<0.07	<0.21	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07
SV10	SV10	17/05/2023	7	991084	<2.9	<2.9	<2.9	<2.9	<0.07	<0.07	<0.07	<0.21	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07
SV11	SV11	17/05/2023	7	991084	<2.9	<2.9	<2.9	<2.9	<0.07	<0.07	0.2	1.2	<0.07	<0.07	0.3	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07
SV12	SV12	17/05/2023	7	991084	<2.9	<2.9	<2.9	<2.9	<0.07	0.3	0.3	0.87	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07
SV13	SV13	17/05/2023	7	991084	<2.9	<2.9	<2.9	<2.9	<0.07	<0.07	<0.07	<0.21	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07
SV14	SV14	17/05/2023	7	991084	<2.9	<2.9	<2.9	<2.9	<0.07	0.2	0.7	1.0	<0.07	<0.07	0.2	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07
SV15	SV15	17/05/2023	7	991084	<2.9	<2.9	<2.9	<2.9	<0.07	0.09	<0.07	0.23	<0.07	<0.07	3	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07
QV02	SV15	17/05/2023	7	991084	<2.9	<2.9	<2.9	<2.9	<0.07	<0.07	<0.07	<0.21	<0.07	<0.07	3	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07
SV16	SV16	17/05/2023	7	991084	<2.9	<2.9	<2.9	<2.9	<0.07	<0.07	<0.07	<0.21	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07
SV17	SV17	17/05/2023	7	991084	<2.9	<2.9	<2.9	<2.9	<0.07	0.07	0.2	0.56	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07
SV18	SV18	17/05/2023	7	991084	<2.9	<2.9	<2.9	<2.9	<0.07	<0.07	<0.07	<0.21	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07
QV01	SV18	17/05/2023	7	991084	<2.9	<2.9	<2.9	<2.9	<0.07	<0.07	<0.07	<0.21	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07
SV19	SV19	17/05/2023	7	991084	<2.9	<2.9	<2.9	<2.9	<0.07	<0.07	<0.07	<0.21	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07
SV20	SV20	17/05/2023	7	991084	<2.9	<2.9	<2.9	<2.9	<0.07	<0.07	0.1	0.87	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07
SV21	SV21	17/05/2023	7	991084	<2.9	<2.9	<2.9	<2.9	<0.07	0.07	<0.07	<0.21	<0.07	<0.07	4	<0.07	<0.07	0.5	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07
SV22	SV22	17/05/2023	7	991084	<2.9	<2.9	<2.9	<2.9	<0.07	<0.07	<0.07	<0.21	<0.07	<0.07	1	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07
SV23	SV23	17/05/2023	7	991084	<2.9	<2.9	<2.9	<2.9	<0.07	<0.07	<0.07	<0.21	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07
SV24	SV24	17/05/2023	7	991084	<2.9	<2.9	<2.9	<2.9	<0.07	0.2	<0.07	<0.21	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07
SV25	SV25	17/05/2023	7	991084	<2.9	<2.9	<2.9	<2.9	<0.07	<0.07	<0.07	0.2	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07

Table E - Soil Vapour Results
Project Number: 64903
Project Name: South Granville DSI

					Chlorinated Alkenes										MAH											
					1,1-dichloroethene	1,1-dichloropropene	2-chlorotoluene	4-chlorotoluene	cis-1,2-dichloroethene	cis-1,3-dichloropropene	Tetrachloroethene	trans-1,3-dichloropropene	Trichloroethene	Vinyl Chloride	1,2,4-trimethylbenzene	1,3,5-trimethylbenzene	n-butylbenzene	n-propylbenzene	p-isopropyltoluene	sec-butylbenzene	Styrene	tert-butylbenzene	Isopropylbenzene	1,2-dibromoethane	Dibromomethane
					mg/m3	mg/m3	mg/m3	mg/m3	mg/m3	mg/m3	mg/m3	mg/m3	mg/m3	mg/m3	mg/m3	mg/m3	mg/m3	mg/m3	mg/m3	mg/m3	mg/m3	mg/m3	mg/m3	mg/m3	mg/m3
EQL					0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.7	0.07	0.07	0.07	0.07
NEPM 2013 Table 1A(2) Comm/Ind D Soil Vap VOCC HILs									0.3		8		0.08	0.1											
NEPM 2013 Table 1A(5) Comm/Ind D Soil Vapour HSL for Vapour Intrusion, Clay 0-1m																									
NEPM 2013 Table 1A(5) Comm/Ind D Soil Vapour HSL for Vapour Intrusion, Sand 0-1m																									
Sample ID	**Sample Location**	**Date**	**Volume Sampled (L)**	**Lab Report No.**																					
SV01	SV01	17/05/2023	7	991084	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.7	<0.07	<0.07	<0.07	<0.07
SV02	SV02	17/05/2023	7.6	991084	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.7	<0.07	<0.07	<0.07	<0.07
SV03	SV03	17/05/2023	7	991084	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.7	<0.07	<0.07	<0.07	<0.07
SV04	SV04	17/05/2023	7	991084	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.7	<0.07	<0.07	<0.07	<0.07
SV05	SV05	17/05/2023	7	991084	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.7	<0.07	<0.07	<0.07	<0.07
SV06	SV06	17/05/2023	7	991084	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.7	<0.07	<0.07	<0.07	<0.07
SV07	SV07	17/05/2023	7	991084	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.7	<0.07	<0.07	<0.07	<0.07
SV08	SV08	17/05/2023	7	991084	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.7	<0.07	<0.07	<0.07	<0.07
SV09	SV09	17/05/2023	7	991084	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.7	<0.07	<0.07	<0.07	<0.07
SV10	SV10	17/05/2023	7	991084	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.7	<0.07	<0.07	<0.07	<0.07
SV11	SV11	17/05/2023	7	991084	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.7	<0.07	<0.07	<0.07	<0.07
SV12	SV12	17/05/2023	7	991084	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.7	<0.07	<0.07	<0.07	<0.07
SV13	SV13	17/05/2023	7	991084	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.7	<0.07	<0.07	<0.07	<0.07
SV14	SV14	17/05/2023	7	991084	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.7	<0.07	<0.07	<0.07	<0.07
SV15	SV15	17/05/2023	7	991084	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.7	<0.07	<0.07	<0.07	<0.07
QV02	SV15	17/05/2023	7	991084	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.7	<0.07	<0.07	<0.07	<0.07
SV16	SV16	17/05/2023	7	991084	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.7	<0.07	<0.07	<0.07	<0.07
SV17	SV17	17/05/2023	7	991084	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.7	<0.07	<0.07	<0.07	<0.07
SV18	SV18	17/05/2023	7	991084	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.7	<0.07	<0.07	<0.07	<0.07
QV01	SV18	17/05/2023	7	991084	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.7	<0.07	<0.07	<0.07	<0.07
SV19	SV19	17/05/2023	7	991084	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.7	<0.07	<0.07	<0.07	<0.07
SV20	SV20	17/05/2023	7	991084	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.7	<0.07	<0.07	<0.07	<0.07
SV21	SV21	17/05/2023	7	991084	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.7	<0.07	<0.07	<0.07	<0.07
SV22	SV22	17/05/2023	7	991084	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.7	<0.07	<0.07	<0.07	<0.07
SV23	SV23	17/05/2023	7	991084	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.7	<0.07	<0.07	<0.07	<0.07
SV24	SV24	17/05/2023	7	991084	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.7	<0.07	<0.07	<0.07	<0.07
SV25	SV25	17/05/2023	7	991084	<0.07	<0.07	<0.07	<0.07	0.2	<0.07	<0.07	<0.07	2	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.7	<0.07	<0.07	<0.07	<0.07

Table E - Soil Vapour Results
Project Number: 64903
Project Name: South Granville DSI

					Chlorinated Benzenes						Trihalomethanes					
					1,2,3-trichlorobenzene	1,2,4-trichlorobenzene	1,2-Dichlorobenzene	1,3-dichlorobenzene	1,4-dichlorobenzene	Chlorobenzene	Dibromochloromethane	Chloroform	Tribromomethane	Bromodichloromethane	2-Propanol	Hexachlorobutadiene
					mg/m3	mg/m3	mg/m3	mg/m3	mg/m3	mg/m3	mg/m3	mg/m3	mg/m3	mg/m3	mg/m3	mg/m3
EQL					0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	1	0.07
NEPM 2013 Table 1A(2) Comm/Ind D Soil Vap VOCC HILs																
NEPM 2013 Table 1A(5) Comm/Ind D Soil Vapour HSL for Vapour Intrusion, Clay 0-1m																
NEPM 2013 Table 1A(5) Comm/Ind D Soil Vapour HSL for Vapour Intrusion, Sand 0-1m																
Sample ID	**Sample Location**	**Date**	**Volume Sampled (L)**	**Lab Report No.**												
SV01	SV01	17/05/2023	7	991084	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<1	<0.07
SV02	SV02	17/05/2023	7.6	991084	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<1	<0.07
SV03	SV03	17/05/2023	7	991084	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<1	<0.07
SV04	SV04	17/05/2023	7	991084	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<1	<0.07
SV05	SV05	17/05/2023	7	991084	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<1	<0.07
SV06	SV06	17/05/2023	7	991084	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<1	<0.07
SV07	SV07	17/05/2023	7	991084	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<1	<0.07
SV08	SV08	17/05/2023	7	991084	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<1	<0.07
SV09	SV09	17/05/2023	7	991084	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<1	<0.07
SV10	SV10	17/05/2023	7	991084	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<1	<0.07
SV11	SV11	17/05/2023	7	991084	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<1	<0.07
SV12	SV12	17/05/2023	7	991084	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<1	<0.07
SV13	SV13	17/05/2023	7	991084	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<1	<0.07
SV14	SV14	17/05/2023	7	991084	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<1	<0.07
SV15	SV15	17/05/2023	7	991084	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<1	<0.07
QV02	SV15	17/05/2023	7	991084	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<1	<0.07
SV16	SV16	17/05/2023	7	991084	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<1	<0.07
SV17	SV17	17/05/2023	7	991084	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<1	<0.07
SV18	SV18	17/05/2023	7	991084	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<1	<0.07
QV01	SV18	17/05/2023	7	991084	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<1	<0.07
SV19	SV19	17/05/2023	7	991084	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<1	<0.07
SV20	SV20	17/05/2023	7	991084	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<1	<0.07
SV21	SV21	17/05/2023	7	991084	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<1	<0.07
SV22	SV22	17/05/2023	7	991084	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<1	<0.07
SV23	SV23	17/05/2023	7	991084	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<1	<0.07
SV24	SV24	17/05/2023	7	991084	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<1	<0.07
SV25	SV25	17/05/2023	7	991084	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<1	<0.07

Preliminary Waste Classification Results
Project Number: 64903
Project Name: South Granville DSI

	Metals & Metalloids									TPHs (NEPC 1999)					TRHs (NEPC 2013)							BTEXN						
	Arsenic	Cadmium	Chromium (III+VI)	Chromium (VI)	Copper	Lead	Mercury	Nickel	Zinc	C6-C9 Fraction	C10-C14 Fraction	C15-C28 Fraction	C29-C36 Fraction	C10-C36 Fraction (Sum of Total)	C6-C10	C10-C16	C16-C34	C34-C40	C10-C40 (Sum of total)	F1 (C6-C10 minus BTEX)	F2 (C10-C16 less Naphthalene)	Benzene	Toluene	Ethylbenzene	Xylene (o)	Xylene (m & p)	Xylene Total	Naphthalene_VOC
	mg/kg	mg/kg	mg/kg		mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL	2	0.4	1		1	1	0.1	1	1	20	20	50	50	50	20	50	100	100	50	20	50	0.1	0.1	0.1	0.1	0.2	0.3	0.5
NSW 2014 General Solid Waste CT1 (No Leaching)	100	20	100	100		100	4	40		650				10000								10	288	600			1000	
NSW 2014 Restricted Solid Waste CT2 (No Leaching)	400	80	400			400	16	160		2600				40000								40	1152	2400			4000	
NSW 2014 General Solid Waste SCC1 (with leached)	500	100	1900			1500	50	1050		650				10000								18	518	1080			1800	
NSW 2014 Restricted Solid Waste SCC2 (with leached)	2000	400	7600			6000	200	4200		2600				40000								72	2073	4320			7200	
Sample ID	Date	Lab Report No.																											
BH01-0.2-0.3	8/05/2023	988407	16	<0.4	15	-	19	36	<0.1	<5	55	<20	<20	<50	<50	<50	<20	<50	<100	<100	<100	<20	<50	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5
BH01-0-0.1	8/05/2023	988407	29	0.5	21	-	87	79	0.1	10	340	<20	<20	<50	<50	<50	<20	<50	<100	<100	<100	<20	<50	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5
QC20230508_01 (duplicate of BH01-0-0.1)	8/05/2023	988407	23	0.7	19	-	83	69	0.1	9.6	320	<20	24	130	220	374	<20	<50	270	140	410	<20	<50	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5
QA20230508_01 (triplicate of BH01-0-0.1)	8/05/2023	322803	23	0.7	21	-	94	67	0.1	9	280	<25	<50	<100	120	120	<25	<50	130	<100	130	<25	<50	<0.2	<0.5	<1	<1	<2	<1	<1
BH01-3.2-3.3	8/05/2023	988407	4.1	<0.4	13	-	40	24	<0.1	44	85	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH02A-0.2-0.3	9/05/2023	988407	150	<0.4	24	-	26	39	<0.1	12	29	<20	<20	<50	<50	<50	<20	<50	<100	<100	<100	<20	<50	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5
BH02A-1.5-1.6	9/05/2023	988407	6.2	<0.4	5	-	35	10	<0.1	5.1	25	<20	<20	<50	<50	<50	<20	<50	<100	<100	<100	<20	<50	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5
BH03-0-0.1	8/05/2023	988407	16	<0.4	19	-	16	27	<0.1	6.1	56	<20	<20	<50	<50	<50	<20	<50	<100	<100	<100	<20	<50	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5
BH04-0.2-0.3	8/05/2023	988407	6.5	<0.4	21	-	53	<5	<0.1	70	46	<20	<20	<50	<50	<50	<20	<50	<100	<100	<100	<20	<50	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5
QC20230508_03 (duplicate of BH04-0.2-0.3)	8/05/2023	988407	8.7	<0.4	19	-	45	6.1	<0.1	61	55	<20	<20	<50	61	61	<20	<50	<100	<100	<100	<20	<50	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5
QA20230508_03 (triplicate of BH04-0.2-0.3)	8/05/2023	322803	<4	<0.4	14	-	53	2	<0.1	57	28	<25	<50	<100	<100	<50	<25	<50	<100	<100	<50	<25	<50	<0.2	<0.5	<1	<1	<2	<1	<1
BH05-0.9-0.1	8/05/2023	988407	14	<0.4	<5	-	16	9.4	<0.1	<5	9.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH05-0-0.1	8/05/2023	988407	13	<0.4	14	-	14	20	<0.1	9.3	49	<20	<20	<50	58	58	<20	<50	<100	<100	<100	<20	<50	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5
BH06-0.15-0.25	8/05/2023	988407	13	<0.4	37	-	26	16	<0.1	20	30	<20	<20	<50	<50	<50	<20	<50	<100	<100	<100	<20	<50	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5
BH06-0.3-0.4	8/05/2023	988407	11	<0.4	27	-	16	18	<0.1	16	30	<20	<20	120	310	430	<20	<50	320	290	610	<20	<50	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5
BH07-0.15-0.25	11/05/2023	989589	<2	<0.4	<5	-	14	<5	<0.1	5.9	14	<20	<20	<50	<50	<50	<20	<50	<100	<100	<100	<20	<50	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5
BH07-1-1.1	11/05/2023	989589	21	<0.4	19	-	12	22	<0.1	8.7	23	<20	<20	<50	<50	<50	<20	<50	<100	<100	<100	<20	<50	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5
BH08-0.2-0.3	11/05/2023	989589	7.5	<0.4	9.1	-	18	11	<0.1	<5	16	<20	<20	<50	<50	<50	<20	<50	<100	<100	<100	<20	<50	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5
BH08-0.5-0.6	11/05/2023	989589	8.4	<0.4	9	-	19	14	<0.1	<5	20	<20	<20	<50	<50	<50	<20	<50	<100	<100	<100	<20	<50	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5
QC20230511-01 (duplicate of BH08-0.5-0.6)	11/05/2023	989589	13	<0.4	13	-	22	17	<0.1	5.1	21	<20	<20	<50	<50	<50	<20	<50	<100	<100	<100	<20	<50	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5
QA20230511_01 (triplicate of BH08-0.5-0.6)	11/05/2023	323044	11	<0.4	16	-	24	16	<0.1	5	22	<25	<50	<100	<100	<50	<25	<50	<100	<100	<50	<25	<50	<0.2	<0.5	<1	<1	<2	<1	<1
BH09-0.2-0.3	11/05/2023	989589	<2	<0.4	11	-	78	<5	<0.1	51	86	<20	<20	<50	<50	<50	<20	<50	<100	<100	<100	<20	<50	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5
BH10-0.2-0.3	8/05/2023	988407	3.2	<0.4	100	-	27	7.3	<0.1	100	61	<20	<20	<50	<50	<50	<20	<50	<100	<100	<100	<20	<50	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5
BH11-0-0.1	9/05/2023	988407	9.3	<0.4	13	-	29	22	<0.1	18	81	<20	<20	62	60	122	<20	<50	120	<100	120	<20	<50	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5
BH12-0.3-0.4	11/05/2023	989589	4.5	<0.4	18	-	37	26	<0.1	31	67	<20	<20	<50	<50	<50	<20	<50	<100	<100	<100	<20	<50	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5
BH12-0.8-0.9	11/05/2023	989589	<2	<0.4	12	-	55	<5	<0.1	56	55	<20	<20	<50	<50	<50	<20	<50	<100	<100	<100	<20	<50	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5
BH13-0.15-0.25	11/05/2023	989589	17	<0.4	24	-	12	18	<0.1	13	24	<20	<20	<50	77	77	<20	<50	<100	<100	<100	<20	<50	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5
BH13-0.3-0.4	11/05/2023	989589	12	<0.4	15	-	15	16	<0.1	9.6	23	<20	<20	<50	<50	<50	<20	<50	<100	<100	<100	<20	<50	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5
BH14-0.15-0.25	8/05/2023	988407	10	<0.4	20	-	16	13	<0.1	11	22	<20	<20	<50	<50	<50	<20	<50	<100	<100	<100	<20	<50	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5
BH15-0.15-0.25	12/05/2023	989589	4.8	<0.4	<5	-	<5	<5	<0.1	<5	<5	<20	<20	<50	<50	<50	<20	<50	<100	<100	<100	<20	<50	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5
BH16-0.15-0.25	11/05/2023	989589	2.5	<0.4	63	-	51	<5	<0.1	130	69	<20	<20	<50	<50	<50	<20	<50	<100	<100	<100	<20	<50	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5
BH17-0.1-0.2	11/05/2023	989589	<2	<0.4	20	-	67	<5	<0.1	170	71	<20	<20	<50	<50	<50	<20	<50	<100	<100	<100	<20	<50	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5
BH18-0.2-0.3	8/05/2023	988407	9.5	1.5	18	-	18	19	<0.1	5.7	760	<20	<20	<50	<50	<50	<20	<50	<100	<100	<100	<20	<50	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5
BH18-0.9-0.1	8/05/2023	988407	9.2	0.6	18	-	20	25	<0.1	13	310	<20	<20	<50	<50	<50	<20	<50	<100	<100	<100	<20	<50	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5
BH19-0.5-0.6	11/05/2023	989589	5.8	<0.4	8.5	-	24	12	<0.1	<5	25	<20	<20	<50	<50	<50	<20	<50	<100	<100	<100	<20	<50	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5
BH20-0.15-0.25	11/05/2023	989589	<2	<0.4	24	-	64	<5	<0.1	180	73	<20	<20	<50	<50	<50	<20	<50	<100	<100	<100	<20	<50	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5
BH21-0.1-0.2	10/05/2023	988760	<2	<0.4	<5	-	<5	<5	<0.1	5.8	<5	<20	<20	<50	<50	<50	<20	<50	<100	<100	<100	<20	<50	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5
BH21-0.5-0.6	10/05/2023	988760	12	<0.4	9.6	-	12	8.7	<0.1	<5	27	<20	<20	<50	<50	<50	<20	<50	<100	<100	<100	<20	<50	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5
BH22-0.15-0.25	10/05/2023	988760	<2	<0.4	<5	-	<5	<5	<0.1	<5	<5	<20	<20	<50	<50	<50	<20	<50	<100	<100	<100	<20	<50	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5
BH22-0.3-0.4	10/05/2023	988760	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-
BH23-0.15-0.25	10/05/2023	988760	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-
BH23-0.5-0.6	10/05/2023	988760	11	<0.4	14	-	24	14	<0.1	17	42	<20	<20	<50	<50	<50	<20	<50	<100	<100	<100	<20	<50	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5
BH24-0.3-0.4	15/05/2023	989628	5	<0.4	19	-	44	18	<0.1	31	330	<20	<20	79	<50	79	<20	<50	<100	<100	<100	<20	<50	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5
BH24-0.5-0.8	15/05/2023	989628	5.1	<0.4	<5	-	<5	<5	<0.1	<5	<5	<20	<20	<50	<50	<50	<20	<50	<100	<100	<100	<20	<50	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5
BH25-0.15-0.25	10/05/2023	988760	3	<0.4	61	-	41	8.2	<0.1	90	78	<20	<20	<50	<50	<50	<20	<50	<100	<100	<100	<20	<50	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5
BH25-0.5-0.6	10/05/2023	988760	13	<0.4	9.6	-	30	27	<0.1	28	95	<20	<20	160	81	241	<20	<50	190	<100	190	<20	<50	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5
BH26-0.3-0.4	11/05/2023	989589	8.7	3.4	69	-	120	300	<0.1	46	180	<20	<20	520	950	1470	<20	<50	1200	570	1770	<20	<50	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5
BH26-0.5-0.6	11/05/2023	989589	7.2	<0.4	15	-	25	20	<0.1	8.2	37	<20	<20	<50	75	75	<20	<50	<100	<100	<100	<20	<50	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5
BH26-0-0.1	11/05/2023	989589	3.5	<0.4	<5	-	13	8	<0.1	<5	12	<20	<20	<50	67	67	<20	<50	<100	<100	<100	<20	<50	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5
BH27-0-0.1	11/05/2023	989589	39	<0.4	19	-	37	44	<0.1	11	100	<20	<20	460	600	1060	<20	<50	940	270	1210	<20	<50	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5
BH28-0.2-0.3	10/05/2023	988760	<2	<0.4	<5	-	7.6	<5	<0.1	<5	<5	<20	<20	<50	<50	<50	<20	<50	<100	<100	<100	<20	<50	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5
BH28-0.5-0.6	10/05/2023	988760	13	<0.4	22	-	11	26	<0.1	6.1	23	<20	<20	<50	<50	<50	<20	<50	<100	<100	<100	<20	<50	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5

Preliminary Waste Classification Results
Project Number: 64903
Project Name: South Granville DSI

					Metals & Metalloids									TPHs (NEPC 1999)					TRHs (NEPC 2013)							BTEXN						
	Arsenic	Cadmium	Chromium (III+VI)	Chromium (VI)	Copper	Lead	Mercury	Nickel	Zinc	C6-C9 Fraction	C10-C14 Fraction	C15-C28 Fraction	C29-C36 Fraction	C10-C36 Fraction (Sum of Total)	C6-C10	C10-C16	C16-C34	C34-C40	C10-C40 (Sum of total)	F1 (C6-C10 minus BTEX)	F2 (C10-C16 less Naphthalene)	Benzene	Toluene	Ethylbenzene	Xylene (o)	Xylene (m & p)	Xylene Total	Naphthalene_VOC
	mg/kg	mg/kg	mg/kg		mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL	2	0.4	1		1	1	0.1	1	1	20	20	50	50	50	20	50	100	100	50	20	50	0.1	0.1	0.1	0.1	0.2	0.3	0.5
NSW 2014 General Solid Waste CT1 (No Leaching)	100	20	100	100		100	4	40		650				10000								10	288	600			1000	
NSW 2014 Restricted Solid Waste CT2 (No Leaching)	400	80	400			400	16	160		2600				40000								40	1152	2400			4000	
NSW 2014 General Solid Waste SCC1 (with leached)	500	100	1900			1500	50	1050		650				10000								18	518	1080			1800	
NSW 2014 Restricted Solid Waste SCC2 (with leached)	2000	400	7600			6000	200	4200		2600				40000								72	2073	4320			7200	
Sample ID	**Date**	**Lab Report No.**																												
BH29-0.7-0.8	10/05/2023	988760	16	<0.4	22	-	14	17	<0.1	6.7	16	<20	20	<50	<50	<50	<20	<50	<100	<100	<100	<20	<50	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5
BH30-0.2-0.3	10/05/2023	988760	<2	<0.4	<5	-	27	<5	<0.1	<5	6.1	<20	<20	<50	<50	<50	<20	<50	<100	<100	<100	<20	<50	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5
BH30-0.5-0.6	10/05/2023	988760	23	<0.4	28	-	18	26	<0.1	<5	26	<20	<20	<50	<50	<50	<20	<50	<100	<100	<100	<20	<50	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5
BH31-0.3-0.4	11/05/2023	989589	<2	<0.4	20	-	67	<5	<0.1	76	62	<20	<20	<50	<50	<50	<20	<50	<100	<100	<100	<20	<50	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5
BH32-0.2-0.3	10/05/2023	988760	3.8	<0.4	<5	-	6.2	<5	<0.1	<5	6.1	<20	<20	<50	<50	<50	<20	<50	<100	<100	<100	<20	<50	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5
QC20230510_02 (duplicate of BH32-0.2-0.3)	10/05/2023	988760	3.3	<0.4	<5	-	12	<5	<0.1	<5	<5	<20	<20	<50	<50	<50	<20	<50	<100	<100	<100	<20	<50	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5
QA20230510_02 (triplicate of BH32-0.2-0.3)	10/05/2023	322927	4	<0.4	2	-	13	4	<0.1	3	8	<25	<50	<100	<100	<50	<25	<50	<100	<100	<100	<50	<25	<0.2	<0.5	<1	<1	<2	<1	<1
BH32-0.5-0.6	10/05/2023	988760	12	<0.4	16	-	14	11	<0.1	5.2	22	<20	<20	<50	<50	<50	<20	<50	<100	<100	<100	<20	<50	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5
BH33-0.2-0.3	10/05/2023	988760	<2	<0.4	<5	-	<5	<5	<0.1	<5	<5	<20	<20	<50	<50	<50	<20	<50	<100	<100	<100	<20	<50	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5
BH33-1-1.1	10/05/2023	988760	8.1	<0.4	10	-	12	11	<0.1	<5	18	<20	<20	<50	<50	<50	<20	<50	<100	<100	<100	<20	<50	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5
BH33-2.1-2.2	10/05/2023	988760	7.7	<0.4	16	-	15	14	<0.1	6.9	23	<20	<20	<50	<50	<50	<20	<50	<100	<100	<100	<20	<50	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5
BH34-0.15-0.25	10/05/2023	988760	<2	<0.4	8.1	-	21	<5	<0.1	74	28	<20	<20	<50	<50	<50	<20	<50	<100	<100	<100	<20	<50	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5
BH34-0.4-0.5	10/05/2023	988760	14	<0.4	17	-	15	22	<0.1	6.9	22	<20	<20	<50	<50	<50	<20	<50	<100	<100	<100	<20	<50	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5
BH35-0.2-0.3	9/05/2023	988407	2.6	<0.4	100	-	25	<5	<0.1	84	57	<20	<20	<50	<50	<50	<20	<50	<100	<100	<100	<20	<50	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5
BH36-0.2-0.3	9/05/2023	988407	<2	<0.4	88	-	25	<5	<0.1	83	47	<20	<20	<50	<50	<50	<20	<50	<100	<100	<100	<20	<50	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5
BH37-0.15-0.25	11/05/2023	989589	2.2	<0.4	62	-	15	<5	<0.1	58	29	<20	<20	<50	<50	<50	<20	<50	<100	<100	<100	<20	<50	-	-	-	-	-	-	<0.5
BH38-0.15-0.25	11/05/2023	989589	2.4	<0.4	37	-	49	18	<0.1	75	68	<20	<20	<50	<50	<50	<20	<50	<100	<100	<100	<20	<50	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5
BH39-0.2-0.3	10/05/2023	988760	<2	<0.4	20	-	51	<5	<0.1	65	44	<20	<20	<50	<50	<50	<20	<50	<100	<100	<100	<20	<50	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5
QC20230510_01 (duplicate of BH39-0.2-0.3)	10/05/2023	988760	<2	<0.4	21	-	39	<5	<0.1	85	45	<20	<20	<50	<50	<50	<20	<50	<100	<100	<100	<20	<50	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5
QA20230510_01 (triplicate of BH39-0.2-0.3)	10/05/2023	322927	<4	<0.4	18	-	55	6	<0.1	63	32	<25	<50	<100	110	110	<25	<50	100	140	240	<25	<50	<0.2	<0.5	<1	<1	<2	<1	<1
BH40-0.15-0.25	10/05/2023	988760	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH40-0.5-0.6	10/05/2023	988760	14	<0.4	20	-	23	48	<0.1	12	69	<20	<20	<50	<50	<50	<20	<50	<100	<100	<100	<20	<50	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5
BH40-1-1.1	10/05/2023	988760	9.2	<0.4	18	-	30	220	<0.1	21	200	<20	<20	<50	<50	<50	<20	<50	<100	<100	<100	<20	<50	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5
BH41-0.2-0.3	9/05/2023	988407	8.1	<0.4	16	-	21	29	<0.1	9.1	52	<20	<20	<50	<50	<50	<20	<50	<100	<100	<100	<20	<50	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5
BH41-0-0.1	9/05/2023	988407	2.1	<0.4	9.5	-	36	21	<0.1	<5	290	<20	<20	<50	<50	<50	<20	<50	<100	<100	<100	<20	<50	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5
BH42-0-0.1	12/05/2023	989589	7.9	<0.4	16	-	120	39	<0.1	8.4	55	<20	<20	<50	<50	<50	<20	<50	<100	<100	<100	<20	<50	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5
BH43-0.15-0.25	11/05/2023	989589	9.4	<0.4	24	-	24	27	<0.1	8.1	30	<20	<100	760	750	1510	<20	<250	1300	570	1870	<20	<250	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5
BH44-0.2-0.3	9/05/2023	988407	2.2	<0.4	97	-	25	5.7	<0.1	100	57	<20	<20	51	60	111	<20	<50	<100	<100	<100	<20	<50	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5
BH45-0.15-0.25	12/05/2023	989589	<2	<0.4	8.4	-	86	<5	<0.1	52	56	<20	<20	<50	<50	<50	<20	<50	<100	<100	<100	<20	<50	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5
BH46-0.15-0.25	11/05/2023	989589	2.6	<0.4	24	-	100	<5	<0.1	58	61	<20	<20	<50	<50	<50	<20	<50	<100	<100	<100	<20	<50	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5
BH46-0.3-0.4	11/05/2023	989589	4.6	<0.4	5.5	-	77	7.5	<0.1	<5	23	<20	<20	<50	<50	<50	<20	<50	<100	<100	<100	<20	<50	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5
BH47-0.2-0.3	9/05/2023	988407	3	<0.4	11	-	44	6.4	<0.1	23	44	<20	<20	<50	<50	<50	<20	<50	<100	<100	<100	<20	<50	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5
BH47-0.5-0.6	9/05/2023	988407	<2	<0.4	8.9	-	57	<5	<0.1	33	56	<20	<20	<50	<50	<50	<20	<50	<100	<100	<100	<20	<50	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5
BH48-0.2-0.3	9/05/2023	988407	<2	<0.4	8.9	-	65	<5	<0.1	44	55	<20	<20	97	280	377	<20	<50	290	390	680	<20	<50	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5
BH49-0.1-0.2	12/05/2023	989589	<2	<0.4	11	-	63	<5	<0.1	76	40	<20	<20	<50	<50	<50	<20	<50	<100	<100	<100	<20	<50	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5
BH49-0.2-0.3	12/05/2023	989589	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH49-0.5-0.6	12/05/2023	989589	13	<0.4	22	-	20	18	<0.1	5.4	25	<20	<20	<50	<50	<50	<20	<50	<100	<100	<100	<20	<50	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5
BH50-0.15-0.25	11/05/2023	989589	8.3	<0.4	17	-	21	24	<0.1	9.3	56	<20	<20	82	97	179	<20	<50	150	<100	150	<20	<50	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5
BH50-0.5-0.6	11/05/2023	989589	10	<0.4	20	-	16	15	<0.1	7.7	41	<20	<20	<50	<50	<50	<20	<50	<100	<100	<100	<20	<50	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5
BH51-0-0.1	9/05/2023	988407	<2	<0.4	15	-	59	<5	<0.1	72	51	<20	<20	<50	<50	<50	<20	<50	<100	<100	<100	<20	<50	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5
BH52-0.2-0.3	9/05/2023	988407	<2	<0.4	9.8	-	65	<5	<0.1	50	62	<20	<100	<250	<250	<250	<20	<250	<500	<500	<500	<20	<250	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5
BH53-0-0.1	8/05/2023	988407	9.7	<0.4	67	-	24	12	<0.1	68	57	<20	<20	<50	<50	<50	<20	<50	<100	<100	<100	<20	<50	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5
BH54-0.2-0.3	8/05/2023	988407	8.7	<0.4	18	-	18	34	<0.1	13	45	<20	<20	<50	<50	<50	<20	<50	<100	<100	<100	<20	<50	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5
BH55-0-0.1	8/05/2023	988407	10	<0.4	54	-	33	29	<0.1	51	110	<20	<20	<50	62	62	<20	<50	<100	<100	<100	<20	<50	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5
BH56-0.3-0.4	11/05/2023	989589	15	<0.4	35	-	66	79	<0.1	47	150	<20	<20	<50	<50	<50	<20	<50	<100	<100	<100	<20	<50	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5
BH56-0-0.1	11/05/2023	989589	12	<0.4	16	-	18	21	<0.1	10	36	<20	<20	<50	<50	<50	<20	<50	<100	<100	<100	<20	<50	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5
BH57-0-0.1	15/05/2023	989628	2.1	<0.4	110	<1	25	<5	<0.1	140	65	<20	<20	<50	83	83	<20	<50	<100	110	110	<20	<50	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5

Preliminary Waste Classification Results
Project Number: 64903
Project Name: South Granville DSI

				PAH																		Organochlorine Pesticides																											
				Acenaphthene	Acenaphthylene	Anthracene	Benz(a)anthracene	Benzo(a)pyrene	Benzo(a)pyrene TEQ (LOR)	Benzo(a)pyrene TEQ calc (Half)	Benzo(a)pyrene TEQ calc (Zero)	Benzo(b+j)fluoranthene	Benzo(b+j+k)fluoranthene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Chrysene	Dibenz(a,h)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-c,d)pyrene	Naphthalene	Phenanthrene	Pyrene	PAHs (Sum of total)	4,4-DDE	a-BHC	b-BHC	d-BHC	g-BHC (Lindane)	Aldrin	Dieldrin	Aldrin + Dieldrin	Chlordane	Chlordane (cis)	Chlordane (trans)	DDT	DDD	DDT+DDE+DDD	Endosulfan I	Endosulfan II	Endosulfan sulphate	Endrin	Endrin aldehyde	Endrin ketone	Heptachlor	Heptachlor Epoxide	Methoxychlor	Toxaphene
				mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL				0.1	0.1	0.1	0.1	0.05	0.5	0.5	0.5	0.5	0.2	0.1	0.5	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.1	0.1	0.1	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.5
NSW 2014 General Solid Waste CT1 (No Leaching)								0.8																																								
NSW 2014 Restricted Solid Waste CT2 (No Leaching)								3.2																																								
NSW 2014 General Solid Waste SCC1 (with leached)								10																																								
NSW 2014 Restricted Solid Waste SCC2 (with leached)								23																																								
Sample ID	**Date**	**Lab Report No.**																																														
BH01-0.2-0.3	8/05/2023	988407	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH01-0-0.1	8/05/2023	988407	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	-	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5
QC20230508_01 (duplicate of BH01-0-0.1)	8/05/2023	988407	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<10
QA20230508_01 (triplicate of BH01-0-0.1)	8/05/2023	322803	<0.1	<0.1	<0.1	<0.1	<0.05	<0.5	<0.5	<0.5	-	<0.2	<0.1	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05	<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	-
BH01-3.2-3.3	8/05/2023	988407	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH02A-0.2-0.3	9/05/2023	988407	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH02A-1.5-1.6	9/05/2023	988407	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	-	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5
BH03-0-0.1	8/05/2023	988407	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	-	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5
BH04-0.2-0.3	8/05/2023	988407	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<10
QC20230508_03 (duplicate of BH04-0.2-0.3)	8/05/2023	988407	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<10
QA20230508_03 (triplicate of BH04-0.2-0.3)	8/05/2023	322803	<0.1	<0.1	<0.1	<0.1	<0.05	<0.5	<0.5	<0.5	-	<0.2	<0.1	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05	<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	-
BH05-0.9-0.1	8/05/2023	988407	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH05-0-0.1	8/05/2023	988407	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	-	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5
BH06-0.15-0.25	8/05/2023	988407	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH06-0.3-0.4	8/05/2023	988407	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH07-0.15-0.25	11/05/2023	989589	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH07-1-1.1	11/05/2023	989589	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	-	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5
BH08-0.2-0.3	11/05/2023	989589	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH08-0.5-0.6	11/05/2023	989589	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	-	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5
QC20230511-01 (duplicate of BH08-0.5-0.6)	11/05/2023	989589	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	-	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5
QA20230511_01 (triplicate of BH08-0.5-0.6)	11/05/2023	323044	<0.1	<0.1	<0.1	<0.1	<0.05	<0.5	<0.5	<0.5	-	<0.2	<0.1	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05	<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	-
BH09-0.2-0.3	11/05/2023	989589	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	-	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5
BH10-0.2-0.3	8/05/2023	988407	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH11-0-0.1	9/05/2023	988407	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	-	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5
BH12-0.3-0.4	11/05/2023	989589	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	-	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5
BH12-0.8-0.9	11/05/2023	989589	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH13-0.15-0.25	11/05/2023	989589	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH13-0.3-0.4	11/05/2023	989589	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	-	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5
BH14-0.15-0.25	8/05/2023	988407	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	-	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5
BH15-0.15-0.25	12/05/2023	989589	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH16-0.15-0.25	11/05/2023	989589	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH17-0.1-0.2	11/05/2023	989589	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH18-0.2-0.3	8/05/2023	988407	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	-	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5
BH18-0.9-0.1	8/05/2023	988407	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH19-0.5-0.6	11/05/2023	989589	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH20-0.15-0.25	11/05/2023	989589	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.08	0.08	<0.1	-	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5
BH21-0.1-0.2	10/05/2023	988760	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	-	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5
BH21-0.5-0.6	10/05/2023	988760	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH22-0.15-0.25	10/05/2023	988760	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	-	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5
BH22-0.3-0.4	10/05/2023	988760	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH23-0.15-0.25	10/05/2023	988760	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH23-0.5-0.6	10/05/2023	988760	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	-	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5
BH24-0.3-0.4	15/05/2023	989628	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	-	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5
BH24-0.5-0.8	15/05/2023	989628	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH25-0.15-0.25	10/05/2023	988760	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<10
BH25-0.5-0.6	10/05/2023	988760	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH26-0.3-0.4	11/05/2023	989589	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH26-0.5-0.6	11/05/2023	989589	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	-	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5
BH26-0-0.1	11/05/2023	989589	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	-	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5
BH27-0-0.1	11/05/2023	989589	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH28-0.2-0.3	10/05/2023	988760	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH28-0.5-0.6	10/05/2023	988760	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	-	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5

Preliminary Waste Classification Results
Project Number: 64903
Project Name: South Granville DSI

				PAH																		Organochlorine Pesticides																											
				Acenaphthene	Acenaphthylene	Anthracene	Benz(a)anthracene	Benzo(a)pyrene	Benzo(a)pyrene TEQ (LOR)	Benzo(a)pyrene TEQ calc (Half)	Benzo(a)pyrene TEQ calc (Zero)	Benzo(b+j)fluoranthene	Benzo(b+j+k)fluoranthene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Chrysene	Dibenz(a,h)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-c,d)pyrene	Naphthalene	Phenanthrene	Pyrene	PAHs (Sum of total)	4,4-DDE	a-BHC	b-BHC	d-BHC	g-BHC (Lindane)	Aldrin	Dieldrin	Aldrin + Dieldrin	Chlordane	Chlordane (cis)	Chlordane (trans)	DDT	DDD	DDT+DDE+DDD	Endosulfan I	Endosulfan II	Endosulfan sulphate	Endrin	Endrin aldehyde	Endrin ketone	Heptachlor	Heptachlor Epoxide	Methoxychlor	Toxaphene
				mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL				0.1	0.1	0.1	0.1	0.05	0.5	0.5	0.5	0.5	0.2	0.1	0.5	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.1	0.1	0.1	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.5
NSW 2014 General Solid Waste CT1 (No Leaching)								0.8																																							
NSW 2014 Restricted Solid Waste CT2 (No Leaching)								3.2																																							
NSW 2014 General Solid Waste SCC1 (with leached)								10																																							
NSW 2014 Restricted Solid Waste SCC2 (with leached)								23																																							
Sample ID	**Date**	**Lab Report No.**																																														
BH29-0.7-0.8	10/05/2023	988760	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH30-0.2-0.3	10/05/2023	988760	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	-	<0.5	<0.5	0.6	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<10
BH30-0.5-0.6	10/05/2023	988760	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	-	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5
BH31-0.3-0.4	11/05/2023	989589	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	-	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5
BH32-0.2-0.3	10/05/2023	988760	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	-	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5
QC20230510_02 (duplicate of BH32-0.2-0.3)	10/05/2023	988760	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	-	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5
QA20230510_02 (triplicate of BH32-0.2-0.3)	10/05/2023	322927	<0.1	<0.1	<0.1	<0.1	<0.05	<0.5	<0.5	<0.5	-	<0.2	<0.1	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05	<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	-
BH32-0.5-0.6	10/05/2023	988760	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH33-0.2-0.3	10/05/2023	988760	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH33-1-1.1	10/05/2023	988760	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH33-2.1-2.2	10/05/2023	988760	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH34-0.15-0.25	10/05/2023	988760	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH34-0.4-0.5	10/05/2023	988760	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH35-0.2-0.3	9/05/2023	988407	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH36-0.2-0.3	9/05/2023	988407	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	-	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5
BH37-0.15-0.25	11/05/2023	989589	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH38-0.15-0.25	11/05/2023	989589	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH39-0.2-0.3	10/05/2023	988760	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<10
QC20230510_01 (duplicate of BH39-0.2-0.3)	10/05/2023	988760	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<10
QA20230510_01 (triplicate of BH39-0.2-0.3)	10/05/2023	322927	<0.1	<0.1	<0.1	<0.1	<0.05	<0.5	<0.5	<0.5	-	<0.2	<0.1	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05	<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	-
BH40-0.15-0.25	10/05/2023	988760	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH40-0.5-0.6	10/05/2023	988760	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	-	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5
BH40-1-1.1	10/05/2023	988760	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH41-0.2-0.3	9/05/2023	988407	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH41-0-0.1	9/05/2023	988407	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	-	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5
BH42-0-0.1	12/05/2023	989589	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	-	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5
BH43-0.15-0.25	11/05/2023	989589	1.7	<0.5	2.3	5.8	9.1	13	13	13	5.6	-	6.7	7.8	7.4	1.3	16	1.1	5.1	<0.5	6.7	19	96	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<10
BH44-0.2-0.3	9/05/2023	988407	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH45-0.15-0.25	12/05/2023	989589	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH46-0.15-0.25	11/05/2023	989589	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH46-0.3-0.4	11/05/2023	989589	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<10
BH47-0.2-0.3	9/05/2023	988407	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	0.6	<0.5	<0.5	<0.5	<0.5	0.6	1.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	-	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5
BH47-0.5-0.6	9/05/2023	988407	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH48-0.2-0.3	9/05/2023	988407	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH49-0.1-0.2	12/05/2023	989589	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH49-0.2-0.3	12/05/2023	989589	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH49-0.5-0.6	12/05/2023	989589	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH50-0.15-0.25	11/05/2023	989589	<0.5	<0.5	<0.5	0.8	1.1	1.9	1.7	1.4	0.9	-	0.9	0.9	1	<0.5	1.3	<0.5	0.7	<0.5	<0.5	1.6	9.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<10
BH50-0.5-0.6	11/05/2023	989589	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH51-0-0.1	9/05/2023	988407	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<10
BH52-0.2-0.3	9/05/2023	988407	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH53-0-0.1	8/05/2023	988407	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	-	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5
BH54-0.2-0.3	8/05/2023	988407	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH55-0-0.1	8/05/2023	988407	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH56-0.3-0.4	11/05/2023	989589	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	-	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5
BH56-0-0.1	11/05/2023	989589	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH57-0-0.1	15/05/2023	989628	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Preliminary Waste Classification Results
Project Number: 64903
Project Name: South Granville DSI

			Chlorinated Alkanes																		Chlorinated Alkenes											Solvents	Polychlorinated Biphenyls								
			1,1,1,2-tetrachloroethane	1,1,1-trichloroethane	1,1,2,2-tetrachloroethane	1,1,2-trichloroethane	1,1-dichloroethane	1,2,3-trichloropropane	1,2-dibromo-3-chloropropane	1,2-dichloroethane	1,2-dichloropropane	1,3-dichloropropane	2,2-dichloropropane	Bromochloromethane	Carbon tetrachloride	Chloroethane	Chloromethane	Dichlorodifluoromethane	Dichloromethane	Trichlorofluoromethane	1,1-dichloroethene	1,1-dichloropropene	2-chlorotoluene	3-chloropropene	4-chlorotoluene	cis-1,2-dichloroethene	cis-1,3-dichloropropene	Tetrachloroethene	trans-1,2-dichloroethene	trans-1,3-dichloropropene	Trichloroethene	Vinyl Chloride	Acetone	Arochlor 1016	Arochlor 1221	Arochlor 1232	Arochlor 1242	Arochlor 1248	Arochlor 1254	Arochlor 1260	PCBs (Sum of total)
			mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL			0.5	0.5	0.5	0.5	0.5	0.5	1	0.5	0.5	0.5	1	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	1	1	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
NSW 2014 General Solid Waste CT1 (No Leaching)			200	600	26	24				10					10				172		14							14			10	4									<50
NSW 2014 Restricted Solid Waste CT2 (No Leaching)			800	2400	104	96				40					40				688		56							56			40	16									<50
NSW 2014 General Solid Waste SCC1 (with leached)			360	1080	46.8	43.2				18					18				310		25							25.2			18	7.2									<50
NSW 2014 Restricted Solid Waste SCC2 (with leached)			1440	4320	187.2	172.8				72					72				1240		100							100.8			72	28.8									<50
Sample ID	**Date**	**Lab Report No.**																																							
BH01-0.2-0.3	8/05/2023	988407	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH01-0-0.1	8/05/2023	988407	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
QC20230508_01 (duplicate of BH01-0-0.1)	8/05/2023	988407	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	<1	<1	<1	<1	<1	<1	<1
QA20230508_01 (triplicate of BH01-0-0.1)	8/05/2023	322803	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
BH01-3.2-3.3	8/05/2023	988407	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH02A-0.2-0.3	9/05/2023	988407	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-
BH02A-1.5-1.6	9/05/2023	988407	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
BH03-0-0.1	8/05/2023	988407	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
BH04-0.2-0.3	8/05/2023	988407	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	<1	<1	<1	<1	<1	<1	<1
QC20230508_03 (duplicate of BH04-0.2-0.3)	8/05/2023	988407	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	<1	<1	<1	<1	<1	<1	<1
QA20230508_03 (triplicate of BH04-0.2-0.3)	8/05/2023	322803	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
BH05-0.9-0.1	8/05/2023	988407	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH05-0-0.1	8/05/2023	988407	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
BH06-0.15-0.25	8/05/2023	988407	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-
BH06-0.3-0.4	8/05/2023	988407	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH07-0.15-0.25	11/05/2023	989589	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-
BH07-1-1.1	11/05/2023	989589	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
BH08-0.2-0.3	11/05/2023	989589	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH08-0.5-0.6	11/05/2023	989589	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
QC20230511-01 (duplicate of BH08-0.5-0.6)	11/05/2023	989589	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
QA20230511_01 (triplicate of BH08-0.5-0.6)	11/05/2023	323044	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
BH09-0.2-0.3	11/05/2023	989589	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
BH10-0.2-0.3	8/05/2023	988407	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH11-0-0.1	9/05/2023	988407	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
BH12-0.3-0.4	11/05/2023	989589	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
BH12-0.8-0.9	11/05/2023	989589	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-
BH13-0.15-0.25	11/05/2023	989589	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-
BH13-0.3-0.4	11/05/2023	989589	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
BH14-0.15-0.25	8/05/2023	988407	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
BH15-0.15-0.25	12/05/2023	989589	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH16-0.15-0.25	11/05/2023	989589	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-
BH17-0.1-0.2	11/05/2023	989589	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH18-0.2-0.3	8/05/2023	988407	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
BH18-0.9-0.1	8/05/2023	988407	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH19-0.5-0.6	11/05/2023	989589	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-
BH20-0.15-0.25	11/05/2023	989589	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
BH21-0.1-0.2	10/05/2023	988760	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
BH21-0.5-0.6	10/05/2023	988760	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH22-0.15-0.25	10/05/2023	988760	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
BH22-0.3-0.4	10/05/2023	988760	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-
BH23-0.15-0.25	10/05/2023	988760	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-
BH23-0.5-0.6	10/05/2023	988760	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
BH24-0.3-0.4	15/05/2023	989628	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
BH24-0.5-0.8	15/05/2023	989628	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH25-0.15-0.25	10/05/2023	988760	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	<1	<1	<1	<1	<1	<1	<1
BH25-0.5-0.6	10/05/2023	988760	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH26-0.3-0.4	11/05/2023	989589	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH26-0.5-0.6	11/05/2023	989589	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
BH26-0-0.1	11/05/2023	989589	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
BH27-0-0.1	11/05/2023	989589	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH28-0.2-0.3	10/05/2023	988760	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-
BH28-0.5-0.6	10/05/2023	988760	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1

Preliminary Waste Classification Results
Project Number: 64903
Project Name: South Granville DSI

			Chlorinated Alkanes																		Chlorinated Alkenes											Solvents	Polychlorinated Biphenyls								
			1,1,1,2-tetrachloroethane	1,1,1-trichloroethane	1,1,2,2-tetrachloroethane	1,1,2-trichloroethane	1,1-dichloroethane	1,2,3-trichloropropane	1,2-dibromo-3-chloropropane	1,2-dichloroethane	1,2-dichloropropane	1,3-dichloropropane	2,2-dichloropropane	Bromochloromethane	Carbon tetrachloride	Chloroethane	Chloromethane	Dichlorodifluoromethane	Dichloromethane	Trichlorofluoromethane	1,1-dichloroethene	1,1-dichloropropene	2-chlorotoluene	3-chloropropene	4-chlorotoluene	cis-1,2-dichloroethene	cis-1,3-dichloropropene	Tetrachloroethene	trans-1,2-dichloroethene	trans-1,3-dichloropropene	Trichloroethene	Vinyl Chloride	Acetone	Arochlor 1016	Arochlor 1221	Arochlor 1232	Arochlor 1242	Arochlor 1248	Arochlor 1254	Arochlor 1260	PCBs (Sum of total)
			mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL			0.5	0.5	0.5	0.5	0.5	0.5	1	0.5	0.5	0.5	1	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	1	1	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
NSW 2014 General Solid Waste CT1 (No Leaching)			200	600	26	24				10					10				172		14							14			10	4										<50
NSW 2014 Restricted Solid Waste CT2 (No Leaching)			800	2400	104	96				40					40				688		56							56			40	16										<50
NSW 2014 General Solid Waste SCC1 (with leached)			360	1080	46.8	43.2				18					18				310		25							25.2			18	7.2										<50
NSW 2014 Restricted Solid Waste SCC2 (with leached)			1440	4320	187.2	172.8				72					72				1240		100							100.8			72	28.8										<50
Sample ID	**Date**	**Lab Report No.**																																							
BH29-0.7-0.8	10/05/2023	988760	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-
BH30-0.2-0.3	10/05/2023	988760	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<1	<1	<1	<1	<1	<1	<1
BH30-0.5-0.6	10/05/2023	988760	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
BH31-0.3-0.4	11/05/2023	989589	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
BH32-0.2-0.3	10/05/2023	988760	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
QC20230510_02 (duplicate of BH32-0.2-0.3)	10/05/2023	988760	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
QA20230510_02 (triplicate of BH32-0.2-0.3)	10/05/2023	322927	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	<1	<1	<1	-	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
BH32-0.5-0.6	10/05/2023	988760	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH33-0.2-0.3	10/05/2023	988760	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-
BH33-1-1.1	10/05/2023	988760	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH33-2.1-2.2	10/05/2023	988760	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH34-0.15-0.25	10/05/2023	988760	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-
BH34-0.4-0.5	10/05/2023	988760	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH35-0.2-0.3	9/05/2023	988407	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-
BH36-0.2-0.3	9/05/2023	988407	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
BH37-0.15-0.25	11/05/2023	989589	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH38-0.15-0.25	11/05/2023	989589	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH39-0.2-0.3	10/05/2023	988760	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<1	<1	<1	<1	<1	<1	<1
QC20230510_01 (duplicate of BH39-0.2-0.3)	10/05/2023	988760	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<1	<1	<1	<1	<1	<1	<1
QA20230510_01 (triplicate of BH39-0.2-0.3)	10/05/2023	322927	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	<1	<1	<1	-	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
BH40-0.15-0.25	10/05/2023	988760	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH40-0.5-0.6	10/05/2023	988760	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
BH40-1-1.1	10/05/2023	988760	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH41-0.2-0.3	9/05/2023	988407	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH41-0-0.1	9/05/2023	988407	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
BH42-0-0.1	12/05/2023	989589	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
BH43-0.15-0.25	11/05/2023	989589	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<1	<1	<1	<1	<1	<1	<1
BH44-0.2-0.3	9/05/2023	988407	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-
BH45-0.15-0.25	12/05/2023	989589	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH46-0.15-0.25	11/05/2023	989589	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH46-0.3-0.4	11/05/2023	989589	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<1	<1	<1	<1	<1	<1	<1
BH47-0.2-0.3	9/05/2023	988407	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
BH47-0.5-0.6	9/05/2023	988407	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH48-0.2-0.3	9/05/2023	988407	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH49-0.1-0.2	12/05/2023	989589	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH49-0.2-0.3	12/05/2023	989589	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH49-0.5-0.6	12/05/2023	989589	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-
BH50-0.15-0.25	11/05/2023	989589	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<1	<1	<1	<1	<1	<1	<1
BH50-0.5-0.6	11/05/2023	989589	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH51-0-0.1	9/05/2023	988407	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	<1	<1	<1	<1	<1	<1	<1
BH52-0.2-0.3	9/05/2023	988407	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH53-0-0.1	8/05/2023	988407	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
BH54-0.2-0.3	8/05/2023	988407	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH55-0-0.1	8/05/2023	988407	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH56-0.3-0.4	11/05/2023	989589	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
BH56-0-0.1	11/05/2023	989589	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH57-0-0.1	15/05/2023	989628	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Preliminary Waste Classification Results
Project Number: 64903
Project Name: South Granville DSI

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Preliminary Waste Classification Results
Project Number: 64903
Project Name: South Granville DSI

	PFAS																																				
	Perfluorobutanoic acid (PFBA)	Perfluoropentanoic acid (PFPeA)	Perfluorohexanoic acid (PFHxA)	Perfluoroheptanoic acid (PFHpA)	Perfluorooctanoic acid (PFOA)	Perfluorononanoic acid (PFNA)	Perfluorodecanoic acid (PFDA)	Perfluoroundecanoic acid (PFUnDA)	Perfluorododecanoic acid (PFDoDA)	Perfluorotridecanoic acid (PFTrDA)	Perfluorotetradecanoic acid (PFTeDA)	Perfluorooctane sulfonamide (FOSA)	N-Methyl perfluorooctane sulfonamide (NMeFOSA)	N-Ethyl perfluorooctane sulfonamide (NEtFOSA)	N-Methylperfluorooctanesulfonamidoethanol (N-MeFOSE)	N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	N-methylperfluorooctane sulfonamidoacetic acid (NMeFOSAA)	N-ethyl-perfluorooctanesulfonamidoacetic acid (NEtFOSAA)	Perfluoropropanesulfonic acid (PFPrS)	Perfluorobutanesulfonic acid (PFBS)	Perfluoropentanesulfonic acid (PFPeS)	Perfluorohexanesulfonic acid (PFHxS)	Perfluoroheptane sulfonic acid (PFHpS)	Perfluorooctanesulfonic acid (PFOS)	Perfluorodecanesulfonic acid (PFDS)	1H,1H,2H,2H-perfluorohexanesulfonic acid (4:2 FTSA)	1H,1H,2H,2H-perfluorooctanesulfonic acid (6:2 FTSA)	1H,1H,2H,2H-perfluorodecanesulfonic acid (8:2 FTSA)	1H,1H,2H,2H-perfluorododecanesulfonic acid (10:2 FTSA)	Sum of PFHxS and PFOS	Sum of enHealth PFAS (PFHxS + PFOS + PFOA)*	Sum of US EPA PFAS (PFOS + PFOA)*	Sum of WA DWER PFAS (n=10)*	Sum of PFAS	Perfluorononanesulfonic acid ion
	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/KG	mg/kg	mg/kg
EQL	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.01	0.005	0.005
NSW 2014 General Solid Waste CT1 (No Leaching)																																				
NSW 2014 Restricted Solid Waste CT2 (No Leaching)																																				
NSW 2014 General Solid Waste SCC1 (with leached)					18																										1.8					
NSW 2014 Restricted Solid Waste SCC2 (with leached)					72																										7.2					

Sample ID	Date	Lab Report No.																																				
BH29-0.7-0.8	10/05/2023	988760	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.01	<0.01	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.01	<0.005	<0.005	<0.005	<0.005	<0.005	<0.01	<0.05	<0.005
BH30-0.2-0.3	10/05/2023	988760	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.01	<0.01	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.01	<0.005	<0.005	<0.005	<0.005	<0.005	<0.01	<0.05	<0.005
BH30-0.5-0.6	10/05/2023	988760	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH31-0.3-0.4	11/05/2023	989589	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH32-0.2-0.3	10/05/2023	988760	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
QC20230510_02 (duplicate of BH32-0.2-0.3)	10/05/2023	988760	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.01	<0.01	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.01	<0.005	<0.005	<0.005	<0.005	<0.005	<0.01	<0.05	<0.005
QA20230510_02 (triplicate of BH32-0.2-0.3)	10/05/2023	322927	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	-	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	-	<0.005	-	<0.005	-	<0.005	-	<0.005	-
BH32-0.5-0.6	10/05/2023	988760	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH33-0.2-0.3	10/05/2023	988760	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.01	<0.01	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.01	<0.005	<0.005	<0.005	<0.005	<0.005	<0.01	<0.05	<0.005
BH33-1-1.1	10/05/2023	988760	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH33-2.1-2.2	10/05/2023	988760	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH34-0.15-0.25	10/05/2023	988760	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.01	<0.01	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.01	<0.005	<0.005	<0.005	<0.005	<0.005	<0.01	<0.05	<0.005
BH34-0.4-0.5	10/05/2023	988760	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH35-0.2-0.3	9/05/2023	988407	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH36-0.2-0.3	9/05/2023	988407	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.01	<0.01	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.01	<0.005	<0.005	<0.005	<0.005	<0.005	<0.01	<0.05	<0.005
BH37-0.15-0.25	11/05/2023	989589	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH38-0.15-0.25	11/05/2023	989589	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.01	<0.01	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.01	<0.005	<0.005	<0.005	<0.005	<0.005	<0.01	<0.05	<0.005
BH39-0.2-0.3	10/05/2023	988760	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
QC20230510_01 (duplicate of BH39-0.2-0.3)	10/05/2023	988760	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
QA20230510_01 (triplicate of BH39-0.2-0.3)	10/05/2023	322927	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH40-0.15-0.25	10/05/2023	988760	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.01	<0.01	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.01	<0.005	<0.005	<0.005	<0.005	<0.005	<0.01	<0.05	<0.005
BH40-0.5-0.6	10/05/2023	988760	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH40-1-1.1	10/05/2023	988760	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH41-0.2-0.3	9/05/2023	988407	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH41-0-0.1	9/05/2023	988407	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH42-0-0.1	12/05/2023	989589	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH43-0.15-0.25	11/05/2023	989589	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.01	<0.01	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.01	<0.005	<0.005	<0.005	<0.005	<0.005	<0.01	<0.05	<0.005
BH44-0.2-0.3	9/05/2023	988407	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH45-0.15-0.25	12/05/2023	989589	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH46-0.15-0.25	11/05/2023	989589	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH46-0.3-0.4	11/05/2023	989589	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH47-0.2-0.3	9/05/2023	988407	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH47-0.5-0.6	9/05/2023	988407	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH48-0.2-0.3	9/05/2023	988407	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH49-0.1-0.2	12/05/2023	989589	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH49-0.2-0.3	12/05/2023	989589	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.01	<0.01	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.01	<0.005	<0.005	<0.005	<0.005	<0.005	<0.01	<0.05	<0.005
BH49-0.5-0.6	12/05/2023	989589	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH50-0.15-0.25	11/05/2023	989589	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH50-0.5-0.6	11/05/2023	989589	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH51-0-0.1	9/05/2023	988407	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH52-0.2-0.3	9/05/2023	988407	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH53-0-0.1	8/05/2023	988407	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH54-0.2-0.3	8/05/2023	988407	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH55-0-0.1	8/05/2023	988407	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH56-0.3-0.4	11/05/2023	989589	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.01	<0.01	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.01	<0.005	<0.005	<0.005	<0.005	<0.005	<0.01	<0.05	<0.005
BH56-0-0.1	11/05/2023	989589	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH57-0-0.1	15/05/2023	989628	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Preliminary Waste Classification Results
Project Number: 64903
Project Name: South Granville DSI

			MAH											Miscellaneous Hydrocarbons							Chlorinated Benzenes							Trihalomethanes				Organic Sulfur Compounds	Chlorinated Hydrocarbons
			1,2,4-trimethylbenzene	1,3,5-trimethylbenzene	n-butylbenzene	n-propylbenzene	p-isopropyltoluene	sec-butylbenzene	Styrene	tert-butylbenzene	Total MAH	Bromobenzene	Isopropylbenzene	1,2-dibromoethane	Bromomethane	Cyclohexane	Dibromomethane	Iodomethane	4-Methyl-2-pentanone	Methyl Ethyl Ketone	1,2,3-trichlorobenzene	1,2,4-trichlorobenzene	1,2-Dichlorobenzene	1,3-dichlorobenzene	1,4-dichlorobenzene	Chlorobenzene	Hexachlorobenzene	Dibromochloromethane	Chloroform	Tribromomethane	Bromodichloromethane	Carbon disulfide	Hexachlorobutadiene
			mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL			0.5	0.5	1	1	1	1	0.5	1	0.5	0.5	0.5	0.5	0.5	1	0.5	0.5	0.5	0.5	1	1	0.5	0.5	0.5	0.5	0.05	0.5	0.5	0.5	0.5	0.5	1
NSW 2014 General Solid Waste CT1 (No Leaching)									60											4000			86		150	2000			120				
NSW 2014 Restricted Solid Waste CT2 (No Leaching)									240											16000			344		600	8000			480				
NSW 2014 General Solid Waste SCC1 (with leached)									108											7200			155		270	3600			216				
NSW 2014 Restricted Solid Waste SCC2 (with leached)									432											28800			620		1080	14400			864				
Sample ID	**Date**	**Lab Report No.**																															
BH01-0.2-0.3	8/05/2023	988407	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH01-0-0.1	8/05/2023	988407	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	-	-	-	-
QC20230508_01 (duplicate of BH01-0-0.1)	8/05/2023	988407	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	-	-	-	-	-	-
QA20230508_01 (triplicate of BH01-0-0.1)	8/05/2023	322803	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	-	-	-	-	-	-
BH01-3.2-3.3	8/05/2023	988407	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH02A-0.2-0.3	9/05/2023	988407	<0.5	<0.5	-	-	-	-	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	-	-	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	-
BH02A-1.5-1.6	9/05/2023	988407	<0.5	<0.5	-	-	-	-	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	-	-	<0.5	<0.5	<0.5	<0.5	<0.05	<0.5	<0.5	<0.5	<0.5	<0.5	-
BH03-0-0.1	8/05/2023	988407	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	-	-	-	-
BH04-0.2-0.3	8/05/2023	988407	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	-	-	-	-	-	-
QC20230508_03 (duplicate of BH04-0.2-0.3)	8/05/2023	988407	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	-	-	-	-	-	-
QA20230508_03 (triplicate of BH04-0.2-0.3)	8/05/2023	322803	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	-	-	-	-	-	-
BH05-0.9-0.1	8/05/2023	988407	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH05-0-0.1	8/05/2023	988407	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	-	-	-	-
BH06-0.15-0.25	8/05/2023	988407	<0.5	<0.5	-	-	-	-	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	-	-	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	-
BH06-0.3-0.4	8/05/2023	988407	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH07-0.15-0.25	11/05/2023	989589	<0.5	<0.5	-	-	-	-	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	-	-	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	-
BH07-1-1.1	11/05/2023	989589	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	-	-	-	-
BH08-0.2-0.3	11/05/2023	989589	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH08-0.5-0.6	11/05/2023	989589	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	-	-	-	-
QC20230511-01 (duplicate of BH08-0.5-0.6)	11/05/2023	989589	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	-	-	-	-
QA20230511_01 (triplicate of BH08-0.5-0.6)	11/05/2023	323044	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	-	-	-	-	-	-
BH09-0.2-0.3	11/05/2023	989589	<0.5	<0.5	-	-	-	-	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	-	-	<0.5	<0.5	<0.5	<0.5	<0.05	<0.5	<0.5	<0.5	<0.5	<0.5	-
BH10-0.2-0.3	8/05/2023	988407	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH11-0-0.1	9/05/2023	988407	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	-	-	-	-
BH12-0.3-0.4	11/05/2023	989589	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	-	-	-	-
BH12-0.8-0.9	11/05/2023	989589	<0.5	<0.5	-	-	-	-	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	-	-	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	-
BH13-0.15-0.25	11/05/2023	989589	<0.5	<0.5	-	-	-	-	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	-	-	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	-
BH13-0.3-0.4	11/05/2023	989589	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	-	-	-	-
BH14-0.15-0.25	8/05/2023	988407	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	-	-	-	-
BH15-0.15-0.25	12/05/2023	989589	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH16-0.15-0.25	11/05/2023	989589	<0.5	<0.5	-	-	-	-	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	-	-	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	-
BH17-0.1-0.2	11/05/2023	989589	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH18-0.2-0.3	8/05/2023	988407	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	-	-	-	-
BH18-0.9-0.1	8/05/2023	988407	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH19-0.5-0.6	11/05/2023	989589	<0.5	<0.5	-	-	-	-	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	-	-	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	-
BH20-0.15-0.25	11/05/2023	989589	<0.5	<0.5	-	-	-	-	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	-	-	<0.5	<0.5	<0.5	<0.5	<0.05	<0.5	<0.5	<0.5	<0.5	<0.5	-
BH21-0.1-0.2	10/05/2023	988760	<0.5	<0.5	-	-	-	-	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	-	-	<0.5	<0.5	<0.5	<0.5	<0.05	<0.5	<0.5	<0.5	<0.5	<0.5	-
BH21-0.5-0.6	10/05/2023	988760	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH22-0.15-0.25	10/05/2023	988760	<0.5	<0.5	-	-	-	-	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	-	-	<0.5	<0.5	<0.5	<0.5	<0.05	<0.5	<0.5	<0.5	<0.5	<0.5	-
BH22-0.3-0.4	10/05/2023	988760	<0.5	<0.5	-	-	-	-	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	-	-	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	-
BH23-0.15-0.25	10/05/2023	988760	<0.5	<0.5	-	-	-	-	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	-	-	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	-
BH23-0.5-0.6	10/05/2023	988760	<0.5	<0.5	-	-	-	-	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	-	-	<0.5	<0.5	<0.5	<0.5	<0.05	<0.5	<0.5	<0.5	<0.5	<0.5	-
BH24-0.3-0.4	15/05/2023	989628	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	-	-	-	-
BH24-0.5-0.8	15/05/2023	989628	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH25-0.15-0.25	10/05/2023	988760	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	-	-	-	-	-	-
BH25-0.5-0.6	10/05/2023	988760	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH26-0.3-0.4	11/05/2023	989589	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH26-0.5-0.6	11/05/2023	989589	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	-	-	-	-
BH26-0-0.1	11/05/2023	989589	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	-	-	-	-
BH27-0-0.1	11/05/2023	989589	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH28-0.2-0.3	10/05/2023	988760	<0.5	<0.5	-	-	-	-	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	-	-	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	-
BH28-0.5-0.6	10/05/2023	988760	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	-	-	-	-

Preliminary Waste Classification Results
Project Number: 64903
Project Name: South Granville DSI

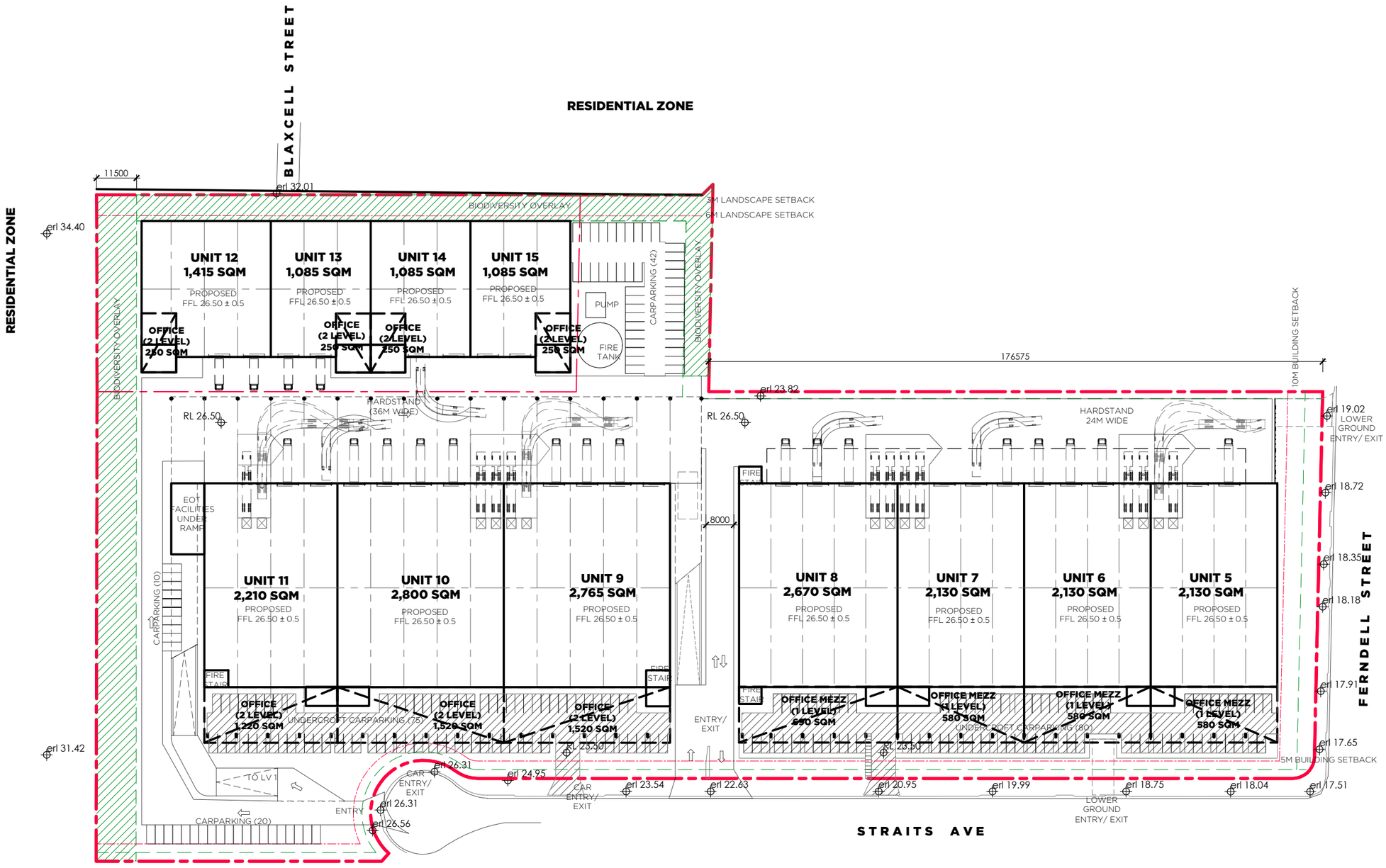
			MAH											Miscellaneous Hydrocarbons							Chlorinated Benzenes							Trihalomethanes				Organic Sulfur Compounds	Chlorinated Hydrocarbons
			1,2,4-trimethylbenzene	1,3,5-trimethylbenzene	n-butylbenzene	n-propylbenzene	p-isopropyltoluene	sec-butylbenzene	Styrene	tert-butylbenzene	Total MAH	Bromobenzene	Isopropylbenzene	1,2-dibromoethane	Bromomethane	Cyclohexane	Dibromomethane	Iodomethane	4-Methyl-2-pentanone	Methyl Ethyl Ketone	1,2,3-trichlorobenzene	1,2,4-trichlorobenzene	1,2-Dichlorobenzene	1,3-dichlorobenzene	1,4-dichlorobenzene	Chlorobenzene	Hexachlorobenzene	Dibromochloromethane	Chloroform	Tribromomethane	Bromodichloromethane	Carbon disulfide	Hexachlorobutadiene
			mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL			0.5	0.5	1	1	1	1	0.5	1	0.5	0.5	0.5	0.5	0.5	1	0.5	0.5	0.5	0.5	1	1	0.5	0.5	0.5	0.5	0.05	0.5	0.5	0.5	0.5	0.5	1
NSW 2014 General Solid Waste CT1 (No Leaching)									60											4000			86		150	2000			120				
NSW 2014 Restricted Solid Waste CT2 (No Leaching)									240											16000			344		600	8000			480				
NSW 2014 General Solid Waste SCC1 (with leached)									108											7200			155		270	3600			216				
NSW 2014 Restricted Solid Waste SCC2 (with leached)									432											28800			620		1080	14400			864				
Sample ID	**Date**	**Lab Report No.**																															
BH29-0.7-0.8	10/05/2023	988760	<0.5	<0.5	-	-	-	-	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	-	-	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	-
BH30-0.2-0.3	10/05/2023	988760	<0.5	<0.5	-	-	-	-	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-
BH30-0.5-0.6	10/05/2023	988760	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	-	-	-	-
BH31-0.3-0.4	11/05/2023	989589	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	-	-	-	-
BH32-0.2-0.3	10/05/2023	988760	<0.5	<0.5	-	-	-	-	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	-	-	<0.5	<0.5	<0.5	<0.5	<0.05	<0.5	<0.5	<0.5	<0.5	<0.5	-
QC20230510_02 (duplicate of BH32-0.2-0.3)	10/05/2023	988760	<0.5	<0.5	-	-	-	-	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	-	-	<0.5	<0.5	<0.5	<0.5	<0.05	<0.5	<0.5	<0.5	<0.5	<0.5	-
QA20230510_02 (triplicate of BH32-0.2-0.3)	10/05/2023	322927	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	<1	<1	<1	<1	<1	-	-	-	<1	<1	<1	<1	<1	<1	<0.1	<1	<1	<1	<1	-	<1
BH32-0.5-0.6	10/05/2023	988760	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH33-0.2-0.3	10/05/2023	988760	<0.5	<0.5	-	-	-	-	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	-	-	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	-
BH33-1-1.1	10/05/2023	988760	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH33-2.1-2.2	10/05/2023	988760	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH34-0.15-0.25	10/05/2023	988760	<0.5	<0.5	-	-	-	-	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	-	-	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	-
BH34-0.4-0.5	10/05/2023	988760	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH35-0.2-0.3	9/05/2023	988407	<0.5	<0.5	-	-	-	-	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	-	-	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	-
BH36-0.2-0.3	9/05/2023	988407	<0.5	<0.5	-	-	-	-	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	-	-	<0.5	<0.5	<0.5	<0.5	<0.05	<0.5	<0.5	<0.5	<0.5	<0.5	-
BH37-0.15-0.25	11/05/2023	989589	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH38-0.15-0.25	11/05/2023	989589	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH39-0.2-0.3	10/05/2023	988760	<0.5	<0.5	-	-	-	-	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-
QC20230510_01 (duplicate of BH39-0.2-0.3)	10/05/2023	988760	<0.5	<0.5	-	-	-	-	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-
QA20230510_01 (triplicate of BH39-0.2-0.3)	10/05/2023	322927	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	<1	<1	<1	<1	<1	-	-	-	<1	<1	<1	<1	<1	<1	<0.1	<1	<1	<1	<1	-	<1
BH40-0.15-0.25	10/05/2023	988760	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH40-0.5-0.6	10/05/2023	988760	<0.5	<0.5	-	-	-	-	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	-	-	<0.5	<0.5	<0.5	<0.5	<0.05	<0.5	<0.5	<0.5	<0.5	<0.5	-
BH40-1-1.1	10/05/2023	988760	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH41-0.2-0.3	9/05/2023	988407	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH41-0-0.1	9/05/2023	988407	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	-	-	-	-
BH42-0-0.1	12/05/2023	989589	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	-	-	-	-
BH43-0.15-0.25	11/05/2023	989589	<0.5	<0.5	-	-	-	-	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-
BH44-0.2-0.3	9/05/2023	988407	<0.5	<0.5	-	-	-	-	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	-	-	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	-
BH45-0.15-0.25	12/05/2023	989589	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH46-0.15-0.25	11/05/2023	989589	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH46-0.3-0.4	11/05/2023	989589	<0.5	<0.5	-	-	-	-	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-
BH47-0.2-0.3	9/05/2023	988407	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	-	-	-	-
BH47-0.5-0.6	9/05/2023	988407	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH48-0.2-0.3	9/05/2023	988407	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH49-0.1-0.2	12/05/2023	989589	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH49-0.2-0.3	12/05/2023	989589	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH49-0.5-0.6	12/05/2023	989589	<0.5	<0.5	-	-	-	-	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	-	-	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	-
BH50-0.15-0.25	11/05/2023	989589	<0.5	<0.5	-	-	-	-	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-
BH50-0.5-0.6	11/05/2023	989589	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH51-0-0.1	9/05/2023	988407	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	-	-	-	-	-	-
BH52-0.2-0.3	9/05/2023	988407	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH53-0-0.1	8/05/2023	988407	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	-	-	-	-
BH54-0.2-0.3	8/05/2023	988407	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH55-0-0.1	8/05/2023	988407	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH56-0.3-0.4	11/05/2023	989589	<0.5	<0.5	-	-	-	-	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	-	-	<0.5	<0.5	<0.5	<0.5	<0.05	<0.5	<0.5	<0.5	<0.5	<0.5	-
BH56-0-0.1	11/05/2023	989589	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH57-0-0.1	15/05/2023	989628	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Table G - TCLP Summary Table
Project Number: 64903
Project Name: South Granville DSI

				Metals & Metalloids			PAH	Ionic Balance		
				Arsenic	Lead	Nickel	Benzo(a)pyrene	pH (after HCL)	pH (Final)	pH (Initial)
				mg/L	mg/L	mg/L	mg/L	pH Units	pH Units	pH Units
EQL				0.01	0.01	0.01	0.001	0.1	0.1	0.1
NSW 2014 General Solid Waste TCLP1 (leached)				5	5	2	0.04			
NSW 2014 Restricted Solid Waste TCLP2 (leached)				20	20	8	0.16			
Sample ID	**Date**	**Lab Report No.**								
BH02A-0.2-0.3	9/05/2023	994225		0.04	-	-	-	1.7	5.2	8.2
BH10-0.2-0.3	8/05/2023	994225		-	-	0.06	-	1.7	5.3	9.1
BH16-0.15-0.25	11/05/2023	994225		-	-	0.08	-	1.9	5.4	9.8
BH17-0.1-0.2	11/05/2023	994225		-	-	0.18	-	1.8	5.3	9.5
BH20-0.15-0.25	11/05/2023	994225		-	-	0.27	-	1.7	5.2	9.4
BH26-0.3-0.4	11/05/2023	994225		-	0.02	0.03	-	1.7	5.2	8.7
BH40-1-1.1	10/05/2023	994225		-	0.1	-	-	1.9	5.1	8.5
BH43-0.15-0.25	11/05/2023	994225		-	-	-	<0.001	1.8	5.4	9.1
BH44-0.2-0.3	9/05/2023	994225		-	-	0.04	-	1.8	5.4	9.1
BH50-0.15-0.25	11/05/2023	994225		-	-	-	<0.001	1.7	5.3	9.2
BH57-0-0.1	15/05/2023	994225		-	-	0.03	-	1.7	5.2	7.4

Appendix B Draft Concept Plans

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26 FERNDELL ST

Development Schedule

Site area	50,887 sqm
Lower Level Warehouse	8,990 sqm
Ground Floor Warehouse	21,505 sqm
Level 1 Warehouse	7,775 sqm
Total Warehouse Area	38,270 sqm
Lower Level Office	2,250 sqm
Ground Floor Office	7,690 sqm
Level 1 Office	1,050 sqm
Total Office Area	10,990 sqm
Total Building Area	49,260 sqm
FSR Control	1:1
Proposed FSR	0.97:1
Building Height Control	12m
Proposed Height	14m
Carparking Provided	367

LEGEND

UPPER CASE DENOTES PROPOSED WORKS TO BE UNDERTAKEN
lower case denotes existing building elements

- RL 27.00 — PROPOSED LEVEL
- erl 32.01 — EXISTING LEVEL
- PROPOSED RETAINING WALL
- PROPOSED TREE/ LANDSCAPING
- EXISTING TREE TO BE DEMOLISHED

NOTE: PROPOSED LEVELS SUBJECT TO CIVIL ENGINEER'S DESIGN

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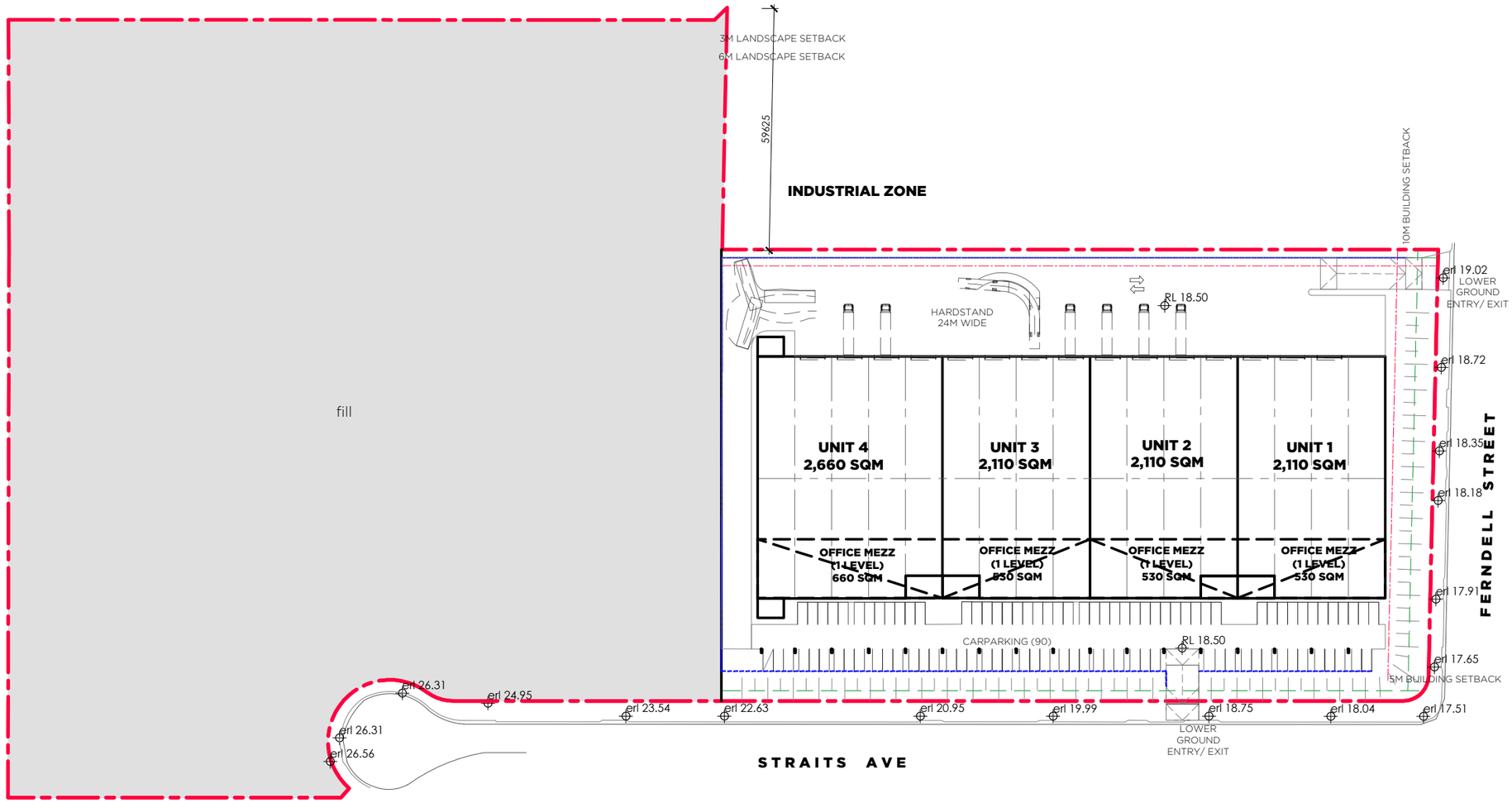
GREYSTAR

Client
GREYSTAR
26 FERNDELL STREET,
GRANVILLE
NSW

Project
PROPOSED INDUSTRIAL DEVELOPMENT
Project number
GS 26F

Drawing title
GROUND FLOOR PLAN
Drawing number
GS 26F SK18
Amendments
CLIENT COMMENT

1:1250@A3
Date
23/09/2022
Drawn by
EC



[watch this SPACE design]

26 FERNDELL ST

Development Schedule

Site area	50,887 sqm
Lower Level Warehouse	8,990 sqm
Ground Floor Warehouse	21,505 sqm
Level 1 Warehouse	7,775 sqm
Total Warehouse Area	38,270 sqm
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Ground Floor Office	7,690 sqm
Level 1 Office	1,050 sqm
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Proposed FSR	0.97:1
Building Height Control	12m
Proposed Height	14m
Carparking Provided	367

LEGEND

UPPER CASE DENOTES PROPOSED WORKS TO BE UNDERTAKEN
lower case denotes existing building elements

RL 27.00 PROPOSED LEVEL

erl 32.01 EXISTING LEVEL

PROPOSED RETAINING WALL

PROPOSED TREE/ LANDSCAPING

EXISTING TREE TO BE DEMOLISHED

NOTE: PROPOSED LEVELS SUBJECT TO CIVIL ENGINEER'S DESIGN

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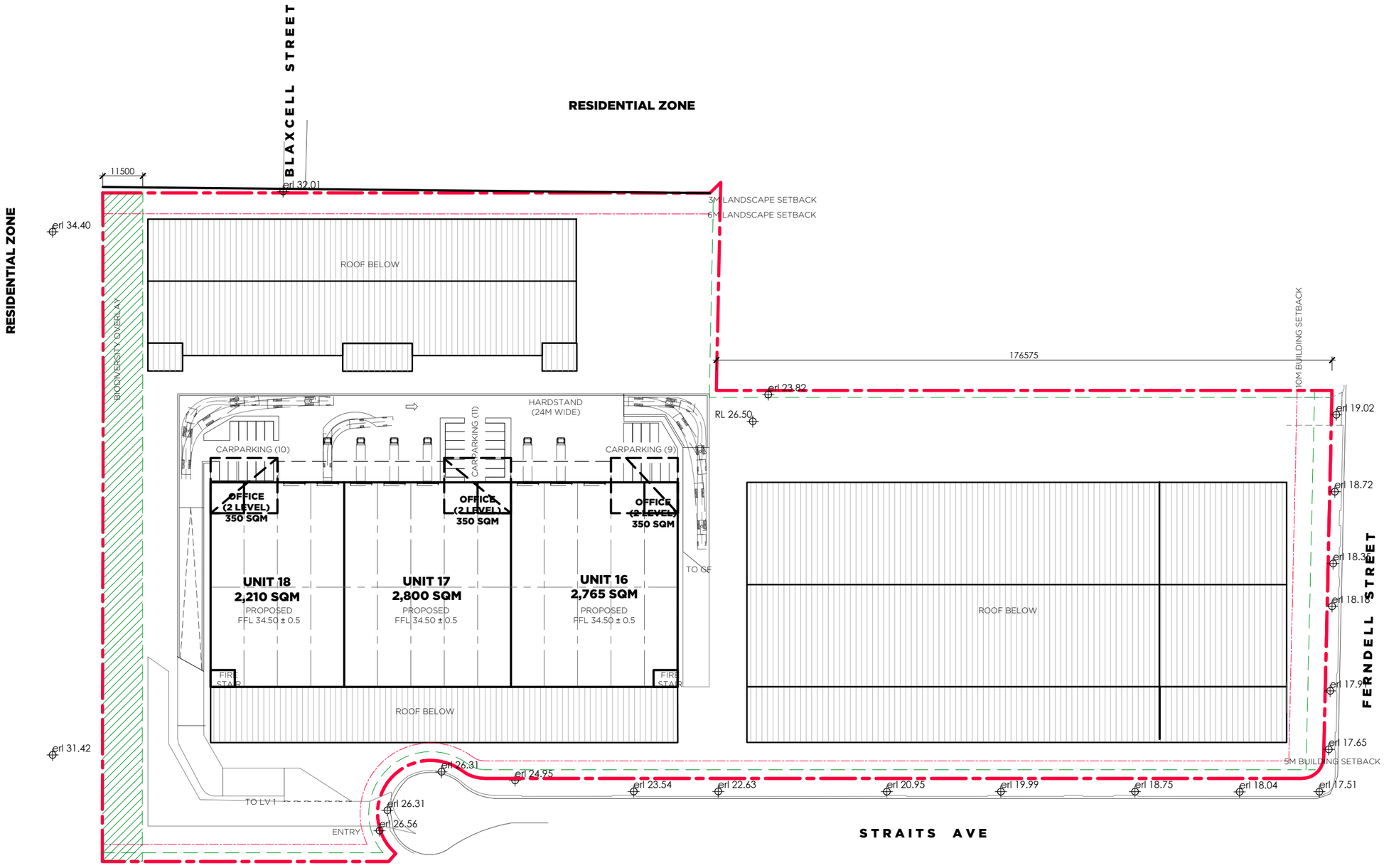
GREYSTAR

Client
GREYSTAR
26 FERNDELL STREET,
GRANVILLE
NSW

Project
PROPOSED INDUSTRIAL DEVELOPMENT
Project number
GS 26F

Drawing title
LOWER LEVEL PLAN
Drawing number
GS 26f SK19
Amendments
CLIENT COMMENT

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26 FERNDELL ST

Development Schedule

Site area	50,887 sqm
Lower Level Warehouse	8,990 sqm
Ground Floor Warehouse	21,505 sqm
Level 1 Warehouse	7,775 sqm
Total Warehouse Area	38,270 sqm
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Ground Floor Office	7,690 sqm
Level 1 Office	1,050 sqm
Total Office Area	10,990 sqm
Total Building Area	49,260 sqm
FSR Control	1:1
Proposed FSR	0.97:1
Building Height Control	12m
Proposed Height	14m
Carparking Provided	367

LEGEND

UPPER CASE DENOTES PROPOSED WORKS TO BE UNDERTAKEN
lower case denotes existing building elements

- RL 27.00 — PROPOSED LEVEL
- erl 32.01 — EXISTING LEVEL
- PROPOSED RETAINING WALL
- PROPOSED TREE/ LANDSCAPING
- EXISTING TREE TO BE DEMOLISHED

NOTE: PROPOSED LEVELS SUBJECT TO CIVIL ENGINEER'S DESIGN

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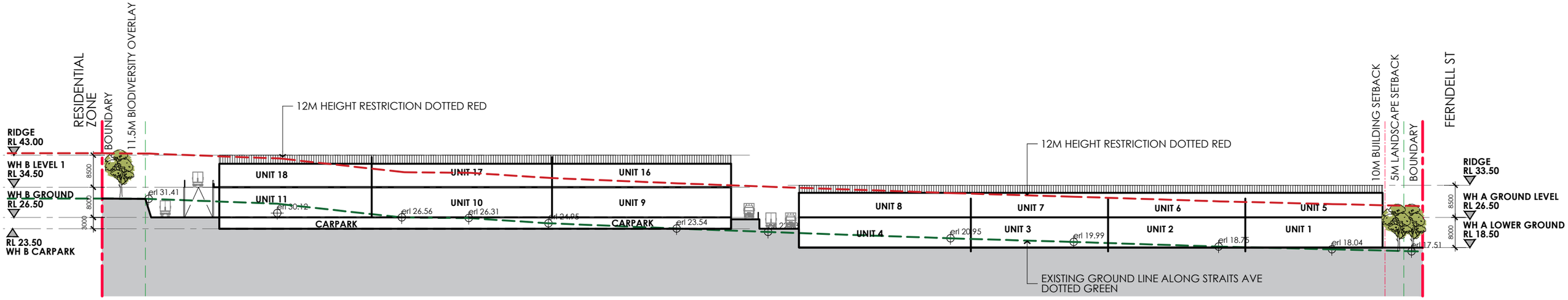
GREYSTAR™

Client
GREYSTAR
26 FERNDELL STREET,
GRANVILLE
NSW

Project
PROPOSED INDUSTRIAL DEVELOPMENT
Project number
GS 26F

Drawing title
LEVEL 1 FLOOR PLAN
Drawing number
GS 26F SK12
Amendments
CLIENT COMMENT

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GRANVILLE
NSW

Project
PROPOSED INDUSTRIAL DEVELOPMENT
Project number
GS 26F

Drawing title
INDICATIVE ELEVATION
Drawing number
GS 26F SK14
Amendments
CLIENT COMMENT

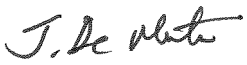
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		Name	Name	Signature	Date
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0	Jessica Staehli	John De Martin	John De Martin		4/8/2023

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JBS&G

Adelaide

Kaurna Country | 100 Hutt St,
Adelaide, SA 5000
T: 08 8431 7113

Brisbane

Turrbal/Yuggera Country | Level 37, 123
Eagle Street, Brisbane, QLD 4000
T: 07 3211 5350

Bunbury

Wardandi Noongar Country | 177
Spencer Street Bunbury, WA 6230
T: 08 9792 4797

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18 National Circuit Barton, ACT 2600
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T: 08 8943 0600

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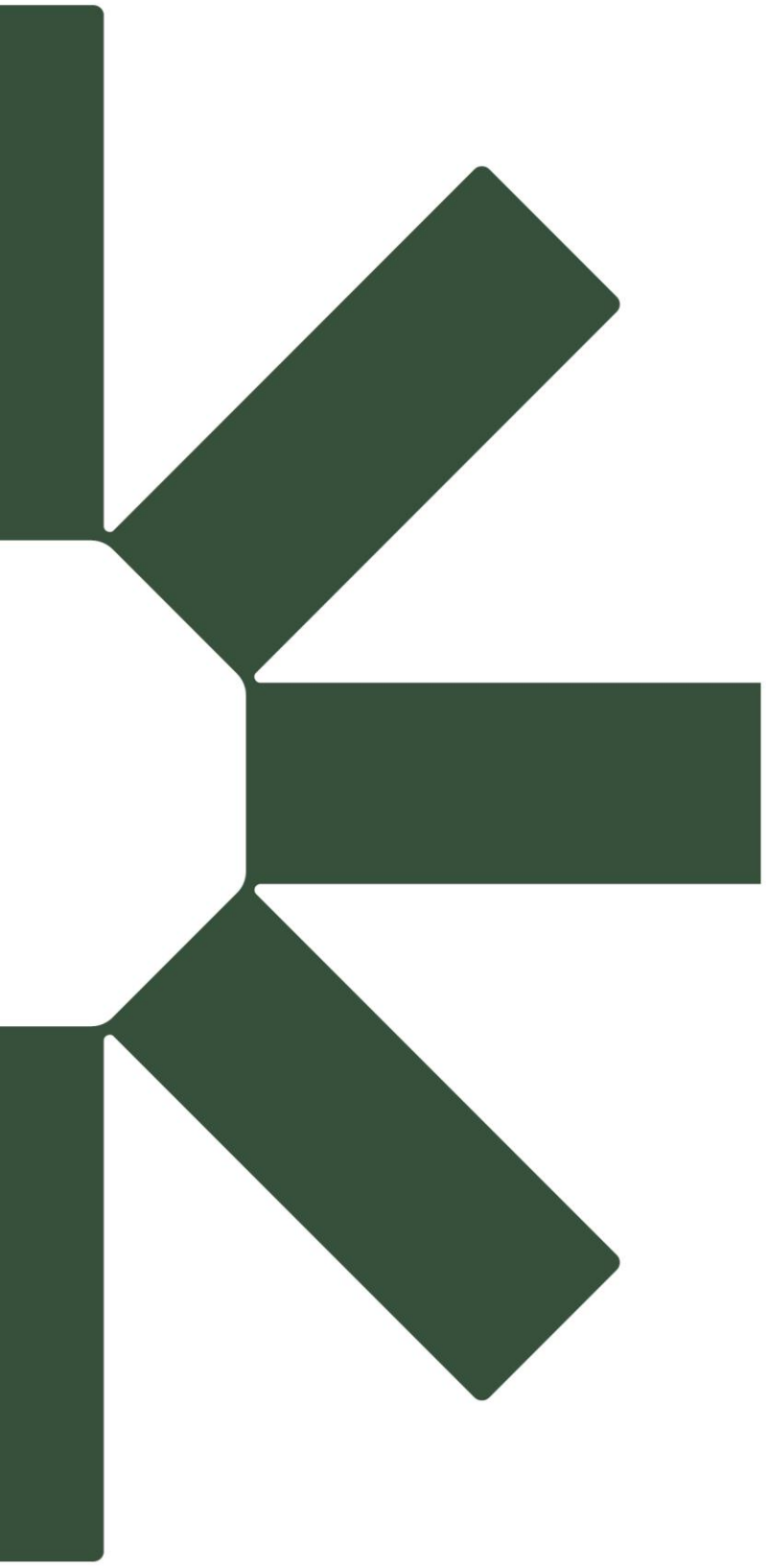
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T: 08 9380 3100

Sydney

Gadigal Country | Level 1, 50
Margaret Street, Sydney, NSW 2000
T: 02 8245 0300

Wollongong

Dharawal Country | Suite 1A, 280 - 286
Keira Street, Wollongong, NSW 2500
T: 02 4225 2647



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