

WOOLWORTHS AUBURN

Construction Environmental Management Plan SSD-10470

Prepared for:

Vaughan Constructions
9a Commercial Road
Kingsgrove NSW 2208

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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 (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.

DOCUMENT CONTROL

Reference	Date	Prepared	Checked	Authorised
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SLR Author Qualifications

Chelsey Zuiderwyk - Bachelor of Science and Bachelor of Commerce, with 10 years' experience in project management and support, most recently in environmental management.

Renae Gifford – Bachelor of Environmental Science and Master of Business Administration with over 20 years' experience in environmental management.

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1 Introduction

1.1 Development Overview

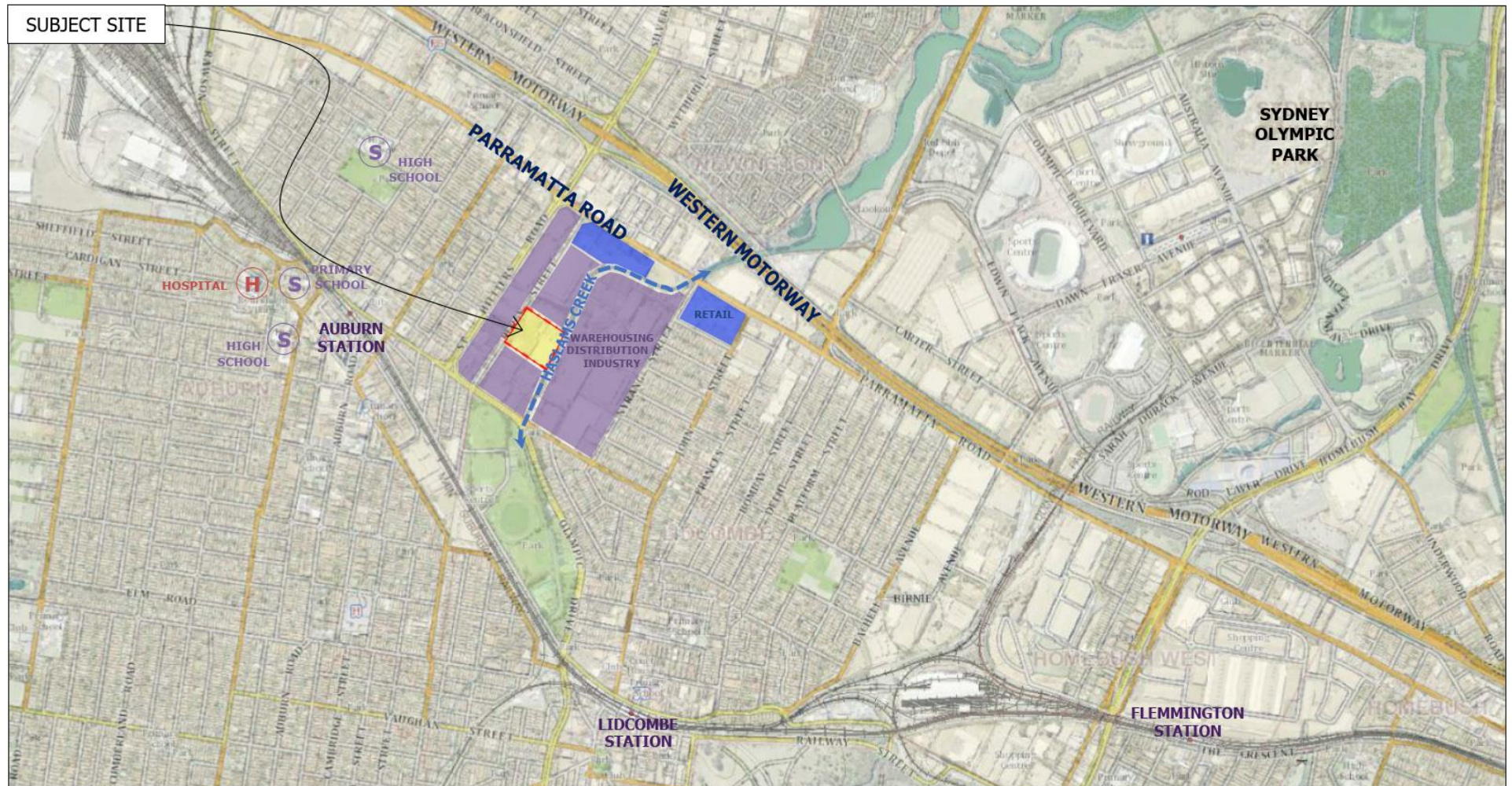
Fabcot Pty Limited (Fabcot) obtained Development Consent SSD-10470 for the staged development of a warehouse and distribution centre at Auburn in Western Sydney to be undertaken by Vaughan Constructions (Vaughan).

This Construction Environmental Management Plan (CEMP) has been prepared to cover the construction of the warehouse located at 11 & 13 Percy Street, Auburn (Lot 1 & 2 DP1183821).

A copy of Development Consent SSD 10470 is attached as **Appendix A**. The construction works associated with warehouse will be completed by Vaughan (**Figure 3**).

The CEMP has been prepared in consideration of the *Guideline for the Preparation of Environmental Management Plans* (Department of Infrastructure, Planning and Natural Resources 2004).

Figure 1 Woolworths Auburn Location



The site plan illustrates a large industrial complex with several key features:

- Buildings:** A large central warehouse (PFL 7.6M), an office building (PFL 7.8M), and a freight hoist area.
- Parking and Staging:** Multiple parking lots, including 'OUTBOUND STAGING' and 'INBOUND STAGING', and a 'TRUCK ENTRY & EGRESS' area.
- Infrastructure:** A 'HABLAWS CREEK' running along the right side, a 'HABLAWS CREEK' on the left, and a 'HABLAWS CREEK' at the bottom.
- Security and Access:** A 'SECURITY FENCE BY KENAP' and a 'SECURITY FENCE BY KENAP' are shown, along with a 'SECURITY FENCE BY KENAP' and a 'SECURITY FENCE BY KENAP'.
- Other Features:** A 'FREIGHT HOIST', a 'FREIGHT HOIST', and a 'FREIGHT HOIST' are labeled, along with a 'FREIGHT HOIST' and a 'FREIGHT HOIST'.

1.2 Construction Environmental Management Plan

The CEMP has been prepared to address the specific requirements of SSD 10470, informed by the following specialist management plans have been prepared to support this CEMP:

- Construction Noise and Vibration Management Plan (CNMP) (SLR) – Condition B4;
- Construction Traffic Management Plan (TMP) (TTPP) – Condition B8
- Erosion and Sediment Control Plan (ESCP)
- Copy of the Remediation Action Plan (RAP)
- Unexpected finds contamination procedure - Condition B22
- Community Consultation and Complaints Handling.

1.2.1 Scope

This CEMP has been prepared to satisfy Conditions C1 – C4 of SSD 10470. The specific requirements of these consent conditions, along with where these requirements have been addressed within this CEMP, are listed in **Table 1**.

Table 1 CEMP Context

SSD 10470 Consent Condition	CEMP Section
C1. Management plans required under this consent must be prepared in accordance with relevant guidelines, and include:	
a) Baseline data	
b) 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;	(i) Section 3.3 (ii) Section 4 (iii) Refer to specialist management plans
c) a description of the measures to be implemented to comply with the relevant statutory requirements, limits, or performance measures and criteria;	Section 4
d) 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
e) 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 5.4
f) a program to investigate and implement ways to improve the environmental performance of the development over time;	Section 6

SSD 10470 Consent Condition	CEMP Section
g) 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) Section 3.5 and 5.2 (ii) Section 3.6 and 5.2 (iii) Section 5.2
h) a protocol for periodic review of the plan. Note: <i>The Planning Secretary may waive some of these requirements if they are unnecessary or unwarranted for particular management plans</i>	Section 6
C2. The Applicant must prepare a Construction Environmental Management Plan (CEMP) in accordance with the requirements of Condition C1 and to the satisfaction of the Planning Secretary.	This Plan
C3. As part of the CEMP required under Condition C2 of this consent, the Applicant must include the following:	
a) Construction Traffic Noise Plan (CNMP) (see Condition B4);	Section 4.2
b) Construction Noise Traffic Plan (TMP) (see Condition B8);	Sections 4.3
c) Erosion and Sediment Control Plan ;	Section 4.4
d) A copy of the RAP;	Appendix H
e) Unexpected finds contamination procedures (see Condition B22); and	RAP Appendix H
f) Community Consultation and Complaints Handling.	Section 4.12
C4. The Applicant must: a) not commence construction of the development until the CEMP 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.	Noted

1.2.2 Objectives

The objectives of this CEMP are to:

- Establish the framework for managing and mitigating the potential for adverse environmental impacts as a result of the construction of the development;
- Clearly and concisely document the commitments made in the EIS (Willowtree Planning 2021) and Response to Submissions (RTS), including relevant management plans, that are required to be implemented with during construction;
- Demonstrate to DPIE how the contractor proposes to meet all of its regulatory obligations including those outlined in the Conditions of Consent;
- Outlines the controls to be implemented by the contractor in order to meet those obligations;
- Clearly and concisely document the conditions imposed by SSD 10470 that are required to be implemented and/or complied with during the construction phase; and
- Assist to establish Woolworths warehouse in a manner that avoids (where possible) or minimises impact to the surrounding environment and populace.

1.2.3 Consultation

In accordance with SSD-10470, consultation has been undertaken with the applicable stakeholders which is summarised in **Table 2**.

Table 2 Consultation

Condition	Comment
A8. 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.	Evidence of consultation will be provided separately to the DPIE.
Construction Traffic Management Plan B8. Prior to the commencement of construction, the Applicant must prepare a Construction Traffic Management Plan (CTMP) to the satisfaction of the Planning Secretary. The plan must form part of the CEMP required by Condition C2 and must: b) be prepared in consultation with Council;	Refer Section 7 of CTMP
Construction Noise Management Plan B4. The Applicant must prepare a Construction Noise Management Plan (CNMP) for the development to the satisfaction of the Planning Secretary. The CNMP must form part of a CEMP in accordance with Condition C2 and must: f) describe the community consultation undertaken to develop the strategies in Condition B4(e); and	This was undertaken as part of the Construction Noise Management Plan (see Appendix C).
Community Engagement B41. The Applicant must consult with the community regularly throughout the development, including consultation with the nearby sensitive receivers identified in Appendix 2, relevant regulatory authorities and other interested stakeholders.	Vaughan has advised SLR that they have undertaken the Specific Notification mitigation measure in accordance with the requirements. Periodic notification has commenced and will continue through the construction process.

2 Development Description

2.1 Location

The subject site is located in the suburb of Auburn, approximately 19 kilometres west of the Sydney Central Business District (CBD), forming part of the Cumberland LGA. The subject site is legally described as Lot 1 DP1183821 and Lot 2 DP1183821, more commonly known as 11 and 13 Percy Street, Auburn. The subject site has an area of approximately 32,400m² and a frontage of 166m to Percy Street.

In its existing state, the subject site benefits from two (2) warehouse uses, both of which are provided vehicular access from Percy Street. Established vegetation comprises the front portion of the subject site along Percy Street. This area represents the approximate width (10m) of the registered right of way and right to construct and maintain railways or tramways, which is applicable to both sites.

2.2 Construction Activities

Construction activities will include the works to be undertaken on 11 and 13 Percy Street, Auburn. **(Figure 2)**. Site works are proposed to commence in September 2021 and will be complete in October 2022.

Construction activities include:

- Demolition of existing buildings, structures and infrastructure, as well as the removal of trees;
- Bulk earthworks and retaining walls
- Installation of in-ground services and overhead services;
- Pouring of concrete slabs;
- Construction of the 2-storey warehouse including wall and roof cladding;
- Internal office fit outs;
- Carparking; and
- Roads and infrastructure.

2.3 Construction Hours

Construction hours will be in accordance with Condition B1 of Development Consent SSD-10470, which is reproduced below:

B1. The Applicant must comply with the hours detailed in Table 1, unless otherwise agreed in writing by the Planning Secretary.

Table 1: Hours of Work

Activity	Day	Time
Demolition, earthworks and construction	Monday – Friday	7am to 6pm
	Saturday	8am to 1pm

B2. Works outside of the hours identified in Condition B1 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.

The construction hours will be provided to all staff and contractors in the induction. The movements of staff and contractors will be recorded for this project.

Noisy works to be undertaken out of hours is discussed in the Construction Noise Management Plan (CNMP) attached as **Appendix B**.

2.4 Construction Site Access

Construction access will be via Percy Street and will be in accordance with Construction Traffic Management Plan (CTMP) attached as **Appendix C**.

2.5 Contractor Car Parking

Parking will be available for workers on the site, however, workers will be encouraged at all times to utilise the highly accessible public transport system which exists in the vicinity of the site or alternatively to car pool wherever possible.

The provision for loading/unloading for this process will involve trucks standing within the site with all materials being unloaded and stored within the site.

2.6 Construction Contact Details

Table 3 lists the key contacts during the construction of the warehouse.

Table 3 Construction Contact List

Role	Name	Company	Contact Details
Project Principal	Michael Rumble	Fabcot	0400389637 mrumble@woolworths.com.au
Site Superintendent	David Badenoch-Jones	Rootes Partnership	dbj@rootpartnerships.com.au
Contractor's Project Manager	George Aronis	Vaughan Constructions	0428313154 George.aronis@vaughans.com.au
Contractor's National OHSE Manager	Dean Grumont	Vaughan Constructions	0456685372 Dean.grumont@vaughans.com.au

Role	Name	Company	Contact Details
Site Lead Environmental Consultant (Environmental Consultant)	Ben Pearce	Geologix	T: 02 9979 1722 Ben Pearce < bpearce@geologix.com.au >
Communications and Community Liaison Representative	George Aronis	Vaughan Constructions	0428313154 George.aronis@vaughans.com.au

3 Environmental Management Framework

3.1 Vaughan's Environmental Policy

Vaughan is committed to conducting business in an environmentally responsible way, aimed at prevention of pollution to air, ground and water. As a result, Vaughan have developed and implemented an Environmental Policy. This Environmental Policy will be implemented throughout the duration of the construction.

Vaughan's Environmental Policy is certified to ISO 14001.

3.2 Roles and Responsibilities

The key personnel responsible for environmental management during construction of warehouse are listed in **Table 4**.

Table 4 Personnel Responsible for Environmental Management

Role	Responsibilities
Project Principal	Environmental reporting responsibility associated with the development.
Contract Superintendent	Environmental reporting responsibility associated with the development.
Project Manager	Environmental reporting responsibility associated with the development.
Contractor's Project Manager	- Overall responsibility for environmental management and compliance with SSD 10470 and relevant legislation; - Oversee the implementation of this CEMP and request adequate resources to enable implementation of this CEMP; - Report on the performance of the CEMP to the Project Manager for review and as a basis for system improvement; - Coordinate environmental inspections and reporting and authority liaisons; - Record, notify, investigate and respond to any environmental incidents and, where necessary, develop and implement corrective actions; - Direct reasonable steps be taken to avoid or minimise any unintended or adverse environmental impacts, and, failing the effectiveness of such steps, direct that the relevant actions cease immediately should an adverse impact on the environment be likely to occur; and - Provide adequate environmental inductions/training to employees and contractors regarding their requirements under this CEMP.
All employees, contractors and subcontractors	- Ensure familiarity, implementation and compliance with this CEMP and appended management plans; - Support Vaughan'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 and complaints to the Project Manager without delay; and - Report any inappropriate construction practices and/or environmental management practices to the Project Manager without delay.

3.3 Statutory Requirements

The Development will be constructed in accordance with SSD 10470 and also in accordance with the documents referenced under Condition A2 of the Consent:

- The EIS (Willowtree Planning 2020) and RTS;
- The development layout plans and drawings attached to the Development Consent as Appendix 1, which have been sourced from the EIS (Nettletontribe Architects); and
- The management plans and mitigation measures (attached to the Development Consent as Appendix 3).

If there is any inconsistency between the plans and documentation referred to in Condition A2, the most recent document shall prevail to the extent of the inconsistency. However, the conditions of SSD 10470 prevail to the extent of any inconsistency. The Project Manager will be notified if any inconsistencies are identified.

SSD 10470 imposes a number of environmental performance and management requirements applicable to the construction of the facility. The consent conditions applicable to the construction works are listed in **Appendix D (N.B. The administrative conditions and conditions relating to the operational phase have not been included in Appendix D, only those conditions specific to site construction have been included).**

3.4 Inductions and Environmental Training

The Contractor's Project Manager will ensure that all employees and contractors involved in the construction of Woolworths Auburn 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).

The environmental induction training will cover all elements of the CEMP and will include, as a minimum, the following:

- Purpose and objectives of the CEMP;
- Requirements of due diligence and duty of care;
- Conditions of any environmental licences, permits and approvals;
- Potential environmental emergencies on site and the emergency response procedures (including the Emergency Spill Response Plan), locations and training in the use of emergency spill kits for spills on water and on land;
- Reporting, and notification and management requirements for pollution, contamination and other environmental incidents, and for damage and maintenance to environmental controls;
- High-risk activities and associated environmental safeguards i.e. earthworks, vegetation clearing, night works, operation and maintenance of concrete washouts, and washing, refuelling and maintenance of plant and equipment;
- Working in or near environmentally sensitive areas; and
- Site-specific issues including:
 - Erosion and sediment controls, water quality controls and sediment basin management (see **Section 4.4**) and **Appendix E**;

- Responsibilities under the Australian Standard AS 2601-2001 The Demolition of Structures (Standards Australia, 2001);
- Responsibilities under the *National Parks and Wildlife Act 1974*, including the need to cease work immediately and report any object of potential Aboriginal heritage unearthed during clearing, grubbing and earthworks operations;
- Noise management controls (see **Sections 4.2**, and **4.3**);
- Location of reuse bins, washing, refuelling and maintenance of vehicles, plant and equipment;
- Waste minimisation principles (see **Section 4.8**);
- Identification, reporting and management of contaminated land (see **Section 4.5**); and
- Incident management processes (see **Section 3.5**).

Toolbox talks 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**).

All employees 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.

3.5 Incident and Non-Compliance Response and Handling Procedure

For the purposes of this CEMP, SSD 10470 describes an 'incident' as 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. SSD 10470 describes a 'non-compliance' as an occurrence, set of circumstances or development that is a breach of the consent.

3.5.1 Performance Objective

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

3.5.2 Responsibility

The Contractor's Project Manager is responsible for ensuring that the appropriate management response and handling procedures are instigated and carried through in the event of an incident and/or non-compliance. All employees, contractors and subcontractors are to:

- Notify the Contractor's Project Manager who will notify the Environmental Representative (ER) of any hazard or potential hazard that may result in an incident and/or non-compliance, regardless of the nature or scale; and
- 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.

The induction and toolbox talks outlined in **Section 3.4** will be used to ensure all site employees, contractors and subcontractors are aware of and understand their obligations for incident and/or non-compliance response.

3.5.3 Notification Requirements

3.5.3.1 Incidents

Section 147 of the *Protection of the Environment Operations Act 1997* (POEO Act) defines material harm as:

- (a) *harm to the environment is material if:*
- (i) *it involves actual or potential harm to the health or safety of human beings or to ecosystems that is not trivial, or*
 - (ii) *it results in actual or potential loss or property damage of an amount, or amounts in aggregate, exceeding \$10,000 (or such other amount as is prescribed by the regulations), and*
- (b) *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.*

Notification responsibilities for incidents that have caused or threatened to cause material harm to the environment are detailed in Section 148 of the POEO Act. In summary, these are broadly categorised as:

Duty of an employee or any person undertaking an activity:

Any person engaged as an employee or undertaking an activity will immediately after becoming aware of any potential incident (even if outside of normal business hours), notify the Contractor's Project Manager who will notify the Environmental Consultant of the incident and all relevant information about it. The Contractor's Project Manager will be available 24 hours a day, seven days a week and will have the authority to stop or direct works.

Duty of an employer or occupier of the premises to notify:

The employer or occupier of the premises on which the incident occurred, who is notified (or otherwise becomes aware of) of the incident, will immediately notify the relevant authorities about the incident and all relevant information.

Under the POEO Act, “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 5 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 5 Regulatory Authority Contact List

Regulatory Authority / Stakeholder	Key Contact	Contact Details	
Department of Planning, Industry and Environment (DPIE)	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	
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

In accordance with Condition C9 of Development Consent SSD-10470, once Vaughan Constructions become aware of an incident, or potential incident, that causes (or may cause) harm to the environment, they are required to immediately (within 24 hours) provide a written incident notification to the DPIE via the Major Projects website, as well as other relevant agencies. A detailed incident report is then to be provided to the DPIE within 30 days of the incident.

3.5.3.2 Non-Compliances

In accordance with Condition C10 of SSD-10470, the DPIE will be notified in writing via the Major Projects website within seven days of becoming aware of any non-compliance.

C12 and C13 of SSD 10470 states a non-compliance notification will identify the development and the application number for it, set out the condition of consent that the development is non-compliant with, the way in which it does not comply and the reasons for the non-compliance (if known) and what actions have been, or will be, undertaken to address the non-compliance.

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

3.5.4 Incidents and Non-Compliance Handling Procedure

Upon becoming aware of an incident and/or non-compliance, the procedure outlined below will be followed.

1. Preventative Action

Where possible and safe to do so, immediate action will be taken to prevent, stop, contain and/or minimise the environmental impact of the incident and/or non-compliance.

In the unlikely event that an incident and/or non-compliance requires the evacuation of the site, actions will be completed in accordance with evacuation procedures. All employees and contractors are to be made aware of the location of emergency assembly areas through site inductions, signage and regular toolbox talks.

2. Assistance

If adequate internal resources are not available and the incident and/or non-compliance threatens public health, property or the environment, it is essential that Fire and Rescue NSW be contacted by telephoning "000" for emergency assistance.

Contacting Fire and Rescue NSW does not negate the notification requirements in **Section 3.5.3**.

3. Notify

Under the provisions of the POEO Act, there is a duty to notify any incident that has caused or threatens to cause material harm to the environment and all relevant information about the incident. The specific duties to notify are outlined above in **Section 3.5.3**.

In the event of a serious incident or emergency, it is more than likely that Fire and Rescue NSW will take control and manage the required investigation and remedial activities. Any instructions issued will be strictly adhered to.

Condition C10 of Development Consent SSD 10470 requires that the DPIE and other relevant authorities be provided with a written incident notification via email within seven day of the incident.

A written notification will:

- Identify the development and application number;
- Provide details of the incident (date, time, location, a brief description of what occurred and why it is classified as an incident);
- Identify how the incident was detected;
- Identify when the Applicant became aware of the incident;
- Identify any actual or potential non-compliance with conditions of consent;
- Describe what immediate steps were taken in relation to the incident;
- Identify further action(s) that will be taken in relation to the incident; and
- Identify a project contact for further communication regarding the incident.

Non-compliances will be notified in accordance with **Section 3.5.3.2**.

4. Investigate

Undertake immediate investigative work to determine the cause of the incident and/or non-compliance.

5. Remedial Action

Undertake appropriate remedial action to address the cause of the incident and/or non-compliance and mitigate any further environmental impact. In some instances, outside resources such as specialist contractors/consultants may be required.

6. Record

It is imperative that an honest assessment of the situation is carried out and documented in order to minimise the potential for similar events in the future. On this basis, every incident is to be recorded in Vaughan's Incident Report Form (**Appendix F**). A copy of the completed report will be maintained for at least five years by Vaughan.

Appendix 4 Condition 3 of Development Consent SSD 10470 requires that a detailed incident report be provided to the DPIE within 30 days of the incident occurring.

The Incident Report will include:

- A summary of the incident;
- Outcomes of an incident investigation, including identification of the cause of the incident;
- Details of the corrective and preventative actions that have been, or will be, implemented to address the incident and prevent recurrence; and
- Details of any communication with other stakeholders regarding the incident.

All non-compliances are recorded in accordance with Condition C12 of SSD 10470.

7. Preventative Action

Once the incident and/or non-compliance has been suitably handled, appropriate measures will be identified and implemented to reduce the possibility of re-occurrence.

3.5.5 Incidents and Non-Compliance Register

An Incidents and Non-Compliance Register will be maintained during construction and will contain the following:

- A copy of the environmental incident and non-compliance notification requirements and handling procedure contained above in **Section 3.5.3** and **3.5.4**;
- Site evacuation procedures;
- A separate reference sheet containing the contact details for the contacts listed in **Table 3** and the contact details for the regulatory authorities listed in **Table 5**;
- Blank hard copies of Vaughan's Incident Report Form; and
- Copies of all completed Incident Report Forms, which are to be maintained for at least five years after the event to which they relate.

3.5.6 Minor Environmental Incidents

There is the possibility of minor environmental incidents occurring as part of this project. SLR have defined a 'Minor Environmental Incident' as an incident where there has been no potential or actual material harm to the environment (see 'material harm' definition outlined in **Section 3.5.3**). Examples may include excessive dust impacts sighted by the project team or a small, contained hydrocarbon spill that does not leave a site boundary and are cleaned up without residual on-site environmental harm.

Minor environmental incidents will still be handled under the process outlined in **Section 3.5.4** except there will be no requirement for government notification. All minor or major incidents will be recorded in the Incidents Register, with details of the events also included in the Environmental Representative Monthly Report. A minor incident does not constitute a non-compliance with the Development Consent.

3.6 Complaints Response and Handling Procedure

All complaints will be recorded in the complaints record form as included in **Appendix G**).

3.6.1 Performance Objective

To ensure that all environmental complaints in relation to the construction of the warehouse are promptly and effectively received, handled and addressed.

3.6.2 Responsibility

The Project Manager is responsible for ensuring that the appropriate management response and handling procedures are instigated and carried through in the event of an environmental complaint. The induction and toolbox talks outlined in **Section 3.4** will be used to ensure all site employees are aware of and understand their obligations for complaints response.

All employees who take receipt of a complaint, either verbal or written, are to immediately notify the Contractor's Project Manager.

3.6.3 Complaints Handling Procedure

Upon becoming aware of a complaint, the protocol outlined below will be followed.

1. Record and Acknowledge

Any employee who takes receipt of a complaint, either verbal or written, are to immediately notify the Communications and Community Liaison Representative. 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. All relevant contact details are available in **Table 3**.

In the normal course of events, the first contact for 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 complainant advised of this.

2. Assess and Prioritise

The Project Manager will prioritise all complaints by considering the seriousness of the complaint including risk to health and safety and will attempt to provide an immediate response via phone or email. .

3. Investigate

A field investigation will be initiated in an attempt 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.

If the complaint is due to an incident, the notification requirements and handling procedures outlined in **Section 3.5.3** and **3.5.4** respectively will be followed.

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 of the complaint and mitigate any further impact. The Communications and Community Liaison Representative 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 Communications and Community Liaison Representative will oversee the rectification of 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. 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 in order to minimise the potential for similar complaints in the future. On this basis, every complaint received is to be recorded in Vaughan's Complaint Form (**Appendix G**). A copy of the completed form will be maintained for at least five years. The complaint will also be recorded in the Complaints Register, as per **Section 3.6.4**.

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.

3.6.4 Complaints Register

A Complaints Register will be maintained during construction and will contain the following:

- A separate reference sheet containing the contact details listed in **Table 3**;
- Blank hard copies of the Vaughan's Complaint Form (see **Appendix G**); and
- Copies of all completed Complaint Forms which are to be maintained for at least five years after the event to which they relate.

3.7 Dispute Resolution

In the event that a dispute arises between Vaughan and Council or a public authority, in relation to an applicable requirement in this consent or relevant matter relating to the construction, either party may refer the matter to the Planning Secretary for resolution. The Planning Secretary's determination of any such dispute will be final and binding on the parties.

In the case of a dispute between Vaughan and a community member/complainant, either party may refer the matter to the DPIE and/or relevant regulatory authority for consideration, advice and/or negotiation. If the matter escalates, a third party mediator may be required.

4 Environmental Management Commitments

Environmental aspects with the potential to be impacted through the construction of Woolworths warehouse are addressed in the following sub-sections. These issues have specific regulatory requirements imposed by SSD 10470 and/or are considered to have the highest potential to result in a non-compliance with a legislative requirement or generate community complaints. The tables in this section are a compliance management tool outlining how controls are to be implemented.

4.1 General

Table 6 lists the general environmental controls that will be implemented throughout the construction of the warehouse to minimise the potential for adverse impacts on the local environmental and surrounding receptors.

Table 6 General Construction Environmental Management Controls

Environmental Management Control	Person Responsible	Timing / Frequency	Reference / Notes
All reasonable and feasible measures will be implemented to prevent and 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.	Vaughan Constructions	Ongoing	SSD-10470 Condition A1
A14. All demolition must be carried out in accordance with Australian Standard AS 2601-2001 The Demolition of Structures (Standards Australia, 2001).			SSD-10470 Condition A14
All plant and equipment will be maintained and operated in a proper and efficient manner.			SSD-10470 Condition A18
All necessary precautions will be implemented in the vicinity of 33,000 volt Ausgrid Cables buried along Percy Street.		During construction and ongoing	SSD-10470 Condition A22
Two existing Ausgrid substations must be decommissioned and removed from the site.		Prior to construction	SSD-10470 Condition A23
All signage and fencing will be erected in accordance with the plans in the EIS and RTS.		Prior to commencing construction and ongoing	SSD 10470 Condition B40
Environmental Work Method will be incorporated as part of Safe Work Method Statements (SWMS) and implemented.		Prior to commencing construction and ongoing	Best practice

Environmental Management Control	Person Responsible	Timing / Frequency	Reference / Notes
All monitoring records will be maintained to demonstrate compliance with the CEMP, 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 • Minutes of management review meetings • Induction and training records		For 5 years after completion date	
The incidents and complaints management strategies contained within Sections 3.5 and 3.6 will be implemented to ensure that any incidents and/or complaints relating to the construction activities are promptly and effectively addressed.	Vaughan	Ongoing	CEMP Sections 3.5 and 3.6
Construction employees and contractors will be suitably inducted and trained prior to commencing any work on site.		Prior to commencing construction and ongoing	CEMP Section 3.4

4.2 Noise

Construction noise relating to the works will be managed in accordance with the CNMP (SLR 2021) prepared to fulfil Condition B4 of SSD-10470, attached as **Appendix B**.

Table 7 outlines the project specific Noise Management Levels (NMLs) to be adhered to during construction as outlined in the CNMP (SLR 2021).

Table 7 Project Specific Construction Noise Management Levels

Location	Receiver Type	RBL	Management Level LAeq(15minute) (dBA)	Highly Noise Affected (dBA) ¹
30-80 St Hilliers Road	Residential (R1)	60	70	75
15 Percy Street	Commercial (C1)	-	70	N/A
7-9 Percy Street	Commercial (C2)	-	70	N/A
57-73 St Hilliers Road 42-58 Percy Street	Commercial (C3)	-	70	N/A
75-81 St Hilliers Road	Industrial (I1)	-	75	N/A
42 Boorea Street	Industrial (I2)	-	75	N/A

Environmental management controls in **Table 8** will be implemented to minimise the potential for adverse noise emissions from the construction works.

Table 8 Environmental Management Controls for Noise

Measure	Person Responsible	Timing / Frequency	Reference / Notes
Project Planning			
Where possible, consider the application of alternative, low-impact construction techniques to rock breaking and concrete sawing.	Vaughan Constructions	Ongoing	CNMP Table 12
Power tools using mains power rather than by using generators.			
Use the minimum sized equipment necessary to complete the work, this is particularly relevant to compacting and hydraulic hammering / rock breaking.			
Scheduling			
Carry out community consultation and provide advanced warning of potential disruptions to sensitive receivers (refer to Section Error! Reference source not found.).	Communications and Community Liaison Representative	Ongoing	CNMP Table 12

Measure	Person Responsible	Timing / Frequency	Reference / Notes
Deliveries are to occur during Standard Construction Hours only.			
Site Layout			
Site entry and exit points will be located as far as possible from sensitive receivers, taking into account the importance of safe access.	Vaughan Constructions	Ongoing	CNMP Table 12
Compounds, refuelling areas and work areas will be designed to promote one-way traffic so that vehicle reversing movements are minimised.			
Work compounds, parking areas, equipment and material stockpile sites will be positioned away from noise-sensitive locations			
Trucks will be carefully scheduled and not queue up outside residential properties.			
Training			
Training will be provided to all project personnel, including relevant sub-contractors on noise requirements through inductions, toolboxes and targeted awareness training.	Vaughan Constructions	Ongoing	CNMP Table 12
All relevant staff and sub contractors will be informed of areas and work practises where potential noise impacts have been identified.			
Horn signals between drivers are not permitted.			
Contractor Management			
Delivery vehicles should be fitted with straps rather than chains for unloading, wherever possible.	Vaughan Constructions	Ongoing	CNMP Table 12
Truck drivers should avoid compression braking as far as practicable and should use main roads where feasible.			
Plant and Equipment Source Mitigation			
Switch off generators/items of plant when not in use.	Vaughan Constructions	Ongoing	CNMP Table 12
Avoid dropping materials from a height.			
Shut down or throttle down machinery when not in operation.			
Avoid simultaneous operation of noisy plant within discernible range of a sensitive receiver			

Measure	Person Responsible	Timing / Frequency	Reference / Notes
Ensure equipment is operated in the correct manner including replacement of engine covers, repair of defective silencing equipment, tightening of rattling components, repair of leakages in compressed air lines and shutting down equipment not in use.			
Siting noisy equipment behind structures that act as barriers, or at the greatest distance from the noise-sensitive area; or orienting the equipment so that noise emissions are directed away from any sensitive areas, to achieve the maximum attenuation of noise			
Plant will be fitted with noise control devices, where practicable, including acoustic lining of engine bays and air intake / discharge silencers			
Ensure that all doors/hatches are shut during operation of plant and equipment.			
Check hatches/enclosures regularly to ensure that seals are in good working order and doors close properly against seals.			
Use residential-grade mufflers on plant.			
Use dampened bits on impulsive tools such as jackhammers to avoid 'ringing' noise.			
An acoustic shroud (skirt) can be installed on hydraulic rockbreakers and concrete saws.			
Ensure truck movements are kept to a minimum, ie that trucks are fully loaded on each trip.			
Mobile plant and trucks operating on site for a significant portion of the project will have reversing alarm noise emissions minimised, where possible, recognising the need to maintain occupational safety standards. This may potentially be achieved through restrictions on reversing activities or installation of non-tonal reversing alarms on mobile plant and equipment.			
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.			
Community Consultation			
Provide at least five and not more than 14 days' notice to affected receivers prior to starting works (refer to Section Error! Reference source not found.).		Ongoing	CNMP Table 12

Measure	Person Responsible	Timing / Frequency	Reference / Notes
Provide signage detailing who is undertaking the works and a contact number.	Communications and Community Liaison Representative		
Where there are complaints about noise from an identified work activity, review and implement, where feasible and reasonable, additional control measures.			
Monitoring			
Conduct noise monitoring in response to any complaints received to verify that levels do not substantially exceed predicted levels.	Vaughan Constructions	Ongoing	CNMP Table 12
Initial noise monitoring of plant and equipment will be undertaken to ensure the noise levels are being met (refer to Section Error! Reference source not found.).			

4.3 Traffic

Construction traffic will be managed in accordance with the CTMP (TPA 2021) prepared to fulfil Condition B8 of SSD 10470 and is attached as **Appendix C**.

The CTMP seeks to minimise traffic impacts on the surrounding road network, ensure safety and efficiency for workers, pedestrians and other road users, and provide information regarding the construction vehicle access routes and any changed road conditions.

The envisaged truck movements during the works consist of the following:

- Demolition – 10 per day
- Earthworks – 5 per day
- Construction – 5 to 10 per day (more during concrete pours).

The environmental management controls in Table 9 will be implemented to ensure road safety and network efficiency during construction.

Table 9 Environmental Management Controls for Traffic

Environmental Management Control	Person Responsible	Timing / Frequency	Reference / Notes
All drivers will adhere to the Driver Code of Conduct outlined in Section 5 of the CTMP.	Drivers	Ongoing	CTMP Section 5
Traffic Control Plans will be prepared by the Traffic Control contractor as required throughout the process and submitted to Council for approval. Traffic controllers will be in place at the site entry and exit points to control heavy vehicle movements in order to maintain the safety of pedestrians and other road users.	Vaughan	As required	CTMP Section 4.6
All material loading will occur within the construction site boundary.	Vaughan	Ongoing	CTMP Section 4.4
The delivery of materials, equipment etc. and the removal of demolition and other materials will all be undertaken within the site at all times. There may be a need to use mobile cranes (or similar), however these activities will also be contained within the site and all materials and equipment will be stored within the site.			
All drivers shall follow instructions of Vaughan Constructions staff at all times.	Drivers / Vaughan	Ongoing	CTMP Section 5
All drivers are to adhere to all signposted directions			
Vehicles shall not queue outside the site			
Vehicles shall enter and exit the site in a safe and orderly manner			
Primary site access and egress for site is from Percy Street			
Movements within the site are restricted to 10kmp/h			

Environmental Management Control	Person Responsible	Timing / Frequency	Reference / Notes
Vehicles shall follow the main traffic route at all times			
Drivers must maintain a safe 'buffer' distance from any person / or plant being operated by a person whilst moving on / around the site			
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			
All parking shall be within designated areas unless approved by SM			
Appropriate measures will be put in place to ensure that vehicles leaving the site do not deposit dirt or mud on surrounding roadways	Vaughan	Ongoing	CTMP Section 6
Refer to Section 6 of CTMP for full details of monitoring requirements.			

4.4 Soil and Water

The following documents have been prepared to ensure appropriate soil and water management during the construction of Woolworths warehouse at Auburn:

- ESCP – prepared to address Conditions B24 of SSD 10470 and is attached as Appendix E. The ESCP aims to reduce the potential for risk of environmental impacts caused by erosion and sedimentation associated with project activities.

While these documents should be referred to for specifics, the environmental management controls are summarised in **Table 10**.

Table 10 Environmental Management Controls for Water and Soil

Environmental Management Control	Person Responsible	Timing / Frequency	Reference / Notes
General			
Construction will comply with section 120 of the POEO Act, which prohibits the pollution of waters.	Vaughan	Ongoing	SSD 10470 Condition B25
All works on or adjacent to waterfront land will be carried out in accordance with the Department of Industry’s (2012) <i>Guidelines for Controlled Activities on Waterfront Lands</i> .			Best practice
Water			
Prior to the commencement of construction, the Applicant must design, install and operate a stormwater management system for the development. The system must: (a) be designed by a suitably qualified and experienced person(s); (b) be generally in accordance with the conceptual design in the EIS; (c) be in accordance with applicable Australian Standards; and (d) 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.	Fabcot / Vaughan	Prior to construction	SSD 10470 Condition B26
Clean and dirty water runoff will be adequately separated to avoid mixing where possible through the use of diversions, clean water drains, and the early installation of permanent drainage infrastructure.	Vaughan	Ongoing	ESCP
Erosion and Sediment Control			

Environmental Management Control	Person Responsible	Timing / Frequency	Reference / Notes
The ESCP will be implemented to ensure stormwater flows do not increase in any downstream areas.	Vaughan	Prior to commencing construction and ongoing	SSD 10470 Condition B24
A structured erosion and sediment control training program will be implemented for all relevant site personnel in the form of inductions and toolbox talks.		Ongoing	Section 3.4 and ESCP Section 7.4
The extent and duration of construction disturbance will be minimised.			ESCP Section 7.4
Off-site water flows around or across site will be controlled and diverted.			
On-site flows to installed sediment controls will be controlled and diverted.			
Topsoils for site rehabilitation and revegetation will be conserved.			
Progressive erosion methods and techniques will be implemented throughout various work stages.			
Suitable sediment controls including sediment filters, traps and sumps as necessary will be constructed and managed.			
A thorough inspection and maintenance program will be developed to monitor, record and schedule actions for maintenance and upgrades of controls, rectification works, and sediment removal and handling.		Vaughan	Ongoing
A procedure will be established to monitor forecast weather events and implementing response plans for significant wind or rainfall events and flooding.			
Timely and progressive stabilisation will be undertaken of disturbed areas prior to final landscaping.			
Stabilisation measures will be monitored, and prompt and effective revegetation and permanent stabilisation promoted.	ESCP Section 9		
The erosion and sediment control management measures outlined in plans 19513_CC_SE02 and 19513_CC_SE01 of the ESCP will be implemented as required.			
Fill Importation			
Only Virgin Excavated Natural Material (VENM), Excavated Natural Material (ENM) or other material approved in writing by EPA will be brought onto the site.	Vaughan	Ongoing	Condition B23
Accurate records of the volume and type of fill used on site will be maintained and made available to the DPIE if requested.			

Environmental Management Control	Person Responsible	Timing / Frequency	Reference / Notes
Materials imported to Site will be either Excavated Natural Material (ENM) or Virgin Excavated Natural Material (VENM). Assessment requirements in Section 16 of the RAP (Appendix H) will be adhered to.		Prior to importation of fill	
Inspections of vehicles importing fill to site will be undertaken. Where suspicious loads and/or evasive answers are apparent, permission to unload will not be granted.			
Where contaminants or suspected contaminants are observed in imported material during tipping, the truck will be reloaded and be sent back to the source site. Cartage from the source site will cease and will only recommence when the Contractor is satisfied that the issue has been addressed.			
A Materials Tracking Register will be implemented to ensure that only "approved" ENM or VENM is imported to the Site.		Weekly	

An additional ESCP has been prepared by Vaughan to address the construction and use of the temporary overflow carpark. This ESCP is attached as **Appendix E**.

4.5 Remediation and Contamination

A Remediation Action Plan (RAP) has been prepared for the site (Geologix 2021) and is attached as **Appendix H**. Management measures relating to contamination management are outlined in **Table 11**.

Table 11 Remediation and Contamination Measures

Environmental Management Control	Person Responsible	Timing / Frequency	Reference / Notes
Prior to the commencement of construction, the Applicant must engage a Site Auditor accredited under the CLM Act NSW Site Auditor Scheme	Fabcot/Vaughan	Prior to construction	Condition B15
The site is to be remediated in accordance with the approved RAP and 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.	Fabcot/Vaughan		Condition B16
The Applicant must ensure the remediation works for the development are undertaken by a suitably qualified and experienced contractor(s).	Fabcot/Vaughan		Condition B17
Prior to the commencement of construction, the Applicant must prepare an unexpected contamination finds procedure to ensure that potentially contaminated material is appropriately managed	Fabcot/Vaughan	Prior to construction	Condition B22 RAP Section 15.
In the event that fragments of Asbestos Containing Materials (ACM) are identified during the earthworks, the procedure outlined in Section 15 of the RAP will be implemented.	Vaughan	Ongoing	RAP Section 15
In the event that other contaminated materials are identified during the earthworks, works will cease and the procedure outlined in Section 15 of the RAP will be implemented.	Vaughan	Ongoing	RAP Section 15
A Materials Tracking Plan (MTP) will be developed and implemented in accordance with Section 23 of the RAP.	Vaughan / Geologix	Ongoing	RAP Section 23
A Validation Report in accordance with the requirements of the NSW OEH (2011) <i>Guidelines for Consultants Reporting on Contaminated Sites</i> and EPA (2017) <i>Guidelines for the NSW Site Auditor Scheme (3rd Edition)</i> .	Vaughan / Geologix	At the completion of the earthworks and if any unexpected finds were encountered that required remediation	RAP Section 23

4.6 Aboriginal Heritage

The following measures will be implemented with reference to Aboriginal Heritage

Table 12 Environmental Management Controls for Aboriginal heritage

Environmental Management Control	Person Responsible	Timing / Frequency	Reference / 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	Vaughan/ER	As required	Condition B27

4.7 Hazards and Risks

An Unexpected Finds Protocol – Contamination (UFP – Contamination) has been prepared by Geologix as outlined in Section 15 of the RAP.

The environmental controls that will be implemented to minimise the potential for environmental incidents relating to the hazardous goods and contamination are presented in **Table 13**.

Table 13 Environmental Management Controls for Dangerous Goods

Environmental Management Control	Person Responsible	Timing / Frequency	Reference / Notes
The quantities of dangerous goods stored and handled at the Site will be below the threshold quantities listed in <i>Hazardous and Offensive Development Application Guidelines - Applying SEPP 33</i> at all times.	Vaughan	Ongoing	SSD 10470 Condition B29
Chemicals, fuels and oils will be stored in spill trays or otherin accordance with relevant Australian Standards and/or the <i>Storing and Handling of Liquids: Environmental Protection – Participants Manual</i> (Department of Environment and Climate Change 2007).			Best Practice
An unexpected contamination find procedure (Geologix 2021) has been prepared to ensure that potentially contaminated material is appropriately managed.		Prior to commencing construction	SSD 10470 Condition B22
Asbestos Containing Material (ACM) will be disposed off site with the disposal location and results recorded prior to its removal from the site. Alternatively, Asbestos Containing Material will be encapsulated on site in accordance with relevant legislation	Vaughan / Environmental Representative	As required	Condition B22 RAP Section 13
The Contractor's Project Manager and the ER will be notified of any suspected or potential contamination exposed during construction activities, and cease all work activities within the vicinity of actual or suspected contaminated land.	Vaughan	Immediately	Best practice

Environmental Management Control	Person Responsible	Timing / Frequency	Reference / Notes
Adequate quantities of suitable material will be kept on site to counteract spillage readily available i.e. Emergency spill kits.		Prior to commencing construction and ongoing	
Emergency spill kits will be kept on site at all points of transfer for fuels and hydrocarbons, and at all other locations deemed necessary.			
Safety Data Sheets (SDS) will be kept in the Site office and/or safety system for any potentially hazardous goods stored and/or used on site.		Ongoing	
The actions specified on the respective SDS will be implemented in the event of a minor chemical or fuel spill.			
Appropriate signage and spill kits will be maintained at key locations according to the construction schedule.			
All employees and contractors required to use potentially dangerous goods will do so in accordance with the relevant safety data sheets	Vaughan	Ongoing	Best practice
Any liquid wastes or dangerous goods waste generated by the construction activities (e.g. due to damage or leakage of containment) will be disposed of by a suitably qualified contractor to an appropriately licensed disposal facility.			
In the event that fragments of Asbestos Containing Materials (ACM) are identified during the earthworks, the procedure outlined in Section 15 of the RAP will be implemented.	Vaughan	Ongoing	RAP Section 15
In the event that other contaminated materials are identified during the earthworks, works will cease and the procedure outlined in Section 15 of the RAP will be implemented.	Vaughan / ER	Ongoing	RAP Section 15
A Materials Tracking Plan (MTP) will be developed and implemented in accordance with Section 23 of the RAP.	Vaughan / ER	Ongoing	RAP Section 23
A Validation Report in accordance with the requirements of the NSW OEH (2011) <i>Guidelines for Consultants Reporting on Contaminated Sites</i> and EPA (2017) <i>Guidelines for the NSW Site Auditor Scheme (3rd Edition)</i> .	Vaughan / ER	At the completion of the earthworks and if any unexpected finds were encountered that required remediation	RAP Section 23

4.8 Waste

Construction waste will be managed in accordance with the Condition B31 of Development Consent SSD 10470.

The environmental management controls in **Table 14** will be implemented to minimise the potential for adverse waste impacts from the construction of the warehouse.

Table 14 Environmental Management Controls for Waste

Reporting Requirement	Person Responsible	Timing / Frequency	References / Notes
Waste will be secured and maintained within designated waste storage areas at all times and will not leave the Site onto neighbouring public or private properties.	Vaughan	Ongoing	SSD 10470 Condition B31
All liquid and non-liquid wastes to be taken off Site will be assessed and classified in accordance with the latest version of EPA's <i>Waste Classification Guidelines Part 1: Classifying Waste</i> (EPA 2014) and dispose of all wastes to a facility that may lawfully accept the waste.			SSD 10470 Condition B33
Waste generated outside the Site will not be received at the Site for storage, treatment, processing, reprocessing, or disposal.			SSD 10470 Condition B34
Suitable measures will be implemented to manage pests, vermin and declared noxious weeds on the Site.			SSD 10470 Condition B30
The Site will be inspected on a regular basis to ensure that the pest/weed/vermin measures are working effectively, and that they are not present on Site in sufficient numbers to pose an environmental hazard or cause the loss of amenity in the surrounding area.			SSD 10470 Condition B30
Best practice waste management waste avoidance measures should be followed.			Best Practice
Best practice waste management waste reuse, recycling and disposal measures should be followed.			Best Practice
Best practice waste management waste reuse, recycling and disposal measures should be followed.			Best Practice
All staff, including sub-contractors and labourers, employed during the site preparation and construction phases of the Project must undergo induction training regarding waste management for the Site.	Vaughan	Ongoing	Best Practice
Standard signage is to be posted in all waste storage and collection areas. All waste containers should be labelled correctly and clearly to identify stored materials.			Best Practice

4.9 Air Quality

The environmental controls in **Table 15** will be implemented to minimise the potential for adverse dust emissions and impacts during the construction.

Table 15 Environmental Management Controls for Air Quality

Environmental Management Control	Person Responsible	Timing / Frequency	Reference / Notes
All trucks entering or leaving the site with loads have their loads covered.	Vaughan	Ongoing	SSD 10470 Condition B36
Trucks associated with the development do not track dirt onto the public road network.			
Public roads used by trucks are kept clean.	Vaughan	Ongoing	SSD 10470 Condition B36
Exposed surfaces and stockpiles are suppressed by regular watering.	Vaughan	Ongoing	SSD 10470 Condition B36
Land stabilisation works are carried out progressively on site to minimise exposed surfaces.	Vaughan	Ongoing	SSD 10470 Condition B36
The development must not cause or permit the emission of any offensive odour (as defined in the POEO Act).	Vaughan	Ongoing	SSD 10470 Condition B37
Ensure effective water suppression of dust is used during demolition operations.	Vaughan	Ongoing	Best practice
Bag and remove any biological debris or damp down such material before demolition.			
In the event of rain, stockpiles will be covered in PVC plastic at the end of each day to prevent water infiltration, sediment runoff and escape of moisture or dust.	Vaughan	Ongoing	RAP Section 19.1
Light water spray can be used to suppress dust;	Vaughan	Ongoing	RAP Section 19.2
Stockpiles can be covered with LDPE; and	Vaughan	Ongoing	RAP Section 19.2
Excavation surfaces can be lightly wetted down if emitting dust.	Vaughan	Ongoing	RAP Section 19.2
Odour			
Odour monitoring will be performed through regular personal olfactory observations by site personnel.	Vaughan	Ongoing	RAP Section 19.2
A PID may be used during earthworks to detect and identify hotspots where additional protection procedures may be necessary;	Vaughan	Ongoing	RAP Section 19.2
Installing a water misting system around the odour area;	Vaughan	Ongoing	RAP Section 19.2
Using an odour suppressant such as Biosolv as required.	Vaughan	Ongoing	RAP Section 19.2

Environmental Management Control	Person Responsible	Timing / Frequency	Reference / Notes
Asbestos air monitoring will be undertaken during bonded ACM remediation works.	Vaughan	Ongoing	RAP Section 19.2
Earthworks			
Scopes of work will be planned in such a way to assist in minimising the duration that surfaces are left denuded.	Vaughan	Ongoing	Best practice
Rehabilitation of disturbed surfaces will be undertaken within 20 days of final construction levels.		Within 20 days of final construction levels	
If unanticipated strong odours or significant visual dust emissions are noted or observed on site, an investigation will be undertaken by the Vaughan’s Project Manager to identify the scope of work or source of the emission prior to undertaking and applying any additional mitigation measures.		Ongoing	
Demolition			
Ensure effective water suppression of dust is used during demolition operations.	Vaughan	Ongoing	Best practice
Bag and remove any biological debris or damp down such material before demolition.			

4.10 Visual Amenity

Table 16 outlines the mitigation measures to be implemented during construction to manage the impacts to visual amenity.

Table 16 Environmental Management Controls for Visual Amenity

Reporting Requirement	Person Responsible	Timing / Frequency	References / Notes
The landscaping must adhere to the approved Landscape Plan to manage the revegetation and landscaping works on-site.	Vaughan	Prior to commencing construction and ongoing	SSD 10470 Condition B38
Lighting will comply with the latest version of AS 4282-1997 - Control of the obtrusive effects of outdoor lighting (Standards Australia, 1997)			SSD 10470 Condition B39
Lighting will be mounted, screened and directed in such a manner that it does not create a nuisance to surrounding properties or the public road network			
All signage and fencing will be erected in accordance with the plans included in the RTS.			SSD 10470 Condition B40

4.11 Fire Safety and Emergency

The environmental controls that will be implemented to minimise the potential for environmental incidents relating to fire are presented in **Table 17**.

Table 17 Environmental Management Controls for Fire Safety and Emergency

Environmental Management Control	Person Responsible	Timing / Frequency	Reference / Notes
Cutting, welding, grinding or other activities likely to generate fires will not be undertaken in the open on days when a total fire ban is proclaimed, unless an exemption is granted by the relevant Fire Service.	Vaughan	Ongoing	Best practice
When there is a risk of fire being caused by work such as welding, thermal or oxygen cutting, heating or other fire producing or spark producing operations Vaughan Construction Hot Works Permit procedure will be implemented.			
Appropriate firefighting equipment will be provided as required for the safety of persons and property.		Prior to commencing construction and ongoing	
Emergency vehicle access to and from the site will be available at all times during construction.		Ongoing	
Fire extinguishers will be located at work locations where hot work is being undertaken or flammable gases are stored.			
Fire Extinguishers will be made available on site			
Waste material will not be burnt on site and no fires of any kind will be lit on site.			

4.12 Community Engagement

Table 18 outlines the mitigation measures to be implemented during construction to manage the impacts to visual amenity.

Table 18 Environmental Management Controls for the Community

Reporting Requirement	Person Responsible	Timing / Frequency	References / Notes
Consultation must be held with the community regularly throughout the development, including consultation with nearby sensitive receivers, relevant regulatory authorities, and other interested stakeholders.	Fabcot/Vaughan	Ongoing	SSD-10470 Condition B41
Details of any corrective action will be recorded as per the complaints form as included in Appendix F .	Vaughan / Fabcot	Ongoing	SSD-10470 Condition C1

5 Monitoring and Reporting

5.1 Environmental Monitoring and Inspections

Table 19 summarises the monitoring requirements for the construction of warehouse as set out in SSD 10470 and relevant management plans.

Table 19 Monitoring and Inspection Requirements

Monitoring / Inspection Requirement	Person Responsible	Timing / Frequency	References / Notes
General			
Inspection and maintenance of all plant and equipment items to ensure optimal operating condition.	Vaughan	As specified by the manufacturer / supplier	SSD 10470 Condition A18
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.	Vaughan Constructions	Weekly	Best practice
Noise and Vibration			
Attended and/or real-time noise and/or vibration monitoring will be undertaken in accordance with Table 15 of the CNMP.	Vaughan	Prior to demolition and earthworks	CNMP Section 5.4 and Table 15
Monitoring will also be undertaken in response to any complaints regarding noise or vibration.		Following a noise or vibration related complaint	
All items of acoustic instrumentation utilised will be designed to comply with applicable guidelines and carry current calibration certificates.		Ongoing	
Air Quality			
Visual inspections will be undertaken to assess dust levels and the effectiveness of any dust controls that have been implemented, which may include engaging additional resources to reduce or mitigate the risk of dust leaving the site	Vaughan	Daily	Best practice
Traffic			
Undertaking random surveillance of driver activity on the site	Vaughan	Monthly	CTMP Section 6
Reviewing the Incident Register	Vaughan	Monthly	CTMP
Interviewing the access control staff	Vaughan	Monthly	Section 6

Monitoring / Inspection Requirement	Person Responsible	Timing / Frequency	References / Notes
Soil and Water			
Any material transported onto road surfaces to be removed.	Vaughan	Daily and before rainfall	Best practice
Stabilisation measures will be monitored, and prompt and effective revegetation and permanent stabilisation promoted.		Ongoing	ESCP
Waste			
Records of waste volumes recycled, reused or contractor removed are to be maintained.	Vaughan	Daily	Best practice
Visual inspections of waste storage areas will be undertaken.			
Visual Amenity			
The Site will be inspected to ensure that these measures are working effectively, and that pests, vermin or noxious weeds are not present on Site in sufficient numbers to pose an environmental hazard, or cause the loss of amenity in the surrounding area.	Vaughan / ER	During Environmental Consultant inspections	Best practice
Community			
The following will be monitored: • Total number of complaints • Number of complaints relating to lack of consultation / misinformation / confusion • Number of enquiries relating to information previously disseminated • Number of complaints / enquiries within defined categories based on theme or subject • Response timeframes	Communications and Community Liaison Representative	Monthly	Best practice

5.2 Reporting

Table 20 summarises the reporting requirements for the construction of the warehouse as set out in SSD 10470 and relevant management plans.

Table 20 Reporting Requirements

Reporting Requirement	Person Responsible	Timing / Frequency	References / Notes
General Environmental Performance			
Vaughan will report environmental performance during regular management meetings and/or '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	Vaughan	Weekly	Section 3.4
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 - Minutes of management review meetings - Induction and training records	Vaughan Constructions	For at least 5 years after completion	Best practice
Meteorological data including rainfall will be recorded.		Daily	
Incident / Non-Compliance Reporting			
A written incident notification will be emailed to the DPIE at compliance@planning.nsw.gov.au and include the requirements outlined in Appendix 4 of SSD 10470.	Fabcot / Vaughan	Within 7 days after Fabcot becomes aware of the incident	SSD 10470 Condition C9 and Appendix 4
A detailed incident report will be provided to the Planning Secretary and include the requirements outlined in Appendix 5 of SSD 10470.		Within 30 days of the incident occurring	
The DPIE will be notified of any non-compliance in writing to compliance@planning.nsw.gov.au .	Vaughan Constructions	Within 7 days of Vaughan Constructions becoming aware of the non-compliance	SSD-10470 Condition C10

Reporting Requirement	Person Responsible	Timing / Frequency	References / Notes
A register of all complaints and non-compliances will be kept.	Fabcot/Vaughan	For at least 5 years after completion	Best practice
Noise			
Monitoring reports will be produced following each monitoring survey.	Vaughan	Weekly following each monitoring survey	CNMP Section 7
Contamination			
Submission of a validation report to the Planning Secretary and Site Auditor confirming remediation works completed in accordance with RAP.	ER / Vaughan	Three months completion of the remediation works	SSD 10470 Condition B18
Water and Soil			
Prepare and submit a Materials Tracking Register in accordance with the RAP.	Vaughan / ER	Weekly	RAP
Waste			
Results of the inspections will be reported to the Project Manager.	Vaughan	Weekly	Best practice
Hazardous Goods and Contamination			
Any material identified as contaminated will be disposed off site, with the disposal location and results of testing recorded prior to its removal from the site.	Vaughan / Environmental Consultant	As required	Best practice
Community			
A summary of all community results will be reported to the Environmental Consultant and during project team meetings. The information will also be reported on the webpage.	Communications and Community Liaison Representative	Monthly	Best practice

5.3 Auditing

Table 21 summarises the auditing requirements as set out in SSD 10470 and relevant management plans.

Table 21 Audit Requirements

Reporting Requirement	Person Responsible	Timing / Frequency	References / Notes
Contamination			
Within six months of the completion of the remediation works and prior to the commencement of operation, the Applicant must obtain from the Site Auditor, a Site Audit Statement and a Site Audit Report. The reports must be prepared in accordance with the relevant guidelines under the CLM Act and must confirm: (a) the remedial works approved under this consent have been completed in accordance with the remediation objectives listed in the approved RAP; and (b) the site is suitable for its intended use. A copy of the final Site Audit Statement and Site Audit Report must be provided to the Planning Secretary and the EPA.	Fabcot	Six months completion of remediation	SSD 10470 Condition B19

5.4 Contingency Management Plan

Table 22 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.

All Condition Amber and Condition Red occurrences will be recorded in the Environmental Representative Monthly Report and discussed during the toolbox talks.

Table 22 Contingency Plan

Key Element	Trigger / Response	Condition Green	Condition Amber	Condition Red
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 (70 dBA).
	Response	Ongoing best practice management measures to minimise noise emissions.	Undertake all feasible and reasonable mitigation and management measures to minimise noise impacts.	Undertake all feasible and reasonable mitigation and management measures to ensure noise levels are below Highly Noise Affected criteria. If noise levels cannot be kept below applicable limits then a different construction method or equipment will be utilised.
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.

Key Element	Trigger / Response	Condition Green	Condition Amber	Condition Red
	Response	Continue monitoring program as normal.	Review and investigate construction activities and respective control measures, where appropriate. Implement additional remedial measures, such as: • Deployment of additional water sprays, water trucks etc.	Undertake an investigation of the dust generating activities, and if necessary, temporarily halt the dust generating activities.
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 are received from the same complainant after the additional mitigation measures have been implemented.

Key Element	Trigger / Response	Condition Green	Condition Amber	Condition Red
	Response	Continue monitoring program as normal.	Report the complaint to the regulator, in line with complaints handling procedure. Review and investigate construction activities and increase dust suppression measures (additional watering, covering stockpiles etc.), where appropriate.	Review real-time monitoring data at the existing continuous monitors to investigate the likelihood of onsite activities contributing.
Construction movements	Trigger	Construction traffic does not exceed the permissible volume and time constraints.	Construction traffic just exceeds the permissible volume and time constraints.	Construction traffic far exceeds the permissible volume and time constraints.

Key Element	Trigger / Response	Condition Green	Condition Amber	Condition Red
	Response	No response required. Continue monitoring program.	Review and investigate construction activities, and where appropriate, implement additional remediation measures such as: • Temporary halting of activities and resuming when conditions have improved • Review CTMP and update where necessary • Provide additional training	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. Where appropriate, implement additional remediation measures such as: • 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
Queuing	Trigger	No queuing identified.	Queuing identified within site.	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 .	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. Where appropriate, implement additional remediation measures such as: • 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.	Noise levels in minor excess of imposed noise constraints.	Noise levels greatly in excess of imposed noise constraints.
	Response	No response required. Continue monitoring program.	Undertake all feasible and reasonable mitigation and management measures to minimise noise impacts.	Undertake all feasible and reasonable mitigation and management measures to ensure noise levels are below Highly Noise Affected criteria. If noise levels cannot be kept below applicable limits, then a different construction method or equipment must be utilised.
Traffic Control Plans	Trigger	No observable issues.	Minor inconsistencies with TCP to onsite operations.	Near miss or incident occurring regardless of / as a result of the TCP being implemented.

Key Element	Trigger / Response	Condition Green	Condition Amber	Condition Red
	Response	No response required. Continue monitoring TCPs.	Traffic Controller to amend TCP on site and to keep a log of all changes.	Stop work until an investigation has been undertaken into the incident. There are to be changes made to the TCP to ensure that the safety of all workers, students and civilians are catered for.
Traffic Air Quality Impacts	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.	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	Review and investigate construction activities and respective control measures. 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 occurrence in future.
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.

Key Element	Trigger / Response	Condition Green	Condition Amber	Condition Red
	Response	Continue 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 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.
Waste	Trigger	Weekly Environmental Consultant inspections identified no waste outside of dedicated bins and stockpiles.	Weekly Environmental Consultant inspections identified minimal waste outside of dedicated bins and stockpiles.	Weekly Environmental Consultant inspections identified large quantities of waste outside of dedicated bins and stockpiles. Complaints received regarding waste.
	Response	Continue CEMP implementation.	The Project Manager is notified and the waste is cleaned up immediately.	The Project Manager is notified and 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 and the CCS is implemented.
Unexpected Contamination	Trigger	No contamination uncovered during earthworks.	Areas of possible contamination uncovered.	Areas of contamination uncovered.

Key Element	Trigger / Response	Condition Green	Condition Amber	Condition Red
	Response	Continue CEMP implementation.	Stop work immediately and the contamination assessed according to the UCP (Geologix 2021).	Stop work immediately and follow UFP as per Section 15 of the RAP
Heritage Find	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 follow unexpected finds protocol as outlined in SSD10470 B27.	Stop work and follow unexpected finds protocol as outlined in SSD10470 B27. Heritage item to be salvaged and removed from site by a qualified archaeologist.
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 consultation register. No further response required.	Acknowledge receipt and record in consultation register. Direct enquiry to relevant person for actioning and response within 5 days.	Acknowledge receipt and record in consultation register. Direct enquiry to relevant person for actioning and response within 48 hours.
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.

Key Element	Trigger / Response	Condition Green	Condition Amber	Condition Red
	Response	Record in consultation register and advise Fabcot media/marketing team. No further response required.	Record in consultation register and advise Fabcot media/marketing team. No further response required.	Record in consultation register and advise Fabcot 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 consultation register. Identify opportunities for improvement to manage potential future events.	Contact relevant person for actioning and response immediately. Acknowledge in consultation register. Identify opportunities for improvement to manage potential future events.

6 Review and Improvement of the CEMP

Review of the CEMP will be undertaken at least quarterly. The review 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.

Condition C7 of SSD 10470 also states that all strategies, plans and programs required under SSD 10470 will be reviewed within three months of:

- The submission of a Compliance Report under Condition C15;
- The submission of an incident report under Condition C10;
- The approval of any modification of the conditions of the consent; or
- The issue of a direction of the Planning Secretary under Condition A3 which requires a review.

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.

As per Condition C8 the revised documents will be sent to DPIE within 6 weeks of review. All employees and contractors will be informed of any revisions to the CEMP by the Contractor's Project Manager during toolbox talks.

7 References

Geologix (2021) Proposed Warehouse & Distribution Centre 11 – 13 Percy Street, Auburn Remediation Action Plan

SLR Consulting (2021) Construction Noise Management Plan

Transport and Traffic Planning Associates (2021) Proposed Warehouse & Distribution Centre 11 – 13 Percy Street, Auburn Construction Traffic Management Plan

Willowtree Planning (2020) Environmental Impact Statement Proposed Warehouse and Distribution Centre 11 & 13 Percy Street, Auburn Lot 1 & 2 DP1183821

APPENDIX A

Development Consent SSD-10470

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 26 April 2021, 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



Chris Ritchie
Director
Industry Assessments

Sydney

25 June 2021

SCHEDULE 1

Application Number:	SSD-10470
Applicant:	Fabcot Pty Limited
Consent Authority:	Minister for Planning and Public Spaces
Site:	11 and 13 Percy Street, Auburn Lot 1 DP 1183821 Lot 2 DP 1183821
Development:	Construction and 24-hour operation of a Warehouse and Distribution centre, comprising: • demolition of two existing buildings, associated structures and landscaping • remediation work • bulk earthworks and tree clearing • construction and operation of a warehouse with ancillary offices and customer pick up component; and • car parking, docking areas, associated infrastructure, site access points and landscaping.

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DEFINITIONS

Applicant	Fabcot Pty Limited, or any person carrying out any development to which this consent applies
BCA	Building Code of Australia
BC Act	<i>Biodiversity Conservation Act 2016</i>
Calendar year	A period of 12 months commencing on 1 January
Certifier	A person who is authorised by or under section 6 of the EP&A Act to issue Part 6 certificates
CEMP	Construction Environmental Management Plan
CLM Act	<i>Contaminated Land Management Act 1997</i>
Conditions of this consent	Conditions contained in Schedule 2 of this document
Construction	The demolition and removal of buildings or works, the carrying out of construction 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, Industry and Environment
Development	The development described in Schedule 1, the EIS and Response to Submissions, including the works and activities comprising demolition of existing building, construction and operation of warehouse and distribution facilities, ancillary office, ancillary car parking, infrastructure provision, earthworks, tree clearing and landscaping
Development layout	The plans at Appendix 1 of this consent
DPIE	Department of Planning, Industry and Environment
Earthworks	Bulk earthworks, site levelling, import and compaction of fill material, excavation for installation of drainage and services, to prepare the site for construction
EES	Environment, Energy and Science Group of the Department
EIS	The Environmental Impact Statement titled ' <i>Environmental Impact Statement Proposed Warehouse and Distribution Centre</i> ', prepared by Willow Tree Planning, dated October 2020, 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	<i>Environmental Planning and Assessment Act 1979</i>
EP&A Regulation	Environmental Planning and Assessment Regulation 2000
EPL	Environment Protection Licence under the POEO Act
Evening	The period from 6 pm to 10 pm
Fibre ready facility	As defined in section 372W of the Telecommunications Act 1997 (Cth)
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 <i>Heritage Act 1977</i> , and assessed as being of local, State and/ or National heritage significance, and/or an Aboriginal Object or Aboriginal Place as defined under the <i>National Parks and Wildlife Act 1974</i> , the World Heritage List, or the National Heritage List or Commonwealth Heritage List under the <i>Environment Protection and Biodiversity Conservation Act 1999</i> (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
Night	The period from 10 pm to 7 am on Monday to Saturday, and 10 pm to 8 am on Sundays and Public Holidays
Non-compliance	An occurrence, set of circumstances or development that is a breach of this consent
OCHP	Operational Complaints Handling Protocol
OEMP	Operational Environmental Management Plan
Operation	The use of the warehouse and distribution facility as described in the EIS and RTS
Principal Certifier	Principal Certifier in accordance with the EP&A Act
Planning Secretary	Planning Secretary under the EP&A Act, or nominee
POEO Act	<i>Protection of the Environment Operations Act 1997</i>
RAP	Remedial Action Plan titled <i>Remediation Action Plan 11-13 Percy Street Auburn NSW 2144</i> , dated February 2021, prepared by Geo-Logix
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
Response to submissions	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 <i>Response to Submissions – SSD 10470 Proposed Warehouse and Distribution Centre</i> , prepared by Willow Tree Planning and dated 2 February 2021; and updated Noise Assessment titled <i>SSDA Acoustic Assessment Rev 7</i> , prepared by Acoustic Logic and dated 20 May 2021; and <i>Supplementary Response to Submissions – SSD 10470 Proposed Warehouse and Distribution Centre</i> , prepared by Willow Tree Planning and dated 9 June 2021
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
Site Auditor	As defined in section 4 of the <i>Contaminated Land Management Act 1997</i>
Site Audit Report	As defined in section 4 of the <i>Contaminated Land Management Act 1997</i>
Site Audit Statement	As defined in section 4 of the <i>Contaminated Land Management Act 1997</i>
TfNSW	Transport for New South Wales
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 ADMINISTRATIVE CONDITIONS

OBLIGATION TO MINIMISE HARM TO THE ENVIRONMENT

- A1. 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

- A2. 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 and Response to Submissions;
 - (d) in accordance with the Development Layout in Appendix 1; and
 - (e) in accordance with the management and mitigation measures in Appendix 2.
- A3. 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 A3(a).
- A4. 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 A2(c) or A2(e). In the event of an inconsistency, ambiguity or conflict between any of the documents listed in Condition A2(c) or A2(e), the most recent document prevails to the extent of the inconsistency, ambiguity or conflict.

LIMITS OF CONSENT

Lapsing

- A5. 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.

NOTIFICATION OF COMMENCEMENT

- A6. The date of commencement of each of the following phases of the development must be notified to the Department in writing, at least one month (or as otherwise agreed by the Planning Secretary) before that date:
- (a) construction;
 - (b) operation; or
 - (c) cessation of operations.
- A7. If the construction or operation of the development is to be staged, the Department must be notified in writing at least one month (or as otherwise agreed by the Planning Secretary) before the commencement of each stage, of the date of commencement and the development to be carried out in that stage.

EVIDENCE OF CONSULTATION

- A8. 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

- A9. 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).
- A10. 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.
- A11. 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.

PROTECTION OF PUBLIC INFRASTRUCTURE

- A12. Before the commencement of construction, the Applicant must:
- (a) consult with the relevant owner and provider of services that are likely to be affected by the development to make suitable arrangements for access to, diversion, protection and support of the affected 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.
- A13. 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; and
 - (b) relocate, or pay the full costs associated with relocating, any public infrastructure that needs to be relocated as a result of the development.

DEMOLITION

- A14. All demolition must be carried out in accordance with *Australian Standard AS 2601-2001 The Demolition of Structures* (Standards Australia, 2001).

STRUCTURAL ADEQUACY

- A15. 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.
- Part 8 of the EP&A Regulation sets out the requirements for the certification of the development.

COMPLIANCE

- A16. 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

- A17. Before the issue of an occupation certificate for any part of the development, a contribution under section 7.12 of the EP&A Act must be paid to Council under *The Cumberland Local Infrastructure Contributions Plan 2020*. The cost of development works must be calculated in accordance with clause 25J of the EP&A Regulation by a suitably qualified quantity surveyor.

OPERATION OF PLANT AND EQUIPMENT

- A18. 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.

EXTERNAL WALLS AND CLADDING

- A19. The external walls of all buildings including additions to existing buildings must comply with the relevant requirements of the BCA.
- A20. 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.
- A21. The Applicant must provide a copy of the documentation given to the Certifier to the Planning Secretary within seven days after the Certifier accepts it.

AUSGRID REQUIREMENTS

- A22. Prior to commencement of works along Percy Street the Applicant must ensure that all necessary precautions are implemented in relation to the construction and ongoing operation of the facility in the vicinity of 33,000 volt Ausgrid Cables buried along Percy Street.
- A23. The Applicant must decommission and remove two existing Ausgrid substations from the site. The design and construction of any new substations must meet Ausgrid load requirements.

UTILITIES AND SERVICES

- A24. Before the construction of any utility works associated with the development, the Applicant must obtain relevant approvals from service providers.
- A25. Before 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*.
- A26. 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 a real estate development project 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 a real estate development project demonstrated through an agreement with a carrier.
- A27. Before the issue of the final Occupation Certificate the Applicant must demonstrate that the carrier has confirmed in writing they are satisfied that the fibre ready facilities are fit for purpose.

APPLICABILITY OF GUIDELINES

- A28. 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.
- A29. 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 B SPECIFIC ENVIRONMENTAL CONDITIONS

NOISE

Hours of Work

- B1. The Applicant must comply with the hours detailed in Table 1, unless otherwise agreed in writing by the Planning Secretary.

Table 1 Hours of Work

Activity	Day	Time
Demolition, earthworks and construction	Monday – Friday	7 am to 6 pm
	Saturday	8 am to 1 pm
Operation	Monday – Sunday	24 hours

- B2. Works outside of the hours identified in Condition B1 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

- B3. 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.

Construction Noise Management Plan

- B4. The Applicant must prepare a Construction Noise Management Plan for the development to the satisfaction of the Planning Secretary. The Plan must form part of a CEMP in accordance with Condition C2 and must:
- (a) be prepared by a suitably qualified and experienced noise expert;
 - (b) be approved by the Planning Secretary prior to the commencement of construction (or each stage of construction, where relevant) of the development;
 - (c) describe procedures for achieving the noise management levels in EPA's *Interim Construction Noise Guideline* (DECC, 2009) (as may be updated or replaced from time to time);
 - (d) describe the measures to be implemented to manage high noise generating works such as piling, in close proximity to sensitive receivers;
 - (e) include strategies that have been developed with the community for managing high noise generating works;
 - (f) describe the community consultation undertaken to develop the strategies in Condition B4(e); and
 - (g) include a complaints management system that would be implemented for the duration of the development.
- B5. The Applicant must:
- (a) not commence construction of any relevant stage until the Construction Noise Management Plan required by Condition B4 is approved by the Planning Secretary; and
 - (b) implement the most recent version of the Construction Noise Management Plan approved by the Planning Secretary for the duration of construction.

Operational Noise Limits

- B6. The Applicant must ensure that noise generated by operation of the development does not exceed the noise limits in Table 2.

Table 2 Noise Limits (dB(A))

Location	Night L _{Aeq} (15 minute)
NM1	62

NM2	47
NM3	50
NM4	47

Note Noise generated by the development is to be measured in accordance with the relevant 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). Refer to the plan in Appendix 2 for the location of residential sensitive receivers.

Post-Commissioning Noise Verification Report

- B7. A noise verification report must be submitted to the Planning Secretary within three months of the completion of operation. The report must be prepared by a suitably qualified and experienced acoustic consultant and include:
- (a) an analysis of compliance with noise limits specified in Condition B6;
 - (b) an outline of management actions to be taken to address any exceedances of the limits specified in Condition B6; and
 - (c) a description of contingency measures in the event management actions are not effective in reducing noise levels to an acceptable level.

TRAFFIC AND ACCESS

Construction Traffic Management Plan

- B8. Prior to the commencement of construction, 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.
- B9. The Applicant must:
- (a) not commence construction until the Construction Traffic Management Plan required by Condition B8 is approved by the Planning Secretary; and
 - (b) implement the most recent version of the Construction Traffic Management Plan approved by the Planning Secretary for the duration of construction.

Roadworks and Access

- B10. Prior to the commencement of operation of the development, the Applicant must complete the construction of access driveways to Percy St to the satisfaction of the relevant roads authority. The Applicant must obtain approval for the works under section 138 of the *Roads Act 1993*.
- B11. Prior to the commencement of operation of the development, the Applicant must submit design plans to the satisfaction of the relevant roads authority which demonstrate that the proposed accesses to the development are designed to accommodate the turning path of a 19-metre Articulated vehicle.

Parking and Access

- B12. Prior to the commencement of construction of the site access points and the associated driveways, the Applicant must submit design plans to the satisfaction of the relevant roads authority which demonstrate the proposed access arrangements are:
- (a) designed to accommodate the turning path of a 19-metre Articulated vehicle; and
 - (b) consistent with the most recent version of the Austroads Guide to Road Design and TfNSW's specifications.
- B13. The Applicant must provide sufficient parking facilities on-site, including for heavy vehicles and for site personnel, to ensure that traffic associated with the development does not utilise public and residential streets or public parking facilities.

Operating Conditions

- B14. 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 development does not result in any vehicles queuing on the public road network;
 - (c) heavy vehicles, shipping containers and bins associated with the development are not parked on local roads or footpaths in the vicinity of the site;
 - (d) all vehicles are wholly contained on site before being required to stop;
 - (e) all loading and unloading of materials is carried out on-site; and
 - (f) the proposed turning areas in the car park are kept clear of any obstacles, including parked cars, at all times.

REMEDIATION

Site Auditor

- B15. Prior to the commencement of construction, the Applicant must engage a Site Auditor accredited under the CLM Act NSW Site Auditor Scheme.

Remedial Works

- B16. The site is to be remediated in accordance with the approved RAP and 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.
- B17. The Applicant must ensure the remediation works for the development are undertaken by a suitably qualified and experienced contractor(s).

Validation Report

- B18. Within three months of the completion of the remediation works required under Condition B16, 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 approved RAP and CEMP. The validation report must include:
- (a) details of the remediation works undertaken;
 - (b) details of any unexpected finds (see also Condition B22);
 - (c) validation of any imported fill to the site, as permitted under condition (imported soil condition B23); and
 - (d) information that the objectives of the RAP have been achieved.

Site Audit Statement

- B19. Within six months of the completion of the remediation works and prior to the commencement of operation, the Applicant must obtain from the Site Auditor, a Site Audit Statement and a Site Audit Report. The reports must be prepared in accordance with the relevant guidelines under the CLM Act and must confirm:
- (a) the remedial works approved under this consent have been completed in accordance with the remediation objectives listed in the approved RAP; and
 - (b) the site is suitable for its intended use.

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

Long Term Environmental Management Plan

- B20. The Long-Term Environmental Management Plan (LTEMP) for the development must be submitted for consideration and approval by the Site Auditor, prior to the finalisation of the Site Audit Statement and Site Audit Report. The LTEMP is to:
- (a) address all environmental impacts of the development's construction and operational phases;
 - (b) recommend any systems/controls to be implemented to minimise the potential for any adverse environmental impact(s); and
 - (c) incorporate a program for ongoing monitoring and review to ensure the LTEMP remains contemporary with relevant environmental standards; and mechanisms to report results to Planning Secretary and the EPA.
- B21. Upon completion of the Site Audit Statement and Site Audit Report, the Applicant must:
- (a) implement the approved LTEMP; 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 Contamination Finds Procedure

- B22. Prior to the commencement of construction, the Applicant must prepare an unexpected contamination finds procedure to ensure that potentially contaminated material is appropriately managed. The procedure must form part of the CEMP in accordance with Condition C2 and must ensure any material identified as contaminated is disposed of in accordance with the POEO Act and its associated regulations. Details of the final disposal location and the results of any associated testing must be submitted to the Planning Secretary, prior to removal of the contaminated materials from the site.

SOILS, WATER QUALITY AND HYDROLOGY

Imported Soil

- B23. The Applicant must:
- (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.

Erosion and Sediment Control

- B24. Prior to the commencement of any construction or other surface disturbance the Applicant must install and maintain 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 C2.

Discharge Limits

- B25. The development must comply with section 120 of the POEO Act, which prohibits the pollution of waters, except as expressly provided for in an EPL.

Stormwater Management System

- B26. Prior to the commencement of construction, the Applicant must design, install and operate a stormwater management system for the development. The system must:
- (a) be designed by a suitably qualified and experienced person(s);
 - (b) be generally in accordance with the conceptual design in the EIS;
 - (c) be in accordance with applicable Australian Standards; and
 - (d) 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.

ABORIGINAL HERITAGE

Unexpected Finds Protocol

- B27. 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.

B28. 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*.

HAZARDS AND RISK

Dangerous Goods

B29. The quantities of dangerous goods stored and handled at the site must be below the threshold quantities listed in the Department's *Hazardous and Offensive Development Application Guidelines – Applying SEPP 33* at all times.

WASTE MANAGEMENT

Pests, Vermin and Noxious Weed Management

B30. 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*.

Waste Storage and Processing

B31. 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.

Statutory Requirements

B32. All waste materials removed from the site must only be directed to a waste management facility or premises lawfully permitted to accept the materials.

B33. 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 facility that may lawfully accept the waste.

B34. Waste generated outside the site must not be received at the site for storage, treatment, processing, reprocessing, or disposal.

AIR QUALITY

Dust Minimisation

B35. The Applicant must take all reasonable steps to minimise dust generated during all works authorised by this consent.

B36. During construction of the development, the Applicant must ensure that:

- (a) exposed surfaces and stockpiles are suppressed by regular watering;
- (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.

Odour Management

B37. The Applicant must ensure the development does not cause or permit the emission of any offensive odour (as defined in the POEO Act).

VISUAL AMENITY

Landscaping

B38. Prior to the commencement of operation, the Applicant must prepare a Landscape Management Plan to manage the revegetation and landscaping works on-site. The plan must:

- (a) detail the species to be planted on-site, incorporating locally native species;
- (b) describe the monitoring and maintenance measures to manage revegetation and landscaping works;
- (c) be consistent with the Applicant's Management and Mitigation Measures at Appendix 2; and
- (d) be approved by the Planning Secretary prior to the commencement of operation.

Lighting

B39. The Applicant must ensure the lighting associated with the development:

- (a) complies with the latest version of AS 4282-1997 - *Control of the obtrusive effects of outdoor lighting* (Standards Australia, 1997); 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

B40. All signage and fencing must be erected 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.*

COMMUNITY ENGAGEMENT

B41. The Applicant must consult with the community regularly throughout the development, including consultation with the nearby sensitive receivers identified in Appendix 2, relevant regulatory authorities and other interested stakeholders.

PART C ENVIRONMENTAL MANAGEMENT, REPORTING AND AUDITING

ENVIRONMENTAL MANAGEMENT

Management Plan Requirements

- C1. Management plans required under this consent must be prepared in accordance with relevant guidelines, and include:
- (a) detailed baseline data;
 - (b) 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;
 - (c) a description of the measures to be implemented to comply with the relevant statutory requirements, limits, or performance measures and criteria;
 - (d) 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;
 - (e) 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;
 - (f) a program to investigate and implement ways to improve the environmental performance of the development over time;
 - (g) 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
 - (h) 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

- C2. The Applicant must prepare a Construction Environmental Management Plan (CEMP) in accordance with the requirements of Condition C1 and to the satisfaction of the Planning Secretary.
- C3. As part of the CEMP required under Condition C2 of this consent, the Applicant must include the following:
- (a) Construction Noise Management Plan (see Condition B4);
 - (b) Construction Traffic Management Plan (see Condition B8);
 - (c) Erosion and Sediment Control Plan;
 - (d) a copy of the RAP;
 - (e) Unexpected finds contamination procedures (see Condition B22); and
 - (f) Community Consultation and Complaints Handling.
- C4. The Applicant must:
- (a) not commence construction of the development until the CEMP 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

- C5. 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.

- C6. The Applicant must:
- (a) not commence operation until the OCHP required under Condition C5 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 operation.

REVISION OF STRATEGIES, PLANS AND PROGRAMS

- C7. Within three months of:
- (a) the submission of a Compliance Report under Condition C13;
 - (b) the submission of an incident report under Condition C9;
 - (c) the approval of any modification of the conditions of this consent; or
 - (d) the issue of a direction of the Planning Secretary under Condition A2(b) which requires a review,
- the strategies, plans and programs required under this consent must be reviewed.
- C8. 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.

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

- C9. The Planning Secretary must be notified in writing via the Major Projects website immediately after the Applicant becomes aware of an incident. The notification must identify the development (including the development application number and the name of the development if it has one) and set out the location and nature of the incident. Subsequent notification requirements must be given, and reports submitted in accordance with the requirements set out in Appendix 3.

Non-Compliance Notification

- C10. The Planning Secretary must be notified in writing via the Major Projects website within seven days after the Applicant becomes aware of any non-compliance.
- C11. A non-compliance notification must identify the development and the application number for it, set out the condition of consent that the development is non-compliant with, the way in which it does not comply and the reasons for the non-compliance (if known) and what actions have been, or will be, undertaken to address the non-compliance.
- C12. A non-compliance which has been notified as an incident does not need to also be notified as a non-compliance.

Compliance Reporting

- C13. Within three months after the first year of commencement of operation of the development, and in the same month each subsequent year (or such other timing as agreed by the Planning Secretary), the Applicant must submit a Compliance Report to the Planning Secretary reviewing the environmental performance of the development to the satisfaction of the Planning Secretary. Compliance Reports must be prepared in accordance with the Compliance Reporting Post Approval Requirements (Department 2020) and must also:
- (a) identify any trends in the monitoring data over the life of the development;
 - (b) identify any discrepancies between the predicted and actual impacts of the development, and analyse the potential cause of any significant discrepancies; and
 - (c) describe what measures will be implemented over the next year to improve the environmental performance of the development.
- C14. The Applicant must make each Compliance Report publicly available no later than 60 days after submitting it to the Planning Secretary and notify the Planning Secretary in writing at least 7 days before this is done.

Monitoring and Environmental Audits

- C15. 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.*

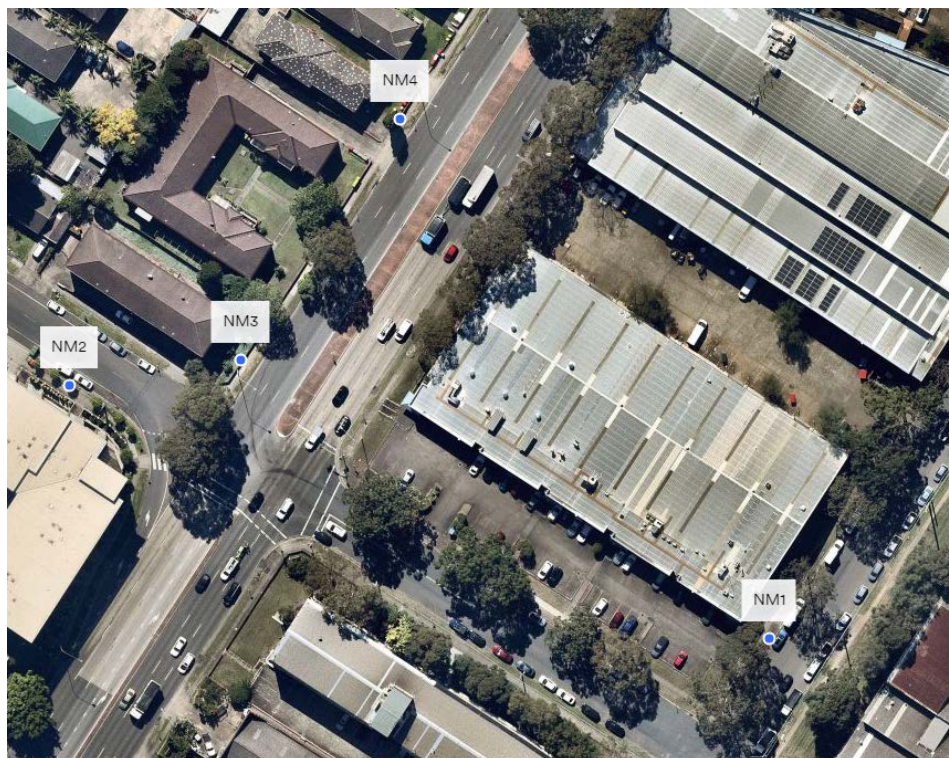
ACCESS TO INFORMATION

- C16. At least 48 hours before the commencement of construction of the development until the completion of all works construction works under this consent, including remediation, 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 A2 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) 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;
 - (vii) any other matter required by the Planning Secretary; and
 - (viii) keep such information up to date, to the satisfaction of the Planning Secretary.

APPENDIX 1 DEVELOPMENT LAYOUT PLANS

Job No.	Drawing No.	Rev.	Date	Title
Architectural Drawings by Nettletontribe Architects				
	11250 DA000	B	09/06/2021	Cover Page
	11250 DA001	B	09/06/2021	Site Plan
	11250 DA002	B	09/06/2021	Demolition Plan
	11250 DA011	G	09/04/2021	Ground Floor Plan
	11250 DA012	E	08/04/2021	Office L1, Carpark & WH Mezz. Floor Plan
	11250 DA013	B	08/04/2021	Roof Plan
	11250 DA014	C	08/04/2021	Mezz 1 Floor Plan
	11250 DA015	B	14/12/2020	Office Floor Plans
	11250 DA021	D	14/12/2020	Elevations – Sheet 1
	11250 DA022	D	14/12/2020	Elevations – Sheet 2
	11250 DA025	A	01/10/2020	Signage Elevations
	11250 DA031	D	14/12/2020	Sections
	11250 DA-051	A	01/10/2020	Shadow Diagrams
	11250 DA-091	A	01/10/2020	Perspective – Sheet 1
	11250 DA-092	A	01/10/2020	Perspective – Sheet 2
Civil Plans prepared by Henry & Hymas				
	19513 DA C000	03	09/12/2020	Cover Sheet, Drawing Schedule, Notes and Locality Sketch
	19513 DA C100	05	15/12/2020	General Arrangement Plan
	19513 DA C101	05	15/12/2020	Site Detail Plan Sheet 1 of 4
	19513 DA C102	05	15/12/2020	Site Detail Plan Sheet 2 of 4
	19513 DA C103	05	15/12/2020	Site Detail Plan Sheet 3 of 4
	19513 DA C104	05	15/12/2020	Site Detail Plan Sheet 4 of 4
	19513 DA C110	04	09/12/2020	Mezzanine Level Detail Plan Sheet 1 of 2
	19513 DA C111	04	09/12/2020	Mezzanine Level Detail Plan Sheet 2 of 2
	19513 DA C200	03	14/09/2020	Stormwater Miscellaneous Details
	19513 DA C201	03	09/12/2020	OSD Tank Plan, Sections and Details
	19513 DA C202	01	09/12/2020	Stormwater Longitudinal Sections
	19513 DA C203	02	09/12/2020	Stormwater Design Results
	19513 DA C250	03	14/09/2020	Stormwater Catchment Plan Pre Development
	19513 DA C251	05	15/12/2020	Stormwater Catchment Plan Post Development
	19513 DA SE01	05	15/12/2020	Sediment and Erosion Control Plan
	19513 DA SE02	03	14/09/2020	Sediment and Erosion Control Details
	19513 DA BE01	02	14/09/2020	Bulk Earthworks Cut/Fill Plan
	19513 DA BE02	02	14/09/2020	Bulk Earthworks Sections Sheet 1 of 2
	195103 DA BE03	02	14/09/2020	Bulk Earthworks Sections Sheet 2 of 2

APPENDIX 2 NOISE MONITORING LOCATIONS AND SENSITIVE RECEIVERS



APPENDIX 3 APPLICANT'S MANAGEMENT AND MITIGATION MEASURES

ENVIRONMENTAL IMPACT STATEMENT
Proposed Warehouse and Distribution Centre
11 – 13 Percy Street, Auburn

PART G PLANNED MANAGEMENT AND MITIGATION MEASURES FOR THE PROPOSED DEVELOPMENT

By:	Fabcot Pty Limited
In relation to:	State Significant Development Application (SSD-10470) For proposed Warehouse and distribution centre
Site:	11 – 13 Percy Street, Auburn Lot 1 DP1183821 and Lot 2 DP1183821

Fabcot Pty Limited (Fabcot), plan to undertake the construction and operation of the proposed Warehouse and distribution centre, in accordance with the following subsections.

Below prescribes some of the terms and abbreviations used in this statement, including:

Approval	The Minister's approval of the project
BCA	Building Code of Australia
Council	Cumberland City Council
DPIE	Department of Planning, Industry and Environment
EIS	Environmental Impact Statement
EP&A Act	<i>Environmental Planning and Assessment Act 1979</i>
Fabcot	Fabcot Pty Limited
Project	The proposed development as described in this EIS
Secretary	Secretary-General of the Department (or delegate)
Subject site	Land to which the project application applies
WorkCover	NSW WorkCover

7.1 ADMINISTRATIVE COMMITMENTS

7.1.1 Commitment to Minimise Harm to the Environment

1. Fabcot will commit to implement all reasonable and feasible measures, to prevent and/or minimise any harm to the environment, that may result from the construction or operation of the proposed development.

7.1.2 Terms of Approval

2. Fabcot would carry out the project generally in accordance with the:
 - (a) Environmental Impact Statement;
 - (b) Drawings;
 - (c) Management and Mitigation Measures;
 - (d) Any Conditions of Approval.
3. If there is any inconsistency between this document and the Conditions of Approval, the Conditions of Approval shall prevail to the extent of the inconsistency.

7.1.3 Occupation Certificate

4. Fabcot would ensure that Occupation Certificates are obtained prior to the occupation of the facilities.
5. Fabcot would ensure compliance with any reasonable requirement(s) of the Secretary of the DPIE arising from the assessment of:

- (a) Any reports, plans, programs, strategies or correspondence that are submitted in relation to this Approval; and
- (b) The implementation of any recommended actions or measures contained in reports, plans, programs, strategies or correspondence submitted by the Project Team as part of the application for Approval.

7.1.4 Structural Adequacy

- 6. Fabcot would ensure that all new buildings and structures on the site are constructed in accordance with the relevant requirements of the BCA.

7.1.5 Operation of Plant and Equipment

- 7. Fabcot would ensure that all plant and equipment used on-site, is maintained and operated in proper and efficient manner, and in accordance with relevant Australian Standards.

7.1.6 Construction Environmental Management Plan

- 8. Prior to the commencement of construction, Fabcot would prepare a Construction Environmental Management Plan (CEMP) that addresses the following:
 - (a) Land Contamination;
 - (b) Air Quality;
 - (c) Waste Classification;
 - (d) Erosion and Sediment Control; and,
 - (e) Materials Management Plan

7.1.7 Monitoring of State of Roadways

- 9. Fabcot would monitor the state of roadways leading to and from the subject site, during construction, and take all necessary steps to clean up any adversely impacted road pavements as directed by Council.

7.1.8 Waste Receipts

- 10. Fabcot would 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 would be made available to authorised person upon request.

7.2 SPECIFIC ENVIRONMENTAL COMMITMENTS

7.2.1 Noise

- 11. During the construction phase, Fabcot would ensure that all recommendations of the Construction Noise and Vibration Management Plan are adopted and implemented.
- 12. Fabcot would install an absorptive soffit above the outbound loading dock, with a minimum lining of 0.9 NRC, in line with the recommendation of the Acoustic Assessment (20200597.1/1205A/R7/WY).

7.2.2 Air

- 13. Prior to commencement of works, a construction air quality management plan will be developed (post approval) in line with the Air Quality Impact Assessment. This would form part of the CEMP.

7.2.3 Traffic and Transport

ENVIRONMENTAL IMPACT STATEMENT

Proposed Warehouse and Distribution Centre
11 – 13 Percy Street, Auburn

13. Fabcot would ensure that a Construction Traffic Management Plan is prepared and submitted to DPIE, in line with the Draft Construction Traffic Management Plan. This plan would:

- (a) be submitted to the Secretary for approval prior to the commencement of construction;
- (b) describe the traffic volumes and movements to occur during construction;
- (c) detail proposed measures to minimise the impact of construction traffic on the surrounding network, including driver behaviour and vehicle maintenance; and,
- (d) detail the procedures to be implemented in the event of a complaint from the public regarding construction traffic.

14. The Construction Traffic Management Plan would be implemented throughout the construction cycle.

7.2.4 Aboriginal Cultural Heritage

15. All contractors undertaking earthworks on site would be briefed on the protection of Aboriginal heritage objects under the *National Parks and Wildlife Act 1974* and the penalties for damage to these items.

7.2.5 Waste Management

16. During construction, Fabcot would implement the measures contained within the prepared Waste Management Plan. These are to be incorporated into the CEMP to be issued prior to commencement of construction.

17. Fabcot would ensure that all waste generated on-site during construction and operation is classified in accordance with the *Waste Classification Guidelines: Part 1 Classifying Waste* and disposed of at facility that may lawfully accept the waste.

7.2.6 Aboriginal Heritage

18. If unforeseen Aboriginal objects are uncovered during construction the unexpected finds protocol will be followed. Work will cease in the area, and the NSW Office of Environment and Heritage will be informed.

7.2.7 Flooding

19. A Local Flood Plan is to be prepared for the development that includes measures to be implemented during a PMF event including:

- on-site refuge facilities, within buildings that are to be structurally stable during a PMF event.
- development of a means to inform all users of the site on how to respond and reach the refuge facilities in major flood events;
- collaboration with Council and State Emergency Services in developing the Local Flood Plan. In particular, addressing evacuation and clean up procedures.

7.2.8 Dangerous Goods

20. Fabcot operations would ensure that:

- The DG storages shall be subject to a DG assessment against *AS 1940-2017* to ensure compliance with the standard as required by the *WHS Regulation 2017*.
- The flammable liquid storage shall be subject to a hazardous area classification per *AS/NZS 60079.10.1:2009* to ensure ignition sources are not introduced into a hazardous area as required by the *WHS Regulation 2017*.

- All operational documentation required by the *WHS Regulation 2017* (i.e. risk assessment, manifest, register, emergency response plan, notification, etc.) shall be prepared for the site prior to occupation.

7.2.9 Contamination

21. Fabcot would have the following information provided to the NSW EPA:

- Implementation of the Remediation Action Plan (RAP) outlining the removal and validation of the ACM identified at the site surface and in shallow soils, by Geo-Logix, and the protocol to be followed if unexpected finds are encountered.
- Preparation of a final site validation report by a qualified environmental consultant, certifying the suitability of the site for the proposed development.
- Preparation of an Environmental Management Plan (EMP), if required, for the management of any contamination remaining on site following the redevelopment that presents a risk to human health or the environment.

7.2.10 Tree Works

22. Approved removal of trees shall be undertaken by an experienced Certified AQF Level 3 Arborist in accordance with Safe Work Australia Code of Practice 'Guide to Managing Risks of Tree Trimming and Removal Work'.

23. Prior to the installation of the onsite detention (OSD) tank, a root investigation by Non-Destructive Excavation (NDE) be carried out to map roots of nearby stand of *Eucalyptus molucanna*.

24. All new trees to be planted shall:

- Be located in such a way that at maturity the canopies will be clear of the projected mature canopies of existing trees.
- Tree stock will be grown in accordance with AS2373 Tree Stock and Specifications for Landscape Uses and the supplying nursery shall provide certification in relation to compliance.
- Planted by an AQF Level 3 Arborist or AQF Level 3 Horticulturalist
- Maintained and watered as required by an AQF Level 3 Arborist or AQF Level 3 Horticulturalist after planting for 12 months.
- All excavation within the Tree Protection Zone (TPZ) of any tree shall be undertaken as directed by the Project Arborist.

APPENDIX 4 INCIDENT NOTIFICATION AND REPORTING REQUIREMENTS

WRITTEN INCIDENT NOTIFICATION REQUIREMENTS

1. A written incident notification addressing the requirements set out below must be submitted to the Planning Secretary via the Major Projects website within seven days after the Applicant becomes aware of an incident. Notification is required to be given under this condition even if the Applicant fails to give the notification required under Condition C10 or, having given such notification, subsequently forms the view that an incident has not occurred.
2. Written notification of an incident must:
 - (a) identify the development and application number;
 - (b) provide details of the incident (date, time, location, a brief description of what occurred and why it is classified as an incident);
 - (c) identify how the incident was detected;
 - (d) identify when the applicant became aware of the incident;
 - (e) identify any actual or potential non-compliance with conditions of consent;
 - (f) describe what immediate steps were taken in relation to the incident;
 - (g) identify further action(s) that will be taken in relation to the incident; and
 - (h) identify a project contact for further communication regarding the incident.

INCIDENT REPORT REQUIREMENTS

3. 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.
4. 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

Constriction Noise Management Plan

WOOLWORTHS AUBURN

Proposed Warehouse and Distribution Centre Construction Noise Management Plan

Prepared for:

Vaughan Constructions Pty Ltd
9a Commercial Road
Kingsgrove NSW 2208

SLR Ref: 630.30224-R01
Version No: -v1.1
August 2021



PREPARED BY

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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.

DOCUMENT CONTROL

Reference	Date	Prepared	Checked	Authorised
630.30224-R01-v1.1	27 August 2021	Shannon Harvey	Aaron Miller	Aaron Miller
630.30224-R01-v1.0	19 August 2021	Shannon Harvey	Aaron Miller	Aaron Miller

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APPENDICES

Appendix A	Acoustic Terminology
Appendix B	Example Periodic Notification

1 Introduction

SLR Consulting Australia Pty Ltd (SLR) has been engaged by Vaughan Constructions Pty Ltd (Vaughan) to prepare a Construction Noise Management Plan (CNMP) for construction works to be conducted for the proposed warehouse and distribution centre located at 11-13 Percy Street, Auburn.

The CNMP is designed to address the potential construction noise impacts on the surrounding residential receivers and to detail procedures for minimising, managing and monitoring these impacts. The CNMP addresses Condition B4 of the Development Consent Conditions, which is reproduced below. The locations where the other associated Development Consent Conditions are addressed within the report are provided in **Table 1**.

The Applicant must prepare a Construction Noise Management Plan for the development to the satisfaction of the Planning Secretary. The Plan must form part of a CEMP in accordance with Condition C2 and must:

- (a) be prepared by a suitably qualified and experienced noise expert;*
- (b) be approved by the Planning Secretary prior to the commencement of construction (or each stage of construction, where relevant) of the development;*
- (c) describe procedures for achieving the noise management levels in EPA's Interim Construction Noise Guideline (DECC, 2009) (as may be updated or replaced from time to time);*
- (d) describe the measures to be implemented to manage high noise generating works such as piling, in close proximity to sensitive receivers;*
- (e) include strategies that have been developed with the community for managing high noise generating works;*
- (f) describe the community consultation undertaken to develop the strategies in Condition B4(e); and*
- (g) include a complaints management system that would be implemented for the duration of the development.*

Table 1 Where Development Consent Conditions are addressed within this Report

Condition	Description	Where Addressed
B1	Hours of Work	Section 2.3
B2	Exceptions to Hours of Works	Section 2.3
B3	Construction Noise Limits	Section 4
B4 a)	Qualifications and Experience	Section 10
B4 b)	Approval from Planning Secretary	Pending
B4 c)	Procedures for achieving the noise management levels in the ICNG	Section 5.1
B4 d)	Mitigation measures to manage high noise generating works	Section 5.1 and Section 5.2
B4 e)	Noise mitigation strategies developed with the community	Section 5.3
B4 f)	Community consultation undertaken to develop strategies	Section 5.3

Condition	Description	Where Addressed
B4 g)	Complaints management system	Section 6

Specific acoustic terminology is used in this report. An explanation of common acoustic terms is provided in **Appendix A**.

2 Project Description

2.1 Site Description

The proposed development at 11-13 Percy Street, Auburn will consist of a two-storey warehouse building which will include ancillary offices and customer pickup operations, customer pick up for 56 vehicles, parking for up to 150 vehicles, 103 vans and loading bays for 35 vehicles as well as landscaping and signage.

The immediate area surrounding the subject site comprises a range of industrial and commercial land uses. Beyond this, to the north-west includes residential receivers, located approximately 150 m from the subject site. An aerial photograph showing the site and nearby sensitive receivers is provided as **Figure 1**.

An Environmental Impact Statement (EIS) was conducted by Willow Tree Planning as part of the SSD for the project (Refer to *Environmental Impact Statement SSD-10470, Proposed Warehouse and Distribution Centre, 11 & 13 Percy Street, Auburn Lot 1 & 2 DP1183821, October 2020*).

2.2 Noise Sensitive Receivers

The nearest potential noise sensitive receivers to the site are the multi-storey residential dwellings at 30-80 St Hilliers Street to the north-west, commercial receivers to the north, south and south-west at 15 Percy Street, 7-9 Percy Street, 42-58 Percy Street and 57-73 St Hilliers Road as well as industrial receivers to the west and east at 75-81 St Hilliers Road and 42 Boorea Street. Details of receivers are summarised in **Table 2**.

Table 2 Nearest Sensitive Receivers

Sensitive Receiver	Occupancy Type	Approx. Distance	Direction
30 St Hilliers Road	Residential	150 m	North-west
32-34 St Hilliers Road	Residential	150 m	North-west
38 St Hilliers Road	Residential	150 m	North-west
40-46 St Hilliers Road	Residential	150 m	North-west
52 St Hilliers Road	Residential	150 m	North-west
54 St Hilliers Road	Residential	150 m	North-west
56-60 St Hilliers Road	Residential	150 m	North-west
62 St Hilliers Road	Residential	150 m	North-west
64-66 St Hilliers Road	Residential	150 m	North-west
68-70 St Hilliers Road	Residential	150 m	North-west
72 St Hilliers Road	Residential	150 m	North-west
74-78 St Hilliers Road	Residential	150 m	North-west

Sensitive Receiver	Occupancy Type	Approx. Distance	Direction
80 St Hilliers Road	Residential	150 m	North-west
15 Percy Steet	Commercial (C1)	2 m	North
7-9 Percy Street	Commercial (C2)	2 m	South
42-58 Percy Street	Commercial (C3)	25 m	South-west
75-81 St Hilliers Road	Industrial (I1)	25 m	West
42 Boorea Street	Industrial (I2)	12 m	East

A site plan of the development is shown in **Figure 1**.

Figure 1 Site Description, Noise Monitoring Locations and Sensitive Receivers



2.3 Project Schedule

The hours of work that must be complied in accordance with Condition B1 of the Development Consent Conditions are reproduced in **Table 3**. These hours correspond with the 'Standard Construction Hours' detailed in the EPA's *Interim Construction Noise Guideline* (ICNG), this is discussed further in **Section 4.2.1**.

Table 3 Condition B1 – Hours of Work

Activity	Day	Time
Demolition, Earthworks and Construction	Monday to Friday	7:00 am to 6:00 pm
	Saturday	8:00 am to 1:00 pm

Condition B2 of the Development Consent Conditions states that:

Works outside of the hours identified in Condition B1 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 of 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.*

The project will occur in four stages. Indicative timelines for each stage are provided in **Table 4**.

Table 4 Project Stages

Stage	Duration
Demolition	5 weeks
Bulk Earthworks	10 weeks
Concreting	TBD
Construction	68 weeks

2.4 Plant and Equipment Noise Levels

A list of acoustically significant plant and equipment likely to be used during the stages of work detailed in **Table 4** has been provided by Vaughan Constructions. Sound power levels for the construction equipment applied in the modelling are listed in **Table 5**. Sound power levels for equipment used in the assessment have been obtained from the *Transport for NSW Construction Noise and Vibration Strategy April 2020* and an SLR database of similar equipment. It is assumed that all items would operate continuously for at least 15 minutes.

Table 5 Construction Works and Sound Power Levels for Construction Equipment

Construction Scenario	Equipment	Sound Power Level (dBA)	Quantity
Demolition	Excavator (tracked) 35t	110	4
	Hydraulic hammer	122	1
	Front end loader 23t	112	1
	Dump truck 30t	110	2
	Water cart 15t	110	1
	Truck and trailer	108	4
Bulk Earthworks	Bulldozer CAT D9 48t	116	1
	Scraper	113	1
	Excavator (tracked) 35t	110	1
	Hydraulic hammer	122	1
	Grader	113	1
	Dump truck	110	1
	Roller (smooth drum) 12t	107	1
	Water cart 15t	110	1
Concreting	Franna crane 20t	98	1
	Piling rig (bored)	108	1
	Power generator	101	1
	Concrete pump	106	1
	Concrete truck	106	1
	Compressor	95	1
	Pneumatic hammer	108	1
	Welding equipment	110	1
Construction	Franna crane 20t	98	1
	Elevated work platform	97	1
	Semi-trailer 20t	106	4
	Hand tools (electric)	96	1

3 Existing Acoustic Environment

SLR was unable to perform noise monitoring at the site due to Covid-19 restrictions imposed by the NSW Government. In addition, noise monitoring undertaken during restricted periods where traffic flows are limited may not be representative of the noise environment during normal (i.e no Covid-19 restrictions imposed by the NSW Government) periods; which are expected to cover the majority of the works considering the project duration (1.5 years). Therefore to determine the existing noise environment and quantify background noise levels, noise logging data measured previously for the project as part of the Environmental Impact Statement (EIS) has been used as a basis for assessing the potential noise impacts during construction.

Unattended noise monitoring was conducted at the existing residential site at 56-60 St Hilliers Road, Auburn, from Friday 26 June 2020 to Friday 10 July 2020. The measured Rating Background Levels (RBLs) that correspond to the time periods described in the NSW Environment Protection Authority's (EPA's) *Noise Policy for Industry* (NPfI) are presented in **Table 6**. SLR notes that there were still some Covid-19 restrictions imposed by the NSW Government during this time, however SLR was advised by TfNSW that traffic flows returned to pre-restriction levels on 20 July 2020.

Table 6 Measured Background Noise Levels Corresponding to EPA NPfI Assessment Periods

Daytime ¹ RBL ²	Evening ¹ RBL ²	Night-time ¹ RBL ²
60	56	46

Note 1: For Monday to Saturday: Daytime is 7:00 am to 6:00 pm, Evening is 6:00 pm to 10:00 pm, Night-time is 10:00 pm to 7:00 am. On Sundays and public holidays: Daytime is 8:00 am to 6:00 pm, Night-time is 10:00 pm to 8:00 am.

Note 2: The RBL is the overall single-figure background noise level measured in each relevant assessment period (during or outside the recommended standard hours). The term RBL is described in detail in the NSW Noise Policy for Industry.

4 Project Criteria and Trigger Levels

4.1 Development Consent Condition B3

Condition B3 of the Development Consent Conditions for the project states:

"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."

4.2 NSW Interim Construction Noise Guideline

The EPA's Interim Construction Noise Guideline (ICNG) required by Development Consent Condition B3 sets out noise criteria applicable to construction site noise for the purpose of defining intrusive noise impacts.

The ICNG requires project specific Noise Management Levels (NMLs) to be established for noise affected receivers. The NMLs are not mandatory limits, however in the event construction noise levels are predicted to be above the NMLs, feasible and reasonable work practices are to be investigated to minimise noise emissions.

4.2.1 Hours of Construction

The EPA's ICNG stipulates permissible work times as outlined in **Table 7**.

Table 7 Preferred Construction Hours

Day	Preferred Construction Hours
Monday to Friday	7 am to 6 pm
Saturdays	8 am to 1 pm
Sundays or Public Holidays	No construction

4.2.2 Residential Receivers

The ICNG provides an approach for determining NMLs at sensitive receivers based on RBL for the area during the Standard Construction Hours, as described in **Table 8**.

Table 8 Determination of NMLs for Residential Receivers

Time of Day	NML LAeq(15minute)	How to Apply
Recommended standard hours: Monday to Friday 7:00am to 6:00pm Saturday 8:00am to 1:00pm No work on Sundays or public holidays	RBL + 10dBA	The noise affected level represents the point above which there may be some community reaction to noise. Where the predicted or measured LAeq(15minute) is greater than the noise affected level, the proponent should apply all feasible and reasonable work practises to meet the noise affected level. The proponent should also inform all potentially impacted residents of the nature of works to be carried out, the expected noise levels and duration, as well as contact details.
	Highly noise affected 75 dBA	The Highly Noise Affected (HNA) level represents the point above which there may be strong community reaction to noise. Where noise is above this level, the relevant authority (consent, determining or regulatory) may require respite periods by restructuring the hours that the very noisy activities can occur, taking into account: • Times identified by the community when they are less sensitive to noise (such as before and after school for works near schools or mid-morning or mid-afternoon for works near residences. • If the community is prepared to accept a longer period of construction in exchange for restrictions on construction times.

4.2.3 Commercial and Industrial Premises

The ICNG notes that due to the broad range of sensitivities that commercial or industrial land can have to noise from construction, the process of defining management levels is outlined as follows:

- Offices, retail outlets: external 70 dBA LAeq(15minute)
- Industrial premises: external LAeq(15 min) 75 dBA

4.2.4 Sleep Disturbance

Sleep disturbance has not been considered as the proposed construction hours are during the daytime only.

4.3 NML Summary

Based upon the proposed construction hours and the unattended noise monitoring results contained in **Table 6** the project specific construction noise management levels are provided in **Table 9**.

Table 9 NMLs Criterion for Construction Noise

Location	Receiver Type	RBL	Management Level LAeq(15minute) (dBA)	Highly Noise Affected (dBA) ¹
30-80 St Hilliers Road	Residential (R1)	60	70	75
15 Percy Street	Commercial (C1)	-	70	N/A
7-9 Percy Street	Commercial (C2)	-	70	N/A
57-73 St Hilliers Road 42-58 Percy Street	Commercial (C3)	-	70	N/A
75-81 St Hilliers Road	Industrial (I1)	-	75	N/A
42 Boorea Street	Industrial (I2)	-	75	N/A

Note 1: The 'Highly Noise Affected' threshold only applies to residential receivers.

5 Construction Noise Assessment

Noise predictions from the construction works have been predicted to the nearest receivers during the daytime and are summarised for residential receivers in **Table 10** and for commercial and industrial receivers in **11**.

Table 10 Predicted Daytime Construction Noise Levels – Residential Receivers

Construction Stage	Receiver	Noise Level LAeq(15 minute) (dBA)		
		Predicted Construction Noise Level LAeq(15minute)	Noise Criteria (NML)	NML Exceedance
Stage 1 (Demolition)	30 St Hilliers Road	65-66	70	-
	32-34 St Hilliers Road	64-67	70	-
	38 St Hilliers Road	64-69	70	-
	40-46 St Hilliers Road	63-67	70	-
	52 St Hilliers Road	70-73	70	3
	54 St Hilliers Road	70-71	70	1
	56-60 St Hilliers Road	61-68	70	-
	62 St Hilliers Road	67	70	-
	64-66 St Hilliers Road	62-68	70	-
	68-70 St Hilliers Road	61-65	70	-
	72 St Hilliers Road	61-65	70	-
	74-78 St Hilliers Road	61-65	70	-
	80 St Hilliers Road	61	70	-
Stage 2 (Bulk Earthworks)	30 St Hilliers Road	65-67	70	-
	32-34 St Hilliers Road	63-67	70	-
	38 St Hilliers Road	64-70	70	-
	40-46 St Hilliers Road	64-69	70	-
	52 St Hilliers Road	70-74	70	4

Construction Stage	Receiver	Noise Level LAeq(15 minute) (dBA)		
		Predicted Construction Noise Level LAeq(15minute)	Noise Criteria (NML)	NML Exceedance
	54 St Hilliers Road	71	70	1
	56-60 St Hilliers Road	62-70	70	-
	62 St Hilliers Road	68	70	-
	64-66 St Hilliers Road	63-69	70	-
	68-70 St Hilliers Road	61-65	70	-
	72 St Hilliers Road	61-65	70	-
	74-78 St Hilliers Road	62-66	70	-
	80 St Hilliers Road	62	70	-
Stage 3 (Concreting)	30 St Hilliers Road	55-57	70	-
	32-34 St Hilliers Road	54-57	70	-
	38 St Hilliers Road	54-60	70	-
	40-46 St Hilliers Road	54-58	70	-
	52 St Hilliers Road	62-64	70	-
	54 St Hilliers Road	62	70	-
	56-60 St Hilliers Road	53-60	70	-
	62 St Hilliers Road	59-60	70	-
	64-66 St Hilliers Road	54-60	70	-
	68-70 St Hilliers Road	52-56	70	-
	72 St Hilliers Road	52-56	70	-
	74-78 St Hilliers Road	51-56	70	-
	80 St Hilliers Road	52	70	-
Stage 4 (Construction)	30 St Hilliers Road	52-54	70	-
	32-34 St Hilliers Road	51-54	70	-
	38 St Hilliers Road	52-60	70	-
	40-46 St Hilliers Road	52-56	70	-
	52 St Hilliers Road	56-60	70	-
	54 St Hilliers Road	56-57	70	-
	56-60 St Hilliers Road	50-56	70	-
	62 St Hilliers Road	56-57	70	-
	64-66 St Hilliers Road	51-57	70	-
	68-70 St Hilliers Road	49-53	70	-
	72 St Hilliers Road	49-53	70	-
	74-78 St Hilliers Road	49-53	70	-
	80 St Hilliers Road	49	70	-

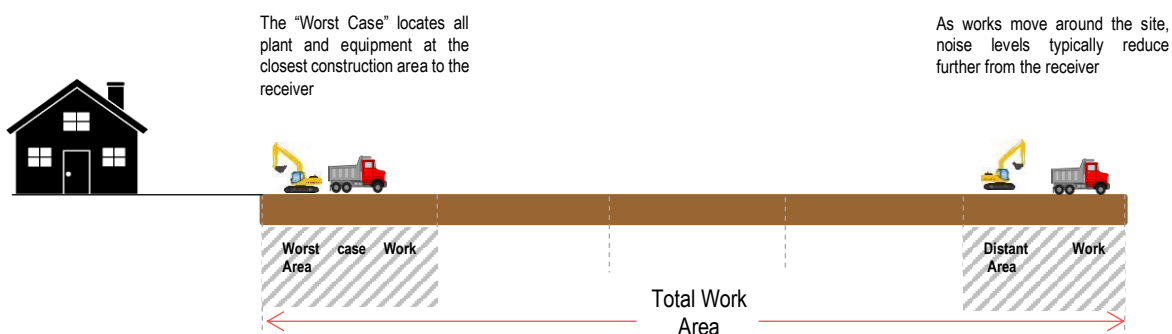
Table 11 Predicted Daytime Construction Noise Levels – Commercial/Industrial Receivers

Construction Stage	Receiver	Noise Level LAeq(15 minute) (dBA)		
		Predicted Construction Noise Level LAeq(15minute)	Noise Criteria (NML)	NML Exceedance
Stage 1 (Demolition)	Commercial (C1) 15 Percy Street	84	70	14
	Commercial (C2) 7-9 Percy Street	85	70	15
	Commercial (C3) 57-73 St Hilliers Road 42-58 Percy Street	81	70	11
	Industrial (I1) 75-81 St Hilliers Road	81	75	6
	Industrial (I2) 42 Boorea Street	84	75	9
Stage 2 (Bulk Earthworks)	Commercial (C1) 15 Percy Street	85	70	15
	Commercial (C2) 7-9 Percy Street	86	70	16
	Commercial (C3) 57-73 St Hilliers Road 42-58 Percy Street	82	70	12
	Industrial (I1) 75-81 St Hilliers Road	82	75	7
	Industrial (I2) 42 Boorea Street	85	75	10
Stage 3 (Concreting)	Commercial (C1) 15 Percy Street	76	70	6
	Commercial (C2) 7-9 Percy Street	77	70	7
	Commercial (C3) 57-73 St Hilliers Road 42-58 Percy Street	73	70	3
	Industrial (I1) 75-81 St Hilliers Road	73	75	-
	Industrial (I2) 42 Boorea Street	76	75	1
Stage 4 (Construction)	Commercial (C1) 15 Percy Street	72	70	2

Construction Stage	Receiver	Noise Level LAeq(15 minute) (dBA)		
		Predicted Construction Noise Level LAeq(15minute)	Noise Criteria (NML)	NML Exceedance
	Commercial (C2) 7-9 Percy Street	69-72	70	2
	Commercial (C3) 57-73 St Hilliers Road 42-58 Percy Street	64-66	70	-
	Industrial (I1) 75-81 St Hilliers Road	64-66	75	-
	Industrial (I2) 42 Boorea Street	68	75	-

The results represent the worst-case noise levels where all equipment in each scenario is working concurrently. For most construction activities, it is expected that the construction noise levels would frequently be lower than predicted, particularly where the works are more distant from particular receivers; this concept is demonstrated in **Figure 2**.

Figure 2 Illustration of Works Areas



The above figure illustrates that when works move away from a receiver the noise levels from the operation of the construction equipment would reduce accordingly.

The above information shows the following:

- Minor to moderate noise impacts are predicted during the worst-case scenarios due to the proximity of the adjacent receivers. The impacts from the works are however expected to be limited as the works would be completed during standard construction hours.
- Daytime exceedances of up to around 16 dB above NML are predicted at the nearest receivers. These impacts would however only be apparent during the worst-case situation when noise generating items of equipment are in use. The noise levels at receivers which are further away would be substantially less than the worst-case predictions and noise levels would also frequently be lower than worst-case when noise intensive activities are not being completed.

As the NML's are not expected to be achieved at some receiver locations, particularly when construction activities occur close to these receivers, the construction contractor should apply all feasible and reasonable noise mitigation and management measures to minimise the impacts.

5.1 Standard Mitigation Measures

Due to the nature of construction activities and the proximity of the works to the sensitive receivers, it is inevitable that noise impacts will be apparent at certain times during the works.

Consequently, the project should apply all feasible and reasonable work practices to meet the NMLs, where possible, and inform all potentially impacted sensitive receivers of the nature of works to be carried out, the expected noise levels, duration of noise generating construction works, and contact details during construction.

The recommended construction mitigation measures are shown in **Table 12**.

Table 12 Recommended Mitigation Measures

Project stage	Measure
Project planning	Where possible, consider the application of alternative, low-impact construction techniques to rock breaking and concrete sawing.
	Power tools using mains power rather than by using generators.
	Use the minimum sized equipment necessary to complete the work, this is particularly relevant to compacting and hydraulic hammering / rock breaking.
Scheduling	Carry out community consultation and provide advanced warning of potential disruptions to sensitive receivers (refer to Section 5.2).
	Deliveries are to occur during Standard Construction Hours only.
Site Layout	Site entry and exit points will be located as far as possible from sensitive receivers, taking into account the importance of safe access.
	Compounds, refuelling areas and work areas will be designed to promote one-way traffic so that vehicle reversing movements are minimised.
	Work compounds, parking areas, equipment and material stockpile sites will be positioned away from noise-sensitive locations
	Trucks will be carefully scheduled and not queue up outside residential properties.
Training	Training will be provided to all project personnel, including relevant sub-contractors on noise requirements through inductions, toolboxes and targeted awareness training.
	All relevant staff and sub contractors will be informed of areas and work practises where potential noise impacts have been identified.
	Horn signals between drivers are not permitted.
Contractor management	Delivery vehicles should be fitted with straps rather than chains for unloading, wherever possible.
	Truck drivers should avoid compression braking as far as practicable and should use main roads where feasible.
Noise source mitigation and controlling the transmission of noise	Switch off generators/items of plant when not in use.
	Avoid dropping materials from a height.
	Shut down or throttle down machinery when not in operation.
	Avoid simultaneous operation of noisy plant within discernible range of a sensitive receiver

Project stage	Measure
	Ensure equipment is operated in the correct manner including replacement of engine covers, repair of defective silencing equipment, tightening of rattling components, repair of leakages in compressed air lines and shutting down equipment not in use.
	Siting noisy equipment behind structures that act as barriers, or at the greatest distance from the noise-sensitive area; or orienting the equipment so that noise emissions are directed away from any sensitive areas, to achieve the maximum attenuation of noise
	Plant will be fitted with noise control devices, where practicable, including acoustic lining of engine bays and air intake / discharge silencers
	Ensure that all doors/hatches are shut during operation of plant and equipment.
	Check hatches/enclosures regularly to ensure that seals are in good working order and doors close properly against seals.
	Use residential-grade mufflers on plant.
	Use dampened bits on impulsive tools such as jackhammers to avoid 'ringing' noise.
	An acoustic shroud (skirt) can be installed on hydraulic rockbreakers and concrete saws.
	Ensure truck movements are kept to a minimum, ie that trucks are fully loaded on each trip.
	Mobile plant and trucks operating on site for a significant portion of the project will have reversing alarm noise emissions minimised, where possible, recognising the need to maintain occupational safety standards. This may potentially be achieved through restrictions on reversing activities or installation of non-tonal reversing alarms on mobile plant and equipment.
	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.
Community consultation	Provide at least five and not more than 14 days' notice to affected receivers prior to starting works (refer to Section 5.2).
	Provide signage detailing who is undertaking the works and a contact number.
	Where there are complaints about noise from an identified work activity, review and implement, where feasible and reasonable, additional control measures.
Monitoring	Conduct noise monitoring in response to any complaints received to verify that levels do not substantially exceed predicted levels.
	Initial noise monitoring of plant and equipment will be undertaken to ensure the noise levels are being met (refer to Section 5.2).

5.2 Additional Mitigation Measures

The Transport for New South Wales (TfNSW) *Construction Noise and Vibration Strategy* (CNVS) provides additional mitigation measures for receivers who trigger the project NMLs or are highly noise affected and are used as guidance on this project. **Table 13** shows additional measures to be implemented for each receiver depending on how far predicted airborne noise levels are above the background noise level (RBL) or airborne noise management level (ANML). The applicable CNVS additional management measures for the Standard Construction Hours are outlined in **Table 14** on the following page.

Table 13 Additional Airborne Noise Management Measures

Construction Hours	Receiver Perception	dB(A) above RBL	dB(A) above ANML	Additional Management Measures ¹
Standard Hours	Noticeable	5 to 10	0	-
Monday to Friday (7am to 6pm)	Clearly Audible	> 10 to 20	< 10	-
Saturday (8am to 1pm)	Moderately Intrusive	> 20 to 30	> 10 to 20	PN, V
	Highly Intrusive	> 30	> 20	PN, V
	75dBA or greater ²	N/A	N/A	PN, V, SN

Note 1: PN = Project notification, V = Verification monitoring, SN = Specific notification.

Note 2: Applicable to residential receivers only.

There are no additional airborne noise mitigation measures required at the residential receivers. In addition to the additional mitigation measures described above, the ICNG notes regarding commercial and industrial premises that:

The proponent should assess construction noise levels for the project, and consult with occupants of commercial and industrial premises prior to lodging an application where required.

During construction, the proponent should regularly update the occupants of the commercial and industrial premises regarding noise levels and hours of work.

Additionally, the CNVS notes regarding commercial and industrial premises that:

Community consultation will be required during the assessment and planning phase of a project (prior to construction) to confirm the location of other sensitive receivers including collecting information on specialised requirements for each receiver (for example education or community facilities that provide Autism-specific services or identifying to location of vibration sensitive equipment in medical facilities). This may be achieved by completing a door-knock exercise or completing specific notifications prior to construction.

Table 14 Additional Management Measures (reproduced from the CNVS)

Measure	Description	Abbreviation
Periodic Notification	For each project, a notification entitled 'Project Update' or 'Construction Update' is produced and distributed to stakeholders via letterbox drop and distributed to the project postal and/or email mailing lists. Periodic notifications provide an overview of current and upcoming works across the project and other topics of interest. The objective is to engage, inform and provide project-specific messages. Advanced warning of potential disruptions (e.g. noisy works) can assist in reducing the impact on stakeholders. The approval conditions for projects specify requirements for notification to sensitive receivers where works may impact on them. Most projects distribute notifications on a monthly basis. Each notification is graphically designed within a branded template. In certain circumstances media advertising may also be used to supplement Periodic Notifications, where considered effective.	PN

Measure	Description	Abbreviation
Verification Monitoring	Verification monitoring of noise during construction may be conducted at the affected receiver(s) or a nominated representative location (typically the nearest receiver where more than one receiver has been identified). Monitoring can be in the form of either unattended or operator attended surveys (i.e. for specific periods of construction noise). The purpose of monitoring is to confirm that: - construction noise from the project is consistent with the predictions in the noise assessment - mitigation and management of construction noise is appropriate for receivers affected by the works Where noise monitoring finds that the actual noise levels exceed those predicted in the noise assessment then immediate refinement of mitigation measures may be required.	V
Specific Notification	Specific notifications are in the form of a personalised letter or phone call to identified stakeholders no later than seven calendar days ahead of construction activities that are likely to exceed the noise objectives. Alternatively (or in addition to), communications representatives from the contractor would visit identified stakeholders at least 48 hours ahead of potentially disturbing construction activities and provide an individual briefing. - Letters may be letterbox dropped or hand distributed - Phone calls provide affected stakeholders with personalised contact and tailored advice, with the opportunity to provide comments on the proposed work and their specific needs - Individual briefings are used to inform stakeholders about the impacts of noisy activities and mitigation measures that will be implemented. Individual briefings provide affected stakeholders with personalised contact and tailored advice, with the opportunity to comment on the project Specific notifications are used to support periodic notifications, or to advertise unscheduled works.	SN

On the basis of the above, the additional mitigation measures recommended for the nearby commercial/industrial receivers at each stage are provided in **Table 15**.

Table 15 Additional Mitigation Measures – Commercial and Industrial Receivers

Construction Stage	Receiver	dB(A) above ANML	Additional Management Measures ¹
Demolition	Commercial (C1) 15 Percy Street	14	PN, V, SN
	Commercial (C2) 7-9 Percy Street	15	PN, V, SN
	Commercial (C3) 57-73 St Hilliers Road 42-58 Percy Street	11	PN, V, SN
	Industrial (I1) 75-81 St Hilliers Road	6	PN, SN

Construction Stage	Receiver	dB(A) above ANML	Additional Management Measures ¹
	Industrial (I2) 42 Boorea Street	9	PN, SN
Earthworks	Commercial (C1) 15 Percy Street	15	PN, V
	Commercial (C2) 7-9 Percy Street	16	PN, V
	Commercial (C3) 57-73 St Hilliers Road 42-58 Percy Street	12	PN, V
	Industrial (I1) 75-81 St Hilliers Road	7	PN
	Industrial (I2) 42 Boorea Street	10	PN, V
Concreting	Commercial (C1) 15 Percy Street	6	PN
	Commercial (C2) 7-9 Percy Street	7	PN
	Commercial (C3) 57-73 St Hilliers Road 42-58 Percy Street	3	PN
	Industrial (I1) 75-81 St Hilliers Road	-	PN
	Industrial (I2) 42 Boorea Street	1	PN
Construction	Commercial (C1) 15 Percy Street	2	PN
	Commercial (C2) 7-9 Percy Street	2	PN
	Commercial (C3) 57-73 St Hilliers Road 42-58 Percy Street	-	PN
	Industrial (I1) 75-81 St Hilliers Road	-	PN
	Industrial (I2) 42 Boorea Street	-	PN

The requirements in **Table 15** can be summarised as follows:

- Door-knock or specifically notify each of the sensitive commercial and industrial receivers identified at least 7 days prior to the commencement of the Demolition works.

- Conduct attended noise monitoring at the commencement of both the Demolition and the Earthworks scenarios to verify the noise level predictions. This is detailed further in **Section 7**.
- Perform a letter box drop to each of the identified sensitive commercial and industrial receivers detailing the works progress and expected noise levels from upcoming construction activities on a monthly basis.

5.3 Community Consultation

Vaughan has advised SLR that they have undertaken the Specific Notification mitigation measure in accordance with the requirements detailed in **Section 5.2** at the following identified sensitive receivers:

- 7-9 Percy Street
- 15 Percy Street
- 42-58 Percy Street
- 75-81 St Hilliers Road
- 42 Boorea Street

Vaughan has advised that these receivers did not consider themselves to be sensitive and did not provide any suggestions regarding mitigation measures or strategies in addition to those listed in **Table 12**.

Vaughan has also advised that they have commenced the Periodic Notifications at these same receivers.

6 Complaint Handling

The construction contractor will adopt the following protocol for handling complaints. This protocol is intended to ensure that the issues are addressed and that appropriate corrective action is identified and implemented as necessary:

- The construction contractor will record all verbal and telephone complaints in writing and will forward all complaints to the Project Manager, together with details of the circumstance leading to the complaint and all subsequent actions.
- Complaints received by the Project Manager will, as an initial step, be referred to the construction contractor. The construction contractor will respond as described above.
- The Project Manager will investigate the complaint in order to determine whether a criterion exceedance has occurred or whether noise has occurred unnecessarily.
- If excessive or unnecessary noise have been caused, corrective action will be planned and implemented by the construction contractor.
- Complainants will be informed by the Project Manager that their complaints are being addressed, and (if appropriate) that corrective action is being taken.
- Follow up monitoring or other investigations will be carried out by the Project Manager and the construction contractor to confirm the effectiveness of the corrective action.
- Complainants will be informed of the implementation of the corrective action that has been taken to mitigate the adverse effects.

7 Noise Monitoring

Noise monitoring will be conducted by suitably trained personnel as required in accordance with the requirements of **Table 15** or in response to any complaints.

Attended noise monitoring for the construction works will be undertaken at the closest, potentially most affected residences, in order to differentiate between construction noise sources and other sources (such as road traffic and aircraft noise) and also in order to observe and identify any abnormally noisy construction equipment or operations.

During attended monitoring, typical maximum noise levels associated with particular operations and/or plant items will be noted. Extraneous noise events such as road and air traffic noise will be excluded from the results or highlighted in accompanying notes. Equipment and methods will need to comply with AS 1055:2018. The statistical parameters to be measured will be the L_{Amin} , L_{A90} , L_{A10} , L_{A1} , L_{Amax} and L_{Aeq} evaluated over consecutive 15 minute periods.

Where noise monitoring has occurred within the preceding week, reports will be submitted to the Project Manager at weekly intervals. These reports will cover the preceding weeks' activities and will include the following:

- Attended monitoring locations.
- Tabulation of attended noise measurement results together with notes identifying the principal noise sources.
- Summary of measurements exceeding the criteria levels and descriptions of the plant or operations causing these exceedances (if available).
- Details of corrective action applicable to criteria exceedances and confirmation of its successful implementation. Where corrective action has not yet been implemented, it may be shown as pending and the status of its implementation shall be carried forward to following reports.

8 Identifying and Managing Future Noise Issues

If additional activities or plant are found to be necessary these will be assessed on a case-by-case basis and appropriate mitigation measures will be implemented.

Progressive impact assessments will be conducted as the works proceed in the event that works significantly deviate from those originally planned.

9 Non-Compliance and Corrective Action

Where the noise monitoring identifies non-compliance with the relevant criteria, corrective actions will be conducted in accordance with the Construction Environmental Management Plan.

The corrective action may involve supplementary monitoring in order to identify the source of the non-conformance and may involve modification of the construction techniques or programme to avoid any recurrence or minimise its adverse effects.

10 Final Remarks

This report has been prepared by SLR Consulting Australia Pty Ltd, a member firm of the Association of Australasian Acoustical Consultants (AAAC).

APPENDIX A

Acoustic Terminology

1. Sound Level or Noise Level

The terms 'sound' and 'noise' are almost interchangeable, except that 'noise' often refers to unwanted sound.

Sound (or noise) consists of minute fluctuations in atmospheric pressure. The human ear responds to changes in sound pressure over a very wide range with the loudest sound pressure to which the human ear can respond being ten million times greater than the softest. The decibel (abbreviated as dB) scale reduces this ratio to a more manageable size by the use of logarithms.

The symbols SPL, L or LP are commonly used to represent Sound Pressure Level. The symbol LA represents A-weighted Sound Pressure Level. The standard reference unit for Sound Pressure Levels expressed in decibels is 2×10^{-5} Pa.

2. 'A' Weighted Sound Pressure Level

The overall level of a sound is usually expressed in terms of dBA, which is measured using a sound level meter with an 'A-weighting' filter. This is an electronic filter having a frequency response corresponding approximately to that of human hearing.

People's hearing is most sensitive to sounds at mid frequencies (500 Hz to 4,000 Hz), and less sensitive at lower and higher frequencies. Different sources having the same dBA level generally sound about equally loud.

A change of 1 dB or 2 dB in the level of a sound is difficult for most people to detect, whilst a 3 dB to 5 dB change corresponds to a small but noticeable change in loudness. A 10 dB change corresponds to an approximate doubling or halving in loudness. The table below lists examples of typical noise levels.

Sound Pressure Level (dBA)	Typical Source	Subjective Evaluation
130	Threshold of pain	Intolerable
120	Heavy rock concert	Extremely noisy
110	Grinding on steel	
100	Loud car horn at 3 m	Very noisy
90	Construction site with pneumatic hammering	Loud
80	Kerbside of busy street	
70	Loud radio or television	
60	Department store	Moderate to quiet
50	General Office	
40	Inside private office	Quiet to very quiet
30	Inside bedroom	
20	Recording studio	Almost silent

Other weightings (e.g. B, C and D) are less commonly used than A-weighting. Sound Levels measured without any weighting are referred to as 'linear', and the units are expressed as dB(lin) or dB.

3. Sound Power Level

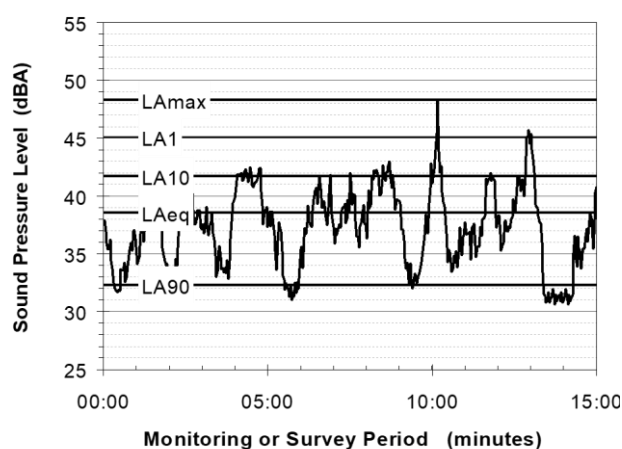
The Sound Power of a source is the rate at which it emits acoustic energy. As with Sound Pressure Levels, Sound Power Levels are expressed in decibel units (dB or dBA), but may be identified by the symbols SWL or LW, or by the reference unit 10^{-12} W.

The relationship between Sound Power and Sound Pressure is similar to the effect of an electric radiator, which is characterised by a power rating but has an effect on the surrounding environment that can be measured in terms of a different parameter, temperature.

4. Statistical Noise Levels

Sounds that vary in level over time, such as road traffic noise and most community noise, are commonly described in terms of the statistical exceedance levels LAN, where LAN is the A-weighted sound pressure level exceeded for N% of a given measurement period. For example, the LA1 is the noise level exceeded for 1% of the time, LA10 the noise exceeded for 10% of the time, and so on.

The following figure presents a hypothetical 15 minute noise survey, illustrating various common statistical indices of interest.



Of particular relevance, are:

LA1 The noise level exceeded for 1% of the 15 minute interval.

LA10 The noise level exceeded for 10% of the 15 minute interval. This is commonly referred to as the average maximum noise level.

LA90 The noise level exceeded for 90% of the sample period. This noise level is described as the average minimum background sound level (in the absence of the source under consideration), or simply the background level.

LAeq The A-weighted equivalent noise level (basically, the average noise level). It is defined as the steady sound level that contains the same amount of acoustical energy as the corresponding time-varying sound.

5. Frequency Analysis

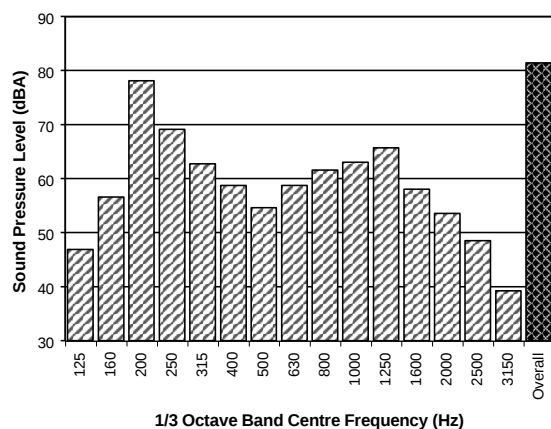
Frequency analysis is the process used to examine the tones (or frequency components) which make up the overall noise or vibration signal.

The units for frequency are Hertz (Hz), which represent the number of cycles per second.

Frequency analysis can be in:

- Octave bands (where the centre frequency and width of each band is double the previous band)
- 1/3 octave bands (three bands in each octave band)
- Narrow band (where the spectrum is divided into 400 or more bands of equal width)

The following figure shows a 1/3 octave band frequency analysis where the noise is dominated by the 200 Hz band. Note that the indicated level of each individual band is less than the overall level, which is the logarithmic sum of the bands.



6. Annoying Noise (Special Audible Characteristics)

A louder noise will generally be more annoying to nearby receivers than a quieter one. However, noise is often also found to be more annoying and result in larger impacts where the following characteristics are apparent:

- **Tonality** - tonal noise contains one or more prominent tones (i.e. differences in distinct frequency components between adjoining octave or 1/3 octave bands), and is normally regarded as more annoying than 'broad band' noise.
- **Impulsiveness** - an impulsive noise is characterised by one or more short sharp peaks in the time domain, such as occurs during hammering.
- **Intermittency** - intermittent noise varies in level with the change in level being clearly audible. An example would include mechanical plant cycling on and off.
- **Low Frequency Noise** - low frequency noise contains significant energy in the lower frequency bands, which are typically taken to be in the 10 to 160 Hz region.

7. Vibration

Vibration may be defined as cyclic or transient motion. This motion can be measured in terms of its displacement, velocity or acceleration. Most assessments of human response to vibration or the risk of damage to buildings use measurements of vibration velocity. These may be expressed in terms of 'peak' velocity or 'rms' velocity.

The former is the maximum instantaneous velocity, without any averaging, and is sometimes referred to as 'peak particle velocity', or PPV. The latter incorporates 'root mean squared' averaging over some defined time period.

Vibration measurements may be carried out in a single axis or alternatively as triaxial measurements (i.e. vertical, longitudinal and transverse).

The common units for velocity are millimetres per second (mm/s). As with noise, decibel units can also be used, in which case the reference level should always be stated. A vibration level V , expressed in mm/s can be converted to decibels by the formula $20 \log (V/V_0)$, where V_0 is the reference level (10^{-9} m/s). Care is required in this regard, as other reference levels may be used.

8. Human Perception of Vibration

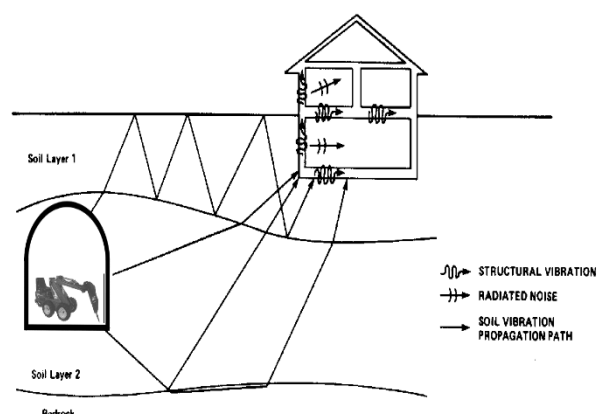
People are able to 'feel' vibration at levels lower than those required to cause even superficial damage to the most susceptible classes of building (even though they may not be disturbed by the motion). An individual's perception of motion or response to vibration depends very strongly on previous experience and expectations, and on other connotations associated with the perceived source of the vibration. For example, the vibration that a person responds to as 'normal' in a car, bus or train is considerably higher than what is perceived as 'normal' in a shop, office or dwelling.

9. Ground-borne Noise, Structure-borne Noise and Regenerated Noise

Noise that propagates through a structure as vibration and is radiated by vibrating wall and floor surfaces is termed 'structure-borne noise', 'ground-borne noise' or 'regenerated noise'. This noise originates as vibration and propagates between the source and receiver through the ground and/or building structural elements, rather than through the air.

Typical sources of ground-borne or structure-borne noise include tunnelling works, underground railways, excavation plant (e.g. rockbreakers), and building services plant (e.g. fans, compressors and generators).

The following figure presents an example of the various paths by which vibration and ground-borne noise may be transmitted between a source and receiver for construction activities occurring within a tunnel.



The term 'regenerated noise' is also used in other instances where energy is converted to noise away from the primary source. One example would be a fan blowing air through a discharge grill. The fan is the energy source and primary noise source. Additional noise may be created by the aerodynamic effect of the discharge grill in the airstream. This secondary noise is referred to as regenerated noise.

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WELLINGTON

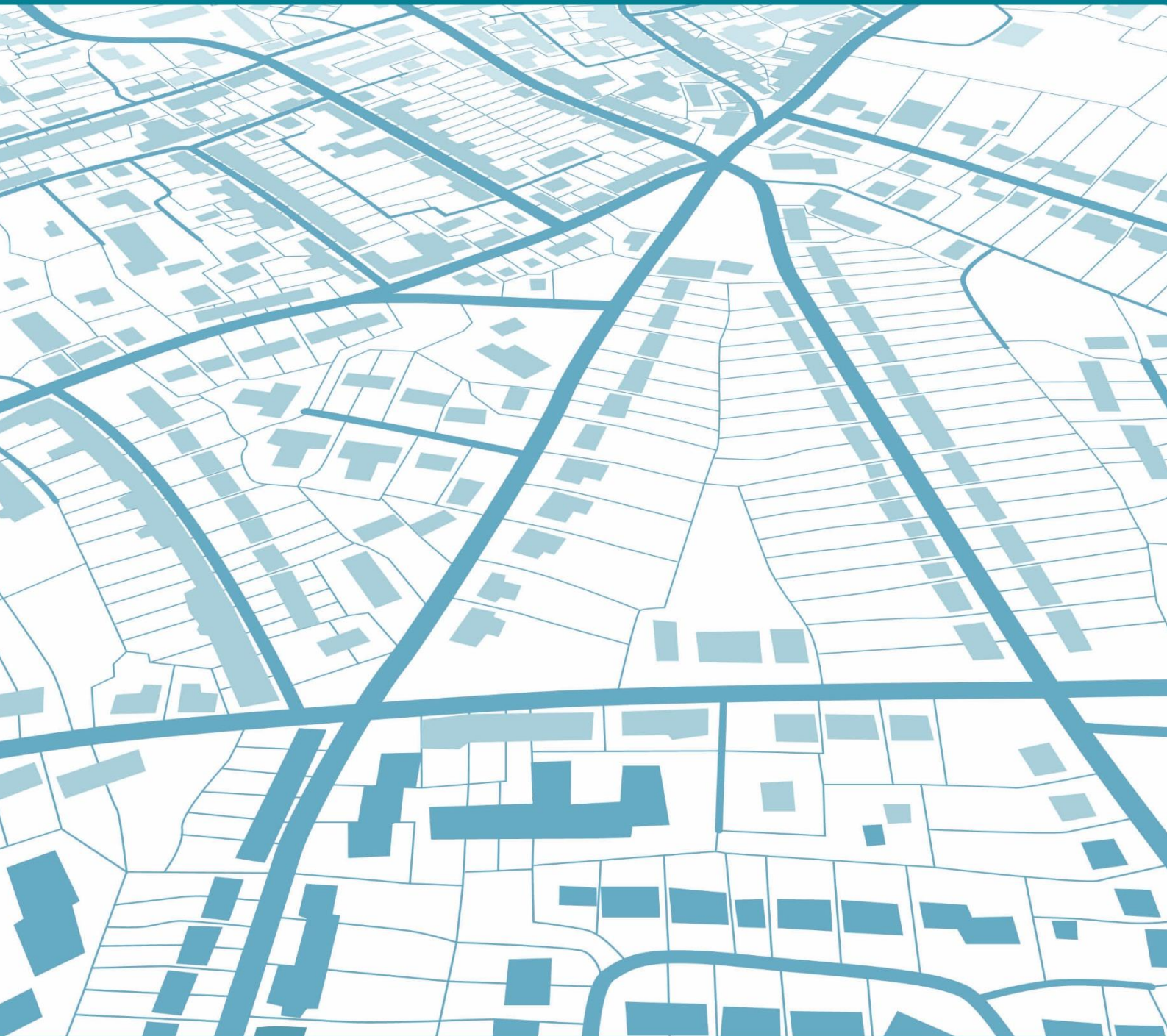
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APPENDIX C

Construction Traffic Management Plan



Proposed Warehouse & Distribution Centre

11 – 13 Percy Street, Auburn

Construction Traffic Management Plan

Ref: 218/2021
Date: August 2021
Rev: B

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1.0 Introduction

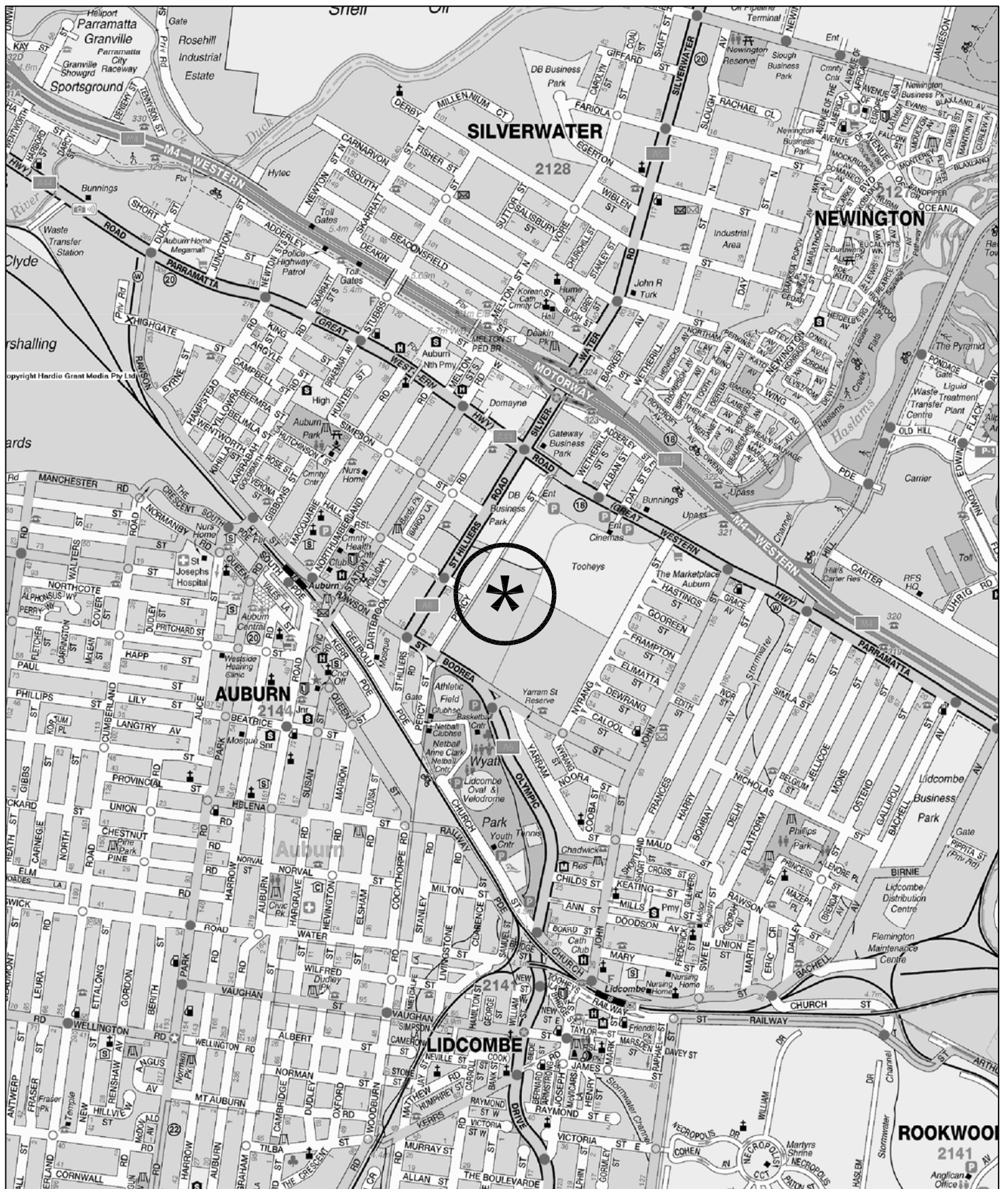
A Development Application has been approved for construction of a warehouse and distribution centre on the consolidated site of 11 & 13 Percy Street, Auburn (Figure 1).

This report has been prepared in satisfaction of Consent Condition № B8 of SSD10470 which requires submission of a Construction Traffic Management Plan as part of the Construction Certificate documentation. Consent Condition B8 specifies the following requirements which have been addressed in this CTMP as follows:

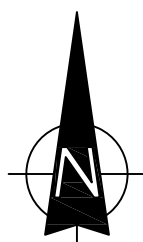
Prior to the commencement of construction, the Applicant must prepare a Construction Traffic Management Plan for the development to the satisfaction of the Planning Secretary. The plan must form part of the CEMP required by condition C2 and must:

- | | |
|--|---|
| (a) be prepared by a suitably qualified and experienced person(s); | Prepared by Ross Nettle
Director TTPA |
| (b) be prepared in consultation with Council; | See Appendix C details |
| (c) detail the measures that are to be implemented to ensure road safety and network efficiency during construction; | Measures already exist to ensure road safety and network efficiency and these include: <ul style="list-style-type: none">- traffic signals at the St Hilliers Road/Hall Street intersection providing controlled access to/from the immediate arterial road system- left turn only provisions for the turn from Parramatta Road and to Rawson Street |

	The proposed additional measures will include: - provision of Traffic Controllers at the site accesses - provision of Traffic Control Plans as required.
(d) detail heavy vehicle routes, access and parking arrangements;	See Sections 2.4 and 4.1
(e) include a Driver Code of Conduct to:	See Section 5.0
(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	See Section 6.0
(g) if necessary, detail procedures for notifying residents and the community (including local schools), of any potential disruptions to routes.	See Section 4.8



LEGEND



LOCATION

FIG 1

2.0 Proposed Development

2.1 Site, Context and Existing Circumstances

The site (Figure 2) is a consolidation of Lot 1 & Lot 2 in DP1183821 which occupies a rectangular shaped area of 32,453m² with a frontage to the eastern side of Percy Street being bound to the east by a stormwater channel. The site is located centrally within the small Auburn Industrial Area and nearby uses include:

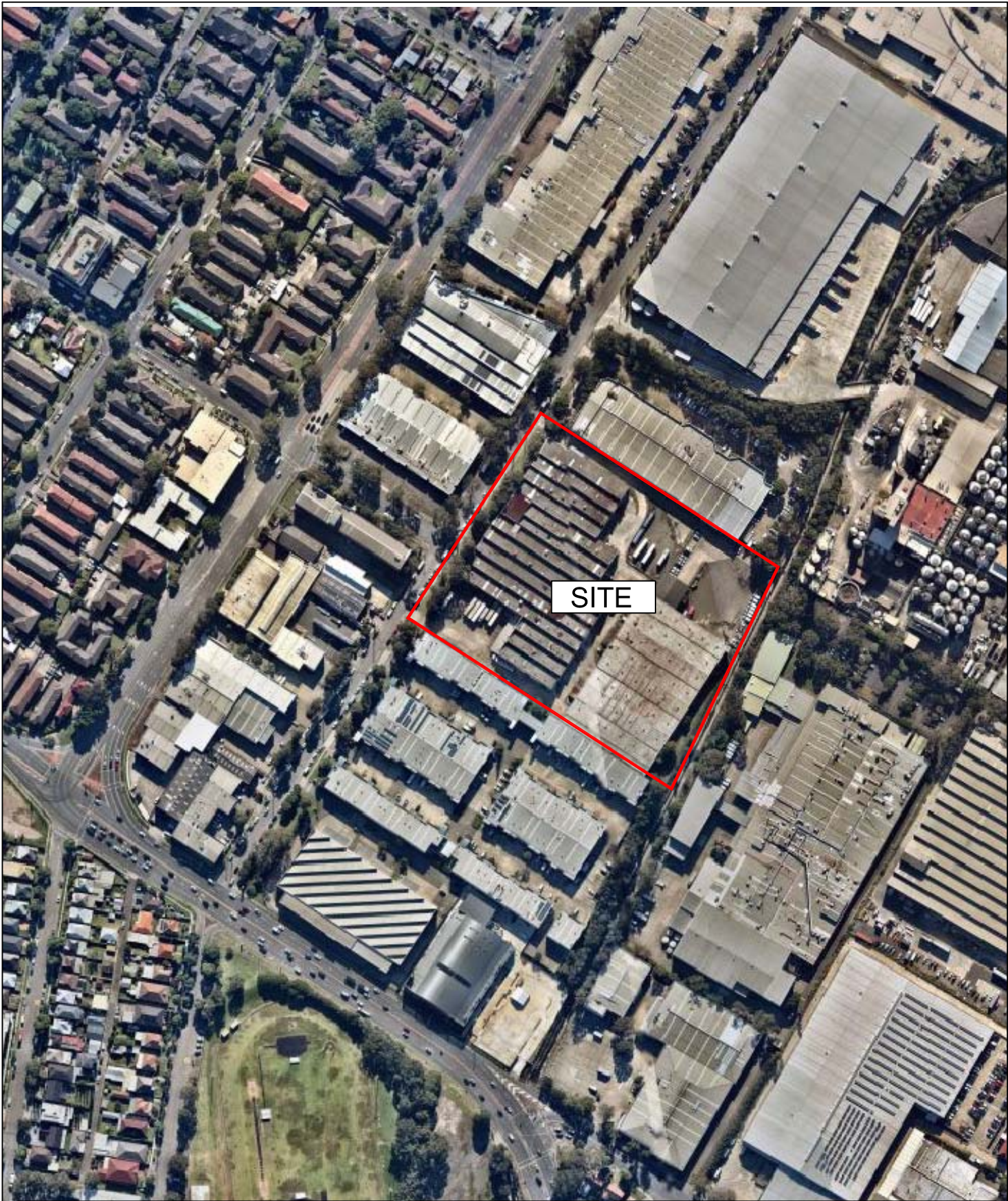
- ❖ single and multi-unit industrial complexes along Percy Street and the western aide of St Hilliers Road
- ❖ the industrial uses extending to the east and the residential area extending to the west of St Hilliers Road
- ❖ Auburn Railway Station and retail centre are situated just to the south-west

There are 2 existing large older style industrial buildings on the site with a number of truck and car parking areas and vehicle access driveways on the Percy Street frontage.

2.2 Approved Development

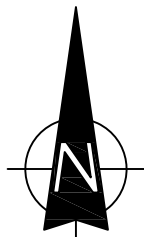
Consent (SSD-10470) has been granted for the demolition the existing buildings and bulk earthworks to provide level platforms for the new building, parking and hardstand areas. The proposed development will involve a new building located across the central part with loading docks along the eastern and western sides. The development will comprise:

Warehouse	20,866.7m ²
Office/amenities	1,257.3m ²
Control Tower Office	312.2m ²
Team Office	35.1m ²
Total	22,471.3m²



SITE

LEGEND



SITE

FIG 2

A total of 147 staff parking spaces will be provided as well as various pickup/van bays with vehicle accesses will be located on the Percy Street at the northern and southern site boundaries.

2.3 Construction Program

A process has been established for completion of the various work processes as follows:

Demolition	5 weeks
Earthworks	10 weeks
Construction	58 weeks
Total:	73 weeks

2.4 Construction Process

Demolition

Demolition of the existing buildings will be proceeded by the erection of A Class perimeter fencing with gates provided at the northern and southern boundaries. The demolition process will take some 5 weeks to complete using “Truck&Dog” and Bogie Truck units with an average of some 10 visitations per day and the 20 workers will be able to park on the site during this process.

Earthworks

This activity will involve excavation/fill to provide for level platforms for the new building and hardstand areas and this process is anticipated to take 10 weeks to complete using Truck&Dog units. The truck activity associated with this process will average some 5 visitations a day and trucks will enter and depart the site in a forward direction under Traffic Controller supervision on the Percy Street frontage travelling to and from the St Hilliers Road via Hall Street as shown on the Appendix B turning path diagrams. The number of workers on-site will be some 30 persons and they will be able to park on the site during this process.

Construction

The construction and fitout phase will be the process of longest duration (approximately 58 weeks) and at peak activity involve up to 150 people on the site any one time.

Whilst the activity on the site will be more intense during this period the movement of heavy vehicles will reduce to an average of around 5 – 10 visitations per day with more (up to 20) during concrete pours. Parking will be available for workers on the site, however, workers will be encouraged at all times to utilise the highly accessible public transport system which exists in the vicinity of the site or alternatively to car pool wherever possible.

The provision for loading/unloading for this process will involve trucks standing within the site with all materials being unloaded and stored within the site.

3.0 Road Network and Traffic Conditions

3.1 Road Network

The road network serving the site (Figure 3) comprises:

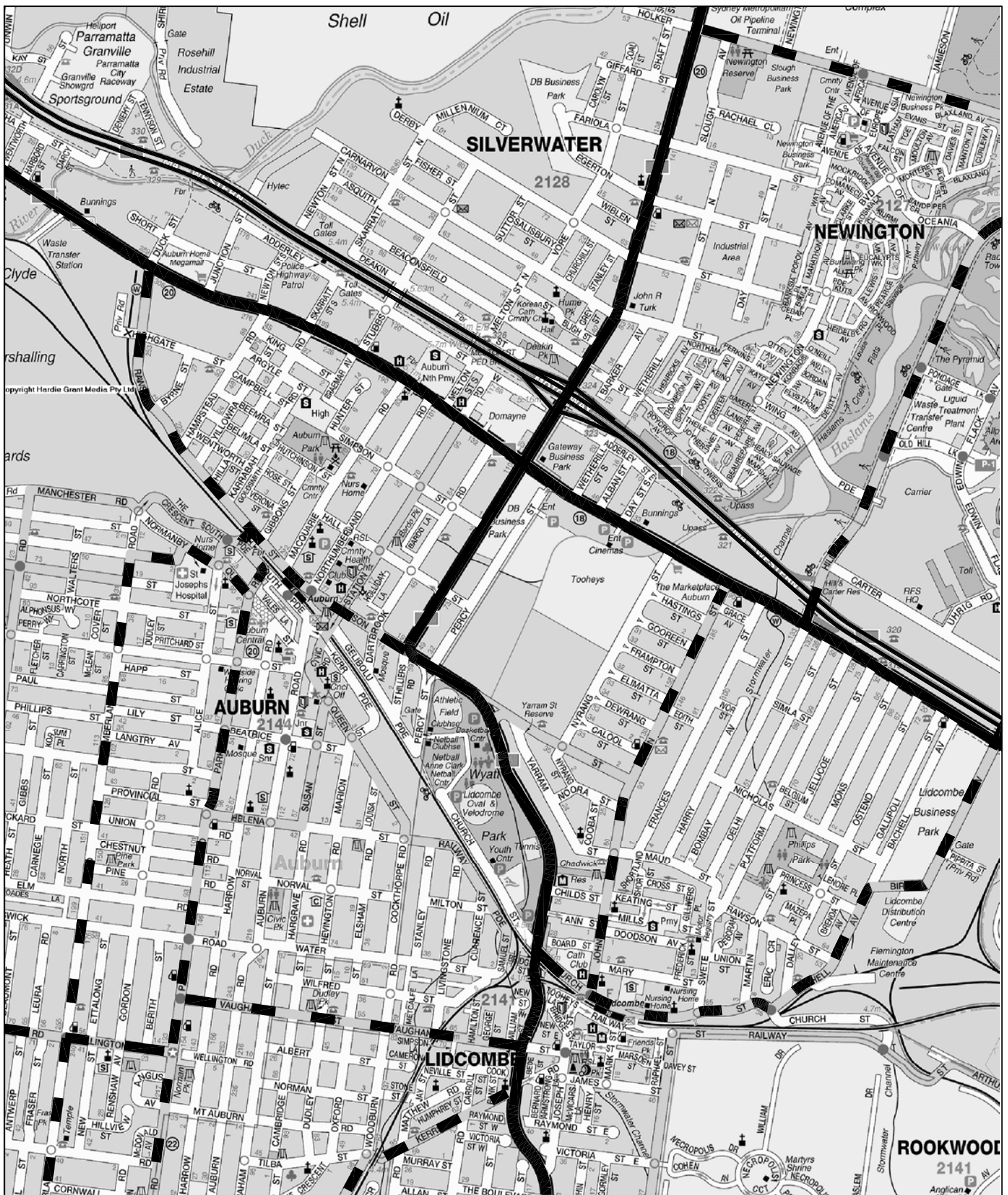
- ❖ *M4 Motorway* – a major arterial route, linking between the City and Penrith
- ❖ *Parramatta Road* – a State Highway and major arterial route linking between the City and Parramatta
- ❖ *Silverwater Road/St Hi/Hers Road/Olympic Drive* – a State Road and arterial route linking between Victoria Road and the Hume Highway providing connection to the M4 and Parramatta Road
- ❖ *Rawson Street/Boorea Street* – a Regional Road and major collector road route
- ❖ *Station Road/Queen Street* – a collector road route
- ❖ *Percy Street and Hall Street* – local access roads

Percy Street and Hall Street are relatively straight and level with a 13.0 metre wide carriageways in the vicinity of the site.

3.2 Traffic Controls

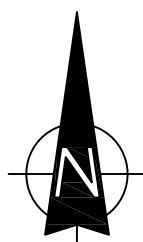
The existing traffic controls which have been applied to the roads in the vicinity of the site (Figure 4) include:

- ❖ the traffic signals at the St Hilliers Road/Hall Street intersection. Details of this intersection arrangement is shown on the design plan reproduced overleaf
- ❖ the traffic signals at the Parramatta Road/Silverwater Road/St Hilliers Road intersection
- ❖ the roundabout at the Nyrang Street/Boorea Street intersection



LEGEND

- ARTERIAL
- SUB-ARTERIAL
- COLLECTOR



ROAD NETWORK

FIG 3

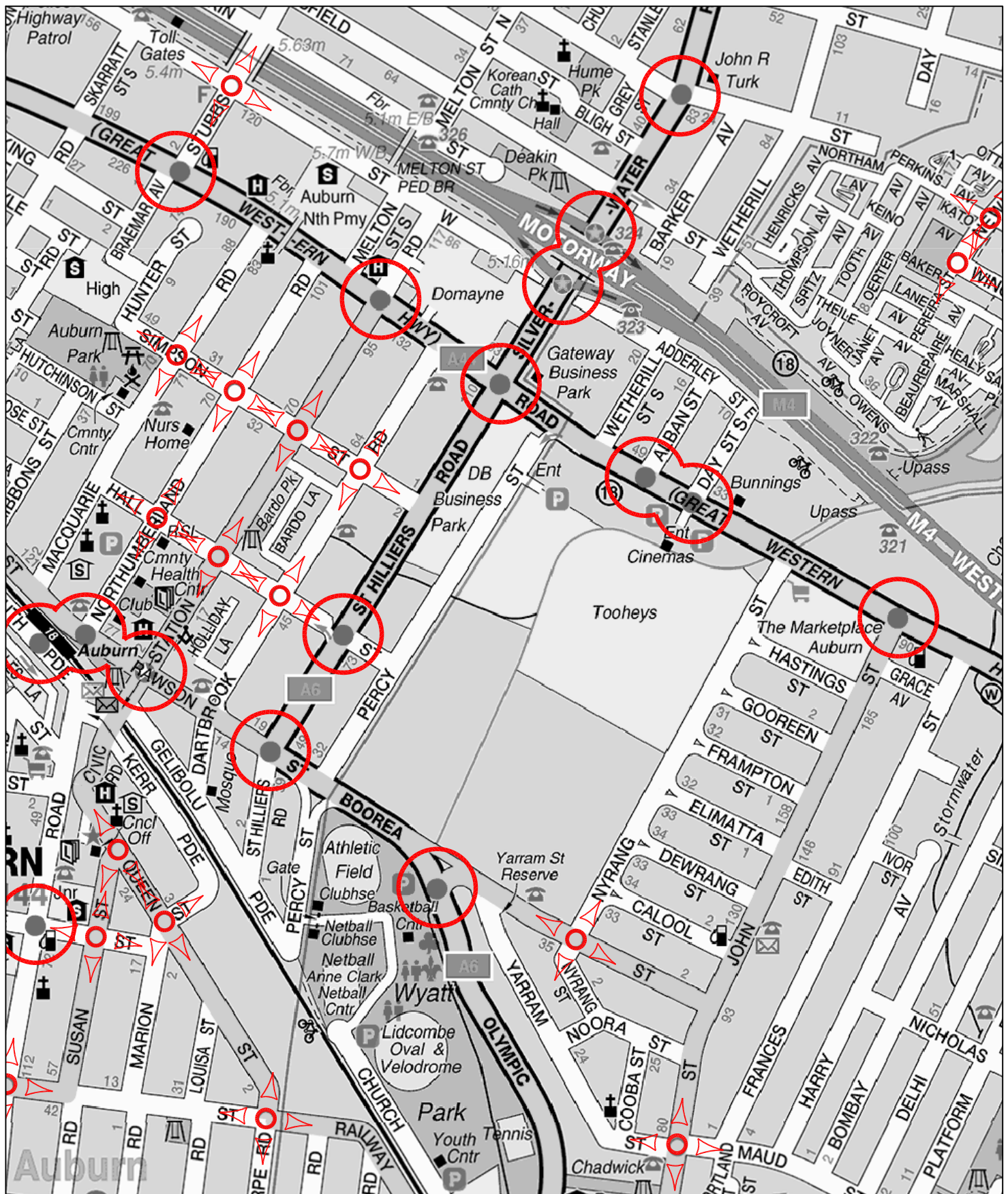
- ❖ the traffic signals at the intersection of:
 - St Hilliers Road, Rawson Street and Boorea Street
 - Parramatta Road and John Street
- ❖ The 60 kmph speed limit along Parramatta Road and St Hilliers Road and 50 kmph limit along Percy Street
- ❖ The CLEARWAY/NO STOPPING restrictions along Parramatta Road and St Hilliers Road
- ❖ The left-turn only ingress from Parramatta Road to Percy Street (i.e. no egress or right-turn egress)
- ❖ The approved 'B Double' routes along Parramatta Road, St Hilliers Road, Percy Street, Hall Street and Rawson Street/Olympic Drive

3.3 Traffic Conditions

An indication of the existing traffic conditions in the vicinity of the site is provided by data published by the TfNSW and surveys undertaken as part of this study. The TfNSW data is expressed in terms of Annual Average Daily Traffic (AADT) and details are provided in the following:

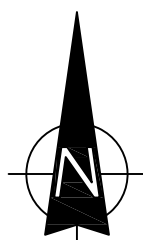
Location	AADT
Parramatta Road at John Street	38,319
St Hilliers Road north of Hall Street	36,667
Olympic Drive east of St Hilliers Road	44,663

Traffic surveys have been undertaken at the St Hilliers Road/Hall Street intersection during the morning and afternoon peak periods. The results of those surveys are summarised in the following:



LEGEND

-  TRAFFIC SIGNAL CONTROL
-  ROUNDABOUT
-  RESTRICTED TURNING MOVEMENT



TRAFFIC CONTROLS

FIG 4

		AM	PM
St Hilliers Road	Northbound	1,442	1,155
	Right-turn	116	49
	Southbound	1,338	1,758
	Left-turn	126	72
Hall Street	Right-turn	56	149
	Left-turn	17	83

Surveys at Parramatta Road/Percy Street and Percy Street/Boorea Street reveal the following movements:

		AM	PM
Parramatta Road	Left-turn	48	142
Boorea Street	Left-turn	44	26
Percy Street	Left-turn	42	164

The operational performance of the St Hilliers Road/Percy Street intersection under the recorded peak traffic demands has been modelled using the SIDRA program. The results of that analysis indicating a relatively satisfactory operational performance are provided in the following while the criteria for interpreting the model output are provided overleaf.

	AM	PM
Level of Service	B	B
Degree of Saturation	0.81	0.79
Average vehicle delay	21.6	21.0

The traffic activity in the Auburn Industrial Area is largely controlled by the traffic signals at the major arterial intersections of:

- ❖ Parramatta Road/St Hilliers Road/Silverwater Road
- ❖ St Hilliers Road/Rawson Street
- ❖ Silverwater Road/M4 ramps

Criteria for Interpreting Results of SIDRA Analysis

1. Level of Service (LOS)

LOS	Traffic Signals and Roundabouts	Give Way and Stop Signs
'A'	Good	Good
'B'	Good with acceptable delays and spare capacity	Acceptable delays and spare capacity
'C'	Satisfactory	Satisfactory but accident study required
'D'	Operating near capacity	Near capacity and Accident Study required
'E'	At capacity; at signals incidents will cause excessive delays. Roundabouts require other control mode	At capacity and requires other control mode
'F'	Unsatisfactory and requires additional capacity	Unsatisfactory and requires other control mode

2. Average Vehicle Delay (AVD)

The AVD provides a measure of the operational performance of an intersection as indicated on the table below, which relates AVD to LOS. The AVD's listed in the table should be taken as a guide only as longer delays could be tolerated in some locations (ie inner city conditions) and on some roads (ie minor side street intersecting with a major arterial route).

Level of Service	Average Delay per Vehicle (secs/veh)	Traffic Signals, Roundabouts	Give Way and Stop Signs
A	Less than 14	Good operation	Good operation
B	15 to 28	Good with acceptable delays and spare capacity	Acceptable delays and spare capacity
C	29 to 42	Satisfactory	Satisfactory but accident study required
D	43 to 56	Operating near capacity	Near capacity and accident study required
E	57 to 70	At capacity; at signals incidents will cause excessive delays. Roundabouts require other control mode	At capacity and requires other control mode

3. Degree of Saturation (DS)

The DS is another measure of the operational performance of individual intersections.

For intersections controlled by **traffic signals** both queue length and delay increase rapidly as DS approaches 1, and it is usual to attempt to keep DS to less than 0.9. Values of DS in the order of 0.7 generally represent satisfactory intersection operation. When DS exceeds 0.9 queues can be anticipated.

For intersections controlled by a **roundabout or GIVE WAY or STOP signs**, satisfactory intersection operation is indicated by a DS of 0.8 or less.

3.4 Transport Services

Public transport services relative to the site are provided by:

- ❖ the rail services at Auburn Railway Station located some 1 km to the south-west
- ❖ the bus services which operate along Parramatta Road and St Hilliers Road providing connection to Lidcombe, Auburn, Granville and Parramatta Railway Station

4.0 Proposed Construction Traffic Management Plan

4.1 Construction Vehicle Route

Truck movements associated with the demolition, earthworks and construction processes will approach and depart the site along St Hilliers Road, Hall Street and Percy Street as indicated in Figure 5.

4.2 Truck Movements

The envisaged truck arrivals will be:

Demolition	10 per day
Earthworks	5 per day
Construction	5 – 10 per day (more during concrete pours)

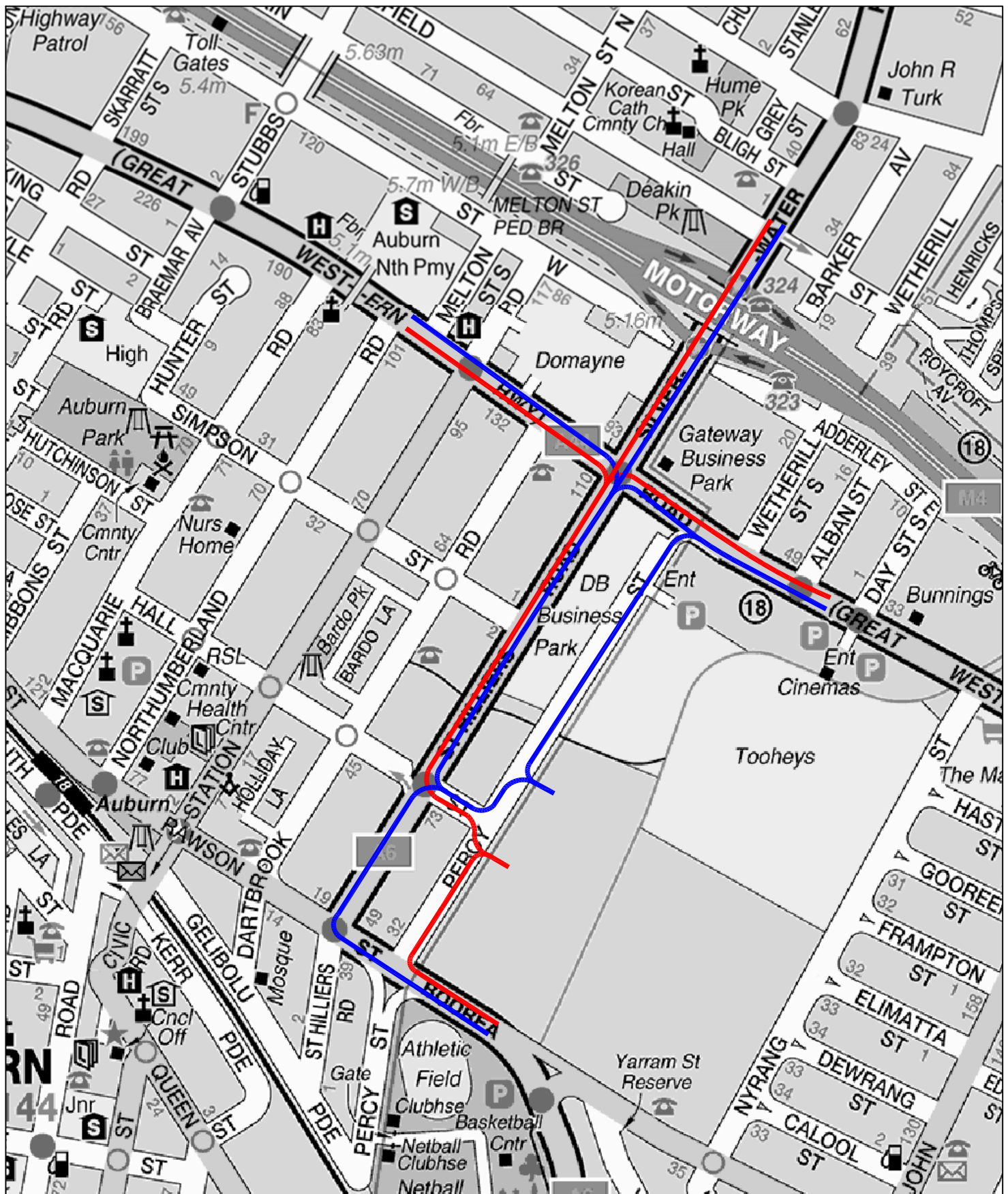
4.3 Construction Hours

The approved hours of construction activity will be:

7.00am – 6.00pm	Monday to Friday
8.00am – 1.00pm	Saturday
No work	Sunday and public holidays

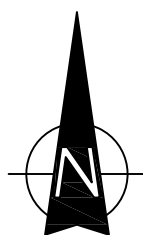
4.4 Cranage and Materials Handling

The delivery of materials, equipment etc. and the removal of demolition and other materials will all be undertaken within the site at all times. There may be a need to use mobile cranes (or similar), however these activities will also be contained within the site and all materials and equipment will be stored within the site.



LEGEND

- ARRIVAL
- DEPARTURE



TRUCK ROUTES

FIG 5

4.5 Site Induction

All workers and visitors on the site will be subject to a formal 'site induction' process and all the inductions will be performed specific to each trade according to Workcover OH&S requirements and will include instruction in regard to the requirements of the CTMP and specified construction vehicle routes.

4.6 Traffic Control Plans

Traffic Control plans will be prepared by the Traffic Control contractor as required throughout the process and submitted to Council for approval.

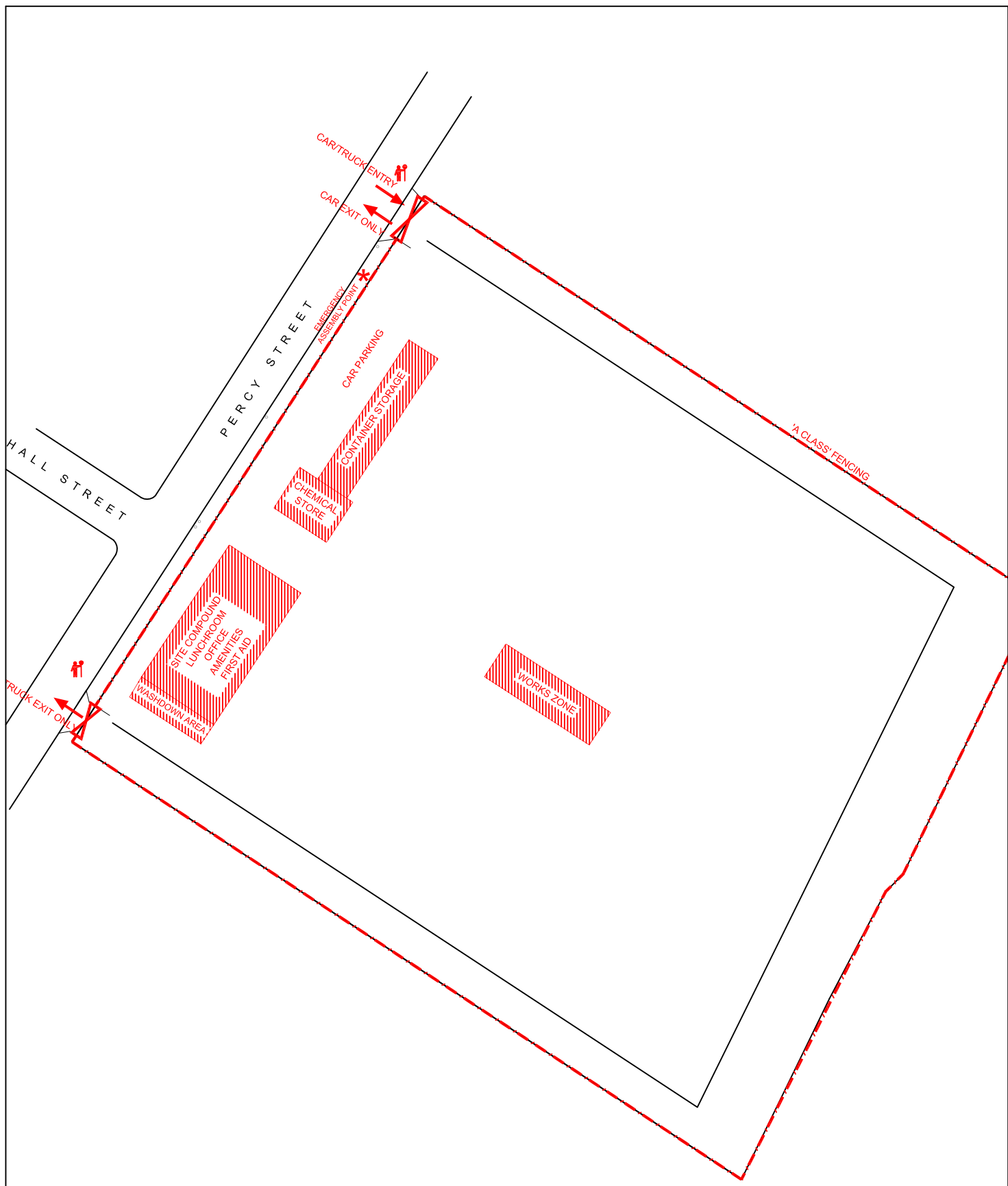
Traffic controllers will be in placed at the site entry and exit points to control heavy vehicle movements in order to maintain the safety of pedestrians and other road users.

4.7 Traffic Management Plan

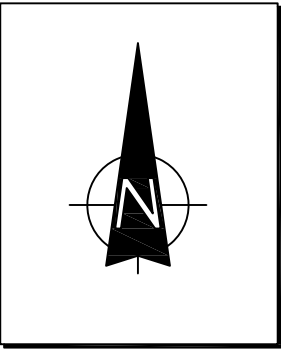
The principal elements of the traffic management plan (Figure 6) are:

- ❖ vehicle access points
- ❖ storage areas
- ❖ A Class fencing
- ❖ traffic controllers
- ❖ office and parking areas
- ❖ emergency meeting point

These elements are indicated on Figure 6 while details of on-site turning for trucks is provided in Appendix B.



LEGEND



TRAFFIC MANAGEMENT PLAN

FIG 6

4.8 Community Notification

The site is located within an industrial area with ready traffic signal controlled access to a State Road. The construction process will not involve any disruption to vehicle or pedestrian movements or any road closure or diversion of traffic. The generated construction vehicle movements will be no greater than that of industrial use on the site and will not impact on any residential streets and it is therefore not envisaged that there will be any need for community notification. The adjoining property owners will be contacted should there be a need.

5.0 Driver Code of Conduct

FOR ALL DRIVERS OF PLANT, TRUCKS & VEHICLES THAT ACCESS & EGRESS THIS PROJECT.

Driver's Code of Conduct (Condition of Entry):

- All drivers shall follow instructions of Vaughan Constructions staff at all times,
- All drivers are to adhere to all signposted directions,
- Vehicles shall not queue outside the site,
- Vehicles shall enter and exit the site in a safe and orderly manner,
- Primary site access and egress for site is from Percy Street.
- Movements within the site are restricted to 10kmp/h,
- Vehicles shall follow the main traffic route at all times,
- Drivers must maintain a safe 'buffer' distance from any person / or plant being operated by a person whilst moving on / around the site,
- Drivers (of deliveries) are not to move their vehicle's 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,
- All parking shall be within designated areas unless approved by SM, and
- Appropriate measures will be put in place to ensure that vehicles leaving the site do not deposit dirt or mud on surrounding roadways.



6.0 Monitoring Measures

The Site Manager (or specified staff) will be responsible for ensuring compliance with the Driver Code of Conduct by:

- Undertaking random surveillance of driver activity on the site and on the public road at a minimum of monthly frequency
- Reviewing the Incident Register at a minimum of monthly frequency
- Interviewing the access control staff at a minimum of monthly frequency

Failure to comply with the Driver Code of Conduct will result in a “Warning Notice” being issued by the Site Manager and disciplinary action if the offender is an employee of Vaughan Constructions. If the offending driver is engaged/employed by another company then suspension or cancellation of service could be pursued.

7.0 Consultation

Council will be consulted and the CTMP provided for their consideration through the DPIE Portal. The issues raised by Council and the responses to these issues will be provided in Appendix C.

Appendix A

Development Plans

12/05/2021 10:55:08 PM C:\PROJECTS\11250_Percy St Auburn\11250_Percy St Auburn_ARCHITECTURAL.dwg



Issue	Description	Date
2	FOR TENDER	12.05.21
1	FOR TENDER	30.04.21
P3	100% GRANT	16.04.21
P2	PRELIMINARY	01.04.21
P1	FOR INFORMATION	19.03.21

Builder and/or subcontractors shall verify all project dimensions before commencing on-site work or off-site fabrication. Figured dimensions shall take precedence over scaled dimensions. This drawing is copyright and cannot be reproduced in whole or in part or by any medium without the written permission of Nettleton Tribe Partnership Pty Ltd.

TENDER

Project Name
CFC Percy St. Auburn

Project Address
13 Percy Street, Auburn, NSW 2144

Key Plan



Drawing Title:
Ground Floor Plan

Author: RA
Checked: ES
Sheet Size: A1
Scale: 1:500

Drawing Number:
11250_T101
Issue: 2

nettletontribe

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117 Willoughby Road, Crows Nest, NSW 2065
t +61 2 9431 6431
e: sydney@nettletontribe.com.au w: nettletontribe.com.au

GENERAL NOTES

- ALL SETOUT WORKS ARE TO BE BY A LICENSED SURVEYOR TO ESTABLISH DATUMS, GRIDS, FINISHED FLOOR LEVELS, SERVICES AND SERVICE DUCTS.
- VERIFY SITE LEVELS AND DIMENSIONS ON ALL DRAWINGS PRIOR TO COMMENCEMENT OF WORKS ON SITE.
- REFER TO HYDRAULIC DRAWINGS FOR WORKS ASSOCIATED WITH FIRE SERVICES, SEWER & WATER. BOY GUTTER EXPANSION JOINTS AS PER HYDRAULIC DETAILS SPECIFICATIONS.
- REFER TO MECHANICAL & ELECTRICAL DRAWINGS FOR WORKS ASSOCIATED WITH ELECTRICAL SERVICES & MECHANICAL SERVICES.
- REFER TO FIRE ENGINEERING REPORT FOR FIRE RATING AND SMOKE ZONE REQUIREMENTS.
- PROVIDE FIRE COLLARS AND SMOKE SEAL TO ALL PENETRATIONS TO WALLS. REFER TO SERVICES DRAWINGS FOR SPECIFICATION.
- FOR ALL PENETRATIONS (INCLUDING STRUCTURE AND SERVICES) THROUGH SMOKE SEPARATION WALLS AND FIRE RATED (FRL) WALLS, PROVIDE SMOKE/FIRE SEALS EQUAL TO THE RATING OF THE WALL.
- REFER TO THE DOOR SCHEDULE FOR ALL DOOR TYPES AND DOOR FURNITURE IN APPENDICES TO ARCHITECTURAL SPECIFICATION.
- STRUCTURAL BRACING ZONES IN WALLS AS INDICATED. CHECK WITH STRUCTURAL ENGINEERS DRAWINGS PRIOR TO CONSTRUCTION TO ALLOW FOR SUFFICIENT CLEARANCES.
- BRACE THE CEILING HEIGHT STUD WALLS ABOVE CEILING TO SOFFIT/PURLIN/ROOF STRUCTURE AS REQUIRED TO ENSURE A RIGID AND STRUCTURALLY STABLE WALL. REFER TO THE APPROPRIATE SECTIONS OF THE ARCHITECTURAL SPECIFICATION AND APPENDICES TO ARCHITECTURAL SPECIFICATION FOR ADDITIONAL DETAILS.
- FOR ALL CONTROL & MOVEMENT JOINT REFER STRUCTURAL ENGINEERS DRAWINGS. ARCHITECTURAL SETOUT TO BE ISSUED UPON CONFIRMATION OF STRUCTURAL DRAWINGS. FOR ALL CONCRETE JOINT TYPES, STRUCTURAL ENGINEERS DRAWINGS ARE TO TAKE PRECEDENCE.
- BUILDER TO CO-ORDINATE SAW-CUT JOINTS WITH FLOOR TILE JOINT LOCATIONS - REFER TO FLOOR FINISHES PLANS FOR FURTHER INFORMATION.
- BUILDER TO CO-ORDINATE IN-FLOOR SERVICES PRIOR TO CONSTRUCTION OF SLAB.
- FOR HYDRAULIC, MECHANICAL, FIRE AND ELECTRICAL PENETRATIONS REFER TO SPECIFIC ENGINEERS DRAWINGS AND SPECIFICATIONS. PENETRATIONS TO BE COORDINATED WITH ARCHITECTURAL DRAWINGS. ALL SERVICES PENETRATIONS THROUGH FIRE COMPARTMENTS TO BE FIRE SEALED TO NC2 STANDARDS PER REQUIREMENTS.
- WATERPROOFING UNDER SLAB AND LIFT PIT REFER TO ENGINEER SPECIFICATION.
- SLABS OUTSIDE BUILDING LINE REFER TO CIVIL ENGINEERS DRAWINGS.
- PLINTH FOR MECHANICAL EQUIPMENT: REFER TO MECHANICAL ENGINEERS DETAILS & SPECIFICATIONS SECTION BY MECHANICAL CONTRACTOR ON SITE.
- WHERE STEEL COLUMN IS DIRECTLY SUPPORTED ONTO FOOTING UNDER THE CONCRETE SLAB, CAULK ALL GAPS BETWEEN THE COLUMN & SLAB.
- REFER TO LANDSCAPE ARCHITECT'S DRAWINGS FOR LANDSCAPE DETAILS.
- ALLOW COLOURBOND CLADDING CAPPING TO ENCLOSE EXTERNAL SERVICES PIPES AND EQUIPMENTS.
- TRAFFIC ZONE
- DESIGNATED WALKING PATH

DRAWING REFERENCE

AUTOMATED LAYOUT
GROUND FLOOR
DRAWING NAME: C100-004772-02-09 (ISSUE DATE: 01.04.2021)
KNAPP MEZZ 1
DRAWING NAME: C100-004772-02-09 (ISSUE DATE: 01.04.2021)
KNAPP MEZZ 2 & PRODUCTION AREA
DRAWING NAME: C100-004772-02-07 (ISSUE DATE: 01.04.2021)
WOW DRAWING
WORKSHOP LAYOUT, MEP CHARGER BAY, MANUAL FREEZER GROUND AND MANUAL FREEZER LEVEL 1 AND UDL -
FILE NAME: Auburn Manual Elements 1 (ISSUED VIA EMAIL ON 03.02.21)

DEVELOPMENT SCHEDULE

SITE AREA	32453 m ²
WAREHOUSE	
GROUND FLOOR	15972.2 m ²
MEZZ. 1 FLOOR	1948.3 m ²
MEZZ. 2 FLOOR	2966.2 m ²
TOTAL WAREHOUSE AREA	20886.7 m ²
OFFICE	
CFC OFFICE - GROUND	307.4 m ²
CFC OFFICE - L1	949.9 m ²
TOTAL OFFICE AREA	1257.3 m ²
INBOUND TEAM OFFICE	
GROUND FLOOR	35.1 m ²
TOTAL INBOUND TEAM OFFICE AREA	35.1 m ²
CONTROL TOWER OFFICE	
GROUND FLOOR	253.5 m ²
MEZZ. 1 FLOOR	58.7 m ²
TOTAL CONTROL TOWER OFFICE AREA	312.2 m ²
TOTAL GFA	22491.3 m ²

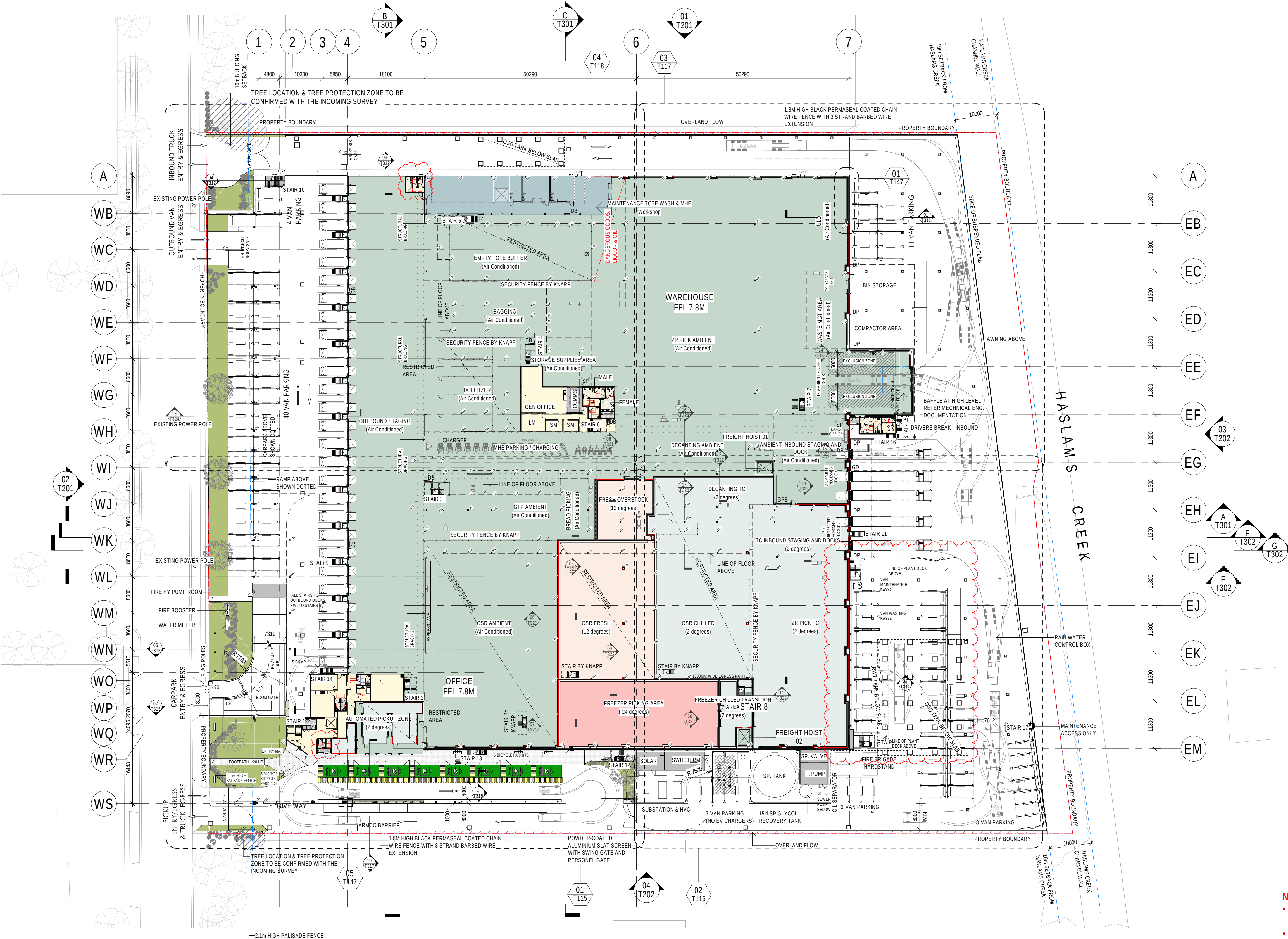
PARKING

TYPE OF PARKING	PARKING BAY DIMENSIONS	NO OF PARKING
PICKUP BAYS	3m x 6m	8
PICKUP HOLDING BAYS	2.1m x 6.6m	8
STAFF PARKING	2.5m x 5.5m	145
STAFF PARKING- ACCESSIBLE	2.5m x 5.5m	2
VAN DOCKS	2.9m X 6.1m	27
VAN PARKING	2.9m X 6.1m	113

NOTE:

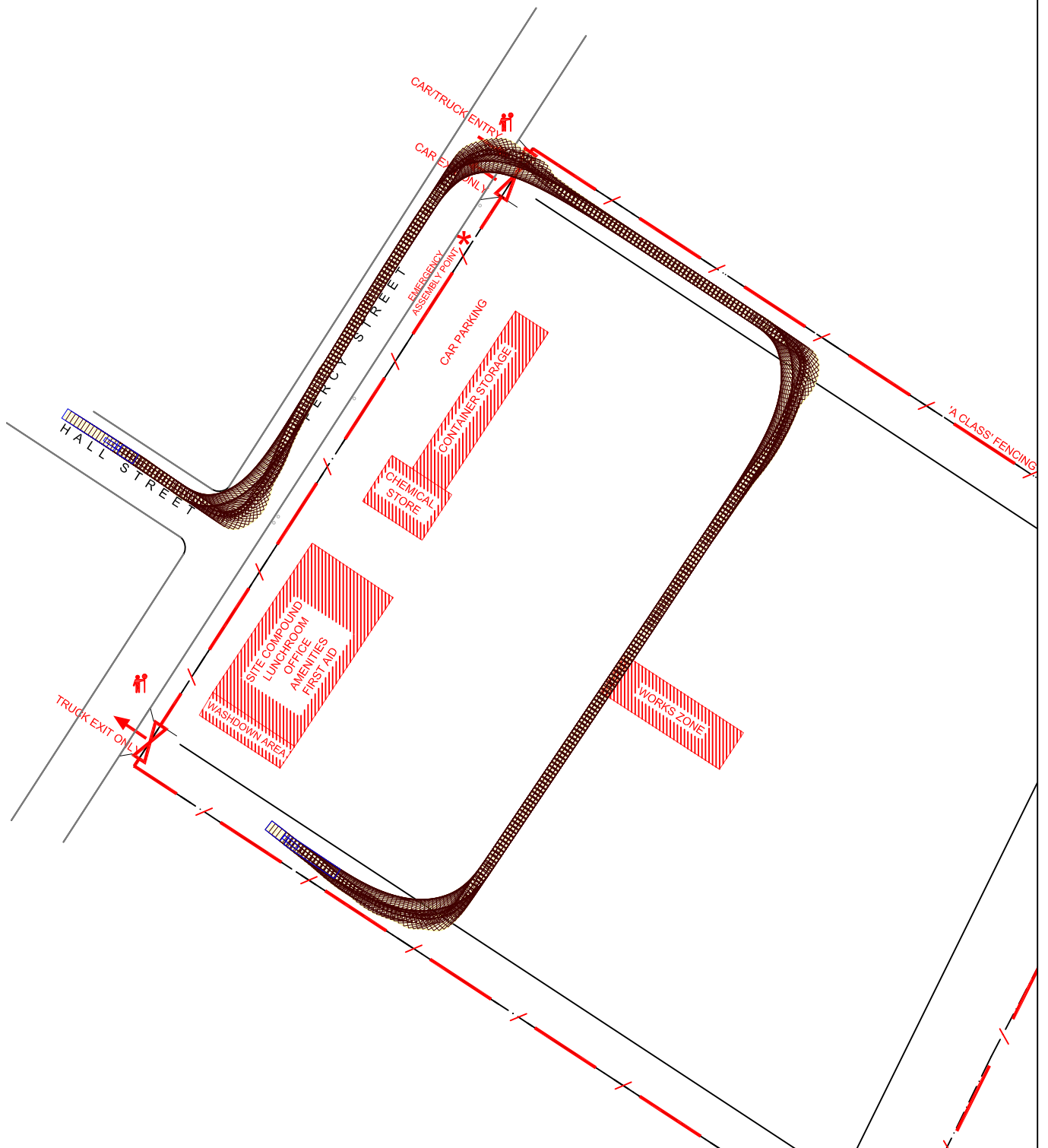
- DOOR LOCATIONS TO BE COORDINATED WITH BCA, KNAPP AND WOW
- BCA REQUIREMENT TO BE COORDINATED WITH PENDING BCA REPORT
- OFFICE TO BE DEVELOPED WITH FITOUT SCOPE
- COOL ROOM & PIR PANELS TO BE REVIEWED & COORDINATED WITH NOMINATED CONTRACTORS
- ALL STEEL WORK WHERE EXPOSED NEEDS TO BE FIRE RATED (REFER STRCUTURAL ENG. DOCUMNETATION)

PARKING TBC SUBJECT TO FINAL MECHANICAL LAYOUT



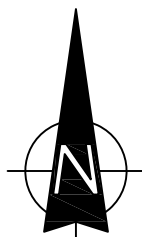
Appendix B

Turning Path Assessment



NOTE

This drawing has been prepared using vehicle modelling computer software AutoTrack V5.00a in conjunction with AutoCAD 2013. The vehicle used is based upon vehicle data provided by Austroads and incorporates a reasonable degree of tolerance. However, it is not possible to account for all vehicle types/characteristics and/or driver ability.



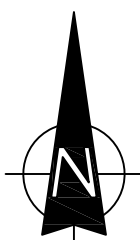
**SWEPT PATH ANALYSIS
OF A 19m ARTICULATED
VEHICLE ENTERING THE SITE**

SP 1



NOTE

This drawing has been prepared using vehicle modelling computer software AutoTrack V5.00a in conjunction with AutoCAD 2013. The vehicle used is based upon vehicle data provided by Austroads and incorporates a reasonable degree of tolerance. However, it is not possible to account for all vehicle types/characteristics and/or driver ability.



**SWEPT PATH ANALYSIS
OF A 19m ARTICULATED
VEHICLE EXITING THE SITE**

SP 2

Appendix C

Council Response

Ross Nettle

From: Ross Nettle
Sent: Thursday, 26 August 2021 10:50 AM
To: Ashur Toma (ashur.toma@cumberland.nsw.gov.au)
Cc: Marija Radmanovic; George Aronis
Subject: CTMP - 11-13 Percy Street, Auburn (218/2021)
Attachments: 11 - 13 PERCY STREET, AUBURN AUG 2021 CTMP REV A.pdf

Importance: High

Ashur

As discussed the CTMP is attached. An early response acknowledging consideration of the CTMP and no problems with it would be appreciated.

Thank you for your attention.

Regards

Ross Nettle | Director

TRANSPORT AND TRAFFIC PLANNING ASSOCIATES

Established 1994

Suite 502, Level 5, 282 Victoria Avenue, Chatswood NSW 2067
P (02) 9411 5660 F (02) 9904 6622 W tupa.com.au

tupa



Transport and Traffic Planning Associates*
Level 5
Suite 502/282 Victoria Avenue
CHATSWOOD NSW 2067

TAX INVOICE

ABN 22 798 563 329

Date	27 August 2021
Invoice Number	2022599
Application Ref.	RDA2021/1024
Application Type	Road Approval - Temporary Road Closure
Property	11 Percy Street AUBURN NSW 2144
Due Date	26/09/2021

CHARGE SUMMARY

Description	Qty	Comment	Ex. Tax Amount	Discount	GST	Inc. Tax Amount	Balance
Traffic Management Plan - Application (Rel to Dev)	1		\$323.00	\$0.00	\$0.00	\$323.00	\$323.00
Total Amount Due							\$323.00



PLEASE DETACH AND RETURN THIS SECTION WITH YOUR PAYMENT:

Balance Statement – This section provides the **charge balance for ALL charges on Application Number RDA2021/1024**, including unpaid amounts from previous Tax Invoices issued by Cumberland City Council.

Issue Date	27 August 2021	Invoice No:	2022599
Applicant:	Transport and Traffic Planning Associates*	Receipt Source:	Rams
Application Ref:	RDA2021/1024	Amount:	\$323.00
Receipt No. & Date:		Payment Due Date:	26/09/2021

METHODS OF PAYMENT

Online Services: onlineservices.cumberland.nsw.gov.au and click on 'Application Payment'
If paying by CREDIT CARD, an additional 0.55% processing fee will apply.

By Mail: Make cheque payable to 'Cumberland City Council' and crossed 'Not Negotiable'.
Mail payment to Cumberland City Council, PO Box 42, Merrylands NSW 2160

In Person: Present this payment slip to Customer Services at:
Auburn Service Centre - 1 Susan Street, Auburn NSW 2144
Merrylands Service Centre - 16 Memorial Avenue, Merrylands NSW 2160

APPENDIX D

Relevant Consent Conditions

Table A Development Consent SSD-10470

Condition	Where Addressed in CEMP
PART A – ADMINISTRATIVE CONDITIONS	
Obligation to Minimise Harm to the Environment	
A1. 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.	Section 4.1
Terms of Consent	
A2. 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 and Response to Submissions; (d) in accordance with the Development Layout in Appendix 1; and (e) in accordance with the management and mitigation measures in Appendix 2.	Noted
A3. 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 A3(a).	Noted
A4. 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 A2(c) or A2(e). In the event of an inconsistency, ambiguity or conflict between any of the documents listed in Condition A2(c) or A2(e), the most recent document prevails to the extent of the inconsistency, ambiguity or conflict.	Noted
Limit of Consent	
A5. 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.	Noted
Notification of Commencement	

Condition	Where Addressed in CEMP
A6. The date of commencement of each of the following phases of the development must be notified to the Department in writing, at least one month (or as otherwise agreed by the Planning Secretary) before that date: (a) construction; (b) operation; or (c) cessation of operations.	Noted
A7. If the construction or operation of the development is to be staged, the Department must be notified in writing at least one month (or as otherwise agreed by the Planning Secretary) before the commencement of each stage, of the date of commencement and the development to be carried out in that stage.	Noted
Evidence of Consultation	
A8. 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.	Section 1.2.3
Protection of Public Infrastructure	
A12. Before the commencement of construction, the Applicant must: (a) consult with the relevant owner and provider of services that are likely to be affected by the development to make suitable arrangements for access to, diversion, protection and support of the affected 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.	This will be completed by Vaughan Constructions. See Section 1.2.3
A13. 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; and (b) relocate, or pay the full costs associated with relocating, any public infrastructure that needs to be relocated as a result of the development.	Noted
Demolition	
A14. All demolition must be carried out in accordance with Australian Standard AS 2601-2001 The Demolition of Structures (Standards Australia, 2001).	Section 4.1
Structural Adequacy	

Condition	Where Addressed in CEMP
A15. 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. <i>Note:</i> • Under Part 6 of the EP&A Act, the Applicant is required to obtain construction and occupation certificates for the proposed building works. • Part 8 of the EP&A Regulation sets out the requirements for the certification of the development.	Noted Engineering design and construction certification will ensure this
Compliance	
A16. 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.	Section 3.4
Operation Of Plant And Equipment	
A18. 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.	Section 4.1
Ausgrid Requirements	
A22. Prior to commencement of works along Percy Street the Applicant must ensure that all necessary precautions are implemented in relation to the construction and ongoing operation of the facility in the vicinity of 33,000 volt Ausgrid Cables buried along Percy Street.	Section 4.1
A23. The Applicant must decommission and remove two existing Ausgrid substations from the site. The design and construction of any new substations must meet Ausgrid load requirements.	Section 4.1
Utilities And Services	
A24. Before the construction of any utility works associated with the development, the Applicant must obtain relevant approvals from service providers.	Section 4.1
A25. Before 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.	Section 4.1
A26. 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 a real estate development project 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 a real estate development project demonstrated through an agreement with a carrier.	Section 4.1
A27. Before the issue of the final Occupation Certificate the Applicant must demonstrate that the carrier has confirmed in writing they are satisfied that the fibre ready facilities are fit for purpose.	Section 4.1
Advisory Notes	

Condition	Where Addressed in CEMP								
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.	Noted								
SCHEDULE B: ENVIRONMENTAL PERFORMANCE CONDITIONS									
NOISE									
Hours of Work									
B1. The Applicant must comply with the hours detailed in Table 1, unless otherwise agreed in writing by the Planning Secretary. Table 1 Hours of Work <table><tr><th>Activity</th><th>Day</th><th>Time</th></tr><tr><td rowspan="2">Demolition, earthworks and construction</td><td>Monday – Friday</td><td>7am to 6pm</td></tr><tr><td>Saturday</td><td>8am to 1pm</td></tr></table>	Activity	Day	Time	Demolition, earthworks and construction	Monday – Friday	7am to 6pm	Saturday	8am to 1pm	Section 2.3 and 4.2
Activity	Day	Time							
Demolition, earthworks and construction	Monday – Friday	7am to 6pm							
	Saturday	8am to 1pm							
B2. Works outside of the hours identified in Condition B1 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.	Section 2.3 and 4.2								
Construction Noise Limits									
B3. 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.	Section 4.2								
Construction Noise Management Plan									
B4. The Applicant must prepare a Construction Noise Management Plan for the development to the satisfaction of the Planning Secretary. The Plan must form part of a CEMP in accordance with Condition C2 and must: (a) be prepared by a suitably qualified and experienced noise expert; (b) be approved by the Planning Secretary prior to the commencement of construction (or each stage of construction, where relevant) of the development; (c) describe procedures for achieving the noise management levels in EPA’s Interim Construction Noise Guideline (DECC, 2009) (as may be updated or replaced from time to time); (d) describe the measures to be implemented to manage high noise generating works such as piling, in close proximity to sensitive receivers; (e) include strategies that have been developed with the community for managing high noise generating works; (f) describe the community consultation undertaken to develop the strategies in Condition B4(e); and (g) include a complaints management system that would be implemented for the duration of the development.	Section 4.2 and Appendix C								

Condition	Where Addressed in CEMP
B5. The Applicant must: (a) not commence construction of any relevant stage until the Construction Noise Management Plan required by Condition B4 is approved by the Planning Secretary; and (b) implement the most recent version of the Construction Noise Management Plan approved by the Planning Secretary for the duration of construction.	Noted
TRAFFIC AND ACCESS	
Construction Traffic Management Plan	
B8. Prior to the commencement of construction, 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.	Section 4.3
B9. The Applicant must: (a) not commence construction until the Construction Traffic Management Plan required by Condition B8 is approved by the Planning Secretary; and (b) implement the most recent version of the Construction Traffic Management Plan approved by the Planning Secretary for the duration of construction.	Section 4.3
Roadworks and Access	

Condition	Where Addressed in CEMP
B10. Prior to the commencement of operation of the development, the Applicant must complete the construction of access driveways to Percy St to the satisfaction of the relevant roads authority. The Applicant must obtain approval for the works under section 138 of the Roads Act 1993.	CTMP
B11. Prior to the commencement of operation of the development, the Applicant must submit design plans to the satisfaction of the relevant roads authority which demonstrate that the proposed accesses to the development are designed to accommodate the turning path of a 19-metre Articulated vehicle.	CTMP
Parking and Access	
B12. Prior to the commencement of construction of the site access points and the associated driveways, the Applicant must submit design plans to the satisfaction of the relevant roads authority which demonstrate the proposed access arrangements are: (a) designed to accommodate the turning path of a 19-metre Articulated vehicle; and (b) consistent with the most recent version of the Austroads Guide to Road Design and TfNSW's specifications.	CTMP
B13. The Applicant must provide sufficient parking facilities on-site, including for heavy vehicles and for site personnel, to ensure that traffic associated with the development does not utilise public and residential streets or public parking facilities.	Section 4.3
REMEDIATION	
Site Auditor	
B15. Prior to the commencement of construction, the Applicant must engage a Site Auditor accredited under the CLM Act NSW Site Auditor Scheme.	Section 4.5
Remedial Works	
B16. The site is to be remediated in accordance with the approved RAP and 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.	Section 4.5
B17. The Applicant must ensure the remediation works for the development are undertaken by a suitably qualified and experienced contractor(s).	Section 4.5
Validation Report	
B18. Within three months of the completion of the remediation works required under Condition B16, 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 approved RAP and CEMP. The validation report must include: (a) details of the remediation works undertaken; (b) details of any unexpected finds (see also Condition B22); (c) validation of any imported fill to the site, as permitted under condition (imported soil condition B23); and (d) information that the objectives of the RAP have been achieved.	Section 4.5
Site Audit Statement	

Condition	Where Addressed in CEMP
B19. Within six months of the completion of the remediation works and prior to the commencement of operation, the Applicant must obtain from the Site Auditor, a Site Audit Statement and a Site Audit Report. The reports must be prepared in accordance with the relevant guidelines under the CLM Act and must confirm: (a) the remedial works approved under this consent have been completed in accordance with the remediation objectives listed in the approved RAP; and (b) the site is suitable for its intended use. A copy of the final Site Audit Statement and Site Audit Report must be provided to the Planning Secretary and the EPA.	Section 4.5
CONTAMINATION	
Unexpected Contamination Finds Procedure	
B22. Prior to the commencement of construction, the Applicant must prepare an unexpected contamination finds procedure to ensure that potentially contaminated material is appropriately managed. The procedure must form part of the of the CEMP in accordance with Condition C2 and must ensure any material identified as contaminated is disposed of in accordance with the POEO Act and its associated regulations. Details of the final disposal location and the results of any associated testing must be submitted to the Planning Secretary, prior to removal of the contaminated materials from the site.	Section 4.5
SOILS, WATER QUALITY AND HYDROLOGY	
Imported Soil	
B23. The Applicant must: (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.	Section 4.4
Erosion and Sediment Control	
B24. Prior to the commencement of any construction or other surface disturbance the Applicant must install and maintain 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 C2.	Section 4.4
Discharge Limits	
B25. The development must comply with section 120 of the POEO Act, which prohibits the pollution of waters, except as expressly provided for in an EPL.	Section 4.4
Stormwater Management System	

Condition	Where Addressed in CEMP
B26. Prior to the commencement of construction, the Applicant must design, install and operate a stormwater management system for the development. The system must: (a) be designed by a suitably qualified and experienced person(s); (b) be generally in accordance with the conceptual design in the EIS; (c) be in accordance with applicable Australian Standards; and (d) 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.	Section 4.4
ABORIGINAL HERITAGE	
Unexpected Finds Protocol	
B27. 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.	Section 4.6
B28. 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 4.6
HAZARDS AND RISK	
Dangerous Goods	
B29. The quantities of dangerous goods stored and handled at the site must be below the threshold quantities listed in the Department's Hazardous and Offensive Development Application Guidelines – Applying SEPP 33 at all times.	Section 4.7
WASTE MANAGEMENT	
Pests, Vermin and Noxious Weed Management	
B30. 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. <i>Note: For the purposes of this condition, priority weed has the same definition of the term in the Biosecurity Act 2015.</i>	Section 4.8
Waste Storage and Processing	
B31. 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.	Section 4.8
Statutory Requirements	
B32. All waste materials removed from the site must only be directed to a waste management facility or premises lawfully permitted to accept the materials.	Section 4.8

Condition	Where Addressed in CEMP
B33. 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 facility that may lawfully accept the waste.	Section 4.8
B34. Waste generated outside the site must not be received at the site for storage, treatment, processing, reprocessing, or disposal.	Section 4.8
AIR QUALITY	
Dust Minimisation	
B35. The Applicant must take all reasonable steps to minimise dust generated during all works authorised by this consent.	Section 4.9
B36. During construction of the development, the Applicant must ensure that: (a) exposed surfaces and stockpiles are suppressed by regular watering; (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.	Section 4.9
Odour Management	
B37. The Applicant must ensure the development does not cause or permit the emission of any offensive odour (as defined in the POEO Act).	Section 4.9
COMMUNITY ENGAGEMENT	
B41. The Applicant must consult with the community regularly throughout the development, including consultation with the nearby sensitive receivers identified in Appendix 2, relevant regulatory authorities and other interested stakeholders.	Section 4.12

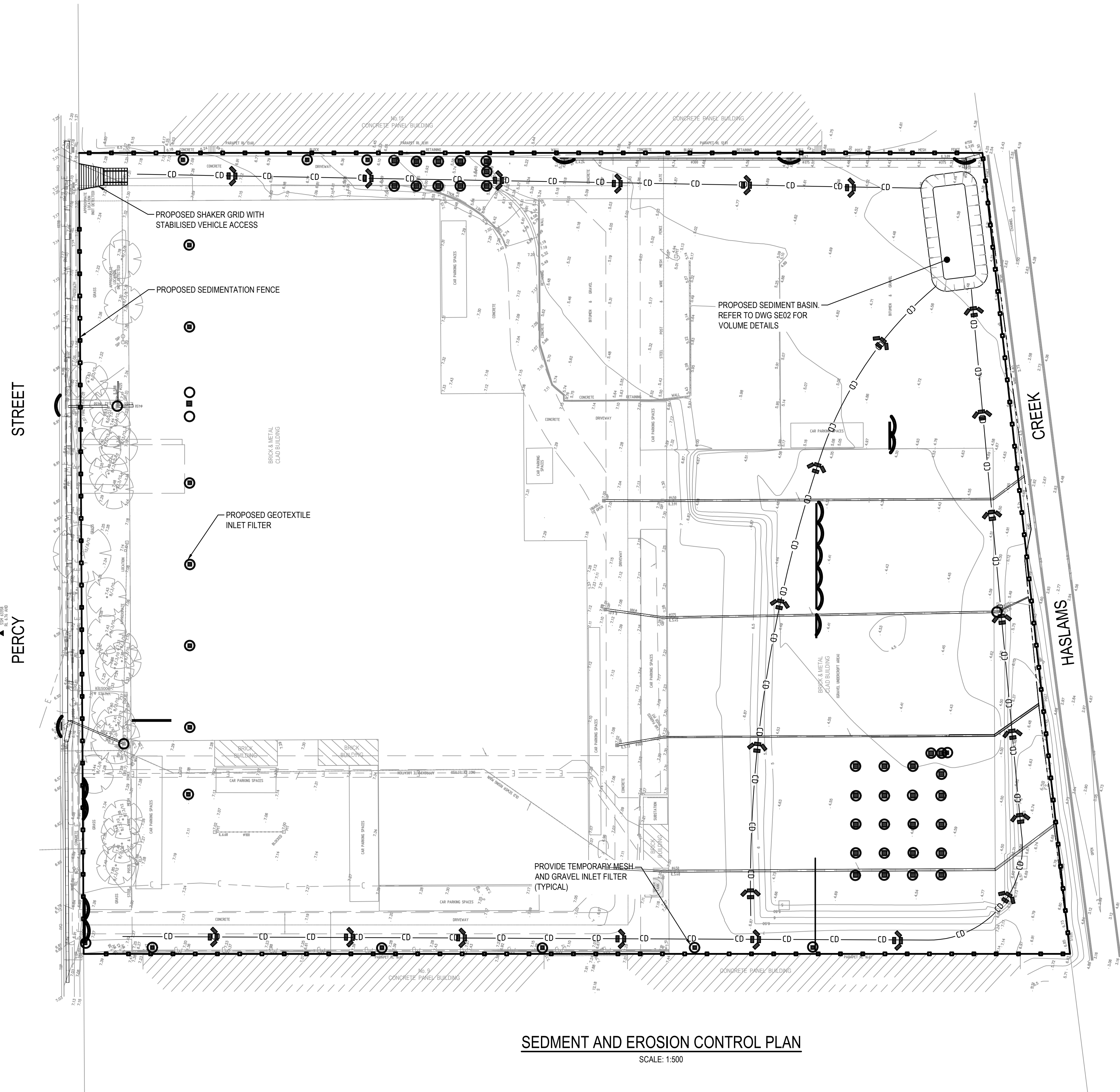
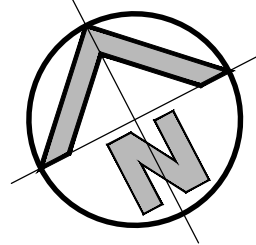
Condition	Where Addressed in CEMP
PART C – ENVIRONMENTAL MANAGEMENT, REPORTING AND AUDITING	
ENVIRONMENTAL MANAGEMENT	
Management Plan Requirements	
C1. Management plans required under this consent must be prepared in accordance with relevant guidelines, and include: (a) detailed baseline data; (b) details 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; (c) a description of the measures to be implemented to comply with the relevant statutory requirements, limits, or performance measures and criteria; (d) 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; (e) 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; (f) a program to investigate and implement ways to improve the environmental performance of the development over time; (g) 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 (h) a protocol for periodic review of the plan. <i>Note: the Planning Secretary may waive some of these requirements if they are unnecessary or unwarranted for particular management plans</i>	This Plan
CONSTRUCTION ENVIRONMENTAL MANAGEMENT PLAN	
C2. The Applicant must prepare a Construction Environmental Management Plan (CEMP) in accordance with the requirements of Condition C1 and to the satisfaction of the Planning Secretary.	

Condition	Where Addressed in CEMP
C3. As part of the CEMP required under Condition C2 of this consent, the Applicant must include the following: (a) Construction Noise Management Plan (see Condition B4); (b) Construction Traffic Management Plan (see Condition B8); (c) Erosion and Sediment Control Plan; (d) a copy of the RAP; (e) Unexpected finds contamination procedures (see Condition B22); and (f) Community Consultation and Complaints Handling.	This Plan
C4. The Applicant must: (a) not commence construction of the development until the CEMP 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.	Noted
REVISION OF STRATEGIES, PLANS AND PROGRAMS	
C7. Within three months of: (a) the submission of a Compliance Report under Condition C13; (b) the submission of an incident report under Condition C9; (c) the approval of any modification of the conditions of this consent; or (d) the issue of a direction of the Planning Secretary under Condition A2(b) which requires a review, the strategies, plans and programs required under this consent must be reviewed.	Noted
C8. 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. Note: <i>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.</i>	Noted
REPORTING AND AUDITING	
Incident Notification, Reporting and Response	
C9. The Planning Secretary must be notified in writing via the Major Projects website immediately after the Applicant becomes aware of an incident. The notification must identify the development (including the development application number and the name of the development if it has one) and set out the location and nature of the incident. Subsequent notification requirements must be given, and reports submitted in accordance with the requirements set out in Appendix 3.	Section 3.5.3.1 and 5.2
Non-Compliance Notification	
C10. The Planning Secretary must be notified in writing via the Major Projects website within seven days after the Applicant becomes aware of any non-compliance.	Section 3.5.3.2 and 5.2

Condition	Where Addressed in CEMP
C11. A non-compliance notification must identify the development and the application number for it, set out the condition of consent that the development is non-compliant with, the way in which it does not comply and the reasons for the non-compliance (if known) and what actions have been, or will be, undertaken to address the non-compliance.	Noted
C12. A non-compliance which has been notified as an incident does not need to also be notified as a non-compliance.	Noted
Monitoring and Environmental Audits	
C15. 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: <i>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.</i>	Section 5
ACCESS TO INFORMATION	
C16. At least 48 hours before the commencement of construction of the development until the completion of all works construction works under this consent, including remediation, 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 A2 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) 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; (vii) any other matter required by the Planning Secretary; and (viii) keep such information up to date, to the satisfaction of the Planning Secretary.	Section 5.2

APPENDIX E

Erosion and Sediment Control Plans



LEGEND

- PROPOSED BOUNDARY
- PROPOSED SEDIMENTATION FENCE
- CATCH DIVERSION DRAIN
- PROPOSED HAYBALE FILTER
- GEOTEXTILE INLET FILTER
- PROPOSED MESH & GRAVEL INLET FILTER
- PROPOSED STABILISED VEHICLE ACCESS
- PROPOSED SHAKER GRID
- PROPOSED SURFACE INLET PITS

SEDIMENT AND EROSION CONTROL PLAN

SCALE: 1:500

FOR TENDER ONLY

SURVEY INFORMATION

SURVEYED BY:
LTS
DATUM: AHD

REVISION	AMENDMENT	DRAWN	DESIGNED	DATE	REVISION	AMENDMENT	DRAWN	DESIGNED	DATE
04	ISSUED FOR TENDER ONLY	JK	LV	30.04.2021					
03	ISSUED FOR DRAFT 100% TENDER	JK	LV	16.04.2021					
02	ISSUED FOR 75% TENDER	JK	LV	01.04.2021					
01	ISSUED FOR CC TENDER	JK	LV	18.03.2021					

Client
WOOLWORTHS GROUP LIMITED



Architect
NETTLETON TRIBE

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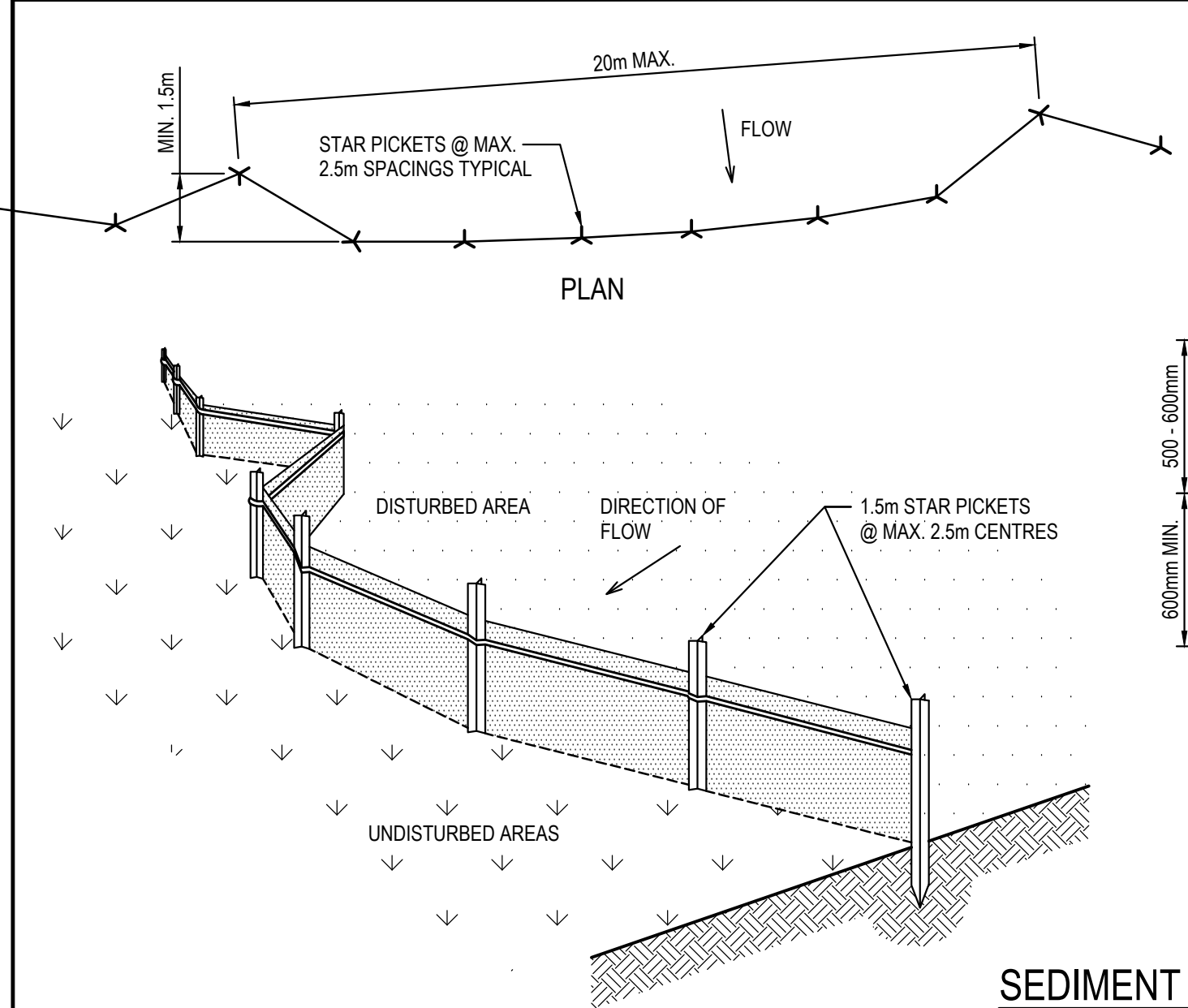
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Project
**PROPOSED WAREHOUSE DARK STORE
11-13 PERCY STREET, AUBURN NSW**

Title
SEDIMENT AND EROSION CONTROL PLAN

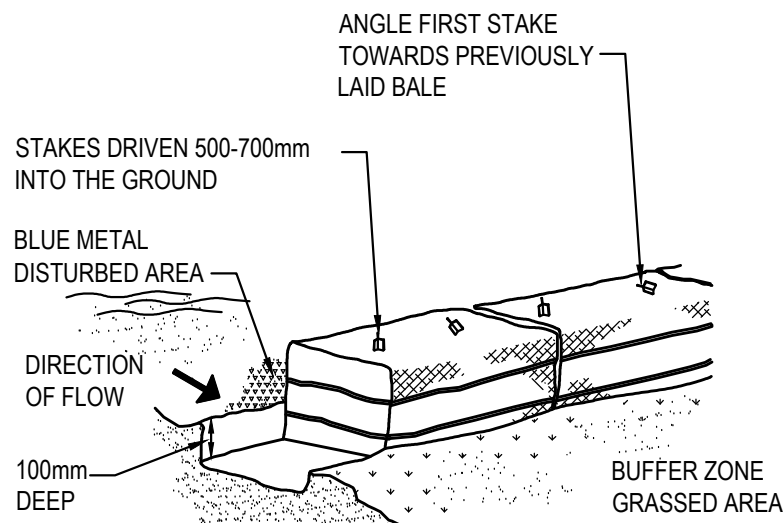
Drawn J.Knight	Designed L.Villa	Date JULY 2020
Checked B.Seizov	Approved A.Francis	Scale (B1) 1:500
Drawing number 19513_CC_SE01		Revision 04



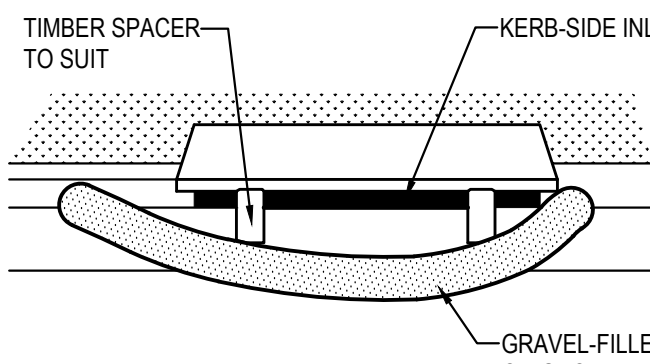
SEDIMENT FENCE
SCALE N.T.S.

SEDIMENT FENCE CONSTRUCTION NOTES:

1. CONSTRUCT SEDIMENT FENCES AS CLOSE AS POSSIBLE TO BEING PARALLEL TO THE CONTOURS OF THE SITE, BUT WITH SMALL RETURNS AS SHOWN IN THE DRAWING TO LIMIT THE CATCHMENT AREA OF ANY ONE SECTION. THE CATCHMENT AREA SHOULD BE SMALL ENOUGH TO LIMIT WATER FLOW IF CONCENTRATED AT ONE POINT TO 50 LITRES PER SECOND IN THE DESIGN STORM EVENT, USUALLY THE 10-YEAR EVENT.
2. CUT A 150mm DEEP TRENCH ALONG THE UPSLOPE LINE OF THE FENCE FOR THE BOTTOM OF THE FABRIC TO BE ENTRENCHED.
3. DRIVE 1.5m LONG STAR PICKETS INTO GROUND @ 2.5m INTERVALS (MAX.) AT THE DOWNSLOPE EDGE OF THE TRENCH. ENSURE ANY STAR PICKETS ARE FITTED WITH SAFETY CAPS.
4. FIX SELF-SUPPORTING GEOTEXTILE TO THE UPSLOPE SIDE OF THE POSTS ENSURING IT GOES TO THE BASE OF THE TRENCH. FIX THE GEOTEXTILE WITH WIRE TIES OR AS RECOMMENDED BY THE MANUFACTURER. ONLY USE GEOTEXTILE SPECIFICALLY PRODUCED FOR SEDIMENT FENCING. THE USE OF SHADE CLOTH FOR THIS PURPOSE IS NOT SATISFACTORY.
5. JOIN SECTIONS OF FABRIC AT A SUPPORT POST WITH A 150mm OVERLAP. 6. BACKFILL THE TRENCH OVER THE BASE OF THE FABRIC AND COMPACT IT THOROUGHLY OVER THE GEOTEXTILE.



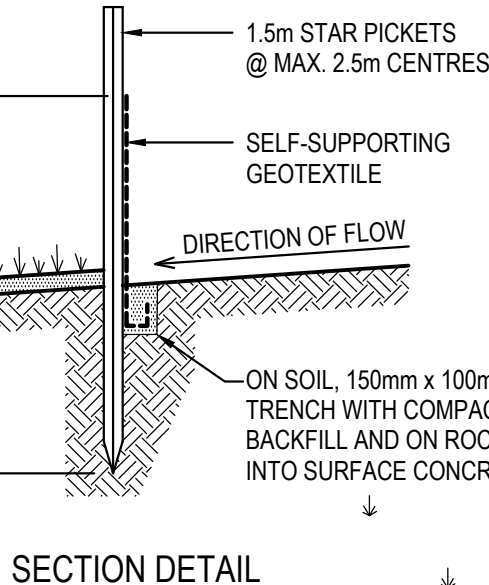
HAYBALE BARRIERS
N.T.S.



MESH & GRAVEL INLET FILTER CONSTRUCTION NOTES:

1. FABRICATE A SLEEVE MADE FROM GEOTEXTILE OR WIRE MESH LONGER THAN THE LENGTH OF THE INLET PIT AND FILL IT WITH 25mm TO 50mm GRAVEL.
2. FORM AN ELLIPTICAL CROSS-SECTION ABOUT 150mm HIGH x 400mm WIDE.
3. PLACE THE FILTER AT THE OPENING LEAVING AT LEAST A 100mm SPACE BETWEEN IT AND THE KERB INLET. MAINTAIN THE OPENING WITH SPACER BLOCKS.
4. FORM A SEAL WITH THE KERB TO PREVENT SEDIMENT BYPASSING THE FILTER.
5. SANDBAGS FILLED WITH GRAVEL CAN SUBSTITUTE FOR THE MESH OR GEOTEXTILE PROVIDING THEY ARE PLACED SO THAT THEY CAN FIRMLY ABUT EACH OTHER AND SEDIMENT / LADEN WATERS CANNOT PASS BETWEEN.

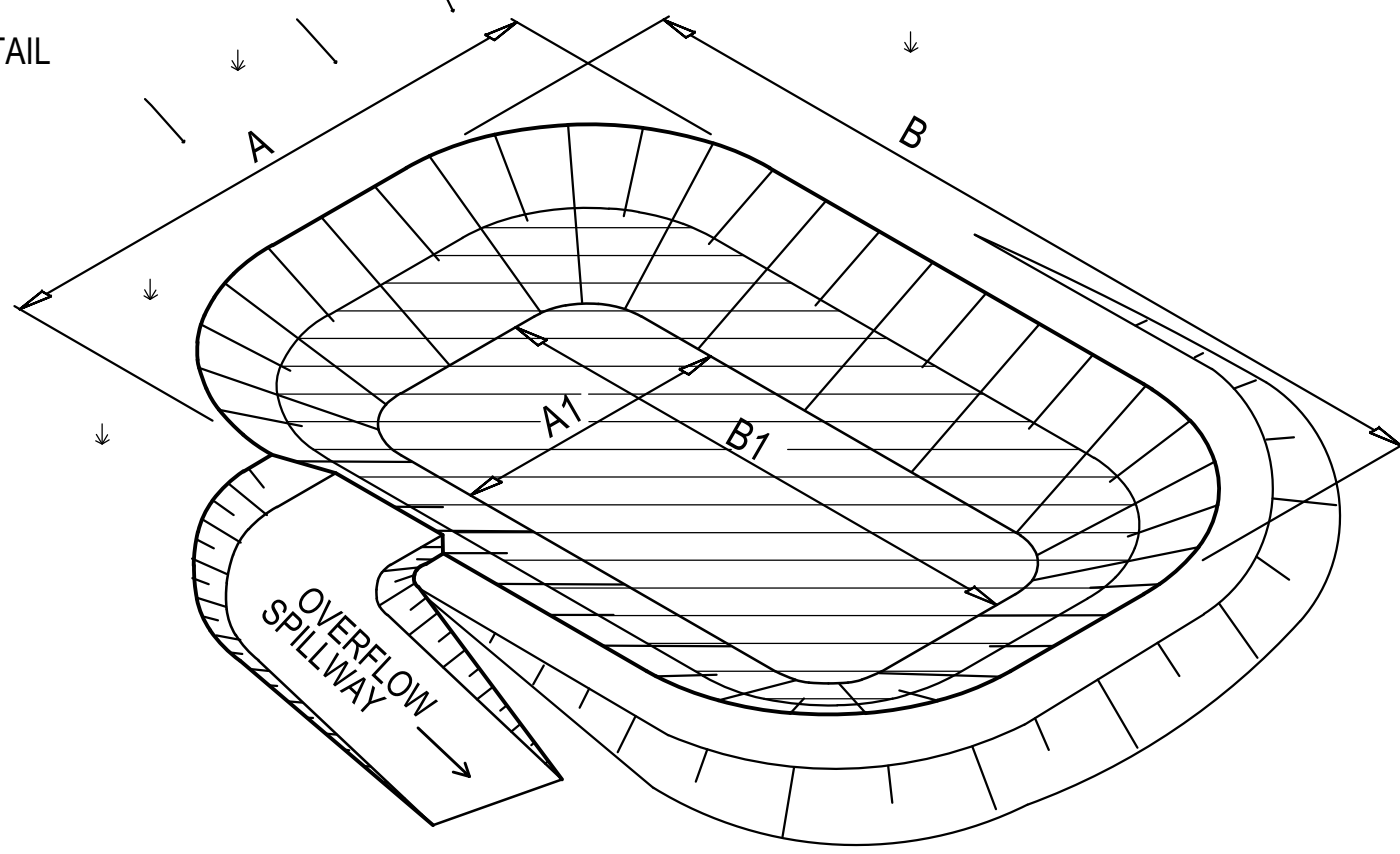
MESH & GRAVEL INLET FILTER
SCALE N.T.S.



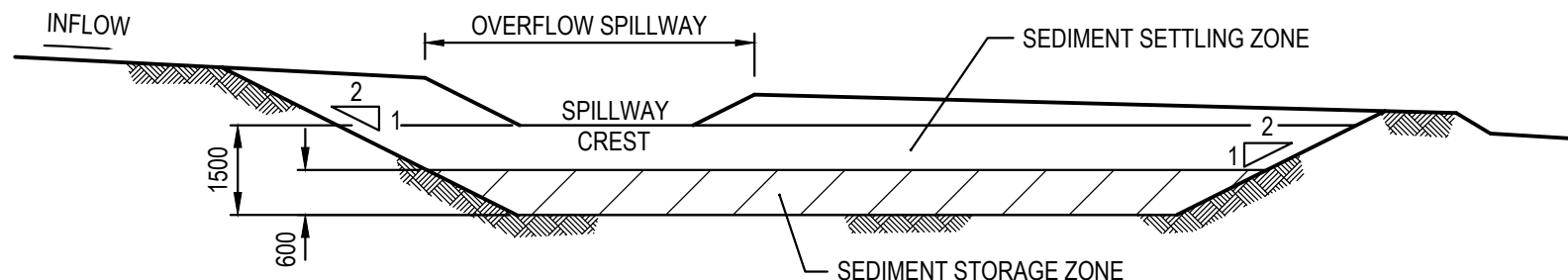
STOCKPILE CONSTRUCTION NOTES:

1. PLACE STOCKPILES MORE THAN 2 (PREFERABLY 5) METRES FROM EXISTING VEGETATION, CONCENTRATED WATER FLOW, ROADS AND HAZARD AREAS.
2. CONSTRUCT ON THE CONTOUR AS LOW, FLAT, ELONGATED MOUNDS.
3. WHERE THERE IS SUFFICIENT AREA, TOPSOIL STOCKPILES SHALL BE LESS THAN 2 METRES IN HEIGHT.
4. WHERE THEY ARE TO BE PLACED FOR MORE THAN 10 DAYS, STABILISE FOLLOWING THE APPROVED E.S.C.P. OR S.W.M.P. TO REDUCE THE C-FACTOR TO LESS THAN 0.10.
5. CONSTRUCT EARTH BANKS ON THE UPSLOPE SIDE TO DIVERT WATER AROUND STOCKPILES AND SEDIMENT FENCES 1 TO 2 METRES DOWNSLOPE.

STOCKPILES
SCALE N.T.S.

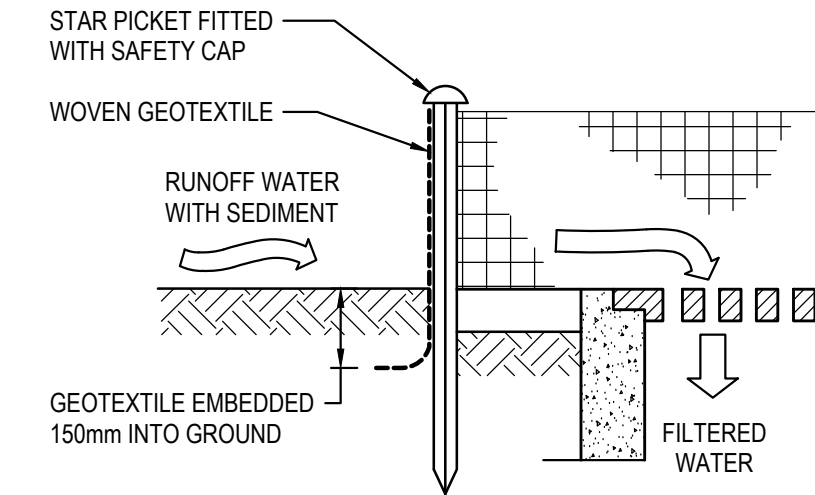
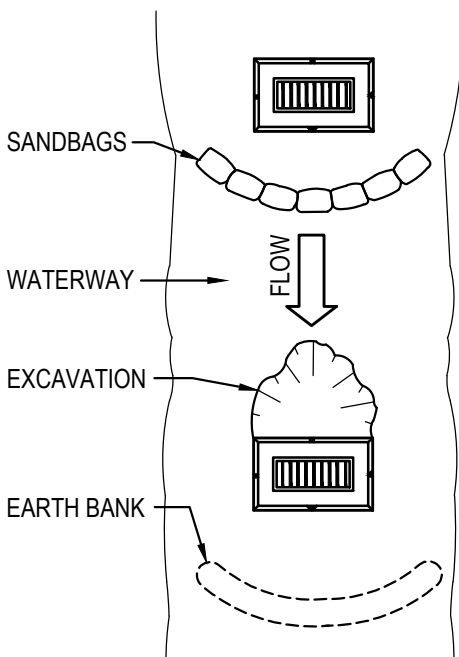
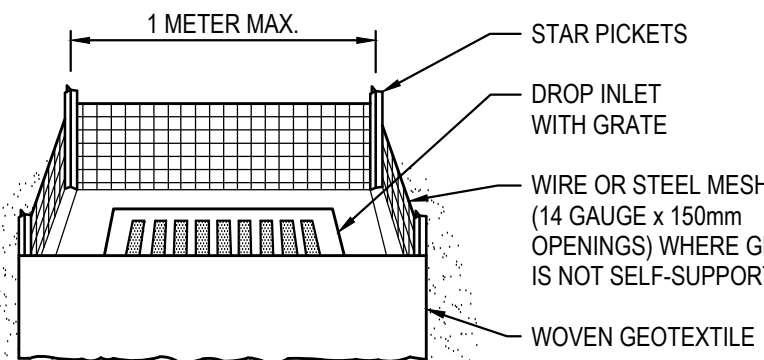


PERSPECTIVE VIEW



TYPICAL SECTION
TYPE 'D' & 'F' SEDIMENTATION BASIN
N.T.S.

SEDIMENTATION BASIN CALCULATIONS: (FOR TYPE D & F SOILS) - PER 1 ha

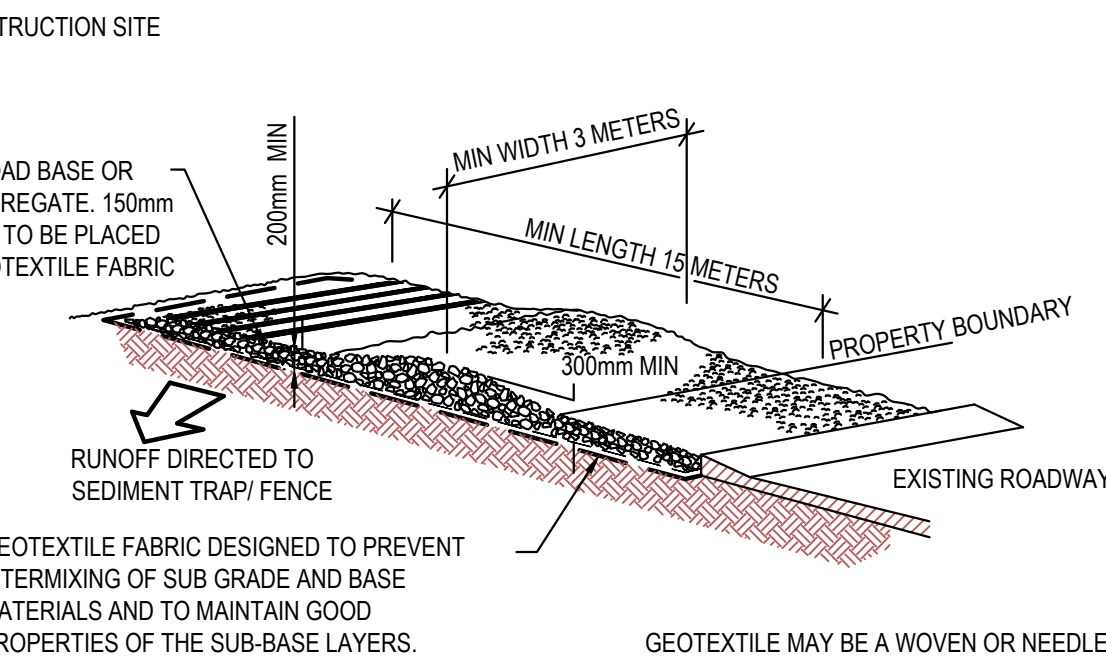
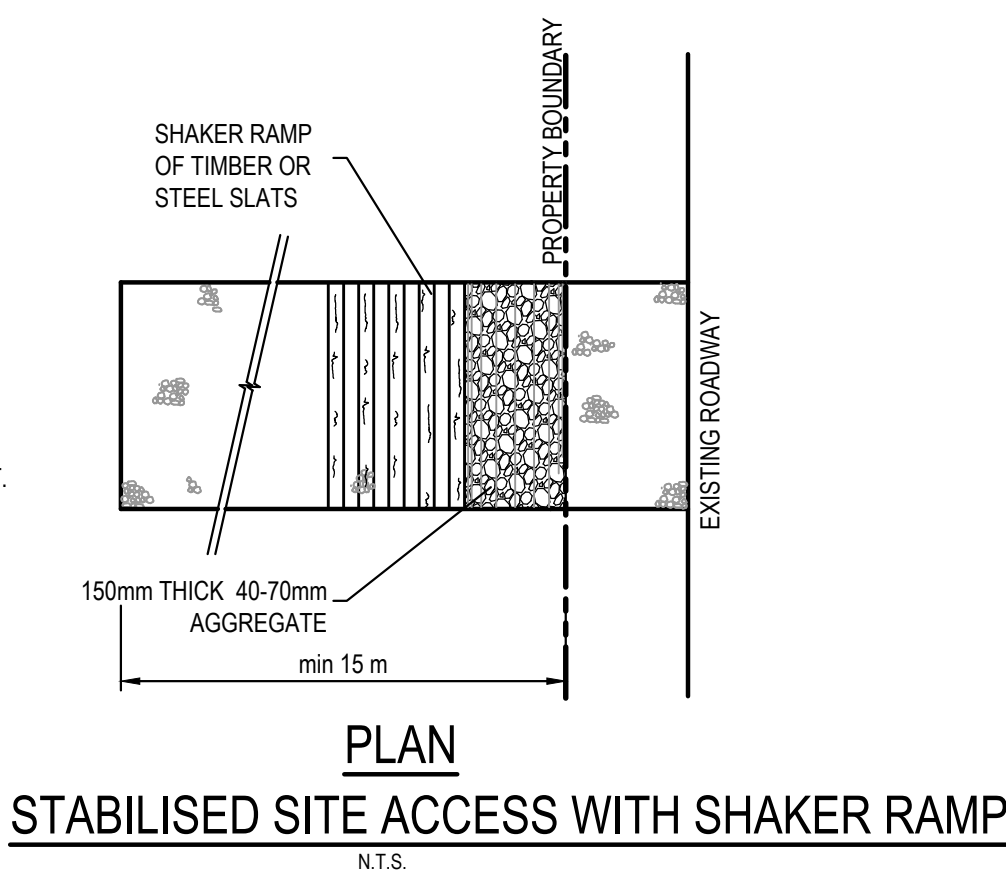


FOR DROP INLETS @ NON-SAG POINTS, SANDBAGS, EARTH BANK OR EXCAVATION USED TO CREATE ARTIFICIAL SAG POINT

GEOTEXTILE INLET FILTER CONSTRUCTION NOTES:

1. FABRICATE A SEDIMENT BARRIER MADE FROM GEOTEXTILE.
2. PICKET SPACING TO BE MAXIMUM 1.0m.
3. IN WATERWAYS, ARTIFICIAL SAG POINTS CAN BE CREATED WITH SANDBAGS OR EARTH BANKS AS SHOWN IN THE DRAWING.
4. DO NOT COVER THE INLET WITH GEOTEXTILES UNLESS THE DESIGN IS ADEQUATE TO ALLOW FOR ALL WATERS TO BYPASS IT.

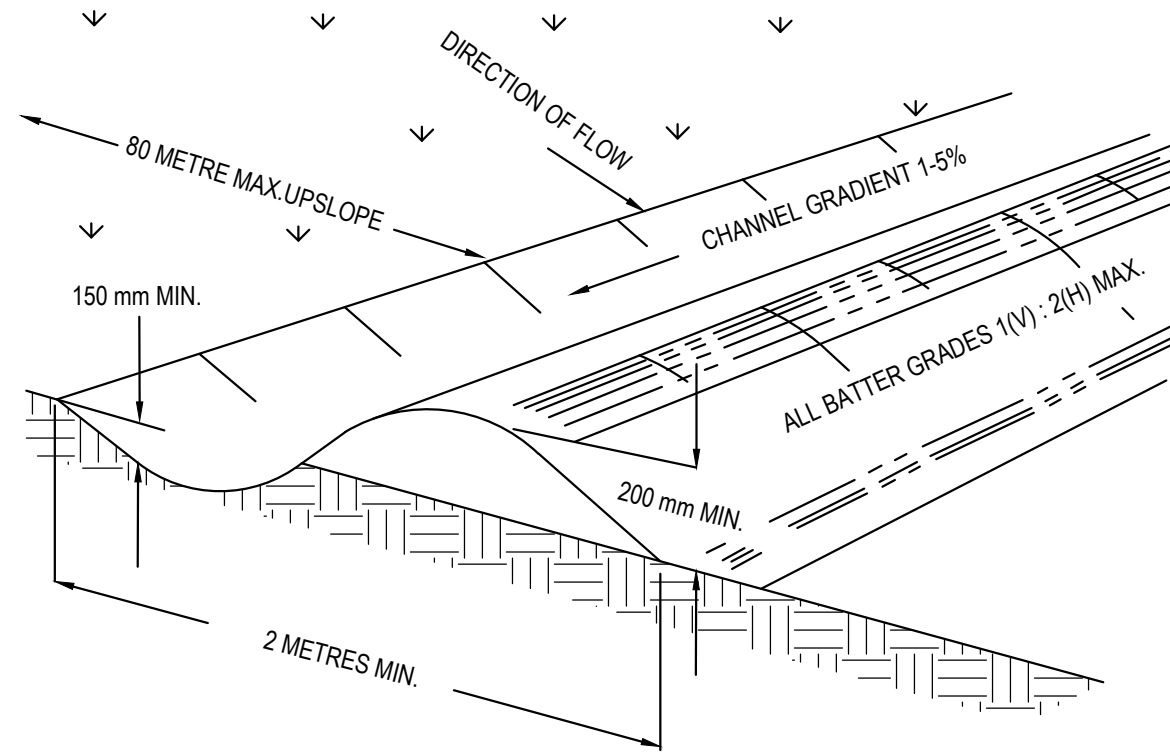
GEOTEXTILE INLET FILTER
SCALE N.T.S.



STABILISED SITE ACCESS WITH SHAKER RAMP
N.T.S.

NOTES:

1. THIS DEVICE IS TO BE LOCATED AT ALL EXITS FROM CONSTRUCTION SITE.
2. THIS DEVICE IS TO BE REGULARLY CLEANED OF DEPOSITED MATERIAL SO AS TO MAINTAIN A 50mm DEEP SPACE BETWEEN PLANKS.
3. ANY UNSEALED ROAD BETWEEN THIS DEVICE AND NEAREST ROADWAY IS TO BE TOPPED WITH 100mm THICK 40-70mm SIZE AGGREGATE.
4. ALTERNATIVELY, THREE(3) PRECAST CONCRETE CATTLE GRIDS (AS MANUFACTURED BY "HUMES CONCRETE MAY BE USED. 1, 2 & 3 ABOVE ALSO APPLY.



NOTE: ONLY TO BE USED AS TEMPORARY BANK WHERE MAC UPSLOPE LENGTH IS 80 METRES.

CATCH DRAIN CONSTRUCTION NOTES:

1. CONSTRUCT ALONG GRADIENT AS SPECIFIED.
2. MAXIMUM SPACING BETWEEN BANKS SHALL BE 80 METRES.
3. DRAINS TO BE OF PARABOLIC OR TRAPEZOIDAL CROSS SECTION NOT V-SHAPED.
4. EARTH BANKS TO BE ADEQUATELY COMPACTED IN ORDER TO PREVENT FAILURE.
5. CONSTRUCTION IS OF A TEMPORARY NATURE AND SHALL BE COMPACTED AT THE END A DAYS WORK OR IMMEDIATELY PRIOR RAIN.
6. ALL OUTLETS FROM DISTURBED LANDS ARE TO FEED INTO SEDIMENT BASIN OR SIMILAR.
7. DISCHARGE RUNOFF COLLECTED FROM UNDISTURBED LANDS ONTO EITHER A STABILISED OR AN UNDISTURBED DISPOSAL AISTE WITHIN THE SAME SUBCATCHMENT AREA FROM WHICH THE WATER ORIGINATED.
8. COMPACT WITH A SUITABLE IMPLEMENT IN SITUATIONS WHERE THEY ARE REQUIRED TO FUNCTION FOR MORE THAN FIVE DAYS.
9. EARTH BANKS TO BE FREE OF PROJECTIONS OR OTHER IRREGULARITIES THAT WILL IMPEDE NORMAL FLOW.

CATCH DRAINS SD 5-8
SCALE N.T.S.

SEDIMENT BASIN SIZING

1. THE SEDIMENT BASIN SHALL BE CONSTRUCTED ON A RATE PER HECTARE BASIS AND HAS BEEN IN ACCORDANCE WITH THE REQUIREMENTS OF THE LANDCOM MANUAL "MANAGING URBAN STORMWATER - SOILS AND CONSTRUCTION", FOR SEDIMENTATION TYPE D SOILS. THE DISTURBED AREA WITHIN THIS CATCHMENT AT ANY ONE TIME SHOULD BE LIMITED TO AN AREA FOR WHICH EACH SEDIMENT BASIN CAN HANDLE. EACH BASIN SHALL BE SIZED IN ACCORDANCE WITH THE TABLE BELOW.

SEDIMENT BASIN SIZING TYPE D SOILS	
VOLUMETRIC RUNOFF COEFFICIENT, CV	0.50 (APPENDIX F - TABLE F2)
75TH PERCENTILE 5 DAY TOTAL RAINFALL DEPTH, R	33.1 mm
CATCHMENT AREA, A	1 Ha (UNIT AREA)
SETTLING ZONE VOLUME (PER HECTARE) 10 CV A R	165.5 m³
DISTURBED CATCHMENT AREA	1 Ha (UNIT AREA)
R K L S P C	30.38m²
SEDIMENT ZONE VOLUME (0.17 A (R K L S P C)/1.3	3.97m³ < 50% SETTLING VOL
TOTAL SEDIMENT BASIN VOLUME REQUIRED :	248.25 m³/Ha

- * (LANDCOM MANAGING URBAN STORMWATER MANUAL REFERENCE)
2. THE FOLLOWING DESIGN PARAMETERS HAVE BEEN ASSESSED FOR THE SITE:

CONSTRAINT	VALUE	(SOURCE)*
RAINFALL EROSIONITY (R-FACTOR)	3000	APPENDIX B
LENGTH/SLOPE GRADIENT FACTOR, LS	0.41	APPENDIX A - TABLE A1
SOIL ERODIBILITY (K-FACTOR)	0.019	TABLE C20
EROSION CONTROL PRACTICE FACTOR (P-FACTOR)	1.3 (COMPACTED)	APPENDIX A - TABLE A2
COVER FACTOR (C-FACTOR)	1.0 (DURING EARTHWORKS)	APPENDIX A - FIGURE A5
CALCULATED SOIL LOSS, A (RUSLE EQUATION)	30.38t/Ha/YR	A = R K L S P C
SOIL HYDROLOGIC GROUP	GROUP B	APPENDIX C TABLE 20
SEDIMENT TYPE	TYPE C	APPENDIX C TABLE 4
75TH PERCENTILE 5-DAY RAINFALL EVENT	33.1mm	TABLE 6.3A

* (LANDCOM MANAGING URBAN STORMWATER MANUAL REFERENCE)

BASIN MANAGEMENT

1. THE CAPTURED STORMWATER IN THE SETTLING ZONE SHOULD BE DRAINED TO MEET THE MINIMUM STORAGE CAPACITY REQUIRED WITHIN A FIVE (5) DAY PERIOD FOLLOWING RAINFALL, PROVIDED THE ACCEPTABLE WATER QUALITY (NFR) AND TURBIDITY HAVE BEEN ACHIEVED.
2. CHEMICAL FLOCCULENT SUCH AS GYPSUM MAY BE DOSED TO AID SETTLING WITHIN 24 HOURS OF CONCLUSION OF EACH STORM. THE APPLIED DOSING RATES SHOULD ACHIEVE THE TARGET QUALITY WITHIN 36 TO 72 HOURS OF THE STORM EVENT.
3. INSPECT THE SEDIMENT BASINS AFTER EACH RAINFALL EVENT AND/OR WEEKLY. ENSURE THAT ALL SEDIMENT IS REMOVED ONCE THE SEDIMENT STORAGE ZONE IS FULL (REFER TO PEGS INSTALLED IN BASINS IN ACCORDANCE WITH THE SWMP). ENSURE THAT OUTLET AND EMERGENCY SPILLWAY WORKS ARE MAINTAINED IN A FULLY OPERATIONAL CONDITION AT ALL TIMES.

SOWING SEASON	SEED MIX
AUTUMN/WINTER	OATS@40KG/Ha + JAPANESE MILLET@10kg/Ha
SPRING/SUMMER	OATS@20kg/Ha + JAPANESE MILLET@20kg/Ha

NOTE : THESE PLANT SPECIES ARE FOR TEMPORARY REVEGETATION ONLY. THEY WILL ONLY PROVIDE PROTECTION FROM EROSION FOR SIX MONTHS. WHERE THE LOTS ARE TO BE LEFT UNDEVELOPED FOR A LONGER PERIOD, THE CONTRACTOR SHALL SEEK ADVICE FROM THE SITE SUPERINTENDENT AS TO MORE APPROPRIATE REVEGETATION METHODS.

REVEGETATION IN ACCORDANCE WITH THE ABOVE TABLE WILL BE ENHANCED BY ADDING LIME AT A RATE OF 4kg/TONNE OF TOPSOIL AND 7.5kg/TONNE OF SUBSOIL.

4. THE LONG TERM GROUND COVER FACTORS FOR THE CONSTRUCTION WORKS IS NOT TO EXCEED THE FOLLOWING LIMITS:

LAND	MAXIMUM C-FACTOR	REMARKS
WATERWAYS AND OTHER AREAS OF CONCENTRATED FLOWS. POST CONSTRUCTION	0.05	APPLIES AFTER TEN WORKING DAYS OF COMPLETION OF FORMATION AND BEFORE CONCENTRATED FLOWS ARE APPLIED. FOOT AND VEHICULAR TRAFFIC IS PROHIBITED IN THIS AREA AND 70% GROUND COVER IS REQUIRED.
STOCKPILES, POST CONSTRUCTION	0.10	APPLIES AFTER TEN WORKING DAYS FROM COMPLETION OF FORMATION. 60% GROUND COVER IS REQUIRED.
ALL LANDS, INCLUDING WATERWAYS AND STOCKPILES, DURING CONSTRUCTION.	0.15	APPLIES AFTER 20 DAYS OF INACTIVITY, EVEN THOUGH WORKS MAY BE INCOMPLETE. 50% GROUND COVER IS REQUIRED.

FOR TENDER ONLY

SURVEY INFORMATION SURVEYED BY: LTS DATUM: AHD										Client WOOLWORTHS GROUP LIMITED Architect NETTLETON TRIBE This drawing and design remains the property of Henry & Hymas and may not be copied in whole or in part without the prior written approval of Henry & Hymas.										Suite 2.01 828 Pacific Highway Gordon NSW 2072   Telephone +61 2 9417 8400 Facsimile +61 2 9417 8337 Email email@hthonsult.com.au Web www.henryandhymas.com.au										Project PROPOSED WAREHOUSE DARK STORE 11-13 PERCY STREET, AUBURN NSW Title SEDIMENT AND EROSION CONTROL DETAILS										Drawn J.Knight Checked B.Seizov Drawing number 19513_CC_SE02										Designed L.Villa Approved A.Francis Scale @A1 NTS Revision 04										Date JULY 2020									
04 ISSUED FOR TENDER ONLY J.K L.V 30.04.2021										03 ISSUED FOR DRAFT 100% TENDER J.K L.V 16.04.2021										02 ISSUED FOR 75% TENDER J.K L.V 01.04.2021										01 ISSUED FOR CC TENDER J.K L.V 18.03.2021										REVISION AMENDMENT DRAWN DESIGNED DATE REVISION AMENDMENT DRAWN DESIGNED DATE																													

APPENDIX F

Incident Record Form

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 (Complete to Part A-1) ☐ Equipment/Property Damage (Complete to Part A-1) ☐ Injury (Complete Parts A-1 & A-2)

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.	
Date of Birth		Date of Induction	
Occupation		Contact Phone No.	
Main Tasks Performed			

Injury Details		
☐ Injury	☐ Illness	☐ No Injury/Illness Sustained
Nature of Injury/Illness (brief description of injury/illness):		

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

Diagram of Incident/Accident or Injury:[illegible]

Work Consequences - Status						
Returned to alternative duties	Date:		Time:		Hours:	
Ceased work (unfit for duties)	Date:		Time:		Hours:	
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				
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

1	
2	
3	
4	
5	
6	

PART D 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		

PART E CORRECTIVE ACTIONS

Remedial Action Plan	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)

Recommended Actions to Prevent Re-occurrence	Actioned by Who (Responsibility)	Action Completion Sign Off

PART F REVIEW & SIGN OFF

Note: Site Manager and Project Manager must not sign off until all remedial actions are verified as having been closed out (This does not include the recommended actions to prevent re-occurrences.).

Site Manager's Name:	Signature:	Date:
Comments:		
Project Manager's Name:	Signature:	Date:
Comments:		
Construction Manager's Name:	Signature:	Date:
Comments:		

APPENDIX G

Vaughan Constructions' Complaint Form

COMPLAINTS REGISTER

Project Name:

Project No:

DATE	NATURE OF THE COMPLAINT	COMPLAINT REGISTERED 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

APPENDIX H

Remediation Action Plan

REMEDIATION ACTION PLAN



**11-13 Percy Street
Auburn NSW 2144**

Fabcot Pty Ltd – February 2021



Geo-Logix
environment • geotech

DOCUMENT CONTROL

REMEDIATION ACTION PLAN

11-13 Percy Street
Auburn, NSW 2144

PREPARED FOR

Mr Michael Rumble
Fabcot Pty Ltd
1 Woolworths Way
Bella Vista, NSW 2153

Report reference: 2101002Rpt01FinalV02_4Feb21

Date: 4 February 2021

DISTRIBUTION AND REVISION REGISTER

Revision Number	Date	Description	Recipient	Deliverables
V01	19/01/2021	Draft Report 2101002Rpt01DraftV01_19Jan21	Geo-Logix Pty Ltd	1 Electronic Copy
V01	19/01/2021	Draft Report 2101002Rpt01DraftV01_19Jan21	Fabcot Pty Ltd	1 Electronic Copy
V01	19/01/2021	Draft Report 2101002Rpt01DraftV01_19Jan21	Louise Walkden Ramboll Australia Pty Ltd	1 Electronic Copy
V01	01/02/2021	Final Report 2101002Rpt01FinalV01_1Feb21	Geo-Logix Pty Ltd	1 Electronic Copy
V01	01/02/2021	Final Report 2101002Rpt01FinalV01_1Feb21	Fabcot Pty Ltd	1 Electronic Copy
V01	01/02/2021	Final Report 2101002Rpt01FinalV01_1Feb21	Louise Walkden Ramboll Australia Pty Ltd	1 Electronic Copy
V02	04/02/2021	Final Report 2101002Rpt01FinalV02_4Feb21	Geo-Logix Pty Ltd	1 Electronic Copy
V02	04/02/2021	Final Report 2101002Rpt01FinalV02_4Feb21	Fabcot Pty Ltd	1 Electronic Copy
V02	04/02/2021	Final Report 2101002Rpt01FinalV02_4Feb21	Louise Walkden Ramboll Australia Pty Ltd	1 Electronic Copy

Issued by: Geo-Logix Pty Ltd

ABN: 86 116 892 936



Kiran Baby
B.Eng, MSc (Civil)
Environmental Scientist



Ben Pearce
BSc (Hons), MEIANZ CEnvP
Principal



EXECUTIVE SUMMARY

Geo-Logix Pty Ltd (Geo-Logix) was engaged by Fabcot Pty Ltd (Fabcot) to prepare a Remediation Action Plan (RAP) for the property located at 11-13 Percy Street, Auburn, NSW 2144. Fabcot intends to redevelop the site as a Customer Fulfilment Centre (CFC). Under the proposed development the western portion of the building would be constructed as slab on grade, and the eastern portion as suspended slab above the floodway area of the adjacent Haslams Creek.

Environmental investigations by Geo-Logix in 2019 and 2020 identified the following conditions requiring remediation and / or management for the site to be considered suitable for commercial development:

- Bonded Asbestos Containing Material (ACM) fragments on the ground surface in the southeast portion of the site and along the edge of the northern access driveway;
- Building material and a pit filled with rubbish that may contain ACM in the southeast portion of the site;
- A potential Underground Storage Tank in the central portion of the site that has not been decommissioned; and
- Trichloroethylene (TCE) and its degradant products cis-1,2-Dichloroethene (cis-DCE) and Vinyl Chloride (VC) in groundwater and soil vapour in the eastern portion of the site.

The RAP provides the health and safety procedures and environmental management procedures required to remediate the site in a manner which protects public health and the environment. The RAP also outlines remediation acceptance criteria (RAC) and sampling strategies required to validate the site suitable for the proposed Customer Fulfilment Centre redevelopment.

The proposed remedial approach comprises the following:

- Hand pick and off-site disposal of bonded ACM fragments on the ground surface in the southeast portion of the site, and disposal of rubbish and stockpiled building materials potentially impacted by ACM;
- Excavation and off-site disposal of bonded ACM impacted soil on the edge of the northern access driveway;
- Decommissioning, removal and off-site disposal of the UST, if present; and
- Management of potential trench worker exposure to TCE and its degradant products through construction phase and operation phase Environmental Management Plans.

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FIGURES

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Figure 2: Site Map

Figure 3: Combined Sample Location Map

Figure 4: Chlorinated Ethenes in Groundwater

Figure 5: Chlorinated Ethenes in Soil Vapour

Figure 6: Asbestos Contamination Extents and Potential UST Location

ATTACHMENTS

Attachment A: Development Plans

Attachment B: Previous Investigation Analytical Summary Tables

Attachment C: Soil Sampling Procedure

1. INTRODUCTION

Geo-Logix Pty Ltd (Geo-Logix) was engaged by Fabcot Pty Ltd (Fabcot) to prepare a Remediation Action Plan (RAP) for the property located at 11-13 Percy Street, Auburn, NSW 2144 (Figure 1). Fabcot intends to redevelopment as a Customer Fulfilment Centre (CFC). Under the proposed development the western portion of the building would be constructed as slab on grade, and the eastern portion as suspended slab above the floodway area of the adjacent Haslams Creek.

Environmental investigations by Geo-Logix in 2019 and 2020 identified the following conditions requiring remediation and / or management for the site to be considered suitable for commercial development:

- Bonded Asbestos Containing Material fragments on the ground surface in the southeast portion of the site an along the edge of the northern access driveway;
- Building material and a pit filled with rubbish that may contain ACM in the southeast portion of the site;
- A potential Underground Storage Tank (UST) in the central portion of the site that has not been decommissioned; and
- Trichloroethylene (TCE) and its degradant products cis-1,2-Dichloroethene (cis-DCE) and Vinyl Chloride (VC) in groundwater and soil vapour in the eastern portion of the site.

The RAP provides the health and safety procedures and environmental management procedures required to remediate the site in a manner which protects public health and the environment. The RAP also outlines remediation acceptance criteria (RAC) and sampling strategies required to validate the site suitable for the proposed Customer Fulfilment Centre redevelopment.

This RAP has been prepared in accordance with the NSW EPA (2020) Consultants reporting on contaminated land: Contaminated Land Guidelines

2. PROPOSED DEVELOPMENT

The proposed development is for a single-story warehouse and distribution Customer Fulfilment Centre (CFC). The proposed warehouse occupies the majority of the site with truck parking to the west and staff parking to the south.

The eastern third of the building extends across the lower area of the site currently occupied by the building undercroft, car parking area and wash bay. The building across this area is proposed to be constructed with suspended slab. No filling of the lower area of the site is proposed.

The design plans are presented in Attachment A.

3. OBJECTIVE

The objectives of the RAP are to:

- Define Areas of Environmental Concern (AEC) and Contaminants of Potential Concern (COPC);
- Evaluate remedial options in consideration of site conditions, logistical constraints and commercial objectives;

- Define Data Quality Objectives (DQOs) and RAC to ensure the remediated site will be suitable for the proposed use and will not present an unacceptable risk of harm to human health or the environment;
- Define remediation procedures and methodologies;
- Define remediation validation methodology;
- Establish environmental safeguards so that remediation is undertaken in an environmentally acceptable manner; and
- Define Work Health and Safety (WHS) requirements to protect site workers undertaking site remediation.

4. SITE DESCRIPTION

4.1 Site Identification

The investigation area comprises the following property (Figure 2):

Street Address	Lot and Deposited Plan (DP)	Approximate Area (m ²)
11 Percy Street, Auburn, NSW 2144	Lot 1 DP 1183821	32,500
13 Percy Street, Auburn, NSW 2144	Lot 2 DP 1183821	

4.2 Site Zoning and Land Use

The site is zoned '*General Industrial IN1*' under the Auburn Local Environment Plan, 2010.

4.3 Site Description

The following observations were made during site inspection and field works conducted by Geo-Logix in September 2019.

The subject site is located in a commercial/industrial area in Auburn NSW. The site comprises two rectangular shaped lots encompassing an area of approximately 3.25 Ha. The lots are bound by Percy Street to the northwest, Haslams Creek to the southeast and commercial/industrial on adjacent properties. Entry into the site is via two gates (North and South) from Percy Street.

At the time of the investigation Lot 1 was operating as Chameleon Touring Systems, a stage lighting and equipment supplier and Lot 2 as a Holden new vehicle accessories and auto detailing service centre. The front building (Lot 1) is located in the northwest portion of the site on the boundary with Percy Street. The building is constructed of metal cladding, a saw tooth roof and concrete floor slabs. The building is used for the storing and assembly of stage lighting equipment.

The back building (Lot 2) is located in the southeast portion of the site and is constructed on grade with Lot 1. Haslams Creek (concrete channel) is located on the southeast boundary. The building is constructed of brick, metal cladding and part of the building is on suspended concrete floor slabs with vehicle parking within the undercroft area.

The northeast portion of Lot 2 consists of a car ramp and concrete and bitumen paved car parking. The building is used for a variety of uses including vehicle washing/detailing, vehicle storage and shipping/receiving of goods.

The site consists of approximately 15% asphalt (east corner used for car parking), 10% grass (south corner and northwest boundary) and the remainder of the site (75%) concrete.

Scrap metal, building rubble and general rubbish was also noted in the undercroft parking area in the south of the site.

Decommissioned USTs are located on the mid point of the western boundary, and centrally in the site beneath the concrete driveway between the two buildings.

Fragments of bonded Asbestos Containing Material (ACM) were observed in localised pockets of soils on the northeast boundary along the north gate driveway, in the undercroft area on Lot 2 and on the south boundary next to Haslams Creek.

Site features are presented on Figure 2.

4.4 Surrounding Land Use

At the time of the investigation, the surrounding land use comprised the following:

- **Northwest** – Percy Street, with commercial / industrial properties including Icon Medical Supplies and residential properties beyond;
- **Northeast** – Commercial / industrial properties, Haslams Creek and Tooheys Brewery beyond;
- **Southeast** – Haslams Creek, with commercial/industrial properties including the previous Offset Alpine Printing beyond; and
- **Southwest** – Commercial/industrial properties.

4.5 Geology

Review of the NSW 1:100,000 Sydney Map (Geological Survey of NSW, 1983) indicates the majority of the site is underlain by Cenozoic age silty to peaty quartz sand, silt, and clay with occasional ferruginous and humic cementation. The western area of the site is underlain by Triassic age Ashfield shale of the Wianamatta Group comprising black to dark grey shale and laminate (Herbert, 1983).

Fill Material

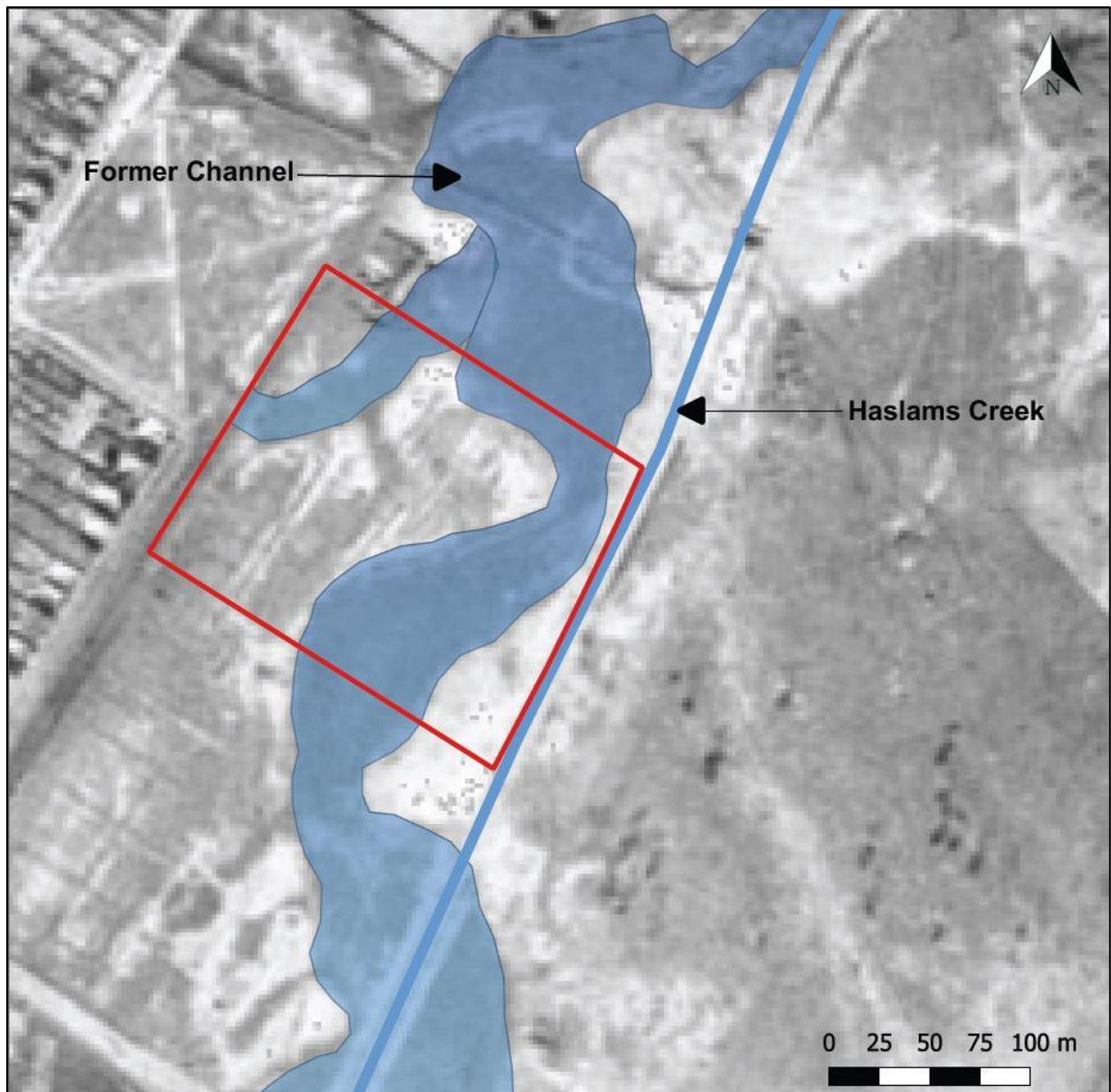
Fill material was encountered across the site to a maximum depth of 1.8m. The fill material generally consisted of shallow gravelly sands becoming sandy gravelly clay with depth. Anthropogenic material including bricks, ash and wire were observed in fill in MW107. A bituminous odour was noted in shallow soil at locations MW103, MW106 and MW107. Fragments of bonded Asbestos Containing Material (ACM) were observed in shallow fill (maximum depth of 0.3m) and surface soils in localised pockets across the site.

Fill material generally overlies sandy clay or clayey sand. Peat was identified in two locations, MW105 and MW111, at depths of 0.70 and 3.7 mbg, respectively.

Channel Infill Sediments

Alluvial sediments comprising interbedded layers of mixed of sand, silts and clays with occasional peat layers were identified across the eastern and central portion of the site. The sediments are up to 7 metres deep and originate from infill of the former channel of Haslams Creek. The former creek alignment is from south to north and is clearly visible on the 1943 aerial photograph taken prior to development of the site as presented below:

Image 1: Former Channel of Haslams Creek



The sediments are likely to have resulted from a low to moderate energy depositional environment and are Holocene in age. Results of MiHPT drilling indicated considerable variation in hydraulic conductivity of the sediment both vertically throughout the profile and laterally between borings.

Residual Clays

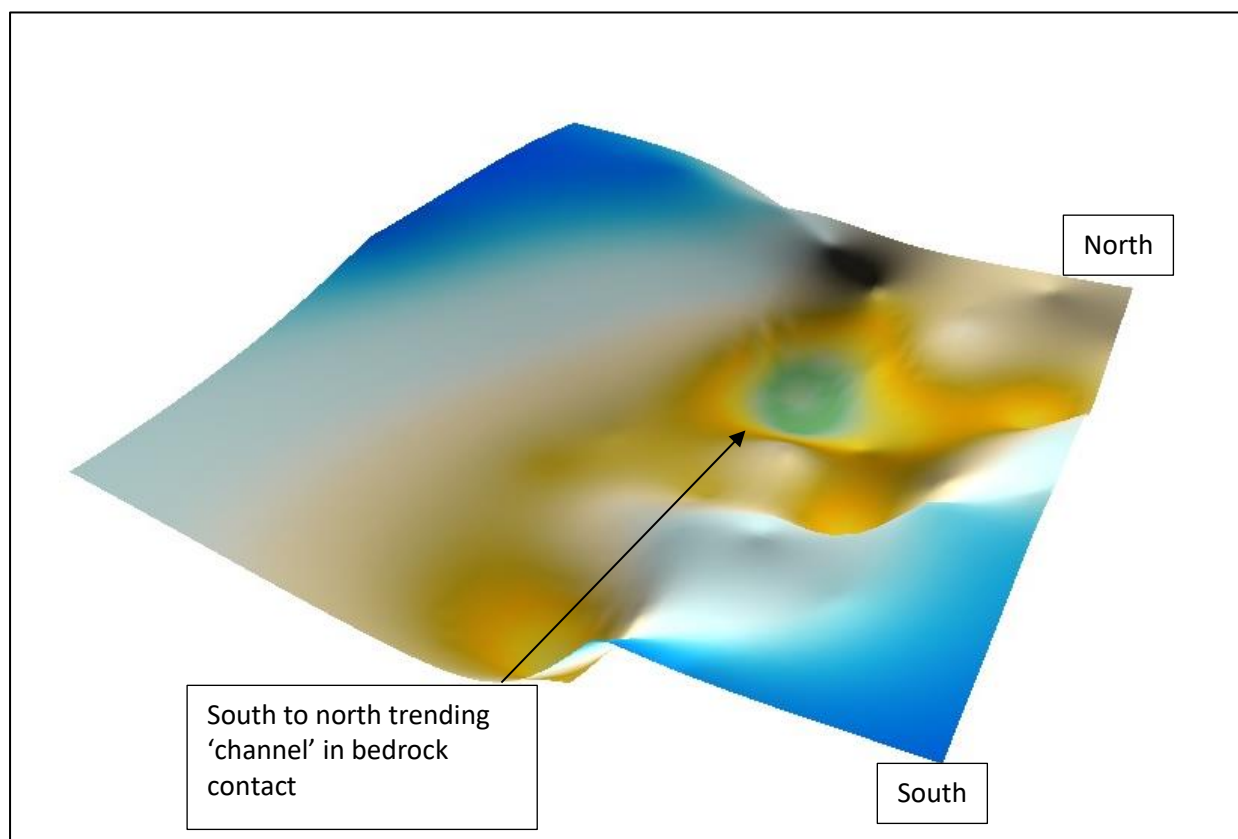
Drilling results indicate the creek sediments overly residual clays which grade into Ashfield Shale bedrock, or grade directly into shale bedrock.

Residual clays and possible colluvium are located to the southeast and west of the alluvial deposit.

Shale Bedrock

Alluvial sediments and residual clays are underlain by Ashfield Shale bedrock. Based on refusal depths of MiHPT borings and V bit refusal, a pronounced south to north oriented 'channel' in the bedrock contact is evident through the centre of the site. The depression mirrors the former channel location and is likely to be an erosional feature of the old creek bed. A three-dimensional presentation of the bedrock contact is presented below:

Image 2: Bedrock Contact



4.6 Surface Water

The nearest surface water is Haslams Creek immediately adjacent to the southeast boundary of the site. Haslams Creek is a concrete lined urban drain that discharges into Homebush Bay (Parramatta River) 0.8km northeast of the site. The water level in Haslams Creek is highly reactive to rainfall.

4.7 Hydrogeology

ALLUVIAL WATER BEARING UNIT	
Groundwater exists 1.5 – 3 mbg within alluvium of the former Haslams Creek. Groundwater flow direction is variable with general flow to the north and northeast (Figure 7A). Piezometric head elevations range from 3 mAHD to 6 mAHD. Groundwater is unconfined. MiHPT results identified the alluvium as highly heterogenous with a broad range of hydraulic conductivities.	
Water Quality Characteristics	
Electrical Conductivity	208 to 15,732 $\mu\text{S/cm}$, equivalent total dissolved solids between 133 to 10,068 mg/L
pH	5.06 to 8.18
Redox	-174.9 to 102.5 mV
Oxygen	0.09 mg/L to 0.95 mg/L
Temperature	16.7 to 21.6 $^{\circ}\text{C}$
Water Bearing Unit Characteristics	
Average Conductivity (cm/s)	1×10^{-10} to 3.5×10^{-2}
Hydraulic Gradient	0.02
Effective Porosity	0.01 to 0.3
Flow Velocity (m/year)	Highly variable, locally greater than 100 m/year
Groundwater Flow Direction	Groundwater flow is variable and generally to the northeast

BEDROCK WATER BEARING UNIT	
Bedrock groundwater is water within shale bedrock. This water bearing zone is laterally continuous across the site and off-site and exists 8–10m below site surface, an approximate R.L of -1 mAHD. Piezometric head elevations range between 3.1 and 4.7 mAHD. Groundwater in the bedrock is flowing to the northeast (Figure 7B). Hydraulic conductivity have been estimated from literature values (Feeze and Cherry, 1979). Bedrock groundwater is subject to upward gradients in a semi-confined system.	
Water Quality Characteristics	
Electrical Conductivity	16,586 to 20,840 $\mu\text{S/cm}$, equivalent total dissolved solids between 10,615 to 13,338 mg/L
pH	5.56 to 6.73
Redox	9.8 to 52.8 mV
Oxygen	0.07 mg/L to 0.74 mg/L
Temperature	19.9 to 23.1 $^{\circ}\text{C}$
Water Bearing Unit Characteristics	
Average Conductivity (cm/sec)	1×10^{-7}
Hydraulic Gradient	0.015
Effective Porosity	0.005
Flow Velocity (cm/s)	2×10^{-6}
Flow Velocity (m/year)	0.095
Groundwater Flow Direction	Groundwater flow direction is towards the northeast.

Reference to the WaterNSW All Groundwater Map (NSW Government, 2019) indicates there are no registered groundwater bores within 500 m of the site. The groundwater bore map is presented in Attachment B.

5. PREVIOUS ENVIRONMENTAL INVESTIGATIONS

5.1 OTEK (2000) Phase I & II Environmental Site Assessment

OTEK were engaged by Orlani Property Group Pty Ltd to undertake a Phase I and II Environmental Site Assessment (ESA) of the site. The objective of the works was to:

- Evaluate sub-surface soil and groundwater conditions;
- Evaluate the environmental and human health impact (if any) associated with the site operations; and
- Determine the suitability of the site for continued commercial / industrial land use.

The findings of the report were based on a review of site historical information and a site investigation undertaken during November and December 1999.

Review of the site historical information indicated the site was owned by a Meat Preserving Company in 1899, Malleys Ltd (White Goods Manufacturer) in 1946, Local Government Superannuation Board in 1981, Public Authorities Superannuation Board in 1985, State Authorities Superannuation Board in mid-1989 and Bivami Pty Ltd (Plastic Packaging Manufacturing) in late 1989 to the time of reporting (19 November 1999). Aerial photographs dated back to 1951 indicated the site was undeveloped until 1961 when a railway line appeared on the northwest boundary of the site along Percy Street. In 1970, two large factory / warehouse buildings were noted and were in the current day layout. In 1978 the railway line appeared to have been decommissioned and small building additions were noted.

Potential on-site contamination sources included a flammable goods cabinet and dangerous goods store, two decommissioned Underground Storage Tanks (UST) and one Aboveground Storage Tank (AST), the disused railway line, imported fill materials in the east and adjacent industrial sites.

The site investigation included a soil boring program consisting of 36 soil borings, the installation of three groundwater monitoring wells and testing of 44 soil samples and five groundwater samples. Boring locations are presented on Figure 3. Soil samples were selectively analysed for Total Petroleum Hydrocarbons (TPH), benzene, toluene, ethylbenzene and xylenes (BTEX), Polycyclic Aromatic Hydrocarbons (PAHs), Organochlorine Pesticides (OCPs), Organophosphorus Pesticides (OPPs), heavy metals, phenols, Semi Volatile and Volatile Organic Compounds (SVOCs / VOCs). Groundwater samples were analysed for TPH, BTEX and heavy metals.

The results of the soil testing indicated all concentrations were within the relevant guideline criteria for commercial / industrial land use at the time of the investigation. Groundwater testing indicated elevated levels of short chain hydrocarbons, BTEX and lead adjacent to a decommissioned UST and slightly elevated levels of heavy metals in all three groundwater samples. Tables of analytical results and sample location maps are presented in Attachment F.

The report concluded the soils beneath the site were suitable for commercial / industrial land use and the presence of hydrocarbons and heavy metals in groundwater were not considered to pose a potential threat to human health or the environment.

OTEK concluded the site was suitable for continued commercial / industrial land use.

5.2 WSP (2012) Stage 1 & 2 Environmental Site Investigation

WSP was engaged by Motive Properties Pty Limited to conduct another combined Preliminary and Detailed Site Investigation to determine the suitability of the site for ongoing commercial / industrial land use in relation to the potential sale of the site.

The objective of the works was to undertake additional soil and groundwater investigation to supplement the findings of the OTEK (2000) investigation to meet the sampling density requirements of the NSW EPA (1995) Sampling Design Guidelines.

The scope of the works included a desktop review of historical aerial photographs and council records to determine whether any additional potential sources of contamination were to be targeted in the subsequent intrusive investigation. The intrusive investigation was undertaken between 8 May 2012 and 18 May 2012 and included drilling 19 borings at targeted locations across the site, installation of four groundwater monitoring wells and testing of 22 soil samples and six groundwater samples.

The results of the investigation identified elevated levels of contamination in groundwater. Soils were found to be generally suitable for commercial / industrial land use. No asbestos contamination was reported to be identified in soil during these investigations.

5.3 Geo-Logix (2019) Detailed Site Investigation

Geo-Logix was commissioned by Fabcot to conduct a Detailed Site Investigation of the site to assist Fabcot with their pre-purchase due diligence. Preliminary reviews identified TCE in groundwater as the primary commercial risk to acquisition and development of the property and subsequently the investigation focussed on assessing the source, magnitude and extent of TCE contamination. The investigation also considered other potential contamination issues associated with the site's history and condition. The investigation was undertaken in stages during the period from May to October 2019.

The scope of work comprised the following. Analytical summary tables are presented in Attachment B. Sample locations are presented on Figure 3:

- Sampling and analysis of groundwater from three existing monitoring wells;
- Drilling, installation and sampling of 15 shallow and three deep wells across the site for analysis of a range of contaminants;
- Collection of soil vapour samples from 15 locations across the portion of the site where the building is to be constructed as slab on grade to assess vapour intrusion risk to the proposed building;
- Drilling 22 High Resolution Site Characterisation (HRSC) MiHPT borings across the site to characterise the extent of TCE in groundwater and geology; and
- Drilling, installation and sampling of five shallow wells and two deeper bedrock groundwater wells on the down gradient property 15 Percy Street to assess the off-site extent of TCE / DCE / VC in groundwater.

Groundwater was identified 1.5–3 mbg within alluvium of the former Haslams Creek. Groundwater flow direction in the alluvial water bearing zone was variable with general flow to the north and northeast. Groundwater flow direction in the bedrock water bearing zone was inferred to follow regional groundwater flow towards the northeast and Homebush Bay.

TCE and its degradant products DCE and VC were identified in groundwater across the eastern and northern portion of the site with potential for a minor incursion into 15 Percy Street (Figure 4). Soil vapour investigations did not identify TCE and its degradant products in soil vapour across the western portion of the site where the proposed building will be constructed as slab on grade. Soil vapour was not investigated across the lower eastern half of the site as the proposed construction method, suspended slab, negated the vapour intrusion pathway across this portion of the site.

To assess potential for vapour intrusion into 15 Percy Street a conservative screening method to estimate indoor air concentrations was applied in accordance with NSW EPA (2012) methodology. The estimated indoor air concentrations of TCE and DCE were below the target indoor air concentration for commercial / industrial land use. On this basis the potential for the vapour intrusion pathway to indoor air of the commercial / industrial building on 15 Percy Street was considered unlikely to be complete.

With the exception of potential for trench worker inhalation exposure in the eastern portion of the site where no soil vapour investigation was undertaken, no complete exposure pathways between TCE contaminated groundwater and potential receptors was identified. The potential for trench worker inhalation of TCE was determined to require further investigation.

Multiple lines of evidence indicated TCE in groundwater originated from an off-site source, and while there were a number of industrial properties in the vicinity of the site, the Offset Alpine Printing facility at 42 Boorea Street, Lidcombe located adjacent to the site was considered the most likely origin.

Bonded asbestos fragments were identified on the ground surface in the southeast and northwest corners of the site. Though the risk was considered low, potential for buried asbestos fragments in these areas was identified. Geo-Logix concluded further investigation would be required to determine if a condition exists that requires remediation and/or management.

No other conditions were identified that negate the suitability of the site for the proposed development. On this basis, Geo-Logix recommended the site can be made suitable for the proposed commercial redevelopment, and that if there is potential for worker exposure presented by either trench worker inhalation of TCE or construction worker exposure to bonded asbestos, the risk could be managed through implementation of a site-specific Environmental Management Plan detailing safe work procedures during construction and long-term operation of the site.

5.4 Geo-Logix (2020) Soil Vapour Investigation

Geo-Logix was commissioned by Fabcot Pty Ltd (Fabcot) to conduct a Soil Vapour Investigation (SVI) at the site. Under the proposed development the western portion of the building would be constructed as slab on grade, and the eastern portion as suspended slab above the floodway area of the adjacent Haslams Creek.

The SVI was triggered due to a change in design to include an enclosed 'basement' carpark beneath the suspended slab area in the southeast portion of the site. A second purpose of the SVI was to address the Site Auditor request to evaluate if a caged drum store in the existing undercroft area in the southeast portion of the site may be the TCE source. Following the completion of the SVI, the design was reverted back to the original plan of suspended slab with open and unoccupied undercroft in the southeast portion of the site.

The objective of the investigation was to evaluate the following:

- Potential vapour inhalation pathway across the south eastern portion of the site where the enclosed 'basement' area and OSD tank was proposed;
- If the caged drum area in the existing undercroft area may be the source of TCE contamination; and
- Vapour intrusion pathway to indoor air of the commercial / industrial building on 15 Percy Street to the north and downgradient of the site.

CSI Australia Pty Ltd mobile laboratory was engaged to undertake sample collection and analysis and provide near real time results. The results were used to determine if additional sample locations were required to 'chase out' and define the extent of TCE and cis-1,2-DCE in soil vapour. The scope of work comprised:

- Collection of 11 soil vapour samples (VP1-VP6, VP9-VP10, VP14-VP16) on a 25 m grid-based sampling plan across the footprint where the enclosed 'basement' carpark was proposed;
- Two soil vapour samples (VP11-VP12) were collected in the proposed OSD tank location and near the caged drum store;
- Two soil vapour samples (VP7-VP8) were collected along the perimeter of the caged drum storage area;
- Three sub slab soil vapour samples (VP17-VP19) were collected along the northern boundary shared with 15 Percy Street; and
- Collection of one soil vapour sample (VP20) paired with well MW102 where the highest TCE concentrations in groundwater have been identified.

TCE and cis-1,2-DCE were detected at concentrations above Tier 1 soil vapour screening criteria in soil vapour sample VP20 on the eastern boundary and nearby sample VP4 located adjacent to the northern end of the caged drum store and on the eastern edge of the existing undercroft area (Figure 5). TCE and cis-1,2-DCE were not detected at concentrations above Tier 1 screening criteria in any other soil vapour sample collected across the undercroft area including the location of the proposed OSD tank.

TCE in soil vapour was detected at an elevated concentration in sample VP20 collected on the eastern boundary of the site paired with groundwater well MW102 where the highest TCE concentrations in groundwater have been identified. TCE vapour in soil attenuates rapidly away from VP20 and into the site. The decreasing concentration away from VP20 toward the caged drum store area, and absence of TCE in any other soil vapour sample completed in the vicinity of the drum store (VP7, VP11 and VP12) indicated the caged drum store area was unlikely to be the TCE source.

TCE and cis-1,2-DCE were not detected in shallow soil vapour samples VP17, VP18 and VP19 collected along the northern boundary of the site shared with 15 Percy Street. The indoor air inhalation pathway to occupants of 15 Percy Street was considered incomplete.

6. CONCEPTUAL SITE MODEL

For site contamination to present a risk to human health and the environment there has to be a link between the contaminant and the receptor as detailed below.



If any of the links do not exist contaminant exposure cannot occur.

Conceptual Site Model – Soil, Vapour & Groundwater				
Relevant Exposure Pathways	Receptors			
	On site users (Commercial / Industrial)	On site construction workers	Neighbouring site users	Other
Soil ingestion / Dermal contact / Dust	X	✓ (asbestos inhalation)	✓ (asbestos inhalation)	Trench worker ✓ (asbestos inhalation) Terrestrial Ecology X ^(a)
Indoor inhalation of vapours derived from soil	X	X	--	--
Outdoor inhalation of vapours derived from soil	X	X	--	Trench workers X
Indoor inhalation of vapours derived from groundwater	X	X	X	--
Outdoor inhalation of vapours derived from groundwater	X ^(b)	X ^(b)	X ^(b)	Trench workers ✓ ^(c)
Soils leaching to groundwater	--	--	--	Ongoing groundwater impact X
Groundwater abstraction	X	X	X	--
Groundwater discharge to surface water	--	--	--	Recreation / Aquatic ecosystem X
Comments				
X – exposure pathway incomplete no unacceptable risk ✓ – exposure pathway potentially complete and requires remediation and/or management -- Not relevant (a) Surface seal prevents soil exposure (b) Outdoor air dilution (c) Potentially complete exposure pathway. Requires additional investigation.				

Potentially complete exposure pathways under the proposed redevelopment include:

- Construction worker exposure to bonded asbestos during site redevelopment;
- Trench worker exposure to asbestos during operation of the site; and
- Trench worker inhalation of TCE vapour emanating from impacted groundwater while completing sub surface maintenance works.

7. SITE CONTAMINATION SUMMARY

The following contamination issues require remediation and or management for the site to be considered suitable for the proposed development.

- Fragments of bonded ACM were identified on the ground surface of the berm on the eastern boundary and within the adjacent undercroft area. The ACM fragments appear to originate from the existing building.
- A stockpile of building materials potentially containing ACM and a pit that has been filled with rubbish are located in the southeast corner of the site. The rubbish requires removal;
- Fragments of bonded ACM were observed on the ground surface adjacent to the northern entrance driveway in the northwest portion of the site. A single fragment was observed in a soil boring in the same area. The fragments likely originate from a former farm shed observed in historical aerial photos;
- An Underground Storage Tank may exist adjacent to a decommissioned UST in the central portion of the site. The existing decommissioned UST can remain *in-situ*.
- TCE and its degradant products in groundwater and soil vapour beneath the eastern portion of the site that may present a trench worker exposure risk.
- Potential unexpected finds identified following demolition of buildings and removal of slabs.

8. REMEDIATION OPTION CONSIDERATION

The NEPM preferred hierarchy of options for site clean-up and/or management is outlined as follows:

- on-site treatment of the contamination so that it is destroyed or the associated risk is reduced to an acceptable level; and
- off-site treatment of excavated soil, so that the contamination is destroyed or the associated risk is reduced to an acceptable level, after which soil is returned to the site; or,

if the above are not practicable,

- consolidation and isolation of the soil on site by containment with a properly designed barrier; and
- removal of contaminated material 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

A preferred remediation options are detailed in the table below:

Issue of Concern	Action Required
Fragments of bonded ACM were identified on the ground surface of the berm on the eastern boundary and within the adjacent undercroft area. The ACM fragments appear to originate from the existing building Fragments of bonded ACM were observed on the ground surface adjacent to the northern entrance driveway in the northwest portion of the site. A single fragment was observed in a soil boring in the same area.	Bonded ACM fragments observed on the ground surface require removal prior to demolition activities. Rubbish and building materials require off-site disposal. Inspection of the ground surface for buried ACM fragments is required following removal of existing surface pavements. In the event buried bonded ACM fragments are identified, the impacted soil will require remediation and or / management under an Environmental Management Plan, depending on the severity of contamination identified.
A small asbestos fibre bundle was detected in the triplicate of sample B1/2.0 collected by WSP from deep fill the vicinity of the former rail line on the western boundary. Asbestos was not detected in the primary samples.	Investigation of the deep fill unit on the western boundary is required to evaluate the nature and extent of asbestos impact (if any) and the requirement for remediation.
An Underground Storage Tank may exist adjacent to a decommissioned UST in the central portion of the site.	Investigation to confirm the presence or otherwise of the UST. Decommissioning, remediation and validation of the UST if identified.
TCE and its degradant products in groundwater and soil vapour beneath the eastern portion of the site that may present a trench worker exposure risk.	Implement Construction Phase and Long Term Operational Phase Environmental Management Plans detailing Work Health and Safety measures for trench workers who may be exposed to TCE and its degradant products.
Unexpected finds following demolition and removal of concrete slabs.	Inspection required by a suitably qualified environmental consultant. Evaluation of unexpected finds in accordance with NEPM methodology. Develop remedial response, amend this RAP.

In the event additional contamination is identified following demolition and removal of slabs, the contamination is to be evaluated in accordance with NEPC (2013) and the requirements of this RAP (where applicable). Where

9. DATA QUALITY OBJECTIVES

A Data Quality Objectives (DQO) process is used to define the type, quantity and quality of data needed to support decisions relating to the remediation of the site. Geo-Logix has adopted the seven step DQO process as described in AS 4482.1-2005 and NEPC (2013).

Step 1: State the problem.

Remediation of asbestos impacted soil and a potential UST is required for the site to be considered suitable for the proposed development. Inspection of the ground surface for ACM or other unexpected finds is required post demolition. An Environmental Management Plan (EMP) is required to manage potential trench worker exposure.

Step 2: Identify the remediation decision.

Site contamination has been adequately remediated or managed and there are no potentially complete exposure pathways between contamination and on-site receptors. The site is suitable for the proposed Customer Fulfilment Centre redevelopment.

Step 3: Identify information inputs.

- Identification of COPC;
- Definition of RAC;
- Appropriate validation sampling strategy; and
- Assessment of validation data against RAC.

Step 4: Define the remediation boundaries of the site.

Remediation is to be undertaken within the areas of the site boundary as defined in Figure 2.

Step 5: Develop a decision rule.

Remediation of the two areas of bonded ACM impacted soil has been performed and validated against Remediation Acceptance Criteria (RAC).

The UST (if present) has been decommissioned, remediated and validated against the RAC.

A Construction Phase and Operational Phase Environmental Management Plan has been developed to manage residual contamination remaining on site at the completion of remediation works.

Step 6: Specify acceptable limits on decision errors.

Field sampling methodology, sample preservation techniques, and laboratory analytical procedures must be appropriate to provide confidence in data quality so that any comparison against RAC can be considered reliable. This is achieved by defining and comparing results against the Data Quality Indicators (DQIs).

Step 7: Optimise the design for obtaining data.

Optimised design is achieved by referencing regulatory guidelines for sample design in consideration of the likely nature of contaminant distribution, or, undertaking additional intrusive investigation and sample collection based on field observations at the time of remedial works.

10. REMEDIATION ASSESSMENT CRITERIA

The following soil assessment criteria were adopted for the investigation.

NEPM Health Based Investigation Level D (HILs D)

HILs are Tier 1 risk based generic assessment criteria used for the assessment of potential risks to human health from chronic exposure to contaminants in soil. They are intentionally conservative and based on a reasonable worst-case scenario for generic land use settings including Residential (HILs A/B), Open Space / Recreational (HILs C) and Commercial Industrial (HILs D). HILs D soil assessment criteria were adopted on the basis the proposed commercial land use.

NEPM Health Screening Levels D (HSLs D)

HSLs are Tier 1 risk based generic soil assessment criteria used for the assessment of potential risks to human health from chronic inhalation exposure of petroleum vapour emanating off petroleum contaminated soils (Vapour Risk). They are intentionally conservative and based on a reasonable worst-case scenario for generic soil types, contamination depth and land use settings including Residential (HSLs A/B), Open Space / Recreational (HSLs C) and Commercial Industrial (HSLs D). HSL D for sand soil (0 - <1 m) were conservatively adopted.

NEPM Management Limits – Commercial / Industrial

Management Limits for petroleum have been developed for prevention of explosive vapour accumulation, prevention of the formation of observable Light Non-aqueous Phase Liquids (LNAPL) and protection against effects on buried infrastructure. Commercial / Industrial management limits for coarse soils were adopted based on the proposed land use and geology encountered.

NEPM Asbestos Criteria – Commercial / Industrial

Asbestos assessment criteria are included in NEPM (1999) amendment. Those criteria apply to the assessment of known and suspected asbestos contamination in soil and address friable and non-friable forms of asbestos.

Commercial / Industrial D health screening levels are adopted on the basis of the proposed land use. Friable asbestos has not been identified onsite. Criteria for Commercial / Industrial D HSLs includes the following:

- 0.05% w/w for ACM
- 0.001% w/w AF/FA; and
- No visible asbestos in the top 0.1 m.

Ecological Assessment

Ecological assessment criteria are not considered relevant as the site will be sealed and is located within an industrial precinct with no nearby sensitive receptors.

11. REGULATORY APPROVALS AND LICENSING

11.1 Waste Classification

All wastes generated shall be classified in accordance with NSW EPA (2014) *Waste Classification Guidelines* – Part 1 Classifying Waste.

11.2 Protection of Environment Operations Act 1997

Remedial works do not fall within the licensing requirements for Contaminated Soil Treatment Works. All material to be excavated and removed from the site will be undertaken in strict accordance with the requirements of the *Protection of the Environment Operations Act 1997* (NSW). Such requirements include:

- Ensuring waste is classified appropriately and in accordance with relevant guidelines;
- Ensuring appropriate transport of wastes; and

- Ensuring wastes materials are disposed to appropriately licensed landfill facilities.

11.3 Protection of the Environment Operations (Waste) Regulation 2014

Remediation of contaminated material is not a scheduled activity under the *Protection of the Environment Operations (Waste) Regulation 2014* (NSW) and therefore does not require a licence under the regulation for the following reasons:

- Less than 2,500 m³ of contaminated soil will be treated (not incinerated); and
- Area of remedial disturbance will be less than 3 ha.

11.4 WHS Legislation, Regulations and Standards

The remediation works will be conducted in compliance with applicable WHS legislation, regulations and standards. These may include:

- Work Health and Safety Act 2011 (Commonwealth of Australia);
- Work Health and Safety Regulation 2017 (NSW); and
- The Dangerous Goods Act 1975 (NSW) and Dangerous Goods (General) Regulation 1999 (NSW); and
- Exposure Standards for Atmospheric Contaminants in the Occupational Environment (NOHSC, 1995).

11.5 Asbestos Removal Regulations and Code of Practice

The movement and disposal of asbestos contaminated soils will be managed in accordance with the following:

- *Work Health and Safety Act 2011* (Commonwealth of Australia);
- *Work Health and Safety Regulation 2017* (NSW);
- *Managing asbestos in or on soil* (WorkCover NSW, 2014);
- *How to Safely Remove Asbestos Code of Practice* (Safe Work Australia, 2011a);
- *Code of Practice for the Safe Removal of Asbestos 2nd Edition*, (NOHSC: 2002 (2005));
- *How to Manage and Control Asbestos in the Workplace Code of Practice* (Safe Work Australia, 2011b);
- *Code of Practice for the Management and Control of Asbestos in Workplaces* (NOHSC: 2018 (2005)); and
- *Working with Asbestos Guide* (WorkCover, 2008).

Asbestos removal is to be completed under the supervision of a Class B Licenced Asbestos Removalist. A site-specific asbestos removal permit is to be obtained from NSW WorkCover at least seven days before the work is to commence.

An Asbestos Removal Control Plan is to be prepared by the party undertaking asbestos removal activities prior to the commencement of works.

12. PRELIMINARIES

12.1 Work to be completed prior to site establishment

Prior to undertaking works the following documents will be required:

- Site Specific Health and Safety Plan (SSHSP), Asbestos Removal Control Plan and Induction Record; and
- Site Management Plan (SMP).

12.2 Site Facilities

Site facilities to be established on site prior to the commencement of remedial works will include:

- Defined entry and exit points; and
- Vehicle wash down bay (if required).

12.3 Site Access

All personnel entering the site will be required to sign in / out at the site office. Personnel entering and working on the site will require the following:

- Complete Site Induction;
- Appropriate Personnel Protective Equipment (PPE) as detailed in the SSHSP; and
- Completed the WorkCover Occupational Health and Safety General Induction for Construction Work in NSW.

12.4 Work Health and Safety Signage

Signage will be installed at site entrances detailing the location of first aid facilities and after hour contacts. Warning signs will be placed around the perimeter of the site to prevent unauthorised access.

12.5 Remediation Project Hours

Civil remediation work will be restricted to the following:

- Between 7 am to 6 pm Monday to Saturday; and
- No work to be carried out on Sundays or public holidays.

13. BONDED ACM REMEDIATION METHODOLOGY

13.1 Southeast Area

Fragments of bonded ACM have been identified on the site surface in the southeast portion of the site. The fragments originate from the building structure and do not appear to be associated with a contaminated imported fill material. Remediation will include:

- Securing the site and implementation of the SMP prior to remediation;
- Supervision of the works by a Class B Licensed Asbestos Removal Contractor. The Asbestos Removal Contractor is to prepare an Asbestos Removal Control Plan with specific safe work procedures for the task;
- Implementation of asbestos air monitoring during remediation and disposal activities by an independent licensed asbestos assessor;
- Hen pecking of bonded asbestos from the site surface across the asbestos AEC in accordance with WA DOH Guidelines, including at least 2 passes of picking made with 90° direction change between each and using a grid pattern;
- Raking of the surface and collection of bonded asbestos fragments revealed during tilling in accordance with WA DOH Guidelines, including at least 2 passes of picking made with 90° direction change between each and using a grid pattern;
- Placement of asbestos fragments collected during hen pecking and tilling into a 200 um labelled plastic bag to be sealed for offsite disposal to landfill.

Stockpiled building material and rubbish in the pit in the southeast corner of the site is to be placed in a skip bin lined with plastic sheeting and disposed off-site to landfill as Special Waste (Asbestos).

Validation Methodology

Following hand pick removal of bonded ACM on the ground surface, building materials and rubbish in the pit, visual inspection to confirm the removal of all visible ACM is to be completed. A Clearance Certificate is to be prepared by a Licensed Asbestos Assessor or duly qualified person is required in accordance with Clause 474 of the Work Health and Safety Regulation 2017 (NSW).

13.2 Northern Driveway Unsealed Area

Occasional bonded ACM fragments were observed on the strip of unsealed ground between the northern driveway and the adjacent warehouse building on Lot 1. While no indication of asbestos fines was observed, there has been some crushing of fragments by truck movements and the presence of friable asbestos cannot be ruled out. The remedial process involves the excavation and off-site disposal of the top 50 mm of soil across the impacted area under friable asbestos controls. Remediation will include:

- Securing the site and implementation of the SMP prior to remediation;
- Supervision of the works by a Class A Licensed Asbestos Removal Contractor. The Asbestos Removal Contractor is to prepare an Asbestos Removal Control Plan with specific safe work procedures for the task;

- Implementation of asbestos air monitoring during remediation and disposal activities by an independent licensed asbestos assessor;
- Excavation of the top 50 mm of soil across the impacted area as defined on Figure 6;
- Stockpiling of excavated soil pending waste classification and off-site disposal;
- Removal and disposal of stockpiled asbestos contaminated soil material to a landfill licensed to accept asbestos waste. Copies of the waste disposal receipts are to be included in the final Remediation and Validation Report.

Validation Methodology

Following excavation and off-site disposal of bonded ACM impacted soil, the remediation area is to be validated in accordance with the following methodology:

- Collection of soil samples from the floor of the excavation on a 5 metre grid-based sampling plan;
- Laboratory analysis of soil samples for asbestos fines and fibrous asbestos (AF/FA);
- Inspection of soil samples as per the WA DOH (2009) gravimetric method for bulk soils for bonded ACM fragments;
- Comparison of laboratory analytical results against the RAC; and
- Visual inspection and preparation of a Clearance Certificate prepared by a Licensed Asbestos Assessor is required in accordance with Clause 474 of the Work Health and Safety Regulation 2017 (NSW).

13.3 Northern Driveway Concrete Paved Area

A single ACM fragment was observed in fill within a boring completed in the northern driveway. The following is to be completed to determine if a condition requiring remediation exists:

- Removal of driveway pavements;
- Walkover and inspection by an appropriately qualified environmental consultant;
- Raking of the fill to 300 mm depth using an excavator;
- Inspection of the fill during the raking process.

Where bonded ACM fragments are identified in fill, the following will be completed to assess for conditions requiring remediation:

- Test pits are to be completed across the impacted area at a density two times that defined in Appendix A of WA DOH (2009) Guidelines for the Assessment, Remediation and Management of Asbestos-Contaminated Sites in Western Australia.
- A soil sample is collected across the full thickness of the fill. Fill is expected to be approximately 300 mm deep;
- A sub sample is placed in a laboratory supplied 500 mL sample bag and transported under chain of custody to for analysis for AF and FA.
- Collection of a 10 L fill sample from each test pit;
- The 10 L sample is spread out for inspection on a contrasting colour material; and

- Identified ACM fragments are collected and weighed to calculate the asbestos soil concentration as per WA DOH (2009) where:

$$\% \text{Soil Asbestos} = (\% \text{ Asbestos Content} \times \text{ACM Mass}) / (\text{Soil Volume} \times \text{Soil Density}).$$

It is assumed that % Asbestos Content in ACM is 15%, and that Soil Density is 1.65 kg/L.

If the soil is impacted by ACM at concentrations above the RAC, remedial is to comprise the following:

- Impacted soil is to be excavated and stockpiled. Excavation is to be guided by suitably qualified consultant and professional judgement is to be used to determine extent of excavation based on field observations of the materials encountered during excavation;
- Excavated material is to be transported to a hardstand area (remediation area);
- Excavated material is to be spread out in 50 m³ portions with the excavator as a 0.1 m thick layer across an area of approximately 20 m x 25 m on the hard stand area;
- The material is to be raked with the teeth of the excavator and then by hand to break up clods;
- The material is to be inspected for ACM fragments by completing a walkover along the length of the material on approximately 1 m wide spaced grid lines;
- ACM fragments are to be hand-picked. Appropriate Personnel Protective Equipment including gloves, coveralls and half face disposable particulate respirator will be used;
- The material is to be inspected by completing a walkover on 1 m wide grid lines; and
- Upon satisfactory removal of ACM fragments the material is to be stockpiled for validation sampling.

If the soil is impacted by AF or FA at concentrations above the RAC, the soil is to be excavated and disposed of off-site in accordance with the methodology in Section 13.2.

Validation Methodology

Following handpicking of ACM from excavated fill soils, the remediated soils will be validated with the following methodology:

- Remediated material is to be temporarily stockpiled;
- The stockpiled soil is to be sampled at a rate of 1 per 25 m³, with a minimum of three samples per stockpile. Three 10 L soil samples are to be collected from each stockpile immediately after stockpiling in accordance with NEPC (1999) National Environmental Protection (Assessment of Site Contamination) Measure Table 4 Minimum Number of Samples Recommended for Initial Assessment of Stockpiles;
- Visual assessment and measurement of the %w/w ACM of each 10 L soil sample in accordance with the WA DOH (2009) Gravimetric Method;
- Gravimetric results are to be compared against commercial / industrial landuse criteria as specified in the RAP immediately after assessment;
- If %w/w ACM in the stockpile samples exceed the commercial / industrial landuse criteria the stockpile is to be re-spread, reinspected and ACM hand-picked. This process is to be repeated until %w/w ACM is below assessment criteria.

If the material is excavated and disposed off-site, validation of the resulting excavation will be as per Section 13.2.

13.4 Former Rail Line

A small asbestos fibre bundle was detected in the triplicate of sample B1/2.0 collected by WSP from deep fill the vicinity of the former rail line on the western boundary. Asbestos was not detected in the primary samples. Investigation of the deep fill unit on the western boundary is required to evaluate the nature and extent of asbestos impact (if any) and the requirement for remediation. The investigation methodology comprises the following:

- Exploratory test pitting is to be undertaken to determine the extent of the deep fill unit;
- Test pits are to be completed across the impacted area at a density two times that defined in Appendix A of WA DOH (2009) Guidelines for the Assessment, Remediation and Management of Asbestos-Contaminated Sites in Western Australia.
- A soil sample is collected across each 1m of fill thickness. Fill is expected to be up to 3.5 m deep;
- A sub sample is placed in a laboratory supplied 500 mL sample bag and transported under chain of custody to for analysis for AF and FA.
- Collection of a 10 L fill sample from each test pit;
- The 10 L sample is spread out for inspection on a contrasting colour material; and
- Identified ACM fragments are collected and weighed to calculate the asbestos soil concentration as per WA DOH (2009) where:

$$\% \text{Soil Asbestos} = (\% \text{ Asbestos Content} \times \text{ACM Mass}) / (\text{Soil Volume} \times \text{Soil Density}).$$

It is assumed that % Asbestos Content in ACM is 15%, and that Soil Density is 1.65 kg/L.

In the event ACM, AF or FA are identified at concentrations above the RAC, the fill is to be remediated in accordance with the methodology presented in Section 13.3.

14. UST DECOMMISSIONING AND REMEDIATION METHODOLOGY

A potential UST was identified by Ground Penetrating Radar adjacent to the existing UST in the centre of the site. The presence of the UST has not been physically confirmed. If the UST exists it will require decommissioning and remediation in accordance with the following methodology.

14.1 UST Removal and Remediation Methodology

The UST is to be excavated and removed for off-site disposal by an appropriately licensed contractor. Any impacted soils will be removed by excavation for stockpiling and land farming. The remediation process will include:

- Site will be secured and SMP implemented prior to excavation;
- Engage Australian Institute of Petroleum (AIP) accredited tank removal contractor;

- USTs removed by AIP contractor in accordance with AS 4976-2008 *The Removal and Disposal of Underground Petroleum Storage Tanks* and SafeWork NSW regulations;
- USTs must be transported by a licensed dangerous goods carrier and disposed of off-site to a suitable disposal facility. A UST destruction certificate is to be obtained from the disposal facility;
- Soils are to be excavated under supervision of the appointed environmental consultant;
- Soils are to be screened for the presence of Volatile Organic Compounds (VOCs) in the field using a calibrated Photoionisation Detector (PID);
- Impacted soil surrounding UPSS is to be excavated until field screening (PID and visual) indicates a reduction in contaminant concentrations; and
- Excavated soils are to be stockpiled on-site pending decision to re-use the material or off-site disposal to landfill; and
- Reinstatement of remedial excavations with suitable material.

14.2 Stockpile Methodology

Geo-Logix estimates the volume of soil requiring excavation for the removal of the UST to be up to 200 m³. Excavated soil is to be stockpiled on hardstand or low density polyethylene sheeting and bound by silt controls (hay bales or silt fence).

14.3 UST Validation Methodology

Following removal of the UST, the remedial excavation will be validated in accordance with the following methodology:

- Collection of soil samples from the base of the resulting excavations at a minimum rate of one per tank;
- Collection of soil samples from the walls of the excavations at a rate of one per five linear metres;
- Collection, preservation and transportation of soil samples in accordance with Geo-Logix Soil Sampling Methodology (Attachment C);
- Analysis of soil samples for COPC including Total Recoverable Hydrocarbons (TRH), benzene, toluene, ethylbenzene and xylenes (BTEX), Volatile Organic Compounds (VOCs) and heavy metals, by a NATA accredited laboratory;
- Completion of Quality Assurance/Quality Control (QA/QC) procedures in accordance with this RAP; and
- Comparison of analytical results against the RAC.

Groundwater investigations have not identified elevated petroleum hydrocarbon concentrations in groundwater that would prohibit the site from the proposed development. Groundwater validation sampling for COPC associated with the UST (if present) is not considered necessary.

14.4 Stockpile Validation Methodology

To assess suitability of any excavated stockpiled material for onsite reuse or off-site disposal, the following will be implemented:

- Collection of soil samples at a rate of 1 per 25 m³ from the undisturbed bulk of the stockpiled soil (>300 mm from soil surface);
- Analysis of soil samples at a NATA accredited laboratory for COPC including TRH, VOCs, PAHs, OCPs and heavy metals; and
- Comparison of analytical results against the RAC.

14.5 Remedial Excavation Reinstatement

Remedial excavations may be reinstated with on-site material meeting the RAC or imported fill meeting the requirements specified in Section 16.

15. UNEXPECTED FINDS PROTOCOL

Inspection of the ground surface for unexpected conditions is to be completed following demolition and removal of concrete slabs. The primary potential issue is the occurrence of buried bonded or friable asbestos in fill.

Inspection is to be completed by an appropriately qualified and experienced Environmental Consultant by undertaking line walk across the area of removed concrete on two metre spacing. Any suspect soil or fill should be further inspected using an excavator.

15.1 Asbestos Find Investigation Methodology

In all, buried bonded asbestos was only identified in one boring out of the 70 borings that have been completed across the site by OTEK, WSP and Geo-Logix. As such, the potential for widespread or voluminous asbestos impacted soils across the site is considered low.

In the event bonded or friable asbestos impacted soil is observed, impacted soils are to be evaluated in accordance with the following methodology to determine the nature and extent of contamination, and the requirement for additional remediation.

- Test pits are to be completed across the impacted area at a density two times that defined in Appendix A of WA DOH (2009) Guidelines for the Assessment, Remediation and Management of Asbestos-Contaminated Sites in Western Australia.
- A soil sample is collected from each metre of fill;
- A sub sample is placed in a laboratory supplied 500 mL sample bag and transported under chain of custody to for analysis for AF and FA.
- Collection of a 10 L soil sample from each vertical metre of fill within each test pit;
- The sample is spread out for inspection on a contrasting colour material; and
- Identified ACM is collected and weighed to calculate the asbestos soil concentration as per WA DOH (2009) where:

$$\% \text{Soil Asbestos} = (\% \text{ Asbestos Content} \times \text{ACM Mass}) / (\text{Soil Volume} \times \text{Soil Density}).$$

It is assumed that % Asbestos Content in ACM is 15%, and that Soil Density is 1.65 kg/L.

Where the asbestos concentration meets the RAC, the soil can remain on site without requirement for long term controls.

Where the ACM, AF or FA concentration in soil exceeds the RAC, the impacted soil will require remediation and / or management in accordance with the options presented in Section 5 of WA DOH (2009). Remedial options include:

- Treatment on-site by hand picking ACM fragments and off-site disposal of the fragments;
- Excavation and off-site disposal of impacted soil;
- Management in-situ; and
- Encapsulation on-site and management under a long-term Environmental Management Plan.

15.2 Other Unexpected Conditions

Any other unexpected conditions should be assessed by an appropriately qualified and experienced environmental consultant in accordance with Schedule B1 and B2 of NEPC (2013).

16. IMPORTED FILL VALIDATION METHODOLOGY

If there is a requirement to reinstate remedial excavations with imported fill, fill must meet the definition of one or both of the following:

- Virgin Excavated Natural Material (VENM); or
- Excavated Natural Material (ENM).

Consignors of ENM have certain obligations under the ENM Exemption. The Environmental Consultant is to ensure imported fill meets VENM / ENM definition and acquire appropriate documentation for the client, the consignor of waste.

17. WASTE CLASSIFICATION

Where applicable, soils requiring off-site disposal are to be classified in accordance with the following methodology:

- Soil samples are to be collected at a rate of 1 per 25 m³ from the undisturbed bulk of the stockpiled soil (>300 mm from soil surface);
- Soil samples are to be analysed for COPC including TRH, VOCs, PAHs, OCPs, heavy metals and asbestos; and
- Analytical results are to be compared against NSW EPA (2014) *Waste Classification Guidelines*.

18. DATA QUALITY INDICATORS

QC/QA will be tested by review of data against Data Quality Indicators (DQIs) to ensure data precision, accuracy, representativeness, comparability and completeness. A summary of DQIs are presented in the table below:

Data Quality Objectives	Frequency	Data Quality Indicator
Precision		
Blind Replicate Samples	1 Per 20 Samples	RPD <50%
Split Samples	1 Per 20 Samples	RPD <50%
Accuracy		
Surrogate Spikes	All Organic Analyses	General analytes recovery of 70%-130%
Laboratory Control Samples	1 Per Batch	General analytes recovery of 70%-130%
Matrix Spikes	1 Per Batch	General analytes recovery of 70%-130%
Analysis Blank	1 Per Batch	Non Detect
Representativeness		
Samples Stored At 4°C	All Samples	-
Samples Analysed Within Specified Holding Times	All Samples	Organics 14 days / Inorganics 6 months
Trip Spike	1 Per Batch	Recovery of 70% - 130%
Trip Blank	1 Per Batch	Non detect
Samples Transported Under COC Conditions	All Samples	-
Comparability		
NATA Approved Laboratory Analytical Method	All Samples, All Analytes	-
Consistent Sampling Techniques	All Samples	-
Appropriate Laboratory Reporting Limits	All Samples, All Analytes	-
Completeness		
Geo-Logix Standard Field Templates Used	All Samples	-
Appropriate Sampling To Support The Objectives	-	Meets minimum sampling requirements

Notes:

(1) AS 4482.1-2005 (Australian Standard, 2005) indicate an acceptable Relative Percentage Difference (RPD) range of 30%-50%, and that the variation can be expected to be higher for organic analysis than inorganics, and for low concentrations of analytes. Given the soil samples will be collected for the purpose of validating the removal of contaminated soils, any detected concentrations are expected to be low and close to the laboratory detection limits. As such, a RPD acceptable limit of 50% was deemed appropriate for the investigation.

(2) Field and Laboratory Quality Control/Quality Assurance (QA/QC) procedures will be conducted in accordance with NEPC (2013) and AS 4482.1-2005.

18.1 Field QA/QC

Field sample QA/QC will be conducted in accordance with AS 4482.1-2005 (Australian Standard, 2005) and consist of the following:

- Sample Duplicates – 1 per 20 samples;
- Sample Triplicate (Secondary Lab) –1 per 20 samples; and
- Sample equipment rinsate sample – 1 per day.
- Trip spike samples – 1 per batch.
- Trip blank samples – 1 per batch.

Soil sampling will be undertaken in accordance with the Geo-Logix Soil Sampling Procedure (Attachment B), utilising disposal gloves between each sample location. Sampling equipment will be decontaminated by the following method:

- Washing in water and phosphate free detergent solution (Decon 90); and
- Double rinsing in tap water.

18.2 Field Data QA/QC Acceptance Criteria

The acceptance criteria for QA/QC samples are detailed in the following table:

Quality Control Sample	Minimum Number Of Samples	Data Quality Indicator
Duplicate sample	1 per 20	50% Relative Percent Difference (RPD) (1)
Triplicate Sample	1 per 20	50% RPD (1)
Rinsate Blank	1 per day	No detectable concentrations

In the event the acceptance criteria are not met, the variation will be taken into consideration and its implications assessed in regard to the context of the investigation.

18.3 Laboratory QA/QC

The following laboratories are proposed to be engaged to undertake sample analysis:

- Primary Laboratory - Eurofins Laboratories Pty Ltd (Sydney) (NATA accredited); and
- Secondary Laboratory - Eurofins Laboratories Pty Ltd (Melbourne) (NATA accredited).

Primary and secondary laboratories must comply with the minimum QA procedures documented in Schedule B(3) in NEPC (1999) *National Environmental Protection (Assessment of Site Contamination) Measure* and include but not be limited to:

- At least one analysis blank per batch;
- Duplicate analysis at a rate of one per batch or one per ten samples, whichever is smaller;
- Laboratory Control Samples at a rate of one per batch;
- Matrix Spikes; and
- Surrogate Spikes.

The acceptance criteria for laboratory QC is presented in the following table:

Quality Control Sample	Data Quality Indicator
Matrix Spike	General analytes recovery of 70% - 130% / Metals recovery of 70% - 130%
Laboratory Control Sample	General analytes recovery of 70% - 130% / Metals recovery of 70% - 130%
Surrogate Sample	Results compared to analyte specific criteria / Metals recovery of 70% - 130%
Method Blank	< Laboratory Reporting Limits
Sample Duplicate	Organics
	RPD of 0-50% (>10xPQL), RPD of 0-75% (5-10xPQL), RPD of 0-100% (<5xPQL)
	Metals
	RPD of 0-30% (>10xPQL), RPD of 0-75% (5-10xPQL), RPD of 0-100% (<5xPQL)

19. SITE MANAGEMENT PLAN

A Site Management Plan (SMP) will be prepared to ensure appropriate procedures and methods are employed to minimise the potential for erosion, to avoid contamination leaving the site and to avoid disturbance of neighbouring areas.

The SMP is to be adhered to during the remediation works. The SMP will address the following:

- Water and soil management;
- Air quality management;
- Noise management; and
- Traffic management.

Remediation works will comply with relevant legislative requirements, licences, approvals and notices. Regular monitoring of environmental performance will be undertaken to identify if any areas require improvement.

19.1 Water and Soil Management

Where possible, excavation will be restricted to favourable weather conditions (e.g. dry, still or low wind weather). Additionally the following measures should be adhered to for water management on-site:

- Surface water management measures will be implemented prior to the commencement of excavation to divert surface water run-off away from excavations or stockpiles;
- Drainage diversions will guide water to existing drainage gutters and pits, following existing drainage patterns as reasonably as possible. The drainage diversions will also be arranged so that surface water run-off from disturbed or contaminated areas does not enter remediated or undisturbed areas;
- Any surface water run-off that does inadvertently enter the excavations will be treated as perched groundwater. Perched water is to be tested and disposed of to a facility licensed to accept the waste.

- Surface water and sediment management measures will also be implemented around stockpiles (if required). Any soil stockpiling areas will be lined with Low Density Polyethylene sheeting (LDPE) and banded to prevent runoff and to prevent leaching of contaminants to the sub-surface. The LDPE sheets are to be rolled out perpendicular to the slope, with a minimum of 300mm overlap. The up-gradient layer is to overlap the down-gradient layer. Each side of the overlap is to be sealed with a PVC tape. Stockpiles are to be surrounded by silt fence and / or straw bales;
- Sediment removed from any trapping device (e.g. silt fence, straw bales and/or stormwater collecting ponds) shall be relocated where further pollution down slope lands and waterways cannot occur;
- Should excavated material will be stockpiled, they are to be located away from traffic areas, from any potential disturbances and from existing drains. Stockpiles should be constructed in flat areas of the site; and
- In the event of rain, stockpiles will be covered in PVC plastic at the end of each day to prevent water infiltration, sediment runoff and escape of moisture or dust.

19.2 Air Quality Management

Dust emissions are to be minimised to a practical extent. The following measures may be used to ensure this:

- All loads entering and exiting the site are to be covered;
- Light water spray can be used to suppress dust;
- Stockpiles can be covered with LDPE; and
- Excavation surfaces can be lightly wetted down if emitting dust.

The following measures may be employed if odorous conditions are encountered:

- Odour monitoring will be performed through regular personal olfactory observations by site personnel. A PID may be used during earthworks to detect and identify hotspots where additional protection procedures may be necessary;
- Covering excavation faces and stockpiles with plastic;
- Installing a water misting system around the odour area; and
- Using an odour suppressant such as Biosolve.

Asbestos air monitoring will be undertaken during bonded ACM remediation works.

19.3 Noise Management

The potential for noise impacts from the remediation works will result from the preparation of the site, movement of vehicles and operation of plant on the site.

Noise is not considered to be a significant issue for proposed activities at the subject site due to its location and surrounding land uses. Noise will be minimised by the following:

- Ensuring machinery is appropriately maintained; and

- Restricting work to designated work hours.

19.4 Traffic Management

All trucks and vehicles transporting soil, equipment, machinery or materials to and from the site will abide by the following:

- All vehicles will access the site via the site gate which will be designated prior to the commencement of works;
- A rumble grid or pad of crushed aggregate will be installed at the vehicle access entry/exit point;
- Comply with road traffic rules;
- Secure and cover all loads;
- Truck tyres and equipment will be inspected and dry cleaned if necessary prior to leaving disturbed areas; and
- Will not track soils onto the roads.

20. WORK HEALTH AND SAFETY

This section of the RAP describes the minimum standards to be adopted to protect the health and safety of all persons involved in remedial works.

The remediation contractor will develop and implement a suitable Health and Safety Management System in compliance with legislative and regulatory requirements.

A SSHSP will be developed prior to commencement of the works. The SSHSP will detail the appropriate health and safety information necessary to conduct the remediation works in a safe manner. The SSHSP must be read and understood by all people entering the site during remediation works. It is the Principal Contractor's responsibility to induct all site workers and visitors on the requirements of the OHS Plan. The SSHSP should outline the following:

- Statement of Responsibilities;
- Hazard Identification;
- Safe Work Procedures;
- Preparation of a large map for site workers depicting the location of residual contaminated soil;
- Define a list of relevant personnel, their duties, and contact details;
- Outline the appropriate PPE;
- Define air monitoring requirements and odour control measures;
- Outline personnel hygiene controls to minimise accidental exposure to contaminated soils and groundwater;
- Provide contact details and map to nearest hospital; and
- Toolbox talk meeting records and induction records for contractors.

20.1 Responsibilities

Responsibilities and duties of the remediation contractor in relation to WHS will include:

- Ensuring all work undertaken is performed in accordance with relevant legislation and regulations, and directions issued by regulatory authorities;
- Developing and documenting safe working practices for all employees and subcontractors;
- Ensuring workers are adequately trained to undertake their work tasks using the adopted work practices;
- Ensuring that the work is performed in strict adherence to the adopted work practices;
- Appointing a suitably qualified and experienced Site Safety Officer (SSO) to supervise and control safety matters;
- Supplying and maintaining first aid facilities and ensuring first aid attendants are present in accordance with statutory requirements;
- Ensuring all workers are inducted prior to their commencement of work. This will include site specific conditions, work procedures, emergency and evacuation procedures, decontamination and other relevant matters detailed in the SSHSP;
- Ensuring copies of SSHSP are readily available;
- Establishment and maintenance of a record of all hazardous substances on the site including provision of Material Safety Data Sheets (MSDS);
- Reporting all site incidents and accidents to the WorkCover Authority;
- Ensuring that the SSO is on-site during all site works to monitor compliance with the SSHSP;
- Ensuring that regular documented OHS inspections are conducted, including the use of a documented follow-up system to monitor improvements and measures introduced to rectify any observations made;
- Supplying and maintaining the required PPE; and
- Ensuring all workers are trained in the use of the PPE and correctly use PPE.

21. CONTINGENCY PLAN

The Contingency Plan (CP) concentrates on the response to incidents, including notification, activation, response and recovery phases, but also requires cause identification and review procedures.

Should an incident occur which causes, or has the potential to cause, environmental damage or harm to human health, the CP will govern responses in accordance with the specific incident procedures. Incidents addressed in the CP will include off-site discharges of impacted stormwater, flooding of drains, chemical spills, etc.

No contingency plan will substitute for sound environmental practice during the remedial works. Accordingly, it is the responsibility of the environmental consultant and remediation contractor to monitor the works at all times and manage all potentially significant activities in a proactive manner. Records of all actions relating to environmental protection measures, contingency events and impacts will be documented.

The following table summarises anticipated problems, the resulting impacts they may cause and the proposed response actions to be taken.

Anticipated Problem	Potential Impact	Corrective Action
Release of fuel/ oil from machinery	Impact of surface waters and/ or soils	Remove source, use adsorbent booms to remove oil, make any repairs.
Excessive dust	Nuisance complaints	Use water sprays; or stop dust- generating activity until better dust control can be achieved.
Excessive noise	Nuisance complaints	Identify source and review noise attenuation equipment.
Excessively wet materials	Generation of turbid waters	Stockpile and dewater on site or use absorbents
Flooding by extreme rainfall events	Impact of stormwater and / or contact with contaminated soils	Sediment filters will be installed on the stockpile area overflow, a record will be kept of the estimated water and the time period over which the discharge occurs. Cover stockpiles with plastic to reduce rainfall infiltration.
Unacceptable levels of volatile gases	Occupational health and safety concern and odour	Cover exposed soil stockpiles and excavation pits, use mitigation agent. Work to cease until clearance is provided
Excessive odours	Nuisance complaints	Use odour suppressants (such as Biosolve®), cover exposed soil stockpiles and excavation pits.
Equipment failures	Program delay	Maintain spare equipment and parts; keep rental options available.

22. COMMUNITY CONSULTATION

Based on immediate surrounding non-sensitive land use (industrial precinct), community consultation on site remediation is not considered necessary.

23. REPORTING

A Remediation and Validation report is to be prepared in accordance with the following guidelines:

- National Environment Protection (Assessment of Site Contamination) Amendment Measure 2013 (NEPC, 1999); and
- Consultants reporting on contaminated land: Contaminated Land Guidelines (NSW EPA, 2020)

The report will include the following information:

- Description of the works completed;
- The DQOs for the validation program and their achievement by referencing DQIs;
- Detailed figures outlining the extent of the remediation works;

- Location of all validation samples;
- Summary analytical tables;
- Laboratory analytical reports;
- Summary of the tracking, volumes and fate of disposed material;
- Landfill disposal dockets;
- Conclusions as to the suitability of the land for the proposed redevelopment; and
- Recommendation for additional remediation works or environmental monitoring (if required).

24. ENVIRONMENTAL MANAGEMENT PLAN

At completion of remediation an Environmental Management Plan will be prepared for the site. The EMP will be an operational plan in anticipation of the commercial / industrial use and will detail safe work procedures for trench workers performing sub surface works across the portion of the site impacted by TCE, and any other measures required to manage residual contamination in the event additional contamination is identified. The EMP will be kept onsite and maintained and implemented by the facilities manager. At a minimum the EMP will include:

- Introduction;
- Contamination Description;
- Hazard Assessment;
- WH&S Procedures for subsurface workers;
- Waste Management; and
- Record Keeping.

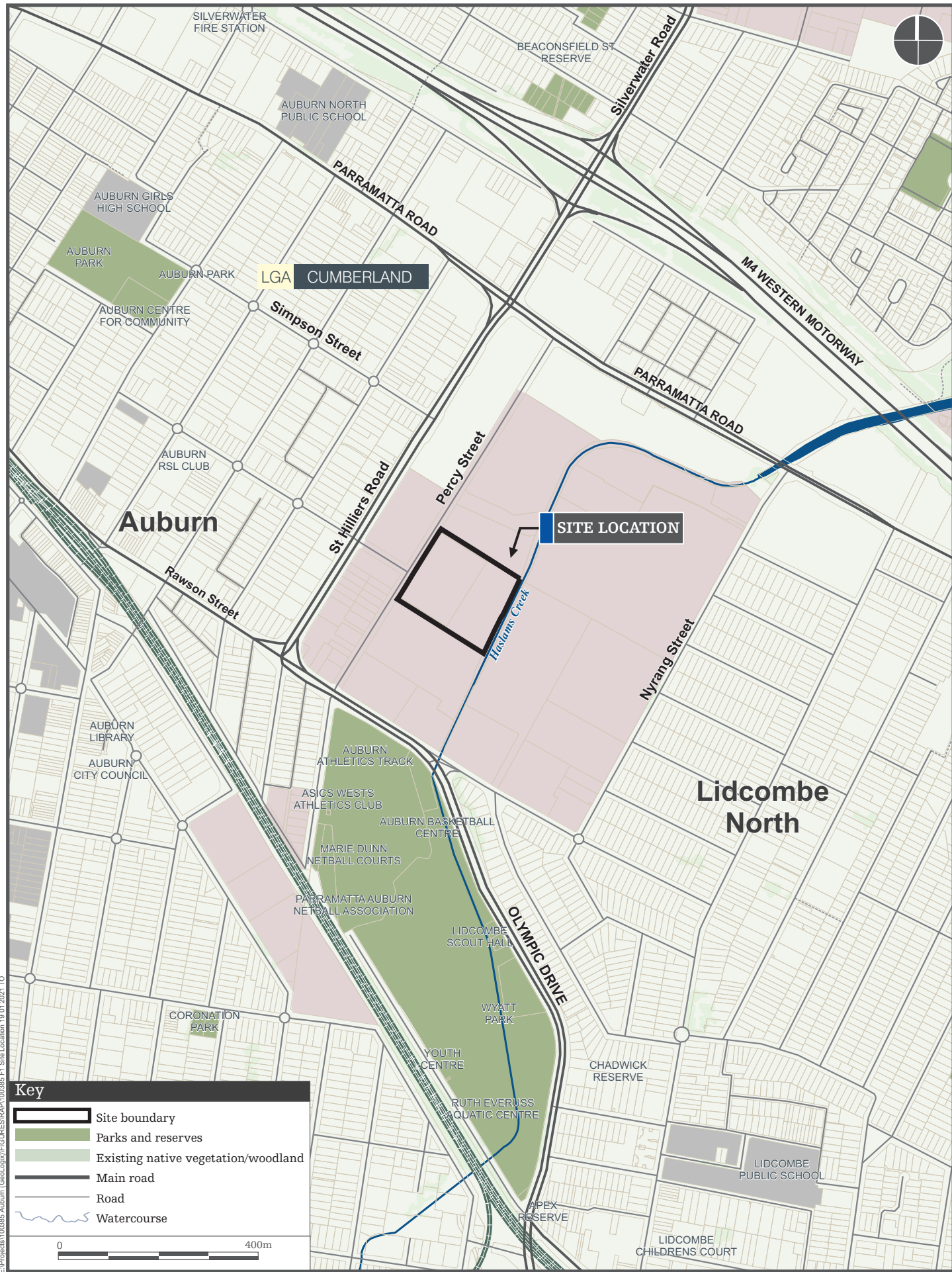
Stakeholders and responsibilities are listed below

Stakeholder	Responsibility	Actions
Cumberland City Council	Planning Approvals EMP Enforceability Planning Certificate	Development consent to include a condition that requires the Site to be managed in accordance with the EMP. The condition addresses legal enforceability of the EMP. Update 10.7 Planning Certificate to identify the Site Audit Statement, and existence of the EMP.
Site Owner Fabcot Ltd	Covenant on title Implement EMP	Provide council updated land title certificate with covenant on title binding the current owners and future owners to be responsible for management of residual contamination onsite. Ensure the EMP is readily available, up to date, and relevant for those whom may come in contact with Site contamination.

25. REFERENCES

- Australian Standard (2005) AS 4482.1-2005 Guide to the investigation and sampling of sites with potentially contaminated soil. Part 1: Volatile and Semi-volatile compounds. Standards Australia.
- Australian Standard (2005) AS 4482.2-1999 Guide to the investigation and sampling of sites with potentially contaminated soil. Part 2: Volatile substances. Standards Australia.
- Geo-Logix (2019) Detailed Site Investigation Report, 11-13 Percy Street, Auburn NSW. Report Ref 1901048Rpt01FinalV01_22Oct19, 22 October 2019.
- Geo-Logix (2020) Soil Vapour Investigation Report, 11-13 Percy Street, Auburn NSW. Report Ref 2001029Rpt02FinalV02_21Sep20, 21 September 2020.
- Herbert, C. (1983) Sydney 1:100 000 Geological Series Sheet 9130 (Edition 1), NSW Department of Mineral Resources 1983.
- NEPC (1999) National Environmental Protection Measure (Amended 2013), National Environmental Protection Council.
- NSW EPA (2017) *Guidelines for NSW Site Auditor Scheme (3rd edition)*, NSW Environment Protection Authority.
- NSW EPA (1998) *State Environment Planning Policy 55 – Remediation of the Land*, Department of Urban Affairs and Planning, NSW Environmental Protection Authority, 1998.
- NSW EPA (1995) *Sampling Design Guidelines*, NSW Environmental Protection Authority, 1995.
- NSW EPA (2020) Consultants reporting on contaminated land: Contaminated Land Guidelines, NSW Environment Protection Authority, 2020.
- OTEK Australia Pty, Ltd. (2000) Phase I & II Environmental Site Assessment, 11-13 Percy Street, Auburn New South Wales. 14 January 2000. Reference (S99126).
- Protection of the Environment Operations Act 1997 (NSW)
- Protection of the Environment Operations (Waste) Regulation 2005 (NSW)
- State Environment Planning Policy No.55 – Remediation of Land 1998 (NSW)
- WA DOH (2009) Guidelines for the Assessment, Remediation and Management of Asbestos Contaminated Sites in Western Australia. Western Australian Department of Health, May 2009.
- WorkCover (2008) *Working with Asbestos Guide 2008*, WorkCover New South Wales, 2008
- Workplace Health and Safety Act 2011 (Commonwealth of Australia)
- Work Health and Safety Regulation 2017 (NSW)
- WSP (2012) Stage 1 & 2 Environmental Site Investigation, 11-13 Percy Street, Auburn, NSW. Revised 12 June 2012. Reference (00030196.01)

FIGURES



Key

- Site boundary
- Parks and reserves
- Existing native vegetation/woodland
- Main road
- Road
- Watercourse



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SITE VICINITY MAP

Remediation Action Plan
11-13 Percy Street, Auburn NSW

Project No. 2101002

Figure 1

E:\Projects\100385 Auburn (GeoLogix)\FIGURES\RAIP\100385 F1 Site Location 19 01 2021.TO



- Site Features
- 1 Former radioactive store
 - 2 Decommissioned UST
 - 3 Former dangerous goods shed
 - 4 Former cooling towers
 - 5 Wash bay
 - 6 AST/fuel dispenser
 - 7 Waste oil tank
 - 8 Former AST
 - 9 Air compressor pump
 - 10 Wastewater tank/former lime dosing unit
 - 11 substation
 - 12 Decommissioned UST
 - 13 former grease trap & cooling towers

Key

— Site boundary

0 50m





El:\Projects\100385 Auburn - Geo-Logix\FIGURES\RAP\100385 FR Asbestos Contamination Extents 04.02.2021 Rev A

ATTACHMENT A

AREA SCHEDULE

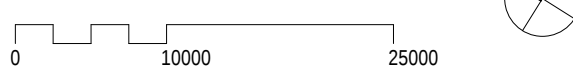
SITE AREA	32,453 m ²
WAREHOUSE	19,250 m ²
GROUND FLOOR	16,068 m ²
(incl. outbound)	
MEZZ. FLOOR	3,182 m ²
OFFICE	1,221 m ²
CFC OFFICE - GROUND	308 m ²
(incl. wh amenity, cockpit, driver break room, traffic office)	
CFC OFFICE - LEVEL 1	913 m ²
PICKUP	135 m ²
TOTAL AREA	20,606 m ²

PARKING

STAFF PARKING	150
PICK UP BAYS	6
VAN PARKING	103
RECEIVING DOCKS 1300mm	5
DELIVERY TRUCK DOCKS 900mm	28
B2B STAGING TRUCKS (incl. 1 Figure Dock & 2 Van Loading Dock)	3

Builder and/or subcontractors shall verify all project dimensions before commencing on-site work or off-site fabrication. Figure dimensions shall take precedence over scaled dimensions. This drawing is copyright and cannot be reproduced in whole or in part or by any medium without the written permission of Nettleton Tribe Partnership Pty Ltd.

Key Plan



Issue	Description	Date
P1	Preliminary	09.09.20

Client

Client Logo

Builder

Builders Logo

Project Name
CFC Percy St. Auburn

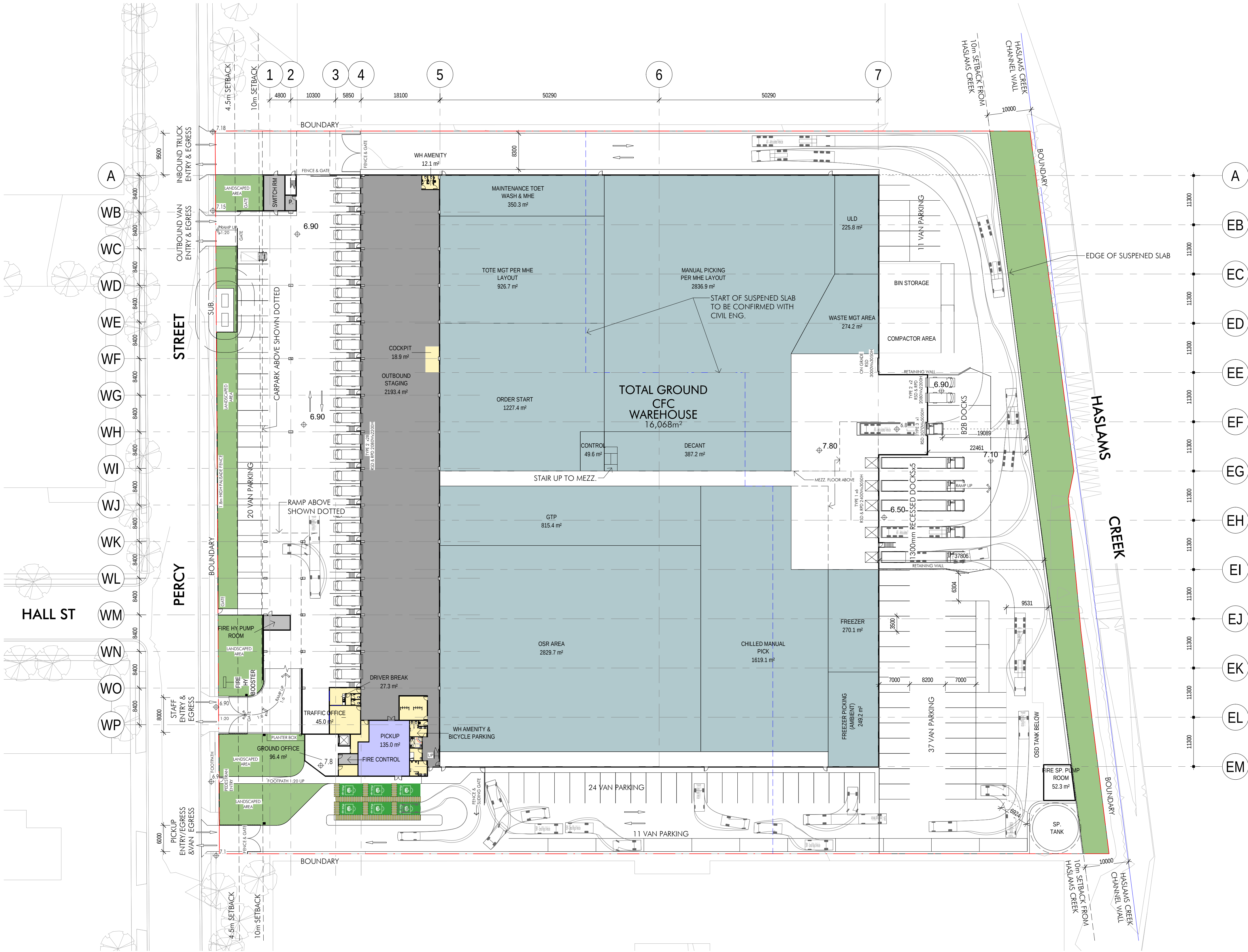
Project Address
**13 Percy Street,
Auburn, NSW 2144**

Drawing Title
SITE PLAN - OPTION 7

Author:	Checker:	Sheet Size:	Scale:
ES	Checker	A1	1: 500
Drawing Number:	Issue:		
11250_SK038	P1		

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ATTACHMENT B

Table 1 : Summary of Groundwater Analytical Data - Anions and Cations
Detailed Site Investigation
Project No.: 1901048

11-13 Percy Street
Auburn NSW

	Conversion	Sample ID	MW102	GW04	MW108	MW201	MW202	MW203
	Factor	Zone	Alluvial	Alluvial	Alluvial	Bedrock	Bedrock	Bedrock
		Date	27/09/2019	27/09/2019	27/09/2019	27/09/2019	27/09/2019	27/09/2019
Concentrations in mg/L								
Anions								
Chloride (Cl)	-		6200	970	68	6900	7000	7700
Nitrate (NO3) as N	-		< 0.02	1	< 0.02	< 0.02	< 0.02	< 0.02
Nitrate (NO3)	4.427		ND	4	ND	ND	ND	ND
Sulphate (SO4)			340	240	5.1	38	< 5	440
Bicarbonate (HCO3) as CaCO3	-		< 20	450	800	1100	930	930
Bicarbonate (HCO3)	1.219		ND	549	975	1341	1134	1134
Carbonate (CO3) as CaCO3	-		860	< 10	< 10	< 10	< 10	< 10
Carbonate (CO3)	0.600		516	ND	ND	ND	ND	ND
Cations								
Ammonia (NH3) as N	-		5	0.14	1.6	3	8.3	2.5
Ammonia (NH3)	1.216		6.08	0.17	1.95	3.65	10.09	3.04
Calcium (Ca)	-		1000	26	40.0	330	430	250
Magnesium (Mg)	-		18	43	36	520	270	530
Sodium (Na)	-		3600	960	300	4200	3700	4400
Potassium (K)	-		150	11	6.6	33	53	31
Total Anions and Cations	-		11830	2803	1433	13366	12597	14488
Total Dissolved Solids (TDS)	0.67		9680*	2460*	800*	10600*	11500*	12100*
Relative Percent Difference (RPD)	-		10%	7%	28%	12%	5%	9%

Notes:

Total concentrations in mg/L or mEq/L (as noted)

- = conversion factor not used

< # or ND = analyte(s) not detected in excess of laboratory reporting limit

-- = sample not analysed

* = field measured Electrical Conductivity multiplied by 0.67 conversion factor

Table 1 : Summary of Groundwater Analytical Data - Anions and Cations
Detailed Site Investigation
Project No.: 1901048

11-13 Percy Street
Auburn NSW

	Conversion	Sample ID	MW102	GW04	MW108	MW201	MW202	MW203
	Factor	Zone	Alluvial	Alluvial	Alluvial	Bedrock	Bedrock	Bedrock
		Date	27/09/2019	27/09/2019	27/09/2019	27/09/2019	27/09/2019	27/09/2019
Concentrations in mEq/L								
Anions								
Chloride (Cl)	0.0282		174.840	27.354	1.918	194.580	197.400	217.140
Nitrate (NO3)	0.0161		ND	0.071	ND	ND	ND	ND
Sulphate (SO4)	0.0208		7.07	4.992	0.11	0.79	ND	9.15
Bicarbonate (HCO3)	0.0164		ND	8.998	15.997	21.996	18.596	18.596
Carbonate (CO3)	0.0333		17.170	ND	ND	ND	ND	ND
Cations								
Ammonia (NH3)	0.0554		0.337	0.009	0.108	0.202	0.559	0.168
Calcium (Ca)	0.0499		49.900	1.297	1.996	16.467	21.457	12.475
Magnesium (Mg)	0.0823		1.481	3.539	2.963	42.796	22.221	43.619
Sodium (Na)	0.0435		156.600	41.760	13.050	182.700	160.950	191.400
Potassium (K)	0.0256		3.840	0.282	0.169	0.845	1.357	0.794
Total Anions	-		199.08	41.42	18.02	217.37	216.00	244.89
Total Cations	-		212.16	46.89	18.29	243.01	206.54	248.46
Relative Percent Difference (RPD)	-		3.2%	6.2%	0.7%	5.6%	2.2%	0.7%

Notes:

Total concentrations in mg/L or mEq/L (as noted)

- = conversion factor not used

< # or ND = analyte(s) not detected in excess of laboratory reporting limit

-- = sample not analysed

* = field measured Electrical Conductivity multiplied by 0.67 conversion factor

Table 2 : Summary of Soil Analytical Data - Petroleum Hydrocarbons

Detailed Site Investigation

Project No.: 1901048

11-13 Percy Street

Auburn NSW

	Criteria 1	Criteria 2	Criteria 3						
	HSLs - D	HSLs - D	Management	Sample ID	MW103/0.2-0.3	MW103/1.6-1.8	MW105/0.8-1.0	MW108/1.6-1.7	MW109/1.2-1.4
	Sand	Sand	Limits	Depth (m)	0.2-0.3	1.6-1.8	0.8-1.0	1.6-1.7	1.2-1.4
	0 to <1 m	1 to <2 m	Comm/Ind	Date	30/05/2019	30/05/2019	31/05/2019	3/06/2019	3/06/2019
TRH C ₆ -C ₁₀	-	-	800		< 20	< 20	< 20	< 20	< 20
TRH C ₆ -C ₁₀ less BTEX (F1)	260	370	-		< 20	< 20	< 20	< 20	< 20
TRH >C ₁₀ -C ₁₆	-	-	1,000		< 50	< 50	< 50	< 50	< 50
TRH >C ₁₀ -C ₁₆ less Naphthalene (F2)	NL	NL	-		< 50	< 50	< 50	< 50	< 50
TRH >C ₁₆ -C ₃₄	-	-	5,000		260	< 100	490	120	390
TRH >C ₃₄ -C ₄₀	-	-	10,000		330	< 100	160	< 100	< 100
Benzene	3	3	-		< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	NL	NL	-		< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Ethylbenzene	NL	NL	-		< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
m&p-Xylenes	-	-	-		< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
o-Xylene	-	-	-		< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Xylenes - Total	230	NL	-		< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Naphthalene (MAH method)	NL	NL	-		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5

Notes:

Criteria 1 = NEPC (1999) Amended, 'D' Commercial/Industrial Soil Health Screening Levels for vapour intrusion, sand 0 to <1m.

Criteria 2 = NEPC (1999) Amended, 'D' Commercial/Industrial Soil Health Screening Levels for vapour intrusion, sand 1 to <2m.

Criteria 3 = NEPC (1999) Amended, Commercial/Industrial Management Limits for TPH fractions in soil, fine material.

Total concentrations in mg/kg

- = assessment criteria not available

NL = not limiting

< # or ND = analyte(s) not detected in excess of laboratory reporting limit

-- = sample not analysed

Bold/red indicates exceedance of assessment criteria

Table 2 : Summary of Soil Analytical Data - Petroleum Hydrocarbons

Detailed Site Investigation

Project No.: 1901048

11-13 Percy Street

Auburn NSW

	Criteria 1	Criteria 2	Criteria 3	Sample ID	MW110/0.2-0.3
	HSLs - D	HSLs - D	Management	Depth (m)	0.2-0.3
	Sand	Sand	Limits	Date	3/06/2019
	0 to <1 m	1 to <2 m	Comm/Ind		
TRH C ₆ -C ₁₀	-	-	800		< 20
TRH C ₆ -C ₁₀ less BTEX (F1)	260	370	-		< 20
TRH >C ₁₀ -C ₁₆	-	-	1,000		< 50
TRH >C ₁₀ -C ₁₆ less Naphthalene (F2)	NL	NL	-		< 50
TRH >C ₁₆ -C ₃₄	-	-	5,000		< 100
TRH >C ₃₄ -C ₄₀	-	-	10,000		< 100
Benzene	3	3	-		< 0.1
Toluene	NL	NL	-		< 0.1
Ethylbenzene	NL	NL	-		< 0.1
m&p-Xylenes	-	-	-		< 0.2
o-Xylene	-	-	-		< 0.1
Xylenes - Total	230	NL	-		< 0.3
Naphthalene (MAH method)	NL	NL	-		< 0.5

Notes:

Criteria 1 = NEPC (1999) Amended, 'D' Commercial/Industrial Soil Health Screening Levels for vapour intrusion, sand 0 to <1m.

Criteria 2 = NEPC (1999) Amended, 'D' Commercial/Industrial Soil Health Screening Levels for vapour intrusion, sand 1 to <2m.

Criteria 3 = NEPC (1999) Amended, Commercial/Industrial Management Limits for TPH fractions in soil, fine material.

Total concentrations in mg/kg

- = assessment criteria not available

NL = not limiting

< # or ND = analyte(s) not detected in excess of laboratory reporting limit

-- = sample not analysed

Bold/red indicates exceedance of assessment criteria

Table 3 : Summary of Soil Analytical Data - Volatile Organic Compounds

Detailed Site Investigation

Project No.: 1901048

11-13 Percy Street

Auburn NSW

	Criteria 1	Criteria 2						
	HSLs - D	HSLs - D	Sample ID	MW103/0.2-0.3	MW103/1.6-1.8	MW105/0.8-1.0	MW108/1.6-1.7	MW109/1.2-1.4
	Sand	Sand	Depth (m)	0.2-0.3	1.6-1.8	0.8-1.0	1.6-1.7	1.2-1.4
	0 to <1 m	1 to <2 m	Date	30/05/2019	30/05/2019	31/05/2019	3/06/2019	3/06/2019
1.1-Dichloroethane	-	-		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
1.1-Dichloroethene	-	-		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
1.1.1-Trichloroethane	-	-		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
1.1.1.2-Tetrachloroethane	-	-		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
1.1.2-Trichloroethane	-	-		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
1.1.2.2-Tetrachloroethane	-	-		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
1.2-Dibromoethane	-	-		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
1.2-Dichlorobenzene	-	-		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
1.2-Dichloroethane	-	-		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
1.2-Dichloropropane	-	-		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
1.2.3-Trichloropropane	-	-		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
1.2.4-Trimethylbenzene	-	-		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
1.3-Dichlorobenzene	-	-		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
1.3-Dichloropropane	-	-		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
1.3.5-Trimethylbenzene	-	-		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
1.4-Dichlorobenzene	-	-		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
2-Butanone (MEK)	-	-		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
2-Propanone (Acetone)	-	-		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
4-Chlorotoluene	-	-		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5

Notes:

Criteria 1 = NEPC (1999) Amended, 'D' Commercial/Industrial Soil Health Screening Levels for vapour intrusion, sand 0 to <1m.

Criteria 2 = NEPC (1999) Amended, 'D' Commercial/Industrial Soil Health Screening Levels for vapour intrusion, sand 1 to <2m.

Total concentrations in mg/kg

- = assessment criteria not available

NL = not limiting

< # or ND = analyte(s) not detected in excess of laboratory reporting limit

-- = sample not analysed

Bold/red indicates exceedance of assessment criteria

Table 3 : Summary of Soil Analytical Data - Volatile Organic Compounds

Detailed Site Investigation

Project No.: 1901048

11-13 Percy Street

Auburn NSW

	Criteria 1	Criteria 2						
	HSLs - D	HSLs - D	Sample ID	MW103/0.2-0.3	MW103/1.6-1.8	MW105/0.8-1.0	MW108/1.6-1.7	MW109/1.2-1.4
	Sand	Sand	Depth (m)	0.2-0.3	1.6-1.8	0.8-1.0	1.6-1.7	1.2-1.4
	0 to <1 m	1 to <2 m	Date	30/05/2019	30/05/2019	31/05/2019	3/06/2019	3/06/2019
4-Methyl-2-pentanone (MIBK)	-	-		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Allyl chloride	-	-		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Benzene	3	3		< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Bromobenzene	-	-		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Bromochloromethane	-	-		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Bromodichloromethane	-	-		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Bromoform	-	-		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Bromomethane	-	-		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Carbon disulfide	-	-		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Carbon Tetrachloride	-	-		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Chlorobenzene	-	-		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Chloroethane	-	-		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Chloroform	-	-		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Chloromethane	-	-		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
cis-1.2-Dichloroethene	-	-		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
cis-1.3-Dichloropropene	-	-		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Dibromochloromethane	-	-		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Dibromomethane	-	-		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Dichlorodifluoromethane	-	-		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5

Notes:

Criteria 1 = NEPC (1999) Amended, 'D' Commercial/Industrial Soil Health Screening Levels for vapour intrusion, sand 0 to <1m.

Criteria 2 = NEPC (1999) Amended, 'D' Commercial/Industrial Soil Health Screening Levels for vapour intrusion, sand 1 to <2m.

Total concentrations in mg/kg

- = assessment criteria not available

NL = not limiting

< # or ND = analyte(s) not detected in excess of laboratory reporting limit

-- = sample not analysed

Bold/red indicates exceedance of assessment criteria

Table 3 : Summary of Soil Analytical Data - Volatile Organic Compounds

Detailed Site Investigation

Project No.: 1901048

11-13 Percy Street

Auburn NSW

	Criteria 1	Criteria 2						
	HSLs - D	HSLs - D	Sample ID	MW103/0.2-0.3	MW103/1.6-1.8	MW105/0.8-1.0	MW108/1.6-1.7	MW109/1.2-1.4
	Sand	Sand	Depth (m)	0.2-0.3	1.6-1.8	0.8-1.0	1.6-1.7	1.2-1.4
	0 to <1 m	1 to <2 m	Date	30/05/2019	30/05/2019	31/05/2019	3/06/2019	3/06/2019
Ethylbenzene	NL	NL		< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Iodomethane	-	-		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Isopropyl benzene (Cumene)	-	-		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
m&p-Xylenes	-	-		< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Methylene Chloride	-	-		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
o-Xylene	-	-		< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Styrene	-	-		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Tetrachloroethene	-	-		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Toluene	NL	NL		< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
trans-1.2-Dichloroethene	-	-		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
trans-1.3-Dichloropropene	-	-		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Trichloroethene	-	-		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Trichlorofluoromethane	-	-		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Vinyl chloride	-	-		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Xylenes - Total	230	NL		< 0.3	< 0.3	< 0.3	< 0.3	< 0.3

Notes:

Criteria 1 = NEPC (1999) Amended, 'D' Commercial/Industrial Soil Health Screening Levels for vapour intrusion, sand 0 to <1m.

Criteria 2 = NEPC (1999) Amended, 'D' Commercial/Industrial Soil Health Screening Levels for vapour intrusion, sand 1 to <2m.

Total concentrations in mg/kg

- = assessment criteria not available

NL = not limiting

< # or ND = analyte(s) not detected in excess of laboratory reporting limit

-- = sample not analysed

Bold/red indicates exceedance of assessment criteria

Table 3 : Summary of Soil Analytical Data - Volatile Organic Compounds

Detailed Site Investigation

Project No.: 1901048

11-13 Percy Street

Auburn NSW

	Criteria 1	Criteria 2	Sample ID	MW110/0.2-0.3
	HSLs - D	HSLs - D	Depth (m)	0.2-0.3
	Sand	Sand	Date	3/06/2019
	0 to <1 m	1 to <2 m		
1.1-Dichloroethane	-	-		< 0.5
1.1-Dichloroethene	-	-		< 0.5
1.1.1-Trichloroethane	-	-		< 0.5
1.1.1.2-Tetrachloroethane	-	-		< 0.5
1.1.2-Trichloroethane	-	-		< 0.5
1.1.2.2-Tetrachloroethane	-	-		< 0.5
1.2-Dibromoethane	-	-		< 0.5
1.2-Dichlorobenzene	-	-		< 0.5
1.2-Dichloroethane	-	-		< 0.5
1.2-Dichloropropane	-	-		< 0.5
1.2.3-Trichloropropane	-	-		< 0.5
1.2.4-Trimethylbenzene	-	-		< 0.5
1.3-Dichlorobenzene	-	-		< 0.5
1.3-Dichloropropane	-	-		< 0.5
1.3.5-Trimethylbenzene	-	-		< 0.5
1.4-Dichlorobenzene	-	-		< 0.5
2-Butanone (MEK)	-	-		< 0.5
2-Propanone (Acetone)	-	-		< 0.5
4-Chlorotoluene	-	-		< 0.5

Notes:

Criteria 1 = NEPC (1999) Amended, 'D' Commercial/Industrial Soil Health Screening Levels for vapour intrusion, sand 0 to <1m.

Criteria 2 = NEPC (1999) Amended, 'D' Commercial/Industrial Soil Health Screening Levels for vapour intrusion, sand 1 to <2m.

Total concentrations in mg/kg

- = assessment criteria not available

NL = not limiting

< # or ND = analyte(s) not detected in excess of laboratory reporting limit

-- = sample not analysed

Bold/red indicates exceedance of assessment criteria

Table 3 : Summary of Soil Analytical Data - Volatile Organic Compounds

Detailed Site Investigation

Project No.: 1901048

11-13 Percy Street

Auburn NSW

	Criteria 1	Criteria 2	Sample ID	MW110/0.2-0.3
	HSLs - D	HSLs - D	Depth (m)	0.2-0.3
	Sand	Sand	Date	3/06/2019
	0 to <1 m	1 to <2 m		
4-Methyl-2-pentanone (MIBK)	-	-		< 0.5
Allyl chloride	-	-		< 0.5
Benzene	3	3		< 0.1
Bromobenzene	-	-		< 0.5
Bromochloromethane	-	-		< 0.5
Bromodichloromethane	-	-		< 0.5
Bromoform	-	-		< 0.5
Bromomethane	-	-		< 0.5
Carbon disulfide	-	-		< 0.5
Carbon Tetrachloride	-	-		< 0.5
Chlorobenzene	-	-		< 0.5
Chloroethane	-	-		< 0.5
Chloroform	-	-		< 0.5
Chloromethane	-	-		< 0.5
cis-1.2-Dichloroethene	-	-		< 0.5
cis-1.3-Dichloropropene	-	-		< 0.5
Dibromochloromethane	-	-		< 0.5
Dibromomethane	-	-		< 0.5
Dichlorodifluoromethane	-	-		< 0.5

Notes:

Criteria 1 = NEPC (1999) Amended, 'D' Commercial/Industrial Soil Health Screening Levels for vapour intrusion, sand 0 to <1m.

Criteria 2 = NEPC (1999) Amended, 'D' Commercial/Industrial Soil Health Screening Levels for vapour intrusion, sand 1 to <2m.

Total concentrations in mg/kg

- = assessment criteria not available

NL = not limiting

< # or ND = analyte(s) not detected in excess of laboratory reporting limit

-- = sample not analysed

Bold/red indicates exceedance of assessment criteria

Table 3 : Summary of Soil Analytical Data - Volatile Organic Compounds

Detailed Site Investigation

Project No.: 1901048

11-13 Percy Street

Auburn NSW

	Criteria 1	Criteria 2	Sample ID	MW110/0.2-0.3
	HSLs - D	HSLs - D	Depth (m)	0.2-0.3
	Sand	Sand	Date	3/06/2019
	0 to <1 m	1 to <2 m		
Ethylbenzene	NL	NL		< 0.1
Iodomethane	-	-		< 0.5
Isopropyl benzene (Cumene)	-	-		< 0.5
m&p-Xylenes	-	-		< 0.2
Methylene Chloride	-	-		< 0.5
o-Xylene	-	-		< 0.1
Styrene	-	-		< 0.5
Tetrachloroethene	-	-		< 0.5
Toluene	NL	NL		< 0.1
trans-1.2-Dichloroethene	-	-		< 0.5
trans-1.3-Dichloropropene	-	-		< 0.5
Trichloroethene	-	-		< 0.5
Trichlorofluoromethane	-	-		< 0.5
Vinyl chloride	-	-		< 0.5
Xylenes - Total	230	NL		< 0.3

Notes:

Criteria 1 = NEPC (1999) Amended, 'D' Commercial/Industrial Soil Health Screening Levels for vapour intrusion, sand 0 to <1m.

Criteria 2 = NEPC (1999) Amended, 'D' Commercial/Industrial Soil Health Screening Levels for vapour intrusion, sand 1 to <2m.

Total concentrations in mg/kg

- = assessment criteria not available

NL = not limiting

< # or ND = analyte(s) not detected in excess of laboratory reporting limit

-- = sample not analysed

Bold/red indicates exceedance of assessment criteria

Table 4 : Summary of Soil Analytical Data - Polyaromatic Hydrocarbons

Detailed Site Investigation

Project No.: 1901048

11-13 Percy Street

Auburn NSW

	Criteria 1	Criteria 2	Criteria 3						
		HSLs - D	HSLs - D	Sample ID	MW103/0.2-0.3	MW103/1.6-1.8	MW105/0.8-1.0	MW108/1.6-1.7	MW109/1.2-1.4
	HILs - D	Sand	Sand	Depth (m)	0.2-0.3	1.6-1.8	0.8-1.0	1.6-1.7	1.2-1.4
		0 to <1 m	1 to <2 m	Date	30/05/2019	30/05/2019	31/05/2019	3/06/2019	3/06/2019
Acenaphthene	-	-	-		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Acenaphthylene	-	-	-		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Anthracene	-	-	-		< 0.5	< 0.5	< 0.5	< 0.5	0.6
Benz(a)anthracene	-	-	-		< 0.5	< 0.5	< 0.5	< 0.5	2
Benzo(a)pyrene	-	-	-		< 0.5	< 0.5	< 0.5	< 0.5	2
Benzo(b&j)fluoranthene	-	-	-		< 0.5	< 0.5	< 0.5	< 0.5	2.3
Benzo(g,h,i)perylene	-	-	-		< 0.5	< 0.5	< 0.5	< 0.5	1.2
Benzo(k)fluoranthene	-	-	-		< 0.5	< 0.5	< 0.5	< 0.5	0.9
Chrysene	-	-	-		< 0.5	< 0.5	< 0.5	< 0.5	1.7
Dibenz(a,h)anthracene	-	-	-		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Fluoranthene	-	-	-		< 0.5	< 0.5	< 0.5	< 0.5	4.1
Fluorene	-	-	-		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Indeno(1.2.3-cd)pyrene	-	-	-		< 0.5	< 0.5	< 0.5	< 0.5	1.1
Naphthalene (PAH method)	-	NL	NL		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Phenanthrene	-	-	-		< 0.5	< 0.5	< 0.5	< 0.5	2.1
Pyrene	-	-	-		< 0.5	< 0.5	< 0.5	< 0.5	3.6
Benzo(a)pyrene TEQ	40	-	-		0.6	0.6	0.6	0.6	2.9
Total PAH	4,000	-	-		< 0.5	< 0.5	< 0.5	< 0.5	21.6

Notes:

Criteria 1 = NEPC (1999) Amended, Health-based Investigation Levels for soil contaminants.

Criteria 2 = NEPC (1999) Amended, 'D' Commercial/Industrial Soil Health Screening Levels for vapour intrusion, sand 0 to <1m.

Criteria 3 = NEPC (1999) Amended, 'D' Commercial/Industrial Soil Health Screening Levels for vapour intrusion, sand 1 to <2m.

Total concentrations in mg/kg

- = assessment criteria not available

NL = not limiting

< # or ND = analyte(s) not detected in excess of laboratory reporting limit

-- = sample not analysed

Bold/red indicates exceedance of assessment criteria

Table 4 : Summary of Soil Analytical Data - Polyaromatic Hydrocarbons

Detailed Site Investigation

Project No.: 1901048

11-13 Percy Street

Auburn NSW

	Criteria 1	Criteria 2	Criteria 3	Sample ID	MW110/0.2-0.3
	HILs - D	HSLs - D Sand 0 to <1 m	HSLs - D Sand 1 to <2 m	Depth (m)	0.2-0.3
				Date	3/06/2019
Acenaphthene	-	-	-		< 0.5
Acenaphthylene	-	-	-		< 0.5
Anthracene	-	-	-		< 0.5
Benz(a)anthracene	-	-	-		< 0.5
Benzo(a)pyrene	-	-	-		< 0.5
Benzo(b&j)fluoranthene	-	-	-		< 0.5
Benzo(g,h,i)perylene	-	-	-		< 0.5
Benzo(k)fluoranthene	-	-	-		< 0.5
Chrysene	-	-	-		< 0.5
Dibenz(a,h)anthracene	-	-	-		< 0.5
Fluoranthene	-	-	-		< 0.5
Fluorene	-	-	-		< 0.5
Indeno(1.2.3-cd)pyrene	-	-	-		< 0.5
Naphthalene (PAH method)	-	NL	NL		< 0.5
Phenanthrene	-	-	-		< 0.5
Pyrene	-	-	-		< 0.5
Benzo(a)pyrene TEQ	40	-	-		0.6
Total PAH	4,000	-	-		< 0.5

Notes:

Criteria 1 = NEPC (1999) Amended, Health-based Investigation Levels for soil contaminants.

Criteria 2 = NEPC (1999) Amended, 'D' Commercial/Industrial Soil Health Screening Levels for vapour intrusion, sand 0 to <1m.

Criteria 3 = NEPC (1999) Amended, 'D' Commercial/Industrial Soil Health Screening Levels for vapour intrusion, sand 1 to <2m.

Total concentrations in mg/kg

- = assessment criteria not available

NL = not limiting

< # or ND = analyte(s) not detected in excess of laboratory reporting limit

-- = sample not analysed

Bold/red indicates exceedance of assessment criteria



Table 5 : Summary of Soil Analytical Data - Heavy Metals

Detailed Site Investigation

Project No.: 1901048

11-13 Percy Street

Auburn NSW

[illegible]

Notes:

Criteria 1 = NEPC (1999) Amended, Health-based Investigation Levels for soil contaminants.

Total concentrations in mg/kg

- = assessment criteria not available

¹Guideline for chromium (VI) used conservatively.

< # or ND = analyte(s) not detected in excess of laboratory reporting limit

-- = sample not analysed

Bold/red indicates exceedance of assessment criteria



Table 5 : Summary of Soil Analytical Data - Heavy Metals

Detailed Site Investigation

Project No.: 1901048

11-13 Percy Street

Auburn NSW

[illegible]

Notes:

Criteria 1 = NEPC (1999) Amended, Health-based Investigation Levels for soil contaminants.

Total concentrations in mg/kg

- = assessment criteria not available

¹Guideline for chromium (VI) used conservatively.

< # or ND = analyte(s) not detected in excess of laboratory reporting limit

-- = sample not analysed

Bold/red indicates exceedance of assessment criteria

Table 6 : Summary of Soil Vapour Analytical Data - Petroleum Hydrocarbons

Detailed Site Investigation

Project No.: 1901048

11-13 Percy Street

Auburn NSW

	Criteria 1						
	HSLs - D						
	Sand	Sample ID	SV1	DV1	RPD_DV1	SV2	SV3
	0 to <1 m	Date	3/06/2019	3/06/2019	-	3/06/2019	3/06/2019
TRH C ₆ -C ₁₀	-		210	220	5%	370	1,600
TRH C ₆ -C ₁₀ less BTEX (F1)	680,000		< 10	< 10	nc	< 10	< 10
TRH >C ₁₀ -C ₁₆	-		--	--	--	--	--
TRH >C ₁₀ -C ₁₆ less Naphthalene (F2)	500,000		< 10	< 10	nc	< 10	< 10
TRH >C ₁₆ -C ₃₄	-		--	--	--	--	--
TRH >C ₃₄ -C ₄₀	-		--	--	--	--	--
Benzene	4,000		< 27	< 27	nc	< 27	< 27
Toluene	4,800,000		210	220	5%	370	1,600
Ethylbenzene	1,300,000		< 3.5	< 3.5	nc	< 3.5	< 3.5
m&p-Xylenes	-		--	--	--	--	--
o-Xylene	-		< 3.3	< 3.3	nc	< 3.3	< 3.3
Xylenes - Total	840,000		ND	ND	nc	ND	ND
Naphthalene (MAH method)	3,000		--	--	--	--	--

Notes:

Criteria 1 = NEPC (1999) Amended, 'D' Comm./ind. Soil vapour Health Screening Levels for vapour intrusion, sand 0 to <1m.

Total concentrations in µg/m³

- = assessment criteria not available

DV1 = duplicate of SV1

BLANK = blank sample

RPD = relative percent difference of duplicate/triplicate

nc = RPD not calculated, one or both samples below laboratory reporting limit

< # or ND = analyte(s) not detected in excess of laboratory reporting limit

-- = sample not analysed

Bold/red indicates exceedance of assessment criteria

Table 6 : Summary of Soil Vapour Analytical Data - Petroleum Hydrocarbons

Detailed Site Investigation

Project No.: 1901048

11-13 Percy Street

Auburn NSW

	Criteria 1						
	HSLs - D						
	Sand	Sample ID	SV4	SV5	SV6	SV7	SV8
	0 to <1 m	Date	3/06/2019	3/06/2019	3/06/2019	3/06/2019	3/06/2019
TRH C ₆ -C ₁₀	-		11,000	2,700	250	110	900
TRH C ₆ -C ₁₀ less BTEX (F1)	680,000		< 10	< 10	< 10	< 10	< 10
TRH >C ₁₀ -C ₁₆	-		--	--	--	--	--
TRH >C ₁₀ -C ₁₆ less Naphthalene (F2)	500,000		< 10	< 10	< 10	< 10	< 10
TRH >C ₁₆ -C ₃₄	-		--	--	--	--	--
TRH >C ₃₄ -C ₄₀	-		--	--	--	--	--
Benzene	4,000		< 27	< 27	< 27	< 27	< 27
Toluene	4,800,000		11,000	2,600	250	110	900
Ethylbenzene	1,300,000		< 3.5	< 3.5	< 3.5	< 3.5	< 3.5
m&p-Xylenes	-		--	--	--	--	--
o-Xylene	-		< 3.3	< 3.3	< 3.3	< 3.3	< 3.3
Xylenes - Total	840,000		ND	ND	ND	ND	ND
Naphthalene (MAH method)	3,000		--	--	--	--	--

Notes:

Criteria 1 = NEPC (1999) Amended, 'D' Comm./ind. Soil vapour Health Screening Levels for vapour intrusion, sand 0 to <1m.

Total concentrations in µg/m³

- = assessment criteria not available

DV1 = duplicate of SV1

BLANK = blank sample

RPD = relative percent difference of duplicate/triplicate

nc = RPD not calculated, one or both samples below laboratory reporting limit

< # or ND = analyte(s) not detected in excess of laboratory reporting limit

-- = sample not analysed

Bold/red indicates exceedance of assessment criteria

Table 6 : Summary of Soil Vapour Analytical Data - Petroleum Hydrocarbons

Detailed Site Investigation

Project No.: 1901048

11-13 Percy Street

Auburn NSW

	Criteria 1						
	HSLs - D						
	Sand	Sample ID	SV9	SV10	SV11	SV12	SV13
	0 to <1 m	Date	3/06/2019	3/06/2019	3/06/2019	3/06/2019	3/06/2019
TRH C ₆ -C ₁₀	-		250	340	3,800	220	250
TRH C ₆ -C ₁₀ less BTEX (F1)	680,000		< 10	< 10	< 10	< 10	< 10
TRH >C ₁₀ -C ₁₆	-		--	--	--	--	--
TRH >C ₁₀ -C ₁₆ less Naphthalene (F2)	500,000		< 10	< 10	< 10	< 10	< 10
TRH >C ₁₆ -C ₃₄	-		--	--	--	--	--
TRH >C ₃₄ -C ₄₀	-		--	--	--	--	--
Benzene	4,000		< 27	< 27	< 27	< 27	< 27
Toluene	4,800,000		180	340	3,800	220	190
Ethylbenzene	1,300,000		< 3.5	< 3.5	< 3.5	< 3.5	< 3.5
m&p-Xylenes	-		--	--	--	--	--
o-Xylene	-		< 3.3	< 3.3	< 3.3	< 3.3	< 3.3
Xylenes - Total	840,000		ND	ND	ND	ND	ND
Naphthalene (MAH method)	3,000		--	--	--	--	--

Notes:

Criteria 1 = NEPC (1999) Amended, 'D' Comm./ind. Soil vapour Health Screening Levels for vapour intrusion, sand 0 to <1m.

Total concentrations in µg/m³

- = assessment criteria not available

DV1 = duplicate of SV1

BLANK = blank sample

RPD = relative percent difference of duplicate/triplicate

nc = RPD not calculated, one or both samples below laboratory reporting limit

< # or ND = analyte(s) not detected in excess of laboratory reporting limit

-- = sample not analysed

Bold/red indicates exceedance of assessment criteria

Table 6 : Summary of Soil Vapour Analytical Data - Petroleum Hydrocarbons

Detailed Site Investigation

Project No.: 1901048

11-13 Percy Street

Auburn NSW

	Criteria 1				
	HSLs - D				
	Sand	Sample ID	SV14	SV15	BLANK
	0 to <1 m	Date	3/06/2019	3/06/2019	3/06/2019
TRH C ₆ -C ₁₀	-		500	97	< 10
TRH C ₆ -C ₁₀ less BTEX (F1)	680,000		< 10	< 10	< 10
TRH >C ₁₀ -C ₁₆	-		--	--	--
TRH >C ₁₀ -C ₁₆ less Naphthalene (F2)	500,000		< 10	< 10	< 10
TRH >C ₁₆ -C ₃₄	-		--	--	--
TRH >C ₃₄ -C ₄₀	-		--	--	--
Benzene	4,000		< 27	< 27	< 27
Toluene	4,800,000		500	97	< 5
Ethylbenzene	1,300,000		< 3.5	< 3.5	< 3.5
m&p-Xylenes	-		--	--	--
o-Xylene	-		< 3.3	< 3.3	< 3.3
Xylenes - Total	840,000		ND	ND	ND
Naphthalene (MAH method)	3,000		--	--	--

Notes:

Criteria 1 = NEPC (1999) Amended, 'D' Comm./ind. Soil vapour Health Screening Levels for vapour intrusion, sand 0 to <1m.

Total concentrations in µg/m³

- = assessment criteria not available

DV1 = duplicate of SV1

BLANK = blank sample

RPD = relative percent difference of duplicate/triplicate

nc = RPD not calculated, one or both samples below laboratory reporting limit

< # or ND = analyte(s) not detected in excess of laboratory reporting limit

-- = sample not analysed

Bold/red indicates exceedance of assessment criteria

Table 7 : Summary of Soil Vapour Analytical Data - Volatile Organic Compounds

Detailed Site Investigation

Project No.: 1901048

11-13 Percy Street

Auburn NSW

	Criteria 1	Criteria 2						
	HSLs - D	HILs - D						
	Sand	Interim	Sample ID	SV1	DV1	RPD_DV1	SV2	SV3
	0 to <1 m	Soil Vapour	Date	3/06/2019	3/06/2019	-	3/06/2019	3/06/2019
1.1-Dichloroethane	-	-		< 9.5	< 9.5	nc	< 9.5	< 9.5
1.1-Dichloroethene	-	-		< 43	< 43	nc	< 43	< 43
1.1.1-Trichloroethane	-	230,000		< 9.9	< 9.9	nc	< 9.9	< 9.9
1.1.2-Trichloroethane	-	-		< 5.7	< 5.7	nc	< 5.7	< 5.7
1.1.2.2-Tetrachloroethane	-	-		< 3.3	< 3.3	nc	< 3.3	< 3.3
1.2-Dichlorobenzene	-	-		< 1.8	< 1.8	nc	< 1.8	< 1.8
1.2-Dichloroethane	-	-		< 6.6	< 6.6	nc	< 6.6	< 6.6
1.2.4-Trimethylbenzene	-	-		< 2.2	< 2.2	nc	< 2.2	< 2.2
1.3-Dichlorobenzene	-	-		< 2.1	< 2.1	nc	< 2.1	< 2.1
1.3.5-Trimethylbenzene	-	-		< 2.4	< 2.4	nc	< 2.4	< 2.4
1.4-Dichlorobenzene	-	-		< 2	< 2	nc	< 2	< 2
Benzene	4,000	-		< 27	< 27	nc	< 27	< 27
Carbon Tetrachloride	-	-		< 8.4	< 8.4	nc	< 8.4	< 8.4
Chlorobenzene	-	-		< 4.1	< 4.1	nc	< 4.1	< 4.1
Chloroform	-	-		< 7.6	< 7.6	nc	< 7.6	< 7.6
Chloromethane	-	-		< 50	< 50	nc	< 50	< 50
cis-1.2-Dichloroethene	-	300		< 7.8	< 7.8	nc	< 7.8	< 7.8
Ethylbenzene	1,300,000	-		< 3.5	< 3.5	nc	< 3.5	< 3.5
Isopropyl benzene (Cumene)	-	-		< 2.6	< 2.6	nc	< 2.6	< 2.6

Notes:

Criteria 1 = NEPC (1999) Amended, 'D' Comm./ind. Soil vapour Health Screening Levels for vapour intrusion, sand 0 to <1m.

Criteria 2 = NEPC (1999) Amended, 'D' Commercial/Industrial Interim soil vapour Health Investigation Levels for VOCCs.

Total concentrations in µg/m³

- = assessment criteria not available

DV1 = duplicate of SV1

BLANK = blank sample

RPD = relative percent difference of duplicate/triplicate

nc = RPD not calculated, one or both samples below laboratory reporting limit

< # or ND = analyte(s) not detected in excess of laboratory reporting limit

-- = sample not analysed

Bold/red indicates exceedance of assessment criteria



Table 7 : Summary of Soil Vapour Analytical Data - Volatile Organic Compounds

Detailed Site Investigation

Project No.: 1901048

11-13 Percy Street

Auburn NSW

	Criteria 1	Criteria 2						
	HSLs - D	HILs - D						
	Sand	Interim	Sample ID	SV4	SV5	SV6	SV7	SV8
	0 to <1 m	Soil Vapour	Date	3/06/2019	3/06/2019	3/06/2019	3/06/2019	3/06/2019
1.1-Dichloroethane	-	-		< 9.5	< 9.5	< 9.5	< 9.5	< 9.5
1.1-Dichloroethene	-	-		< 43	< 43	< 43	< 43	< 43
1.1.1-Trichloroethane	-	230,000		< 9.9	< 9.9	< 9.9	< 9.9	< 9.9
1.1.2-Trichloroethane	-	-		< 5.7	< 5.7	< 5.7	< 5.7	< 5.7
1.1.2.2-Tetrachloroethane	-	-		< 3.3	< 3.3	< 3.3	< 3.3	< 3.3
1.2-Dichlorobenzene	-	-		< 1.8	< 1.8	< 1.8	< 1.8	< 1.8
1.2-Dichloroethane	-	-		< 6.6	< 6.6	< 6.6	< 6.6	< 6.6
1.2.4-Trimethylbenzene	-	-		< 2.2	< 2.2	< 2.2	< 2.2	< 2.2
1.3-Dichlorobenzene	-	-		< 2.1	< 2.1	< 2.1	< 2.1	< 2.1
1.3.5-Trimethylbenzene	-	-		< 2.4	< 2.4	< 2.4	< 2.4	< 2.4
1.4-Dichlorobenzene	-	-		< 2	< 2	< 2	< 2	< 2
Benzene	4,000	-		< 27	< 27	< 27	< 27	< 27
Carbon Tetrachloride	-	-		< 8.4	< 8.4	< 8.4	< 8.4	< 8.4
Chlorobenzene	-	-		< 4.1	< 4.1	< 4.1	< 4.1	< 4.1
Chloroform	-	-		< 7.6	< 7.6	< 7.6	< 7.6	< 7.6
Chloromethane	-	-		< 50	< 50	< 50	< 50	< 50
cis-1.2-Dichloroethene	-	300		< 7.8	< 7.8	< 7.8	< 7.8	< 7.8
Ethylbenzene	1,300,000	-		< 3.5	< 3.5	< 3.5	< 3.5	< 3.5
Isopropyl benzene (Cumene)	-	-		< 2.6	< 2.6	< 2.6	< 2.6	< 2.6

Notes:

Criteria 1 = NEPC (1999) Amended, 'D' Comm./ind. Soil vapour Health Screening Levels for vapour intrusion, sand 0 to <1m.

Criteria 2 = NEPC (1999) Amended, 'D' Commercial/Industrial Interim soil vapour Health Investigation Levels for VOCCs.

Total concentrations in µg/m³

- = assessment criteria not available

DV1 = duplicate of SV1

BLANK = blank sample

RPD = relative percent difference of duplicate/triplicate

nc = RPD not calculated, one or both samples below laboratory reporting limit

< # or ND = analyte(s) not detected in excess of laboratory reporting limit

-- = sample not analysed

Bold/red indicates exceedance of assessment criteria



Table 7 : Summary of Soil Vapour Analytical Data - Volatile Organic Compounds

Detailed Site Investigation

Project No.: 1901048

11-13 Percy Street

Auburn NSW

[illegible]

Notes:

Criteria 1 = NEPC (1999) Amended, 'D' Comm./ind. Soil vapour Health Screening Levels for vapour intrusion, sand 0 to <1m.

Criteria 2 = NEPC (1999) Amended, 'D' Commercial/Industrial Interim soil vapour Health Investigation Levels for VOCs.

Total concentrations in $\mu\text{g}/\text{m}^3$

- = assessment criteria not available

DV1 = duplicate of SV1

BLANK = blank sample

RPD = relative percent difference of duplicate/triplicate

nc = RPD not calculated, one or both samples below laboratory reporting limit

< # or ND = analyte(s) not detected in excess of laboratory reporting limit

-- = sample not analysed

Bold/red indicates exceedance of assessment criteria

Table 7 : Summary of Soil Vapour Analytical Data - Volatile Organic Compounds

Detailed Site Investigation

Project No.: 1901048

11-13 Percy Street

Auburn NSW

	Criteria 1	Criteria 2						
	HSLs - D	HILs - D						
	Sand	Interim	Sample ID	SV9	SV10	SV11	SV12	SV13
	0 to <1 m	Soil Vapour	Date	3/06/2019	3/06/2019	3/06/2019	3/06/2019	3/06/2019
1.1-Dichloroethane	-	-		< 9.5	< 9.5	< 9.5	< 9.5	< 9.5
1.1-Dichloroethene	-	-		< 43	< 43	< 43	< 43	< 43
1.1.1-Trichloroethane	-	230,000		< 9.9	< 9.9	< 9.9	< 9.9	< 9.9
1.1.2-Trichloroethane	-	-		< 5.7	< 5.7	< 5.7	< 5.7	< 5.7
1.1.2.2-Tetrachloroethane	-	-		< 3.3	< 3.3	< 3.3	< 3.3	< 3.3
1.2-Dichlorobenzene	-	-		< 1.8	< 1.8	< 1.8	< 1.8	< 1.8
1.2-Dichloroethane	-	-		< 6.6	< 6.6	< 6.6	< 6.6	< 6.6
1.2.4-Trimethylbenzene	-	-		< 2.2	< 2.2	< 2.2	< 2.2	< 2.2
1.3-Dichlorobenzene	-	-		< 2.1	< 2.1	< 2.1	< 2.1	< 2.1
1.3.5-Trimethylbenzene	-	-		< 2.4	< 2.4	< 2.4	< 2.4	< 2.4
1.4-Dichlorobenzene	-	-		< 2	< 2	< 2	< 2	< 2
Benzene	4,000	-		< 27	< 27	< 27	< 27	< 27
Carbon Tetrachloride	-	-		< 8.4	< 8.4	< 8.4	< 8.4	< 8.4
Chlorobenzene	-	-		< 4.1	< 4.1	< 4.1	< 4.1	< 4.1
Chloroform	-	-		< 7.6	< 7.6	< 7.6	< 7.6	< 7.6
Chloromethane	-	-		< 50	< 50	< 50	< 50	< 50
cis-1.2-Dichloroethene	-	300		< 7.8	< 7.8	< 7.8	< 7.8	< 7.8
Ethylbenzene	1,300,000	-		< 3.5	< 3.5	< 3.5	< 3.5	< 3.5
Isopropyl benzene (Cumene)	-	-		< 2.6	< 2.6	< 2.6	< 2.6	< 2.6

Notes:

Criteria 1 = NEPC (1999) Amended, 'D' Comm./ind. Soil vapour Health Screening Levels for vapour intrusion, sand 0 to <1m.

Criteria 2 = NEPC (1999) Amended, 'D' Commercial/Industrial Interim soil vapour Health Investigation Levels for VOCCs.

Total concentrations in µg/m³

- = assessment criteria not available

DV1 = duplicate of SV1

BLANK = blank sample

RPD = relative percent difference of duplicate/triplicate

nc = RPD not calculated, one or both samples below laboratory reporting limit

< # or ND = analyte(s) not detected in excess of laboratory reporting limit

-- = sample not analysed

Bold/red indicates exceedance of assessment criteria



Table 7 : Summary of Soil Vapour Analytical Data - Volatile Organic Compounds

Detailed Site Investigation

Project No.: 1901048

11-13 Percy Street

Auburn NSW

	Criteria 1	Criteria 2				
	HSLs - D	HILs - D				
	Sand	Interim	Sample ID	SV14	SV15	BLANK
	0 to <1 m	Soil Vapour	Date	3/06/2019	3/06/2019	3/06/2019
1.1-Dichloroethane	-	-		< 9.5	< 9.5	< 9.5
1.1-Dichloroethene	-	-		< 43	< 43	< 43
1.1.1-Trichloroethane	-	230,000		< 9.9	< 9.9	< 9.9
1.1.2-Trichloroethane	-	-		< 5.7	< 5.7	< 5.7
1.1.2.2-Tetrachloroethane	-	-		< 3.3	< 3.3	< 3.3
1.2-Dichlorobenzene	-	-		< 1.8	< 1.8	< 1.8
1.2-Dichloroethane	-	-		< 6.6	< 6.6	< 6.6
1.2.4-Trimethylbenzene	-	-		< 2.2	< 2.2	< 2.2
1.3-Dichlorobenzene	-	-		< 2.1	< 2.1	< 2.1
1.3.5-Trimethylbenzene	-	-		< 2.4	< 2.4	< 2.4
1.4-Dichlorobenzene	-	-		< 2	< 2	< 2
Benzene	4,000	-		< 27	< 27	< 27
Carbon Tetrachloride	-	-		< 8.4	< 8.4	< 8.4
Chlorobenzene	-	-		< 4.1	< 4.1	< 4.1
Chloroform	-	-		< 7.6	< 7.6	< 7.6
Chloromethane	-	-		< 50	< 50	< 50
cis-1.2-Dichloroethene	-	300		< 7.8	< 7.8	< 7.8
Ethylbenzene	1,300,000	-		< 3.5	< 3.5	< 3.5
Isopropyl benzene (Cumene)	-	-		< 2.6	< 2.6	< 2.6

Notes:

Criteria 1 = NEPC (1999) Amended, 'D' Comm./ind. Soil vapour Health Screening Levels for vapour intrusion, sand 0 to <1m.

Criteria 2 = NEPC (1999) Amended, 'D' Commercial/Industrial Interim soil vapour Health Investigation Levels for VOCCs.

Total concentrations in µg/m³

- = assessment criteria not available

DV1 = duplicate of SV1

BLANK = blank sample

RPD = relative percent difference of duplicate/triplicate

nc = RPD not calculated, one or both samples below laboratory reporting limit

< # or ND = analyte(s) not detected in excess of laboratory reporting limit

-- = sample not analysed

Bold/red indicates exceedance of assessment criteria



Table 8 : Summary of Groundwater Analytical Data - Petroleum Hydrocarbons

Detailed Site Investigation

Project No.: 1901048

11-13 Percy Street

Auburn NSW

	Criteria 1	Criteria 2	Criteria 3	Criteria 4						
	HSLs - D	Drinking	ANZECC	ANZECC						
	Sand	Water	Freshwater	Marine Water	Sample ID	GW1	GW2	GW4	MW101	MW102
	2 to <4 m	Guidelines	95%	95%	Date	6/06/2019	6/06/2019	5/06/2019	5/06/2019	5/06/2019
TRH C ₆ -C ₁₀	-	-	-	-		30	80	1,400	< 20	13,000
TRH C ₆ -C ₁₀ less BTEX (F1)	6,000	-	-	-		30	80	1,400	< 20	13,000
TRH >C ₁₀ -C ₁₆	-	-	-	-		< 50	70	< 50	< 50	< 50
TRH >C ₁₀ -C ₁₆ less Naphthalene (F2)	NL	-	-	-		< 50	70	< 50	< 50	< 50
TRH >C ₁₆ -C ₃₄	-	-	-	-		< 100	< 100	< 100	< 100	< 100
TRH >C ₃₄ -C ₄₀	-	-	-	-		< 100	< 100	< 100	< 100	< 100
Benzene	5,000	1	950	700		< 1	< 1	< 20	< 1	< 200
Toluene	NL	800	180	180		< 1	< 1	< 20	< 1	< 200
Ethylbenzene	NL	300	80	5		< 1	< 1	< 20	< 1	< 200
m&p-Xylenes	-	-	75'	75'		3	< 2	< 40	< 2	< 400
o-Xylene	-	-	350	350		1	< 1	< 20	< 1	< 200
Xylenes - Total	NL	600	-	-		5	< 3	< 60	< 3	< 600
Naphthalene (MAH method)	NL	-	16	70		< 10	< 10	< 200	< 10	< 2,000

Notes:

Criteria 1 = NEPC (1999) Amended, 'D' Comm./ind. Groundwater Health Screening Levels for vapour intrusion, sand 2 to <4m.

Criteria 2 = Australian Drinking Water Guidelines, 2011.

Criteria 3 = ANZECC 2000 Guidelines for Freshwater - 95% Species Protection Trigger Values

Criteria 4 = ANZECC 2000 Guidelines for Marine Water - 95% Species Protection Trigger Values

Total concentrations in µg/L

- = assessment criteria not available

NL = not limiting

¹Guideline for m-Xylene used conservatively.

DW1 = duplicate of MW104

TW1 = triplicate of MW104

R1 = rinsate sample

RPD = relative percent difference of duplicate/triplicate

nc = RPD not calculated, one or both samples below laboratory reporting limit

< # or ND = analyte(s) not detected in excess of laboratory reporting limit

-- = sample not analysed

Bold/red indicates exceedance of assessment criteria

Table 8 : Summary of Groundwater Analytical Data - Petroleum Hydrocarbons

Detailed Site Investigation

Project No.: 1901048

11-13 Percy Street

Auburn NSW

	Criteria 1	Criteria 2	Criteria 3	Criteria 4						
	HSLs - D	Drinking	ANZECC	ANZECC						
	Sand	Water	Freshwater	Marine Water	Sample ID	MW102	MW103	MW103	MW104	DW1
	2 to <4 m	Guidelines	95%	95%	Date	18/06/2019	5/06/2019	18/06/2019	5/06/2019	5/06/2019
TRH C ₆ -C ₁₀	-	-	-	-		--	< 20	--	170	160
TRH C ₆ -C ₁₀ less BTEX (F1)	6,000	-	-	-		--	< 20	--	170	160
TRH >C ₁₀ -C ₁₆	-	-	-	-		--	< 50	--	< 50	< 50
TRH >C ₁₀ -C ₁₆ less Naphthalene (F2)	NL	-	-	-		--	< 50	--	< 50	< 50
TRH >C ₁₆ -C ₃₄	-	-	-	-		--	< 100	--	< 100	< 100
TRH >C ₃₄ -C ₄₀	-	-	-	-		--	< 100	--	< 100	< 100
Benzene	5,000	1	950	700		< 100	< 1	< 1	< 1	< 1
Toluene	NL	800	180	180		< 100	< 1	< 1	5	5
Ethylbenzene	NL	300	80	5		< 100	< 1	< 1	< 1	< 1
m&p-Xylenes	-	-	75'	75'		< 200	< 2	< 2	< 2	< 2
o-Xylene	-	-	350	350		< 100	< 1	< 1	< 1	< 1
Xylenes - Total	NL	600	-	-		< 300	< 3	< 3	< 3	< 3
Naphthalene (MAH method)	NL	-	16	70		--	< 10	--	< 10	< 10

Notes:

Criteria 1 = NEPC (1999) Amended, 'D' Comm./ind. Groundwater Health Screening Levels for vapour intrusion, sand 2 to <4m.

Criteria 2 = Australian Drinking Water Guidelines, 2011.

Criteria 3 = ANZECC 2000 Guidelines for Freshwater - 95% Species Protection Trigger Values

Criteria 4 = ANZECC 2000 Guidelines for Marine Water - 95% Species Protection Trigger Values

Total concentrations in µg/L

- = assessment criteria not available

NL = not limiting

¹Guideline for m-Xylene used conservatively.

DW1 = duplicate of MW104

TW1 = triplicate of MW104

R1 = rinsate sample

RPD = relative percent difference of duplicate/triplicate

nc = RPD not calculated, one or both samples below laboratory reporting limit

< # or ND = analyte(s) not detected in excess of laboratory reporting limit

-- = sample not analysed

Bold/red indicates exceedance of assessment criteria

Table 8 : Summary of Groundwater Analytical Data - Petroleum Hydrocarbons

Detailed Site Investigation

Project No.: 1901048

11-13 Percy Street

Auburn NSW

	Criteria 1	Criteria 2	Criteria 3	Criteria 4						
	HSLs - D	Drinking	ANZECC	ANZECC						
	Sand	Water	Freshwater	Marine Water	Sample ID	RPD_DW1	TW1	RPD_TW1	MW106	MW107
	2 to <4 m	Guidelines	95%	95%	Date	-	5/06/2019	-	5/06/2019	5/06/2019
TRH C ₆ -C ₁₀	-	-	-	-		6%	160	6%	< 20	< 20
TRH C ₆ -C ₁₀ less BTEX (F1)	6,000	-	-	-		6%	160	6%	< 20	< 20
TRH >C ₁₀ -C ₁₆	-	-	-	-		nc	< 50	nc	< 50	< 50
TRH >C ₁₀ -C ₁₆ less Naphthalene (F2)	NL	-	-	-		nc	< 50	nc	< 50	< 50
TRH >C ₁₆ -C ₃₄	-	-	-	-		nc	< 100	nc	< 100	< 100
TRH >C ₃₄ -C ₄₀	-	-	-	-		nc	< 100	nc	< 100	< 100
Benzene	5,000	1	950	700		nc	< 1	nc	< 1	< 1
Toluene	NL	800	180	180		0%	5	0%	< 1	< 1
Ethylbenzene	NL	300	80	5		nc	< 1	nc	< 1	< 1
m&p-Xylenes	-	-	75'	75'		nc	< 2	nc	< 2	< 2
o-Xylene	-	-	350	350		nc	< 1	nc	< 1	< 1
Xylenes - Total	NL	600	-	-		nc	< 3	nc	< 3	< 3
Naphthalene (MAH method)	NL	-	16	70		nc	< 10	nc	< 10	< 10

Notes:

Criteria 1 = NEPC (1999) Amended, 'D' Comm./ind. Groundwater Health Screening Levels for vapour intrusion, sand 2 to <4m.

Criteria 2 = Australian Drinking Water Guidelines, 2011.

Criteria 3 = ANZECC 2000 Guidelines for Freshwater - 95% Species Protection Trigger Values

Criteria 4 = ANZECC 2000 Guidelines for Marine Water - 95% Species Protection Trigger Values

Total concentrations in µg/L

- = assessment criteria not available

NL = not limiting

¹Guideline for m-Xylene used conservatively.

DW1 = duplicate of MW104

TW1 = triplicate of MW104

R1 = rinsate sample

RPD = relative percent difference of duplicate/triplicate

nc = RPD not calculated, one or both samples below laboratory reporting limit

< # or ND = analyte(s) not detected in excess of laboratory reporting limit

-- = sample not analysed

Bold/red indicates exceedance of assessment criteria

Table 8 : Summary of Groundwater Analytical Data - Petroleum Hydrocarbons

Detailed Site Investigation

Project No.: 1901048

11-13 Percy Street

Auburn NSW

	Criteria 1	Criteria 2	Criteria 3	Criteria 4						
	HSLs - D	Drinking	ANZECC	ANZECC						
	Sand	Water	Freshwater	Marine Water	Sample ID	MW108	MW109	MW110	MW111	R1
	2 to <4 m	Guidelines	95%	95%	Date	5/06/2019	6/06/2019	5/06/2019	5/06/2019	5/06/2019
TRH C ₆ -C ₁₀	-	-	-	-		< 20	< 20	< 20	40	< 20
TRH C ₆ -C ₁₀ less BTEX (F1)	6,000	-	-	-		< 20	< 20	< 20	40	< 20
TRH >C ₁₀ -C ₁₆	-	-	-	-		< 50	90	< 50	< 50	< 50
TRH >C ₁₀ -C ₁₆ less Naphthalene (F2)	NL	-	-	-		< 50	90	< 50	< 50	< 50
TRH >C ₁₆ -C ₃₄	-	-	-	-		< 100	200	< 100	< 100	< 100
TRH >C ₃₄ -C ₄₀	-	-	-	-		< 100	< 100	< 100	< 100	< 100
Benzene	5,000	1	950	700		< 1	< 1	< 1	< 1	< 1
Toluene	NL	800	180	180		< 1	< 1	< 1	< 1	< 1
Ethylbenzene	NL	300	80	5		< 1	< 1	< 1	< 1	< 1
m&p-Xylenes	-	-	75'	75'		< 2	< 2	< 2	< 2	< 2
o-Xylene	-	-	350	350		< 1	< 1	< 1	< 1	< 1
Xylenes - Total	NL	600	-	-		< 3	< 3	< 3	< 3	< 3
Naphthalene (MAH method)	NL	-	16	70		< 10	< 10	< 10	< 10	< 10

Notes:

Criteria 1 = NEPC (1999) Amended, 'D' Comm./ind. Groundwater Health Screening Levels for vapour intrusion, sand 2 to <4m.

Criteria 2 = Australian Drinking Water Guidelines, 2011.

Criteria 3 = ANZECC 2000 Guidelines for Freshwater - 95% Species Protection Trigger Values

Criteria 4 = ANZECC 2000 Guidelines for Marine Water - 95% Species Protection Trigger Values

Total concentrations in µg/L

- = assessment criteria not available

NL = not limiting

¹Guideline for m-Xylene used conservatively.

DW1 = duplicate of MW104

TW1 = triplicate of MW104

R1 = rinsate sample

RPD = relative percent difference of duplicate/triplicate

nc = RPD not calculated, one or both samples below laboratory reporting limit

< # or ND = analyte(s) not detected in excess of laboratory reporting limit

-- = sample not analysed

Bold/red indicates exceedance of assessment criteria

Table 9 : Summary of Groundwater Analytical Data - Volatile Organic Compounds

Detailed Site Investigation

Project No.: 1901048

11-13 Percy Street

Auburn NSW

	Criteria 1	Criteria 2	Criteria 3	Criteria 4						
	Drinking	ANZECC	ANZECC	RSL						
	Water	Freshwater	Marine Water	Resident	Sample ID	HP1	HP2	HP3	HP4	GW1
	Guidelines	95%	95%	Tapwater	Date	22-Aug-19	22-Aug-19	22-Aug-19	22-Aug-19	06-Jun-19
1.1-Dichloroethane	-	-	-	-		< 1	< 1	< 1	< 1	< 1
1.1-Dichloroethene	30	700	-	-		< 1	< 1	< 1	< 1	< 1
1.1.1-Trichloroethane	-	-	-	-		< 1	< 1	< 1	< 1	< 1
1.1.1.2-Tetrachloroethane	-	-	-	-		< 1	< 1	< 1	< 1	< 1
1.1.2-Trichloroethane	-	6,500	1,900	-		< 1	< 1	< 1	< 1	< 1
1.1.2.2-Tetrachloroethane	-	-	-	-		< 1	< 1	< 1	< 1	< 1
1.2-Dibromoethane	1	-	-	-		< 1	< 1	< 1	< 1	< 1
1.2-Dichlorobenzene	1,500	160	-	-		< 1	< 1	< 1	< 1	< 1
1.2-Dichloroethane	3	-	-	-		< 1	< 1	< 1	< 1	< 1
1.2-Dichloropropane	-	-	-	-		< 1	< 1	< 1	< 1	< 1
1.2.3-Trichloropropane	-	-	-	-		< 1	< 1	< 1	< 1	< 1
1.2.4-Trimethylbenzene	-	-	-	-		< 1	< 1	< 1	< 1	6
1.3-Dichlorobenzene	-	260	-	-		< 1	< 1	< 1	< 1	< 1
1.3-Dichloropropane	-	-	-	-		< 1	< 1	< 1	< 1	< 1
1.3.5-Trimethylbenzene	-	-	-	-		< 1	< 1	< 1	< 1	3
1.4-Dichlorobenzene	40	60	-	-		< 1	< 1	< 1	< 1	< 1
2-Butanone (MEK)	-	-	-	-		< 1	< 1	< 1	< 1	< 1
2-Propanone (Acetone)	-	-	-	-		< 1	9	< 1	< 1	< 1
4-Chlorotoluene	-	-	-	-		< 1	< 1	< 1	< 1	< 1

Notes:

Criteria 1 = Australian Drinking Water Guidelines, 2011

Criteria 2 = ANZECC 2000 FW 95%

Criteria 3 = ANZECC 2000 MW 95%

Criteria 4 = US EPA (2019) Regional Screening Level (RSL), Generic Tables, Resident Tapwater

Total concentrations in µg/L

- = assessment criteria not available

D2 = duplicate of MW102 (26/08/19)

T2 = triplicate of MW102 (26/08/19)

DW1 = duplicate of MW104 (05/06/19)

TW1 = triplicate of MW104 (05/06/19)

D1 = duplicate of MW104 (20/08/19)

T1 = triplicate of MW104 (20/08/19)

DW3 = duplicate of MW120 (08/10/19)

TW3 = triplicate of MW120 (08/10/19)

DW2 = duplicate of MW201 (27/09/19)

TW2 = triplicate of MW201 (27/09/19)

RPD = relative percent difference of duplicate/triplicate

nc = RPD not calculated, one or both samples below laboratory reporting limit

< # or ND = analyte(s) not detected in excess of laboratory reporting limit

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Bold/red indicates exceedance of assessment criteria

Table 9 : Summary of Groundwater Analytical Data - Volatile Organic Compounds

Detailed Site Investigation

Project No.: 1901048

11-13 Percy Street

Auburn NSW

	Criteria 1	Criteria 2	Criteria 3	Criteria 4						
	Drinking	ANZECC	ANZECC	RSL						
	Water	Freshwater	Marine Water	Resident	Sample ID	HP1	HP2	HP3	HP4	GW1
	Guidelines	95%	95%	Tapwater	Date	22-Aug-19	22-Aug-19	22-Aug-19	22-Aug-19	06-Jun-19
4-Methyl-2-pentanone (MIBK)	-	-	-	-		< 1	< 1	< 1	< 1	< 1
Allyl chloride	-	-	-	-		< 1	< 1	< 1	< 1	< 1
Benzene	1	950	700	-		< 1	< 1	< 1	< 1	< 1
Bromobenzene	-	-	-	-		< 1	< 1	< 1	< 1	< 1
Bromochloromethane	-	-	-	-		< 1	< 1	< 1	< 1	< 1
Bromodichloromethane	-	-	-	-		< 1	< 1	< 1	< 1	< 1
Bromoform	-	-	-	-		< 1	< 1	< 1	< 1	< 1
Bromomethane	1	-	-	-		< 1	< 1	< 1	< 1	< 1
Carbon disulfide	-	-	-	-		< 1	< 1	< 1	< 1	< 1
Carbon Tetrachloride	-	-	-	-		< 1	< 1	< 1	< 1	< 1
Chlorobenzene	-	-	-	-		< 1	< 1	< 1	< 1	< 1
Chloroethane	-	-	-	-		< 1	< 1	< 1	< 1	< 1
Chloroform	-	-	-	-		< 5	< 5	< 5	< 5	< 5
Chloromethane	-	-	-	-		< 1	< 1	< 1	< 1	< 1
cis-1.2-Dichloroethene	-	-	-	-		< 1	< 1	< 1	6	< 1
cis-1.3-Dichloropropene	-	-	-	-		< 1	< 1	< 1	< 1	< 1
Dibromochloromethane	-	-	-	-		< 1	< 1	< 1	< 1	< 1
Dibromomethane	-	-	-	-		< 1	< 1	< 1	< 1	< 1
Dichlorodifluoromethane	-	-	-	-		< 1	< 1	< 1	< 1	< 1

Notes:

Criteria 1 = Australian Drinking Water Guidelines, 2011

Criteria 2 = ANZECC 2000 FW 95%

Criteria 3 = ANZECC 2000 MW 95%

Criteria 4 = US EPA (2019) Regional Screening Level (RSL), Generic Tables, Resident Tapwater

Total concentrations in µg/L

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D2 = duplicate of MW102 (26/08/19)

T2 = triplicate of MW102 (26/08/19)

DW1 = duplicate of MW104 (05/06/19)

TW1 = triplicate of MW104 (05/06/19)

D1 = duplicate of MW104 (20/08/19)

T1 = triplicate of MW104 (20/08/19)

DW3 = duplicate of MW120 (08/10/19)

TW3 = triplicate of MW120 (08/10/19)

DW2 = duplicate of MW201 (27/09/19)

TW2 = triplicate of MW201 (27/09/19)

RPD = relative percent difference of duplicate/triplicate

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Detailed Site Investigation

Project No.: 1901048

11-13 Percy Street

Auburn NSW

	Criteria 1	Criteria 2	Criteria 3	Criteria 4						
	Drinking	ANZECC	ANZECC	RSL						
	Water	Freshwater	Marine Water	Resident	Sample ID	HP1	HP2	HP3	HP4	GW1
	Guidelines	95%	95%	Tapwater	Date	22-Aug-19	22-Aug-19	22-Aug-19	22-Aug-19	06-Jun-19
Ethylbenzene	300	-	-	-		< 1	< 1	< 1	< 1	< 1
Iodomethane	-	-	-	-		< 1	< 1	< 1	< 1	< 1
Isopropyl benzene (Cumene)	-	-	-	-		< 1	< 1	< 1	< 1	< 1
m&p-Xylenes	-	-	-	-		< 2	< 2	< 2	< 2	3
Methylene Chloride	4	-	-	-		< 1	< 1	< 1	< 1	< 1
o-Xylene	-	350	-	-		< 1	< 1	< 1	< 1	1
Styrene	30	-	-	-		< 1	< 1	< 1	< 1	< 1
Tetrachloroethene	50	-	-	-		< 1	< 1	< 1	< 1	< 1
Toluene	800	-	-	-		1	< 1	1	< 1	< 1
trans-1.2-Dichloroethene	-	-	-	-		< 1	< 1	< 1	< 1	< 1
trans-1.3-Dichloropropene	-	-	-	-		< 1	< 1	< 1	< 1	< 1
Trichloroethene	-	330	-	2.8		< 1	< 1	< 1	< 1	< 1
Trichlorofluoromethane	-	-	-	-		< 1	< 1	< 1	< 1	< 1
Vinyl chloride	0.3	100	-	-		< 1	< 1	< 1	< 1	< 1
Xylenes - Total	600	-	-	-		< 3	< 3	< 3	< 3	5

Notes:

Criteria 1 = Australian Drinking Water Guidelines, 2011

Criteria 2 = ANZECC 2000 FW 95%

Criteria 3 = ANZECC 2000 MW 95%

Criteria 4 = US EPA (2019) Regional Screening Level (RSL), Generic Tables, Resident Tapwater

Total concentrations in µg/L

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D1 = duplicate of MW104 (20/08/19)

T1 = triplicate of MW104 (20/08/19)

DW3 = duplicate of MW120 (08/10/19)

TW3 = triplicate of MW120 (08/10/19)

DW2 = duplicate of MW201 (27/09/19)

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Detailed Site Investigation

Project No.: 1901048

11-13 Percy Street

Auburn NSW

	Criteria 1	Criteria 2	Criteria 3	Criteria 4						
	Drinking	ANZECC	ANZECC	RSL						
	Water	Freshwater	Marine Water	Resident	Sample ID	GW1	GW2	GW2	GW4	GW4
	Guidelines	95%	95%	Tapwater	Date	06-Jun-19	06-Jun-19	06-Jun-19	05-Jun-19	05-Jun-19
1.1-Dichloroethane	-	-	-	-		< 1	< 1	< 1	750	820
1.1-Dichloroethene	30	700	-	-		< 1	< 1	< 1	260	180
1.1.1-Trichloroethane	-	-	-	-		< 1	< 1	< 1	< 20	< 1
1.1.1.2-Tetrachloroethane	-	-	-	-		< 1	< 1	< 1	< 20	< 1
1.1.2-Trichloroethane	-	6,500	1,900	-		< 1	< 1	< 1	< 20	2
1.1.2.2-Tetrachloroethane	-	-	-	-		< 1	< 1	< 1	< 20	< 1
1.2-Dibromoethane	1	-	-	-		< 1	< 1	< 1	< 20	< 1
1.2-Dichlorobenzene	1,500	160	-	-		< 1	< 1	< 1	< 20	< 1
1.2-Dichloroethane	3	-	-	-		< 1	< 1	< 1	< 20	< 1
1.2-Dichloropropane	-	-	-	-		< 1	< 1	< 1	< 20	< 1
1.2.3-Trichloropropane	-	-	-	-		< 1	< 1	< 1	< 20	< 1
1.2.4-Trimethylbenzene	-	-	-	-		< 1	< 1	< 1	< 20	< 1
1.3-Dichlorobenzene	-	260	-	-		< 1	< 1	< 1	< 20	< 1
1.3-Dichloropropane	-	-	-	-		< 1	< 1	< 1	< 20	< 1
1.3.5-Trimethylbenzene	-	-	-	-		< 1	< 1	< 1	< 20	< 1
1.4-Dichlorobenzene	40	60	-	-		< 1	< 1	< 1	< 20	< 1
2-Butanone (MEK)	-	-	-	-		< 1	< 1	< 1	< 20	< 1
2-Propanone (Acetone)	-	-	-	-		< 1	< 1	< 1	< 20	< 1
4-Chlorotoluene	-	-	-	-		< 1	< 1	< 1	< 20	< 1

Notes:

Criteria 1 = Australian Drinking Water Guidelines, 2011

Criteria 2 = ANZECC 2000 FW 95%

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T1 = triplicate of MW104 (20/08/19)

DW3 = duplicate of MW120 (08/10/19)

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Detailed Site Investigation

Project No.: 1901048

11-13 Percy Street

Auburn NSW

	Criteria 1	Criteria 2	Criteria 3	Criteria 4						
	Drinking	ANZECC	ANZECC	RSL						
	Water	Freshwater	Marine Water	Resident	Sample ID	GW1	GW2	GW2	GW4	GW4
	Guidelines	95%	95%	Tapwater	Date	06-Jun-19	06-Jun-19	06-Jun-19	05-Jun-19	05-Jun-19
4-Methyl-2-pentanone (MIBK)	-	-	-	-		< 1	< 1	< 1	< 20	< 1
Allyl chloride	-	-	-	-		< 1	< 1	< 1	< 20	< 1
Benzene	1	950	700	-		< 1	< 1	< 1	< 20	< 1
Bromobenzene	-	-	-	-		< 1	< 1	< 1	< 20	< 1
Bromochloromethane	-	-	-	-		< 1	< 1	< 1	< 20	< 1
Bromodichloromethane	-	-	-	-		< 1	< 1	< 1	< 20	< 1
Bromoform	-	-	-	-		< 1	< 1	< 1	< 20	< 1
Bromomethane	1	-	-	-		< 1	< 1	< 1	< 20	< 1
Carbon disulfide	-	-	-	-		< 1	< 1	< 1	< 20	< 1
Carbon Tetrachloride	-	-	-	-		< 1	< 1	< 1	< 20	< 1
Chlorobenzene	-	-	-	-		< 1	< 1	< 1	< 20	< 1
Chloroethane	-	-	-	-		< 1	< 1	< 1	< 20	< 1
Chloroform	-	-	-	-		< 5	< 5	< 5	< 100	< 5
Chloromethane	-	-	-	-		< 1	< 1	< 1	< 20	< 1
cis-1.2-Dichloroethene	-	-	-	-		< 1	< 1	< 1	1,300	910
cis-1.3-Dichloropropene	-	-	-	-		< 1	< 1	< 1	< 20	< 1
Dibromochloromethane	-	-	-	-		< 1	< 1	< 1	< 20	< 1
Dibromomethane	-	-	-	-		< 1	< 1	< 1	< 20	< 1
Dichlorodifluoromethane	-	-	-	-		< 1	< 1	< 1	< 20	< 1

Notes:

Criteria 1 = Australian Drinking Water Guidelines, 2011

Criteria 2 = ANZECC 2000 FW 95%

Criteria 3 = ANZECC 2000 MW 95%

Criteria 4 = US EPA (2019) Regional Screening Level (RSL), Generic Tables, Resident Tapwater

Total concentrations in µg/L

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D2 = duplicate of MW102 (26/08/19)

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DW3 = duplicate of MW120 (08/10/19)

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DW2 = duplicate of MW201 (27/09/19)

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Detailed Site Investigation

Project No.: 1901048

11-13 Percy Street

Auburn NSW

	Criteria 1	Criteria 2	Criteria 3	Criteria 4						
	Drinking	ANZECC	ANZECC	RSL						
	Water	Freshwater	Marine Water	Resident	Sample ID	GW1	GW2	GW2	GW4	GW4
	Guidelines	95%	95%	Tapwater	Date	06-Jun-19	06-Jun-19	06-Jun-19	05-Jun-19	05-Jun-19
Ethylbenzene	300	-	-	-		< 1	< 1	< 1	< 20	< 1
Iodomethane	-	-	-	-		< 1	< 1	< 1	< 20	< 1
Isopropyl benzene (Cumene)	-	-	-	-		< 1	< 1	2	< 20	< 1
m&p-Xylenes	-	-	-	-		< 2	< 2	< 2	< 40	< 2
Methylene Chloride	4	-	-	-		< 1	< 1	< 1	< 200	< 1
o-Xylene	-	350	-	-		< 1	< 1	< 1	< 20	< 1
Styrene	30	-	-	-		< 1	< 1	< 1	< 20	< 1
Tetrachloroethene	50	-	-	-		< 1	< 1	< 1	< 20	< 1
Toluene	800	-	-	-		< 1	< 1	< 1	< 20	< 1
trans-1.2-Dichloroethene	-	-	-	-		< 1	< 1	< 1	25	< 1
trans-1.3-Dichloropropene	-	-	-	-		< 1	< 1	< 1	< 20	< 1
Trichloroethene	-	330	-	2.8		< 1	< 1	< 1	310	280
Trichlorofluoromethane	-	-	-	-		< 1	< 1	< 1	< 20	< 1
Vinyl chloride	0.3	100	-	-		< 1	< 1	< 1	410	680
Xylenes - Total	600	-	-	-		< 3	< 3	< 3	< 60	< 3

Notes:

Criteria 1 = Australian Drinking Water Guidelines, 2011

Criteria 2 = ANZECC 2000 FW 95%

Criteria 3 = ANZECC 2000 MW 95%

Criteria 4 = US EPA (2019) Regional Screening Level (RSL), Generic Tables, Resident Tapwater

Total concentrations in µg/L

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D2 = duplicate of MW102 (26/08/19)

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TW1 = triplicate of MW104 (05/06/19)

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T1 = triplicate of MW104 (20/08/19)

DW3 = duplicate of MW120 (08/10/19)

TW3 = triplicate of MW120 (08/10/19)

DW2 = duplicate of MW201 (27/09/19)

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Detailed Site Investigation

Project No.: 1901048

11-13 Percy Street

Auburn NSW

	Criteria 1	Criteria 2	Criteria 3	Criteria 4						
	Drinking	ANZECC	ANZECC	RSL						
	Water	Freshwater	Marine Water	Resident	Sample ID	GW4	MW101	MW101	MW102	MW102
	Guidelines	95%	95%	Tapwater	Date	27-Sep-19	05-Jun-19	26-Aug-19	05-Jun-19	18-Jun-19
1.1-Dichloroethane	-	-	-	-		330	< 1	< 1	< 200	< 100
1.1-Dichloroethene	30	700	-	-		110	< 1	< 1	< 200	< 100
1.1.1-Trichloroethane	-	-	-	-		< 1	< 1	< 1	< 200	< 100
1.1.1.2-Tetrachloroethane	-	-	-	-		< 1	< 1	< 1	< 200	< 100
1.1.2-Trichloroethane	-	6,500	1,900	-		< 1	< 1	< 1	< 200	< 100
1.1.2.2-Tetrachloroethane	-	-	-	-		< 1	< 1	< 1	< 200	< 100
1.2-Dibromoethane	1	-	-	-		< 1	< 1	< 1	< 200	< 100
1.2-Dichlorobenzene	1,500	160	-	-		< 1	< 1	< 1	< 200	< 100
1.2-Dichloroethane	3	-	-	-		< 1	< 1	< 1	< 200	< 100
1.2-Dichloropropane	-	-	-	-		< 1	< 1	< 1	< 200	< 100
1.2.3-Trichloropropane	-	-	-	-		< 1	< 1	< 1	< 200	< 100
1.2.4-Trimethylbenzene	-	-	-	-		< 1	< 1	< 1	< 200	< 100
1.3-Dichlorobenzene	-	260	-	-		< 1	< 1	< 1	< 200	< 100
1.3-Dichloropropane	-	-	-	-		< 1	< 1	< 1	< 200	< 100
1.3.5-Trimethylbenzene	-	-	-	-		< 1	< 1	< 1	< 200	< 100
1.4-Dichlorobenzene	40	60	-	-		< 1	< 1	< 1	< 200	< 100
2-Butanone (MEK)	-	-	-	-		< 1	< 1	< 1	< 200	< 100
2-Propanone (Acetone)	-	-	-	-		< 1	< 1	< 1	< 200	< 100
4-Chlorotoluene	-	-	-	-		< 1	< 1	< 1	< 200	< 100

Notes:

Criteria 1 = Australian Drinking Water Guidelines, 2011

Criteria 2 = ANZECC 2000 FW 95%

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Total concentrations in µg/L

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	Criteria 1	Criteria 2	Criteria 3	Criteria 4						
	Drinking	ANZECC	ANZECC	RSL						
	Water	Freshwater	Marine Water	Resident	Sample ID	GW4	MW101	MW101	MW102	MW102
	Guidelines	95%	95%	Tapwater	Date	27-Sep-19	05-Jun-19	26-Aug-19	05-Jun-19	18-Jun-19
4-Methyl-2-pentanone (MIBK)	-	-	-	-		< 1	< 1	< 1	< 200	< 100
Allyl chloride	-	-	-	-		< 1	< 1	< 1	< 200	< 100
Benzene	1	950	700	-		< 1	< 1	< 1	< 200	< 100
Bromobenzene	-	-	-	-		< 1	< 1	< 1	< 200	< 100
Bromochloromethane	-	-	-	-		< 1	< 1	< 1	< 200	< 100
Bromodichloromethane	-	-	-	-		< 1	< 1	< 1	< 200	< 100
Bromoform	-	-	-	-		< 1	< 1	< 1	< 200	< 100
Bromomethane	1	-	-	-		< 1	< 1	< 1	< 200	< 100
Carbon disulfide	-	-	-	-		< 1	< 1	< 1	< 200	< 100
Carbon Tetrachloride	-	-	-	-		< 1	< 1	< 1	< 200	< 100
Chlorobenzene	-	-	-	-		< 1	< 1	< 1	< 200	< 100
Chloroethane	-	-	-	-		< 1	< 1	< 1	< 200	< 100
Chloroform	-	-	-	-		< 5	< 5	< 5	< 1,000	< 500
Chloromethane	-	-	-	-		< 1	< 1	< 1	< 200	< 100
cis-1.2-Dichloroethene	-	-	-	-		380	< 1	< 1	2,000	1,900
cis-1.3-Dichloropropene	-	-	-	-		< 1	< 1	< 1	< 200	< 100
Dibromochloromethane	-	-	-	-		< 1	< 1	< 1	< 200	< 100
Dibromomethane	-	-	-	-		< 1	< 1	< 1	< 200	< 100
Dichlorodifluoromethane	-	-	-	-		< 1	< 1	< 1	< 200	< 100

Notes:

Criteria 1 = Australian Drinking Water Guidelines, 2011

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Total concentrations in µg/L

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Detailed Site Investigation

Project No.: 1901048

11-13 Percy Street

Auburn NSW

	Criteria 1	Criteria 2	Criteria 3	Criteria 4						
	Drinking	ANZECC	ANZECC	RSL						
	Water	Freshwater	Marine Water	Resident	Sample ID	GW4	MW101	MW101	MW102	MW102
	Guidelines	95%	95%	Tapwater	Date	27-Sep-19	05-Jun-19	26-Aug-19	05-Jun-19	18-Jun-19
Ethylbenzene	300	-	-	-		< 1	< 1	< 1	< 200	< 100
Iodomethane	-	-	-	-		< 1	< 1	< 1	< 200	< 100
Isopropyl benzene (Cumene)	-	-	-	-		< 1	< 1	< 1	< 200	< 100
m&p-Xylenes	-	-	-	-		< 2	< 2	< 2	< 400	< 200
Methylene Chloride	4	-	-	-		< 1	< 1	< 1	< 2,000	< 1,000
o-Xylene	-	350	-	-		< 1	< 1	< 1	< 200	< 100
Styrene	30	-	-	-		< 1	< 1	< 1	< 200	< 100
Tetrachloroethene	50	-	-	-		< 1	< 1	< 1	< 200	< 100
Toluene	800	-	-	-		< 1	< 1	< 1	< 200	< 100
trans-1.2-Dichloroethene	-	-	-	-		9	< 1	< 1	< 200	< 100
trans-1.3-Dichloropropene	-	-	-	-		< 1	< 1	< 1	< 200	< 100
Trichloroethene	-	330	-	2.8		170	< 1	< 1	8,300	6,100
Trichlorofluoromethane	-	-	-	-		< 1	< 1	< 1	< 200	< 100
Vinyl chloride	0.3	100	-	-		160	< 1	< 1	< 200	< 100
Xylenes - Total	600	-	-	-		< 3	< 3	< 3	< 600	< 300

Notes:

Criteria 1 = Australian Drinking Water Guidelines, 2011

Criteria 2 = ANZECC 2000 FW 95%

Criteria 3 = ANZECC 2000 MW 95%

Criteria 4 = US EPA (2019) Regional Screening Level (RSL), Generic Tables, Resident Tapwater

Total concentrations in µg/L

- = assessment criteria not available

D2 = duplicate of MW102 (26/08/19)

T2 = triplicate of MW102 (26/08/19)

DW1 = duplicate of MW104 (05/06/19)

TW1 = triplicate of MW104 (05/06/19)

D1 = duplicate of MW104 (20/08/19)

T1 = triplicate of MW104 (20/08/19)

DW3 = duplicate of MW120 (08/10/19)

TW3 = triplicate of MW120 (08/10/19)

DW2 = duplicate of MW201 (27/09/19)

TW2 = triplicate of MW201 (27/09/19)

RPD = relative percent difference of duplicate/triplicate

nc = RPD not calculated, one or both samples below laboratory reporting limit

< # or ND = analyte(s) not detected in excess of laboratory reporting limit

-- = sample not analysed

Bold/red indicates exceedance of assessment criteria

Table 9 : Summary of Groundwater Analytical Data - Volatile Organic Compounds

Detailed Site Investigation

Project No.: 1901048

11-13 Percy Street

Auburn NSW

	Criteria 1	Criteria 2	Criteria 3	Criteria 4						
	Drinking	ANZECC	ANZECC	RSL						
	Water	Freshwater	Marine Water	Resident	Sample ID	MW102	D2	RPD_D2	T2	RPD_T2
	Guidelines	95%	95%	Tapwater	Date	26-Aug-19	26-Aug-19	-	26-Aug-19	-
1.1-Dichloroethane	-	-	-	-		< 50	< 50	nc	5	nc
1.1-Dichloroethene	30	700	-	-		< 50	< 50	nc	6	nc
1.1.1-Trichloroethane	-	-	-	-		< 50	< 50	nc	< 1	nc
1.1.1.2-Tetrachloroethane	-	-	-	-		< 50	< 50	nc	< 1	nc
1.1.2-Trichloroethane	-	6,500	1,900	-		< 50	< 50	nc	14	nc
1.1.2.2-Tetrachloroethane	-	-	-	-		< 50	< 50	nc	< 1	nc
1.2-Dibromoethane	1	-	-	-		< 50	< 50	nc	< 1	nc
1.2-Dichlorobenzene	1,500	160	-	-		< 50	< 50	nc	< 1	nc
1.2-Dichloroethane	3	-	-	-		< 50	< 50	nc	< 1	nc
1.2-Dichloropropane	-	-	-	-		< 50	< 50	nc	< 1	nc
1.2.3-Trichloropropane	-	-	-	-		< 50	< 50	nc	< 1	nc
1.2.4-Trimethylbenzene	-	-	-	-		< 50	< 50	nc	< 1	nc
1.3-Dichlorobenzene	-	260	-	-		< 50	< 50	nc	< 1	nc
1.3-Dichloropropane	-	-	-	-		< 50	< 50	nc	< 1	nc
1.3.5-Trimethylbenzene	-	-	-	-		< 50	< 50	nc	< 1	nc
1.4-Dichlorobenzene	40	60	-	-		< 50	< 50	nc	< 1	nc
2-Butanone (MEK)	-	-	-	-		< 50	< 50	nc	< 1	nc
2-Propanone (Acetone)	-	-	-	-		< 50	< 50	nc	< 1	nc
4-Chlorotoluene	-	-	-	-		< 50	< 50	nc	< 1	nc

Notes:

Criteria 1 = Australian Drinking Water Guidelines, 2011

Criteria 2 = ANZECC 2000 FW 95%

Criteria 3 = ANZECC 2000 MW 95%

Criteria 4 = US EPA (2019) Regional Screening Level (RSL), Generic Tables, Resident Tapwater

Total concentrations in µg/L

- = assessment criteria not available

D2 = duplicate of MW102 (26/08/19)

T2 = triplicate of MW102 (26/08/19)

DW1 = duplicate of MW104 (05/06/19)

TW1 = triplicate of MW104 (05/06/19)

D1 = duplicate of MW104 (20/08/19)

T1 = triplicate of MW104 (20/08/19)

DW3 = duplicate of MW120 (08/10/19)

TW3 = triplicate of MW120 (08/10/19)

DW2 = duplicate of MW201 (27/09/19)

TW2 = triplicate of MW201 (27/09/19)

RPD = relative percent difference of duplicate/triplicate

nc = RPD not calculated, one or both samples below laboratory reporting limit

< # or ND = analyte(s) not detected in excess of laboratory reporting limit

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Detailed Site Investigation

Project No.: 1901048

11-13 Percy Street

Auburn NSW

	Criteria 1	Criteria 2	Criteria 3	Criteria 4						
	Drinking	ANZECC	ANZECC	RSL						
	Water	Freshwater	Marine Water	Resident	Sample ID	MW102	D2	RPD_D2	T2	RPD_T2
	Guidelines	95%	95%	Tapwater	Date	26-Aug-19	26-Aug-19	-	26-Aug-19	-
4-Methyl-2-pentanone (MIBK)	-	-	-	-		< 50	< 50	nc	< 1	nc
Allyl chloride	-	-	-	-		< 50	< 50	nc	< 1	nc
Benzene	1	950	700	-		< 50	< 50	nc	< 1	nc
Bromobenzene	-	-	-	-		< 50	< 50	nc	< 1	nc
Bromochloromethane	-	-	-	-		< 50	< 50	nc	< 1	nc
Bromodichloromethane	-	-	-	-		< 50	< 50	nc	< 1	nc
Bromoform	-	-	-	-		< 50	< 50	nc	< 1	nc
Bromomethane	1	-	-	-		< 50	< 50	nc	< 1	nc
Carbon disulfide	-	-	-	-		< 50	< 50	nc	< 1	nc
Carbon Tetrachloride	-	-	-	-		< 50	< 50	nc	< 1	nc
Chlorobenzene	-	-	-	-		< 50	< 50	nc	< 1	nc
Chloroethane	-	-	-	-		< 50	< 50	nc	< 1	nc
Chloroform	-	-	-	-		< 50	< 50	nc	< 5	nc
Chloromethane	-	-	-	-		< 50	< 50	nc	< 1	nc
cis-1.2-Dichloroethene	-	-	-	-		1,000	860	15%	1,000	0%
cis-1.3-Dichloropropene	-	-	-	-		< 50	< 50	nc	< 1	nc
Dibromochloromethane	-	-	-	-		< 50	< 50	nc	< 1	nc
Dibromomethane	-	-	-	-		< 50	< 50	nc	< 1	nc
Dichlorodifluoromethane	-	-	-	-		< 50	< 50	nc	< 1	nc

Notes:

Criteria 1 = Australian Drinking Water Guidelines, 2011

Criteria 2 = ANZECC 2000 FW 95%

Criteria 3 = ANZECC 2000 MW 95%

Criteria 4 = US EPA (2019) Regional Screening Level (RSL), Generic Tables, Resident Tapwater

Total concentrations in µg/L

- = assessment criteria not available

D2 = duplicate of MW102 (26/08/19)

T2 = triplicate of MW102 (26/08/19)

DW1 = duplicate of MW104 (05/06/19)

TW1 = triplicate of MW104 (05/06/19)

D1 = duplicate of MW104 (20/08/19)

T1 = triplicate of MW104 (20/08/19)

DW3 = duplicate of MW120 (08/10/19)

TW3 = triplicate of MW120 (08/10/19)

DW2 = duplicate of MW201 (27/09/19)

TW2 = triplicate of MW201 (27/09/19)

RPD = relative percent difference of duplicate/triplicate

nc = RPD not calculated, one or both samples below laboratory reporting limit

< # or ND = analyte(s) not detected in excess of laboratory reporting limit

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Table 9 : Summary of Groundwater Analytical Data - Volatile Organic Compounds

Detailed Site Investigation

Project No.: 1901048

11-13 Percy Street

Auburn NSW

	Criteria 1	Criteria 2	Criteria 3	Criteria 4						
	Drinking	ANZECC	ANZECC	RSL						
	Water	Freshwater	Marine Water	Resident	Sample ID	MW102	D2	RPD_D2	T2	RPD_T2
	Guidelines	95%	95%	Tapwater	Date	26-Aug-19	26-Aug-19	-	26-Aug-19	-
Ethylbenzene	300	-	-	-		< 50	< 50	nc	< 1	nc
Iodomethane	-	-	-	-		< 50	< 50	nc	< 1	nc
Isopropyl benzene (Cumene)	-	-	-	-		< 50	< 50	nc	< 1	nc
m&p-Xylenes	-	-	-	-		< 100	< 100	nc	< 2	nc
Methylene Chloride	4	-	-	-		< 50	< 50	nc	< 1	nc
o-Xylene	-	350	-	-		< 50	< 50	nc	< 1	nc
Styrene	30	-	-	-		< 50	< 50	nc	< 1	nc
Tetrachloroethene	50	-	-	-		< 50	< 50	nc	< 1	nc
Toluene	800	-	-	-		< 50	< 50	nc	< 1	nc
trans-1,2-Dichloroethene	-	-	-	-		< 50	< 50	nc	28	nc
trans-1,3-Dichloropropene	-	-	-	-		< 50	< 50	nc	< 1	nc
Trichloroethene	-	330	-	2.8		2,800	2,100	29%	3,500	22%
Trichlorofluoromethane	-	-	-	-		< 50	< 50	nc	< 1	nc
Vinyl chloride	0.3	100	-	-		< 50	< 50	nc	45	nc
Xylenes - Total	600	-	-	-		< 150	< 150	nc	< 3	nc

Notes:

Criteria 1 = Australian Drinking Water Guidelines, 2011

Criteria 2 = ANZECC 2000 FW 95%

Criteria 3 = ANZECC 2000 MW 95%

Criteria 4 = US EPA (2019) Regional Screening Level (RSL), Generic Tables, Resident Tapwater

Total concentrations in µg/L

- = assessment criteria not available

D2 = duplicate of MW102 (26/08/19)

T2 = triplicate of MW102 (26/08/19)

DW1 = duplicate of MW104 (05/06/19)

TW1 = triplicate of MW104 (05/06/19)

D1 = duplicate of MW104 (20/08/19)

T1 = triplicate of MW104 (20/08/19)

DW3 = duplicate of MW120 (08/10/19)

TW3 = triplicate of MW120 (08/10/19)

DW2 = duplicate of MW201 (27/09/19)

TW2 = triplicate of MW201 (27/09/19)

RPD = relative percent difference of duplicate/triplicate

nc = RPD not calculated, one or both samples below laboratory reporting limit

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Detailed Site Investigation

Project No.: 1901048

11-13 Percy Street

Auburn NSW

	Criteria 1	Criteria 2	Criteria 3	Criteria 4						
	Drinking	ANZECC	ANZECC	RSL						
	Water	Freshwater	Marine Water	Resident	Sample ID	MW102	MW103	MW103	MW103	MW104
	Guidelines	95%	95%	Tapwater	Date	27-Sep-19	05-Jun-19	18-Jun-19	20-Aug-19	05-Jun-19
1.1-Dichloroethane	-	-	-	-		5	< 1	< 1	< 1	29
1.1-Dichloroethene	30	700	-	-		19	< 1	< 1	< 1	22
1.1.1-Trichloroethane	-	-	-	-		< 1	< 1	< 1	< 1	< 1
1.1.1.2-Tetrachloroethane	-	-	-	-		< 1	< 1	< 1	< 1	< 1
1.1.2-Trichloroethane	-	6,500	1,900	-		10	< 1	< 1	< 1	< 1
1.1.2.2-Tetrachloroethane	-	-	-	-		< 1	< 1	< 1	< 1	< 1
1.2-Dibromoethane	1	-	-	-		< 1	< 1	< 1	< 1	< 1
1.2-Dichlorobenzene	1,500	160	-	-		< 1	< 1	< 1	< 1	< 1
1.2-Dichloroethane	3	-	-	-		< 1	< 1	< 1	< 1	< 1
1.2-Dichloropropane	-	-	-	-		< 1	< 1	< 1	< 1	< 1
1.2.3-Trichloropropane	-	-	-	-		< 1	< 1	< 1	< 1	< 1
1.2.4-Trimethylbenzene	-	-	-	-		< 1	< 1	< 1	< 1	< 1
1.3-Dichlorobenzene	-	260	-	-		< 1	< 1	< 1	< 1	< 1
1.3-Dichloropropane	-	-	-	-		< 1	< 1	< 1	< 1	< 1
1.3.5-Trimethylbenzene	-	-	-	-		< 1	< 1	< 1	< 1	< 1
1.4-Dichlorobenzene	40	60	-	-		< 1	< 1	< 1	< 1	< 1
2-Butanone (MEK)	-	-	-	-		< 1	< 1	< 1	< 1	< 1
2-Propanone (Acetone)	-	-	-	-		< 1	< 1	< 1	< 10	< 1
4-Chlorotoluene	-	-	-	-		< 1	< 1	< 1	< 1	< 1

Notes:

Criteria 1 = Australian Drinking Water Guidelines, 2011

Criteria 2 = ANZECC 2000 FW 95%

Criteria 3 = ANZECC 2000 MW 95%

Criteria 4 = US EPA (2019) Regional Screening Level (RSL), Generic Tables, Resident Tapwater

Total concentrations in µg/L

- = assessment criteria not available

D2 = duplicate of MW102 (26/08/19)

T2 = triplicate of MW102 (26/08/19)

DW1 = duplicate of MW104 (05/06/19)

TW1 = triplicate of MW104 (05/06/19)

D1 = duplicate of MW104 (20/08/19)

T1 = triplicate of MW104 (20/08/19)

DW3 = duplicate of MW120 (08/10/19)

TW3 = triplicate of MW120 (08/10/19)

DW2 = duplicate of MW201 (27/09/19)

TW2 = triplicate of MW201 (27/09/19)

RPD = relative percent difference of duplicate/triplicate

nc = RPD not calculated, one or both samples below laboratory reporting limit

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Table 9 : Summary of Groundwater Analytical Data - Volatile Organic Compounds

Detailed Site Investigation

Project No.: 1901048

11-13 Percy Street

Auburn NSW

	Criteria 1	Criteria 2	Criteria 3	Criteria 4						
	Drinking	ANZECC	ANZECC	RSL						
	Water	Freshwater	Marine Water	Resident	Sample ID	MW102	MW103	MW103	MW103	MW104
	Guidelines	95%	95%	Tapwater	Date	27-Sep-19	05-Jun-19	18-Jun-19	20-Aug-19	05-Jun-19
4-Methyl-2-pentanone (MIBK)	-	-	-	-		< 1	< 1	< 1	< 1	< 1
Allyl chloride	-	-	-	-		< 1	< 1	< 1	< 1	< 1
Benzene	1	950	700	-		< 1	< 1	< 1	< 1	< 1
Bromobenzene	-	-	-	-		< 1	< 1	< 1	< 1	< 1
Bromochloromethane	-	-	-	-		< 1	< 1	< 1	< 1	< 1
Bromodichloromethane	-	-	-	-		< 1	< 1	< 1	< 1	< 1
Bromoform	-	-	-	-		< 1	< 1	< 1	< 1	< 1
Bromomethane	1	-	-	-		< 1	< 1	< 1	< 1	< 1
Carbon disulfide	-	-	-	-		< 1	< 1	< 1	< 1	< 1
Carbon Tetrachloride	-	-	-	-		< 1	< 1	< 1	< 1	< 1
Chlorobenzene	-	-	-	-		< 1	< 1	< 1	< 1	< 1
Chloroethane	-	-	-	-		< 1	< 1	< 1	< 1	< 1
Chloroform	-	-	-	-		< 5	< 5	< 5	< 5	< 5
Chloromethane	-	-	-	-		< 1	< 1	< 1	< 1	< 1
cis-1.2-Dichloroethene	-	-	-	-		1,200	< 1	< 1	< 1	170
cis-1.3-Dichloropropene	-	-	-	-		< 1	< 1	< 1	< 1	< 1
Dibromochloromethane	-	-	-	-		< 1	< 1	< 1	< 1	< 1
Dibromomethane	-	-	-	-		< 1	< 1	< 1	< 1	< 1
Dichlorodifluoromethane	-	-	-	-		< 1	< 1	< 1	< 1	< 1

Notes:

Criteria 1 = Australian Drinking Water Guidelines, 2011

Criteria 2 = ANZECC 2000 FW 95%

Criteria 3 = ANZECC 2000 MW 95%

Criteria 4 = US EPA (2019) Regional Screening Level (RSL), Generic Tables, Resident Tapwater

Total concentrations in µg/L

- = assessment criteria not available

D2 = duplicate of MW102 (26/08/19)

T2 = triplicate of MW102 (26/08/19)

DW1 = duplicate of MW104 (05/06/19)

TW1 = triplicate of MW104 (05/06/19)

D1 = duplicate of MW104 (20/08/19)

T1 = triplicate of MW104 (20/08/19)

DW3 = duplicate of MW120 (08/10/19)

TW3 = triplicate of MW120 (08/10/19)

DW2 = duplicate of MW201 (27/09/19)

TW2 = triplicate of MW201 (27/09/19)

RPD = relative percent difference of duplicate/triplicate

nc = RPD not calculated, one or both samples below laboratory reporting limit

< # or ND = analyte(s) not detected in excess of laboratory reporting limit

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Detailed Site Investigation

Project No.: 1901048

11-13 Percy Street

Auburn NSW

	Criteria 1	Criteria 2	Criteria 3	Criteria 4						
	Drinking	ANZECC	ANZECC	RSL						
	Water	Freshwater	Marine Water	Resident	Sample ID	MW102	MW103	MW103	MW103	MW104
	Guidelines	95%	95%	Tapwater	Date	27-Sep-19	05-Jun-19	18-Jun-19	20-Aug-19	05-Jun-19
Ethylbenzene	300	-	-	-		< 1	< 1	< 1	< 1	< 1
Iodomethane	-	-	-	-		< 1	< 1	< 1	< 1	< 1
Isopropyl benzene (Cumene)	-	-	-	-		< 1	< 1	< 1	< 1	< 1
m&p-Xylenes	-	-	-	-		< 2	< 2	< 2	< 2	< 2
Methylene Chloride	4	-	-	-		< 1	< 1	< 1	< 1	< 1
o-Xylene	-	350	-	-		< 1	< 1	< 1	< 1	< 1
Styrene	30	-	-	-		< 1	< 1	< 1	< 1	< 1
Tetrachloroethene	50	-	-	-		< 1	< 1	< 1	< 1	< 1
Toluene	800	-	-	-		3	< 1	< 1	< 1	5
trans-1,2-Dichloroethene	-	-	-	-		34	< 1	< 1	< 1	< 1
trans-1,3-Dichloropropene	-	-	-	-		< 1	< 1	< 1	< 1	< 1
Trichloroethene	-	330	-	2.8		5,500	< 1	< 1	< 1	< 1
Trichlorofluoromethane	-	-	-	-		< 1	< 1	< 1	< 1	< 1
Vinyl chloride	0.3	100	-	-		33	< 1	< 1	< 1	26
Xylenes - Total	600	-	-	-		< 3	< 3	< 3	< 3	< 3

Notes:

Criteria 1 = Australian Drinking Water Guidelines, 2011

Criteria 2 = ANZECC 2000 FW 95%

Criteria 3 = ANZECC 2000 MW 95%

Criteria 4 = US EPA (2019) Regional Screening Level (RSL), Generic Tables, Resident Tapwater

Total concentrations in µg/L

- = assessment criteria not available

D2 = duplicate of MW102 (26/08/19)

T2 = triplicate of MW102 (26/08/19)

DW1 = duplicate of MW104 (05/06/19)

TW1 = triplicate of MW104 (05/06/19)

D1 = duplicate of MW104 (20/08/19)

T1 = triplicate of MW104 (20/08/19)

DW3 = duplicate of MW120 (08/10/19)

TW3 = triplicate of MW120 (08/10/19)

DW2 = duplicate of MW201 (27/09/19)

TW2 = triplicate of MW201 (27/09/19)

RPD = relative percent difference of duplicate/triplicate

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Detailed Site Investigation

Project No.: 1901048

11-13 Percy Street

Auburn NSW

	Criteria 1	Criteria 2	Criteria 3	Criteria 4						
	Drinking	ANZECC	ANZECC	RSL						
	Water	Freshwater	Marine Water	Resident	Sample ID	DW1	RPD_DW1	TW1	RPD_TW1	MW104
	Guidelines	95%	95%	Tapwater	Date	05-Jun-19	-	05-Jun-19	-	20-Aug-19
1.1-Dichloroethane	-	-	-	-		31	7%	37	24%	28
1.1-Dichloroethene	30	700	-	-		24	9%	30	31%	20
1.1.1-Trichloroethane	-	-	-	-		< 1	nc	< 1	nc	< 1
1.1.1.2-Tetrachloroethane	-	-	-	-		< 1	nc	< 1	nc	< 1
1.1.2-Trichloroethane	-	6,500	1,900	-		< 1	nc	< 1	nc	< 1
1.1.2.2-Tetrachloroethane	-	-	-	-		< 1	nc	< 1	nc	< 1
1.2-Dibromoethane	1	-	-	-		< 1	nc	< 1	nc	< 1
1.2-Dichlorobenzene	1,500	160	-	-		< 1	nc	< 1	nc	< 1
1.2-Dichloroethane	3	-	-	-		< 1	nc	< 1	nc	< 1
1.2-Dichloropropane	-	-	-	-		< 1	nc	< 1	nc	< 1
1.2.3-Trichloropropane	-	-	-	-		< 1	nc	< 1	nc	< 1
1.2.4-Trimethylbenzene	-	-	-	-		< 1	nc	< 1	nc	< 1
1.3-Dichlorobenzene	-	260	-	-		< 1	nc	< 1	nc	< 1
1.3-Dichloropropane	-	-	-	-		< 1	nc	< 1	nc	< 1
1.3.5-Trimethylbenzene	-	-	-	-		< 1	nc	< 1	nc	< 1
1.4-Dichlorobenzene	40	60	-	-		< 1	nc	< 1	nc	< 1
2-Butanone (MEK)	-	-	-	-		< 1	nc	< 1	nc	< 1
2-Propanone (Acetone)	-	-	-	-		< 1	nc	< 5	nc	< 2
4-Chlorotoluene	-	-	-	-		< 1	nc	< 1	nc	< 1

Notes:

Criteria 1 = Australian Drinking Water Guidelines, 2011

Criteria 2 = ANZECC 2000 FW 95%

Criteria 3 = ANZECC 2000 MW 95%

Criteria 4 = US EPA (2019) Regional Screening Level (RSL), Generic Tables, Resident Tapwater

Total concentrations in µg/L

- = assessment criteria not available

D2 = duplicate of MW102 (26/08/19)

T2 = triplicate of MW102 (26/08/19)

DW1 = duplicate of MW104 (05/06/19)

TW1 = triplicate of MW104 (05/06/19)

D1 = duplicate of MW104 (20/08/19)

T1 = triplicate of MW104 (20/08/19)

DW3 = duplicate of MW120 (08/10/19)

TW3 = triplicate of MW120 (08/10/19)

DW2 = duplicate of MW201 (27/09/19)

TW2 = triplicate of MW201 (27/09/19)

RPD = relative percent difference of duplicate/triplicate

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Table 9 : Summary of Groundwater Analytical Data - Volatile Organic Compounds

Detailed Site Investigation

Project No.: 1901048

11-13 Percy Street

Auburn NSW

	Criteria 1	Criteria 2	Criteria 3	Criteria 4						
	Drinking	ANZECC	ANZECC	RSL						
	Water	Freshwater	Marine Water	Resident	Sample ID	DW1	RPD_DW1	TW1	RPD_TW1	MW104
	Guidelines	95%	95%	Tapwater	Date	05-Jun-19	-	05-Jun-19	-	20-Aug-19
4-Methyl-2-pentanone (MIBK)	-	-	-	-		< 1	nc	< 1	nc	< 1
Allyl chloride	-	-	-	-		< 1	nc	< 1	nc	< 1
Benzene	1	950	700	-		< 1	nc	< 1	nc	< 1
Bromobenzene	-	-	-	-		< 1	nc	< 1	nc	< 1
Bromochloromethane	-	-	-	-		< 1	nc	< 1	nc	< 1
Bromodichloromethane	-	-	-	-		< 1	nc	< 1	nc	< 1
Bromoform	-	-	-	-		< 1	nc	< 1	nc	< 1
Bromomethane	1	-	-	-		< 1	nc	< 1	nc	< 1
Carbon disulfide	-	-	-	-		< 1	nc	< 1	nc	< 1
Carbon Tetrachloride	-	-	-	-		< 1	nc	< 1	nc	< 1
Chlorobenzene	-	-	-	-		< 1	nc	< 1	nc	< 1
Chloroethane	-	-	-	-		< 1	nc	< 1	nc	< 1
Chloroform	-	-	-	-		< 5	nc	< 5	nc	< 5
Chloromethane	-	-	-	-		< 1	nc	< 1	nc	< 1
cis-1.2-Dichloroethene	-	-	-	-		160	6%	210	21%	160
cis-1.3-Dichloropropene	-	-	-	-		< 1	nc	< 1	nc	< 1
Dibromochloromethane	-	-	-	-		< 1	nc	< 1	nc	< 1
Dibromomethane	-	-	-	-		< 1	nc	< 1	nc	< 1
Dichlorodifluoromethane	-	-	-	-		< 1	nc	< 1	nc	< 1

Notes:

Criteria 1 = Australian Drinking Water Guidelines, 2011

Criteria 2 = ANZECC 2000 FW 95%

Criteria 3 = ANZECC 2000 MW 95%

Criteria 4 = US EPA (2019) Regional Screening Level (RSL), Generic Tables, Resident Tapwater

Total concentrations in µg/L

- = assessment criteria not available

D2 = duplicate of MW102 (26/08/19)

T2 = triplicate of MW102 (26/08/19)

DW1 = duplicate of MW104 (05/06/19)

TW1 = triplicate of MW104 (05/06/19)

D1 = duplicate of MW104 (20/08/19)

T1 = triplicate of MW104 (20/08/19)

DW3 = duplicate of MW120 (08/10/19)

TW3 = triplicate of MW120 (08/10/19)

DW2 = duplicate of MW201 (27/09/19)

TW2 = triplicate of MW201 (27/09/19)

RPD = relative percent difference of duplicate/triplicate

nc = RPD not calculated, one or both samples below laboratory reporting limit

< # or ND = analyte(s) not detected in excess of laboratory reporting limit

-- = sample not analysed

Bold/red indicates exceedance of assessment criteria

Table 9 : Summary of Groundwater Analytical Data - Volatile Organic Compounds

Detailed Site Investigation

Project No.: 1901048

11-13 Percy Street

Auburn NSW

	Criteria 1	Criteria 2	Criteria 3	Criteria 4						
	Drinking	ANZECC	ANZECC	RSL						
	Water	Freshwater	Marine Water	Resident	Sample ID	DW1	RPD_DW1	TW1	RPD_TW1	MW104
	Guidelines	95%	95%	Tapwater	Date	05-Jun-19	-	05-Jun-19	-	20-Aug-19
Ethylbenzene	300	-	-	-		< 1	nc	< 1	nc	< 1
Iodomethane	-	-	-	-		< 1	nc	< 1	nc	< 1
Isopropyl benzene (Cumene)	-	-	-	-		< 1	nc	< 1	nc	< 1
m&p-Xylenes	-	-	-	-		< 2	nc	< 2	nc	< 2
Methylene Chloride	4	-	-	-		< 1	nc	< 1	nc	< 1
o-Xylene	-	350	-	-		< 1	nc	< 1	nc	< 1
Styrene	30	-	-	-		< 1	nc	< 1	nc	< 1
Tetrachloroethene	50	-	-	-		< 1	nc	< 1	nc	< 1
Toluene	800	-	-	-		5	0%	5	0%	< 1
trans-1.2-Dichloroethene	-	-	-	-		3	nc	3	nc	< 1
trans-1.3-Dichloropropene	-	-	-	-		< 1	nc	< 1	nc	< 1
Trichloroethene	-	330	-	2.8		< 1	nc	< 1	nc	< 1
Trichlorofluoromethane	-	-	-	-		< 1	nc	< 1	nc	< 1
Vinyl chloride	0.3	100	-	-		26	0%	48	59%	22
Xylenes - Total	600	-	-	-		< 3	nc	< 3	nc	< 3

Notes:

Criteria 1 = Australian Drinking Water Guidelines, 2011

Criteria 2 = ANZECC 2000 FW 95%

Criteria 3 = ANZECC 2000 MW 95%

Criteria 4 = US EPA (2019) Regional Screening Level (RSL), Generic Tables, Resident Tapwater

Total concentrations in µg/L

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D2 = duplicate of MW102 (26/08/19)

T2 = triplicate of MW102 (26/08/19)

DW1 = duplicate of MW104 (05/06/19)

TW1 = triplicate of MW104 (05/06/19)

D1 = duplicate of MW104 (20/08/19)

T1 = triplicate of MW104 (20/08/19)

DW3 = duplicate of MW120 (08/10/19)

TW3 = triplicate of MW120 (08/10/19)

DW2 = duplicate of MW201 (27/09/19)

TW2 = triplicate of MW201 (27/09/19)

RPD = relative percent difference of duplicate/triplicate

nc = RPD not calculated, one or both samples below laboratory reporting limit

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Table 9 : Summary of Groundwater Analytical Data - Volatile Organic Compounds

Detailed Site Investigation

Project No.: 1901048

11-13 Percy Street

Auburn NSW

	Criteria 1	Criteria 2	Criteria 3	Criteria 4						
	Drinking	ANZECC	ANZECC	RSL						
	Water	Freshwater	Marine Water	Resident	Sample ID	D1	RPD_D1	T1	RPD_T1	MW106
	Guidelines	95%	95%	Tapwater	Date	20-Aug-19	-	20-Aug-19	-	05-Jun-19
1.1-Dichloroethane	-	-	-	-		28	0%	28	0%	< 1
1.1-Dichloroethene	30	700	-	-		19	5%	21	5%	< 1
1.1.1-Trichloroethane	-	-	-	-		< 1	nc	< 1	nc	< 1
1.1.1.2-Tetrachloroethane	-	-	-	-		< 1	nc	< 1	nc	< 1
1.1.2-Trichloroethane	-	6,500	1,900	-		< 1	nc	< 1	nc	< 1
1.1.2.2-Tetrachloroethane	-	-	-	-		< 1	nc	< 1	nc	< 1
1.2-Dibromoethane	1	-	-	-		< 1	nc	< 1	nc	< 1
1.2-Dichlorobenzene	1,500	160	-	-		< 1	nc	< 1	nc	< 1
1.2-Dichloroethane	3	-	-	-		< 1	nc	< 1	nc	< 1
1.2-Dichloropropane	-	-	-	-		< 1	nc	< 1	nc	< 1
1.2.3-Trichloropropane	-	-	-	-		< 1	nc	< 1	nc	< 1
1.2.4-Trimethylbenzene	-	-	-	-		< 1	nc	< 1	nc	< 1
1.3-Dichlorobenzene	-	260	-	-		< 1	nc	< 1	nc	< 1
1.3-Dichloropropane	-	-	-	-		< 1	nc	< 1	nc	< 1
1.3.5-Trimethylbenzene	-	-	-	-		< 1	nc	< 1	nc	< 1
1.4-Dichlorobenzene	40	60	-	-		< 1	nc	< 1	nc	< 1
2-Butanone (MEK)	-	-	-	-		< 1	nc	< 1	nc	< 1
2-Propanone (Acetone)	-	-	-	-		< 2	nc	< 1	nc	< 1
4-Chlorotoluene	-	-	-	-		< 1	nc	< 1	nc	< 1

Notes:

Criteria 1 = Australian Drinking Water Guidelines, 2011

Criteria 2 = ANZECC 2000 FW 95%

Criteria 3 = ANZECC 2000 MW 95%

Criteria 4 = US EPA (2019) Regional Screening Level (RSL), Generic Tables, Resident Tapwater

Total concentrations in µg/L

- = assessment criteria not available

D2 = duplicate of MW102 (26/08/19)

T2 = triplicate of MW102 (26/08/19)

DW1 = duplicate of MW104 (05/06/19)

TW1 = triplicate of MW104 (05/06/19)

D1 = duplicate of MW104 (20/08/19)

T1 = triplicate of MW104 (20/08/19)

DW3 = duplicate of MW120 (08/10/19)

TW3 = triplicate of MW120 (08/10/19)

DW2 = duplicate of MW201 (27/09/19)

TW2 = triplicate of MW201 (27/09/19)

RPD = relative percent difference of duplicate/triplicate

nc = RPD not calculated, one or both samples below laboratory reporting limit

< # or ND = analyte(s) not detected in excess of laboratory reporting limit

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Detailed Site Investigation

Project No.: 1901048

11-13 Percy Street

Auburn NSW

	Criteria 1	Criteria 2	Criteria 3	Criteria 4						
	Drinking	ANZECC	ANZECC	RSL						
	Water	Freshwater	Marine Water	Resident	Sample ID	D1	RPD_D1	T1	RPD_T1	MW106
	Guidelines	95%	95%	Tapwater	Date	20-Aug-19	-	20-Aug-19	-	05-Jun-19
4-Methyl-2-pentanone (MIBK)	-	-	-	-		< 1	nc	< 1	nc	< 1
Allyl chloride	-	-	-	-		< 1	nc	< 1	nc	< 1
Benzene	1	950	700	-		< 1	nc	< 1	nc	< 1
Bromobenzene	-	-	-	-		< 1	nc	< 1	nc	< 1
Bromochloromethane	-	-	-	-		< 1	nc	< 1	nc	< 1
Bromodichloromethane	-	-	-	-		< 1	nc	< 1	nc	< 1
Bromoform	-	-	-	-		< 1	nc	< 1	nc	< 1
Bromomethane	1	-	-	-		< 1	nc	< 1	nc	< 1
Carbon disulfide	-	-	-	-		< 1	nc	< 1	nc	< 1
Carbon Tetrachloride	-	-	-	-		< 1	nc	< 1	nc	< 1
Chlorobenzene	-	-	-	-		< 1	nc	< 1	nc	< 1
Chloroethane	-	-	-	-		< 1	nc	< 1	nc	< 1
Chloroform	-	-	-	-		< 5	nc	< 5	nc	< 5
Chloromethane	-	-	-	-		< 1	nc	< 1	nc	< 1
cis-1.2-Dichloroethene	-	-	-	-		150	6%	140	13%	< 1
cis-1.3-Dichloropropene	-	-	-	-		< 1	nc	< 1	nc	< 1
Dibromochloromethane	-	-	-	-		< 1	nc	< 1	nc	< 1
Dibromomethane	-	-	-	-		< 1	nc	< 1	nc	< 1
Dichlorodifluoromethane	-	-	-	-		< 1	nc	< 1	nc	< 1

Notes:

Criteria 1 = Australian Drinking Water Guidelines, 2011

Criteria 2 = ANZECC 2000 FW 95%

Criteria 3 = ANZECC 2000 MW 95%

Criteria 4 = US EPA (2019) Regional Screening Level (RSL), Generic Tables, Resident Tapwater

Total concentrations in µg/L

- = assessment criteria not available

D2 = duplicate of MW102 (26/08/19)

T2 = triplicate of MW102 (26/08/19)

DW1 = duplicate of MW104 (05/06/19)

TW1 = triplicate of MW104 (05/06/19)

D1 = duplicate of MW104 (20/08/19)

T1 = triplicate of MW104 (20/08/19)

DW3 = duplicate of MW120 (08/10/19)

TW3 = triplicate of MW120 (08/10/19)

DW2 = duplicate of MW201 (27/09/19)

TW2 = triplicate of MW201 (27/09/19)

RPD = relative percent difference of duplicate/triplicate

nc = RPD not calculated, one or both samples below laboratory reporting limit

< # or ND = analyte(s) not detected in excess of laboratory reporting limit

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Bold/red indicates exceedance of assessment criteria

Table 9 : Summary of Groundwater Analytical Data - Volatile Organic Compounds

Detailed Site Investigation

Project No.: 1901048

11-13 Percy Street

Auburn NSW

	Criteria 1	Criteria 2	Criteria 3	Criteria 4						
	Drinking	ANZECC	ANZECC	RSL						
	Water	Freshwater	Marine Water	Resident	Sample ID	D1	RPD_D1	T1	RPD_T1	MW106
	Guidelines	95%	95%	Tapwater	Date	20-Aug-19	-	20-Aug-19	-	05-Jun-19
Ethylbenzene	300	-	-	-		< 1	nc	< 1	nc	< 1
Iodomethane	-	-	-	-		< 1	nc	< 1	nc	< 1
Isopropyl benzene (Cumene)	-	-	-	-		< 1	nc	< 1	nc	< 1
m&p-Xylenes	-	-	-	-		< 2	nc	< 2	nc	< 2
Methylene Chloride	4	-	-	-		< 1	nc	< 1	nc	< 1
o-Xylene	-	350	-	-		< 1	nc	< 1	nc	< 1
Styrene	30	-	-	-		< 1	nc	< 1	nc	< 1
Tetrachloroethene	50	-	-	-		< 1	nc	< 1	nc	< 1
Toluene	800	-	-	-		< 1	nc	< 1	nc	< 1
trans-1.2-Dichloroethene	-	-	-	-		< 1	nc	3	nc	< 1
trans-1.3-Dichloropropene	-	-	-	-		< 1	nc	< 1	nc	< 1
Trichloroethene	-	330	-	2.8		< 1	nc	< 1	nc	< 1
Trichlorofluoromethane	-	-	-	-		< 1	nc	< 1	nc	< 1
Vinyl chloride	0.3	100	-	-		21	5%	21	5%	< 1
Xylenes - Total	600	-	-	-		< 3	nc	< 3	nc	< 3

Notes:

Criteria 1 = Australian Drinking Water Guidelines, 2011

Criteria 2 = ANZECC 2000 FW 95%

Criteria 3 = ANZECC 2000 MW 95%

Criteria 4 = US EPA (2019) Regional Screening Level (RSL), Generic Tables, Resident Tapwater

Total concentrations in µg/L

- = assessment criteria not available

D2 = duplicate of MW102 (26/08/19)

T2 = triplicate of MW102 (26/08/19)

DW1 = duplicate of MW104 (05/06/19)

TW1 = triplicate of MW104 (05/06/19)

D1 = duplicate of MW104 (20/08/19)

T1 = triplicate of MW104 (20/08/19)

DW3 = duplicate of MW120 (08/10/19)

TW3 = triplicate of MW120 (08/10/19)

DW2 = duplicate of MW201 (27/09/19)

TW2 = triplicate of MW201 (27/09/19)

RPD = relative percent difference of duplicate/triplicate

nc = RPD not calculated, one or both samples below laboratory reporting limit

< # or ND = analyte(s) not detected in excess of laboratory reporting limit

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Detailed Site Investigation

Project No.: 1901048

11-13 Percy Street

Auburn NSW

	Criteria 1	Criteria 2	Criteria 3	Criteria 4						
	Drinking	ANZECC	ANZECC	RSL						
	Water	Freshwater	Marine Water	Resident	Sample ID	MW106	MW107	MW107	MW108	MW108
	Guidelines	95%	95%	Tapwater	Date	20-Aug-19	05-Jun-19	27-Aug-19	05-Jun-19	28-Aug-19
1.1-Dichloroethane	-	-	-	-		< 1	< 1	< 1	< 1	< 1
1.1-Dichloroethene	30	700	-	-		< 1	< 1	< 1	< 1	< 1
1.1.1-Trichloroethane	-	-	-	-		< 1	< 1	< 1	< 1	< 1
1.1.1.2-Tetrachloroethane	-	-	-	-		< 1	< 1	< 1	< 1	< 1
1.1.2-Trichloroethane	-	6,500	1,900	-		< 1	< 1	< 1	< 1	< 1
1.1.2.2-Tetrachloroethane	-	-	-	-		< 1	< 1	< 1	< 1	< 1
1.2-Dibromoethane	1	-	-	-		< 1	< 1	< 1	< 1	< 1
1.2-Dichlorobenzene	1,500	160	-	-		< 1	< 1	< 1	< 1	< 1
1.2-Dichloroethane	3	-	-	-		< 1	< 1	< 1	< 1	< 1
1.2-Dichloropropane	-	-	-	-		< 1	< 1	< 1	< 1	< 1
1.2.3-Trichloropropane	-	-	-	-		< 1	< 1	< 1	< 1	< 1
1.2.4-Trimethylbenzene	-	-	-	-		< 1	< 1	< 1	< 1	< 1
1.3-Dichlorobenzene	-	260	-	-		< 1	< 1	< 1	< 1	< 1
1.3-Dichloropropane	-	-	-	-		< 1	< 1	< 1	< 1	< 1
1.3.5-Trimethylbenzene	-	-	-	-		< 1	< 1	< 1	< 1	< 1
1.4-Dichlorobenzene	40	60	-	-		< 1	< 1	< 1	< 1	< 1
2-Butanone (MEK)	-	-	-	-		< 1	< 1	< 1	< 1	< 1
2-Propanone (Acetone)	-	-	-	-		< 5	< 1	< 1	< 1	< 1
4-Chlorotoluene	-	-	-	-		< 1	< 1	< 1	< 1	< 1

Notes:

Criteria 1 = Australian Drinking Water Guidelines, 2011

Criteria 2 = ANZECC 2000 FW 95%

Criteria 3 = ANZECC 2000 MW 95%

Criteria 4 = US EPA (2019) Regional Screening Level (RSL), Generic Tables, Resident Tapwater

Total concentrations in µg/L

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D2 = duplicate of MW102 (26/08/19)

T2 = triplicate of MW102 (26/08/19)

DW1 = duplicate of MW104 (05/06/19)

TW1 = triplicate of MW104 (05/06/19)

D1 = duplicate of MW104 (20/08/19)

T1 = triplicate of MW104 (20/08/19)

DW3 = duplicate of MW120 (08/10/19)

TW3 = triplicate of MW120 (08/10/19)

DW2 = duplicate of MW201 (27/09/19)

TW2 = triplicate of MW201 (27/09/19)

RPD = relative percent difference of duplicate/triplicate

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11-13 Percy Street

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	Criteria 1	Criteria 2	Criteria 3	Criteria 4						
	Drinking	ANZECC	ANZECC	RSL						
	Water	Freshwater	Marine Water	Resident	Sample ID	MW106	MW107	MW107	MW108	MW108
	Guidelines	95%	95%	Tapwater	Date	20-Aug-19	05-Jun-19	27-Aug-19	05-Jun-19	28-Aug-19
4-Methyl-2-pentanone (MIBK)	-	-	-	-		< 1	< 1	< 1	< 1	< 1
Allyl chloride	-	-	-	-		< 1	< 1	< 1	< 1	< 1
Benzene	1	950	700	-		< 1	< 1	< 1	< 1	< 1
Bromobenzene	-	-	-	-		< 1	< 1	< 1	< 1	< 1
Bromochloromethane	-	-	-	-		< 1	< 1	< 1	< 1	< 1
Bromodichloromethane	-	-	-	-		< 1	< 1	< 1	< 1	< 1
Bromoform	-	-	-	-		< 1	< 1	< 1	< 1	< 1
Bromomethane	1	-	-	-		< 1	< 1	< 1	< 1	< 1
Carbon disulfide	-	-	-	-		< 1	< 1	< 1	< 1	< 1
Carbon Tetrachloride	-	-	-	-		< 1	< 1	< 1	< 1	< 1
Chlorobenzene	-	-	-	-		< 1	< 1	< 1	< 1	< 1
Chloroethane	-	-	-	-		< 1	< 1	< 1	< 1	< 1
Chloroform	-	-	-	-		< 5	< 5	< 5	< 5	< 5
Chloromethane	-	-	-	-		< 1	< 1	< 1	< 1	< 1
cis-1.2-Dichloroethene	-	-	-	-		< 1	< 1	< 1	< 1	< 1
cis-1.3-Dichloropropene	-	-	-	-		< 1	< 1	< 1	< 1	< 1
Dibromochloromethane	-	-	-	-		< 1	< 1	< 1	< 1	< 1
Dibromomethane	-	-	-	-		< 1	< 1	< 1	< 1	< 1
Dichlorodifluoromethane	-	-	-	-		< 1	< 1	< 1	< 1	< 1

Notes:

Criteria 1 = Australian Drinking Water Guidelines, 2011

Criteria 2 = ANZECC 2000 FW 95%

Criteria 3 = ANZECC 2000 MW 95%

Criteria 4 = US EPA (2019) Regional Screening Level (RSL), Generic Tables, Resident Tapwater

Total concentrations in µg/L

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D2 = duplicate of MW102 (26/08/19)

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TW1 = triplicate of MW104 (05/06/19)

D1 = duplicate of MW104 (20/08/19)

T1 = triplicate of MW104 (20/08/19)

DW3 = duplicate of MW120 (08/10/19)

TW3 = triplicate of MW120 (08/10/19)

DW2 = duplicate of MW201 (27/09/19)

TW2 = triplicate of MW201 (27/09/19)

RPD = relative percent difference of duplicate/triplicate

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11-13 Percy Street

Auburn NSW

	Criteria 1	Criteria 2	Criteria 3	Criteria 4						
	Drinking	ANZECC	ANZECC	RSL						
	Water	Freshwater	Marine Water	Resident	Sample ID	MW106	MW107	MW107	MW108	MW108
	Guidelines	95%	95%	Tapwater	Date	20-Aug-19	05-Jun-19	27-Aug-19	05-Jun-19	28-Aug-19
Ethylbenzene	300	-	-	-		< 1	< 1	< 1	< 1	< 1
Iodomethane	-	-	-	-		< 1	< 1	< 1	< 1	< 1
Isopropyl benzene (Cumene)	-	-	-	-		< 1	< 1	< 1	< 1	< 1
m&p-Xylenes	-	-	-	-		< 2	< 2	< 2	< 2	< 2
Methylene Chloride	4	-	-	-		< 1	< 1	< 1	< 1	< 1
o-Xylene	-	350	-	-		< 1	< 1	< 1	< 1	< 1
Styrene	30	-	-	-		< 1	< 1	< 1	< 1	< 1
Tetrachloroethene	50	-	-	-		< 1	< 1	< 1	< 1	< 1
Toluene	800	-	-	-		< 1	< 1	< 1	< 1	< 1
trans-1.2-Dichloroethene	-	-	-	-		< 1	< 1	< 1	< 1	< 1
trans-1.3-Dichloropropene	-	-	-	-		< 1	< 1	< 1	< 1	< 1
Trichloroethene	-	330	-	2.8		< 1	< 1	< 1	< 1	< 1
Trichlorofluoromethane	-	-	-	-		< 1	< 1	< 1	< 1	< 1
Vinyl chloride	0.3	100	-	-		< 1	< 1	< 1	< 1	< 1
Xylenes - Total	600	-	-	-		< 3	< 3	< 3	< 3	< 3

Notes:

Criteria 1 = Australian Drinking Water Guidelines, 2011

Criteria 2 = ANZECC 2000 FW 95%

Criteria 3 = ANZECC 2000 MW 95%

Criteria 4 = US EPA (2019) Regional Screening Level (RSL), Generic Tables, Resident Tapwater

Total concentrations in µg/L

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T2 = triplicate of MW102 (26/08/19)

DW1 = duplicate of MW104 (05/06/19)

TW1 = triplicate of MW104 (05/06/19)

D1 = duplicate of MW104 (20/08/19)

T1 = triplicate of MW104 (20/08/19)

DW3 = duplicate of MW120 (08/10/19)

TW3 = triplicate of MW120 (08/10/19)

DW2 = duplicate of MW201 (27/09/19)

TW2 = triplicate of MW201 (27/09/19)

RPD = relative percent difference of duplicate/triplicate

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Project No.: 1901048

11-13 Percy Street

Auburn NSW

	Criteria 1	Criteria 2	Criteria 3	Criteria 4						
	Drinking	ANZECC	ANZECC	RSL						
	Water	Freshwater	Marine Water	Resident	Sample ID	MW108	MW109	MW109	MW110	MW110
	Guidelines	95%	95%	Tapwater	Date	27-Sep-19	06-Jun-19	28-Aug-19	05-Jun-19	27-Aug-19
1.1-Dichloroethane	-	-	-	-		< 1	< 1	< 1	< 1	< 1
1.1-Dichloroethene	30	700	-	-		< 1	< 1	< 1	< 1	< 1
1.1.1-Trichloroethane	-	-	-	-		< 1	< 1	< 1	< 1	< 1
1.1.1.2-Tetrachloroethane	-	-	-	-		< 1	< 1	< 1	< 1	< 1
1.1.2-Trichloroethane	-	6,500	1,900	-		< 1	< 1	< 1	< 1	< 1
1.1.2.2-Tetrachloroethane	-	-	-	-		< 1	< 1	< 1	< 1	< 1
1.2-Dibromoethane	1	-	-	-		< 1	< 1	< 1	< 1	< 1
1.2-Dichlorobenzene	1,500	160	-	-		< 1	< 1	< 1	< 1	< 1
1.2-Dichloroethane	3	-	-	-		< 1	< 1	< 1	< 1	< 1
1.2-Dichloropropane	-	-	-	-		< 1	< 1	< 1	< 1	< 1
1.2.3-Trichloropropane	-	-	-	-		< 1	< 1	< 1	< 1	< 1
1.2.4-Trimethylbenzene	-	-	-	-		< 1	< 1	< 1	< 1	< 1
1.3-Dichlorobenzene	-	260	-	-		< 1	< 1	< 1	< 1	< 1
1.3-Dichloropropane	-	-	-	-		< 1	< 1	< 1	< 1	< 1
1.3.5-Trimethylbenzene	-	-	-	-		< 1	< 1	< 1	< 1	< 1
1.4-Dichlorobenzene	40	60	-	-		< 1	< 1	< 1	< 1	< 1
2-Butanone (MEK)	-	-	-	-		< 1	< 1	< 1	< 1	< 1
2-Propanone (Acetone)	-	-	-	-		< 1	< 1	< 1	< 1	< 1
4-Chlorotoluene	-	-	-	-		< 1	< 1	< 1	< 1	< 1

Notes:

Criteria 1 = Australian Drinking Water Guidelines, 2011

Criteria 2 = ANZECC 2000 FW 95%

Criteria 3 = ANZECC 2000 MW 95%

Criteria 4 = US EPA (2019) Regional Screening Level (RSL), Generic Tables, Resident Tapwater

Total concentrations in µg/L

- = assessment criteria not available

D2 = duplicate of MW102 (26/08/19)

T2 = triplicate of MW102 (26/08/19)

DW1 = duplicate of MW104 (05/06/19)

TW1 = triplicate of MW104 (05/06/19)

D1 = duplicate of MW104 (20/08/19)

T1 = triplicate of MW104 (20/08/19)

DW3 = duplicate of MW120 (08/10/19)

TW3 = triplicate of MW120 (08/10/19)

DW2 = duplicate of MW201 (27/09/19)

TW2 = triplicate of MW201 (27/09/19)

RPD = relative percent difference of duplicate/triplicate

nc = RPD not calculated, one or both samples below laboratory reporting limit

< # or ND = analyte(s) not detected in excess of laboratory reporting limit

-- = sample not analysed

Bold/red indicates exceedance of assessment criteria

Table 9 : Summary of Groundwater Analytical Data - Volatile Organic Compounds

Detailed Site Investigation

Project No.: 1901048

11-13 Percy Street

Auburn NSW

	Criteria 1	Criteria 2	Criteria 3	Criteria 4						
	Drinking	ANZECC	ANZECC	RSL						
	Water	Freshwater	Marine Water	Resident	Sample ID	MW108	MW109	MW109	MW110	MW110
	Guidelines	95%	95%	Tapwater	Date	27-Sep-19	06-Jun-19	28-Aug-19	05-Jun-19	27-Aug-19
4-Methyl-2-pentanone (MIBK)	-	-	-	-		< 1	< 1	< 1	< 1	< 1
Allyl chloride	-	-	-	-		< 1	< 1	< 1	< 1	< 1
Benzene	1	950	700	-		< 1	< 1	< 1	< 1	< 1
Bromobenzene	-	-	-	-		< 1	< 1	< 1	< 1	< 1
Bromochloromethane	-	-	-	-		< 1	< 1	< 1	< 1	< 1
Bromodichloromethane	-	-	-	-		< 1	< 1	< 1	< 1	< 1
Bromoform	-	-	-	-		< 1	< 1	< 1	< 1	< 1
Bromomethane	1	-	-	-		< 1	< 1	< 1	< 1	< 1
Carbon disulfide	-	-	-	-		< 1	< 1	< 1	< 1	< 1
Carbon Tetrachloride	-	-	-	-		< 1	< 1	< 1	< 1	< 1
Chlorobenzene	-	-	-	-		< 1	< 1	< 1	< 1	< 1
Chloroethane	-	-	-	-		< 1	< 1	< 1	< 1	< 1
Chloroform	-	-	-	-		< 5	< 5	< 5	< 5	< 5
Chloromethane	-	-	-	-		< 1	< 1	< 1	< 1	< 1
cis-1.2-Dichloroethene	-	-	-	-		< 1	< 1	< 1	< 1	< 1
cis-1.3-Dichloropropene	-	-	-	-		< 1	< 1	< 1	< 1	< 1
Dibromochloromethane	-	-	-	-		< 1	< 1	< 1	< 1	< 1
Dibromomethane	-	-	-	-		< 1	< 1	< 1	< 1	< 1
Dichlorodifluoromethane	-	-	-	-		< 1	< 1	< 1	< 1	< 1

Notes:

Criteria 1 = Australian Drinking Water Guidelines, 2011

Criteria 2 = ANZECC 2000 FW 95%

Criteria 3 = ANZECC 2000 MW 95%

Criteria 4 = US EPA (2019) Regional Screening Level (RSL), Generic Tables, Resident Tapwater

Total concentrations in µg/L

- = assessment criteria not available

D2 = duplicate of MW102 (26/08/19)

T2 = triplicate of MW102 (26/08/19)

DW1 = duplicate of MW104 (05/06/19)

TW1 = triplicate of MW104 (05/06/19)

D1 = duplicate of MW104 (20/08/19)

T1 = triplicate of MW104 (20/08/19)

DW3 = duplicate of MW120 (08/10/19)

TW3 = triplicate of MW120 (08/10/19)

DW2 = duplicate of MW201 (27/09/19)

TW2 = triplicate of MW201 (27/09/19)

RPD = relative percent difference of duplicate/triplicate

nc = RPD not calculated, one or both samples below laboratory reporting limit

< # or ND = analyte(s) not detected in excess of laboratory reporting limit

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Table 9 : Summary of Groundwater Analytical Data - Volatile Organic Compounds

Detailed Site Investigation

Project No.: 1901048

11-13 Percy Street

Auburn NSW

	Criteria 1	Criteria 2	Criteria 3	Criteria 4						
	Drinking	ANZECC	ANZECC	RSL						
	Water	Freshwater	Marine Water	Resident	Sample ID	MW108	MW109	MW109	MW110	MW110
	Guidelines	95%	95%	Tapwater	Date	27-Sep-19	06-Jun-19	28-Aug-19	05-Jun-19	27-Aug-19
Ethylbenzene	300	-	-	-		< 1	< 1	< 1	< 1	< 1
Iodomethane	-	-	-	-		< 1	< 1	< 1	< 1	< 1
Isopropyl benzene (Cumene)	-	-	-	-		< 1	< 1	< 1	< 1	< 1
m&p-Xylenes	-	-	-	-		< 2	< 2	< 2	< 2	< 2
Methylene Chloride	4	-	-	-		< 1	< 1	< 1	< 1	< 1
o-Xylene	-	350	-	-		< 1	< 1	< 1	< 1	< 1
Styrene	30	-	-	-		< 1	< 1	< 1	< 1	< 1
Tetrachloroethene	50	-	-	-		< 1	< 1	< 1	< 1	< 1
Toluene	800	-	-	-		< 1	< 1	< 1	< 1	< 1
trans-1.2-Dichloroethene	-	-	-	-		< 1	< 1	< 1	< 1	< 1
trans-1.3-Dichloropropene	-	-	-	-		< 1	< 1	< 1	< 1	< 1
Trichloroethene	-	330	-	2.8		< 1	< 1	< 1	< 1	< 1
Trichlorofluoromethane	-	-	-	-		< 1	< 1	< 1	< 1	< 1
Vinyl chloride	0.3	100	-	-		< 1	< 1	< 1	< 1	< 1
Xylenes - Total	600	-	-	-		< 3	< 3	< 3	< 3	< 3

Notes:

Criteria 1 = Australian Drinking Water Guidelines, 2011

Criteria 2 = ANZECC 2000 FW 95%

Criteria 3 = ANZECC 2000 MW 95%

Criteria 4 = US EPA (2019) Regional Screening Level (RSL), Generic Tables, Resident Tapwater

Total concentrations in µg/L

- = assessment criteria not available

D2 = duplicate of MW102 (26/08/19)

T2 = triplicate of MW102 (26/08/19)

DW1 = duplicate of MW104 (05/06/19)

TW1 = triplicate of MW104 (05/06/19)

D1 = duplicate of MW104 (20/08/19)

T1 = triplicate of MW104 (20/08/19)

DW3 = duplicate of MW120 (08/10/19)

TW3 = triplicate of MW120 (08/10/19)

DW2 = duplicate of MW201 (27/09/19)

TW2 = triplicate of MW201 (27/09/19)

RPD = relative percent difference of duplicate/triplicate

nc = RPD not calculated, one or both samples below laboratory reporting limit

< # or ND = analyte(s) not detected in excess of laboratory reporting limit

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Table 9 : Summary of Groundwater Analytical Data - Volatile Organic Compounds

Detailed Site Investigation

Project No.: 1901048

11-13 Percy Street

Auburn NSW

	Criteria 1	Criteria 2	Criteria 3	Criteria 4						
	Drinking	ANZECC	ANZECC	RSL						
	Water	Freshwater	Marine Water	Resident	Sample ID	MW111	MW111	MW112	MW113	MW114
	Guidelines	95%	95%	Tapwater	Date	05-Jun-19	20-Aug-19	26-Aug-19	27-Aug-19	27-Aug-19
1.1-Dichloroethane	-	-	-	-		< 1	< 1	< 1	< 1	< 1
1.1-Dichloroethene	30	700	-	-		< 1	< 1	< 1	< 1	< 1
1.1.1-Trichloroethane	-	-	-	-		< 1	< 1	< 1	< 1	< 1
1.1.1.2-Tetrachloroethane	-	-	-	-		< 1	< 1	< 1	< 1	< 1
1.1.2-Trichloroethane	-	6,500	1,900	-		< 1	< 1	< 1	< 1	< 1
1.1.2.2-Tetrachloroethane	-	-	-	-		< 1	< 1	< 1	< 1	< 1
1.2-Dibromoethane	1	-	-	-		< 1	< 1	< 1	< 1	< 1
1.2-Dichlorobenzene	1,500	160	-	-		< 1	< 1	< 1	< 1	< 1
1.2-Dichloroethane	3	-	-	-		< 1	< 1	< 1	< 1	< 1
1.2-Dichloropropane	-	-	-	-		< 1	< 1	< 1	< 1	< 1
1.2.3-Trichloropropane	-	-	-	-		< 1	< 1	< 1	< 1	< 1
1.2.4-Trimethylbenzene	-	-	-	-		< 1	< 1	< 1	< 1	< 1
1.3-Dichlorobenzene	-	260	-	-		< 1	< 1	< 1	< 1	< 1
1.3-Dichloropropane	-	-	-	-		< 1	< 1	< 1	< 1	< 1
1.3.5-Trimethylbenzene	-	-	-	-		< 1	< 1	< 1	< 1	< 1
1.4-Dichlorobenzene	40	60	-	-		< 1	< 1	< 1	< 1	< 1
2-Butanone (MEK)	-	-	-	-		< 1	< 1	< 1	< 1	< 1
2-Propanone (Acetone)	-	-	-	-		< 1	< 1	< 1	< 1	< 1
4-Chlorotoluene	-	-	-	-		< 1	< 1	< 1	< 1	< 1

Notes:

Criteria 1 = Australian Drinking Water Guidelines, 2011

Criteria 2 = ANZECC 2000 FW 95%

Criteria 3 = ANZECC 2000 MW 95%

Criteria 4 = US EPA (2019) Regional Screening Level (RSL), Generic Tables, Resident Tapwater

Total concentrations in µg/L

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D2 = duplicate of MW102 (26/08/19)

T2 = triplicate of MW102 (26/08/19)

DW1 = duplicate of MW104 (05/06/19)

TW1 = triplicate of MW104 (05/06/19)

D1 = duplicate of MW104 (20/08/19)

T1 = triplicate of MW104 (20/08/19)

DW3 = duplicate of MW120 (08/10/19)

TW3 = triplicate of MW120 (08/10/19)

DW2 = duplicate of MW201 (27/09/19)

TW2 = triplicate of MW201 (27/09/19)

RPD = relative percent difference of duplicate/triplicate

nc = RPD not calculated, one or both samples below laboratory reporting limit

< # or ND = analyte(s) not detected in excess of laboratory reporting limit

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Bold/red indicates exceedance of assessment criteria

Table 9 : Summary of Groundwater Analytical Data - Volatile Organic Compounds

Detailed Site Investigation

Project No.: 1901048

11-13 Percy Street

Auburn NSW

	Criteria 1	Criteria 2	Criteria 3	Criteria 4						
	Drinking	ANZECC	ANZECC	RSL						
	Water	Freshwater	Marine Water	Resident	Sample ID	MW111	MW111	MW112	MW113	MW114
	Guidelines	95%	95%	Tapwater	Date	05-Jun-19	20-Aug-19	26-Aug-19	27-Aug-19	27-Aug-19
4-Methyl-2-pentanone (MIBK)	-	-	-	-		< 1	< 1	< 1	< 1	< 1
Allyl chloride	-	-	-	-		< 1	< 1	< 1	< 1	< 1
Benzene	1	950	700	-		< 1	< 1	< 1	< 1	< 1
Bromobenzene	-	-	-	-		< 1	< 1	< 1	< 1	< 1
Bromochloromethane	-	-	-	-		< 1	< 1	< 1	< 1	< 1
Bromodichloromethane	-	-	-	-		< 1	< 1	< 1	< 1	< 1
Bromoform	-	-	-	-		< 1	< 1	< 1	< 1	< 1
Bromomethane	1	-	-	-		< 1	< 1	< 1	< 1	< 1
Carbon disulfide	-	-	-	-		< 1	< 1	< 1	< 1	< 1
Carbon Tetrachloride	-	-	-	-		< 1	< 1	< 1	< 1	< 1
Chlorobenzene	-	-	-	-		< 1	< 1	< 1	< 1	< 1
Chloroethane	-	-	-	-		< 1	< 1	< 1	< 1	< 1
Chloroform	-	-	-	-		< 5	< 5	< 5	< 5	< 5
Chloromethane	-	-	-	-		< 1	< 1	< 1	< 1	< 1
cis-1.2-Dichloroethene	-	-	-	-		24	22	< 1	< 1	< 1
cis-1.3-Dichloropropene	-	-	-	-		< 1	< 1	< 1	< 1	< 1
Dibromochloromethane	-	-	-	-		< 1	< 1	< 1	< 1	< 1
Dibromomethane	-	-	-	-		< 1	< 1	< 1	< 1	< 1
Dichlorodifluoromethane	-	-	-	-		< 1	< 1	< 1	< 1	< 1

Notes:

Criteria 1 = Australian Drinking Water Guidelines, 2011

Criteria 2 = ANZECC 2000 FW 95%

Criteria 3 = ANZECC 2000 MW 95%

Criteria 4 = US EPA (2019) Regional Screening Level (RSL), Generic Tables, Resident Tapwater

Total concentrations in µg/L

- = assessment criteria not available

D2 = duplicate of MW102 (26/08/19)

T2 = triplicate of MW102 (26/08/19)

DW1 = duplicate of MW104 (05/06/19)

TW1 = triplicate of MW104 (05/06/19)

D1 = duplicate of MW104 (20/08/19)

T1 = triplicate of MW104 (20/08/19)

DW3 = duplicate of MW120 (08/10/19)

TW3 = triplicate of MW120 (08/10/19)

DW2 = duplicate of MW201 (27/09/19)

TW2 = triplicate of MW201 (27/09/19)

RPD = relative percent difference of duplicate/triplicate

nc = RPD not calculated, one or both samples below laboratory reporting limit

< # or ND = analyte(s) not detected in excess of laboratory reporting limit

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Table 9 : Summary of Groundwater Analytical Data - Volatile Organic Compounds

Detailed Site Investigation

Project No.: 1901048

11-13 Percy Street

Auburn NSW

	Criteria 1	Criteria 2	Criteria 3	Criteria 4						
	Drinking	ANZECC	ANZECC	RSL						
	Water	Freshwater	Marine Water	Resident	Sample ID	MW111	MW111	MW112	MW113	MW114
	Guidelines	95%	95%	Tapwater	Date	05-Jun-19	20-Aug-19	26-Aug-19	27-Aug-19	27-Aug-19
Ethylbenzene	300	-	-	-		< 1	< 1	< 1	< 1	< 1
Iodomethane	-	-	-	-		< 1	< 1	< 1	< 1	< 1
Isopropyl benzene (Cumene)	-	-	-	-		< 1	< 1	< 1	< 1	< 1
m&p-Xylenes	-	-	-	-		< 2	< 2	< 2	< 2	< 2
Methylene Chloride	4	-	-	-		< 1	< 1	< 1	< 1	< 1
o-Xylene	-	350	-	-		< 1	< 1	< 1	< 1	< 1
Styrene	30	-	-	-		< 1	< 1	< 1	< 1	< 1
Tetrachloroethene	50	-	-	-		< 1	< 1	< 1	< 1	< 1
Toluene	800	-	-	-		< 1	< 1	< 1	< 1	< 1
trans-1.2-Dichloroethene	-	-	-	-		2	< 1	< 1	< 1	< 1
trans-1.3-Dichloropropene	-	-	-	-		< 1	< 1	< 1	< 1	< 1
Trichloroethene	-	330	-	2.8		13	11	< 1	< 1	< 1
Trichlorofluoromethane	-	-	-	-		< 1	< 1	< 1	< 1	< 1
Vinyl chloride	0.3	100	-	-		9	7	< 1	< 1	< 1
Xylenes - Total	600	-	-	-		< 3	< 3	< 3	< 3	< 3

Notes:

Criteria 1 = Australian Drinking Water Guidelines, 2011

Criteria 2 = ANZECC 2000 FW 95%

Criteria 3 = ANZECC 2000 MW 95%

Criteria 4 = US EPA (2019) Regional Screening Level (RSL), Generic Tables, Resident Tapwater

Total concentrations in µg/L

- = assessment criteria not available

D2 = duplicate of MW102 (26/08/19)

T2 = triplicate of MW102 (26/08/19)

DW1 = duplicate of MW104 (05/06/19)

TW1 = triplicate of MW104 (05/06/19)

D1 = duplicate of MW104 (20/08/19)

T1 = triplicate of MW104 (20/08/19)

DW3 = duplicate of MW120 (08/10/19)

TW3 = triplicate of MW120 (08/10/19)

DW2 = duplicate of MW201 (27/09/19)

TW2 = triplicate of MW201 (27/09/19)

RPD = relative percent difference of duplicate/triplicate

nc = RPD not calculated, one or both samples below laboratory reporting limit

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Bold/red indicates exceedance of assessment criteria

Table 9 : Summary of Groundwater Analytical Data - Volatile Organic Compounds

Detailed Site Investigation

Project No.: 1901048

11-13 Percy Street

Auburn NSW

	Criteria 1	Criteria 2	Criteria 3	Criteria 4						
	Drinking	ANZECC	ANZECC	RSL						
	Water	Freshwater	Marine Water	Resident	Sample ID	MW115	MW116	MW117	MW118	MW119
	Guidelines	95%	95%	Tapwater	Date	27-Aug-19	26-Aug-19	08-Oct-19	08-Oct-19	08-Oct-19
1.1-Dichloroethane	-	-	-	-		< 1	< 1	< 1	< 1	< 1
1.1-Dichloroethene	30	700	-	-		< 1	< 1	< 1	< 1	< 1
1.1.1-Trichloroethane	-	-	-	-		< 1	< 1	< 1	< 1	< 1
1.1.1.2-Tetrachloroethane	-	-	-	-		< 1	< 1	< 1	< 1	< 1
1.1.2-Trichloroethane	-	6,500	1,900	-		< 1	< 1	< 1	< 1	< 1
1.1.2.2-Tetrachloroethane	-	-	-	-		< 1	< 1	< 1	< 1	< 1
1.2-Dibromoethane	1	-	-	-		< 1	< 1	< 1	< 1	< 1
1.2-Dichlorobenzene	1,500	160	-	-		< 1	< 1	< 1	< 1	< 1
1.2-Dichloroethane	3	-	-	-		< 1	< 1	< 1	< 1	< 1
1.2-Dichloropropane	-	-	-	-		< 1	< 1	< 1	< 1	< 1
1.2.3-Trichloropropane	-	-	-	-		< 1	< 1	< 1	< 1	< 1
1.2.4-Trimethylbenzene	-	-	-	-		< 1	< 1	< 1	< 1	< 1
1.3-Dichlorobenzene	-	260	-	-		< 1	< 1	< 1	< 1	< 1
1.3-Dichloropropane	-	-	-	-		< 1	< 1	< 1	< 1	< 1
1.3.5-Trimethylbenzene	-	-	-	-		< 1	< 1	< 1	< 1	< 1
1.4-Dichlorobenzene	40	60	-	-		< 1	< 1	< 1	< 1	< 1
2-Butanone (MEK)	-	-	-	-		< 1	< 1	< 1	< 1	< 1
2-Propanone (Acetone)	-	-	-	-		4	13	1	16	3
4-Chlorotoluene	-	-	-	-		< 1	< 1	< 1	< 1	< 1

Notes:

Criteria 1 = Australian Drinking Water Guidelines, 2011

Criteria 2 = ANZECC 2000 FW 95%

Criteria 3 = ANZECC 2000 MW 95%

Criteria 4 = US EPA (2019) Regional Screening Level (RSL), Generic Tables, Resident Tapwater

Total concentrations in µg/L

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D2 = duplicate of MW102 (26/08/19)

T2 = triplicate of MW102 (26/08/19)

DW1 = duplicate of MW104 (05/06/19)

TW1 = triplicate of MW104 (05/06/19)

D1 = duplicate of MW104 (20/08/19)

T1 = triplicate of MW104 (20/08/19)

DW3 = duplicate of MW120 (08/10/19)

TW3 = triplicate of MW120 (08/10/19)

DW2 = duplicate of MW201 (27/09/19)

TW2 = triplicate of MW201 (27/09/19)

RPD = relative percent difference of duplicate/triplicate

nc = RPD not calculated, one or both samples below laboratory reporting limit

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11-13 Percy Street

Auburn NSW

	Criteria 1	Criteria 2	Criteria 3	Criteria 4						
	Drinking	ANZECC	ANZECC	RSL						
	Water	Freshwater	Marine Water	Resident	Sample ID	MW115	MW116	MW117	MW118	MW119
	Guidelines	95%	95%	Tapwater	Date	27-Aug-19	26-Aug-19	08-Oct-19	08-Oct-19	08-Oct-19
4-Methyl-2-pentanone (MIBK)	-	-	-	-		< 1	< 1	< 1	< 1	< 1
Allyl chloride	-	-	-	-		< 1	< 1	< 1	< 1	< 1
Benzene	1	950	700	-		< 1	< 1	< 1	< 1	< 1
Bromobenzene	-	-	-	-		< 1	< 1	< 1	< 1	< 1
Bromochloromethane	-	-	-	-		< 1	< 1	< 1	< 1	< 1
Bromodichloromethane	-	-	-	-		< 1	< 1	< 1	< 1	< 1
Bromoform	-	-	-	-		< 1	< 1	< 1	< 1	< 1
Bromomethane	1	-	-	-		< 1	< 1	< 1	< 1	< 1
Carbon disulfide	-	-	-	-		< 1	< 1	< 1	< 1	< 1
Carbon Tetrachloride	-	-	-	-		< 1	< 1	< 1	< 1	< 1
Chlorobenzene	-	-	-	-		< 1	< 1	< 1	< 1	< 1
Chloroethane	-	-	-	-		< 1	< 1	< 1	< 1	< 1
Chloroform	-	-	-	-		< 5	< 5	< 5	< 5	< 5
Chloromethane	-	-	-	-		< 1	< 1	< 1	< 1	< 1
cis-1.2-Dichloroethene	-	-	-	-		< 1	< 1	< 1	< 1	< 1
cis-1.3-Dichloropropene	-	-	-	-		< 1	< 1	< 1	< 1	< 1
Dibromochloromethane	-	-	-	-		< 1	< 1	< 1	< 1	< 1
Dibromomethane	-	-	-	-		< 1	< 1	< 1	< 1	< 1
Dichlorodifluoromethane	-	-	-	-		< 1	< 1	< 1	< 1	< 1

Notes:

Criteria 1 = Australian Drinking Water Guidelines, 2011

Criteria 2 = ANZECC 2000 FW 95%

Criteria 3 = ANZECC 2000 MW 95%

Criteria 4 = US EPA (2019) Regional Screening Level (RSL), Generic Tables, Resident Tapwater

Total concentrations in µg/L

- = assessment criteria not available

D2 = duplicate of MW102 (26/08/19)

T2 = triplicate of MW102 (26/08/19)

DW1 = duplicate of MW104 (05/06/19)

TW1 = triplicate of MW104 (05/06/19)

D1 = duplicate of MW104 (20/08/19)

T1 = triplicate of MW104 (20/08/19)

DW3 = duplicate of MW120 (08/10/19)

TW3 = triplicate of MW120 (08/10/19)

DW2 = duplicate of MW201 (27/09/19)

TW2 = triplicate of MW201 (27/09/19)

RPD = relative percent difference of duplicate/triplicate

nc = RPD not calculated, one or both samples below laboratory reporting limit

< # or ND = analyte(s) not detected in excess of laboratory reporting limit

-- = sample not analysed

Bold/red indicates exceedance of assessment criteria

Table 9 : Summary of Groundwater Analytical Data - Volatile Organic Compounds

Detailed Site Investigation

Project No.: 1901048

11-13 Percy Street

Auburn NSW

	Criteria 1	Criteria 2	Criteria 3	Criteria 4						
	Drinking	ANZECC	ANZECC	RSL						
	Water	Freshwater	Marine Water	Resident	Sample ID	MW115	MW116	MW117	MW118	MW119
	Guidelines	95%	95%	Tapwater	Date	27-Aug-19	26-Aug-19	08-Oct-19	08-Oct-19	08-Oct-19
Ethylbenzene	300	-	-	-		< 1	< 1	< 1	< 1	< 1
Iodomethane	-	-	-	-		< 1	< 1	< 1	< 1	< 1
Isopropyl benzene (Cumene)	-	-	-	-		< 1	< 1	< 1	< 1	< 1
m&p-Xylenes	-	-	-	-		< 2	< 2	< 2	< 2	< 2
Methylene Chloride	4	-	-	-		< 1	< 1	< 1	< 1	< 1
o-Xylene	-	350	-	-		< 1	< 1	< 1	< 1	< 1
Styrene	30	-	-	-		< 1	< 1	< 1	< 1	< 1
Tetrachloroethene	50	-	-	-		< 1	< 1	< 1	< 1	< 1
Toluene	800	-	-	-		< 1	< 1	< 1	< 1	< 1
trans-1.2-Dichloroethene	-	-	-	-		< 1	< 1	< 1	< 1	< 1
trans-1.3-Dichloropropene	-	-	-	-		< 1	< 1	< 1	< 1	< 1
Trichloroethene	-	330	-	2.8		< 1	< 1	< 1	< 1	< 1
Trichlorofluoromethane	-	-	-	-		< 1	< 1	< 1	< 1	< 1
Vinyl chloride	0.3	100	-	-		< 1	< 1	< 1	< 1	< 1
Xylenes - Total	600	-	-	-		< 3	< 3	< 3	< 3	< 3

Notes:

Criteria 1 = Australian Drinking Water Guidelines, 2011

Criteria 2 = ANZECC 2000 FW 95%

Criteria 3 = ANZECC 2000 MW 95%

Criteria 4 = US EPA (2019) Regional Screening Level (RSL), Generic Tables, Resident Tapwater

Total concentrations in µg/L

- = assessment criteria not available

D2 = duplicate of MW102 (26/08/19)

T2 = triplicate of MW102 (26/08/19)

DW1 = duplicate of MW104 (05/06/19)

TW1 = triplicate of MW104 (05/06/19)

D1 = duplicate of MW104 (20/08/19)

T1 = triplicate of MW104 (20/08/19)

DW3 = duplicate of MW120 (08/10/19)

TW3 = triplicate of MW120 (08/10/19)

DW2 = duplicate of MW201 (27/09/19)

TW2 = triplicate of MW201 (27/09/19)

RPD = relative percent difference of duplicate/triplicate

nc = RPD not calculated, one or both samples below laboratory reporting limit

< # or ND = analyte(s) not detected in excess of laboratory reporting limit

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Detailed Site Investigation

Project No.: 1901048

11-13 Percy Street

Auburn NSW

	Criteria 1	Criteria 2	Criteria 3	Criteria 4						
	Drinking	ANZECC	ANZECC	RSL						
	Water	Freshwater	Marine Water	Resident	Sample ID	MW120	DW3	RPD_DW3	TW3	RPD_TW3
	Guidelines	95%	95%	Tapwater	Date	08-Oct-19	08-Oct-19	-	08-Oct-19	-
1.1-Dichloroethane	-	-	-	-		< 1	< 1	nc	< 1	nc
1.1-Dichloroethene	30	700	-	-		< 1	< 1	nc	< 1	nc
1.1.1-Trichloroethane	-	-	-	-		< 1	< 1	nc	< 1	nc
1.1.1.2-Tetrachloroethane	-	-	-	-		< 1	< 1	nc	< 1	nc
1.1.2-Trichloroethane	-	6,500	1,900	-		< 1	< 1	nc	< 1	nc
1.1.2.2-Tetrachloroethane	-	-	-	-		< 1	< 1	nc	< 1	nc
1.2-Dibromoethane	1	-	-	-		< 1	< 1	nc	< 1	nc
1.2-Dichlorobenzene	1,500	160	-	-		< 1	< 1	nc	< 1	nc
1.2-Dichloroethane	3	-	-	-		< 1	< 1	nc	< 1	nc
1.2-Dichloropropane	-	-	-	-		< 1	< 1	nc	< 1	nc
1.2.3-Trichloropropane	-	-	-	-		< 1	< 1	nc	< 1	nc
1.2.4-Trimethylbenzene	-	-	-	-		2	2	0%	1	67%
1.3-Dichlorobenzene	-	260	-	-		< 1	< 1	nc	< 1	nc
1.3-Dichloropropane	-	-	-	-		< 1	< 1	nc	< 1	nc
1.3.5-Trimethylbenzene	-	-	-	-		< 1	< 1	nc	< 1	nc
1.4-Dichlorobenzene	40	60	-	-		< 1	< 1	nc	< 1	nc
2-Butanone (MEK)	-	-	-	-		< 1	< 1	nc	< 1	nc
2-Propanone (Acetone)	-	-	-	-		3	3	0%	< 1	nc
4-Chlorotoluene	-	-	-	-		< 1	< 1	nc	< 1	nc

Notes:

Criteria 1 = Australian Drinking Water Guidelines, 2011

Criteria 2 = ANZECC 2000 FW 95%

Criteria 3 = ANZECC 2000 MW 95%

Criteria 4 = US EPA (2019) Regional Screening Level (RSL), Generic Tables, Resident Tapwater

Total concentrations in µg/L

- = assessment criteria not available

D2 = duplicate of MW102 (26/08/19)

T2 = triplicate of MW102 (26/08/19)

DW1 = duplicate of MW104 (05/06/19)

TW1 = triplicate of MW104 (05/06/19)

D1 = duplicate of MW104 (20/08/19)

T1 = triplicate of MW104 (20/08/19)

DW3 = duplicate of MW120 (08/10/19)

TW3 = triplicate of MW120 (08/10/19)

DW2 = duplicate of MW201 (27/09/19)

TW2 = triplicate of MW201 (27/09/19)

RPD = relative percent difference of duplicate/triplicate

nc = RPD not calculated, one or both samples below laboratory reporting limit

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Detailed Site Investigation

Project No.: 1901048

11-13 Percy Street

Auburn NSW

	Criteria 1	Criteria 2	Criteria 3	Criteria 4						
	Drinking	ANZECC	ANZECC	RSL						
	Water	Freshwater	Marine Water	Resident	Sample ID	MW120	DW3	RPD_DW3	TW3	RPD_TW3
	Guidelines	95%	95%	Tapwater	Date	08-Oct-19	08-Oct-19	-	08-Oct-19	-
4-Methyl-2-pentanone (MIBK)	-	-	-	-		< 1	< 1	nc	< 1	nc
Allyl chloride	-	-	-	-		< 1	< 1	nc	< 1	nc
Benzene	1	950	700	-		< 1	< 1	nc	< 1	nc
Bromobenzene	-	-	-	-		< 1	< 1	nc	< 1	nc
Bromochloromethane	-	-	-	-		< 1	< 1	nc	< 1	nc
Bromodichloromethane	-	-	-	-		< 1	< 1	nc	< 1	nc
Bromoform	-	-	-	-		< 1	< 1	nc	< 1	nc
Bromomethane	1	-	-	-		< 1	< 1	nc	< 1	nc
Carbon disulfide	-	-	-	-		< 1	< 1	nc	< 1	nc
Carbon Tetrachloride	-	-	-	-		< 1	< 1	nc	< 1	nc
Chlorobenzene	-	-	-	-		< 1	< 1	nc	< 1	nc
Chloroethane	-	-	-	-		< 1	< 1	nc	< 1	nc
Chloroform	-	-	-	-		< 5	< 5	nc	< 5	nc
Chloromethane	-	-	-	-		< 1	< 1	nc	< 1	nc
cis-1.2-Dichloroethene	-	-	-	-		< 1	< 1	nc	< 1	nc
cis-1.3-Dichloropropene	-	-	-	-		< 1	< 1	nc	< 1	nc
Dibromochloromethane	-	-	-	-		< 1	< 1	nc	< 1	nc
Dibromomethane	-	-	-	-		< 1	< 1	nc	< 1	nc
Dichlorodifluoromethane	-	-	-	-		< 1	< 1	nc	< 1	nc

Notes:

Criteria 1 = Australian Drinking Water Guidelines, 2011

Criteria 2 = ANZECC 2000 FW 95%

Criteria 3 = ANZECC 2000 MW 95%

Criteria 4 = US EPA (2019) Regional Screening Level (RSL), Generic Tables, Resident Tapwater

Total concentrations in µg/L

- = assessment criteria not available

D2 = duplicate of MW102 (26/08/19)

T2 = triplicate of MW102 (26/08/19)

DW1 = duplicate of MW104 (05/06/19)

TW1 = triplicate of MW104 (05/06/19)

D1 = duplicate of MW104 (20/08/19)

T1 = triplicate of MW104 (20/08/19)

DW3 = duplicate of MW120 (08/10/19)

TW3 = triplicate of MW120 (08/10/19)

DW2 = duplicate of MW201 (27/09/19)

TW2 = triplicate of MW201 (27/09/19)

RPD = relative percent difference of duplicate/triplicate

nc = RPD not calculated, one or both samples below laboratory reporting limit

< # or ND = analyte(s) not detected in excess of laboratory reporting limit

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Detailed Site Investigation

Project No.: 1901048

11-13 Percy Street

Auburn NSW

	Criteria 1	Criteria 2	Criteria 3	Criteria 4						
	Drinking	ANZECC	ANZECC	RSL						
	Water	Freshwater	Marine Water	Resident	Sample ID	MW120	DW3	RPD_DW3	TW3	RPD_TW3
	Guidelines	95%	95%	Tapwater	Date	08-Oct-19	08-Oct-19	-	08-Oct-19	-
Ethylbenzene	300	-	-	-		1	2	67%	< 1	nc
Iodomethane	-	-	-	-		< 1	< 1	nc	< 1	nc
Isopropyl benzene (Cumene)	-	-	-	-		5	5	0%	3	50%
m&p-Xylenes	-	-	-	-		< 2	< 2	nc	< 2	nc
Methylene Chloride	4	-	-	-		< 1	< 1	nc	< 1	nc
o-Xylene	-	350	-	-		1	1	0%	< 1	nc
Styrene	30	-	-	-		< 1	< 1	nc	< 1	nc
Tetrachloroethene	50	-	-	-		< 1	< 1	nc	< 1	nc
Toluene	800	-	-	-		< 1	< 1	nc	< 1	nc
trans-1.2-Dichloroethene	-	-	-	-		< 1	< 1	nc	< 1	nc
trans-1.3-Dichloropropene	-	-	-	-		< 1	< 1	nc	< 1	nc
Trichloroethene	-	330	-	2.8		< 1	< 1	nc	< 1	nc
Trichlorofluoromethane	-	-	-	-		< 1	< 1	nc	< 1	nc
Vinyl chloride	0.3	100	-	-		< 1	< 1	nc	< 1	nc
Xylenes - Total	600	-	-	-		< 3	3	nc	< 3	nc

Notes:

Criteria 1 = Australian Drinking Water Guidelines, 2011

Criteria 2 = ANZECC 2000 FW 95%

Criteria 3 = ANZECC 2000 MW 95%

Criteria 4 = US EPA (2019) Regional Screening Level (RSL), Generic Tables, Resident Tapwater

Total concentrations in µg/L

- = assessment criteria not available

D2 = duplicate of MW102 (26/08/19)

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TW1 = triplicate of MW104 (05/06/19)

D1 = duplicate of MW104 (20/08/19)

T1 = triplicate of MW104 (20/08/19)

DW3 = duplicate of MW120 (08/10/19)

TW3 = triplicate of MW120 (08/10/19)

DW2 = duplicate of MW201 (27/09/19)

TW2 = triplicate of MW201 (27/09/19)

RPD = relative percent difference of duplicate/triplicate

nc = RPD not calculated, one or both samples below laboratory reporting limit

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Detailed Site Investigation

Project No.: 1901048

11-13 Percy Street

Auburn NSW

	Criteria 1	Criteria 2	Criteria 3	Criteria 4						
	Drinking	ANZECC	ANZECC	RSL						
	Water	Freshwater	Marine Water	Resident	Sample ID	MW121	MW201	DW2	RPD_DW2	TW2
	Guidelines	95%	95%	Tapwater	Date	08-Oct-19	27-Sep-19	27-Sep-19	-	27-Sep-19
1.1-Dichloroethane	-	-	-	-		< 1	< 1	< 1	nc	< 1
1.1-Dichloroethene	30	700	-	-		< 1	< 1	< 1	nc	< 1
1.1.1-Trichloroethane	-	-	-	-		< 1	< 1	< 1	nc	< 1
1.1.1.2-Tetrachloroethane	-	-	-	-		< 1	< 1	< 1	nc	< 1
1.1.2-Trichloroethane	-	6,500	1,900	-		< 1	< 1	< 1	nc	< 1
1.1.2.2-Tetrachloroethane	-	-	-	-		< 1	< 1	< 1	nc	< 1
1.2-Dibromoethane	1	-	-	-		< 1	< 1	< 1	nc	< 1
1.2-Dichlorobenzene	1,500	160	-	-		< 1	< 1	< 1	nc	< 1
1.2-Dichloroethane	3	-	-	-		< 1	< 1	< 1	nc	< 1
1.2-Dichloropropane	-	-	-	-		< 1	< 1	< 1	nc	< 1
1.2.3-Trichloropropane	-	-	-	-		< 1	< 1	< 1	nc	< 1
1.2.4-Trimethylbenzene	-	-	-	-		< 1	< 1	< 1	nc	< 1
1.3-Dichlorobenzene	-	260	-	-		< 1	< 1	< 1	nc	< 1
1.3-Dichloropropane	-	-	-	-		< 1	< 1	< 1	nc	< 1
1.3.5-Trimethylbenzene	-	-	-	-		< 1	< 1	< 1	nc	< 1
1.4-Dichlorobenzene	40	60	-	-		< 1	< 1	< 1	nc	< 1
2-Butanone (MEK)	-	-	-	-		< 1	< 1	< 1	nc	< 1
2-Propanone (Acetone)	-	-	-	-		< 1	< 1	< 1	nc	< 1
4-Chlorotoluene	-	-	-	-		< 1	< 1	< 1	nc	< 1

Notes:

Criteria 1 = Australian Drinking Water Guidelines, 2011

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Total concentrations in µg/L

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TW1 = triplicate of MW104 (05/06/19)

D1 = duplicate of MW104 (20/08/19)

T1 = triplicate of MW104 (20/08/19)

DW3 = duplicate of MW120 (08/10/19)

TW3 = triplicate of MW120 (08/10/19)

DW2 = duplicate of MW201 (27/09/19)

TW2 = triplicate of MW201 (27/09/19)

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	Criteria 1	Criteria 2	Criteria 3	Criteria 4						
	Drinking	ANZECC	ANZECC	RSL						
	Water	Freshwater	Marine Water	Resident	Sample ID	MW121	MW201	DW2	RPD_DW2	TW2
	Guidelines	95%	95%	Tapwater	Date	08-Oct-19	27-Sep-19	27-Sep-19	-	27-Sep-19
4-Methyl-2-pentanone (MIBK)	-	-	-	-		< 1	< 1	< 1	nc	< 1
Allyl chloride	-	-	-	-		< 1	< 1	< 1	nc	< 1
Benzene	1	950	700	-		< 1	< 1	< 1	nc	< 1
Bromobenzene	-	-	-	-		< 1	< 1	< 1	nc	< 1
Bromochloromethane	-	-	-	-		< 1	< 1	< 1	nc	< 1
Bromodichloromethane	-	-	-	-		< 1	< 1	< 1	nc	< 1
Bromoform	-	-	-	-		< 1	< 1	< 1	nc	< 1
Bromomethane	1	-	-	-		< 1	< 1	< 1	nc	< 1
Carbon disulfide	-	-	-	-		< 1	< 1	< 1	nc	< 1
Carbon Tetrachloride	-	-	-	-		< 1	< 1	< 1	nc	< 1
Chlorobenzene	-	-	-	-		< 1	< 1	< 1	nc	< 1
Chloroethane	-	-	-	-		< 1	< 1	< 1	nc	< 1
Chloroform	-	-	-	-		< 5	< 5	< 5	nc	< 5
Chloromethane	-	-	-	-		< 1	< 1	< 1	nc	< 1
cis-1.2-Dichloroethene	-	-	-	-		< 1	< 1	< 1	nc	< 1
cis-1.3-Dichloropropene	-	-	-	-		< 1	< 1	< 1	nc	< 1
Dibromochloromethane	-	-	-	-		< 1	< 1	< 1	nc	< 1
Dibromomethane	-	-	-	-		< 1	< 1	< 1	nc	< 1
Dichlorodifluoromethane	-	-	-	-		< 1	< 1	< 1	nc	< 1

Notes:

Criteria 1 = Australian Drinking Water Guidelines, 2011

Criteria 2 = ANZECC 2000 FW 95%

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Criteria 4 = US EPA (2019) Regional Screening Level (RSL), Generic Tables, Resident Tapwater

Total concentrations in µg/L

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D2 = duplicate of MW102 (26/08/19)

T2 = triplicate of MW102 (26/08/19)

DW1 = duplicate of MW104 (05/06/19)

TW1 = triplicate of MW104 (05/06/19)

D1 = duplicate of MW104 (20/08/19)

T1 = triplicate of MW104 (20/08/19)

DW3 = duplicate of MW120 (08/10/19)

TW3 = triplicate of MW120 (08/10/19)

DW2 = duplicate of MW201 (27/09/19)

TW2 = triplicate of MW201 (27/09/19)

RPD = relative percent difference of duplicate/triplicate

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Detailed Site Investigation

Project No.: 1901048

11-13 Percy Street

Auburn NSW

	Criteria 1	Criteria 2	Criteria 3	Criteria 4						
	Drinking	ANZECC	ANZECC	RSL						
	Water	Freshwater	Marine Water	Resident	Sample ID	MW121	MW201	DW2	RPD_DW2	TW2
	Guidelines	95%	95%	Tapwater	Date	08-Oct-19	27-Sep-19	27-Sep-19	-	27-Sep-19
Ethylbenzene	300	-	-	-		< 1	< 1	< 1	nc	< 1
Iodomethane	-	-	-	-		< 1	< 1	< 1	nc	< 1
Isopropyl benzene (Cumene)	-	-	-	-		< 1	< 1	< 1	nc	< 1
m&p-Xylenes	-	-	-	-		< 2	< 2	< 2	nc	< 2
Methylene Chloride	4	-	-	-		< 1	< 1	< 1	nc	< 1
o-Xylene	-	350	-	-		< 1	< 1	< 1	nc	< 1
Styrene	30	-	-	-		< 1	< 1	< 1	nc	< 1
Tetrachloroethene	50	-	-	-		< 1	< 1	< 1	nc	< 1
Toluene	800	-	-	-		< 1	< 1	< 1	nc	< 1
trans-1.2-Dichloroethene	-	-	-	-		< 1	< 1	< 1	nc	< 1
trans-1.3-Dichloropropene	-	-	-	-		< 1	< 1	< 1	nc	< 1
Trichloroethene	-	330	-	2.8		< 1	< 1	< 1	nc	< 1
Trichlorofluoromethane	-	-	-	-		< 1	< 1	< 1	nc	< 1
Vinyl chloride	0.3	100	-	-		< 1	< 1	< 1	nc	< 1
Xylenes - Total	600	-	-	-		< 3	< 3	< 3	nc	< 3

Notes:

Criteria 1 = Australian Drinking Water Guidelines, 2011

Criteria 2 = ANZECC 2000 FW 95%

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Total concentrations in µg/L

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D2 = duplicate of MW102 (26/08/19)

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DW1 = duplicate of MW104 (05/06/19)

TW1 = triplicate of MW104 (05/06/19)

D1 = duplicate of MW104 (20/08/19)

T1 = triplicate of MW104 (20/08/19)

DW3 = duplicate of MW120 (08/10/19)

TW3 = triplicate of MW120 (08/10/19)

DW2 = duplicate of MW201 (27/09/19)

TW2 = triplicate of MW201 (27/09/19)

RPD = relative percent difference of duplicate/triplicate

nc = RPD not calculated, one or both samples below laboratory reporting limit

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Table 9 : Summary of Groundwater Analytical Data - Volatile Organic Compounds

Detailed Site Investigation

Project No.: 1901048

11-13 Percy Street

Auburn NSW

	Criteria 1	Criteria 2	Criteria 3	Criteria 4						
	Drinking	ANZECC	ANZECC	RSL						
	Water	Freshwater	Marine Water	Resident	Sample ID	RPD_TW2	MW202	MW203	MW204	MW205
	Guidelines	95%	95%	Tapwater	Date	-	27-Sep-19	27-Sep-19	08-Oct-19	08-Oct-19
1.1-Dichloroethane	-	-	-	-		nc	< 1	< 1	< 1	< 1
1.1-Dichloroethene	30	700	-	-		nc	< 1	< 1	< 1	< 1
1.1.1-Trichloroethane	-	-	-	-		nc	< 1	< 1	< 1	< 1
1.1.1.2-Tetrachloroethane	-	-	-	-		nc	< 1	< 1	< 1	< 1
1.1.2-Trichloroethane	-	6,500	1,900	-		nc	< 1	< 1	< 1	< 1
1.1.2.2-Tetrachloroethane	-	-	-	-		nc	< 1	< 1	< 1	< 1
1.2-Dibromoethane	1	-	-	-		nc	< 1	< 1	< 1	< 1
1.2-Dichlorobenzene	1,500	160	-	-		nc	< 1	< 1	< 1	< 1
1.2-Dichloroethane	3	-	-	-		nc	< 1	< 1	< 1	< 1
1.2-Dichloropropane	-	-	-	-		nc	< 1	< 1	< 1	< 1
1.2.3-Trichloropropane	-	-	-	-		nc	< 1	< 1	< 1	< 1
1.2.4-Trimethylbenzene	-	-	-	-		nc	< 1	< 1	< 1	< 1
1.3-Dichlorobenzene	-	260	-	-		nc	< 1	< 1	< 1	< 1
1.3-Dichloropropane	-	-	-	-		nc	< 1	< 1	< 1	< 1
1.3.5-Trimethylbenzene	-	-	-	-		nc	< 1	< 1	< 1	< 1
1.4-Dichlorobenzene	40	60	-	-		nc	< 1	< 1	< 1	< 1
2-Butanone (MEK)	-	-	-	-		nc	< 1	< 1	< 1	< 4
2-Propanone (Acetone)	-	-	-	-		nc	< 1	< 1	9	< 10
4-Chlorotoluene	-	-	-	-		nc	< 1	< 1	< 1	< 1

Notes:

Criteria 1 = Australian Drinking Water Guidelines, 2011

Criteria 2 = ANZECC 2000 FW 95%

Criteria 3 = ANZECC 2000 MW 95%

Criteria 4 = US EPA (2019) Regional Screening Level (RSL), Generic Tables, Resident Tapwater

Total concentrations in µg/L

- = assessment criteria not available

D2 = duplicate of MW102 (26/08/19)

T2 = triplicate of MW102 (26/08/19)

DW1 = duplicate of MW104 (05/06/19)

TW1 = triplicate of MW104 (05/06/19)

D1 = duplicate of MW104 (20/08/19)

T1 = triplicate of MW104 (20/08/19)

DW3 = duplicate of MW120 (08/10/19)

TW3 = triplicate of MW120 (08/10/19)

DW2 = duplicate of MW201 (27/09/19)

TW2 = triplicate of MW201 (27/09/19)

RPD = relative percent difference of duplicate/triplicate

nc = RPD not calculated, one or both samples below laboratory reporting limit

< # or ND = analyte(s) not detected in excess of laboratory reporting limit

-- = sample not analysed

Bold/red indicates exceedance of assessment criteria

Table 9 : Summary of Groundwater Analytical Data - Volatile Organic Compounds

Detailed Site Investigation

Project No.: 1901048

11-13 Percy Street

Auburn NSW

	Criteria 1	Criteria 2	Criteria 3	Criteria 4						
	Drinking	ANZECC	ANZECC	RSL						
	Water	Freshwater	Marine Water	Resident	Sample ID	RPD_TW2	MW202	MW203	MW204	MW205
	Guidelines	95%	95%	Tapwater	Date	-	27-Sep-19	27-Sep-19	08-Oct-19	08-Oct-19
4-Methyl-2-pentanone (MIBK)	-	-	-	-		nc	< 1	< 1	< 1	< 1
Allyl chloride	-	-	-	-		nc	< 1	< 1	< 1	< 1
Benzene	1	950	700	-		nc	< 1	< 1	< 1	< 1
Bromobenzene	-	-	-	-		nc	< 1	< 1	< 1	< 1
Bromochloromethane	-	-	-	-		nc	< 1	< 1	< 1	< 1
Bromodichloromethane	-	-	-	-		nc	< 1	< 1	< 1	< 1
Bromoform	-	-	-	-		nc	< 1	< 1	< 1	< 1
Bromomethane	1	-	-	-		nc	< 1	< 1	< 1	< 1
Carbon disulfide	-	-	-	-		nc	< 1	< 1	< 1	< 1
Carbon Tetrachloride	-	-	-	-		nc	< 1	< 1	< 1	< 1
Chlorobenzene	-	-	-	-		nc	< 1	< 1	< 1	< 1
Chloroethane	-	-	-	-		nc	< 1	< 1	< 1	< 1
Chloroform	-	-	-	-		nc	< 5	< 5	< 5	< 5
Chloromethane	-	-	-	-		nc	< 1	< 1	< 1	< 1
cis-1.2-Dichloroethene	-	-	-	-		nc	< 1	< 1	< 1	< 1
cis-1.3-Dichloropropene	-	-	-	-		nc	< 1	< 1	< 1	< 1
Dibromochloromethane	-	-	-	-		nc	< 1	< 1	< 1	< 1
Dibromomethane	-	-	-	-		nc	< 1	< 1	< 1	< 1
Dichlorodifluoromethane	-	-	-	-		nc	< 1	< 1	< 1	< 1

Notes:

Criteria 1 = Australian Drinking Water Guidelines, 2011

Criteria 2 = ANZECC 2000 FW 95%

Criteria 3 = ANZECC 2000 MW 95%

Criteria 4 = US EPA (2019) Regional Screening Level (RSL), Generic Tables, Resident Tapwater

Total concentrations in µg/L

- = assessment criteria not available

D2 = duplicate of MW102 (26/08/19)

T2 = triplicate of MW102 (26/08/19)

DW1 = duplicate of MW104 (05/06/19)

TW1 = triplicate of MW104 (05/06/19)

D1 = duplicate of MW104 (20/08/19)

T1 = triplicate of MW104 (20/08/19)

DW3 = duplicate of MW120 (08/10/19)

TW3 = triplicate of MW120 (08/10/19)

DW2 = duplicate of MW201 (27/09/19)

TW2 = triplicate of MW201 (27/09/19)

RPD = relative percent difference of duplicate/triplicate

nc = RPD not calculated, one or both samples below laboratory reporting limit

< # or ND = analyte(s) not detected in excess of laboratory reporting limit

-- = sample not analysed

Bold/red indicates exceedance of assessment criteria

Table 9 : Summary of Groundwater Analytical Data - Volatile Organic Compounds

Detailed Site Investigation

Project No.: 1901048

11-13 Percy Street

Auburn NSW

	Criteria 1	Criteria 2	Criteria 3	Criteria 4						
	Drinking	ANZECC	ANZECC	RSL						
	Water	Freshwater	Marine Water	Resident	Sample ID	RPD_TW2	MW202	MW203	MW204	MW205
	Guidelines	95%	95%	Tapwater	Date	-	27-Sep-19	27-Sep-19	08-Oct-19	08-Oct-19
Ethylbenzene	300	-	-	-		<i>nc</i>	< 1	< 1	< 1	< 1
Iodomethane	-	-	-	-		<i>nc</i>	< 1	< 1	< 1	< 1
Isopropyl benzene (Cumene)	-	-	-	-		<i>nc</i>	< 1	< 1	< 1	< 1
m&p-Xylenes	-	-	-	-		<i>nc</i>	< 2	< 2	< 2	< 2
Methylene Chloride	4	-	-	-		<i>nc</i>	< 1	< 1	< 1	< 1
o-Xylene	-	350	-	-		<i>nc</i>	< 1	< 1	1	1
Styrene	30	-	-	-		<i>nc</i>	< 1	< 1	< 1	< 1
Tetrachloroethene	50	-	-	-		<i>nc</i>	< 1	< 1	< 1	< 1
Toluene	800	-	-	-		<i>nc</i>	< 1	< 1	2	2
trans-1.2-Dichloroethene	-	-	-	-		<i>nc</i>	< 1	< 1	< 1	< 1
trans-1.3-Dichloropropene	-	-	-	-		<i>nc</i>	< 1	< 1	< 1	< 1
Trichloroethene	-	330	-	2.8		<i>nc</i>	< 1	< 1	< 1	< 1
Trichlorofluoromethane	-	-	-	-		<i>nc</i>	< 1	< 1	< 1	< 1
Vinyl chloride	0.3	100	-	-		<i>nc</i>	< 1	< 1	< 1	< 1
Xylenes - Total	600	-	-	-		<i>nc</i>	< 3	< 3	< 3	< 3

Notes:

Criteria 1 = Australian Drinking Water Guidelines, 2011

Criteria 2 = ANZECC 2000 FW 95%

Criteria 3 = ANZECC 2000 MW 95%

Criteria 4 = US EPA (2019) Regional Screening Level (RSL), Generic Tables, Resident Tapwater

Total concentrations in µg/L

- = assessment criteria not available

D2 = duplicate of MW102 (26/08/19)

T2 = triplicate of MW102 (26/08/19)

DW1 = duplicate of MW104 (05/06/19)

TW1 = triplicate of MW104 (05/06/19)

D1 = duplicate of MW104 (20/08/19)

T1 = triplicate of MW104 (20/08/19)

DW3 = duplicate of MW120 (08/10/19)

TW3 = triplicate of MW120 (08/10/19)

DW2 = duplicate of MW201 (27/09/19)

TW2 = triplicate of MW201 (27/09/19)

RPD = relative percent difference of duplicate/triplicate

nc = RPD not calculated, one or both samples below laboratory reporting limit

< # or ND = analyte(s) not detected in excess of laboratory reporting limit

-- = sample not analysed

Bold/red indicates exceedance of assessment criteria

Table 10 : Summary of Groundwater Analytical Data - Semi-Volatile Organic Compounds

Detailed Site Investigation

Project No.: 1901048

11-13 Percy Street

Auburn NSW

	Criteria 1	Criteria 2	Criteria 3						
	Drinking	ANZECC	ANZECC						
	Water	Freshwater	Marine Water	Sample ID	GW1	GW2	GW4	MW101	MW102
	Guidelines	95%	95%	Date	5/06/2019	5/06/2019	5/06/2019	5/06/2019	5/06/2019
2-Chloronaphthalene	-	-	-		< 5	< 5	< 5	< 5	< 5
2-Chlorophenol	300	490	340		< 3	< 3	< 3	< 3	< 3
2-Methylnaphthalene	-	-	-		< 5	< 5	< 5	< 5	< 5
2-Methylphenol (o-Cresol)	-	-	-		< 3	< 3	< 3	< 3	< 3
2-Naphthylamine	-	-	-		< 5	< 5	< 5	< 5	< 5
2-Nitroaniline	-	-	-		< 5	< 5	< 5	< 5	< 5
2-Nitrophenol	-	-	-		< 10	< 10	< 10	< 10	< 10
3&4-Methylphenol (m&p-Cresol)	-	-	-		< 6	< 6	< 6	< 6	< 6
3-Methylcholanthrene	-	-	-		< 5	< 5	< 5	< 5	< 5
4,4'-DDD	-	-	-		< 5	< 5	< 5	< 5	< 5
4,4'-DDE	-	-	-		< 5	< 5	< 5	< 5	< 5
4,4'-DDT	9	0.01	0.0004		< 5	< 5	< 5	< 5	< 5
4-Aminobiphenyl	-	-	-		< 5	< 5	< 5	< 5	< 5
4-Bromophenyl phenyl ether	-	-	-		< 5	< 5	< 5	< 5	< 5
4-Chloro-3-methylphenol	-	-	-		< 10	< 10	< 10	< 10	< 10
4-Chlorophenyl phenyl ether	-	-	-		< 5	< 5	< 5	< 5	< 5
4-Nitrophenol	-	-	-		< 30	< 30	< 30	< 30	< 30
Acetophenone	-	-	-		< 5	< 5	< 5	< 5	< 5
Aldrin	-	-	-		< 5	< 5	< 5	< 5	< 5

Notes:

Criteria 1 = Australian Drinking Water Guidelines, 2011.

Criteria 2 = ANZECC 2000 Guidelines for Freshwater - 95% Species Protection Trigger Values.

Criteria 3 = ANZECC 2000 Guidelines for Marine Water - 95% Species Protection Trigger Values

Total concentrations in µg/L

- = assessment criteria not available

< # or ND = analyte(s) not detected in excess of laboratory reporting limit

-- = sample not analysed

Bold/red indicates exceedance of assessment criteria

Table 10 : Summary of Groundwater Analytical Data - Semi-Volatile Organic Compounds

Detailed Site Investigation

Project No.: 1901048

11-13 Percy Street

Auburn NSW

	Criteria 1	Criteria 2	Criteria 3						
	Drinking	ANZECC	ANZECC						
	Water	Freshwater	Marine Water	Sample ID	GW1	GW2	GW4	MW101	MW102
	Guidelines	95%	95%	Date	5/06/2019	5/06/2019	5/06/2019	5/06/2019	5/06/2019
Aniline	-	250	8		< 5	< 5	< 5	< 5	< 5
Bis(2-chloroethoxy)methane	-	-	-		< 5	< 5	< 5	< 5	< 5
Bis(2-ethylhexyl)phthalate	10	-	-		< 5	< 5	< 5	< 5	< 5
Butyl benzyl phthalate	-	-	-		< 5	< 5	< 5	< 5	< 5
d-BHC	-	-	-		< 5	< 5	< 5	< 5	< 5
Dibenzofuran	-	-	-		< 5	< 5	< 5	< 5	< 5
Dieldrin	-	-	-		< 5	< 5	< 5	< 5	< 5
Diethyl phthalate	-	1,000	-		< 5	< 5	< 5	< 5	< 5
Dimethyl phthalate	-	3,700	-		< 5	< 5	< 5	< 5	< 5
Di-n-butyl phthalate	-	26	-		< 5	< 5	< 5	< 5	< 5
Di-n-octyl phthalate	-	-	-		< 5	< 5	< 5	< 5	< 5
Diphenylamine	-	-	-		< 5	< 5	< 5	< 5	< 5
Endosulfan sulphate	-	-	-		< 5	< 5	< 5	< 5	< 5
Endrin	-	0.02	0.008		< 5	< 5	< 5	< 5	< 5
Endrin aldehyde	-	-	-		< 5	< 5	< 5	< 5	< 5
Endrin ketone	-	-	-		< 5	< 5	< 5	< 5	< 5
g-BHC (Lindane)	10	0.2	0.007		< 5	< 5	< 5	< 5	< 5
Heptachlor	0.3	0.09	0.0004		< 5	< 5	< 5	< 5	< 5
Heptachlor epoxide	-	-	-		< 5	< 5	< 5	< 5	< 5

Notes:

Criteria 1 = Australian Drinking Water Guidelines, 2011.

Criteria 2 = ANZECC 2000 Guidelines for Freshwater - 95% Species Protection Trigger Values.

Criteria 3 = ANZECC 2000 Guidelines for Marine Water - 95% Species Protection Trigger Values

Total concentrations in µg/L

- = assessment criteria not available

< # or ND = analyte(s) not detected in excess of laboratory reporting limit

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Table 10 : Summary of Groundwater Analytical Data - Semi-Volatile Organic Compounds

Detailed Site Investigation

Project No.: 1901048

11-13 Percy Street

Auburn NSW

	Criteria 1	Criteria 2	Criteria 3						
	Drinking	ANZECC	ANZECC						
	Water	Freshwater	Marine Water	Sample ID	GW1	GW2	GW4	MW101	MW102
	Guidelines	95%	95%	Date	5/06/2019	5/06/2019	5/06/2019	5/06/2019	5/06/2019
Hexachlorobenzene	-	-	-		< 5	< 5	< 5	< 5	< 5
Hexachlorobutadiene	0.7	-	-		< 5	< 5	< 5	< 5	< 5
Hexachlorocyclopentadiene	-	-	-		< 5	< 5	< 5	< 5	< 5
Hexachloroethane	-	360	290		< 5	< 5	< 5	< 5	< 5
Methoxychlor	300	0.005	0.004		< 5	< 5	< 5	< 5	< 5
Nitrobenzene	-	550	550		< 50	< 50	< 50	< 50	< 50
N-Nitrosodibutylamine	-	-	-		< 5	< 5	< 5	< 5	< 5
N-Nitrosodipropylamine	-	-	-		< 5	< 5	< 5	< 5	< 5
N-Nitrosopiperidine	-	-	-		< 5	< 5	< 5	< 5	< 5
Pentachlorobenzene	-	-	-		< 5	< 5	< 5	< 5	< 5
Pentachloronitrobenzene	30	-	-		< 5	< 5	< 5	< 5	< 5
Pentachlorophenol	10	10	22		< 10	< 10	< 10	< 10	< 10
Phenol	-	320	400		< 3	< 3	< 3	< 3	< 3

Notes:

Criteria 1 = Australian Drinking Water Guidelines, 2011.

Criteria 2 = ANZECC 2000 Guidelines for Freshwater - 95% Species Protection Trigger Values.

Criteria 3 = ANZECC 2000 Guidelines for Marine Water - 95% Species Protection Trigger Values

Total concentrations in µg/L

- = assessment criteria not available

< # or ND = analyte(s) not detected in excess of laboratory reporting limit

-- = sample not analysed

Bold/red indicates exceedance of assessment criteria

Table 10 : Summary of Groundwater Analytical Data - Semi-Volatile Organic Compounds

Detailed Site Investigation

Project No.: 1901048

11-13 Percy Street

Auburn NSW

	Criteria 1	Criteria 2	Criteria 3						
	Drinking	ANZECC	ANZECC						
	Water	Freshwater	Marine Water	Sample ID	MW103	MW104	MW106	MW107	MW108
	Guidelines	95%	95%	Date	5/06/2019	5/06/2019	5/06/2019	5/06/2019	5/06/2019
2-Chloronaphthalene	-	-	-		< 5	< 5	< 5	< 5	< 5
2-Chlorophenol	300	490	340		< 3	< 3	< 3	< 3	< 3
2-Methylnaphthalene	-	-	-		< 5	< 5	< 5	< 5	< 5
2-Methylphenol (o-Cresol)	-	-	-		< 3	< 3	< 3	< 3	< 3
2-Naphthylamine	-	-	-		< 5	< 5	< 5	< 5	< 5
2-Nitroaniline	-	-	-		< 5	< 5	< 5	< 5	< 5
2-Nitrophenol	-	-	-		< 10	< 10	< 10	< 10	< 10
3&4-Methylphenol (m&p-Cresol)	-	-	-		< 6	< 6	< 6	< 6	< 6
3-Methylcholanthrene	-	-	-		< 5	< 5	< 5	< 5	< 5
4,4'-DDD	-	-	-		< 5	< 5	< 5	< 5	< 5
4,4'-DDE	-	-	-		< 5	< 5	< 5	< 5	< 5
4,4'-DDT	9	0.01	0.0004		< 5	< 5	< 5	< 5	< 5
4-Aminobiphenyl	-	-	-		< 5	< 5	< 5	< 5	< 5
4-Bromophenyl phenyl ether	-	-	-		< 5	< 5	< 5	< 5	< 5
4-Chloro-3-methylphenol	-	-	-		< 10	< 10	< 10	< 10	< 10
4-Chlorophenyl phenyl ether	-	-	-		< 5	< 5	< 5	< 5	< 5
4-Nitrophenol	-	-	-		< 30	< 30	< 30	< 30	< 30
Acetophenone	-	-	-		< 5	< 5	< 5	< 5	< 5
Aldrin	-	-	-		< 5	< 5	< 5	< 5	< 5

Notes:

Criteria 1 = Australian Drinking Water Guidelines, 2011.

Criteria 2 = ANZECC 2000 Guidelines for Freshwater - 95% Species Protection Trigger Values.

Criteria 3 = ANZECC 2000 Guidelines for Marine Water - 95% Species Protection Trigger Values

Total concentrations in µg/L

- = assessment criteria not available

< # or ND = analyte(s) not detected in excess of laboratory reporting limit

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Bold/red indicates exceedance of assessment criteria

Table 10 : Summary of Groundwater Analytical Data - Semi-Volatile Organic Compounds

Detailed Site Investigation

Project No.: 1901048

11-13 Percy Street

Auburn NSW

	Criteria 1	Criteria 2	Criteria 3						
	Drinking	ANZECC	ANZECC						
	Water	Freshwater	Marine Water	Sample ID	MW103	MW104	MW106	MW107	MW108
	Guidelines	95%	95%	Date	5/06/2019	5/06/2019	5/06/2019	5/06/2019	5/06/2019
Aniline	-	250	8		< 5	< 5	< 5	< 5	< 5
Bis(2-chloroethoxy)methane	-	-	-		< 5	< 5	< 5	< 5	< 5
Bis(2-ethylhexyl)phthalate	10	-	-		< 5	< 5	< 5	< 5	< 5
Butyl benzyl phthalate	-	-	-		< 5	< 5	< 5	< 5	< 5
d-BHC	-	-	-		< 5	< 5	< 5	< 5	< 5
Dibenzofuran	-	-	-		< 5	< 5	< 5	< 5	< 5
Dieldrin	-	-	-		< 5	< 5	< 5	< 5	< 5
Diethyl phthalate	-	1,000	-		< 5	< 5	< 5	< 5	< 5
Dimethyl phthalate	-	3,700	-		< 5	< 5	< 5	< 5	< 5
Di-n-butyl phthalate	-	26	-		< 5	< 5	< 5	< 5	< 5
Di-n-octyl phthalate	-	-	-		< 5	< 5	< 5	< 5	< 5
Diphenylamine	-	-	-		< 5	< 5	< 5	< 5	< 5
Endosulfan sulphate	-	-	-		< 5	< 5	< 5	< 5	< 5
Endrin	-	0.02	0.008		< 5	< 5	< 5	< 5	< 5
Endrin aldehyde	-	-	-		< 5	< 5	< 5	< 5	< 5
Endrin ketone	-	-	-		< 5	< 5	< 5	< 5	< 5
g-BHC (Lindane)	10	0.2	0.007		< 5	< 5	< 5	< 5	< 5
Heptachlor	0.3	0.09	0.0004		< 5	< 5	< 5	< 5	< 5
Heptachlor epoxide	-	-	-		< 5	< 5	< 5	< 5	< 5

Notes:

Criteria 1 = Australian Drinking Water Guidelines, 2011.

Criteria 2 = ANZECC 2000 Guidelines for Freshwater - 95% Species Protection Trigger Values.

Criteria 3 = ANZECC 2000 Guidelines for Marine Water - 95% Species Protection Trigger Values

Total concentrations in µg/L

- = assessment criteria not available

< # or ND = analyte(s) not detected in excess of laboratory reporting limit

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Bold/red indicates exceedance of assessment criteria

Table 10 : Summary of Groundwater Analytical Data - Semi-Volatile Organic Compounds

Detailed Site Investigation

Project No.: 1901048

11-13 Percy Street

Auburn NSW

	Criteria 1	Criteria 2	Criteria 3						
	Drinking	ANZECC	ANZECC						
	Water	Freshwater	Marine Water	Sample ID	MW103	MW104	MW106	MW107	MW108
	Guidelines	95%	95%	Date	5/06/2019	5/06/2019	5/06/2019	5/06/2019	5/06/2019
Hexachlorobenzene	-	-	-		< 5	< 5	< 5	< 5	< 5
Hexachlorobutadiene	0.7	-	-		< 5	< 5	< 5	< 5	< 5
Hexachlorocyclopentadiene	-	-	-		< 5	< 5	< 5	< 5	< 5
Hexachloroethane	-	360	290		< 5	< 5	< 5	< 5	< 5
Methoxychlor	300	0.005	0.004		< 5	< 5	< 5	< 5	< 5
Nitrobenzene	-	550	550		< 50	< 50	< 50	< 50	< 50
N-Nitrosodibutylamine	-	-	-		< 5	< 5	< 5	< 5	< 5
N-Nitrosodipropylamine	-	-	-		< 5	< 5	< 5	< 5	< 5
N-Nitrosopiperidine	-	-	-		< 5	< 5	< 5	< 5	< 5
Pentachlorobenzene	-	-	-		< 5	< 5	< 5	< 5	< 5
Pentachloronitrobenzene	30	-	-		< 5	< 5	< 5	< 5	< 5
Pentachlorophenol	10	10	22		< 10	< 10	< 10	< 10	< 10
Phenol	-	320	400		< 3	< 3	< 3	< 3	< 3

Notes:

Criteria 1 = Australian Drinking Water Guidelines, 2011.

Criteria 2 = ANZECC 2000 Guidelines for Freshwater - 95% Species Protection Trigger Values.

Criteria 3 = ANZECC 2000 Guidelines for Marine Water - 95% Species Protection Trigger Values

Total concentrations in µg/L

- = assessment criteria not available

< # or ND = analyte(s) not detected in excess of laboratory reporting limit

-- = sample not analysed

Bold/red indicates exceedance of assessment criteria

Table 10 : Summary of Groundwater Analytical Data - Semi-Volatile Organic Compounds

Detailed Site Investigation

Project No.: 1901048

11-13 Percy Street

Auburn NSW

	Criteria 1	Criteria 2	Criteria 3				
	Drinking	ANZECC	ANZECC				
	Water	Freshwater	Marine Water	Sample ID	MW109	MW110	MW111
	Guidelines	95%	95%	Date	5/06/2019	5/06/2019	5/06/2019
2-Chloronaphthalene	-	-	-		< 5	< 5	< 5
2-Chlorophenol	300	490	340		< 3	< 3	< 3
2-Methylnaphthalene	-	-	-		< 5	< 5	< 5
2-Methylphenol (o-Cresol)	-	-	-		< 3	< 3	< 3
2-Naphthylamine	-	-	-		< 5	< 5	< 5
2-Nitroaniline	-	-	-		< 5	< 5	< 5
2-Nitrophenol	-	-	-		< 10	< 10	< 10
3&4-Methylphenol (m&p-Cresol)	-	-	-		< 6	< 6	< 6
3-Methylcholanthrene	-	-	-		< 5	< 5	< 5
4,4'-DDD	-	-	-		< 5	< 5	< 5
4,4'-DDE	-	-	-		< 5	< 5	< 5
4,4'-DDT	9	0.01	0.0004		< 5	< 5	< 5
4-Aminobiphenyl	-	-	-		< 5	< 5	< 5
4-Bromophenyl phenyl ether	-	-	-		< 5	< 5	< 5
4-Chloro-3-methylphenol	-	-	-		< 10	< 10	< 10
4-Chlorophenyl phenyl ether	-	-	-		< 5	< 5	< 5
4-Nitrophenol	-	-	-		< 30	< 30	< 30
Acetophenone	-	-	-		< 5	< 5	< 5
Aldrin	-	-	-		< 5	< 5	< 5

Notes:

Criteria 1 = Australian Drinking Water Guidelines, 2011.

Criteria 2 = ANZECC 2000 Guidelines for Freshwater - 95% Species Protection Trigger Values.

Criteria 3 = ANZECC 2000 Guidelines for Marine Water - 95% Species Protection Trigger Values

Total concentrations in µg/L

- = assessment criteria not available

< # or ND = analyte(s) not detected in excess of laboratory reporting limit

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Bold/red indicates exceedance of assessment criteria

Table 10 : Summary of Groundwater Analytical Data - Semi-Volatile Organic Compounds

Detailed Site Investigation

Project No.: 1901048

11-13 Percy Street

Auburn NSW

	Criteria 1	Criteria 2	Criteria 3				
	Drinking	ANZECC	ANZECC				
	Water	Freshwater	Marine Water	Sample ID	MW109	MW110	MW111
	Guidelines	95%	95%	Date	5/06/2019	5/06/2019	5/06/2019
Aniline	-	250	8		< 5	< 5	< 5
Bis(2-chloroethoxy)methane	-	-	-		< 5	< 5	< 5
Bis(2-ethylhexyl)phthalate	10	-	-		< 5	< 5	< 5
Butyl benzyl phthalate	-	-	-		< 5	< 5	< 5
d-BHC	-	-	-		< 5	< 5	< 5
Dibenzofuran	-	-	-		< 5	< 5	< 5
Dieldrin	-	-	-		< 5	< 5	< 5
Diethyl phthalate	-	1,000	-		< 5	< 5	< 5
Dimethyl phthalate	-	3,700	-		< 5	< 5	< 5
Di-n-butyl phthalate	-	26	-		< 5	< 5	< 5
Di-n-octyl phthalate	-	-	-		< 5	< 5	< 5
Diphenylamine	-	-	-		< 5	< 5	< 5
Endosulfan sulphate	-	-	-		< 5	< 5	< 5
Endrin	-	0.02	0.008		< 5	< 5	< 5
Endrin aldehyde	-	-	-		< 5	< 5	< 5
Endrin ketone	-	-	-		< 5	< 5	< 5
g-BHC (Lindane)	10	0.2	0.007		< 5	< 5	< 5
Heptachlor	0.3	0.09	0.0004		< 5	< 5	< 5
Heptachlor epoxide	-	-	-		< 5	< 5	< 5

Notes:

Criteria 1 = Australian Drinking Water Guidelines, 2011.

Criteria 2 = ANZECC 2000 Guidelines for Freshwater - 95% Species Protection Trigger Values.

Criteria 3 = ANZECC 2000 Guidelines for Marine Water - 95% Species Protection Trigger Values

Total concentrations in µg/L

- = assessment criteria not available

< # or ND = analyte(s) not detected in excess of laboratory reporting limit

-- = sample not analysed

Bold/red indicates exceedance of assessment criteria

Table 10 : Summary of Groundwater Analytical Data - Semi-Volatile Organic Compounds

Detailed Site Investigation

Project No.: 1901048

11-13 Percy Street

Auburn NSW

	Criteria 1	Criteria 2	Criteria 3				
	Drinking	ANZECC	ANZECC				
	Water	Freshwater	Marine Water	Sample ID	MW109	MW110	MW111
	Guidelines	95%	95%	Date	5/06/2019	5/06/2019	5/06/2019
Hexachlorobenzene	-	-	-		< 5	< 5	< 5
Hexachlorobutadiene	0.7	-	-		< 5	< 5	< 5
Hexachlorocyclopentadiene	-	-	-		< 5	< 5	< 5
Hexachloroethane	-	360	290		< 5	< 5	< 5
Methoxychlor	300	0.005	0.004		< 5	< 5	< 5
Nitrobenzene	-	550	550		< 50	< 50	< 50
N-Nitrosodibutylamine	-	-	-		< 5	< 5	< 5
N-Nitrosodipropylamine	-	-	-		< 5	< 5	< 5
N-Nitrosopiperidine	-	-	-		< 5	< 5	< 5
Pentachlorobenzene	-	-	-		< 5	< 5	< 5
Pentachloronitrobenzene	30	-	-		< 5	< 5	< 5
Pentachlorophenol	10	10	22		< 10	< 10	< 10
Phenol	-	320	400		< 3	< 3	< 3

Notes:

Criteria 1 = Australian Drinking Water Guidelines, 2011.

Criteria 2 = ANZECC 2000 Guidelines for Freshwater - 95% Species Protection Trigger Values.

Criteria 3 = ANZECC 2000 Guidelines for Marine Water - 95% Species Protection Trigger Values

Total concentrations in µg/L

- = assessment criteria not available

< # or ND = analyte(s) not detected in excess of laboratory reporting limit

-- = sample not analysed

Bold/red indicates exceedance of assessment criteria

Table 11 : Summary of Groundwater Analytical Data - Polyaromatic Hydrocarbons

Detailed Site Investigation

Project No.: 1901048

11-13 Percy Street

Auburn NSW

	Criteria 1	Criteria 2	Criteria 3	Criteria 4						
	HSLs - D	Drinking	ANZECC	ANZECC						
	Sand	Water	Freshwater	Marine Water	Sample ID	GW1	GW2	GW4	MW101	MW102
	2 to <4 m	Guidelines	95%	95%	Date	6/06/2019	6/06/2019	5/06/2019	5/06/2019	5/06/2019
Acenaphthene	-	-	-	-		< 1	< 1	< 1	< 1	< 1
Acenaphthylene	-	-	-	-		< 1	< 1	< 1	< 1	< 1
Anthracene	-	-	0.4	0.1		< 1	< 1	< 1	< 1	< 1
Benz(a)anthracene	-	-	-	-		< 1	< 1	< 1	< 1	< 1
Benzo(a)pyrene	-	0.01	-	-		< 1	< 1	< 1	< 1	< 1
Benzo(b&j)fluoranthene	-	-	-	-		< 1	< 1	< 1	< 1	< 1
Benzo(g,h,i)perylene	-	-	-	-		< 1	< 1	< 1	< 1	< 1
Benzo(k)fluoranthene	-	-	-	-		< 1	< 1	< 1	< 1	< 1
Chrysene	-	-	-	-		< 1	< 1	< 1	< 1	< 1
Dibenz(a,h)anthracene	-	-	-	-		< 1	< 1	< 1	< 1	< 1
Fluoranthene	-	-	-	-		< 1	< 1	< 1	< 1	< 1
Fluorene	-	-	-	-		< 1	< 1	< 1	< 1	< 1
Indeno(1.2.3-cd)pyrene	-	-	-	-		< 1	< 1	< 1	< 1	< 1
Naphthalene (PAH method)	NL	-	16	70		< 1	< 1	< 1	< 1	< 1
Phenanthrene	-	-	-	-		< 1	< 1	< 1	< 1	< 1
Pyrene	-	-	-	-		< 1	< 1	< 1	< 1	< 1
Benzo(a)pyrene TEQ	-	-	-	-		--	--	--	--	--
Total PAH	-	-	-	-		< 1	< 1	< 1	< 1	< 1

Notes:

Criteria 1 = NEPC (1999) Amended, 'D' Comm./ind. Groundwater Health Screening Levels for vapour intrusion, sand 2 to <4m.

Criteria 2 = Australian Drinking Water Guidelines, 2011.

Criteria 3 = ANZECC 2000 Guidelines for Freshwater - 95% Species Protection Trigger Values

Criteria 4 = ANZECC 2000 Guidelines for Marine Water - 95% Species Protection Trigger Values

Total concentrations in µg/L

- = assessment criteria not available

NL = not limiting

DW1 = duplicate of MW104

TW1 = triplicate of MW104

R1 = rinsate sample

RPD = relative percent difference of duplicate/triplicate

nc = RPD not calculated, one or both samples below laboratory reporting limit

< # or ND = analyte(s) not detected in excess of laboratory reporting limit

-- = sample not analysed

Bold/red indicates exceedance of assessment criteria

Table 11 : Summary of Groundwater Analytical Data - Polyaromatic Hydrocarbons

Detailed Site Investigation

Project No.: 1901048

11-13 Percy Street

Auburn NSW

	Criteria 1	Criteria 2	Criteria 3	Criteria 4						
	HSLs - D	Drinking	ANZECC	ANZECC						
	Sand	Water	Freshwater	Marine Water	Sample ID	MW102	MW103	MW103	MW104	DW1
	2 to <4 m	Guidelines	95%	95%	Date	18/06/2019	5/06/2019	18/06/2019	5/06/2019	5/06/2019
Acenaphthene	-	-	-	-		--	< 1	--	< 1	< 1
Acenaphthylene	-	-	-	-		--	< 1	--	< 1	< 1
Anthracene	-	-	0.4	0.1		--	< 1	--	< 1	< 1
Benz(a)anthracene	-	-	-	-		--	< 1	--	< 1	< 1
Benzo(a)pyrene	-	0.01	-	-		--	< 1	--	< 1	< 1
Benzo(b&j)fluoranthene	-	-	-	-		--	< 1	--	< 1	< 1
Benzo(g,h,i)perylene	-	-	-	-		--	< 1	--	< 1	< 1
Benzo(k)fluoranthene	-	-	-	-		--	< 1	--	< 1	< 1
Chrysene	-	-	-	-		--	< 1	--	< 1	< 1
Dibenz(a,h)anthracene	-	-	-	-		--	< 1	--	< 1	< 1
Fluoranthene	-	-	-	-		--	< 1	--	< 1	< 1
Fluorene	-	-	-	-		--	< 1	--	< 1	< 1
Indeno(1.2.3-cd)pyrene	-	-	-	-		--	< 1	--	< 1	< 1
Naphthalene (PAH method)	NL	-	16	70		--	< 1	--	< 1	< 1
Phenanthrene	-	-	-	-		--	< 1	--	< 1	< 1
Pyrene	-	-	-	-		--	< 1	--	< 1	< 1
Benzo(a)pyrene TEQ	-	-	-	-		--	--	--	--	--
Total PAH	-	-	-	-		--	< 1	--	< 1	< 1

Notes:

Criteria 1 = NEPC (1999) Amended, 'D' Comm./ind. Groundwater Health Screening Levels for vapour intrusion, sand 2 to <4m.

Criteria 2 = Australian Drinking Water Guidelines, 2011.

Criteria 3 = ANZECC 2000 Guidelines for Freshwater - 95% Species Protection Trigger Values

Criteria 4 = ANZECC 2000 Guidelines for Marine Water - 95% Species Protection Trigger Values

Total concentrations in µg/L

- = assessment criteria not available

NL = not limiting

DW1 = duplicate of MW104

TW1 = triplicate of MW104

R1 = rinsate sample

RPD = relative percent difference of duplicate/triplicate

nc = RPD not calculated, one or both samples below laboratory reporting limit

< # or ND = analyte(s) not detected in excess of laboratory reporting limit

-- = sample not analysed

Bold/red indicates exceedance of assessment criteria

Table 11 : Summary of Groundwater Analytical Data - Polyaromatic Hydrocarbons

Detailed Site Investigation

Project No.: 1901048

11-13 Percy Street

Auburn NSW

	Criteria 1	Criteria 2	Criteria 3	Criteria 4						
	HSLs - D	Drinking	ANZECC	ANZECC						
	Sand	Water	Freshwater	Marine Water	Sample ID	RPD_DW1	TW1	RPD_TW1	MW106	MW107
	2 to <4 m	Guidelines	95%	95%	Date	-	5/06/2019	-	5/06/2019	5/06/2019
Acenaphthene	-	-	-	-		nc	< 1	nc	< 1	< 1
Acenaphthylene	-	-	-	-		nc	< 1	nc	< 1	< 1
Anthracene	-	-	0.4	0.1		nc	< 1	nc	< 1	< 1
Benz(a)anthracene	-	-	-	-		nc	< 1	nc	< 1	< 1
Benzo(a)pyrene	-	0.01	-	-		nc	< 1	nc	< 1	< 1
Benzo(b&j)fluoranthene	-	-	-	-		nc	< 1	nc	< 1	< 1
Benzo(g,h,i)perylene	-	-	-	-		nc	< 1	nc	< 1	< 1
Benzo(k)fluoranthene	-	-	-	-		nc	< 1	nc	< 1	< 1
Chrysene	-	-	-	-		nc	< 1	nc	< 1	< 1
Dibenz(a,h)anthracene	-	-	-	-		nc	< 1	nc	< 1	< 1
Fluoranthene	-	-	-	-		nc	< 1	nc	< 1	< 1
Fluorene	-	-	-	-		nc	< 1	nc	< 1	< 1
Indeno(1,2,3-cd)pyrene	-	-	-	-		nc	< 1	nc	< 1	< 1
Naphthalene (PAH method)	NL	-	16	70		nc	< 1	nc	< 1	< 1
Phenanthrene	-	-	-	-		nc	< 1	nc	< 1	< 1
Pyrene	-	-	-	-		nc	< 1	nc	< 1	< 1
Benzo(a)pyrene TEQ	-	-	-	-		--	--	--	--	--
Total PAH	-	-	-	-		nc	< 1	nc	< 1	< 1

Notes:

Criteria 1 = NEPC (1999) Amended, 'D' Comm./ind. Groundwater Health Screening Levels for vapour intrusion, sand 2 to <4m.

Criteria 2 = Australian Drinking Water Guidelines, 2011.

Criteria 3 = ANZECC 2000 Guidelines for Freshwater - 95% Species Protection Trigger Values

Criteria 4 = ANZECC 2000 Guidelines for Marine Water - 95% Species Protection Trigger Values

Total concentrations in µg/L

- = assessment criteria not available

NL = not limiting

DW1 = duplicate of MW104

TW1 = triplicate of MW104

R1 = rinsate sample

RPD = relative percent difference of duplicate/triplicate

nc = RPD not calculated, one or both samples below laboratory reporting limit

< # or ND = analyte(s) not detected in excess of laboratory reporting limit

-- = sample not analysed

Bold/red indicates exceedance of assessment criteria

Table 11 : Summary of Groundwater Analytical Data - Polyaromatic Hydrocarbons

Detailed Site Investigation

Project No.: 1901048

11-13 Percy Street

Auburn NSW

	Criteria 1	Criteria 2	Criteria 3	Criteria 4						
	HSLs - D	Drinking	ANZECC	ANZECC						
	Sand	Water	Freshwater	Marine Water	Sample ID	MW108	MW109	MW110	MW111	R1
	2 to <4 m	Guidelines	95%	95%	Date	5/06/2019	6/06/2019	5/06/2019	5/06/2019	5/06/2019
Acenaphthene	-	-	-	-		< 1	< 1	< 1	< 1	--
Acenaphthylene	-	-	-	-		< 1	< 1	< 1	< 1	--
Anthracene	-	-	0.4	0.1		< 1	< 1	< 1	< 1	--
Benz(a)anthracene	-	-	-	-		< 1	< 1	< 1	< 1	--
Benzo(a)pyrene	-	0.01	-	-		< 1	< 1	< 1	< 1	--
Benzo(b&j)fluoranthene	-	-	-	-		< 1	< 1	< 1	< 1	--
Benzo(g,h,i)perylene	-	-	-	-		< 1	< 1	< 1	< 1	--
Benzo(k)fluoranthene	-	-	-	-		< 1	< 1	< 1	< 1	--
Chrysene	-	-	-	-		< 1	< 1	< 1	< 1	--
Dibenz(a,h)anthracene	-	-	-	-		< 1	< 1	< 1	< 1	--
Fluoranthene	-	-	-	-		< 1	< 1	< 1	< 1	--
Fluorene	-	-	-	-		< 1	< 1	< 1	< 1	--
Indeno(1.2.3-cd)pyrene	-	-	-	-		< 1	< 1	< 1	< 1	--
Naphthalene (PAH method)	NL	-	16	70		< 1	< 1	< 1	< 1	--
Phenanthrene	-	-	-	-		< 1	< 1	< 1	< 1	--
Pyrene	-	-	-	-		< 1	< 1	< 1	< 1	--
Benzo(a)pyrene TEQ	-	-	-	-		--	--	--	--	--
Total PAH	-	-	-	-		< 1	< 1	< 1	< 1	--

Notes:

Criteria 1 = NEPC (1999) Amended, 'D' Comm./ind. Groundwater Health Screening Levels for vapour intrusion, sand 2 to <4m.

Criteria 2 = Australian Drinking Water Guidelines, 2011.

Criteria 3 = ANZECC 2000 Guidelines for Freshwater - 95% Species Protection Trigger Values

Criteria 4 = ANZECC 2000 Guidelines for Marine Water - 95% Species Protection Trigger Values

Total concentrations in µg/L

- = assessment criteria not available

NL = not limiting

DW1 = duplicate of MW104

TW1 = triplicate of MW104

R1 = rinsate sample

RPD = relative percent difference of duplicate/triplicate

nc = RPD not calculated, one or both samples below laboratory reporting limit

< # or ND = analyte(s) not detected in excess of laboratory reporting limit

-- = sample not analysed

Bold/red indicates exceedance of assessment criteria

Table 12 : Summary of Groundwater Analytical Data - Heavy Metals

Detailed Site Investigation

Project No.: 1901048

11-13 Percy Street

Auburn NSW

	Criteria 1	Criteria 2	Criteria 3						
	Drinking	ANZECC	ANZECC						
	Water	Freshwater	Marine Water	Sample ID	GW1	GW2	GW4	MW101	MW102
	Guidelines	95%	95%	Date	6/06/2019	6/06/2019	5/06/2019	5/06/2019	5/06/2019
Arsenic	10	13 ¹	-		< 1	2	1	1	6
Cadmium	2	0.2	5.5		< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Chromium	50 ²	1 ²	4.4 ²		< 1	< 1	1	< 1	< 1
Copper	2,000	1.4	1.3		5	4	3	2	1
Lead	10	3.4	4.4		< 1	< 1	< 1	< 1	< 1
Mercury	1	0.6	0.4		< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Nickel	20	11	70		1	< 1	2	2	16
Zinc	-	8	15		10	31	< 5	9	11

Notes:

Criteria 1 = Australian Drinking Water Guidelines, 2011.

Criteria 2 = ANZECC 2000 Guidelines for Freshwater - 95% Species Protection Trigger Values

Criteria 3 = ANZECC 2000 Guidelines for Marine Water - 95% Species Protection Trigger Values

Total concentrations in µg/L

- = assessment criteria not available

¹Guideline for arsenic (V) used conservatively.

²Guideline for chromium (VI) used conservatively.

DW1 = duplicate of MW104

TW1 = triplicate of MW104

R1 = rinsate sample

RPD = relative percent difference of duplicate/triplicate

nc = RPD not calculated, one or both samples below laboratory reporting limit

< # or ND = analyte(s) not detected in excess of laboratory reporting limit

-- = sample not analysed

Bold/red indicates exceedance of assessment criteria

Table 12 : Summary of Groundwater Analytical Data - Heavy Metals

Detailed Site Investigation

Project No.: 1901048

11-13 Percy Street

Auburn NSW

	Criteria 1	Criteria 2	Criteria 3						
	Drinking	ANZECC	ANZECC						
	Water	Freshwater	Marine Water	Sample ID	MW102	MW103	MW103	MW104	DW1
	Guidelines	95%	95%	Date	18/06/2019	5/06/2019	18/06/2019	5/06/2019	5/06/2019
Arsenic	10	13 ¹	-		--	4	--	< 1	< 1
Cadmium	2	0.2	5.5		--	< 0.2	--	< 0.2	< 0.2
Chromium	50 ²	1 ²	4.4 ²		--	2	--	< 1	< 1
Copper	2,000	1.4	1.3		--	< 1	--	< 1	1
Lead	10	3.4	4.4		--	< 1	--	< 1	< 1
Mercury	1	0.6	0.4		--	< 0.1	--	< 0.1	< 0.1
Nickel	20	11	70		--	1	--	15	15
Zinc	-	8	15		--	6	--	47	46

Notes:

Criteria 1 = Australian Drinking Water Guidelines, 2011.

Criteria 2 = ANZECC 2000 Guidelines for Freshwater - 95% Species Protection Trigger Values

Criteria 3 = ANZECC 2000 Guidelines for Marine Water - 95% Species Protection Trigger Values

Total concentrations in µg/L

- = assessment criteria not available

¹Guideline for arsenic (V) used conservatively.

²Guideline for chromium (VI) used conservatively.

DW1 = duplicate of MW104

TW1 = triplicate of MW104

R1 = rinsate sample

RPD = relative percent difference of duplicate/triplicate

nc = RPD not calculated, one or both samples below laboratory reporting limit

< # or ND = analyte(s) not detected in excess of laboratory reporting limit

-- = sample not analysed

Bold/red indicates exceedance of assessment criteria

Table 12 : Summary of Groundwater Analytical Data - Heavy Metals

Detailed Site Investigation

Project No.: 1901048

11-13 Percy Street

Auburn NSW

	Criteria 1	Criteria 2	Criteria 3						
	Drinking	ANZECC	ANZECC						
	Water	Freshwater	Marine Water	Sample ID	RPD_DW1	TW1	RPD_TW1	MW106	MW107
	Guidelines	95%	95%	Date	-	5/06/2019	-	5/06/2019	5/06/2019
Arsenic	10	13 ¹	-		nc	< 1	nc	6	2
Cadmium	2	0.2	5.5		nc	< 0.2	nc	< 0.2	< 0.2
Chromium	50 ²	1 ²	4.4 ²		nc	< 1	nc	1	4
Copper	2,000	1.4	1.3		nc	< 1	nc	< 1	4
Lead	10	3.4	4.4		nc	< 1	nc	< 1	< 1
Mercury	1	0.6	0.4		nc	< 0.1	nc	< 0.1	< 0.1
Nickel	20	11	70		0%	13	14%	7	1
Zinc	-	8	15		2%	40	16%	9	< 5

Notes:

Criteria 1 = Australian Drinking Water Guidelines, 2011.

Criteria 2 = ANZECC 2000 Guidelines for Freshwater - 95% Species Protection Trigger Values

Criteria 3 = ANZECC 2000 Guidelines for Marine Water - 95% Species Protection Trigger Values

Total concentrations in µg/L

- = assessment criteria not available

¹Guideline for arsenic (V) used conservatively.

²Guideline for chromium (VI) used conservatively.

DW1 = duplicate of MW104

TW1 = triplicate of MW104

R1 = rinsate sample

RPD = relative percent difference of duplicate/triplicate

nc = RPD not calculated, one or both samples below laboratory reporting limit

< # or ND = analyte(s) not detected in excess of laboratory reporting limit

-- = sample not analysed

Bold/red indicates exceedance of assessment criteria

Table 12 : Summary of Groundwater Analytical Data - Heavy Metals

Detailed Site Investigation

Project No.: 1901048

11-13 Percy Street

Auburn NSW

	Criteria 1	Criteria 2	Criteria 3						
	Drinking	ANZECC	ANZECC						
	Water	Freshwater	Marine Water	Sample ID	MW108	MW109	MW110	MW111	R1
	Guidelines	95%	95%	Date	5/06/2019	6/06/2019	5/06/2019	5/06/2019	5/06/2019
Arsenic	10	13 ¹	-		7	4	< 1	2	--
Cadmium	2	0.2	5.5		< 0.2	< 0.2	< 0.2	< 0.2	--
Chromium	50 ²	1 ²	4.4 ²		< 1	4	< 1	< 1	--
Copper	2,000	1.4	1.3		4	11	2	1	--
Lead	10	3.4	4.4		< 1	5	< 1	< 1	--
Mercury	1	0.6	0.4		< 0.1	< 0.1	< 0.1	< 0.1	--
Nickel	20	11	70		10	5	13	3	--
Zinc	-	8	15		9	20	34	7	--

Notes:

Criteria 1 = Australian Drinking Water Guidelines, 2011.

Criteria 2 = ANZECC 2000 Guidelines for Freshwater - 95% Species Protection Trigger Values

Criteria 3 = ANZECC 2000 Guidelines for Marine Water - 95% Species Protection Trigger Values

Total concentrations in µg/L

- = assessment criteria not available

¹Guideline for arsenic (V) used conservatively.

²Guideline for chromium (VI) used conservatively.

DW1 = duplicate of MW104

TW1 = triplicate of MW104

R1 = rinsate sample

RPD = relative percent difference of duplicate/triplicate

nc = RPD not calculated, one or both samples below laboratory reporting limit

< # or ND = analyte(s) not detected in excess of laboratory reporting limit

-- = sample not analysed

Bold/red indicates exceedance of assessment criteria

Table 13 : Summary of Groundwater Analytical Data - Per- and Polyfluorinated Alkyl Substances

Detailed Site Investigation

Project No.: 1901048

11-13 Percy Street

Auburn NSW

	Criteria 1	Criteria 2						
	Drinking	Recreational	Sample ID	MW115	MW116	GW1	MW106	MW110
	Water	Water	Date	27/08/2019	26/08/2019	12/11/2019	12/11/2019	12/11/2019
Perfluoropropanesulfonic acid-PFPrS	-	-		< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Perfluorobutanesulfonic acid-PFBS	-	-		< 0.01	< 0.01	0.01	< 0.01	< 0.01
Perfluoropentanesulfonic acid-PFPeS	-	-		< 0.01	< 0.01	0.01	< 0.01	< 0.01
Perfluorohexanesulfonic acid-PFHxS	-	-		< 0.01	< 0.01	0.09	< 0.01	< 0.01
Perfluoroheptanesulfonic acid-PFHpS	-	-		< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Perfluorooctanesulfonic acid-PFOS	-	-		< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Perfluorononanesulfonic acid-PFNS	-	-		< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Perfluorodecanesulfonic acid-PFDS	-	-		< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Perfluorobutanoic acid-PFBA	-	-		< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Perfluoropentanoic acid-PFPeA	-	-		< 0.01	< 0.01	< 0.01	0.02	< 0.01
Perfluorohexanoic acid-PFHxA	-	-		< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Perfluoroheptanoic acid-PFHpA	-	-		< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Perfluorooctanoic acid-PFOA	0.56	5.6		< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Perfluorononanoic acid-PFNA	-	-		< 0.01	< 0.01	< 0.01	0.01	< 0.01
Perfluorodecanoic acid-PFDA	-	-		< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Perfluoroundecanoic acid-PFUnDA	-	-		< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Perfluorododecanoic acid-PFDoDA	-	-		< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Perfluorotridecanoic acid-PFTrDA	-	-		< 0.01	< 0.01	< 0.01	< 0.01	< 0.01

Notes:

Criteria 1 = PFAS NEMP (HEPA 2018) Drinking Water Guidelines, Australian Government Department of Health 2017.

Criteria 2 = PFAS NEMP (HEPA 2018) Recreational Water Guidelines, Australian Government Department of Health 2017.

Total concentrations in µg/L

- = assessment criteria not available

DW1 = duplicate of MW114

TW1 = triplicate of MW114

R1 = rinsate sample

RPD = relative percent difference of duplicate/triplicate

nc = RPD not calculated, one or both samples below laboratory reporting limit

< # or ND = analyte(s) not detected in excess of laboratory reporting limit

-- = sample not analysed

Bold/red indicates exceedance of assessment criteria

MeFOSA = N-methyl-perfluorooctanesulfonamide

EtFOSA = N-ethyl-perfluorooctanesulfonamide

MeFOSE = N-Methyl perfluorooctane sulfonamidoethanol

EtFOSE = N-Ethyl perfluorooctane sulfonamidoethanol

MeFOSAA = N-methyl-perfluorooctanesulfonamidoacetic acid

EtFOSAA = N-ethyl-perfluorooctanesulfonamidoacetic acid

4:2 FTS = 1H.1H.2H.2H-perfluorohexanesulfonic acid

6:2 FTS = 1H.1H.2H.2H-perfluorooctanesulfonic acid

8:2 FTS = 1H.1H.2H.2H-perfluorodecanesulfonic acid

10:2 FTS = 10:2 Fluorotelomer sulfonic acid

Table 13 : Summary of Groundwater Analytical Data - Per- and Polyfluorinated Alkyl Substances

Detailed Site Investigation

Project No.: 1901048

11-13 Percy Street

Auburn NSW

	Criteria 1	Criteria 2						
	Drinking	Recreational	Sample ID	MW115	MW116	GW1	MW106	MW110
	Water	Water	Date	27/08/2019	26/08/2019	12/11/2019	12/11/2019	12/11/2019
Perfluorotetradecanoic acid-PFTeDA	-	-		< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Perfluorooctanesulfonamide-FOSA	-	-		< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
MeFOSA	-	-		< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
EtFOSA	-	-		< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
MeFOSE	-	-		< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
EtFOSE	-	-		< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
MeFOSAA	-	-		< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
EtFOSAA	-	-		< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
4:2 FTS	-	-		< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
6:2 FTS	-	-		< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
8:2 FTS	-	-		< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
10:2 FTS	-	-		< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
PFOA + PFOS	-	-		ND	ND	ND	ND	ND
PFHxS + PFOS	0.07	0.7		< 0.01	< 0.01	0.09	< 0.01	< 0.01
Total PFAS	-	-		< 0.1	< 0.1	0.11	< 0.1	< 0.1

Notes:

Criteria 1 = PFAS NEMP (HEPA 2018) Drinking Water Guidelines, Australian Government Department of Health 2017.

Criteria 2 = PFAS NEMP (HEPA 2018) Recreational Water Guidelines, Australian Government Department of Health 2017.

Total concentrations in µg/L

- = assessment criteria not available

DW1 = duplicate of MW114

TW1 = triplicate of MW114

R1 = rinsate sample

RPD = relative percent difference of duplicate/triplicate

nc = RPD not calculated, one or both samples below laboratory reporting limit

< # or ND = analyte(s) not detected in excess of laboratory reporting limit

-- = sample not analysed

Bold/red indicates exceedance of assessment criteria

MeFOSA = N-methyl-perfluorooctanesulfonamide

EtFOSA = N-ethyl-perfluorooctanesulfonamide

MeFOSE = N-Methyl perfluorooctane sulfonamidoethanol

EtFOSE = N-Ethyl perfluorooctane sulfonamidoethanol

MeFOSAA = N-methyl-perfluorooctanesulfonamidoacetic acid

EtFOSAA = N-ethyl-perfluorooctanesulfonamidoacetic acid

4:2 FTS = 1H.1H.2H.2H-perfluorohexanesulfonic acid

6:2 FTS = 1H.1H.2H.2H-perfluorooctanesulfonic acid

8:2 FTS = 1H.1H.2H.2H-perfluorodecanesulfonic acid

10:2 FTS = 10:2 Fluorotelomer sulfonic acid

Table 13 : Summary of Groundwater Analytical Data - Per- and Polyfluorinated Alkyl Substances

Detailed Site Investigation

Project No.: 1901048

11-13 Percy Street

Auburn NSW

	Criteria 1	Criteria 2						
	Drinking	Recreational	Sample ID	MW114	DW1	RPD_DW1	TW1	RPD_TW1
	Water	Water	Date	12/11/2019	12/11/2019	-	12/11/2019	-
Perfluoropropanesulfonic acid-PFPrS	-	-		< 0.01	< 0.01	nc	--	--
Perfluorobutanesulfonic acid-PFBS	-	-		< 0.01	< 0.01	nc	< 0.02	nc
Perfluoropentanesulfonic acid-PFPeS	-	-		< 0.01	< 0.01	nc	< 0.02	nc
Perfluorohexanesulfonic acid-PFHxS	-	-		< 0.01	< 0.01	nc	< 0.02	nc
Perfluoroheptanesulfonic acid-PFHpS	-	-		< 0.01	< 0.01	nc	< 0.02	nc
Perfluorooctanesulfonic acid-PFOS	-	-		< 0.01	< 0.01	nc	< 0.01	nc
Perfluorononanesulfonic acid-PFNS	-	-		< 0.01	< 0.01	nc	--	--
Perfluorodecanesulfonic acid-PFDS	-	-		< 0.01	< 0.01	nc	< 0.02	nc
Perfluorobutanoic acid-PFBA	-	-		< 0.05	< 0.05	nc	< 0.1	nc
Perfluoropentanoic acid-PFPeA	-	-		< 0.01	< 0.01	nc	< 0.02	nc
Perfluorohexanoic acid-PFHxA	-	-		< 0.01	< 0.01	nc	< 0.02	nc
Perfluoroheptanoic acid-PFHpA	-	-		< 0.01	< 0.01	nc	< 0.02	nc
Perfluorooctanoic acid-PFOA	0.56	5.6		< 0.01	< 0.01	nc	< 0.01	nc
Perfluorononanoic acid-PFNA	-	-		< 0.01	< 0.01	nc	< 0.02	nc
Perfluorodecanoic acid-PFDA	-	-		< 0.01	< 0.01	nc	< 0.02	nc
Perfluoroundecanoic acid-PFUnDA	-	-		< 0.01	< 0.01	nc	< 0.02	nc
Perfluorododecanoic acid-PFDoDA	-	-		< 0.01	< 0.01	nc	< 0.02	nc
Perfluorotridecanoic acid-PFTrDA	-	-		< 0.01	< 0.01	nc	< 0.02	nc

Notes:

Criteria 1 = PFAS NEMP (HEPA 2018) Drinking Water Guidelines, Australian Government Department of Health 2017.

Criteria 2 = PFAS NEMP (HEPA 2018) Recreational Water Guidelines, Australian Government Department of Health 2017.

Total concentrations in µg/L

- = assessment criteria not available

DW1 = duplicate of MW114

TW1 = triplicate of MW114

R1 = rinsate sample

RPD = relative percent difference of duplicate/triplicate

nc = RPD not calculated, one or both samples below laboratory reporting limit

< # or ND = analyte(s) not detected in excess of laboratory reporting limit

-- = sample not analysed

Bold/red indicates exceedance of assessment criteria

MeFOSA = N-methyl-perfluorooctanesulfonamide

EtFOSA = N-ethyl-perfluorooctanesulfonamide

MeFOSE = N-Methyl perfluorooctane sulfonamidoethanol

EtFOSE = N-Ethyl perfluorooctane sulfonamidoethanol

MeFOSAA = N-methyl-perfluorooctanesulfonamidoacetic acid

EtFOSAA = N-ethyl-perfluorooctanesulfonamidoacetic acid

4:2 FTS = 1H.1H.2H.2H-perfluorohexanesulfonic acid

6:2 FTS = 1H.1H.2H.2H-perfluorooctanesulfonic acid

8:2 FTS = 1H.1H.2H.2H-perfluorodecanesulfonic acid

10:2 FTS = 10:2 Fluorotelomer sulfonic acid

Table 13 : Summary of Groundwater Analytical Data - Per- and Polyfluorinated Alkyl Substances

Detailed Site Investigation

Project No.: 1901048

11-13 Percy Street

Auburn NSW

	Criteria 1	Criteria 2						
	Drinking	Recreational	Sample ID	MW114	DW1	RPD_DW1	TW1	RPD_TW1
	Water	Water	Date	12/11/2019	12/11/2019	-	12/11/2019	-
Perfluorotetradecanoic acid-PFTeDA	-	-		< 0.01	< 0.01	nc	< 0.05	nc
Perfluorooctanesulfonamide-FOSA	-	-		< 0.05	< 0.05	nc	< 0.02	nc
MeFOSA	-	-		< 0.05	< 0.05	nc	< 0.05	nc
EtFOSA	-	-		< 0.05	< 0.05	nc	< 0.05	nc
MeFOSE	-	-		< 0.05	< 0.05	nc	< 0.05	nc
EtFOSE	-	-		< 0.05	< 0.05	nc	< 0.05	nc
MeFOSAA	-	-		< 0.05	< 0.05	nc	< 0.02	nc
EtFOSAA	-	-		< 0.05	< 0.05	nc	< 0.02	nc
4:2 FTS	-	-		< 0.01	< 0.01	nc	< 0.05	nc
6:2 FTS	-	-		< 0.05	< 0.05	nc	< 0.05	nc
8:2 FTS	-	-		< 0.01	< 0.01	nc	< 0.05	nc
10:2 FTS	-	-		< 0.01	< 0.01	nc	< 0.05	nc
PFOA + PFOS	-	-		ND	ND	nc	ND	nc
PFHxS + PFOS	0.07	0.7		< 0.01	< 0.01	nc	ND	nc
Total PFAS	-	-		< 0.1	< 0.1	nc	< 0.01	nc

Notes:

Criteria 1 = PFAS NEMP (HEPA 2018) Drinking Water Guidelines, Australian Government Department of Health 2017.

Criteria 2 = PFAS NEMP (HEPA 2018) Recreational Water Guidelines, Australian Government Department of Health 2017.

Total concentrations in µg/L

- = assessment criteria not available

DW1 = duplicate of MW114

TW1 = triplicate of MW114

R1 = rinsate sample

RPD = relative percent difference of duplicate/triplicate

nc = RPD not calculated, one or both samples below laboratory reporting limit

< # or ND = analyte(s) not detected in excess of laboratory reporting limit

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Bold/red indicates exceedance of assessment criteria

MeFOSA = N-methyl-perfluorooctanesulfonamide

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MeFOSAA = N-methyl-perfluorooctanesulfonamidoacetic acid

EtFOSAA = N-ethyl-perfluorooctanesulfonamidoacetic acid

4:2 FTS = 1H.1H.2H.2H-perfluorohexanesulfonic acid

6:2 FTS = 1H.1H.2H.2H-perfluorooctanesulfonic acid

8:2 FTS = 1H.1H.2H.2H-perfluorodecanesulfonic acid

10:2 FTS = 10:2 Fluorotelomer sulfonic acid

Table 13 : Summary of Groundwater Analytical Data - Per- and Polyfluorinated Alkyl Substances

Detailed Site Investigation

Project No.: 1901048

11-13 Percy Street

Auburn NSW

	Criteria 1	Criteria 2		
	Drinking	Recreational	Sample ID	R1
	Water	Water	Date	12/11/2019
Perfluoropropanesulfonic acid-PFPrS	-	-		< 0.01
Perfluorobutanesulfonic acid-PFBS	-	-		< 0.01
Perfluoropentanesulfonic acid-PFPeS	-	-		< 0.01
Perfluorohexanesulfonic acid-PFHxS	-	-		< 0.01
Perfluoroheptanesulfonic acid-PFHpS	-	-		< 0.01
Perfluorooctanesulfonic acid-PFOS	-	-		< 0.01
Perfluorononanesulfonic acid-PFNS	-	-		< 0.01
Perfluorodecanesulfonic acid-PFDS	-	-		< 0.01
Perfluorobutanoic acid-PFBA	-	-		< 0.05
Perfluoropentanoic acid-PFPeA	-	-		< 0.01
Perfluorohexanoic acid-PFHxA	-	-		< 0.01
Perfluoroheptanoic acid-PFHpA	-	-		< 0.01
Perfluorooctanoic acid-PFOA	0.56	5.6		< 0.01
Perfluorononanoic acid-PFNA	-	-		< 0.01
Perfluorodecanoic acid-PFDA	-	-		< 0.01
Perfluoroundecanoic acid-PFUnDA	-	-		< 0.01
Perfluorododecanoic acid-PFDoDA	-	-		< 0.01
Perfluorotridecanoic acid-PFTTrDA	-	-		< 0.01

Notes:

Criteria 1 = PFAS NEMP (HEPA 2018) Drinking Water Guidelines, Australian Government Department of Health 2017.

Criteria 2 = PFAS NEMP (HEPA 2018) Recreational Water Guidelines, Australian Government Department of Health 2017.

Total concentrations in µg/L

- = assessment criteria not available

DW1 = duplicate of MW114

TW1 = triplicate of MW114

R1 = rinsate sample

RPD = relative percent difference of duplicate/triplicate

nc = RPD not calculated, one or both samples below laboratory reporting limit

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MeFOSA = N-methyl-perfluorooctanesulfonamide

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MeFOSAA = N-methyl-perfluorooctanesulfonamidoacetic acid

EtFOSAA = N-ethyl-perfluorooctanesulfonamidoacetic acid

4:2 FTS = 1H.1H.2H.2H-perfluorohexanesulfonic acid

6:2 FTS = 1H.1H.2H.2H-perfluorooctanesulfonic acid

8:2 FTS = 1H.1H.2H.2H-perfluorodecanesulfonic acid

10:2 FTS = 10:2 Fluorotelomer sulfonic acid

Table 13 : Summary of Groundwater Analytical Data - Per- and Polyfluorinated Alkyl Substances

Detailed Site Investigation

Project No.: 1901048

11-13 Percy Street

Auburn NSW

	Criteria 1	Criteria 2	
	Drinking Water	Recreational Water	Sample ID R1
			Date 12/11/2019
Perfluorotetradecanoic acid-PFTeDA	-	-	< 0.01
Perfluorooctanesulfonamide-FOSA	-	-	< 0.05
MeFOSA	-	-	< 0.05
EtFOSA	-	-	< 0.05
MeFOSE	-	-	< 0.05
EtFOSE	-	-	< 0.05
MeFOSAA	-	-	< 0.05
EtFOSAA	-	-	< 0.05
4:2 FTS	-	-	< 0.01
6:2 FTS	-	-	< 0.05
8:2 FTS	-	-	< 0.01
10:2 FTS	-	-	< 0.01
PFOA + PFOS	-	-	ND
PFHxS + PFOS	0.07	0.7	< 0.01
Total PFAS	-	-	< 0.1

Notes:

Criteria 1 = PFAS NEMP (HEPA 2018) Drinking Water Guidelines, Australian Government Department of Health 2017.

Criteria 2 = PFAS NEMP (HEPA 2018) Recreational Water Guidelines, Australian Government Department of Health 2017.

Total concentrations in µg/L

- = assessment criteria not available

DW1 = duplicate of MW114

TW1 = triplicate of MW114

R1 = rinsate sample

RPD = relative percent difference of duplicate/triplicate

nc = RPD not calculated, one or both samples below laboratory reporting limit

< # or ND = analyte(s) not detected in excess of laboratory reporting limit

-- = sample not analysed

Bold/red indicates exceedance of assessment criteria

MeFOSA = N-methyl-perfluorooctanesulfonamide

EtFOSA = N-ethyl-perfluorooctanesulfonamide

MeFOSE = N-Methyl perfluorooctane sulfonamidoethanol

EtFOSE = N-Ethyl perfluorooctane sulfonamidoethanol

MeFOSAA = N-methyl-perfluorooctanesulfonamidoacetic acid

EtFOSAA = N-ethyl-perfluorooctanesulfonamidoacetic acid

4:2 FTS = 1H.1H.2H.2H-perfluorohexanesulfonic acid

6:2 FTS = 1H.1H.2H.2H-perfluorooctanesulfonic acid

8:2 FTS = 1H.1H.2H.2H-perfluorodecanesulfonic acid

10:2 FTS = 10:2 Fluorotelomer sulfonic acid

Table 14 : Summary of Groundwater Analytical Data - Volatile Organic Compounds (QAQC)

Detailed Site Investigation

Project No.: 1901048

11-13 Percy Street

Auburn NSW

	Criteria 1						
		Sample ID	R1	R1-	R3	R4	R6
		Date	5/06/2019	20/08/2019	22/08/2019	26/08/2019	28/08/2019
1.1-Dichloroethane	-		< 1	< 1	< 1	< 1	< 1
1.1-Dichloroethene	-		< 1	< 1	< 1	< 1	< 1
1.1.1-Trichloroethane	-		< 1	< 1	< 1	< 1	< 1
1.1.1.2-Tetrachloroethane	-		< 1	< 1	< 1	< 1	< 1
1.1.2-Trichloroethane	-		< 1	< 1	< 1	< 1	< 1
1.1.2.2-Tetrachloroethane	-		< 1	< 1	< 1	< 1	< 1
1.2-Dibromoethane	-		< 1	< 1	< 1	< 1	< 1
1.2-Dichlorobenzene	-		< 1	< 1	< 1	< 1	< 1
1.2-Dichloroethane	-		< 1	< 1	< 1	< 1	< 1
1.2-Dichloropropane	-		< 1	< 1	< 1	< 1	< 1
1.2.3-Trichloropropane	-		< 1	< 1	< 1	< 1	< 1
1.2.4-Trimethylbenzene	-		< 1	< 1	< 1	< 1	< 1
1.3-Dichlorobenzene	-		< 1	< 1	< 1	< 1	< 1
1.3-Dichloropropane	-		< 1	< 1	< 1	< 1	< 1
1.3.5-Trimethylbenzene	-		< 1	< 1	< 1	< 1	< 1
1.4-Dichlorobenzene	-		< 1	< 1	< 1	< 1	< 1
2-Butanone (MEK)	-		< 1	< 1	< 1	< 1	< 1
2-Propanone (Acetone)	-		< 1	< 3	2.7	< 1	< 1
4-Chlorotoluene	-		< 1	< 1	< 1	< 1	< 1

Notes:

Total concentrations in µg/L

- = assessment criteria not available

R1 = rinsate sample

R1- = rinsate sample

R3 = rinsate sample

R4 = rinsate sample

R6 = rinsate sample

R7 = rinsate sample

R8 = rinsate sample

TRIP BLANK = blank sample

TRIP SPIKE = spike sample

< # or ND = analyte(s) not detected in excess of laboratory reporting limit

-- = sample not analysed

Bold/red indicates exceedance of assessment criteria

Spike recovery in %

Table 14 : Summary of Groundwater Analytical Data - Volatile Organic Compounds (QAQC)

Detailed Site Investigation

Project No.: 1901048

11-13 Percy Street

Auburn NSW

	Criteria 1						
		Sample ID	R1	R1-	R3	R4	R6
		Date	5/06/2019	20/08/2019	22/08/2019	26/08/2019	28/08/2019
4-Methyl-2-pentanone (MIBK)	-		< 1	< 1	< 1	< 1	< 1
Allyl chloride	-		< 1	< 1	< 1	< 1	< 1
Benzene	-		< 1	< 1	< 1	< 1	< 1
Bromobenzene	-		< 1	< 1	< 1	< 1	< 1
Bromochloromethane	-		< 1	< 1	< 1	< 1	< 1
Bromodichloromethane	-		< 1	< 1	< 1	< 1	11
Bromoform	-		< 1	< 1	< 1	< 1	< 1
Bromomethane	-		< 1	< 1	< 1	< 1	< 1
Carbon disulfide	-		< 1	< 1	< 1	< 1	< 1
Carbon Tetrachloride	-		< 1	< 1	< 1	< 1	< 1
Chlorobenzene	-		< 1	< 1	< 1	< 1	< 1
Chloroethane	-		< 1	< 1	< 1	< 1	< 1
Chloroform	-		< 5	< 5	< 5	< 5	19
Chloromethane	-		< 1	< 1	< 1	< 1	< 1
cis-1.2-Dichloroethene	-		< 1	< 1	< 1	< 1	< 1
cis-1.3-Dichloropropene	-		< 1	< 1	< 1	< 1	< 1
Dibromochloromethane	-		< 1	< 1	< 1	< 1	< 1
Dibromomethane	-		< 1	< 1	< 1	< 1	< 1
Dichlorodifluoromethane	-		< 1	< 1	< 1	< 1	< 1

Notes:

Total concentrations in µg/L

- = assessment criteria not available

R1 = rinsate sample

R1- = rinsate sample

R3 = rinsate sample

R4 = rinsate sample

R6 = rinsate sample

R7 = rinsate sample

R8 = rinsate sample

TRIP BLANK = blank sample

TRIP SPIKE = spike sample

< # or ND = analyte(s) not detected in excess of laboratory reporting limit

-- = sample not analysed

Bold/red indicates exceedance of assessment criteria

Spike recovery in %

Table 14 : Summary of Groundwater Analytical Data - Volatile Organic Compounds (QAQC)

Detailed Site Investigation

Project No.: 1901048

11-13 Percy Street

Auburn NSW

	Criteria 1						
		Sample ID	R1	R1-	R3	R4	R6
		Date	5/06/2019	20/08/2019	22/08/2019	26/08/2019	28/08/2019
Ethylbenzene	-		< 1	< 1	< 1	< 1	< 1
Iodomethane	-		< 1	< 1	< 1	< 1	< 1
Isopropyl benzene (Cumene)	-		< 1	< 1	< 1	< 1	< 1
m&p-Xylenes	-		< 2	< 2	< 2	< 2	< 2
Methylene Chloride	-		< 1	< 1	< 1	< 1	< 1
o-Xylene	-		< 1	< 1	< 1	< 1	< 1
Styrene	-		< 1	< 1	< 1	< 1	< 1
Tetrachloroethene	-		< 1	< 1	< 1	< 1	< 1
Toluene	-		< 1	< 1	< 1	< 1	< 1
trans-1.2-Dichloroethene	-		< 1	< 1	< 1	< 1	< 1
trans-1.3-Dichloropropene	-		< 1	< 1	< 1	< 1	< 1
Trichloroethene	-		< 1	< 1	< 1	< 1	< 1
Trichlorofluoromethane	-		< 1	< 1	< 1	< 1	< 1
Vinyl chloride	-		< 1	< 1	< 1	< 1	< 1
Xylenes - Total	-		< 3	< 3	< 3	< 3	< 3

Notes:

Total concentrations in µg/L

- = assessment criteria not available

R1 = rinsate sample

R1- = rinsate sample

R3 = rinsate sample

R4 = rinsate sample

R6 = rinsate sample

R7 = rinsate sample

R8 = rinsate sample

TRIP BLANK = blank sample

TRIP SPIKE = spike sample

< # or ND = analyte(s) not detected in excess of laboratory reporting limit

-- = sample not analysed

Bold/red indicates exceedance of assessment criteria

Spike recovery in %

Table 14 : Summary of Groundwater Analytical Data - Volatile Organic Compounds (QAQC)

Detailed Site Investigation

Project No.: 1901048

11-13 Percy Street

Auburn NSW

	Criteria 1						
		Sample ID	R7	R8	TRIP BLANK	TRIP BLANK	TRIP SPIKE
		Date	27/09/2019	8/10/2019	20/08/2019	26/08/2019	20/08/2019
1.1-Dichloroethane	-		< 1	< 1	--	--	--
1.1-Dichloroethene	-		< 1	< 1	--	--	--
1.1.1-Trichloroethane	-		< 1	< 1	--	--	--
1.1.1.2-Tetrachloroethane	-		< 1	< 1	--	--	--
1.1.2-Trichloroethane	-		< 1	< 1	--	--	--
1.1.2.2-Tetrachloroethane	-		< 1	< 1	--	--	--
1.2-Dibromoethane	-		< 1	< 1	--	--	--
1.2-Dichlorobenzene	-		< 1	< 1	--	--	--
1.2-Dichloroethane	-		< 1	< 1	--	--	--
1.2-Dichloropropane	-		< 1	< 1	--	--	--
1.2.3-Trichloropropane	-		< 1	< 1	--	--	--
1.2.4-Trimethylbenzene	-		< 1	< 1	--	--	--
1.3-Dichlorobenzene	-		< 1	< 1	--	--	--
1.3-Dichloropropane	-		< 1	< 1	--	--	--
1.3.5-Trimethylbenzene	-		< 1	< 1	--	--	--
1.4-Dichlorobenzene	-		< 1	< 1	--	--	--
2-Butanone (MEK)	-		< 1	< 1	--	--	--
2-Propanone (Acetone)	-		< 1	< 1	--	--	--
4-Chlorotoluene	-		< 1	< 1	--	--	--

Notes:

Total concentrations in µg/L

- = assessment criteria not available

R1 = rinsate sample

R1- = rinsate sample

R3 = rinsate sample

R4 = rinsate sample

R6 = rinsate sample

R7 = rinsate sample

R8 = rinsate sample

TRIP BLANK = blank sample

TRIP SPIKE = spike sample

< # or ND = analyte(s) not detected in excess of laboratory reporting limit

-- = sample not analysed

Bold/red indicates exceedance of assessment criteria

Spike recovery in %

Table 14 : Summary of Groundwater Analytical Data - Volatile Organic Compounds (QAQC)

Detailed Site Investigation

Project No.: 1901048

11-13 Percy Street

Auburn NSW

	Criteria 1						
		Sample ID	R7	R8	TRIP BLANK	TRIP BLANK	TRIP SPIKE
		Date	27/09/2019	8/10/2019	20/08/2019	26/08/2019	20/08/2019
4-Methyl-2-pentanone (MIBK)	-		< 1	< 1	--	--	--
Allyl chloride	-		< 1	< 1	--	--	--
Benzene	-		< 1	< 1	< 1	< 1	100
Bromobenzene	-		< 1	< 1	--	--	--
Bromochloromethane	-		< 1	< 1	--	--	--
Bromodichloromethane	-		< 1	< 1	--	--	--
Bromoform	-		< 1	< 1	--	--	--
Bromomethane	-		< 1	< 1	--	--	--
Carbon disulfide	-		< 1	< 1	--	--	--
Carbon Tetrachloride	-		< 1	< 1	--	--	--
Chlorobenzene	-		< 1	< 1	--	--	--
Chloroethane	-		< 1	< 1	--	--	--
Chloroform	-		9	< 5	--	--	--
Chloromethane	-		< 1	< 1	--	--	--
cis-1.2-Dichloroethene	-		< 1	< 1	--	--	--
cis-1.3-Dichloropropene	-		< 1	< 1	--	--	--
Dibromochloromethane	-		< 1	< 1	--	--	--
Dibromomethane	-		< 1	< 1	--	--	--
Dichlorodifluoromethane	-		< 1	< 1	--	--	--

Notes:

Total concentrations in µg/L

- = assessment criteria not available

R1 = rinsate sample

R1- = rinsate sample

R3 = rinsate sample

R4 = rinsate sample

R6 = rinsate sample

R7 = rinsate sample

R8 = rinsate sample

TRIP BLANK = blank sample

TRIP SPIKE = spike sample

< # or ND = analyte(s) not detected in excess of laboratory reporting limit

-- = sample not analysed

Bold/red indicates exceedance of assessment criteria

Spike recovery in %

Table 14 : Summary of Groundwater Analytical Data - Volatile Organic Compounds (QAQC)

Detailed Site Investigation

Project No.: 1901048

11-13 Percy Street

Auburn NSW

	Criteria 1						
		Sample ID	R7	R8	TRIP BLANK	TRIP BLANK	TRIP SPIKE
		Date	27/09/2019	8/10/2019	20/08/2019	26/08/2019	20/08/2019
Ethylbenzene	-		< 1	< 1	< 1	< 1	100
Iodomethane	-		< 1	< 1	--	--	--
Isopropyl benzene (Cumene)	-		< 1	< 1	--	--	--
m&p-Xylenes	-		< 2	< 2	< 2	< 2	95
Methylene Chloride	-		< 1	< 1	--	--	--
o-Xylene	-		< 1	< 1	< 1	< 1	100
Styrene	-		< 1	< 1	--	--	--
Tetrachloroethene	-		< 1	< 1	--	--	--
Toluene	-		< 1	< 1	< 1	< 1	100
trans-1.2-Dichloroethene	-		< 1	< 1	--	--	--
trans-1.3-Dichloropropene	-		< 1	< 1	--	--	--
Trichloroethene	-		< 1	< 1	--	--	--
Trichlorofluoromethane	-		< 1	< 1	--	--	--
Vinyl chloride	-		< 1	< 1	--	--	--
Xylenes - Total	-		< 3	< 3	< 3	< 3	97

Notes:

Total concentrations in µg/L

- = assessment criteria not available

R1 = rinsate sample

R1- = rinsate sample

R3 = rinsate sample

R4 = rinsate sample

R6 = rinsate sample

R7 = rinsate sample

R8 = rinsate sample

TRIP BLANK = blank sample

TRIP SPIKE = spike sample

< # or ND = analyte(s) not detected in excess of laboratory reporting limit

-- = sample not analysed

Bold/red indicates exceedance of assessment criteria

Spike recovery in %

Table 14 : Summary of Groundwater Analytical Data - Volatile Organic Compounds (QAQC)

Detailed Site Investigation

Project No.: 1901048

11-13 Percy Street

Auburn NSW

	Criteria 1	
		Sample ID TRIP SPIKE
		Date 26/08/2019
1.1-Dichloroethane	-	--
1.1-Dichloroethene	-	--
1.1.1-Trichloroethane	-	--
1.1.1.2-Tetrachloroethane	-	--
1.1.2-Trichloroethane	-	--
1.1.2.2-Tetrachloroethane	-	--
1.2-Dibromoethane	-	--
1.2-Dichlorobenzene	-	--
1.2-Dichloroethane	-	--
1.2-Dichloropropane	-	--
1.2.3-Trichloropropane	-	--
1.2.4-Trimethylbenzene	-	--
1.3-Dichlorobenzene	-	--
1.3-Dichloropropane	-	--
1.3.5-Trimethylbenzene	-	--
1.4-Dichlorobenzene	-	--
2-Butanone (MEK)	-	--
2-Propanone (Acetone)	-	--
4-Chlorotoluene	-	--

Notes:

Total concentrations in µg/L

- = assessment criteria not available

R1 = rinsate sample

R1- = rinsate sample

R3 = rinsate sample

R4 = rinsate sample

R6 = rinsate sample

R7 = rinsate sample

R8 = rinsate sample

TRIP BLANK = blank sample

TRIP SPIKE = spike sample

< # or ND = analyte(s) not detected in excess of laboratory reporting limit

-- = sample not analysed

Bold/red indicates exceedance of assessment criteria

Spike recovery in %

Table 14 : Summary of Groundwater Analytical Data - Volatile Organic Compounds (QAQC)

Detailed Site Investigation

Project No.: 1901048

11-13 Percy Street

Auburn NSW

	Criteria 1	
		Sample ID TRIP SPIKE
		Date 26/08/2019
4-Methyl-2-pentanone (MIBK)	-	--
Allyl chloride	-	--
Benzene	-	86
Bromobenzene	-	--
Bromochloromethane	-	--
Bromodichloromethane	-	--
Bromoform	-	--
Bromomethane	-	--
Carbon disulfide	-	--
Carbon Tetrachloride	-	--
Chlorobenzene	-	--
Chloroethane	-	--
Chloroform	-	--
Chloromethane	-	--
cis-1.2-Dichloroethene	-	--
cis-1.3-Dichloropropene	-	--
Dibromochloromethane	-	--
Dibromomethane	-	--
Dichlorodifluoromethane	-	--

Notes:

Total concentrations in µg/L

- = assessment criteria not available

R1 = rinsate sample

R1- = rinsate sample

R3 = rinsate sample

R4 = rinsate sample

R6 = rinsate sample

R7 = rinsate sample

R8 = rinsate sample

TRIP BLANK = blank sample

TRIP SPIKE = spike sample

< # or ND = analyte(s) not detected in excess of laboratory reporting limit

-- = sample not analysed

Bold/red indicates exceedance of assessment criteria

Spike recovery in %

Table 14 : Summary of Groundwater Analytical Data - Volatile Organic Compounds (QAQC)

Detailed Site Investigation

Project No.: 1901048

11-13 Percy Street

Auburn NSW

	Criteria 1	
		Sample ID TRIP SPIKE
		Date 26/08/2019
Ethylbenzene	-	91
Iodomethane	-	--
Isopropyl benzene (Cumene)	-	--
m&p-Xylenes	-	89
Methylene Chloride	-	--
o-Xylene	-	100
Styrene	-	--
Tetrachloroethene	-	--
Toluene	-	91
trans-1.2-Dichloroethene	-	--
trans-1.3-Dichloropropene	-	--
Trichloroethene	-	--
Trichlorofluoromethane	-	--
Vinyl chloride	-	--
Xylenes - Total	-	93

Notes:

Total concentrations in µg/L

- = assessment criteria not available

R1 = rinsate sample

R1- = rinsate sample

R3 = rinsate sample

R4 = rinsate sample

R6 = rinsate sample

R7 = rinsate sample

R8 = rinsate sample

TRIP BLANK = blank sample

TRIP SPIKE = spike sample

< # or ND = analyte(s) not detected in excess of laboratory reporting limit

-- = sample not analysed

Bold/red indicates exceedance of assessment criteria

Spike recovery in %



Notes:

Criteria 1 = NEPC (1999) Amended, 'D' Comm./ind. Soil vapour Health Screening Levels for vapour intrusion, sand 0 to <1m.

Total concentrations in $\mu\text{g}/\text{m}^3$

- = assessment criteria not available

VP4DUP = duplicate of VP4

VP4-TD = triplicate of VP4

VP9DUP = duplicate of VP9

RPD = relative percent difference of duplicate/triplicate

nc = RPD not calculated, one or both samples below laboratory reporting limit

< # or ND = analyte(s) not detected in excess of laboratory reporting limit

-- = sample not analysed

Bold/red indicates exceedance of assessment criteria



Notes:

Criteria 1 = NEPC (1999) Amended, 'D' Comm./ind. Soil vapour Health Screening Levels for vapour intrusion, sand 0 to <1m.

Total concentrations in µg/m³

- = assessment criteria not available

VP4DUP = duplicate of VP4

VP4-TD = triplicate of VP4

VP9DUP = duplicate of VP9

RPD = relative percent difference of duplicate/triplicate

nc = RPD not calculated, one or both samples below laboratory reporting limit

< # or ND = analyte(s) not detected in excess of laboratory reporting limit

-- = sample not analysed

Bold/red indicates exceedance of assessment criteria



Table 1: Summary of Soil Vapour Analytical Data - BTEX

Soil Vapour Investigation

Project No.: 2001029

11-13 Percy Street,

Auburn NSW

[illegible]

Notes:

Criteria 1 = NEPC (1999) Amended, 'D' Comm./ind. Soil vapour Health Screening Levels for vapour intrusion, sand 0 to <1m.

Total concentrations in $\mu\text{g}/\text{m}^3$

- = assessment criteria not available

VP4DUP = duplicate of VP4

VP4-TD = triplicate of VP4

VP9DUP = duplicate of VP9

RPD = relative percent difference of duplicate/triplicate

nc = RPD not calculated, one or both samples below laboratory reporting limit

< # or ND = analyte(s) not detected in excess of laboratory reporting limit

-- = sample not analysed

Bold/red indicates exceedance of assessment criteria



Table 1: Summary of Soil Vapour Analytical Data - BTEX

Soil Vapour Investigation

Project No.: 2001029

11-13 Percy Street,

Auburn NSW

[illegible]

Notes:

Criteria 1 = NEPC (1999) Amended, 'D' Comm./ind. Soil vapour Health Screening Levels for vapour intrusion, sand 0 to <1m.

Total concentrations in $\mu\text{g}/\text{m}^3$

- = assessment criteria not available

VP4DUP = duplicate of VP4

VP4-TD = triplicate of VP4

VP9DUP = duplicate of VP9

RPD = relative percent difference of duplicate/triplicate

nc = RPD not calculated, one or both samples below laboratory reporting limit

< # or ND = analyte(s) not detected in excess of laboratory reporting limit

-- = sample not analysed

Bold/red indicates exceedance of assessment criteria

Table 2 : Summary of Soil Vapour Analytical Data - Volatile Organic Compounds

Soil Vapour Investigation

Project No.: 2001029

11-13 Percy Street,

Auburn NSW

	Criteria 1						
	HILs - D						
	Interim	Sample ID	VP1	VP2	VP4	VP4DUP	RPD_VP4DUP
	Soil Vapour	Date	28/05/2020	28/05/2020	28/05/2020	28/05/2020	-
cis-1,2-Dichloroethene	300		< 80	< 80	1,100	1,000	10%
trans-1,2-Dichloroethene	-		< 40	< 40	250	240	4%
1,2-Dichloroethene (Total)	-		ND	ND	1,350	1,240	8%
Trichloroethene	80		2	4	12,000	10,500	13%
Tetrachloroethene	8,000		< 1	< 1	21	15	33%
Isopropanol	-		< 50	< 50	< 50	< 50	nc
Vinyl chloride	100		--	--	--	--	--

Notes:

Criteria 1 = NEPC (1999) Amended, 'D' Commercial/Industrial Interim soil vapour Health Investigation Levels for VOCCs.

Total concentrations in µg/m³

- = assessment criteria not available

VP4DUP = duplicate of VP4

VP4-TD = triplicate of VP4

VP9DUP = duplicate of VP9

RPD = relative percent difference of duplicate/triplicate

nc = RPD not calculated, one or both samples below laboratory reporting limit

< # or ND = analyte(s) not detected in excess of laboratory reporting limit

-- = sample not analysed

Bold/red indicates exceedance of assessment criteria



Table 2 : Summary of Soil Vapour Analytical Data - Volatile Organic Compounds

Soil Vapour Investigation

Project No.: 2001029

11-13 Percy Street,

Auburn NSW

[illegible]

Notes:

Criteria 1 = NEPC (1999) Amended, 'D' Commercial/industrial Interim soil vapour Health Investigation Levels for VOCCs.

Total concentrations in $\mu\text{g}/\text{m}^3$

- = assessment criteria not available

VP4DUP = duplicate of VP4

VP4-TD = triplicate of VP4

VP9DUP = duplicate of VP9

RPD = relative percent difference of duplicate/triplicate

nc = RPD not calculated, one or both samples below laboratory reporting limit

< # or ND = analyte(s) not detected in excess of laboratory reporting limit

-- = sample not analysed

Bold/red indicates exceedance of assessment criteria

Table 2 : Summary of Soil Vapour Analytical Data - Volatile Organic Compounds

Soil Vapour Investigation

Project No.: 2001029

11-13 Percy Street,

Auburn NSW

	Criteria 1						
	HILs - D						
	Interim	Sample ID	VP9DUP	RPD_VP9DUP	VP10	VP11	VP12
	Soil Vapour	Date	28/05/2020	-	28/05/2020	28/05/2020	28/05/2020
cis-1,2-Dichloroethene	300		< 80	nc	< 80	< 80	< 80
trans-1,2-Dichloroethene	-		60	29%	< 40	41	< 40
1,2-Dichloroethene (Total)	-		60	29%	ND	41	ND
Trichloroethene	80		< 1	nc	< 1	1	12
Tetrachloroethene	8,000		< 1	nc	< 1	< 1	< 5
Isopropanol	-		< 50	nc	< 50	< 50	< 50
Vinyl chloride	100		--	--	--	--	--

Notes:

Criteria 1 = NEPC (1999) Amended, 'D' Commercial/Industrial Interim soil vapour Health Investigation Levels for VOCs.

Total concentrations in µg/m³

- = assessment criteria not available

VP4DUP = duplicate of VP4

VP4-TD = triplicate of VP4

VP9DUP = duplicate of VP9

RPD = relative percent difference of duplicate/triplicate

nc = RPD not calculated, one or both samples below laboratory reporting limit

< # or ND = analyte(s) not detected in excess of laboratory reporting limit

-- = sample not analysed

Bold/red indicates exceedance of assessment criteria



Table 2 : Summary of Soil Vapour Analytical Data - Volatile Organic Compounds

Soil Vapour Investigation

Project No.: 2001029

11-13 Percy Street,

Auburn NSW

[illegible]

Notes:

Criteria 1 = NEPC (1999) Amended, 'D' Commercial/industrial Interim soil vapour Health Investigation Levels for VOCCs.

Total concentrations in $\mu\text{g}/\text{m}^3$

- = assessment criteria not available

VP4DUP = duplicate of VP4

VP4-TD = triplicate of VP4

VP9DUP = duplicate of VP9

RPD = relative percent difference of duplicate/triplicate

nc = RPD not calculated, one or both samples below laboratory reporting limit

< # or ND = analyte(s) not detected in excess of laboratory reporting limit

-- = sample not analysed

Bold/red indicates exceedance of assessment criteria

ATTACHMENT C



SOIL SAMPLING PROCEDURE – GENERAL

1. Scope

The purpose of this Standard Operating Procedure is to provide a description of the procedures used for the collection and handling of soil samples. This procedure should be read in conjunction with the other specific sampling procedures.

2. Equipment

The following equipment may be required:

- Tape measure;
- Sample containers;
- Photoionisation detector (PID)
- Zip-lock plastic bags;
- Chain of Custody forms;
- Personal protective equipment;
- Coolers (esbies);
- Ice;
- Spade/shovel/trowel; and
- Hand auger.

3. Safety

A site specific Health and Safety Plan (HASP) must be developed before visiting site and signed off by a manager.

During the sampling of soils, the following personal protective equipment (PPE) should be worn as a minimum:

- Safety glasses;
- Nitrile gloves;
- Long-sleeved shirt; and
- Long-legged trousers.

Other PPE may be required depending on the nature of the soil contaminants. A hard hat may be required if sampling in the proximity of a drill rig / excavator or other hazard.



4. Soil Sampling Procedures

The following general sampling procedures should be applied when collecting soil samples:

- Each sample should be given a unique sample ID code. Sample depth and date should be noted;
- A clean pair of nitrile gloves should be worn when collecting each sample prior to handling, so as to avoid cross contamination;
- Following the collection of the sample it should be placed in a sample container labelled with the unique sample ID code, the date of collection and the job number.
- The sample container should be sealed and placed immediately in an ice-cooled esky;
- A soil sub sample should be placed in a zip-lock bag for field screening for Volatile Organic Compounds (VOCs) using a PID. The zip-lock bag should be sealed and allowed to stand for approximately 5 minutes to allow for equilibration of volatile compounds to gas phase within the air space of the bag; and
- The tip of a PID should be used to puncture the zip-lock bag, and a PID reading taken once the reading has stabilised. The PID reading should be recorded in the sampler's field notes or on the relevant Geo-Logix Field Form.

Composite Samples

The following should be applied when composite sampling is required:

- Soils samples should not be composited in the field;
- Soil should be collected as discrete samples;
- Compositing for non-volatile analytes should be undertaken by the laboratory; and
- Laboratory analysis of composite samples for volatile and semi-volatile compounds should not be undertaken due to potential loss of volatiles through the composite process.

Sampling Soil for Volatile Analysis

The following should be applied when soil sampling for volatile analysis is required:

- Collect samples that are reasonably intact, taking care to remove surrounding soils that have been disturbed.

5. Sample Handling, Transport and Storage

To maintain sample integrity it is important to ensure that the samples remain cool and protected from light prior to and during transportation. If necessary, melted ice water in the eskies/coolers should be drained and the ice should be replaced.

Samples should be transported under Chain-of-Custody conditions to a National Association of Testing Authorities (NATA) licensed facility for analysis.

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