

**RICHARD CROOKES**  
CONSTRUCTIONS

WEE HUR 13 GIBBONS ST, REDFERN  
RCC JOB 1235

# CONSTRUCTION ENVIRONMENTAL MANAGEMENT PLAN (CEMP)

10 May 2021

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# 1. DOCUMENT INFORMATION

<b>CLIENT</b>	Richard Crookes Constructions (RCC)
<b>PROJECT</b>	WEE HUR 13 GIBBONS ST, REDFERN
<b>RCC PROJECT NUMBER</b>	1235
<b>REPORT TITLE</b>	WEE HUR 13 GIBBONS ST - Construction Environmental Management Plan (CEMP)
<b>DATE</b>	10 <sup>TH</sup> May 2021
<b>REVISION NUMBER</b>	Revision 0

## 2. PROJECT OVERVIEW

Wee Hur Gibbons St is a 19-storey (plus roof) development consisting of a 419-bed student accommodation facility in Redfern. The site is located at 13-23 Gibbons Street, Redfern at the southern periphery of the Sydney CBD, within the City of Sydney Local Government Area. The site is situated on the eastern side of Gibbons Street at the corner of Gibbons Street and Margaret Street. The site is located approximately 200m to the south-east of Redfern Railway Station.

The site contains three road frontages including Gibbons Street to the West, Margaret Street to the South and William Lane to the North East.

### 2.1 SITE LOCATION



### 2.2 CEMP OBJECTIVES

This document is an operational CEMP which provides the framework necessary to implement the required management measures associated with the proposed excavation and construction works. Once implemented the objective of the management measures will be to ensure that the construction works at the site can be carried out without significant adverse impact on the environment or the health of the site workers and neighbouring

residence. The management and monitoring aspects and Principal Contractor responsibilities covered in this CEMP include air quality, sediments, surface water, waste, noise, vibration, traffic, site security and emergencies.

RCC notes that this CEMP will focus on mitigating and managing environmental and human health issues associated with the construction works proposed at the site.

The primary objective of the CEMP is to provide a management framework to mitigate potential environmental and human health risks associated with excavation and early construction works. The objectives can be summarised as follows:

- Prevent, reduce and effectively manage potential impacts to the environment resulting from excavation works, material handling and associated spoil disposal.
- Ensure that environmental management is undertaken in accordance with relevant legislative and policy requirements.
- To ensure the Site is suitable for the proposed land use, in reference to contamination; and
- Promote environmental awareness amongst employees and contractors.

## 2.3 HOURS OF WORK

The works are to be carried out within the operating hours outlined in the SSDA of 7am to 6pm Monday - Friday, and 7.30am to 3.30pm Saturday.

## 2.4 CONSULTATION WITH AUTHORITIES WHEN PREPARING THIS PLAN

Information provided by the relevant authorities including City of Sydney Council, EPA, DPIE, RMS and TNSW were used in compiling this management plan.

## 2.5 24 HOUR CONTACT DETAILS OF SITE MANAGER

Cale Holmes - Project Engineer

Email: holmesc@richardcrookes.com.au

Phone: 0401 026 008

Site Manager details to be inserted at next revision.

## 2.6 PROJECT STAGING/PHASES

Stage/Phase	Works	Estimated Start	Estimated Finish
1	Establishment/Excavation/ Piling	June 2021	August 2021
2	Structure	August 2021	April 2022
3	Roofing/Cladding/Façade	October 2021	May 2022
4	Internal Services & Finishes	November 2021	September 2022
5	External Works	April 2022	September 2022

## 2.7 STAGES REQUIRING ONGOING ENVIRONMENTAL MANAGEMENT

Stage/Phase	Works	Ongoing Management	Priority
1	Establishment/Excavation/ Piling	Yes	Major
2	Structure	Yes	Major
3	Roofing/Cladding/Façade	Yes	Mid range
4	Internal Services & Finishes	Yes	Minor
5	External Works	Yes	Major
6	Post Construction/Occupation	Yes	Minor

## 3. ENVIRONMENTAL MANAGEMENT

The remaining sections of this document set out the environmental management activities and management measures, which will be implemented during the works at Wee Hur Gibbons St. The Principal Contractor will ensure that personnel responsible for undertaking the works are aware of their roles and responsibilities detailed in this CEMP.

### 3.1 POTENTIAL ENVIRONMENTAL ISSUES

The potential environmental issues associated with the proposed construction works include:

- Air emissions from contaminated soils and groundwater.
- Impact of noise and air emissions from plant, equipment and vehicles used in the project and associated transport of infrastructure.
- Disturbance of acid sulfate soil, or potential acid sulfate soil during construction, including dewatering activity's.
- Disturbance to, and release of potentially contaminated soil and groundwater to the local environment; and
- Disruption to amenity of any residents and other land users in the vicinity of the site.

### 3.2 GENERAL STRUCTURE OF ENVIRONMENTAL MANAGEMENT

Individual management measures have been prepared to address the issues listed in Environmental Elements 1 to 9. The numbering order should not be considered as a ranking of priority of each element as each element will have some overlaps in procedures and monitoring requirements. Each plan is comprised of several elements, each with an overall associated management policy, mechanisms of policy implementation, proposed monitoring programs and potential corrective actions as described in Table below.

EMP ELEMENT	DESCRIPTION OF CONTENT
<b>ELEMENT</b>	The environmental aspect of construction or operation requiring management consideration.
<b>POTENTIAL IMPACTS</b>	The potential impacts in relation to the environment.
<b>MANAGEMENT ACTIONS</b>	The procedures to be undertaken to avoid or minimise potential impacts
<b>PERFORMANCE OBJECTIVES</b>	The target or strategy to be achieved through the specific management actions.
<b>PERFORMANCE INDICATOR</b>	The criteria against which the implementation of the actions and the level of achievement of the performance objectives will be measured, as well as the success of the implementation of the policy.
<b>MONITORING</b>	The intended monitoring program and the process of measuring actual performance.
<b>RESPONSIBILITY</b>	The entity assigned responsibility for carrying out each action.
<b>REPORTING</b>	The process of documenting actual performance, or how well the policy has been achieved, including the format, timing and responsibility for reporting and auditing of the monitoring results.
<b>CORRECTIVE ACTION</b>	The action to be implemented and by whom in the case where a performance requirement is not met.

### 3.3 EXTERNAL LIGHTING

All external lighting in compliance with AS4282: 1997 Control of the Obtrusive Effects of Outdoor Lighting.

### 3.4 RECORDS AND AUDITS

Records of auditing and reporting will be maintained to demonstrate compliance with environmental requirements.

Environmental and construction records will include, but may not be limited to:

- Complaint records;
- Incident, non-conformance and corrective action reporting;
- Communications with stakeholders;
- Monthly waste management reporting;
- HGG monitoring if required;
- Daily asbestos monitoring if required; and
- CEMP audit documentation.

Auditing will also be carried out in line with the SSD requirements for the project, as outlined in the SSD 9275 Development Consent. Zoic Consulting has been engaged to carry out the audits in accordance with "Independent Audit - Post Approval Requirements June 2018" document.

### 3.5 NON-COMPLIANCE

A non-conformance is defined as a failure to fulfil a requirement of this CEMP or other associated environmental document. All non-compliances must immediately be reported to the Client, and the appropriate details of the non-compliance should be submitted (in writing via email) within 24 hours of the occurrence of the non-compliance.

The Project Manager or Subcontractors may identify and report a non-conformance.

### 3.6 ENVIRONMENTAL INCIDENT

An environmental incident is defined as an unplanned event that occurs that impacts, or has the potential to impact, on the environment (including natural or built). In the event of an environmental incident, the Client should be notified immediately. The details of the environmental incident will be supplied to the Project Manager on reporting of any incident.

### 3.7 REPORTING AND CORRECTIVE ACTIONS

When reporting a non-compliance or environmental incident, all immediate corrective actions which have been taken to rectify the situation will be documented. Further corrective action should be recommended if required at the time of reporting. Relevant agencies which require notification should also be identified.

The Principal Contractor will maintain a register of all non-compliances and environmental incidents, along with the corrective and preventative actions which have been implemented to mitigate and/or prevent further recurrences. The Principal Contractor must ensure and verify that corrective actions to control environmental impacts, and avoid future non-compliances have been undertaken by the appropriate personnel.

Table below details the general procedures to be undertaken when non-compliances and environmental incidents occur.

#### Corrective and Preventative Action Procedures

<b>Element</b>	<b>Management</b>
<b>Objective</b>	To implement a system to identify, document, analyse and implement corrective and preventative actions for environmental non-conformance issues
<b>Management Actions</b>	<p>When a non-conformance or environmental incident occurs the Principal Contractor is to ensure corrective and preventive actions are implemented by:</p> <ul style="list-style-type: none"> <li>• Assigning personnel to undertake investigation as per 'Environmental Incident Investigation Report' Form or 'Non-Compliance Report' Form and designate lead investigator.</li> <li>• Maintain documentation of Investigation Report Forms and their corrective/preventive actions on site;</li> <li>• Report environmental non-conformances identified that cause or have the potential to cause a significant environmental impact immediately to the Client.</li> </ul>
<b>Responsibility</b>	<p>All Staff and Subcontractors are:</p> <ul style="list-style-type: none"> <li>• Responsible for informing their immediate manager of environmental non-conformances.</li> <li>• Responsible for undertaking corrective/preventative actions and effectiveness determinations as assigned. Provide a summary of environmental non-conformances with outstanding corrective actions to the Client as requested.</li> <li>• Utilise corrective/preventative actions to revise and update CEMP and/or CEMP objectives, operational controls, and other aspects as required.</li> <li>• Review outstanding corrective action status.</li> </ul>
<b>Reporting</b>	Maintenance of records of 'Environmental Incident Investigation Report' Forms and 'Non-Compliance Report' Forms completed for the duration of the project.

## 3.8 RCC MANAGEMENT SYSTEM

### PROJECT ORGANISATIONAL STRUCTURE

All personnel including the Consultants, Contractors, Subcontractors and all other personnel associated with undertaking excavation and construction works on the Wee Hur Gibbons project ultimately report to the Principal Contractor.

The Principal Contractor will be responsible for implementing this CEMP. This will specifically involve monitoring the environmental performance of the works and ongoing compliance with legislative requirements, this CEMP, and all other associated environmental management documentation, development of a construction management plan (CMP), operational and post-construction monitoring and reporting.

### PROJECT ROLES AND RESPONSIBILITIES

The parties involved with, and their responsibilities during, the environmental management of the works are provided below:

**Table 1: Project Parties and Responsibilities**

PARTY	RESPONSIBILITIES	REPORTS TO
<p><b>THE PRINCIPAL CONTRACTOR</b> <b>RICHARD CROOKES CONSTRUCTIONS</b></p>	<ul style="list-style-type: none"> <li>• Ensure all works are implemented in accordance with the CEMP.</li> <li>• Promote awareness of appropriate environmental management and occupation health and safety (OHS) practices to the Project Manager.</li> <li>• Ensure the Project Manager is aware of the CEMP and site-specific issues.</li> <li>• Review risks and identify potential opportunities and issues with the project.</li> <li>• Monitor and inspect activities for compliance with relevant environmental requirements, including ensuring suitable management plans have been submitted and approved prior to undertaking works.</li> <li>• Ensure environmental incidents and non-compliances are reported promptly and investigated.</li> <li>• Undertake environmental audits on the project at a frequency deemed appropriate to the length of the project.</li> <li>• Periodically review the performance of the Principal Contractor Project Manager in meeting the objectives of the CEMP via regular audits. The audits will review the Principal Contractor Project Manager's activities to ensure that environmental hazards have the appropriate mitigation controls in place. Improvement requests and non-compliances will be monitored, and corrective action undertaken.</li> <li>• Maintain an environmental audit register to record &amp; close out any actions raised.</li> </ul>	<p>The Client Project Manager, Bloompark</p>
<p><b>THE CLIENT PROJECT MANAGER</b></p>	<ul style="list-style-type: none"> <li>• The Client Project Manager is appointed by the Client</li> <li>• Loretto Kirribilli as a primary contact overseeing the day to day operations at the Site.</li> <li>• Primary contact for all personnel in relation to site works and environmental management.</li> <li>• Review risks and identify potential opportunities and issues with the project.</li> <li>• Monitor and inspect activities for compliance with relevant environmental requirements, including ensuring suitable management plans have been submitted and approved prior to undertaking works.</li> <li>• Ensure environmental incidents and non-compliances are reported promptly and investigated.</li> </ul>	<p>The Client, Loreto Kirribilli</p>
<p><b>ENVIRONMENTAL SPECIALIST / ENGINEER</b> <b>ENVIRONMENTAL STRATEGIES</b></p>	<ul style="list-style-type: none"> <li>• Comply with this CEMP.</li> <li>• Provide advice where required to the Principal Contractor in relation to environmental issues associated with the works, if requested.</li> <li>• Responsible for implementing this CEMP and all required environmental controls.</li> <li>• Undertake onsite and offsite air monitoring.</li> <li>• Conduct environmental incident investigations, if requested by the Project Manager.</li> <li>• Demonstrate an understanding and management of the potential environmental impacts associated with the project.</li> <li>• Review risks and identify potential opportunities and issues with the project.</li> </ul>	<p>The Principal Contractor</p>

PARTY	RESPONSIBILITIES	REPORTS TO
	<ul style="list-style-type: none"> <li>• Ensure all Subcontractors under their control are appropriately informed of the relevant components of environmental management documentation.</li> <li>• Report all environmental incidents, hazards, non-compliances and near misses to the Principal Contractor Project Manager immediately.</li> <li>• Implement corrective action responses to environmental incidents and non-compliances in consultation with the Project Manager.</li> <li>• Provide a validation report at the end of the project for review of the Site Auditor.</li> </ul>	
<b>SUB-CONTRACTORS</b>	<ul style="list-style-type: none"> <li>• Implement and comply with relevant components of this CEMP.</li> <li>• Report all environmental incidents, hazards, non-compliances and near misses to the Principal Contractor immediately.</li> <li>• Implement corrective action responses to environmental incidents and non-compliances as required by the Principal Contractor.</li> </ul>	The Principal Contractor

### 1. Daily Toolbox Meetings

The Principal Contractor will also conduct weekly toolbox meetings with all personnel to review management procedures and identify / discuss daily site conditions and potential hazards. Site inductions and toolbox talks will highlight specific environmental requirements and activities being undertaken at the worksite each day.

A record of issues covered in weekly toolbox meetings should be maintained for future audit.

### 2. Personal Protective Equipment

All site personnel will be provided with, utilise, and be appropriately trained in the requirements of personal protective equipment (PPE). PPE requirements will depend on the activity or situation, but may include the following:

- High visibility clothing;
- Protective clothing and footwear;
- Eye protection;
- Respirable (half-face) masks as required;
- Hard hat as required (i.e. in the vicinity of the working excavator or other overhead plant); and
- Sun protection as required (long sleeves, sunscreen, hat or hard hat fitted with wide brimmed sun protection).

Personnel will be trained in the requirements and use of PPE to an appropriate level according to responsibilities.

PPE requirements should be detailed in the Safe Work Method Statements (or similar) which will be provided to the Principal Contractor for review and endorsement. Additional PPE will be required to carry out some aspects of the construction process and the PPE outline above should only be considered as the basic requirements. Additional PPE will be required if works are to be conducted in asbestos work environs.

### 3. Responsibility and Reporting

The Principal Contractor is responsible for ensuring that all personnel under their jurisdiction have been provided with adequate training in the areas outlined in this document.

The Principal Contractor will maintain records of all personnel who have undergone training in relation to the CEMP and general environmental responsibilities. Records of trained personnel will be maintained in a log to be kept on site. A record of issues covered in daily toolbox meetings should be maintained.

The Principal Contractor will ensure that anyone who appears to lack an understanding in the above areas undergoes adequate retraining

## 3.9 LEGISLATION

The following is a summary of statutory requirements to be satisfied by RCC. Table 2 includes the required permits, licenses and consents under the relevant acts, regulation or policy.

**Table 2: Summary of Acts, Regulations and Guidelines Applicable to Project**

ACT/ REGULATION / PLANNING POLICY	KEY PROJECT REQUIREMENTS	JURISDICTION
<b>PROTECTION OF THE ENVIRONMENT OPERATIONS ACT 1997 (POEO ACT) AND REGULATIONS</b>	<p>Undertake all activities so as to minimise harm to the environment (in particular pollution of air and water and noise emissions) and not cause an offence under the Act.</p> <p>Discharge to stormwater may require a license under the Act.</p> <p>Some transporters of waste are required to be licensed under the Act.</p> <p>Some waste disposal/processing facilities are required to be licensed under the Act.</p>	State
<b>PROTECTION OF THE ENVIRONMENT OPERATIONS (WASTE) REGULATION 2014</b>	Requirements in relation to transportation, collection, storage or disposal of waste including asbestos waste.	State
<b>PROTECTION OF THE ENVIRONMENT OPERATIONS (CLEAN AIR) REGULATION 2010</b>	Requirements in relation to emission from vehicles and general obligations that the occupiers of non-residential premises do not cause air pollution by failing to operate or maintain plant, carry out work or deal with materials in a proper and efficient manner.	State
<b>PROTECTION OF THE ENVIRONMENT OPERATIONS (UNDERGROUND PETROLEUM STORAGE SYSTEMS) REGULATION 2014</b>	Requirement for the removal / in-situ abandonment of Underground Storage Tanks.	State
<b>ENVIRONMENTAL PROTECTION AND BIODIVERSITY CONSERVATION ACT 1999</b>	Requirements in relation to protection and management of nationally and internationally important flora, fauna, ecological communities and heritage places.	Commonwealth
<b>WORK HEALTH AND SAFETY ACT 2011</b>	Requirements in relation to ensure work safety that are enforceable by law.	Commonwealth
<b>ROADS AND RAIL TRANSPORT (DANGEROUS GOODS) ACT 1997</b>	Transport of waste classified as Dangerous Goods in accordance with Regulations	State
<b>NSW EPA ASBESTOS AND WASTE TYRES GUIDELINES (2015).</b>	Outlines the legal requirements that consignors, transporters, and occupiers of premises must meet in addition to their obligations under the Waste Regulation.	State
<b>THE WASTE AVOIDANCE AND RESOURCE RECOVERY ACT 2001</b>	Minimise the amount of waste for disposal, where possible recycle	State
<b>ENVIRONMENTAL PLANNING AND ASSESSMENT ACT 1979</b>	Compliance with Development Consent Conditions issued by Consent Authority (Cumberland Council) to manage effects on the environment.	State
<b>SYDNEY WATER ACT (NSW) 1994</b>	Written agreement of Sydney Water is to be obtained if discharge of certain substances to sewer is required.	State

ACT/ REGULATION / PLANNING POLICY	KEY PROJECT REQUIREMENTS	JURISDICTION
	Approval required for any works that will affect Sydney Water's sewer, water mains, stormwater and or easements.	
<b>NSW ASMAC ACID SULFATE SOIL MANUAL (AUGUST 1998)</b>	Outline a stepwise process for site assessment and management of proposals in areas containing acid sulfate soils	State
<b>NSW EPA (2014) WASTE CLASSIFICATION GUIDELINES</b>	Requirements in relation to permits required-soil/water that may need to be transported to landfill and appropriate waste classification will be required.	State
<b>NSW HERITAGE ACT 1977.</b>	Requirements in relation to Protection of heritage listed items	State
<b>ENVIRONMENTALLY HAZARDOUS CHEMICALS ACT 1985</b>	Requirements in relation to a legal framework capable of regulating priority/high-risk chemicals throughout their entire life cycles	State

All work shall be conducted, as appropriate, in accordance with (but not limited to) the following environmental codes of practice:

- Australian Standard (AS) 2436-1981: Guide to Noise Control on Construction, Maintenance and Demolition Sites;
- AS 2601 - 2001: Demolition of Structures;
- AS 2436- 1981: Guide to Noise Control on Construction, Maintenance and Demolition Sites;
- AS 2986.1-2003 Workplace air quality - Sampling and analysis of volatile organic compounds by solvent desorption;
- AS 2986.2-2003 Workplace air quality – Part 2: Diffusive sampling method;
- AS NZS ISO 19011-2003 Guidelines for quality and or environmental management systems auditing;
- AS/NZS 3012-2003: Electrical Installations- Construction and Demolition sites;
- BS6472 -1992: Evaluation and Human Exposure to Vibration in Buildings (1 to 80Hz);
- BS7385 Part 2-1993: Evaluation and measurement of Vibration in Buildings Part 2;
- DEC (now EPA), NSW (2005): Approved Methods for the Modelling and Assessment of Air Pollutants in NSW;
- DEC (now EPA), NSW (2007): Approved methods for the Sampling and Analysis of Air Pollutants in NSW;
- Department of Conservation and Land Management, CALM (1992): Urban Erosion Control and Sediment Control;
- National Environmental Protection Measure (NEPM) on Ambient Air Quality;
- National Environment Protection Council (1998): National Environment Protection NSW DEC (2007): Noise Guide for Local Government;
- NEPM (1999) Assessment of Site Contamination, as amended 2013;
- National Occupational Health and Safety Commission, 2nd Edition [NOHSC: 2002 (2005)]: Code of Practice for the Safe Removal of Asbestos;
- NSW Department of Housing (1998): Managing Urban Stormwater- Soils and Construction;
- SafeWork, NSW (1993). Code of Practice: Safe Work on Roofs, Part 1, Commercial and Industrial Buildings;
- SafeWork, NSW (1997). Code of Practice: Amenities for Construction Work;
- SafeWork, NSW (1997). Code of Practice: Cutting and Drilling of Concrete and Other Masonry Products;
- SafeWork, NSW (1992). Code of Practice: Electrical Practices for Construction Work;
- SafeWork NSW (July 2014): Code of Practice: Excavation Work;
- WorkCover NSW (March 2014): Managing asbestos in or on soil; and
- Other NSW EPA endorsed relevant guidelines.

In addition to any regulatory compliance required by the above mentioned Acts and Guidelines, the contractor will be responsible to carry out the site works with all due care to ensure that the following conditions are complied with:

- Practical minimisation of all wind-borne dust leaving the confines of the site;
- No water containing any suspended matter or contaminants is to be allowed to leave the confines of the site in such a manner that it could pollute any nearby waterway;
- Material originating from onsite is not to be tracked outside the site boundary and any material present on road surfaces must be removed immediately;
- Noise levels at the site boundary are to comply with the legislative requirements;
- Odour levels at the site boundary are to comply with the requirements as per this CEMP.

The CEMP will be explained to all contractors and a copy will be maintained on site during excavation and future construction works.

## 4. MANAGEMENT PLANS

### 4.1 AIR QUALITY AND ODOUR MANAGEMENT PLAN

A construction Air Quality and Odour Management sub-plan has been prepared for this project by (see attached Appendix A).

Potential impacts to air quality resulting from the works include emissions from exposed soils, groundwater, plant and equipment and dust generated during earthworks and general construction.

### 4.2 SUMMARY OF AIR QUALITY MANAGEMENT PROCEDURES

ELEMENT	AIR QUALITY
<b>PERFORMANCE OBJECTIVES</b>	<p>The objective of this management measure is not to generate any odours or gasses and to adopt the necessary management strategy and PPE if presented with the occurrence to minimise the impacts of odours and/or vapours if encountered.</p> <p>Avoid or minimise the potential for odour and/or vapour emissions during the handling of exposed soils.</p> <p>Maintain plant and equipment such that exhaust emissions are minimised.</p> <p>Avoid or minimise disruption to amenity of residents and other land users in the vicinity of site works.</p>
<b>MANAGEMENT ACTIONS</b>	<p>Use of surfactant spray (onsite in close proximity of the earth works and at the site boundary/fences) is required for odour suppressant during works (this is up to the discretion of the Project Manager and the environmental consultant).</p> <p>Heavy equipment and vehicles will be appropriately maintained to minimise exhaust emissions.</p> <p>Appropriate methods of dust suppression will be implemented, such as ensuring earthworks materials remain moist to ensure dust is minimised during works.</p> <p>Evaluate weather conditions prior to works commencing and during any change in wind direction.</p> <p>Cease works if dust or odour generation is excessive.</p> <p>Covering of any stockpiles that are to remain for greater than two days (Waste reclassification or ENM stockpiles, ACM demolition stockpiles), or if weather forecasts predict strong winds; with plastic or Hessian material.</p> <p>All dust/odour control measures will be kept in good operating condition and be functional at all times, with regular maintenance.</p> <p>All loads are to be covered and appropriately fitted with tarpaulins to contain dust and/or odour during transport.</p> <p>A complaints register will be established and maintained to receive and address complaints from the community regarding the detection of nuisance odour during the works.</p> <p>Residents in the vicinity of the proposed works will be informed of potential dust/odour impacts prior to the commencement of works.</p>
<b>PERFORMANCE INDICATOR</b>	<p>No complaints from location residents, surrounding businesses or site personnel. Goal of nil complaints relating to dust quality issues. Vapour emissions (Chlorinated VOCs) are likely to occur however the number of complaints should be kept to a minimum.</p> <p>All complaints will be responded to within 2 business days</p> <p>No onsite observation of dust generation during excavation works by Project team.</p> <p>No visual evidence of exhaust smoke during idle of equipment. No visual evidence of tracked material on public roads.</p> <p>A reduction in the number of complaints received in relation to air quality each month.</p>
<b>MONITORING</b>	<p>Implementation of visual monitoring of dust, material tracking, truck tarping, water spray use, exhaust plumes and stockpile covering. If unexpected fines protocol detects contaminants a review of air born testing is to be undertaken.</p>

ELEMENT	AIR QUALITY
<b>RESPONSIBILITY</b>	The Principal Contractor is responsible for ensuring that if a monitoring program is required to be implemented by appropriately trained/qualified staff. This program may be sub-contracted out to a specialist sub-consultant as required. The Principal Contractor is to ensure responsible personnel are suitably qualified.
<b>REPORTING</b>	Maintenance of records on site of visual, PID and Asbestos monitoring undertaken if required.
<b>CORRECTIVE ACTION (AS REQUIRED)</b>	<p>If required replace or repair emission control devices.</p> <p>Provide equipment to enable wetting of exposed soils if required.</p> <p>Should excessive dust be generated during works will also cease, until weather conditions improve and/or additional dust suppression measures have been implemented.</p> <p>The use of PPE with appropriate filters, inside the works zone will be mandatory, in the event that PID readings exceed the limits set by the environmental consultant for the Site/area. The level set by the environmental consultant is exceeded the following action shall be undertaken:</p> <ul style="list-style-type: none"> <li>• Backfill any excavation or cover with plastic sheeting;</li> <li>• Temporarily cease works until levels drop; and</li> <li>• Increase the use of suppressant near the excavation.</li> </ul> <p>In the event that boundary monitoring exceeds the daily works shall be stopped immediately. The earthworks shall be quickly backfilled and the situation reassessed if odour / gasses are identified and deemed excessive by the environmental consultant, the application of odour suppressants should be used / increased and then works can recommence once suitably qualified environmental consultant has assessed ambient air quality to be satisfactory.</p>

### 4.3 CONSTRUCTION SOIL AND WATER MANAGEMENT PLAN

Sediment and Soil control will be in line with drawings by JHA consulting which demonstrate measures in place to mitigate erosion and pollution into waterways. These plans can be found at Appendix B.

Works must comply with requirements for storm water management in accordance with Managing Urban Storm water - Soils and Construction (Landcom, 2004) to minimise direct or indirect un-authorized release of surface water during site works to minimise impacts to surface water quality of surrounding environs. A written agreement of Sydney Water is to be obtained if discharge of certain substances to sewer is required.

### 4.4 SUMMARY OF WATER QUALITY MANAGEMENT PROCEDURES

ELEMENT	WATER QUALITY
<b>PERFORMANCE OBJECTIVES</b>	<p>Avoid or minimise the disturbance to, and release of potentially contaminated soil or sediment laden water to the surrounding environs.</p> <p>Prevent increased water flows causing erosion damage to drainage infrastructure and water ways.</p> <p>Prevent safety related incidents associated with wet or slippery work conditions.</p>
<b>MANAGEMENT ACTIONS</b>	<p>Assessment of weather during excavation operations and consideration of temporarily halting works until more favourable conditions are encountered.</p> <p>Install sediment control structures (i.e. silt fencing and/or hay bales) should be implemented in accordance with Managing Urban Storm water Soils and Construction (Landcom, 2004) prior to the commencement of works. This would include strategic placement of such structures down- gradient of temporary stockpiles and slopes to minimise sediment entrainment. These measures should also be placed on the up-slope side of any storm water collection channels.</p>

ELEMENT	WATER QUALITY
	<p>Control of drainage on the site by interception and redirection of clean storm water in a controlled manner.</p> <p>Collection of storm water on-site in trenches and sumps for appropriate management.</p> <p>Provide inlet protection to be provided for any potentially impacted locations.</p> <p>Site contractors will be required to observe any sediment control and/or storm water control measures to ensure that they are working at a satisfactory level.</p> <p>Provision of a Spill cleanup kit on all sites where bulk fuel is stored or is being transferred.</p> <p>Maintain a hardstand or lined and bunded area for the refueling and storage of equipment.</p> <p>Cease works if excessive surface water makes conditions unsuitable for construction works.</p> <p>Cease works if excessive surface water makes creates safety concerns.</p>
<b>PERFORMANCE INDICATOR</b>	<p>The prevention of increased storm water runoff is the best approach.</p> <p>Site contractors will be required to observe any increases in sediment loads and volumes in storm water drains when working close to surface drains and report any discharges beyond the site boundaries.</p> <p>Site contractors will be required to observe any sediment control and/or storm water control measures to ensure that they are working at a satisfactory level.</p> <p>Zero records of near miss or injury in relation to wet conditions</p>
<b>MONITORING</b>	<p>Regular observations will be made by the Site Contractors and the Project Manager and mitigation measures put into place if sediment loaded runoff is likely to occur or a rainfall event is predicted.</p> <p>Monitoring requirements from a pump-out-permit or other required license shall be adhered to at all times.</p>
<b>RESPONSIBILITY</b>	<p>The Project Manager is responsible for ensuring that each of the monitoring programs is implemented by appropriately trained/qualified staff. These programs may be sub-contracted out to a specialist sub- consultant as required.</p>
<b>REPORTING</b>	<p>Records of all corrective actions and known sediment releases will be kept.</p> <p>Records of Near Miss and Injuries will be kept.</p> <p>The Project Manager will immediately report to the Contract Administrator any incidents of water discharging off site.</p>

## 4.5 SUMMARY OF SEDIMENT MANAGEMENT PROCEDURES

ELEMENT	SEDIMENTS
<b>PERFORMANCE OBJECTIVES</b>	<p>The objective will be to avoid an impact on water quality in surface water and drains which eventually discharge offsite by implementing prevention measures to control any sediment that is generated.</p> <p>Avoid or minimise soil migration and loss to surface waters and drains. Avoid or minimise pollution of creeks and waterways.</p> <p>Avoid or minimise increased sediment load on storm water drains and infrastructure.</p>
<b>MANAGEMENT ACTIONS</b>	<p>Prior to the start of the works a stormwater and sediment control plan should be prepared by the Principal Contractor. This Plan should be in accordance with Councils regulations.</p> <p>Site contractors will be required to observe any increases in sediment load in storm water drains when excavations are close to surface drains or waterways.</p> <p>Sediment control structures (i.e. silt fencing and/or hay bales) should be implemented in accordance with the Stormwater and Sediment Control Plan prior to the commencement of works.</p> <p>Evaluate weather conditions prior to works commencing and during any change in wind direction.</p>

ELEMENT	SEDIMENTS
	<p>Cease works if dust generation is excessive (by visual assessment).</p> <p>Covering of any stockpiles that are to remain for greater than two days, or if weather forecasts predict strong winds; with plastic or Hessian material.</p> <p>All sediment control measures will be kept in good operating condition and functional at all times, with regular maintenance.</p> <p>Strategic placement of such structures down-gradient of stockpiles and slopes to minimise sediment entrainment. These measures should also be placed on the up-slope side of any storm water collection channels.</p> <p>If a significant rain event occurs, fieldwork will cease. There will be sediment control measures available for placement down gradient of the work area; and</p> <p>Works will also be conducted in a manner to minimise the potential for sediment and soil migration, whereby excavated material will be hauled offsite as soon as practicable and/or reinstated and compacted.</p>
<b>PERFORMANCE INDICATOR</b>	<p>The prevention of sediment runoff is the best approach.</p> <p>Site contractors will be required to observe any increases in sediment load in storm water drains when excavating close to surface drains and site boundaries.</p> <p>No complaints from location residents, surrounding businesses or site personnel. Goal of nil complaints relating to sediment issues.</p> <p>No onsite observation of dust generation during excavation works by Project team.</p> <p>No visual evidence of tracked material on public roads.</p>
<b>MONITORING</b>	<p>Regular observations will be made by the Site Manager and mitigation measures put into place if sediment loaded runoff is likely to occur or a rainfall event is predicted.</p> <p>Records of all corrective actions and known sediment releases will be kept.</p> <p>Implementation of visual monitoring of dust, material tracking, truck tarping, water spray use, exhaust plumes and stockpile covering.</p>
<b>RESPONSIBILITY</b>	<p>The Project Manager is responsible for ensuring that the monitoring program is implemented by appropriately trained/qualified staff.</p>
<b>REPORTING</b>	<p>Maintenance of records on site of visual monitoring undertaken</p>
<b>CORRECTIVE ACTION (AS REQUIRED)</b>	<p>Clean-up of sediment.</p> <p>Installation of sediment and erosion controls. Additional storm water control measures.</p> <p>Altered excavation works.</p> <p>Cease works if a major storm event is likely to occur. Replace or repair sediment and erosion control devices.</p> <p>Should excessive dust be generated excavation works will also cease, until weather conditions improve and/or additional dust suppression measures have been implemented.</p>

## 4.6 COMMUNITY CONSULTATION AND COMPLAINTS HANDLING

Under the conditions of SSD 9194, a Community Communications Strategy has been prepared for this project. (See attached "Community Communications Strategy" Compiled by Elton Consulting at Appendix C).

## 4.6 CONSTRUCTION PEDESTRIAN TRAFFIC MANAGEMENT PLAN (CPTMP)

A construction CPTMP sub-plan has been prepared for this project by SBMG Planning (see attached Appendix D). The CPTMP has been prepared and approved in consultation with TNSW, RMS and City of Sydney Council.

#### 4.7 ACID SULPHATE SOILS MANAGEMENT PLAN (ASSMP)

A construction ASSMP sub-plan has been prepared for this project by RCC (see attached Appendix E).

#### 4.8 CONSTRUCTION NOISE & VIBRATION MANGAMENT PLAN (CNVMP)

A construction CNVMP sub-plan has been prepared for this project by Acoustic Logic (see attached Appendix F).

#### 4.9 CONSTRUCTION WASTE MANAGEMENT PLAN

A Construction Waste Management sub-plan has been prepared for this project by RCC (see attached Appendix G).

##### Summary of Waste Management Procedures

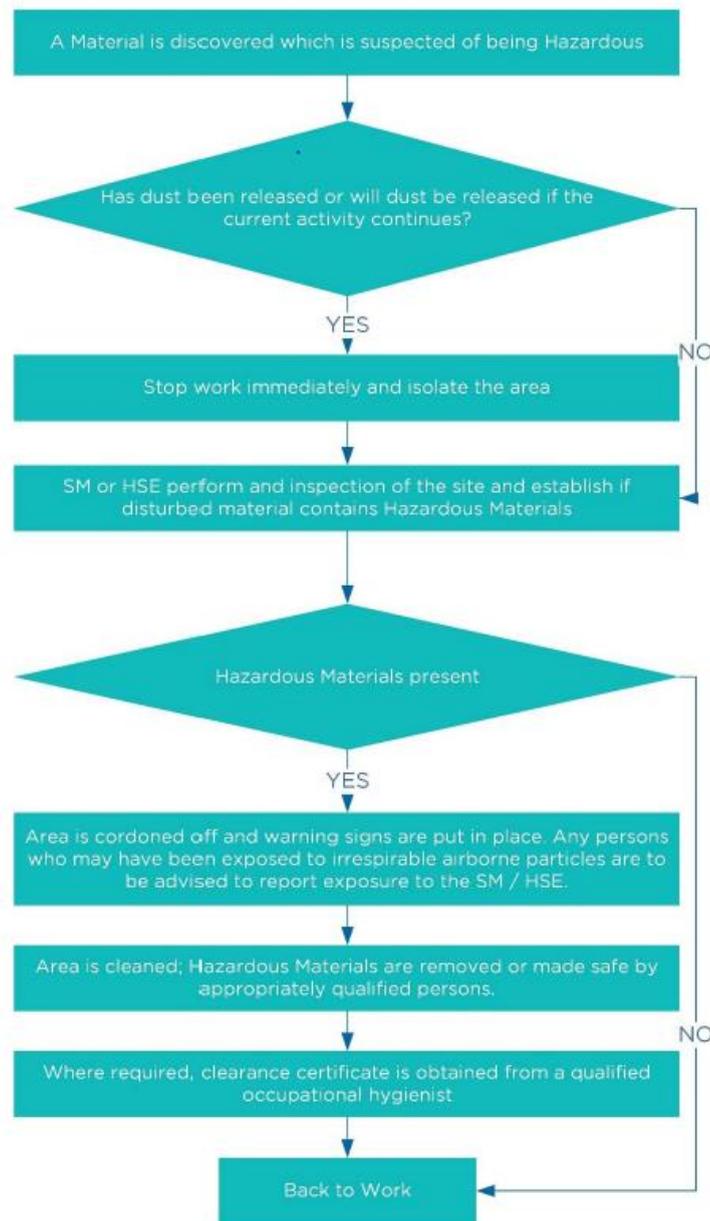
ELEMENT	WASTE MANAGEMENT AND MINIMISATION QUALITY
<b>PERFORMANCE OBJECTIVES</b>	<p>The objective will be to minimise and control any wastes and waste categories that are generated, and ensure that they will be appropriately disposed of.</p> <p>Avoid or minimise environmental impacts related to waste management and handling of potentially contaminated soils.</p> <p>Avoid or minimise impacts due to unexpected finds.</p> <p>Avoid or minimise health risks associated with potentially contaminated soil exposure and dust generation.</p>
<b>MANAGEMENT ACTIONS</b>	<p>Provision of a Spill cleanup kit on all sites where bulk fuel is stored or is being transferred.</p> <p>Maintain a hardstand or lined and bunded area for the refueling and storage of equipment.</p> <p>Visual assessment of excavated material by the Environmental Specialist. The Environmental Specialist shall direct the Excavator Operator if the soil has to re-assessed onsite or disposed off-based on the in-situ waste classification.</p> <p>Trucks to be used for transport of soil are to be fitted with cover tarpaulins to contain the load.</p> <p>Each truck prior to exiting site, shall be inspected prior to dispatch and either logged out as clean (wheels and chassis), or hosed down within a wheel wash down bay.</p> <p>Provide waste receptacles for all waste types and ensure that personnel use these correctly.</p> <p>All trucks leaving the site should be accompanied with a waste transportation form (Appendix B).</p> <p>Cease site works until the Project Manager has been notified of any unexpected finds and appropriate instructions have been provided to field personnel to address the issue.</p> <p>Project Manager to inform the Contract Administrator of any unexpected finds.</p>
<b>MONITORING</b>	<p>Regular observations will be made by the Project Manager and measures put into place if sediment loaded runoff is likely to occur or a rainfall event is predicted.</p> <p>Records of all corrective actions and known sediment releases will be kept.</p> <p>An up to date record of waste tracking shall be kept by the Environmental Specialist.</p>
<b>RESPONSIBILITY</b>	<p>The Principal Contractor is responsible for ensuring that the monitoring program is implemented by appropriately trained/qualified staff. This program may be sub-contracted out to a specialist sub-consultant (the Environmental Specialist) as required. The Principal Contractor is to ensure responsible personnel are suitably qualified.</p>

ELEMENT	WASTE MANAGEMENT AND MINIMISATION QUALITY
<b>REPORTING</b>	Maintenance of records on site of equipment inspections undertaken and landfill disposal/waste tracking and weigh bridge docket, and any council approvals should be maintained onsite for inspection.
<b>CORRECTIVE ACTION (AS REQUIRED)</b>	Revision of the works strategy including relocation and alteration to the operating procedure if waste is shown to be entering the surrounding environment.

#### 4.10 UNEXPECTED FINDS PROTOCOL - CONTAMINATION

A construction Unexpected Finds Protocol sub-plan has been prepared for this project by RCC (see attached Appendix H).

##### Summary of unexpected Finds Procedures

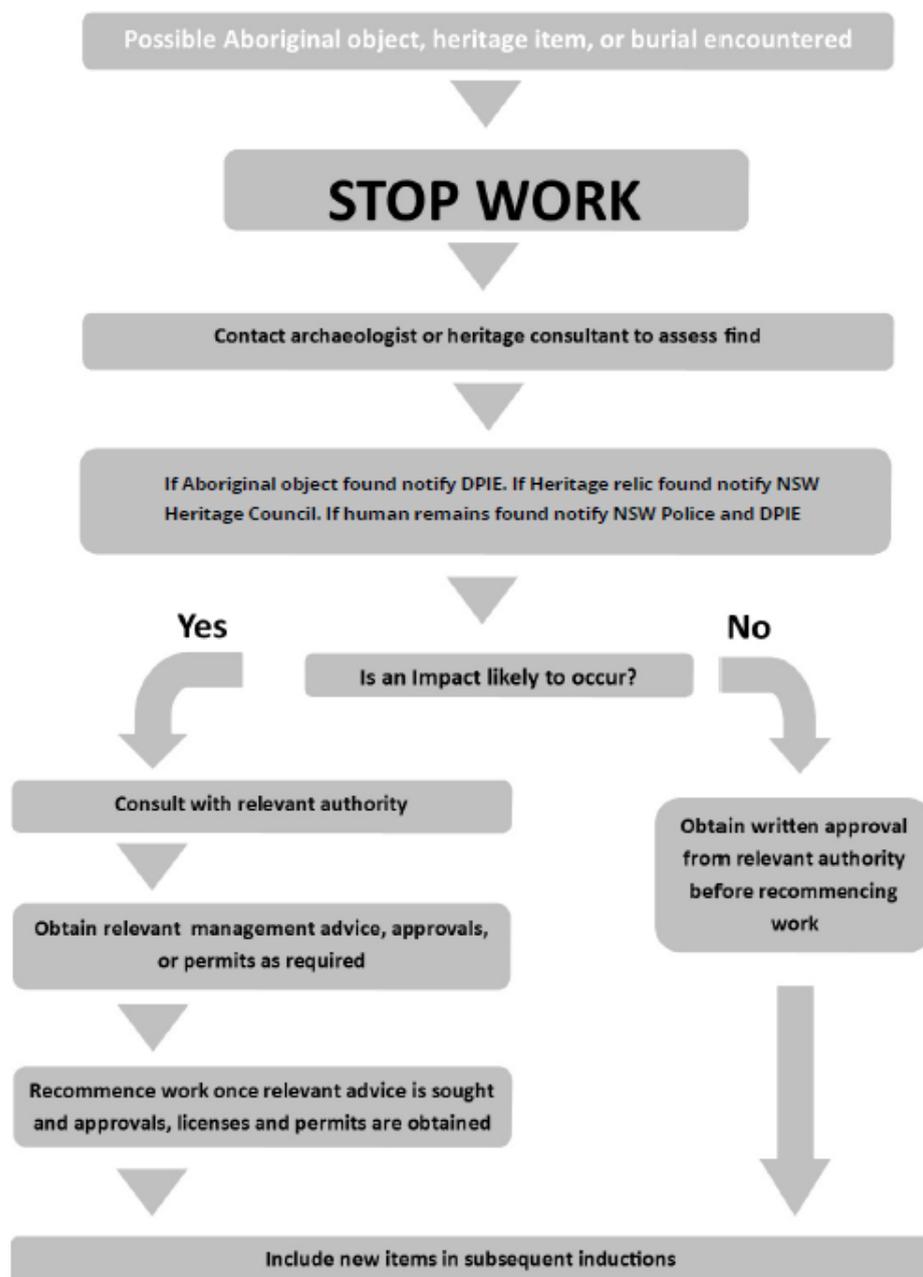


Unexpected Aboriginal objects remain protected by the National Parks and Wildlife Act 1974. If any such objects, or potential objects, are uncovered during works, all work in the vicinity should cease immediately. A qualified archaeologist should be contacted to assess the find and OEH and Metropolitan LALC must be notified.

The following recommendations are proposed to manage any chance finds of historical archaeological remains within the subject site:

### Recommendation 1

In the unlikely event that, unexpected archaeological material was encountered during works, it would be necessary to stop all work in the immediate vicinity of the identified deposits. The NSW Heritage Council would be notified, and a qualified archaeologist would be engaged to assess the significance of the material and recommend whether further investigation is required.



## 4.12 FLORA AND FAUNA MANAGEMENT

RCC note that the site is currently a clear site, devoid of flora and any habitation of natural life. However, through construction all requirements of the Environmental Protection and Biodiversity Conservation Act 1999 will be strictly adhered to throughout the project.

# 5.APPENDIX

## 5.1 APPENDIX A – AIR QUALITY AND ODOUR MANAGEMENT PLAN



**RICHARD CROOKES**  
CONSTRUCTIONS

**IGLU REDFERN**  
1172

# **AIR QUALITY AND ODOUR MANAGEMENT PLAN**

6 August 2019

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# 1 DOCUMENT INFORMATION

<b>CLIENT</b>	Richard Crookes Constructions (RCC)
<b>PROJECT</b>	Wee Hur Gibbons St
<b>RCC PROJECT NUMBER</b>	1235
<b>REPORT TITLE</b>	Wee Hur Gibbons St - Air Quality and Odour Management Plan (AQOMP)
<b>DATE</b>	30 <sup>th</sup> March 2021
<b>REVISION NUMBER</b>	Revision 0

## 2 PROJECT OVERVIEW

Wee Hur Gibbons St is a 19-storey (plus roof) development consisting of a 419-bed student accommodation facility in Redfern. The site is located at 13-23 Gibbons Street, Redfern at the southern periphery of the Sydney CBD, within the City of Sydney Local Government Area. The site is situated on the eastern side of Gibbons Street at the corner of Gibbons Street and Margaret Street. The site is located approximately 200m to the south-east of Redfern Railway Station.

The site contains three road frontages including Gibbons Street to the West, Margaret Street to the South and William Lane to the North East.

### 2.1 SITE LOCATION



### 2.2 AQOMP OBJECTIVE

This document is an operational AQOMP which provides the framework necessary to implement the required management measures associated with the proposed construction works. Once implemented the objective of the management measures will be to ensure that the construction works on the site can be carried out without significant adverse impact on the air quality or the health of the site workers and neighbouring residence.

RCC notes that this AQOMP will focus on mitigating and managing air quality and odour issues associated with the construction works proposed at the site.

The primary objective of the AQOMP is to provide a management framework to mitigate potential air quality and odour risks associated with construction works. The objectives can be summarised as follows:

- Prevent, reduce and effectively manage potential impacts to the air quality resulting from excavation and construction works, stockpiling, removal of contaminated and acid

sulfate soils, material handling and associated spoil disposal. These measures include but are not limited to the following:

- Staged excavation to limit the surface area of exposed odorous material;
  - Application of odour suppressants;
  - Effective covering of stockpiles and truckloads of excavation spoil; and
  - Expedited removal of odorous material from the development to a facility legally able to accept those wastes;
- Ensure that air quality and odour management is undertaken in accordance with relevant legislative and policy requirements
  - Includes proactive and reactive management strategies, key performance indicators, monitoring measures, record keeping, response mechanisms, contingency and compliance reporting measure.
  - Promote air quality and odour awareness amongst employees and contractors.

# 3 MANAGEMENT OF AIR QUALITY AND ODOUR

## 3.1 POTENTIAL AIR QUALITY AND ODOUR ISSUES

The potential air quality and odour issues associated with the proposed construction works include:

- Air emissions from exposed soils, asbestos dust, groundwater, plant and equipment and dust generated during construction work.
- Impact of noise and air emissions from plant, equipment and vehicles used in the project and associated transport of infrastructure;
- Potential impacts to terrestrial and aquatic ecology within proximity to the work area and the surrounding areas;
- Disturbance to, and release of potentially contaminated soil and groundwater to the local environment;
- Potential odour/ vapour impacts may occur as a result of the release of odours from impacted soils / groundwater / gases and exposure from unexpected finds, hydrocarbon hotspots and soil gas pathways within any uncontrolled fill.
- Disruption to amenity of any residents and other land users in the vicinity of the site.

Ambient Air Levels will likely vary as construction works proceed. Construction works will also be conducted up to the site boundaries in some areas and odour/ soil gas will be subject to changes in wind direction and weather conditions. The application and effectiveness of odour suppressant mitigation will need to be well managed under the discretion of the Principal Contractor and the air quality consultant.

## 3.2 AIR QUALITY AND ODOUR MANAGEMENT

The remaining sections of this document set out the air quality and odour management activities and management measures, which will be implemented during the Construction works at 13-23 Gibbons St, Redfern NSW. The Principal Contractor will ensure that personnel responsible for undertaking the works are aware of their roles and responsibilities detailed in this AQOMP.

### 3.2.1 GENERAL STRUCTURE OF AIR QUALITY AND ODOUR MANAGEMENT

Individual management measures have been prepared to address the issues listed in Table 1 below. The numbering order should not be considered as a ranking of priority of each element as each element will have some overlaps in procedures and monitoring measures. Each plan is comprised of several elements, each with an overall associated management policy, mechanisms of policy implementation, proposed monitoring measures and potential reactive actions as described in Table 1 below.

### 3.3 TABLE 1: AIR QUALITY MANAGEMENT PROCEDURES

ELEMENT	AIR QUALITY
<p><b>Performance Objectives</b></p>	<p>The objective of this management measure is not to generate any odours or gasses and to adopt the necessary management strategy and PPE if presented with the occurrence to minimise the impacts of odours and/or vapours if encountered.</p> <p>Avoid or minimise the potential for odour and/or vapour emissions during the handling of exposed soils.</p> <p>Maintain plant and equipment such that exhaust emissions are minimised. Avoid or minimise disruption to amenity of residents and other land users in the vicinity of site works.</p>
<p><b>Proactive Management Actions</b></p>	<p>Use of surfactant spray (onsite in proximity of the construction works and at the site boundary/fences) is required for odour suppressant during works (this is up to the discretion of the Project Manager and the air quality consultant).</p> <p>Heavy equipment and vehicles will be appropriately maintained to minimise exhaust emissions.</p> <p>Appropriate methods of dust suppression will be implemented, such as ensuring construction materials remain moist to ensure dust is minimised during works.</p> <p>Evaluate weather conditions prior to works commencing and during any change in wind direction.</p> <p>Cease works if dust or odour generation is excessive.</p> <p>Covering of any stockpiles that are to remain for greater than two days or if weather forecasts predict strong winds; with plastic or Geotechnical fabric material.</p> <p>All dust/odour control measures will always be kept in good operating condition and functional, with regular maintenance.</p> <p>All loads are to be covered and appropriately fitted with tarpaulins to contain dust and/or odour during transport.</p> <p>A complaints register will be established and maintained to receive and address complaints from the community regarding the detection of nuisance odour during the works.</p> <p>Residents in the vicinity of the proposed works will be informed of potential dust/odour impacts prior to the commencement of works.</p>
<p><b>Key Performance Indicators</b></p>	<p>No complaints from location residents, surrounding businesses or site personnel. Goal of nil complaints relating to dust quality issues.</p> <p>All complaints will be responded to within 2 business days</p> <p>No onsite observation of dust generation during construction works by Project team.</p> <p>No visual evidence of exhaust smoke during idle of equipment. No visual evidence of tracked material on public roads.</p> <p>A reduction in the number of complaints received in relation to air quality each month.</p>
<p><b>Monitoring Measures</b></p>	<p>Implementation of visual monitoring measures of dust, material tracking, truck tarping, water spray use, exhaust plumes and stockpile covering. If unexpected fines protocol detects contaminants a review of air borne testing is to be undertaken.</p>
<p><b>Responsibility</b></p>	<p>The Principal Contractor is responsible for ensuring that if a monitoring measures is required to be implemented by appropriately trained/qualified staff. This program may be sub-contracted out to a specialist sub-consultant as required. The Principal Contractor is to ensure responsible personnel are suitably qualified.</p>
<p><b>Compliance Reporting Measures</b></p>	<p>Maintenance of records on site of visual and Asbestos monitoring measures undertaken if required.</p>

<b>Reactive Action (as required)</b>	<p>If required replace or repair emission control devices. Provide equipment to enable wetting of exposed soils if required. Should excessive dust be generated, works will also cease, until weather conditions improve and/or additional dust suppression measures have been implemented.</p> <p>The use of PPE with appropriate filters, inside the works zone will be mandatory, if PID readings exceed the limits set by the air quality consultant for the Site/area. If the level set by the air quality consultant is exceeded, the following action shall be undertaken:</p> <ul style="list-style-type: none"><li>• Backfill any excavation or cover with plastic sheeting:</li><li>• Temporarily cease works until levels drop and</li><li>• Increase the use of suppressant near the construction.</li></ul>
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# 4 RCC MANAGEMENT SYSTEM

## 4.1 ROLES AND RESPONSIBILITIES

The following sections set out the organisational structure for the project:

### 4.1.1 PROJECT ORGANISATIONAL STRUCTURE

All personnel including the Consultants, Contractors, Subcontractors and all other personnel associated with undertaking construction works on the project at 13-23 Gibbons St Redfern, ultimately report to the Principal Contractor.

The Principal Contractor will be responsible for implementing this AQOMP. This will specifically involve monitoring measures of the air quality and odour performance of the works and ongoing compliance with legislative requirements, this AQOMP, and all other associated air quality and odour management documentation, development of a construction management plan (CMP), operational and post- construction monitoring and compliance reporting measures.

### 4.1.2 PARTIES AND RESPONSIBILITIES

The parties involved with, and their responsibilities during, the air quality management of the works are provided in Table 2 below:

4.1.2.1 TABLE 2: PROJECT PARTIES AND RESPONSIBILITIES

PARTY	RESPONSIBILITY	REPORTS TO
<p><i>The Principal Contractor</i></p> <p><i>Richard Crookes Constructions</i></p>	<ul style="list-style-type: none"> <li>• Ensure all works are implemented in accordance with the AQOMP.</li> <li>• Promote awareness of appropriate air quality and odour management and occupation health and safety (OHS) practices to the Project Manager.</li> <li>• Ensure the Project Manager is aware of the AQOMP and site-specific issues.</li> <li>• Review risks and identify potential opportunities and issues with the project.</li> <li>• Monitor and inspect activities for compliance with relevant air quality and odour requirements, including ensuring suitable management plans have been submitted and approved prior to undertaking works.</li> <li>• Ensure air quality and odour contingencies and non-compliances are reported promptly and investigated.</li> <li>• Undertake air quality and odour audits on the project at a frequency deemed appropriate to the length of the project.</li> <li>• Periodically review the performance of the Project Manager in meeting the objectives of their AQOMP via regular audits. The audits will review the Project Manager's activities to ensure that air quality and odour hazards have the appropriate mitigation controls in place. Improvement requests and non-compliances will be monitored, and reactive action undertaken.</li> <li>• Maintain an air quality and odour audit register to record close out of any actions issued.</li> </ul>	<p>The Client/Project Manager</p>

<p><b>The Client/Project Manager</b></p> <p><b>IGLU Student Accommodation</b></p>	<ul style="list-style-type: none"> <li>• The Client/Project Manager is a primary contact overseeing the day to day operations at the Site.</li> <li>• Primary contact for all personnel in relation to site works and air quality and odour management</li> <li>• Review risks and identify potential opportunities and issues with the project.</li> <li>• Monitor and inspect activities for compliance with relevant air quality and odour requirements, including ensuring suitable management plans have been submitted and approved prior to undertaking works.</li> <li>• Ensure air quality and odour contingencies and non-compliances are reported promptly and investigated.</li> </ul>	<p>IGLU Student Accommodation</p>
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<p><b>Air Quality and Odour Specialist / Engineer</b></p> <p><b>Air Quality and Odour Strategies</b></p>	<ul style="list-style-type: none"> <li>• Comply with this AQOMP.</li> <li>• Provide advice where required to the Principal Contractor in relation to air quality and odour issues associated with the works, if required.</li> <li>• Responsible for implementing this AQOMP and all required air quality and odour controls.</li> <li>• Undertake onsite and offsite air monitoring measures.</li> <li>• Conduct air quality and odour contingency investigations, if requested by the Project Manager.</li> <li>• Demonstrate an understanding and management of the potential air quality and odour impacts associated with the project.</li> <li>• Review risks and identify potential opportunities and issues with the project. Ensure all Subcontractors under their control are appropriately informed of the relevant components of air quality and odour management documentation.</li> <li>• Report all air quality and odour contingencies, hazards, non-compliances and near misses to the Project Manager immediately.</li> <li>• Implement reactive action response mechanisms to air quality and odour contingencies and non-compliances in consultation with the Project Manager.</li> <li>• Provide a validation report at the end of the project for review of the Site Auditor.</li> </ul>	<p>The Principal Contractor</p>
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<p><b>Sub-Contractors</b></p>	<ul style="list-style-type: none"> <li>• Implement and comply with relevant components of this AQOMP.</li> <li>• Report all air quality and odour contingencies, hazards, non-compliances and near misses to the Principal Contractor immediately.</li> <li>• Implement reactive action response mechanisms to air quality and odour contingencies and non-compliances as required by the Contractor.</li> </ul>	<p>The Principal Contractor</p>
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## 4.2 IMPLEMENTATION OF AQOMP

### 4.2.1 WHS SITE INDUCTION

All personnel including the Principal Contractor's staff and subcontractors who will be working on the project or require regular access to the sites will be required to undertake training and site inductions including air quality and odour requirements as required by the Principal Contractor. All personnel should demonstrate an understanding of potential air quality and odour issues and the measures that will be implemented to protect the environment and local community, as detailed in this document.

### 4.2.2 AQOMP INDUCTION

The AQOMP awareness induction will cover:

1. Outlining the objective and purpose of the works; and
2. Contents of the AQOMP and their (the workers) responsibility.

All site workers will sign the AQOMP induction register acknowledging receipt and understanding of this AQOMP. All induction sessions will be recorded in the induction register.

### 4.2.3 DAILY TOOLBOX MEETINGS

The Principal Contractor will also conduct weekly toolbox meetings with all personnel to review management procedures and identify / discuss daily site conditions and potential hazards. Site inductions and toolbox talks will highlight specific air quality and odour requirements and activities being undertaken at the worksite each day.

A record of issues covered in weekly toolbox meetings should be maintained for future audit.

### 4.2.4 PERSONAL PROTECTIVE EQUIPMENT

All site personnel will be provided with, utilise, and be appropriately trained in the requirements of personal protective equipment (PPE). PPE requirements will depend on the activity or situation, but may include the following:

- High visibility clothing;
- Protective clothing and footwear;
- Eye protection;
- Respirable (half-face) masks as required;
- Hard hat as required (i.e. in the vicinity of the working excavator or other overhead plant); and
- Sun protection as required (long sleeves, sunscreen, hat or hard hat fitted with wide brimmed sun protection).

Personnel will be trained in the requirements and use of PPE to an appropriate level according to responsibilities.

PPE requirements should be detailed in the Safe Work Method Statements (or similar) which will be provided to the Principal Contractor for review and endorsement. Additional PPE will be required to carry out some aspects of the construction process and the PPE outline above should only be considered as the basic requirements. Additional PPE will be required if works are to be conducted in asbestos work environs.

## 4.3 LEGISLATION

The following is a summary of statutory requirements to be satisfied by RCC. Table 3 below includes the required permits, licenses and consents under the relevant acts, regulation or policy.

### 4.3.1 TABLE 3: SUMMARY OF ACTS, REGULATIONS AND GUIDELINES APPLICABLE TO PROJECT

<b>ACT/ REGULATION/ PLANNING POLICY</b>	<b>KEY PROJECT REQUIREMENTS</b>	<b>JURISDICTION</b>
<b><i>Protection of the Environment Operations Act 1997 (POEO Act) and Regulations</i></b>	<p>Undertake all activities to minimise harm to the environment (in particular pollution of air and water and noise emissions) and not cause an offence under the Act.</p> <p>Discharge to stormwater may require a license under the Act.</p> <p>Some transporters of waste are required to be licensed under the Act.</p> <p>Some waste disposal/processing facilities are required to be licensed under the Act.</p>	State
<b><i>Protection of the Environment Operations (Clean Air) Regulation 2070</i></b>	Requirements in relation to emission from vehicles and general obligations that the occupiers of non-residential premises do not cause air pollution by failing to operate or maintain plant, carry out work or deal with materials in a proper and efficient manner.	State
<b><i>Work Health and Safety Act 2077</i></b>	Requirements in relation to ensure work safety that are enforceable by law	Commonwealth

All work shall be conducted, as appropriate, in accordance with (but not limited to) the following air quality and odour codes of practice:

- AS 2986.1-2003 Workplace air quality - Sampling and analysis of volatile organic compounds by solvent desorption;
- AS 2986.2-2003 Workplace air quality - Part 2: Diffusive sampling method; AS NZS ISO 19011-2003 Guidelines for quality and or air quality and odour management systems auditing;
- DEC (now EPA), NSW (2005): Approved Methods for the Modelling and Assessment of Air Pollutants in NSW;
- DEC (now EPA), NSW (2007): Approved methods for the Sampling and Analysis of Air Pollutants in NSW;
- National Environmental Protection Measure (NEPM) on Ambient Air Quality;
- Other NSW EPA endorsed relevant guidelines.

In addition to any regulatory compliance required by the above-mentioned Acts and Guidelines, the contractor will be responsible to carry out the site works with all due care to ensure that the following conditions are complied with:

- Practical minimization of all wind-borne dust leaving the confines of the site;
- No water containing any suspended matter or contaminants is to be allowed to leave the confines of the site in such a manner that it could pollute any nearby waterway;
- Material originating from onsite is not to be tracked outside the site boundary and any material present on road surfaces must be removed immediately;
- Odour levels at the site boundary are to comply with the requirements as per this AQOMP.

The AQOMP will be explained to all contractors and a copy will be maintained on site during construction works.

## **4.4 MONITORING MEASURES**

### **4.4.1 AUDITING AND RECORD KEEPING**

The Project Manager will conduct regular audits of the Principal Contractors implementation of the AQOMP. Audits will involve a review of all air quality and odour documents, record keeping and reports to ensure compliance with the requirements of the AQOMP. If non-compliance is detected, the Principal Contractor will initiate to the satisfaction of the Project Manager the appropriate reactive action.

Key air quality and odour and procedural issues to be covered by the audit will include, but may not be limited to:

- Air Quality and Odour management measures presented in Table above;
- Adherence to compliance reporting measures;
- Complaint and contingency management; and
- Legislative requirements

Records of auditing and compliance reporting measures will be maintained to demonstrate compliance with air quality and odour requirements.

Air quality and odour and construction record will include, but may not be limited to:

- Complaint records;
- Contingency, non-conformance and reactive action reporting;
- Communications with stakeholders; and
- AQOMP audit documentation.

Auditing will also be carried out in line with the SSD requirements for the project.

## **4.5 EMERGENCY PREPAREDNESS AND RESPONSE MECHANISMS**

Specific and immediate response mechanisms to emergencies and air quality and odour contingencies will be determined by the Principal Contractor.

<b>ORGANISATION</b>	<b>CONTACT NUMBER</b>
Police, Fire, Ambulance	000
Emergency call service - International standard	112
Text Emergency Call	106
<b>Royal Prince Alfred Hospital</b>	50 Missenden Rd, Camperdown NSW 2050 (02) 9515 6111 Mon-Sun = 24/7
<b>Redfern Station Medical Centre</b>	1/147-151 Redfern St, Sydney NSW 2016 (02) 8313 2999 Mon-Fri = 8:00am - 6:00pm Sat = 10am - 2pm
<b>City of Sydney Council</b>	Town Hall House Level 2, 456 Kent Street Sydney NSW 2000 02 9265 9333 Mon-Fri = 8:30am-5:00pm
<b>State Emergency Service (SES)</b>	24Hrs 132-500
<b>NSW EPA Pollution Hotline</b>	(24 hours) Phone: 131 555
<b>Ausgrid (Gas Supply)</b>	13 19 09
<b>Sydney Water (faults, leaks and water quality enquiries)</b>	13 20 90

## 4.6 SECURITY AND PUBLIC SAFETY

### 4.6.1 RESTRICTION TO ACCESS

Perimeter fencing and/ barricades that restrict access to the proposed work zone and stockpile area should be installed. Only authorised persons wearing the appropriated PPE will be able to enter the construction and stockpile/staging areas during works.

Whilst construction works remain open, the site is unattended, and works are not active, high visibility fencing will be placed around the boundary of the construction works to alert any people on site to the presence of the construction works.

### 4.6.2 PEDESTRIAN AND TRAFFIC CONTROL

Relevant signage will be in place during the construction works to warn and protect pedestrians and other traffic of the potential exposures in the vicinity of the work area.

Signage shall also be erected to inform the public whom to contact in case of any complaints.

## 4.7 COMPLIANCE REPORTING MEASURES

Table 1 above includes Performance Objectives to be applied to specific aspects of the works and Reactive Actions that may be adopted should non-conformances or air quality and odour contingencies occur.

The Principal Contractor is responsible for ensuring that all personnel under their jurisdiction have been provided with adequate training in the areas outlined in this document.

The Principal Contractor will maintain records of all personnel who have undergone training in relation to the AQOMP and general air quality and odour responsibilities. Records of trained personnel will be maintained in a log to be kept on site. A record of issues covered in daily toolbox meetings should be maintained.

The Principal Contractor will ensure that anyone who appears to lack an understanding in the above areas undergoes adequate retraining.

### 4.7.1 NON-COMPLIANCE

A non-conformance is defined as a failure to fulfil a requirement of this AQOMP or other associated air quality and odour document. All non-compliances must immediately be reported to the Contract Administrator, and the appropriate details of the non-compliance should be submitted (in writing via email) within 24 hours of the occurrence of the non-compliance.

The Project Manager or Subcontractors may identify and report a non-conformance.

### 4.7.2 AIR QUALITY AND ODOUR CONTINGENCY

An air quality and odour contingency is defined as an unplanned event that occurs that impacts, or has the potential to impact, on the air. In the event of an air quality and odour contingency, the Contract Administrator should be notified immediately. The details of the air quality and odour contingency will be supplied to the Project Manager on reporting of any contingency.

### 4.7.3 COMPLIANCE REPORTING MEASURES AND REACTIVE ACTIONS

When reporting a non-compliance or air quality and odour contingency, all immediate reactive actions which have been taken to rectify the situation will be documented. Further reactive action should be recommended if required at the time of reporting. Relevant agencies which require notification should also be identified.

The Principal Contractor will maintain a register of all non-compliances and air quality and odour contingencies, along with the reactive and proactive actions which have been implemented to mitigate and/or prevent further recurrences. The Principal Contractor must ensure and verify that reactive actions to control air quality and odour impacts and avoid future non-compliances have been undertaken by the appropriate personnel.

Table 5 below details the general procedures to be undertaken when non-compliances and air quality and odour contingencies occur.

#### 4.7.3.1 TABLE 5: REACTIVE AND PROACTIVE ACTION PROCEDURES

ELEMENT	MANAGEMENT
Objective	To implement a system to identify, document, analyse and implement reactive and proactive actions for air quality and odour non-conformance issues

<p><b>Management Actions</b></p>	<p>When a non-conformance or air quality and odour contingency occurs, the Principal Contractor is to ensure reactive and preventive actions are implemented by:</p> <ul style="list-style-type: none"> <li>• Assigning personnel to undertake investigation as per 'Air quality and odour contingency Investigation Report' Form or 'Non- Compliance Report' Form and designate lead investigator.</li> <li>• Maintain documentation of Investigation Report Forms and their reactive/preventive actions on site;</li> <li>• Report air quality and odour non-conformances identified that cause or have the potential to cause a significant air quality and odour impact immediately to the Contract Administrator.</li> </ul>
<p><b>Responsibility</b></p>	<p>All Staff and Subcontractors are:</p> <ul style="list-style-type: none"> <li>• Responsible for informing their immediate manager of air quality and odour non-conformances.</li> <li>• Responsible for undertaking reactive/proactive actions and effectiveness determinations as assigned. Provide a summary of air quality and odour non-conformances with outstanding reactive actions to the Contract Administrator as requested.</li> <li>• Utilise reactive/proactive actions to revise and update AQOMP and/or AQOMP objectives, operational controls, and other aspects as required.</li> <li>• Review outstanding reactive action status.</li> </ul>
<p><b>Compliance Reporting Measures</b></p>	<p>Maintenance of records of 'Air quality and odour Contingency Investigation Report' Forms and 'Non-Compliance Report' Forms completed for the duration of the project.</p>



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FYSHWICK ACT 2609

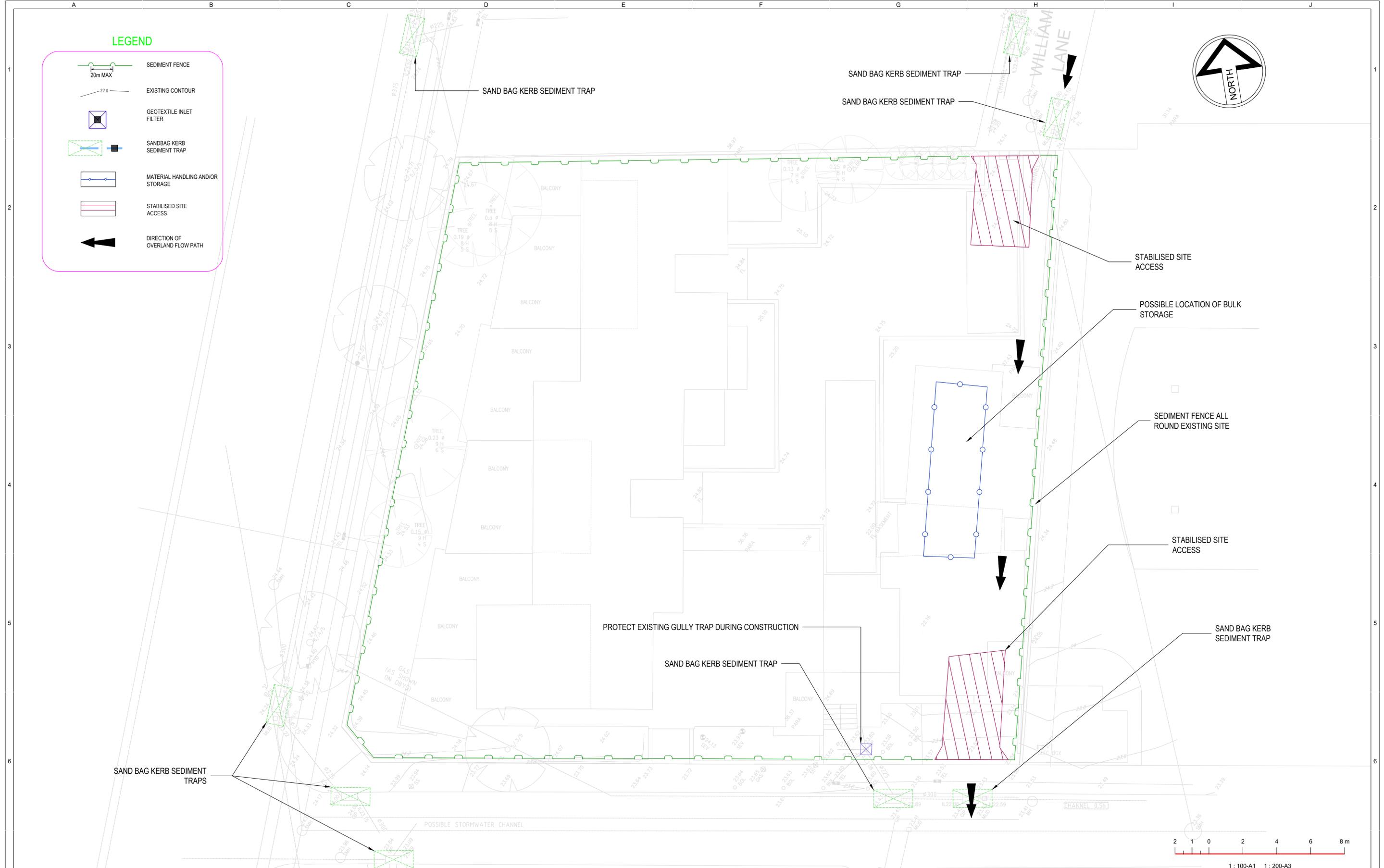
PO BOX 771  
FYSHWICK ACT 2609

PHONE: +61 2 6143 2900  
FAX: +61 2 6280 8774



**LEGEND**

-  SEDIMENT FENCE  
20m MAX
-  EXISTING CONTOUR  
27.0
-  GEOTEXTILE INLET FILTER
-  SANDBAG KERB SEDIMENT TRAP
-  MATERIAL HANDLING AND/OR STORAGE
-  STABILISED SITE ACCESS
-  DIRECTION OF OVERLAND FLOW PATH



1 : 100-A1 1 : 200-A3

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Rev	Date	Description	Verified



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PROJECT  
**WEE HUR REDFERN STUDENT VILLAGE**  
13-23 GIBBONS STREET,  
REDFERN, NSW 2016

TITLE  
**CIVIL SERVICES GROUND LEVEL SOIL AND EROSION CONTROL PLAN**

**CONSTRUCTION ISSUE**

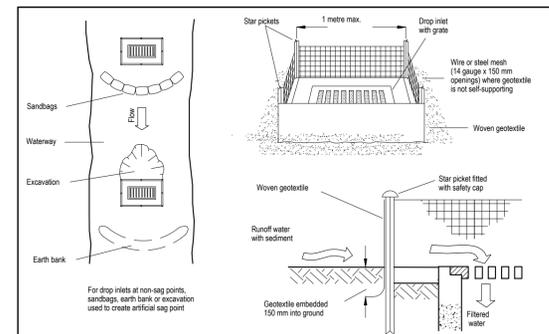
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<b>180391</b>	<b>C101</b>	<b>2</b>

# SEDIMENT & EROSION CONTROL NOTES

1. THE CONTRACTOR SHALL IMPLEMENT ALL SOIL EROSION AND SEDIMENT CONTROL MEASURES PRIOR TO THE COMMENCEMENT OF ANY WORKS BEING CARRIED OUT. ALL SOIL AND EROSION MEASURES SHALL BE MAINTAINED AND KEPT IN PLACE FOR THE FULL DURATION OF THE WORKS AND SHALL ONLY BE REMOVED AT FINAL STABILISATION OF THE WORKS. WHERE IT IS NECESSARY TO UNDERTAKE STRIPPING IN ORDER TO CONSTRUCT A SEDIMENT CONTROL DEVICE ONLY SUFFICIENT GROUND SHALL BE STRIPPED TO ALLOW CONSTRUCTION.
2. ALL SOIL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE CONSTRUCTED AND MAINTAINED AS INDICATED ON THESE DRAWINGS. LOCATION AND EXTENT OF SOIL AND WATER MANAGEMENT DEVICES IS DIAGRAMMATIC ONLY AND THE ACTUAL REQUIREMENTS SHALL BE CONFIRMED ON SITE PRIOR TO COMMENCEMENT.
3. CONFORMITY WITH THIS PLAN SHALL IN NO WAY REDUCE THE RESPONSIBILITY OF THE CONTRACTOR TO PROTECT AGAINST WATER DAMAGE DURING THE COURSE OF THE CONTRACT. IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO ENSURE THAT ANY NECESSARY CONTROL IS IN PLACE EVEN THOUGH SUCH CONTROL MAY NOT BE SHOWN ON THE PLAN.
4. THE CONTRACTOR SHALL INFORM ALL SUBCONTRACTORS AND ALL EMPLOYEES OF THEIR RESPONSIBILITIES IN MINIMISING THE POTENTIAL FOR SOIL EROSION AND POLLUTION TO DOWNSTREAM AREAS
5. APART FROM SEDIMENT BASINS, THE CONTRACTOR SHALL REGULARLY MAINTAIN SEDIMENT AND EROSION CONTROL STRUCTURES AND DESILT SUCH STRUCTURES PRIOR TO THE REDUCTION IN CAPACITY OF 30% DUE TO ACCUMULATED SEDIMENT. THE SEDIMENT SHALL BE DISPOSED OF ON SITE IN A MANNER APPROVED BY THE ENGINEER.
6. THE CONTRACTOR SHALL TEMPORARILY REHABILITATE WITHIN TEN (10) DAYS ANY DISTURBED AREAS PROVIDING A MINIMUM 60% COVER. FINAL REHABILITATION IS TO BE PROVIDED WITHIN A FURTHER 60 DAYS WITH A MINIMUM 70% COVER.
8. THE CONTRACTOR SHALL PROVIDE WATERING OF THE VEGETATED BATTERS FOR MAINTENANCE PERIOD. PLANT, MACHINERY AND VEHICLES SHALL NOT BE DRIVEN OVER GRASSED AREAS UNLESS ON AN APPROVED HAULAGE ROUTE.
9. ALL DRAINAGE WORKS SHALL BE CONSTRUCTED AND STABILISED AS QUICKLY AS POSSIBLE TO MINIMISE RISK OF EROSION.
10. SITE ACCESS SHALL BE RESTRICTED TO THE NOMINATED POINTS. THE CONTRACTOR SHALL PROVIDE STABILISED SITE ACCESS.
11. DUST AND SITE DISTURBANCE MUST BE KEPT TO A MINIMUM. DURING WINDY WEATHER, LARGE, UNPROTECTED AREAS MUST BE KEPT MOIST (NOT WET) BY SPRINKLING WITH WATER TO REDUCE WIND EROSION. ERECT BARRIER FENCING TO MINIMISE LAND DISTURBANCE BY PREVENTING VEHICULAR AND PEDESTRIAN ACCESS TO AREAS BEING REHABILITATED AND LANDS THAT DO NOT NEED TO BE DISTURBED BY THIS PROJECT.
12. STOCKPILE TOPSOILS, SUBSOILS AND OTHER MATERIALS SEPARATELY.
13. TOPSOIL SHALL BE STORED IN LOW MOUNDS NO MORE THAN 2 METRES HIGH AND RE-USED WITHIN TWO MONTHS TO MAINTAIN ACTIVE POPULATIONS OF BENEFICIAL SOIL MICROBES AND SEED.
14. PLACE ALL STOCKPILES AT LEAST FIVE METRES FROM AREAS OF LIKELY CONCENTRATED OR HIGH VELOCITY FLOWS, ESPECIALLY EARTH BANKS AND ROADS. IF NECESSARY, EARTH BANKS OR DRAINS WILL BE CONSTRUCTED TO DIVERT LOCALISED RUN-ON.
15. TURN TOPSOIL STOCKPILES OVER TO AERATE THEM AT MONTHLY INTERVALS. ENSURE VEGETATION IS NOT INCORPORATED INTO THE SOIL.
16. AVOID REVERSING THE SOIL PROFILE MATERIALS DURING FILL OPERATIONS - REPLACE DISTURBED SOILS IN THEIR ORIGINAL ORDER.

17. ON COMPLETION OF MAJOR EARTHWORKS AND BEFORE ADDING TOPSOIL, LEAVE DISTURBED LANDS WITH A LOOSE SURFACE. ALTERNATELY, DISTURBED AREAS PREVIOUSLY COMPACTED BY CONSTRUCTION WORKS WILL BE RIPPED TO MORE THAN 200-MM ALONG THE CONTOUR BEFORE APPLYING TOPSOIL.
18. PROVIDING MATERIALS ARE AVAILABLE, SPREAD TOPSOIL TO A MINIMUM DEPTH OF 75mm IN REVEGETATION AREAS ON SLOPES OF 4(H):1(V) OR LESS AND TO A DEPTH OF 40 TO 60mm IN REVEGETATION AREAS STEEPER THAN 4:1.
19. LEAVE TOPSOIL IN A SCARIFIED OR ROUGH CONDITION ONCE REPLACED TO HELP MOISTURE INFILTRATION AND REDUCE SOIL EROSION.
20. ENSURE SOIL IS THOROUGHLY SOAKED TO A DEPTH OF 75mm (RAIN OR IRRIGATION) IMMEDIATELY BEFORE PLANTING.
21. HANDLE TOPSOIL ONLY WHEN IT IS MOIST (NOT WET OR DRY) TO AVOID DECLINE OF SOIL STRUCTURE
22. SEDIMENT BASINS SHALL BE MAINTAINED FOR THE ENTIRE DURATION OF THE PROJECT OR UNTIL SUCH TIME AS ALL DISTURBED AREAS ARE HYDROMULCHED.
23. WHERE FLOCCULATION OF BASINS IS REQUIRED UNLESS OTHERWISE SPECIFIED THE RECOMMENDED INITIAL DOSING IS 30KG OF GYPSUM PER 100 CUBIC METRES OF BASIN VOLUME. THE CONTRACTOR MAY VARY THIS RATE SUBJECT TO TESTING OF PREVIOUS WATER SAMPLES AND THE ACHIEVEMENTS OF THE REQUIRED WATER QUALITY STANDARDS.
24. ANY DAMS TO BE DESILTED SHALL BE FLOCCULATED TO SETTLE ANY SUSPENDED SOLIDS CLEAR WATER SHALL THEN BE PUMPED OUT IN A MANNER THAT WILL NOT CAUSE DOWNSTREAM EROSION. THE DAM WALL SHALL THEN BE BREACHED AND ANY SILT REMOVED AND PLACED IN A SUITABLY CONSTRUCTED DRYING BASIN. WHEN DRY, THE SILT SHALL BE REMOVED FROM SITE OR MIXED WITH TOP SOIL FOR FUTURE SPREADING.
25. THE CONTRACTOR SHALL MAINTAIN A LOG BOOK DETAILING:
  - RECORDS OF ALL RAINFALL
  - CONDITION OF SOIL AND WATER MANAGEMENT STRUCTURES
  - ANY APPLICATION OF FLOCCULATING AGENTS TO SEDIMENT BASIN
  - VOLUMES OF ALL WATER DISCHARGED FROM SEDIMENT BASINS
  - ANY ADDITIONAL REMEDIAL WORKS REQUIRED.
26. THE LOG BOOK SHALL BE MAINTAINED ON A WEEKLY BASIS AND BE MADE AVAILABLE TO ANY AUTHORISED PERSON UPON REQUEST. THE ORIGINAL LOG BOOK SHALL BE ISSUED TO THE PROJECT MANAGER AT THE COMPLETION OF WORKS
27. ALL ROAD EMBANKMENTS TO BE STABILISED AS PER LANDSCAPE ARCHITECTS DETAILS.
28. A SELF AUDITING PROGRAM SHOULD BE ESTABLISHED BASED ON A CHECK SHEET DEVELOPED FOR THE SITE. A SITE INSPECTION USING THE CHECK SHEET SHOULD BE MADE BY THE SITE MANAGER AT LEAST WEEKLY, IMMEDIATELY BEFORE SITE CLOSURE AND IMMEDIATELY FOLLOWING RAINFALL EVENTS THAT CAUSE RUNOFF.
29. UNDERTAKE THE SELF AUDIT BY:
  - WALKING AROUND THE SITE SYSTEMATICALLY (E.G. CLOCKWISE)
  - RECORDING THE CONDITION OF EVERY BMP EMPLOYED
  - RECORDING MAINTENANCE REQUIREMENTS (IF ANY) FOR EACH BMP
  - RECORDING THE VOLUMES OF SEDIMENT REMOVED FROM THE SEDIMENT
  - RETENTION SYSTEMS WHERE APPLICABLE
  - RECORDING THE SITE WHERE SEDIMENT IS DISPOSED
  - FORWARDING A SIGNED DUPLICATE OF THE COMPLETED CHECK SHEET TO THE PROJECT MANAGER/DEVELOPER/SITE OPERATOR FOR THEIR INFORMATION

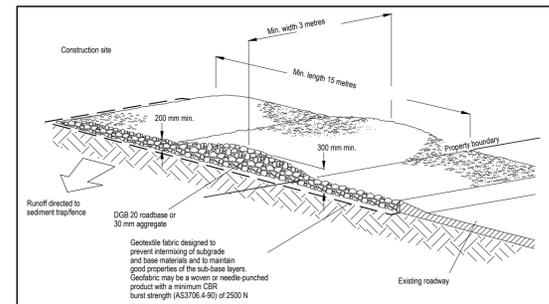
30. IN PARTICULAR, INSPECT:
  - LOCATIONS WHERE VEHICLES ENTER AND LEAVE THE SITE
  - ALL INSTALLED EROSION AND SEDIMENT CONTROL MEASURES, ENSURING THEY ARE OPERATING CORRECTLY
  - AREAS THAT MIGHT SHOW WHETHER SEDIMENT OR OTHER POLLUTANTS ARE LEAVING THE SITE OR HAVE POTENTIAL TO DO SO
  - ALL DISCHARGE POINTS, TO ASSESS WHETHER THE EROSION AND SEDIMENT CONTROL MEASURES ARE EFFECTIVE IN PREVENTING IMPACTS TO THE RECEIVING WATERS
31. A SITE INSPECTION USING THE CHECK SHEET WILL BE MADE BY THE SITE MANAGER AT LEAST WEEKLY, IMMEDIATELY BEFORE SITE CLOSURE, AND IMMEDIATELY FOLLOWING RAINFALL EVENTS GREATER THAN 5mm IN 24 HOURS.



**Construction Notes**

1. Fabricate a sediment barrier made from geotextile or straw bales.
2. Follow Standard Drawing 6-7 and Standard Drawing 6-8 for installation procedures for the straw bales or geotextile. Reduce the picket spacing to 1 metre centres.
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 geotextile unless the design is adequate to allow for all waters to bypass it.

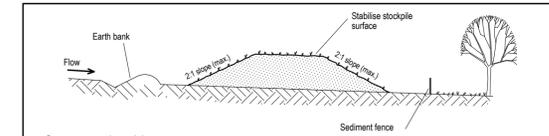
**GEOTEXTILE INLET FILTER SD 6-12**



**Construction Notes**

1. Strip the topsoil, level the site and compact the subgrade.
2. Cover the area with needle-punched geotextile.
3. Construct a 200 mm thick pad over the geotextile using road base or 30 mm aggregate.
4. Ensure the structure is at least 15 metres long or to building alignment and at least 3 metres wide.
5. Where a sediment fence joins onto the stabilised access, construct a hump in the stabilised access to divert water to the sediment fence

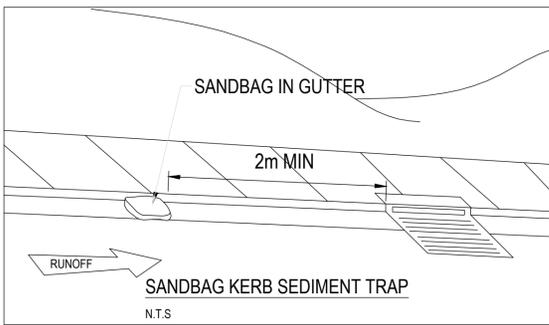
**STABILISED SITE ACCESS SD 6-14**



**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 in place for more than 10 days, stabilise following the approved ESCP or SWMP to reduce the C-factor to less than 0.10.
5. Construct earth banks (Standard Drawing 5-5) on the upslope side to divert water around stockpiles and sediment fences (Standard Drawing 6-8) 1 to 2 metres downslope.

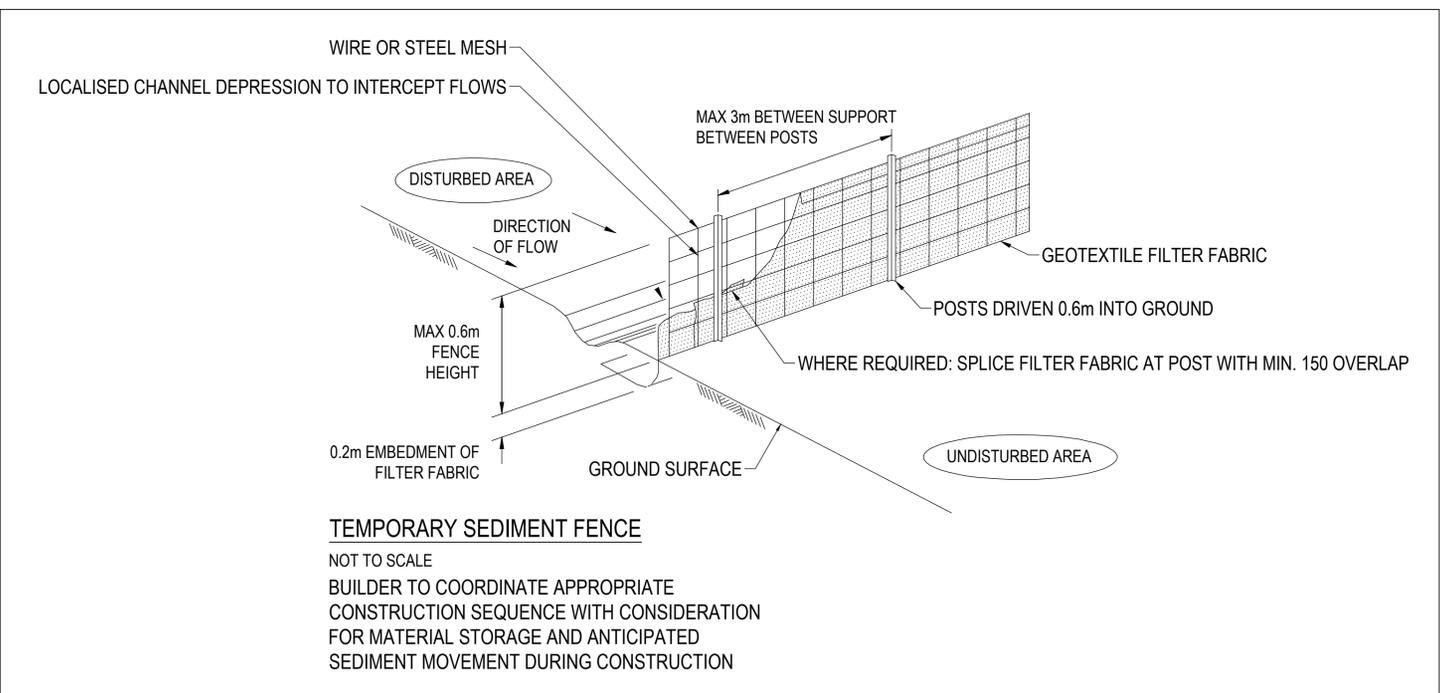
**STOCKPILES SD 4-1**



**CONSTRUCTION ISSUE**

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1	09.02.21	CONSTRUCTION ISSUE	J.S.				
2	30.03.21	CONSTRUCTION ISSUE	M.B.				

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PROJECT  
**WEE HUR REDFERN STUDENT VILLAGE**  
 13-23 GIBBONS STREET,  
 REDFERN, NSW 2016

TITLE  
**CIVIL SERVICES SOIL AND EROSION CONTROL DETAIL**

REVISIONS / AMENDMENTS

PROJECT  
**WEE HUR REDFERN STUDENT VILLAGE**  
 13-23 GIBBONS STREET,  
 REDFERN, NSW 2016

TITLE  
**CIVIL SERVICES SOIL AND EROSION CONTROL DETAIL**

**CONSTRUCTION ISSUE**

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 JOB No. DRAWING No. REV

**180391 C102 2**



# Community Communications Strategy

13-23 Gibbons St, Redfern

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**Client:** WH Gibbons Trust

**Date:** 09 October 2020

**Contact:**

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<b>Prepared by</b>	Chris Larsen
<b>Reviewed by</b>	Rebecca Smith
<b>Date</b>	9 October 2020
<b>Version</b>	05

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# 1 Introduction

## 1.1 About the project

Wee Hur Pty Ltd is redeveloping a site at 13-23 Gibbons St, Redfern, into dedicated student accommodation. The site has a land area of 1365sqm and is currently occupied by a four- to five-storey brick residential building, which is to be demolished.

The building is expected to provide approximately 419 beds for students over 18 storeys. Due to the size of the project, it is classified as a State Significant Development (SSD).

The objectives of the development are to provide a commercially viable number and mix of student beds to a high-calibre architectural design, incorporating quality and functional communal spaces with a secure environment for its residents.

Wee Hur Redfern Student Housing at 13-23 Gibbons Street Redfern is a landmark project that is creative, sustainable and innovative. Using urban, architectural, landscape and artistic design, the building will enhance the streetscape and the revitalise the urban and social context of the local area, to the benefit of both the resident students and the wider Redfern community. The importance of Redfern to the Indigenous community is acknowledged in the building's design through the integration of Aboriginal heritage and stories in key design elements.

It is expected that demolition works will begin at the site in November 2020, and construction will commence in January 2021, with a view to complete the project in May 2022.

## 1.2 Communication to date

Elton Consulting, on behalf of Wee Hur, conducted a community consultation program between October and December 2018. The engagement process aimed to:

- » Gather feedback from stakeholders to inform the concept design and assist in finalising the design and documentation phase of the project
- » Proactively identify potential issues and opportunities for consideration
- » Reduce the risk of misinformation
- » Facilitate the planning approvals process
- » Comply with the outlined environmental assessment requirements (SEARS)

The outcome of this community consultation program was submitted to Wee Hur in a report in mid-December, 2018, and was subsequently incorporated into planning application documents.

Since then, Wee Hur has communicated formally with regulatory authorities, and has also continued informal communication with stakeholders in response to their queries.

## 1.3 Objective of this strategy

This Community Communications Strategy has been developed to achieve the following objectives:

- » Provide timely information to impacted stakeholders and provide a mechanism for feedback
- » Guide community communications for the project in the lead up to, during, and for a minimum of 12 months following the completion of construction
- » Build and maintain good relationships with impacted stakeholders and the surrounding community
- » Manage community expectations and build trust by delivering on commitments

» Address and correct misinformation in the public domain

Provide avenues for the community and stakeholders to discuss or provide feedback during the demolition and construction periods, and for 12 months following the completion of construction. Furthermore, the strategy must meet the requirements as outlined in section C5, C6, C11 of the Development Consent for 13-23 Gibbons Street, Redfern (SP 60485).

### **Section C5:**

*A Community Communication Strategy must be prepared to provide mechanisms to facilitate communication between the Applicant, Council and the community (including affected landowners and businesses, and others directly impacted by the development), during the design and construction of the development and for a minimum of 12 months following the completion of construction.*

### **Section C6:**

*The Community Communication Strategy must:*

- a. Identify people to be consulted during the design and construction phases;*
- b. Set out procedures and mechanisms for the regular distribution of accessible information about or relevant to the development*
- c. Provide for the formation of community-based forums, if required, that focus on key environmental management issues for the development*
- d. Set out procedures and mechanisms:*
  - i. through which the community can discuss or provide feedback to the Applicant*
  - ii. through which the Applicant will respond to enquiries or feedback from the community, and*
  - iii. to resolve any issues and mediate any disputes that may arise in relation to construction and operation of the development, including disputes regarding rectification or compensation.*

*The Community Communication Strategy must be submitted to the Certifier and the Planning Secretary no later than one month before the commencement of any work.*

*The Community Communication Strategy must be implemented for a minimum of 12 months following the completion of construction.*

### **Section C11:**

*Prior to the commencement of construction works, or as otherwise agreed by the Planning Secretary, the following must be made available for community enquiries and complaints for the duration of construction:*

- e. a toll-free 24-hour telephone number(s) on which complaints and enquiries about the carrying out of any works may be registered;*
- f. a postal address to which written complaints and enquiries may be sent; and*
- g. an email address to which electronic complaints and enquiries may be transmitted.*

### **Section D39:**

The Applicant shall ensure that the 24-hour contact telephone number is continually attended by a person with authority over the works for the duration of the development.

## 1.4 Responsibility for community liaison

WH Gibbons Trust and the appointed construction contractor will share responsibility for community liaison for the construction phase of the project, with WH Gibbons Trust assuming sole responsibility for post-construction liaison in the 12 months following completion.

**WH Gibbons Trust's** responsibilities include:

- » Providing stakeholders and the local community with email, postal address and 24-hour phone contact details for project-related queries
- » Responding to generic queries associated with the development
- » Providing proactive communication materials to stakeholders at regular intervals
- » Directing construction-specific queries to the appointed construction contractor

The appointed **construction contractor** will be responsible for:

- » The creation of their own, construction-specific community communications plan, including the identification of a community liaison officer
- » Construction notifications related to road closures, remediation, extended duration or out-of-hours work, etc
- » Construction signage and wayfinding
- » Responding to construction-specific queries from stakeholders, including those referred by Wee Hur

Contact details for queries will be clearly displayed on collateral used for community communications (refer to *Section 3 – Engagement tools and timeframes*).

## 2 Stakeholder analysis

Key stakeholders have already been identified through prior community engagement. These stakeholders include nearby residents, body corporates, and local community groups.

In addition, Wee Hur must plan for engagement with regulatory authorities.

**Table 1 Communications approach – community stakeholders**

Stakeholder(s)	Likely interest	Interest level	Engagement techniques
1 Margaret St / 'Katia' building	<ul style="list-style-type: none"> <li>» Construction impacts (particularly noise, traffic, dust, vibration, dilapidation)</li> <li>» Availability of a point of contact for issues, queries</li> </ul>	High	<ul style="list-style-type: none"> <li>» Direct contact with strata manager</li> <li>» Response contact details for residents</li> <li>» Notifications: newsletter / e-newsletter</li> </ul>
Owner of 118 Regent St	<ul style="list-style-type: none"> <li>» Construction impacts (particularly noise, traffic, dust, vibration, dilapidation)</li> <li>» Availability of a point of contact for issues, queries</li> </ul>	Medium	<ul style="list-style-type: none"> <li>» Direct contact with owner: phone &amp; email</li> <li>» Notifications: newsletter / e-newsletter</li> </ul>
Occupants of surrounding / nearby buildings (see appendices for map)	<ul style="list-style-type: none"> <li>» Construction impacts (particularly noise, traffic)</li> <li>» Availability of a point of contact for issues, queries</li> </ul>	Medium	<ul style="list-style-type: none"> <li>» Notifications: newsletter / e-newsletter</li> <li>» Community feedback contact details for residents</li> <li>» Signage</li> </ul>
Community groups (including REDWatch, North Eveleigh Info)	<ul style="list-style-type: none"> <li>» Amenity, aesthetics</li> </ul>	Low	<ul style="list-style-type: none"> <li>» Direct contact: phone &amp; email</li> <li>» Notifications: newsletter / e-newsletter</li> </ul>

**Table 2 Communications approach – regulatory authorities**

Stakeholder	Likely interest	Interest level	Engagement techniques
City of Sydney Council (including councillors)	<ul style="list-style-type: none"> <li>» Community concern</li> <li>» Impact on local traffic</li> <li>» Point of contact for queries</li> </ul>	Medium	<ul style="list-style-type: none"> <li>» Direct contact: phone &amp; email</li> <li>» Provide updates for information</li> </ul>
Department of Planning, Industry and Environment	<ul style="list-style-type: none"> <li>» Community concern</li> <li>» Point of contact for queries</li> </ul>	Medium	<ul style="list-style-type: none"> <li>» Direct contact: phone &amp; email</li> <li>» Provide updates for information</li> </ul>

Stakeholder	Likely interest	Interest level	Engagement techniques
Member for Newtown, Ms Jenny Leong MP	<ul style="list-style-type: none"> <li>» Community concern</li> <li>» Point of contact for queries</li> </ul>	Medium	<ul style="list-style-type: none"> <li>» Direct contact: phone &amp; email</li> <li>» Share notifications for information</li> </ul>
Roads & Maritime Services	<ul style="list-style-type: none"> <li>» Impact on local traffic, particularly on condition of local roads</li> </ul>	Medium	<ul style="list-style-type: none"> <li>» Direct contact: phone &amp; email</li> </ul>
Transport for NSW (including Sydney Trains)	<ul style="list-style-type: none"> <li>» Impact on local traffic, particularly mass transit scheduling (including delays to bus routes)</li> </ul>	Medium	<ul style="list-style-type: none"> <li>» Direct contact: phone &amp; email</li> </ul>

### 3 Engagement tools and timeframes

Effective communication between the project team (including the construction contractor) and stakeholders enables all parties to achieve positive outcomes in relation to the project.

This section outlines the procedures and mechanisms for the distribution of information to stakeholders.

**Table 3 Engagement tools & timeframes**

Engagement tool	Who	Why	When
Contact number & email address	» All interested stakeholders	<ul style="list-style-type: none"> <li>» Provide a point of contact for community &amp; stakeholders to give feedback, raise concerns and register for e-newsletter updates</li> <li>» Respond quickly to issues arising</li> </ul>	» Acknowledgement / response within 2 business days of receipt
Newsletter / e-newsletter	<ul style="list-style-type: none"> <li>» Nearby residents</li> <li>» All other interested stakeholders</li> </ul>	<ul style="list-style-type: none"> <li>» Create wider community awareness of the project</li> <li>» Provide up-to-date project information, including timetabling</li> <li>» Provide updates on past &amp; future project milestones</li> </ul>	<ul style="list-style-type: none"> <li>» Immediately prior to start of works, then minimum of six-monthly</li> <li>» Intermittently, when required to provide important additional &amp; time-sensitive updates associated with project milestones</li> </ul>
Direct contact: phone call / email / meeting	<ul style="list-style-type: none"> <li>» Strata management for 1 Margaret St / 'Katia' building</li> <li>» Owner of 118 Regent St</li> <li>» Roads &amp; Maritime Services</li> <li>» Transport for NSW</li> </ul>	» Provide project information, including potential impacts and changes to timetabling	<ul style="list-style-type: none"> <li>» Immediately prior to start of works, then minimum of six-monthly</li> <li>» Intermittently, when required to provide important additional &amp; time-sensitive updates associated with project milestones</li> </ul>
Letterbox drops / doorknocks	» Nearby residents	Proactively advise: <ul style="list-style-type: none"> <li>» Start of construction</li> <li>» What to expect during construction</li> <li>» Works producing noise / vibration / dust impacts</li> <li>» Hazardous materials removal</li> </ul>	<ul style="list-style-type: none"> <li>» Immediately prior to start of works</li> <li>» At important project milestones</li> </ul>

Engagement tool	Who	Why	When
		<ul style="list-style-type: none"> <li>» Major project milestones</li> <li>» Contact details for updates &amp; queries</li> </ul>	
Construction signage	» Nearby residents	<ul style="list-style-type: none"> <li>» Update impending works producing noise / vibration / dust impacts, and hazardous materials removal</li> <li>» Provide a point of contact details for updates &amp; queries</li> </ul>	» At commence of construction (updated as required)

Note: consideration has been given to holding community information drop-in sessions, and the creation of a dedicated website, for community communication. However, given the reasonably small footprint of households impacted by construction works, and the low level of interest indicated by stakeholders engaged to date, these additional techniques have been deemed unnecessary.

## 4 Action plan

This section outlines a plan for proactive communication with stakeholders identified in Section 2, and referencing the tools and timeframes outlined in Section 3.

### 4.1 Communications tools and timeframes

**Table 4 Proactive communications, per stakeholder group**

Stakeholder(s)	Tool	Timeframe	Proposed content / topic
All stakeholders	Newsletter or e-newsletter	Before demolition commencement (October 2020)	<ul style="list-style-type: none"> <li>» Detail about the building, including its design &amp; aesthetic goals, indigenous credentials, materials, etc</li> <li>» Timeline of planned project milestones</li> <li>» Demolition work times</li> <li>» What to expect from the demolition process, including noise, dust or traffic impacts</li> <li>» Measures being adopted to minimise impact of demolition</li> <li>» Identify channels for feedback</li> </ul>
		Before construction commencement (January 2021)	<ul style="list-style-type: none"> <li>» Update about the building, including its design &amp; aesthetic goals, indigenous credentials, materials, etc</li> <li>» Update on timeline of planned project milestones</li> <li>» Construction work times</li> <li>» What to expect from the construction process, including noise, dust or traffic impacts</li> <li>» Measures being adopted to minimise impact of construction</li> <li>» Introduce construction contractor and identify channels for feedback</li> </ul>
		Six-monthly (until construction is complete)	<ul style="list-style-type: none"> <li>» Update on planned project milestones</li> <li>» Update on response to feedback, to date</li> <li>» Reinforce channels for feedback</li> </ul>
		Within 2 weeks of construction completion	<ul style="list-style-type: none"> <li>» How 13-23 Gibbons St will be operated as a student accommodation facility</li> <li>» Reinforce channels for feedback</li> </ul>
Strata management for 1 Margaret St / 'Katia' building	Phone / meeting	Before demolition commencement	<ul style="list-style-type: none"> <li>» Timeline of planned project milestones</li> <li>» Demolition work times</li> <li>» Detail about the building, including its design &amp; aesthetic goals, indigenous credentials, materials, etc</li> </ul>

Stakeholder(s)	Tool	Timeframe	Proposed content / topic
			<ul style="list-style-type: none"> <li>» What to expect from the demolition process, including noise, vibration, dust, dilapidation or traffic impacts</li> <li>» Measures being adopted to minimise impact of demolition</li> <li>» Identify channels for feedback</li> </ul>
		Before construction commencement	<ul style="list-style-type: none"> <li>» Update on timeline of planned project milestones</li> <li>» Construction work times</li> <li>» What to expect from the construction process, including noise, vibration, dust, dilapidation or traffic impacts</li> <li>» Measures being adopted to minimise impact of construction</li> <li>» Introduce construction contractor and reiterate channels for feedback</li> </ul>
		Six-monthly	<ul style="list-style-type: none"> <li>» Update on planned project milestones</li> <li>» Update on response to feedback, to date</li> <li>» Reinforce channels for feedback</li> </ul>
Owner of 118 Regent St	Phone / email	Before demolition commencement	<ul style="list-style-type: none"> <li>» Timeline of planned project milestones</li> <li>» Demolition work times</li> <li>» What to expect from the demolition process including noise, vibration, dust, dilapidation or traffic impacts</li> <li>» Measures being adopted to minimise impact of demolition</li> <li>» Detail about the building, including its design &amp; aesthetic goals, indigenous credentials, materials, etc</li> <li>» Identify channels for feedback</li> </ul>
		Before construction commencement	<ul style="list-style-type: none"> <li>» Update on timeline of planned project milestones</li> <li>» Construction work times</li> <li>» What to expect from the construction process including noise, vibration, dust, dilapidation or traffic impacts</li> <li>» Measures being adopted to minimise impact of construction</li> <li>» Reiterate channels for feedback and introduce construction contractor</li> </ul>
		Six-monthly	<ul style="list-style-type: none"> <li>» Update on planned project milestones</li> <li>» Construction work times</li> <li>» Update on response to feedback, to date</li> </ul>

Stakeholder(s)	Tool	Timeframe	Proposed content / topic
			» Reinforce channels for feedback
Regulatory authorities	Phone / email	Prior to commencement / as required	<ul style="list-style-type: none"> <li>» Timeline of planned project milestones</li> <li>» Anticipated impact of construction changes to transport, roads, etc</li> <li>» Measures being adopted to minimise impact of demolition and construction</li> <li>» Identify channels for liaison</li> </ul>

## 4.2 Progress updates

Progress updates would be communicated every six months, at a minimum. However, where changes to construction timetabling will produce a significant impact to neighbouring properties, these changes would be proactively communicated as soon as possible.

## 4.3 Incoming community contact protocols

Stakeholders would contact Wee Hur via one of two methods:

- » Phone
- » Email address

Details for these channels would be clearly displayed on all collateral associated with community communications.

Acknowledgement of the contact would be made by Wee Hur within 2 business days.

## 4.4 Dispute resolution

Queries that cannot be resolved within a reasonable timeframe locally by a (yet-to-be-appointed) superintendent, and/or those requiring escalation, will be referred to the senior leadership of Wee Hur. At the time of this document's production, those are:

- » Aliza Teo, Assistant Development Manager: 0410 488 987 or [alizateo@weehur.com.sg](mailto:alizateo@weehur.com.sg)
- » Peter Scott, Senior Development Manager: 0431 626 982 or [peterscott@weehur.com.sg](mailto:peterscott@weehur.com.sg)

Where issues cannot be satisfactorily resolved for both parties, despite escalation, then independent mediators would be engaged.

## 5 Administration and record-keeping

Through the construction phase, and for 12 months post-completion, community communications will:

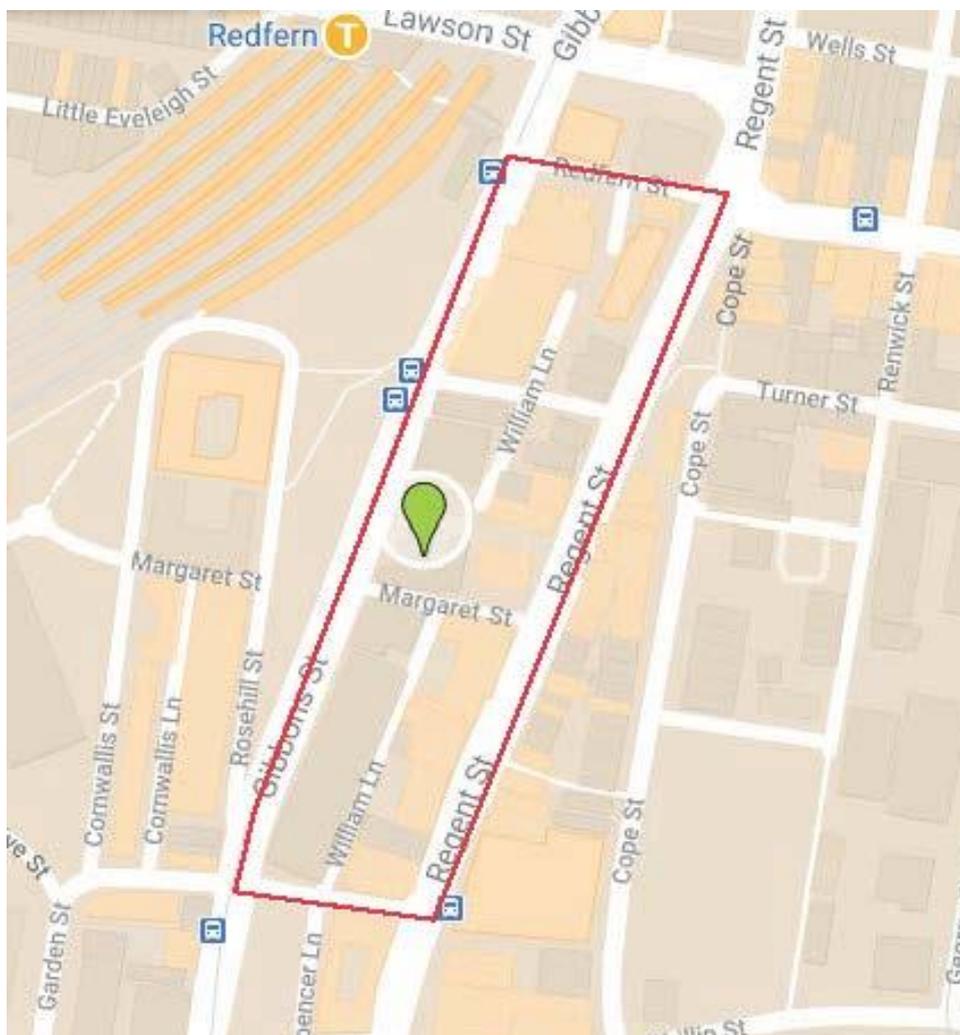
- » Acknowledge, log and respond to incoming queries within 2 working days
- » Keep records of communications or engagement activities undertaken, issues identified, and outcomes achieved
- » Appropriately escalate any issues identified to Wee Hur leadership, where required
- » Appropriately escalate to an independent mediator where issues cannot be resolved by Wee Hur leadership
- » Establish and maintain a stakeholder list for ongoing communications
- » Establish and maintain a separate complaints register

# 6 Appendices

## 6.1 Proactive communications area

Proactive communications would be limited to an area bounded by the following:

- » Gibbons Street
- » Boundary Street
- » Regent Street
- » Redfern Street





5.4 **APPENDIX D – CONSTRUCTION PEDESTRIAN AND TRAFFIC  
MANAGEMENT PLAN**



# Construction Pedestrian and Traffic Management Plan

**13-23 Gibbons Street, Redfern**

**Mixed-Use Student Accommodation Development**

Prepared for: Richard Crookes Constructions Pty Ltd

Prepared By: Matthew Young  
RMS Prepare a Work Zone Traffic Management Plan  
Certificate #: 0051718998

Tuesday, 6 April 2021  
Document Number: SBMG02209-00 R1

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# 1 Project Details

## 1.1 Project Summary

Project: Mixed-Use - Student Accommodation Development

Location: 13-23 Gibbons Street, Redfern NSW

Hours of Operation:           Monday – Friday       7:00am – 6:00pm  
  Saturday                7:30am – 3:30pm  
  No work on Sunday or Public Holidays  
  (Approved hours as per SSD condition D2).

Scope of Works: Demolition of existing structures, construction of an 18-storey mixed-use student accommodation development with basement, comprising of 419 student accommodation rooms and ground level retail.

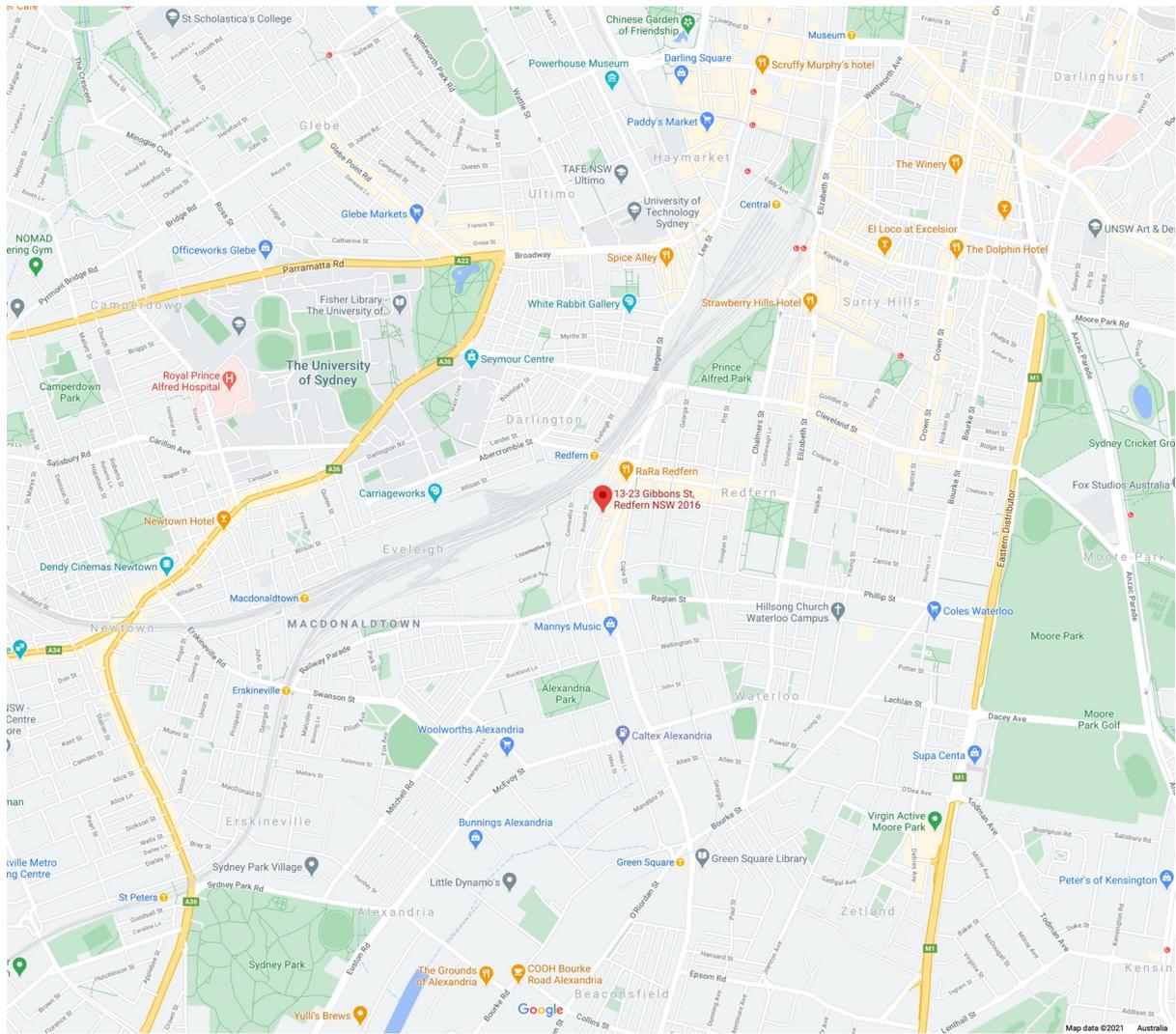
This Traffic Management Plan has been prepared to satisfy condition C15 contained within the consent (ref: SSD 9194).

The processes outlined within this Construction, Pedestrian and Traffic Management Plan will comply with the requirements stated within the City of Sydney Standard Requirements for a Construction Traffic Management Plan (see appendix D for standard requirements)

## 1.2 Revisions

Rev	Date	Description
0	29/03/2021	Initial Submission
1	06/04/2021	Revised to address Council feedback 01/04/2021

### 1.3 Location Map



## 1.4 Development Process

This traffic management plan covers the stage(s) listed below, subsequent stages will require amendments and additional plans to be prepared.

Included Stages / Phases:

Stage / Phase	Duration (approx.)
Groundworks	10 Weeks
Construction – Structure	30 Weeks
Construction – Fit Out	25 Weeks

## 1.5 Groundworks

Daily Vehicle Movements:

	SRV	MRV	HRV	AV	Truck & Dog	Total
Length	6.4m	8.8m	12.5m	19m	18.4m	
Peak Movements (Vehicles)		20(10)		N/A	N/A	
Average Movements (Vehicles)		16(8)		N/A	N/A	

General Type of Works:

- Demolition of existing structures, removal of demolished material from site
- Excavation works for basement level, removal of excavated material from site

## 1.6 Construction - Structure

Daily Vehicle Movements:

	SRV	MRV	HRV	AV	Truck & Dog	Total
Length	6.4m	8.8m	12.5m	19m	18.4m	
Peak Movements (Vehicles)		40(20)				40(20)
Average Movements (Vehicles)		32(16)				32(16)
Concrete Pours (pour days only)		40(20)	4(2)			44(22)

Concrete Pour Schedule: approx. 1 day each week for 28 weeks.

General Type of Works:

- General construction activity for building structure (floor slabs, walls, etc.)
- Concrete pours

## 1.7 Construction – Fit Out

### Daily Vehicle Movements:

	SRV	MRV	HRV	AV	Truck & Dog	Total
Length	6.4m	8.8m	12.5m	19m	18.4m	
Peak Movements (Vehicles)	8(4)	12(6)	4(2)			24(12)
Average Movements (Vehicles)	4(2)	8(4)	2(1)			14(7)
Concrete Pours (pour days only)		40(20)	4(2)			44(22)

- Associated plumbing and electrical works
- Fit-out works
- Associated landscaping works

## 2 Existing Conditions

### 2.1 Roadways

Road Name	Direction	Lanes	Speed Limit	Kerb Restrictions	Pedestrian Access
Gibbons Street	Northbound (one-way)	4	50	Clearway 6am – 10am & 3pm – 7pm Mon-Fri 2P 10am – 3pm Mon-Fri & 8:30am – 12:30pm Sat No stopping near intersection	Footpath along both sides
Regent Street	Southbound (One-way)	4	50	Mix of No Stopping & 1P 8:30am – 6pm Mon-Fri & 8:30am – 12:30pm Sat	Footpath along both sides
Margaret Street	Both Direction	2-way local road	50	No Stopping	Footpath along both sides
William Lane	Both Directions	2-way local road	50	No Stopping / No Parking	Footpath along northern side

### 2.2 Public Transport

Rail – Redfern Station 200m north from site

Buses – Bus routes along both Gibbons Street and Regent Street. No bus stops along the site frontages

Taxi - No dedicated infrastructure within close proximity to the site, however, there is frequent utilisation of taxi and ride sharing services in the local area.

### 2.3 Unique Conditions

- Site has permission to utilise the old ‘BP’ site off Regent Street adjacent to the proposed construction site.

## 3 Proposed Management of Construction Vehicles

### 3.1 General

- A schedule of site inductions shall be held on regular occasions and as determined necessary to ensure all new employees are aware of the construction management obligations.

### 3.2 Groundworks

#### a) Approach and Departure Routes

##### Site Access (Vehicles up to 8.8m in length)

- Approach Route 1 – Traveling along City Road, turn onto Cleveland Street, turn right onto Regent Street, turn right onto Margaret Street and then turn right onto the site in a forward-facing direction.
- Approach Route 2 - Traveling along South Dowling Street, turn onto Cleveland Street, turn left onto Regent Street, turn right onto Margaret Street and then turn right onto the site in a forward-facing direction.
- Approach Route 3 – Traveling north along Botany Road, turn left onto Henderson Road, turn right onto Wyndham Street, continue onto Gibbons Street, turn right onto Lawson Square, turn right onto Regent Street, turn right onto Margaret Street and then turn right onto the site in a forward-facing direction.
- Departure Route 1 – In a forward-facing direction exit the site onto William Lane, turn left onto Marian Street, turn right onto Gibbons Street, turn left onto Cleveland Street and then turn onto City Road.
- Departure Route 2 – In a forward-facing direction exit the site onto William Lane, turn left onto Marian Street, turn right Gibbons Street, turn right onto Lawson Square, turn right onto Regent Street and then continue onto Botany Road.

#### b) Site Access

- Site vehicles to enter and exit the site using proposed site gates and travel path through the future pedestrian through site link between Margaret Street and William Lane at the rear of the site.

#### c) Vehicle movements within the site

- Vehicles will enter and exit the site in a forward-facing direction.

#### d) Loading and Unloading of Vehicles

- All vehicles to be loaded and unloaded within the site boundaries.

#### e) Vehicle Queuing

- Vehicles to stand within the site boundary only.
- Drivers are to contact the site prior to turning onto Cleveland Street from either City Road or South Dowling Street to ensure there is adequate space.

#### f) Removal of material from site

- Vehicles are to be loaded within site boundaries with crushed aggregate and shaker grid to be installed prior to exit point once hardstand area is removed.
- Vehicles inspected prior to leaving the site and cleaned as required to minimise contamination of surrounding roadways.
- Where water is used for cleaning vehicles, appropriate sediment control measures will be taken to ensure untreated water is not allowed to directly enter the storm water system.

#### g) Works Zone

- None proposed.

#### h) Standing Plant

- All equipment to be used within the site boundary only.

- i) Parking for Site Workers
  - Site workers to park within surrounding off-street parking facilities abiding by existing conditions.
  - Site workers will be encouraged to use public transport to travel to and from the site with facilities available onsite for tool and equipment storage.
- j) Storage for Material, Waste and Equipment
  - All storage to be located within the site boundaries only.
- k) Pedestrian Management
  - Pedestrian access past the site as per existing conditions along the concrete footpaths
  - Traffic controllers located at site gates to manage pedestrian activity when vehicles are entering / exiting the site.
  - Boundary fencing / hoarding installed around the site boundary as required to restrict public access.
- l) Traffic Lanes
  - 2-way access maintained along Margaret Street.
  - Normal access maintained along William Lane.
  - Traffic lanes maintained along Gibbons and Regent Streets.

### 3.3 Construction Phases

#### a) Approach and Departure Routes

##### Site Access (Vehicles up to 8.8m in length only)

- Approach Route 1 – Traveling along City Road, turn onto Cleveland Street, turn right onto Regent Street, turn right onto Margaret Street and then turn right onto the site in a forward-facing direction.
- Approach Route 2 - Traveling along South Dowling Street, turn onto Cleveland Street, turn left onto Regent Street, turn right onto Margaret Street and then turn right onto the site in a forward-facing direction.
- Approach Route 3 – Traveling north along Botany Road, turn left onto Henderson Road, turn right onto Wyndham Street, continue onto Gibbons Street, turn right onto Lawson Square, turn right onto Regent Street, turn right onto Margaret Street and then turn right onto the site in a forward-facing direction.
- Departure Route 1 – In a forward-facing direction exit the site onto William Lane, turn left onto Marian Street, turn right onto Gibbons Street, turn left onto Cleveland Street and then turn onto City Road.
- Departure Route 2 – In a forward-facing direction exit the site onto William Lane, turn left onto Marian Street, turn right Gibbons Street, turn right onto Lawson Square, turn right onto Regent Street and then continue onto Botany Road.

##### Gibbons Street Works Zone (All Vehicle sizes)

- Approach Route 4– Traveling along City Road, turn onto Cleveland Street, turn right onto Regent Street, turn right onto Henderson Road, turn right onto Wyndham Street, continue onto Gibbons Street and then stand within the Works Zone in a forward-facing direction.
- Approach Route 5 - Traveling along South Dowling Street, turn onto Cleveland Street, turn left onto Regent Street, turn right onto Henderson Road, turn right onto Wyndham Street, continue onto Gibbons Street and then Stand within the Works Zone in a forward-facing direction.
- Approach Route 6 – Traveling north along Botany Road, turn left onto Henderson Road, turn right onto Wyndham Street, continue onto Gibbons Street and then stand within the Works Zone in a forward-facing direction.

- Departure Route 3 – In a forward-facing direction exit the Works Zone and continue along Gibbons Street, turn left onto Cleveland Street and then turn onto City Road.
- Departure Route 4 – In a forward-facing direction exit the Works Zone and continue along Gibbons Street, turn right onto Lawson Square, turn right onto Regent Street and then continue onto Botany Road.

#### Margaret Street Works Zone (Vehicles up to 8.8m in length only)

- Approach Route 7– Traveling along City Road, turn onto Cleveland Street, turn right onto Regent Street, turn right onto Margaret Street and then stand within the Works Zone in a forward-facing direction.
- Approach Route 8 - Traveling along South Dowling Street, turn onto Cleveland Street, turn left onto Regent Street, turn right onto Margaret Street and then Stand within the Works Zone in a forward-facing direction.
- Approach Route 9 – Traveling north along Botany Road, turn left onto Henderson Road, turn right onto Wyndham Street, continue onto Gibbons Street, turn right onto Lawson Square, turn right onto Regent Street, turn right onto Margaret Street and then stand within the Works Zone in a forward-facing direction.
- Departure Route 5 – In a forward-facing direction exit the Works Zone, turn right onto Gibbons Street, turn left onto Cleveland Street and then turn onto City Road.
- Departure Route 6 – In a forward-facing direction exit the Works Zone, turn right onto Gibbons Street, turn right onto Lawson Square, turn right onto Regent Street and then continue onto Botany Road.

#### Site Access – BP Site – Accessible during Structure Construction Phase Only (All Vehicle sizes)

- Approach Route 10 – Traveling along City Road, turn onto Cleveland Street, turn right onto Regent Street and then turn right onto the BP site in a forward-facing direction.
- Approach Route 11 - Traveling along South Dowling Street, turn onto Cleveland Street, turn left onto Regent Street and then turn right onto the BP site in a forward-facing direction.
- Approach Route 12 – Traveling north along Botany Road, turn left onto Henderson Road, turn right onto Wyndham Street, continue onto Gibbons Street, turn right onto Lawson Square, turn right onto Regent Street, turn right onto the BP site in a forward-facing direction.
- Departure Route 7 – In a forward-facing direction exit the BP site and turn right onto Regent Street and then continue along Botany Road.
- Departure Route 8 - In a forward-facing direction exit the BP site and turn right onto Regent Street, turn right onto Henderson Road, turn right onto Wyndham Street, continue onto Gibbons Street, turn left onto Cleveland and then turn onto City Road.

#### b) Site Access

- Site vehicles to enter and exit the site using proposed site gates and travel path through the future pedestrian through site link between Margaret Street and William Lane at the rear of the site.
- During the Structure Construction Phase works vehicles may also access the BP Site via the existing driveways off Regent Street.

#### c) Vehicle movements within the site

- Vehicles are only able to travel along the future pedestrian link only.
- During the Structure works vehicles may also access the site via the BP Site.

- d) Loading and Unloading of Vehicles
  - All vehicles to be loaded and unloaded from within the site boundaries or Works Zone.
  - During the Structure works vehicles may also access the site via the BP Site
- e) Vehicle Queuing
  - Vehicles to stand within the site boundary or an approved Works Zone only.
  - During the Structure works vehicles may also access the site via the BP Site
  - Drivers are to contact the site prior to turning onto Cleveland Street from either City Road or South Dowling Street to ensure there is adequate space.
- f) Works Zone
  - Gibbons Street within the existing on-street parking zone (no stopping zone retained).
  - Margaret Street Works Zone to require the roadway to be closed as a 3m traffic lane cannot be maintained past the site vehicles. Traffic control implemented when the Works Zone is occupied as per TCP SBMG02209-11 See appendix B. Normal traffic conditions restored at all other times.
- g) Standing Plant
  - All equipment to be used within the site boundary.
  - Concrete pour from within site boundaries or approved Works Zone (subject to Council approval), see Appendix B for relevant TCP.
  - During the Structure works vehicles may also access the site via the BP Site
- h) Material Handling
  - Onsite tower crane installed for moving material and equipment between levels
  - Forklifts or similar plant to be used wholly within the site to load and unload vehicles as required.
- i) Parking for Site Workers
  - Site workers to park within site boundaries or surrounding off-street parking facilities abiding by existing conditions.
  - Site workers will be encouraged to use public transport to travel to and from the site with facilities available onsite for tool and equipment storage.
- j) Storage for Material, Waste and Equipment
  - All storage to be located within the site boundaries only.
- k) Pedestrian Management
  - Pedestrian access past the site as per existing conditions along the concrete footpaths.
  - B-Class Hoarding installed over the footpath to maintain a safe travel path.
  - Traffic controller located at gate to manage pedestrian activity when vehicles are crossing the footpath.
  - Boundary fencing / hoarding installed around the site boundary as required to restrict public access.
- l) Traffic Lanes
  - Vehicles restricted from traveling along Margaret Street between William Lane and Gibbons Street when the Works Zone is occupied. Normal conditions restored at other times.
  - Normal access maintained along William Lane.
  - Traffic lanes maintained along Regent Streets.
  - Traffic lanes maintained along Gibbons Street with the Works Zone only in operation during existing on-street parking hours. Clearway to operate under current conditions.

## 4 Impact of Project

### 4.1 Surrounding Properties

- Existing access to surrounding properties maintained throughout the project.
- The closure of a section of Margaret Street only impacts vehicular through traffic as pedestrian access is permitted along the existing footpath which maintains the existing property access points within this area.

### 4.2 Pedestrians

- Pedestrian access maintained as per existing conditions. B-class hoarding installed along the footpath during structure construction to provide overhead protection.
- Pedestrian ramps placed over pump lines as required to maintain access along the footpath to minimise impact on existing travel paths.
- Traffic controllers used as required for pedestrian safety when vehicles are crossing the footpath.

### 4.3 Cyclists

- No significant cyclist impact due to the project; existing travel routes to remain as per normal conditions (except Margaret Street when Works Zone is occupied – See below).
- When the Margaret Street Works Zone is occupied cyclists can either use the detour route or dismount and walk their bike along the footpath.

### 4.4 Local Traffic

- Limited impact on traffic flows along Gibbons Street as the existing Clearway hours are maintained.
- The use of the rear 'BP' site for the structure construction phase provides additional staging capacity for vehicles during activities such as concrete pours with higher vehicle movements.
- The closure of Margaret Street will only occur when the Works Zone is occupied with normal conditions to be restored at other times.

### 4.5 Emergency Services

- Access along surrounding streets maintained throughout the project with access to surrounding properties also as per existing conditions.
- Emergency vehicles are given priority access as per normal road rules.

### 4.6 Public Transport

- Existing public transport infrastructure unaffected by this project.

## Appendix A – Site Plans

SBMG02209-02 – Approach and Departure Routes – Site Access  
SBMG02209-03 – Approach and Departure Routes – Gibbons St Works Zone  
SBMG02209-04 – Approach and Departure Routes – Margaret St Works Zone  
SBMG02209-05 – Approach and Departure Routes – BP Site Access  
SBMG02209-06 – Site Overview – Groundworks Phase  
SBMG02209-07 – Site Overview – Construction Phase - Structure  
SBMG02209-08 – Site Overview – Construction Phase – Fit out

## Appendix B – Traffic Control Plans

SBMG02209-09 – Site Access  
SBMG02209-10 – BP Site Access  
SBMG02209-11 – Margaret Street Works Zone

## Appendix C – Swept Paths

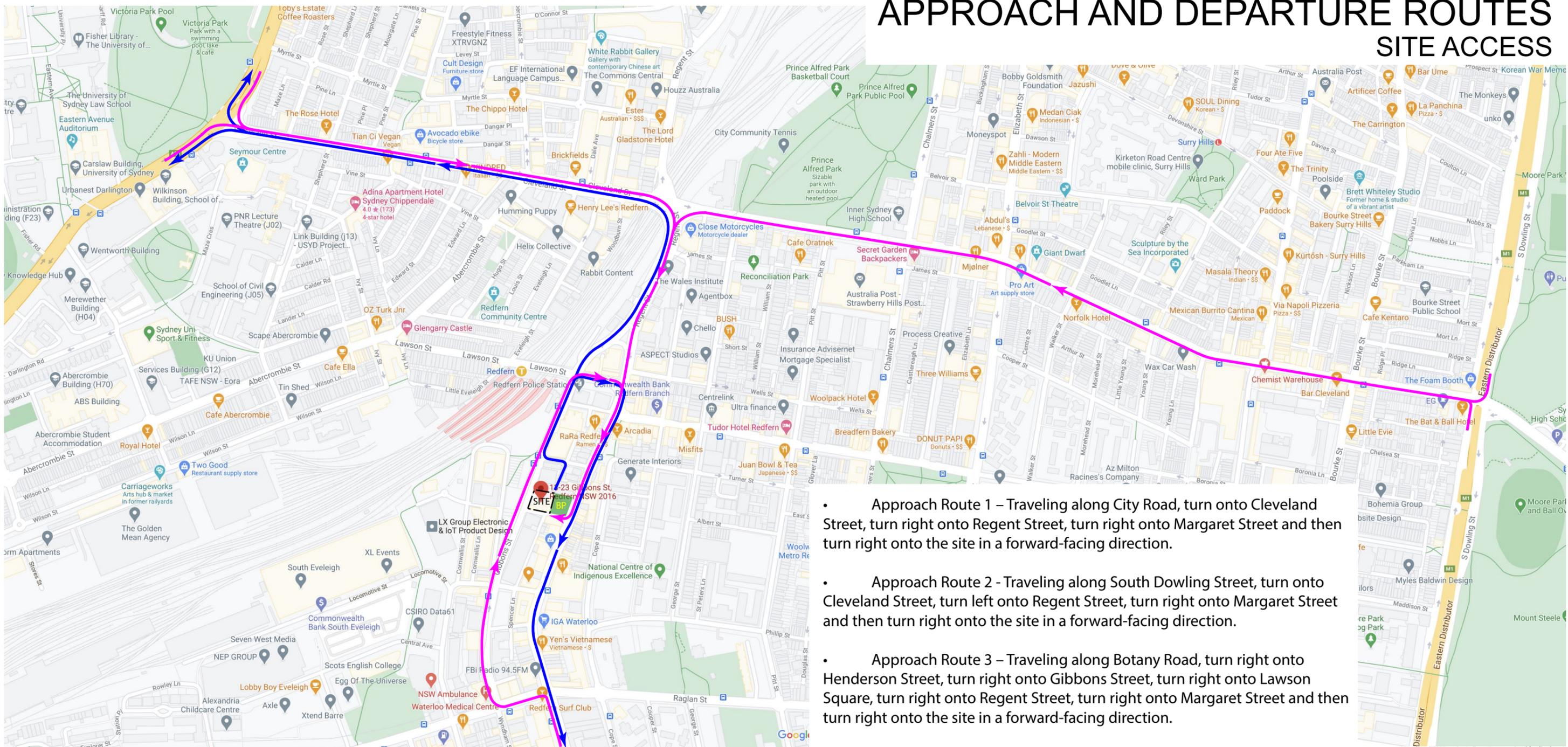
SBMG02209-12 – MRV - Site Access - Ingress  
SBMG02209-14 – MRV - Site Access - Egress  
SBMG02209-13 – HRV - BP Site

## Appendix D – Other Documents

City of Sydney CTMP Standard Conditions

# **Appendix A**

# APPROACH AND DEPARTURE ROUTES SITE ACCESS



- Approach Route 1 – Traveling along City Road, turn onto Cleveland Street, turn right onto Regent Street, turn right onto Margaret Street and then turn right onto the site in a forward-facing direction.
- Approach Route 2 - Traveling along South Dowling Street, turn onto Cleveland Street, turn left onto Regent Street, turn right onto Margaret Street and then turn right onto the site in a forward-facing direction.
- Approach Route 3 – Traveling along Botany Road, turn right onto Henderson Street, turn right onto Gibbons Street, turn right onto Lawson Square, turn right onto Regent Street, turn right onto Margaret Street and then turn right onto the site in a forward-facing direction.
- Departure Route 1 – In a forward-facing direction exit the site onto William Lane, turn left onto Marion Street, turn right onto Gibbons Street, turn left onto Cleveland Street and then turn onto City Road.
- Departure Route 2 – In a forward-facing direction exit the site onto William Lane, turn left onto Marion Street, turn right Gibbons Street, turn right onto Lawson Square, turn right onto Regent Street and then continue onto Botany Road.

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Location:	13-23 GIBBONS STREET, REDFERN NSW		
Client :	RICHARD CROOKES CONSTRUCTIONS PTY LTD		
Plan No.	SBMG02209-02	A	Date: 29TH MARCH 2021
SCALE: NOT TO SCALE			

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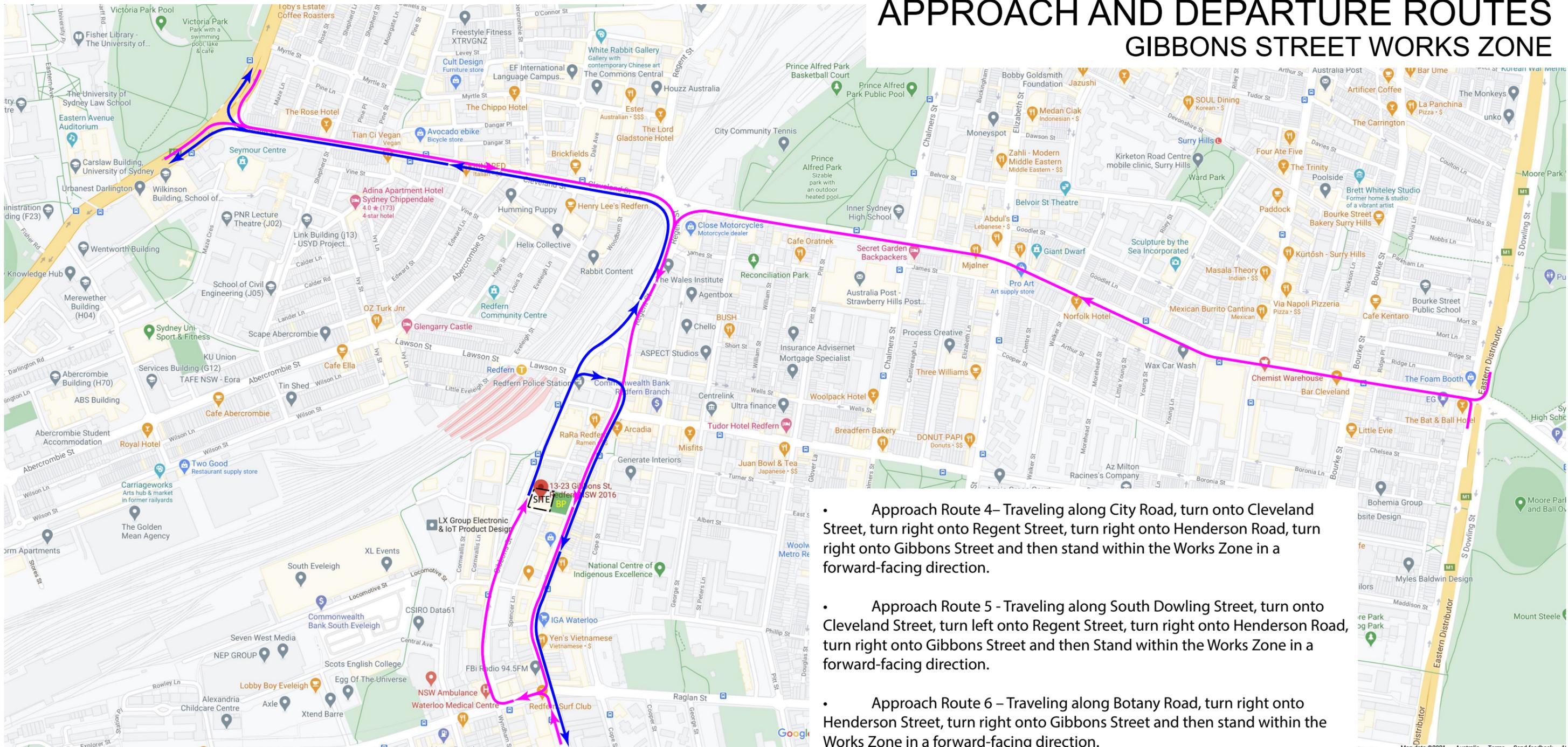
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**LEGEND:**

- SITE BOUNDARY
- SITE APPROACH ROUTE
- SITE DEPARTURE ROUTE

# APPROACH AND DEPARTURE ROUTES GIBBONS STREET WORKS ZONE



- Approach Route 4– Traveling along City Road, turn onto Cleveland Street, turn right onto Regent Street, turn right onto Henderson Road, turn right onto Gibbons Street and then stand within the Works Zone in a forward-facing direction.
- Approach Route 5 - Traveling along South Dowling Street, turn onto Cleveland Street, turn left onto Regent Street, turn right onto Henderson Road, turn right onto Gibbons Street and then Stand within the Works Zone in a forward-facing direction.
- Approach Route 6 – Traveling along Botany Road, turn right onto Henderson Street, turn right onto Gibbons Street and then stand within the Works Zone in a forward-facing direction.
- Departure Route 3 – In a forward-facing direction exit the Works Zone and continue along Gibbons Street, turn left onto Cleveland Street and then turn onto City Road.
- Departure Route 4 – In a forward-facing direction exit the Works Zone and continue along Gibbons Street, turn right onto Lawson Square, turn right onto Regent Street and then continue onto Botany Road.

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Plan No.	SBMG02209-03	A	Date: 29TH MARCH 2021
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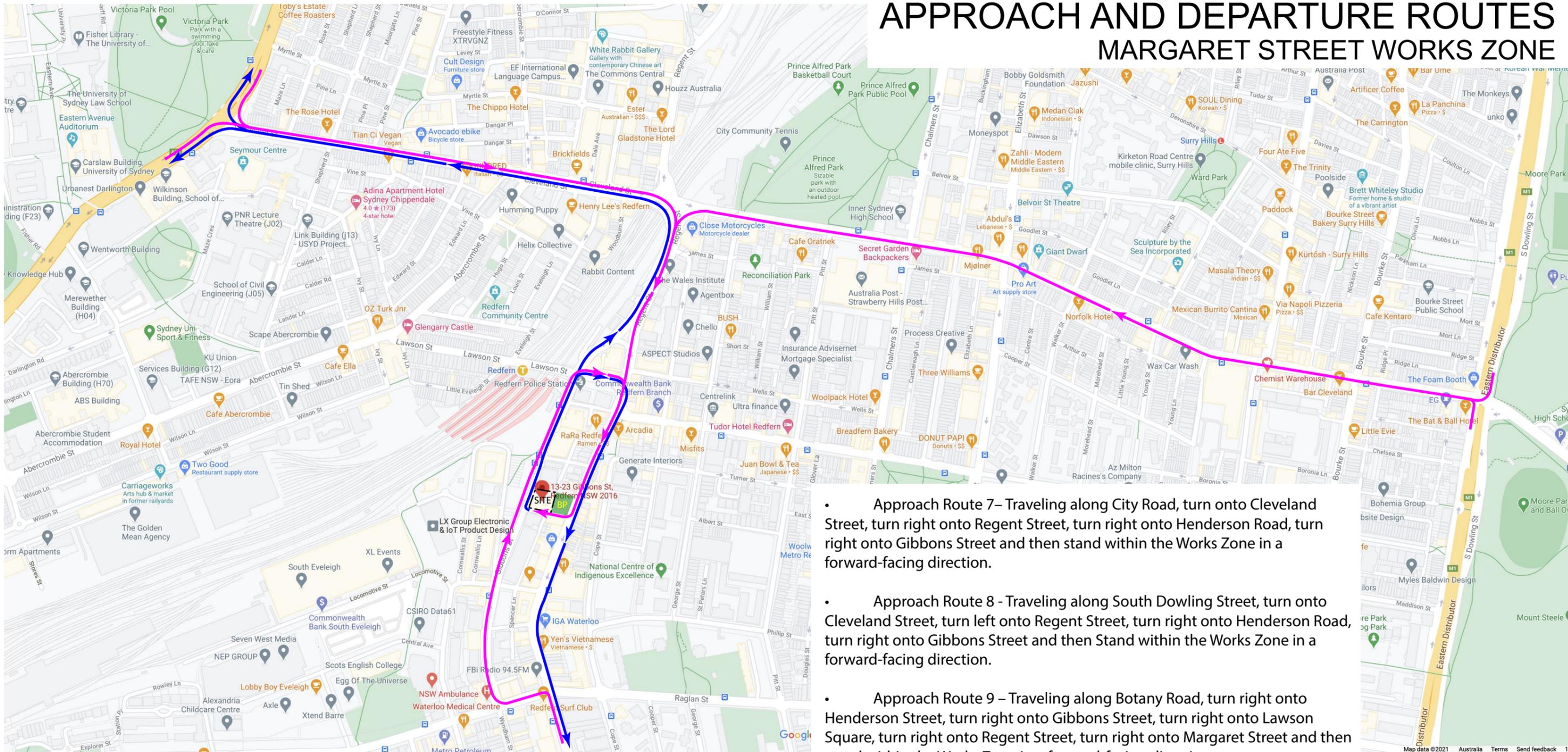
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**LEGEND:**

- SITE BOUNDARY
- SITE APPROACH ROUTE
- SITE DEPARTURE ROUTE

# APPROACH AND DEPARTURE ROUTES MARGARET STREET WORKS ZONE



- Approach Route 7 – Traveling along City Road, turn onto Cleveland Street, turn right onto Regent Street, turn right onto Henderson Road, turn right onto Gibbons Street and then stand within the Works Zone in a forward-facing direction.
- Approach Route 8 - Traveling along South Dowling Street, turn onto Cleveland Street, turn left onto Regent Street, turn right onto Henderson Road, turn right onto Gibbons Street and then Stand within the Works Zone in a forward-facing direction.
- Approach Route 9 – Traveling along Botany Road, turn right onto Henderson Street, turn right onto Gibbons Street, turn right onto Lawson Square, turn right onto Regent Street, turn right onto Margaret Street and then stand within the Works Zone in a forward-facing direction.
- Departure Route 5 – In a forward-facing direction exit the Works Zone and continue along Gibbons Street, turn left onto Cleveland Street and then turn onto City Road.
- Departure Route 6 – In a forward-facing direction exit the Works Zone and continue along Gibbons Street, turn right onto Lawson Square, turn right onto Regent Street and then continue onto Botany Road.

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Plan No.	SBMG02209-04	A	Date: 26TH MARCH 2021
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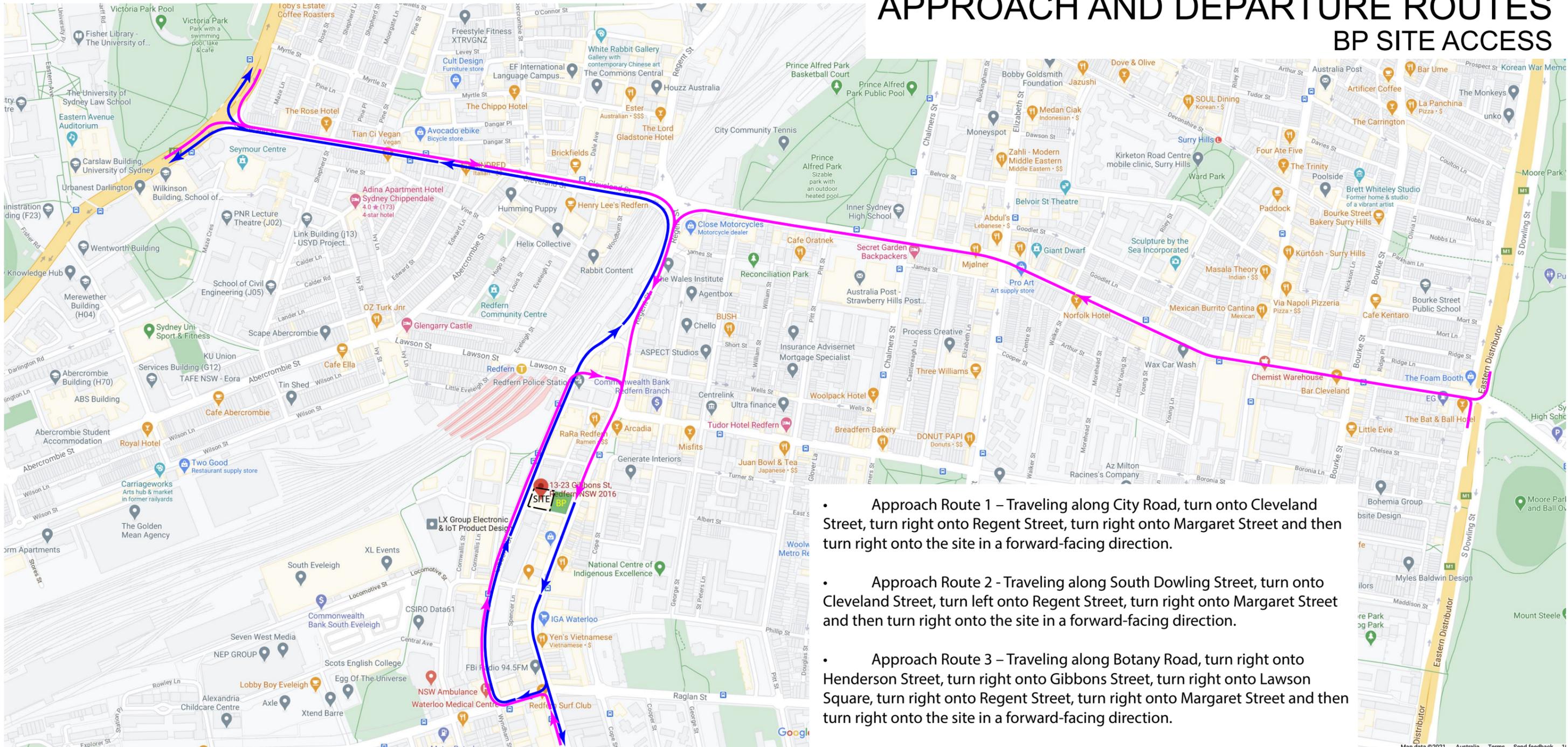
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**LEGEND:**

- SITE BOUNDARY
- SITE APPROACH ROUTE
- SITE DEPARTURE ROUTE

# APPROACH AND DEPARTURE ROUTES BP SITE ACCESS



- Approach Route 1 – Traveling along City Road, turn onto Cleveland Street, turn right onto Regent Street, turn right onto Margaret Street and then turn right onto the site in a forward-facing direction.
- Approach Route 2 - Traveling along South Dowling Street, turn onto Cleveland Street, turn left onto Regent Street, turn right onto Margaret Street and then turn right onto the site in a forward-facing direction.
- Approach Route 3 – Traveling along Botany Road, turn right onto Henderson Street, turn right onto Gibbons Street, turn right onto Lawson Square, turn right onto Regent Street, turn right onto Margaret Street and then turn right onto the site in a forward-facing direction.
- Departure Route 1 – In a forward-facing direction exit the site onto William Lane, turn left onto Marion Street, turn right onto Gibbons Street, turn left onto Cleveland Street and then turn onto City Road.
- Departure Route 2 – In a forward-facing direction exit the site onto William Lane, turn left onto Marion Street, turn right Gibbons Street, turn right onto Lawson Square, turn right onto Regent Street and then continue onto Botany Road.

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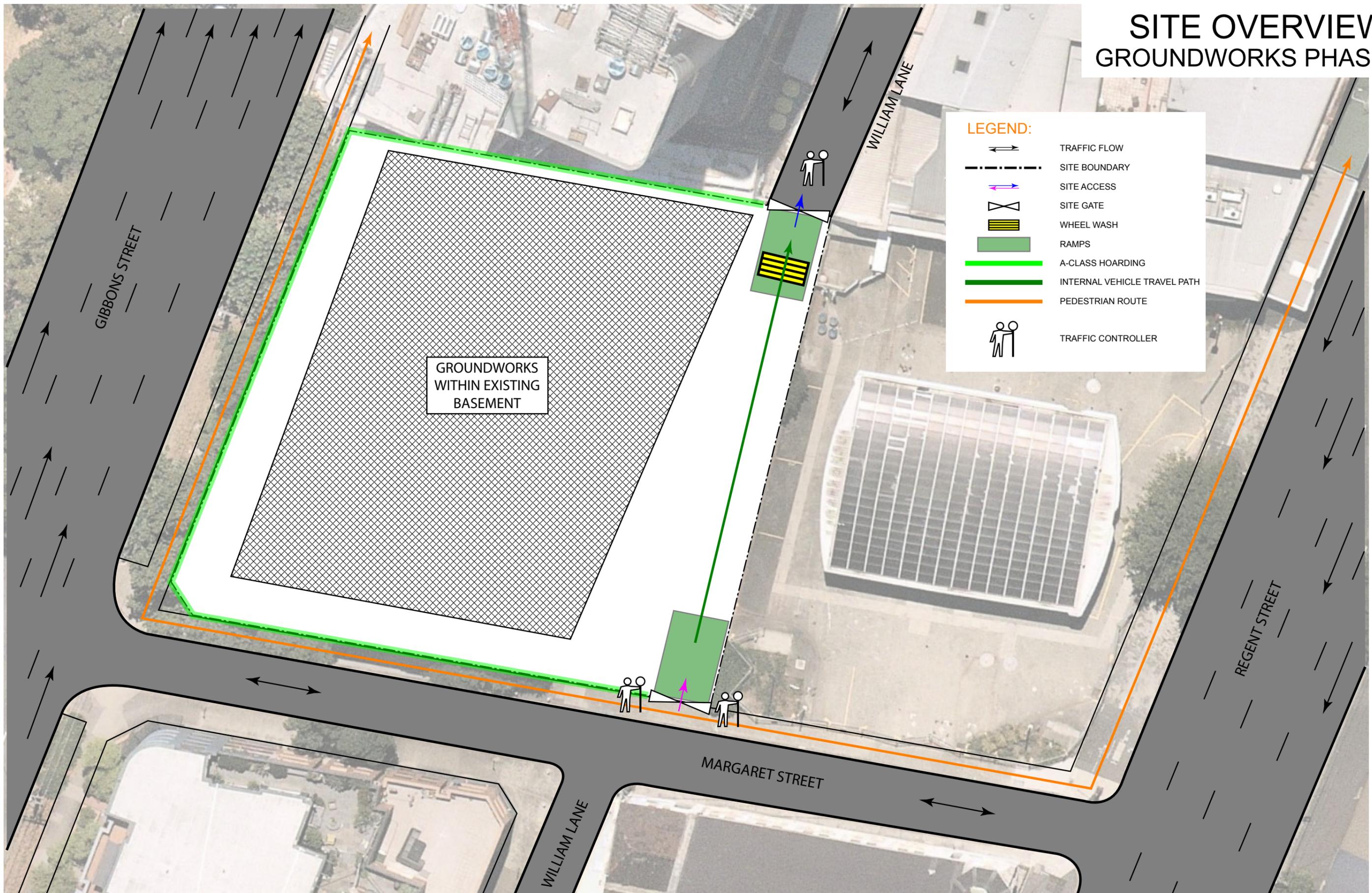
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**LEGEND:**

- SITE BOUNDARY
- SITE APPROACH ROUTE
- SITE DEPARTURE ROUTE

# SITE OVERVIEW GROUNDWORKS PHASE



**LEGEND:**

- TRAFFIC FLOW
- SITE BOUNDARY
- SITE ACCESS
- SITE GATE
- WHEEL WASH
- RAMPS
- A-CLASS HOARDING
- INTERNAL VEHICLE TRAVEL PATH
- PEDESTRIAN ROUTE
- TRAFFIC CONTROLLER

GROUNDWORKS  
WITHIN EXISTING  
BASEMENT

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Location:	13-23 GIBBONS STREET, REDFERN NSW		
Client :	RICHARD CROOKES CONSTRUCTIONS PTY LTD		
Plan No.	SBMG02209-06	A	Date: 29TH MARCH 2021

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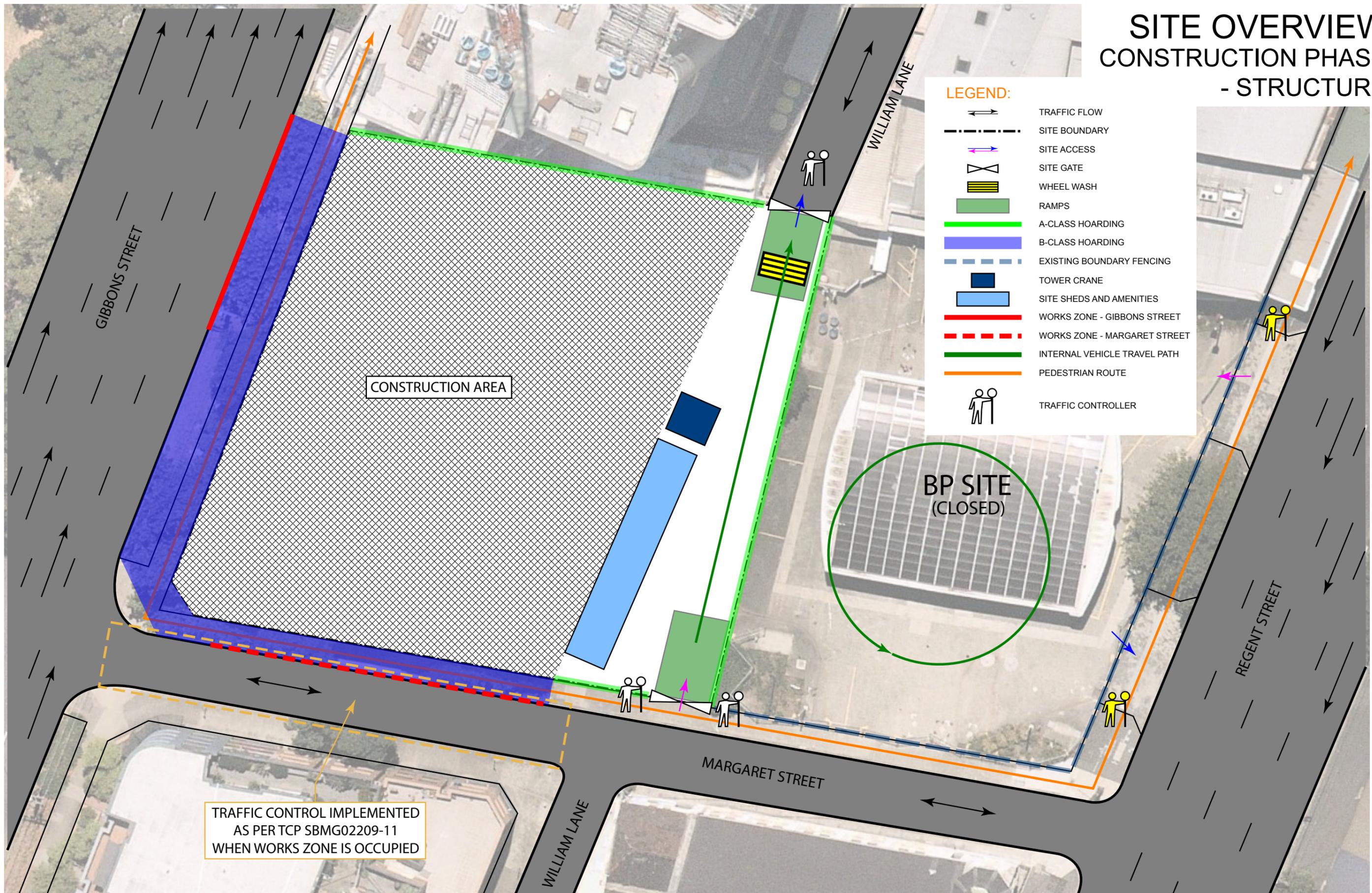
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# SITE OVERVIEW CONSTRUCTION PHASE - STRUCTURE



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**SBMG PLANNING**

TRAFFIC CONTROL  
 BUILDING & CONSTRUCTION  
 SPECIAL EVENTS  
 SWEEP PATH DIAGRAMS

Project/Event:	MIXED-USE DEVELOPMENT		
Location:	13-23 GIBBONS STREET, REDFERN NSW		
Client :	RICHARD CROOKES CONSTRUCTIONS PTY LTD		
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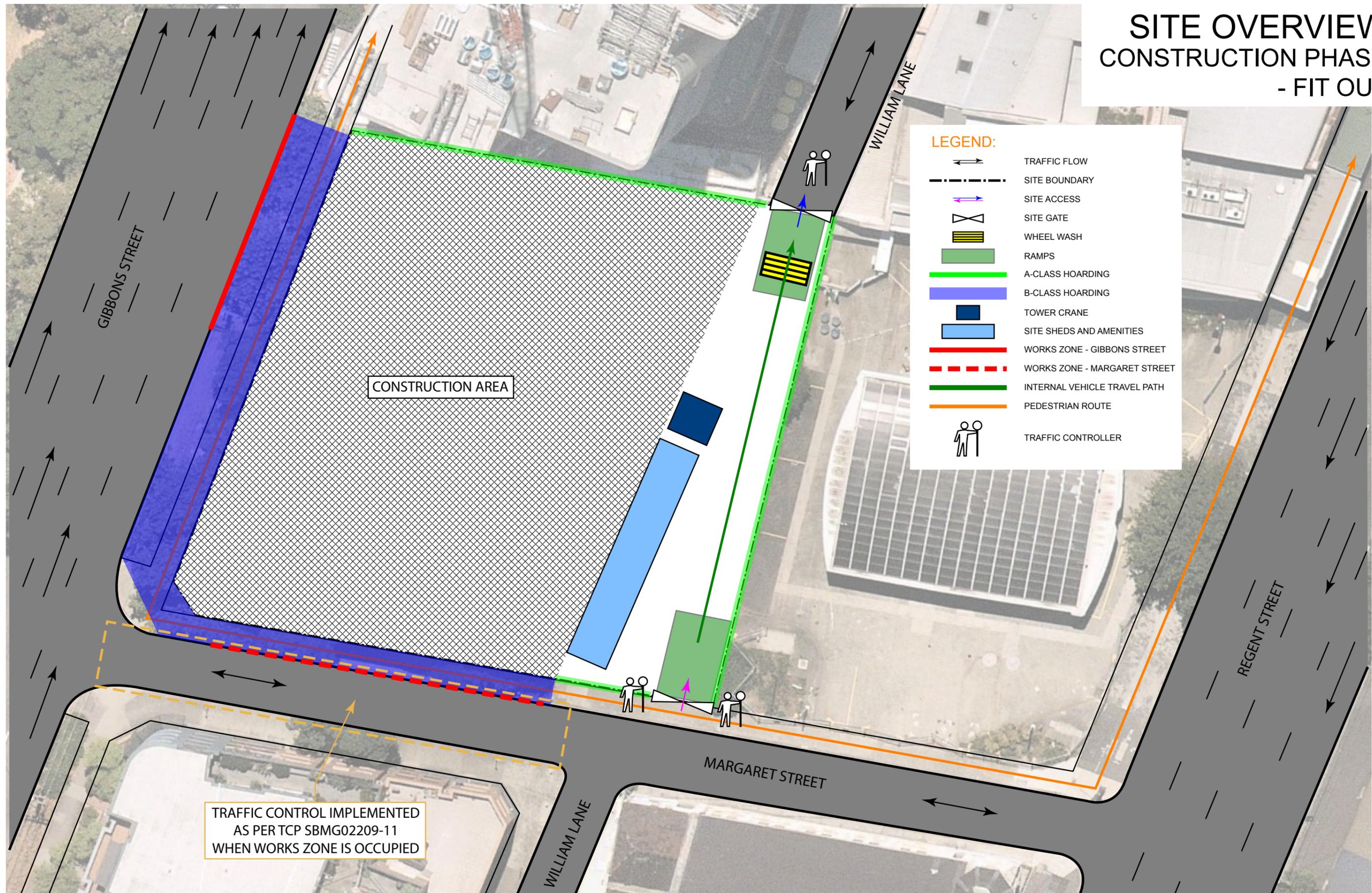
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# SITE OVERVIEW CONSTRUCTION PHASE - FIT OUT



TRAFFIC CONTROL IMPLEMENTED AS PER TCP SBMG02209-11 WHEN WORKS ZONE IS OCCUPIED

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 SWEEP PATH DIAGRAMS

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Plan No.	SBMG02209-08	A	Date: 29TH MARCH 2021

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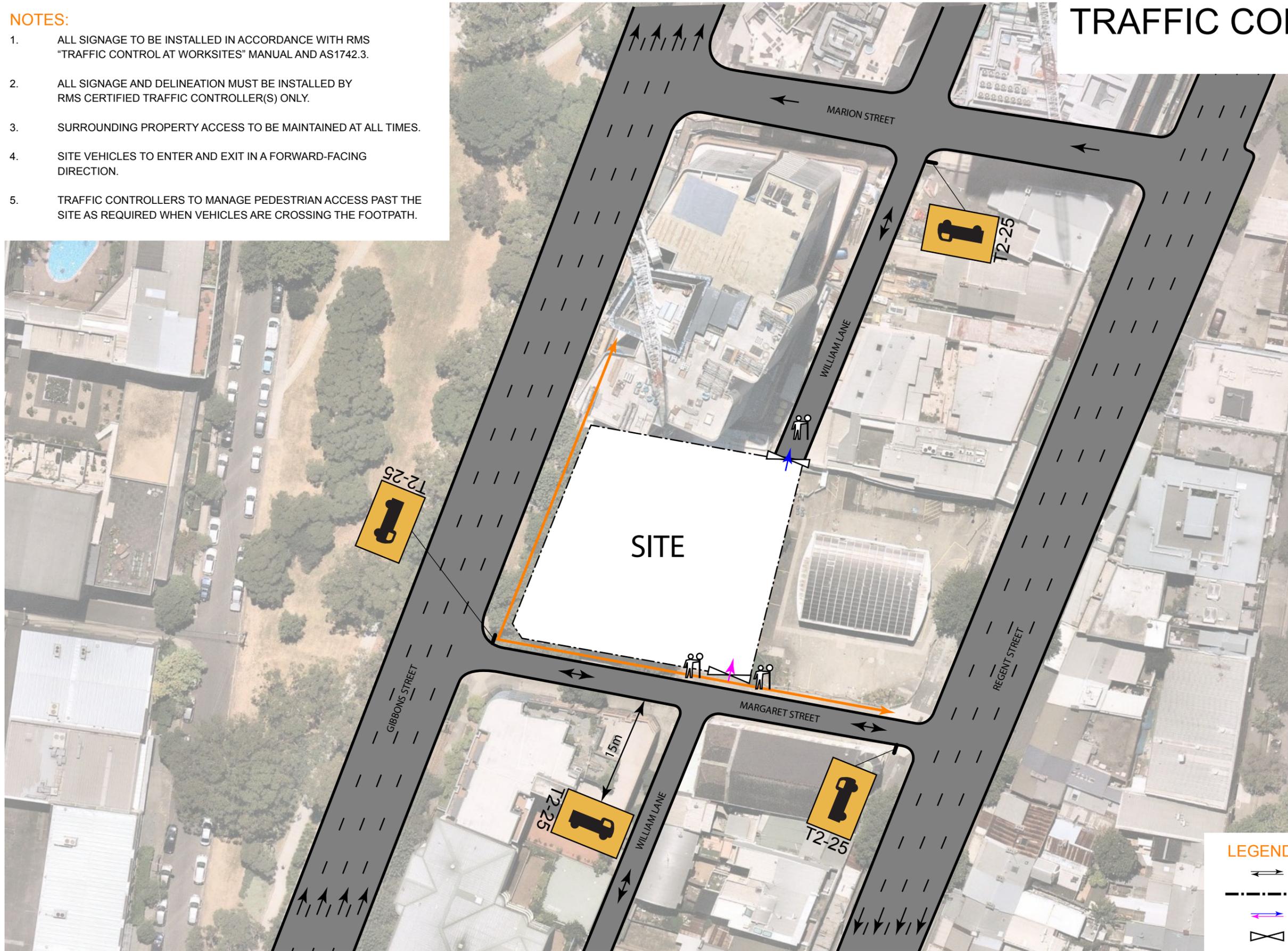


# **Appendix B**

**NOTES:**

1. ALL SIGNAGE TO BE INSTALLED IN ACCORDANCE WITH RMS "TRAFFIC CONTROL AT WORKSITES" MANUAL AND AS1742.3.
2. ALL SIGNAGE AND DELINEATION MUST BE INSTALLED BY RMS CERTIFIED TRAFFIC CONTROLLER(S) ONLY.
3. SURROUNDING PROPERTY ACCESS TO BE MAINTAINED AT ALL TIMES.
4. SITE VEHICLES TO ENTER AND EXIT IN A FORWARD-FACING DIRECTION.
5. TRAFFIC CONTROLLERS TO MANAGE PEDESTRIAN ACCESS PAST THE SITE AS REQUIRED WHEN VEHICLES ARE CROSSING THE FOOTPATH.

# TRAFFIC CONTROL PLAN SITE ACCESS



**LEGEND:**

- TRAFFIC FLOW
- SITE BOUNDARY
- SITE ACCESS
- SITE GATE
- PEDESTRIAN ROUTE
- TRAFFIC CONTROLLER

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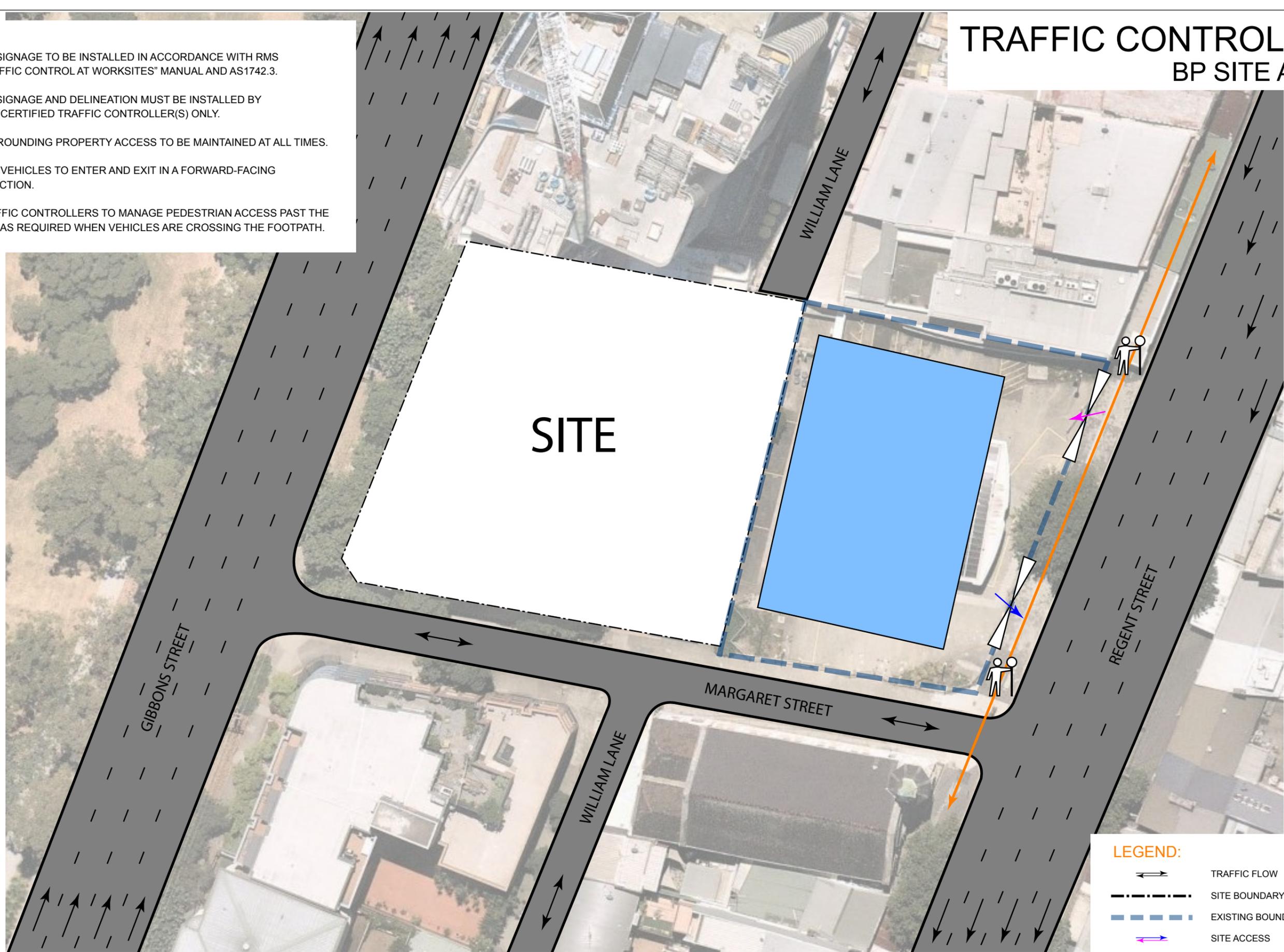
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**NOTES:**

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4. SITE VEHICLES TO ENTER AND EXIT IN A FORWARD-FACING DIRECTION.
5. TRAFFIC CONTROLLERS TO MANAGE PEDESTRIAN ACCESS PAST THE SITE AS REQUIRED WHEN VEHICLES ARE CROSSING THE FOOTPATH.

# TRAFFIC CONTROL PLAN

## BP SITE ACCESS



**LEGEND:**

- TRAFFIC FLOW
- SITE BOUNDARY
- EXISTING BOUNDARY FENCING
- SITE ACCESS
- SITE GATE
- VEHICLE STANDING / STAGING AREA
- PEDESTRIAN ROUTE
- TRAFFIC CONTROLLER

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Project/Event:	MIXED-USE DEVELOPMENT		
Location:	13-23 GIBBONS STREET, REDFERN NSW		
Client :	RICHARD CROOKES CONSTRUCTIONS PTY LTD		
Plan No.	SBMG02209-10	A	Date: 26TH MARCH 2021
SCALE: NOT TO SCALE			

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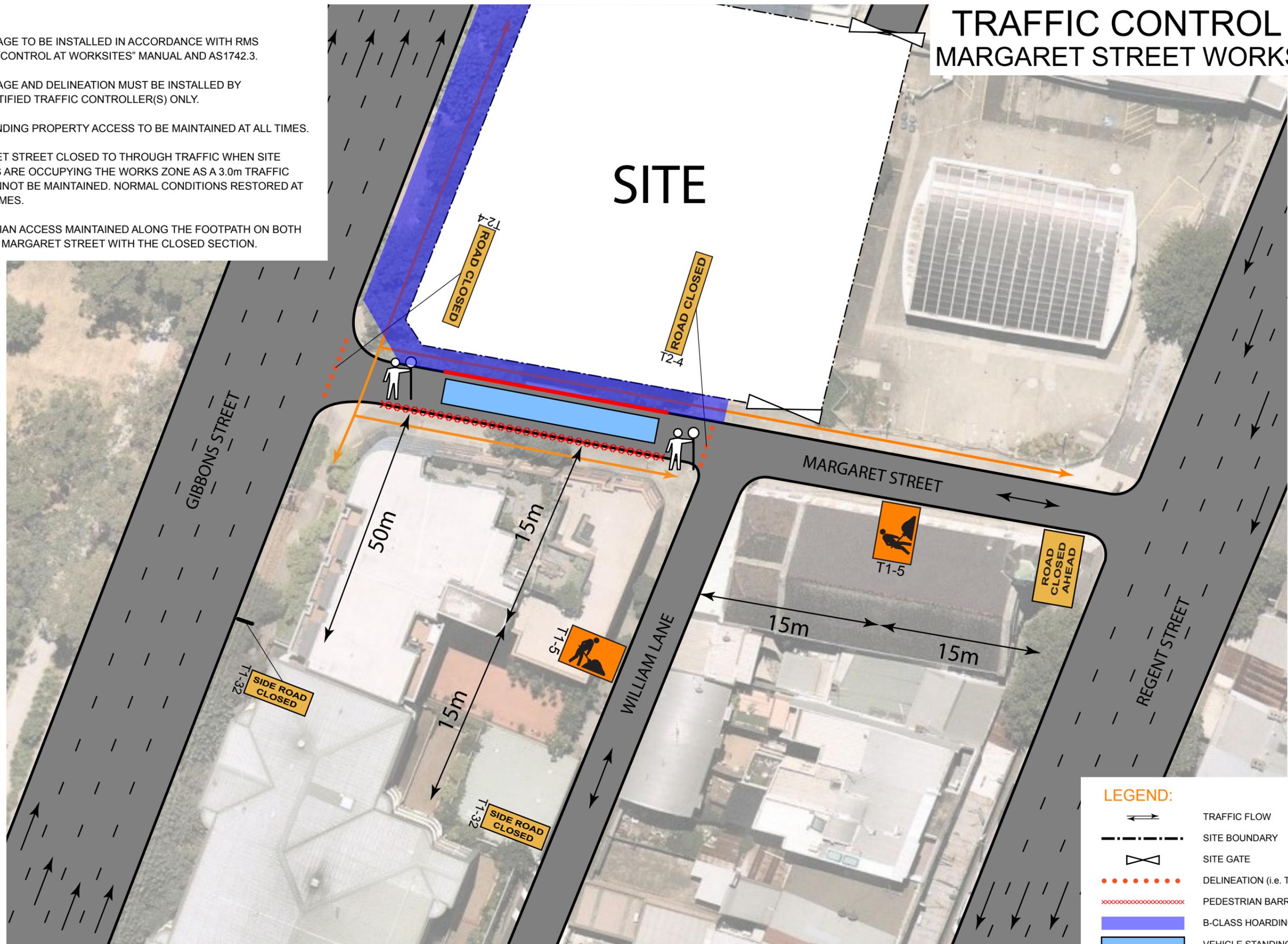
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# TRAFFIC CONTROL PLAN MARGARET STREET WORKS ZONE

## NOTES:

1. ALL SIGNAGE TO BE INSTALLED IN ACCORDANCE WITH RMS "TRAFFIC CONTROL AT WORKSITES" MANUAL AND AS1742.3.
2. ALL SIGNAGE AND DELINEATION MUST BE INSTALLED BY RMS CERTIFIED TRAFFIC CONTROLLER(S) ONLY.
3. SURROUNDING PROPERTY ACCESS TO BE MAINTAINED AT ALL TIMES.
4. MARGARET STREET CLOSED TO THROUGH TRAFFIC WHEN SITE VEHICLES ARE OCCUPYING THE WORKS ZONE AS A 3.0m TRAFFIC LANE CANNOT BE MAINTAINED. NORMAL CONDITIONS RESTORED AT OTHER TIMES.
5. PEDESTRIAN ACCESS MAINTAINED ALONG THE FOOTPATH ON BOTH SIDES OF MARGARET STREET WITH THE CLOSED SECTION.



## LEGEND:

- TRAFFIC FLOW
- SITE BOUNDARY
- SITE GATE
- DELINEATION (i.e. TRAFFIC CONES)
- PEDESTRIAN BARRIER
- B-CLASS HOARDING
- VEHICLE STANDING AREA
- WORKS ZONE
- PEDESTRIAN ROUTE
- TRAFFIC CONTROLLER

**SBMG** PLANNING

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TRAFFIC CONTROL BUILDING & CONSTRUCTION SPECIAL EVENTS SWEEP PATH DIAGRAM

Project/Event:	MIXED-USE DEVELOPMENT		
Location:	13-23 GIBBONS STREET, REDFERN NSW		
Client :	RICHARD CROOKES CONSTRUCTIONS PTY LTD		
Plan No.	SBMG02209-11	A	Date: 26TH MARCH 2021
SCALE: NOT TO SCALE			

PREPARED BY: MATTHEW YOUNG RMS PREPARE A WORKZONE TRAFFIC MANAGEMENT PLAN CERTIFICATE No. 0051718998  SIGNED:	DATE	DESCRIPTION
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# Appendix C



SITE

WILLIAM LANE

MARGARET STREET

REGENT STREET



Notes:  
 VEHICLE PATHS CALCULATED USING AUTODESK AUTOCAD 2017 & AUTODESK VEHICLE TRACKING 2017.  
 AS/NZS 2890.2:2002 MRV - MEDIUM RIGID VEHICLE USED WITH A KERB TO KERB TURNING RADIUS OF 10.000m.  
 DIAGRAM ILLUSTRATES TURNING MANOEUVRES REQUIRED FOR TRUCKS TO ENTER AND EXIT THE SITE USING THE PROPOSED SITE ACCESS.

SCALE: 1:200 @A1



Rev Notes:  
 A - INITIAL SUBMISSION

- Legend:
- FRONT OVERHANG - FORWARD-FACING
  - WHEEL PATH - FORWARD-FACING
  - FRONT OVERHANG - REVERSE DIRECTION
  - WHEEL PATH - REVERSE DIRECTION

**SWEPT PATH DIAGRAM**  
 FORWARD-FACING DIRECTION  
 SITE ACCESS

Project: MIXED-USE DEVELOPMENT  
 Location: 13-23 GIBBONS STREET, REDFERN

Prepared By: MATTHEW YOUNG  
 Plan: SBMG02209-12 A Issue: 26/03/21

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 PO Box 8136  
 Glenmore Park NSW 2745



GIBBONS STREET

MARIAN STREET

WILLIAM LANE

SITE

REGENCY



Notes:  
 VEHICLE PATHS CALCULATED USING AUTODESK AUTOCAD 2017 & AUTODESK VEHICLE TRACKING 2017.  
 AS/NZS 2890.2:2002 MRV - MEDIUM RIGID VEHICLE USED WITH A KERB TO KERB TURNING RADIUS OF 10.000m.  
 DIAGRAM ILLUSTRATES TURNING MANOEUVRES REQUIRED FOR TRUCKS TO ENTER AND EXIT THE SITE USING THE PROPOSED SITE ACCESS.

SCALE: 1:200 @A1



Rev Notes:  
 A - INITIAL SUBMISSION

- Legend:
- FRONT OVERHANG - FORWARD-FACING
  - WHEEL PATH - FORWARD-FACING
  - FRONT OVERHANG - REVERSE DIRECTION
  - WHEEL PATH - REVERSE DIRECTION

**SWEPT PATH DIAGRAM**  
 FORWARD-FACING DIRECTION  
 SITE ACCESS - EGRESS

Project: MIXED-USE DEVELOPMENT  
 Location: 13-23 GIBBONS STREET, REDFERN

Prepared By: MATTHEW YOUNG  
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REGENT STREET

MARGARET STREET



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 AS/NZS 2890.2:2002 HRV - HEAVY RIGID VEHICLE USED WITH A KERB TO KERB TURNING RADIUS OF 12.500m.  
 DIAGRAM ILLUSTRATES TURNING MANOEUVRES REQUIRED FOR TRUCKS TO ENTER AND EXIT THE SITE USING THE PROPOSED SITE ACCESS.

SCALE: 1:200 @A1



Rev Notes:  
 A - INITIAL SUBMISSION

- Legend:
- ▬ FRONT OVERHANG - FORWARD-FACING
  - ▬ WHEEL PATH - FORWARD-FACING
  - ▬ FRONT OVERHANG - REVERSE DIRECTION
  - ▬ WHEEL PATH - REVERSE DIRECTION

**SWEPT PATH DIAGRAM**  
 FORWARD-FACING DIRECTION  
 BP SITE ACCESS

Project: MIXED-USE DEVELOPMENT  
 Location: 13-23 GIBBONS STREET, REDFERN

Prepared By: MATTHEW YOUNG  
 Plan: SBMG02209-13 A Issue: 26/03/21 Date: 26/03/21

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# **Appendix D**

## The City of Sydney Standard Requirements for Construction Traffic Management Plan

The Applicant or contractor undertakes to follow and abide by the following requirements at all times during the demolition, excavation and construction works at 13-23 Gibbons Street, Redfern SSD 9194

1. Details of routes to and from site and entry and exit points from site – site specific  
See items 2.2a)
2. Details of roads that may be excluded from use by construction traffic i.e. roads with load limits, quiet residential streets or access/turn restricted streets – site specific  
Heavy vehicles to use approved approach and departure routes only.
3. The approved truck route plan shall form part of the contract and must be distributed to all truck drivers.
4. All vehicles must enter and exit the site in a forward direction (unless specific approval for a **one-off occasion** is obtained from the City's Construction Regulation Unit).
5. Trucks are not allowed to reverse into the site from the road (unless specific approval for a **one-off occasion** is obtained from the City's Construction Regulation Unit).
6. The Applicant must provide the City with details of the largest truck that will be used during the demolition, excavation and construction.  
  
**NOTE:** No dog trailers or articulated vehicles (AV) to be used (unless specific approval for a **one-off occasion** is obtained from the City's Construction Regulation Unit).
7. Oversize and over-mass vehicles are not allowed to travel on Local Roads (unless approval for a **one-off occasion** is obtained from the City's Traffic Operations Unit). Requests to use these vehicles must be submitted to the City 28 days prior to the vehicle's scheduled travel date. For more information please contact the National Heavy Vehicle Regulator (NHVR) on 1300 696 487 or [www.nhvr.gov.au](http://www.nhvr.gov.au).
8. No queuing or marshalling of trucks is permitted on any public road.
9. Any temporary adjustment to Bus Stops or Traffic Signals will require the Applicant to obtain approval from the STA and RMS respectively prior to commencement of works.
10. All vehicles associated with the development shall be parked wholly within the site. All site staff related with the works are to park in a designated off street area or be encouraged to use public transport and not park on the public road.
11. All loading and unloading must be within the development site or at an approved "Works Zone".

12. The Applicant must apply to the City's Traffic Works Co-ordinator to organise appropriate approvals for Work Zones and road closures.
13. The Applicant must apply to the City's Construction Regulations Unit to organise appropriate approvals for partial road closures.
14. The Applicant must apply to the Transport for NSW's Transport Management Centre for approval of any road works on State Roads or within 100m of Traffic Signals and receive an approved Road Occupancy Licence (ROL). A copy of the ROL must be provided to the City.
15. The Applicant must apply to the City's Construction Regulations Unit to organise appropriate approvals for temporary driveways, cranes and barricades etc.
16. The Applicant must comply with development consent for hours of construction.
17. All Traffic Control Plans associated with the CTMP must comply with the Australian Standards and Roads and Maritime Services (RMS) Traffic Control At Work Sites Guidelines.
18. Traffic Controllers are NOT to stop traffic on the public street(s) to allow trucks to enter or leave the site. They MUST wait until a suitable gap in traffic allows them to assist trucks to enter or exit the site. The Roads Act does not give any special treatment to trucks leaving a construction site - **the vehicles already on the road have right-of-way.**
19. Pedestrians may be held only for very short periods to ensure safety when trucks are leaving or entering BUT you must NOT stop pedestrians in anticipation i.e. **at all times the pedestrians have right-of-way on the footpath not the trucks.**
20. Physical barriers to control pedestrian or traffic movements need to be determined by the City's Construction Regulations Unit prior to commencement of work.
21. The Applicant must obtain a permit from the City's Construction Regulation Unit regarding the placing of any plant/equipment on public ways.
22. The Applicant must apply to the City's Building Approvals Unit to organise appropriate approvals for hoarding prior to commencement of works.
23. The CTMP is for the excavation, demolition and construction of building works, not for road works (if required) associated with the development. Any road works will require the Applicant or the contractor to separately seek approval from the City and/or RMS for consideration. Also WorkCover requires that Traffic Control Plans must comply with Australian Standards 1742.3 and must be prepared by a Certified Traffic Controller (under RMS regulations).
24. Please note that the provision of any information in this CTMP will not exempt the Applicant from correctly fulfilling all other conditions relevant to the development consent for the above site.



**RICHARD CROOKES**  
CONSTRUCTIONS

**WEE HUR GIBBONS ST**  
**RCC JOB 1235**

# ACID SULFATE SOILS MANAGEMENT PLAN

10 May 2021

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# 1 DOCUMENT INFORMATION

<b>CLIENT</b>	Richard Crookes Constructions (RCC)
<b>PROJECT</b>	Wee Hur Gibbons St
<b>RCC PROJECT NUMBER</b>	1235
<b>REPORT TITLE</b>	Acid Sulfate Soils Management Plan (ASSMP)
<b>DATE</b>	10 <sup>th</sup> May 2021
<b>REVISION NUMBER</b>	Revision 0

## 2 PROJECT OVERVIEW

Wee Hur Gibbons St is a 19-storey (plus roof) development consisting of a 419-bed student accommodation facility in Redfern. The site is located at 13-23 Gibbons Street, Redfern at the southern periphery of the Sydney CBD, within the City of Sydney Local Government Area. The site is situated on the eastern side of Gibbons Street at the corner of Gibbons Street and Margaret Street. The site is located approximately 200m to the south-east of Redfern Railway Station.

The site contains three road frontages including Gibbons Street to the West, Margaret Street to the South and William Lane to the North East.

### 2.1 SITE LOCATION



## 3 INTRODUCTION

This Acid Sulfate Soil Management Plan (ASSMP) has been prepared for the proposed Wee Hur Gibbons St development 13-23 Gibbons St, Redfern (the site). It is understood that the proposed development will involve minor bulk excavation and service relocation works, which may disturb a small amount of natural soils locally.

This ASSMP presents the approach and methodology of acid sulfate soil management at the site during the construction phase to be followed by the Contactor and its subcontractors. It provides a basis for specifications for acid sulfate soil management; however, it is important to note that this document is not a specification.

The objective of the ASSMP is to reduce the potential environmental impacts associated with the disturbance of acid sulfate soils within the area of the proposed works. The ASSMP is prepared in general accordance with the Acid Sulfate Soils Assessment Guidelines (Ahern et al, 1998a) and the Acid Sulfate Soils Management Guidelines (Ahern et al, 1998b) in the Acid Sulfate Soil Manual, published by the Acid Sulfate Soils Management Advisory Committee (ASSMAC).

### 3.1 BACKGROUND

City of Sydney council presents its requirements regarding acid sulfate soils in the Sydney Local Environmental Plan (LEP) 2012. The Sydney LEP identifies five classes of land, with Class 1 having the highest risk of acid sulfate soils, and Class 5 having the lowest.

## 4 SITE CHARACTERISTICS

A Detailed Site Investigation was undertaken by Douglas Partners in November 2018 (Ref: 86266.04.R.001.Rev1). The DSI involved a desktop assessment for the likelihood of acid sulfate soils occurrence within the site among other observations..

The summary of finding concluded:

*Observations of potential contamination (anthropogenic inclusions) within the boreholes included brick fragments, concrete fragments and tile fragments variably within boreholes BH101 and BH106. We point out that the presence of this type of building / demolition rubble can be indicative of the presence of asbestos. There was no other apparent evidence of visual or olfactory impacts (e.g. staining, free phase product) to suggest the presence of contamination within the fill soils or groundwater observed in the investigation.*

*Thirteen soil samples collected from seven test locations across the site were tested for a range of common contaminants. For the 13 soil samples tested, all reported concentrations of contaminants were below the adopted SAC. Detectable concentrations of metals and PAHs were recorded in some*

*soil samples with the remaining analytes having concentrations below the laboratory practical quantitation limit (PQL).*

The site is situated in an area characterised by various commercial and retail land uses which are summarised in Table 1 below

**Table 1: Surrounding Land Uses**

DIRECTION	LAND USES
North	New completed affordable housing.
East	Old BP Service Station (Currently being remediated).
South	Margaret St Church and Apartment Buildings.
West	Roadways.

### 4.1 GEOLOGY & HYDROGEOLOGY

#### 4.1.1 GEOLOGY

With reference to the 1:100 000 scale Geological Series Sheet 9130 (Sydney) the site is located on a contact between the Ashfield Shale and the Botany Sands. The Ashfield Shale is characterised by black to dark grey shale and laminate. Whereas the Botany Sands are characterised as medium to fin-grained marine sands with podsols.

A Quaternary alluvial deposit (Qha) is located within proximity (north) to the site which consists of silty to peaty quartz sand, silt, and clay. Ferruginous and humic cementation in places and common shell layers.

A fault line running east to west was also identified north of the site.

#### 4.1.2 HYDROGEOLOGY

Referencing Douglas Partners Geotech report Ref: 86266.03.R.001.Rev0, no groundwater outside of rain events is expected on this site due to the level of the water table being well below the proposed site excavation level:

*Groundwater has been measured on the site at between RL 17.1 m AHD and 18.7 m AHD (depths below the existing basement surface varying between 3.3 m and 4.9 m) which is about 2.5 m to 4.1 m below the proposed lowered basement level FFL (RL 21.25 m AHD). On this basis it is expected that groundwater will generally be below the basement level. However, the groundwater table will fluctuate and may temporarily rise by at least 1-2 m following heavy and prolonged rainfall.*

#### **4.1.3 ACID SULFATE SOILS**

With reference to the Botany Bay Acid Sulfate Soil Risk Map (1:25,00 scale; Murphy, 1997), the subject land lies within the map class description of No Known Occurrence. In such cases, acid sulphate soils (ASS) are not known or expected to occur and "land management activities are not likely to be affected by ASS materials".

The ASS Map provided under the Sydney Local Environmental Plan 2012 (Ref. Sheet ASS\_11, Map ID 7200\_COM\_ASS\_011\_005\_20150710) indicates that the site lies within an area of no known occurrences; however, Class 5 ASS area is present on the eastern boundary of Regent Street. Council consent is therefore required prior to commencing any works within 500m of Class 1, 2, 3 or 4 land, with a ground elevation of below 5m Australian Height Datum (AHD) and where the water table is likely to be lowered below 1m AHD on adjacent Class 1, 2, 3 or 4 land.

### **4.2 ACID SULFATE SOIL RISK AT SITE – CONSTRUCTION ACTIVITIES**

It is understood that the proposed development shall comprise the construction of a 419-bed student accommodation facility in Redfern.

Based on Development Plans provided by the Client, the proposed development will involve the demolition of existing site structures and the construction of a 18-storey mixed, commercial and residential building. No basement carparking will be constructed.

Service relocation works and, augured piling bulk excavation will be required which may involve disturbing of natural soils. It is understood that the volume of soil to be disturbed will be large due to piling works however based upon geotechnical advice the chances of encountering acid sulphate soils is small.

Based on the above information, this plan has been developed to manage the minor risk of finding acid sulphate soils.

### **4.3 POTENTIAL ENVIRONMENTAL IMPACTS FROM ACID SULFATE SOILS**

Exposure and oxidation of potential acid sulfate soils may lead to the generation of acidic leachate. Acidic leachate can be detrimental to the environment and the quality of in ground structures and services. Materials and machinery used may be susceptible to acidic corrosion. Acidic leachate can also mobilise toxic concentrations of metals.

## 5 MANAGEMENT PLAN AND PROCEDURES FOR ACID SULFATE SOILS

### 5.1 GENERAL

As stated above, as part of the desktop assessment undertaken by EI, there were no acid sulfate soil (ASS) materials were found. However, RCC have implemented a management plan as a precaution.

The following general management procedures are considered applicable for this site based on the current understanding of the proposed development:

- a. Appoint an appropriately qualified person in the case acid sulfate soil materials are found during the construction activities;
- b. Temporarily stockpile the excavated material (piling spoil);
- c. Assess the potential presence of acid sulfate soils within stockpiled soils for treatment and disposal purposes;
- d. Undertaking liming (if required);
- e. Dispose of the limed stockpile to an appropriately licensed landfill, or reuse on site.

These procedures are further discussed in the following sections.

### 5.2 TRAINING AND RESPONSIBILITIES

In the case ASS materials are found, The Contractor will appoint an appropriately trained person during the earthwork activities. This person could be the Site Foreman trained in acid sulfate soils management.

The person would be familiar with:

- Details in this ASSMP;
- Council and other relevant statutory requirements;
- Recognition of acid sulfate soils;
- Acid sulfate soil testing and treatment procedures; and
- Onsite management of acid sulfate soils, including implementing management procedures.

If required, a suitably qualified environmental consultant should be engaged to assist or train the Contractor.

### 5.3 TEMPORARY STOCKPILING

The excavated soils should be temporarily stockpiled and treated (if required) on a specially prepared treatment (or liming) pad. The treatment pad should be located on a concrete paved area. If no concrete area is available, an area should be covered by timber boards on a minimum of two layers of polythene or low-density polyethylene sheet of at least 0.25mm thickness. Once the soils have been stockpiled, the stockpile should be covered by polythene or low-density polyethylene sheet of at least 0.25mm thickness to prevent erosion of stockpiled materials. Heavy objects not containing any sharp edges should be placed on the sheets to prevent them from being blown by the wind. Straw bales or a silt fence should be placed on the perimeter of the stockpile area to filter runoff. Infiltration of water to the stockpile, such as run-on water from upslope, should be managed with diversion banks. The surface area of the

stockpile exposed to oxidation should be minimised, and the stockpile should be covered when not in use.

Extended periods of stockpiling (more than a couple of days) will require leachate collection and monitoring. Where monitoring of the leachate indicates low pH (below 6.5), the addition of lime will be required prior to discharge to sewer/drain, subject to requirements/approvals from the relevant authorities.

## 5.4 LABORATORY SPOCAS TESTING

Laboratory testing should be carried out for representative soil samples collected from the stockpile to assess the level of acid sulfate strength and the required liming rate. Depending on the volume of the stockpile, a minimum of three representative samples, or 1 per 25m<sup>3</sup> should be collected. The soil samples will be tested by a NATA accredited laboratory for the presence of acid sulfate soils based on the Suspension Peroxide Oxidation Combined Acidity and Sulfate (SPOCAS) method (or another acceptable method).

Based on the results, if acid sulfate soils are assessed not to be present in the stockpile, the stockpile may be reused on site, subject to further contamination testing and engineering requirements.

## 5.5 TREATMENT PAD & LIMING METHODOLOGY

If acid sulfate soils are identified based on the laboratory results, liming should be applied to the stockpile. The type and amount of lime to be applied will be such that a neutralising value (NV) of 100 can be achieved. The NV should be identified prior to mixing. NV relates to the purity of the lime and an NV of 100 is required to ensure that the lime is effective in neutralising the potential acid. Fine powdered agricultural lime (CaCO<sub>3</sub>) generally has an NV of 90% to 100% whilst other manufactured forms of lime can have an NV as low as 80%. Where NV is below 100, the factor of safety, hence the amount of lime, will have to be adjusted accordingly.

The following liming procedures (or other equivalent) should be undertaken:

- Spreading of the soil in thin (<200mm) layers on specially prepared impervious pads within the boundary of the site works; and
- Addition of lime by hand or machinery followed by mixing, using light weight rotovators or similar tools. The amount of lime to be added shall be assessed from the results of the laboratory SPOCAS testing, with a factor of safety of 1.5 applied to account for incomplete mixing. This factor of safety is in addition to any correction factors for purity or particle size.

## 5.6 WASTE CLASSIFICATION AND OFFSITE DISPOSAL

The treated soil may be disposed of to an appropriately licensed landfill following a waste classification. The waste classification and disposal should be undertaken in accordance with relevant standards and requirements, including the NSW EPA (2014) Waste Classification Guidelines, Part 1: Classifying Waste. The waste classification should also consider the acid sulfate soil requirements. It is noted that the treated soil cannot be classified as Virgin Excavated Natural Material (VENM) as per the NSW EPA definition.

Alternatively, the treated soil could be reused on site following monitoring as per Section 5.7, subject to contamination and engineering requirements.

## 5.7 MONITORING FOLLOWING TREATMENT

The following monitoring program (or other equivalent) is recommended for lime treated material where the material is to be used on site for structural or general filling, prior to its placement:

- Monitoring of soil pH weekly based on Appendix I of the Acid Sulfate Soils Assessment Guidelines (Ahem et al, 1998a); and
- Laboratory testing of representative soil samples for SPOCAS (or similar) after four weeks.

The following acceptance criteria will be used over a four-week period to assess whether the soils have enough neutralising capacity to account for the quantities of acid produced:

- Soil pH  $\geq$  6.5; and
- Net acidity level below Acid Sulfate Soils Assessment Guidelines (Ahem et al, 1998a) relevant action level (18mol H+/tonne for material less than 1000 tonnes).

Should the soil pH fall below 6.5 and continue to fall, then additional lime will be added to the material and monitoring will continue for a further four weeks, at which time a review of the monitoring frequency will take place.

## 5.8 OTHER UNEXPECTED ISSUES

Should other unexpected issues be encountered, an appropriately qualified environmental consultant should be engaged as soon as practicable to help address the issues.

## 6 LIMITATIONS

This ASSMP is prepared based on the current level of understanding of the site and the proposed development. It should be reviewed and updated progressively as work is completed and if changes to the development is made. Relevant amendments in the ASSMP should be made as necessary.

The findings contained in this report are the result of discrete/specific methodologies used in accordance with normal practices and standards. To the best of our knowledge, they represent a reasonable interpretation of the general condition of the site. Under no circumstances, however, can it be considered that these findings represent the actual state of this site at all points.

This plan has been prepared based on limited available information regarding acid sulfate soils at the site. The actual subsurface status could be different. No sampling and testing have been undertaken at the for acid sulfate soils.

This plan does not address geotechnical or contamination issues.

## 7 REFERENCES

Ahern C R, Stone Y and Blunden B (1998a) Acid Sulfate Soils Assessment Guidelines, Acid Sulfate Soils Management Advisory Committee, Wollongbar, NSW.

Ahern C R, Stone Y and Blunden B (1998b) Acid Sulfate Soils Management Guidelines, Acid Sulfate Soils Management Advisory Committee, Wollongbar, NSW.

EI Australia (2016), Detailed Site Investigation: Proposed Mixed Use Development, 80-88 Regent Street, Redfern NSW (ref: E22974 AA\_Rev0)

NSW EPA (2014) Waste Classification Guidelines, Part 1: Classifying Waste.



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5.6 **APPENDIX F – CONSTRUCTION NOISE AND VIBARATION  
MANAGEMENT PLAN**

13-23 Gibbons St, Redfern NSW

## Construction Noise & Vibration Management Plan

Project ID 20210355.1  
Document Title Construction Noise & Vibration Management Plan  
Attention To Richard Crookes Constructions Pty Ltd

<b>Revision</b>	<b>Date</b>	<b>Document Reference</b>	<b>Prepared By</b>	<b>Checked By</b>	<b>Approved By</b>
0	1/04/2021	20210355.1/0104A/R0/AW	AW		GW

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## 1 INTRODUCTION

Acoustic Logic Consultancy has been engaged to prepare a Noise and Vibration Management Sub-Plan for the excavation and construction work for the proposed 18 storey student accommodation at 13-23 Gibbons Street, Redfern. The management plan has been prepared to satisfy consent conditions for SSD 9194 dated 06/10/2020. This report addresses conditions C16; D8 to D13.

The issues which will be addressed in this report are:

- Identification of the noise and vibration standards which will be applicable to this project.
- Identification of potentially impacted nearby development.
- Identify likely sources of noise and vibration generation and predicted noise levels at nearby development.
- Formulation of a strategy to comply with the standards identified and mitigation treatments in the event that compliance is not achievable.

## 2 SITE DESCRIPTION

We note that this report does not address early works or demolition which has already been completed on the site. This assessment applies only to the excavation and construction works associated with new student accommodation development. Refer to Figures 1 & 2 for detail.

Excavation and construction works anticipated are as follows:

- A Class plywood hoarding along northern boundary.
- B Class hoarding in location along Gibbons and Margaret Street.
- Vehicle delivery along eastern boundary.
- Demolition of Ground Floor and Basement by excavator with hydraulic hammer.
- Bored piling of foundations
- Bulk excavation of sand/soil with excavator to 350mm below the existing and no rock.
- Use of electric/mobile cranes;
- Erection of building structure (powered hand tools for formwork, concrete pump, vibrators)..
- Façade/roof construction (powered hand tools)
- Landscaping (front end loaders etc).
- Internal fit out, predominantly behind semi-enclosed facade.

DA approved construction hours are below:

*D2. Construction, including the delivery of materials to and from the site, may only be carried out between the following hours:*

- (a) between 7.00 am and 6.00 pm, Mondays to Fridays inclusive; and*
- (b) between 7.30 am and 3.30 pm, Saturdays.*

*D3. No work may be carried out on Sundays or public holidays.*

*D4. Activities may be undertaken outside of these hours if required:*

- (a) by the Police or a public authority for the delivery of vehicles, plant or materials; or*
- (b) in an emergency to avoid the loss of life, damage to property or to prevent environmental harm.*

*D5. Notification of such activities must be given to affected residents before undertaking the activities or as soon as is practical afterwards.*

*D6. Rock breaking, rock hammering, sheet piling, pile driving and similar activities may only be carried out between the following hours:*

- (a) 9.00 am to 12.00 pm, Monday to Friday;*
- (b) 2.00 pm to 5.00 pm Monday to Friday; and*
- (c) 9.00 am to 12.00 pm, Saturday.*

## **2.1 RECEIVER LOCATIONS**

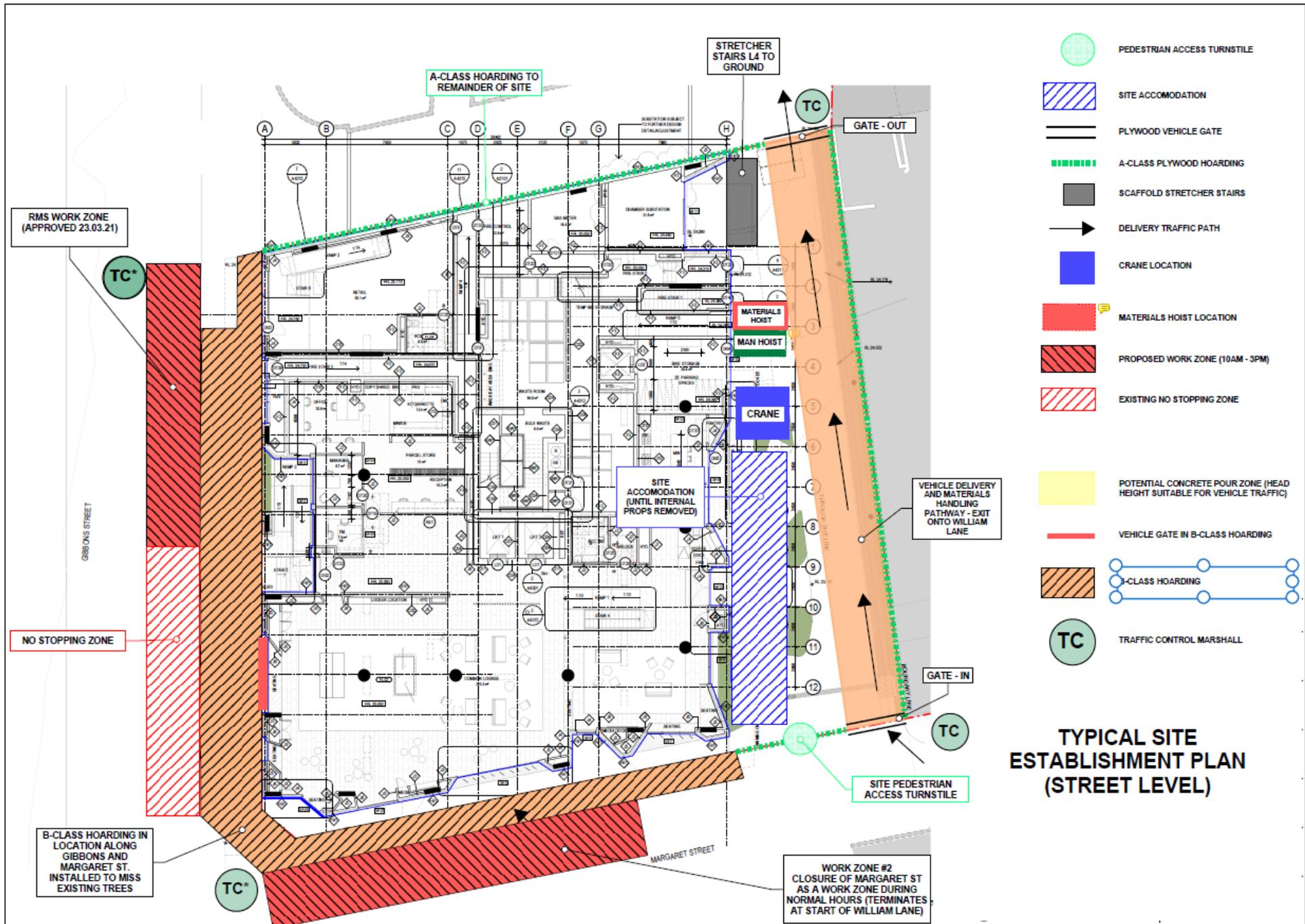
Acoustic investigation has been carried out and the nearest noise receivers are below:

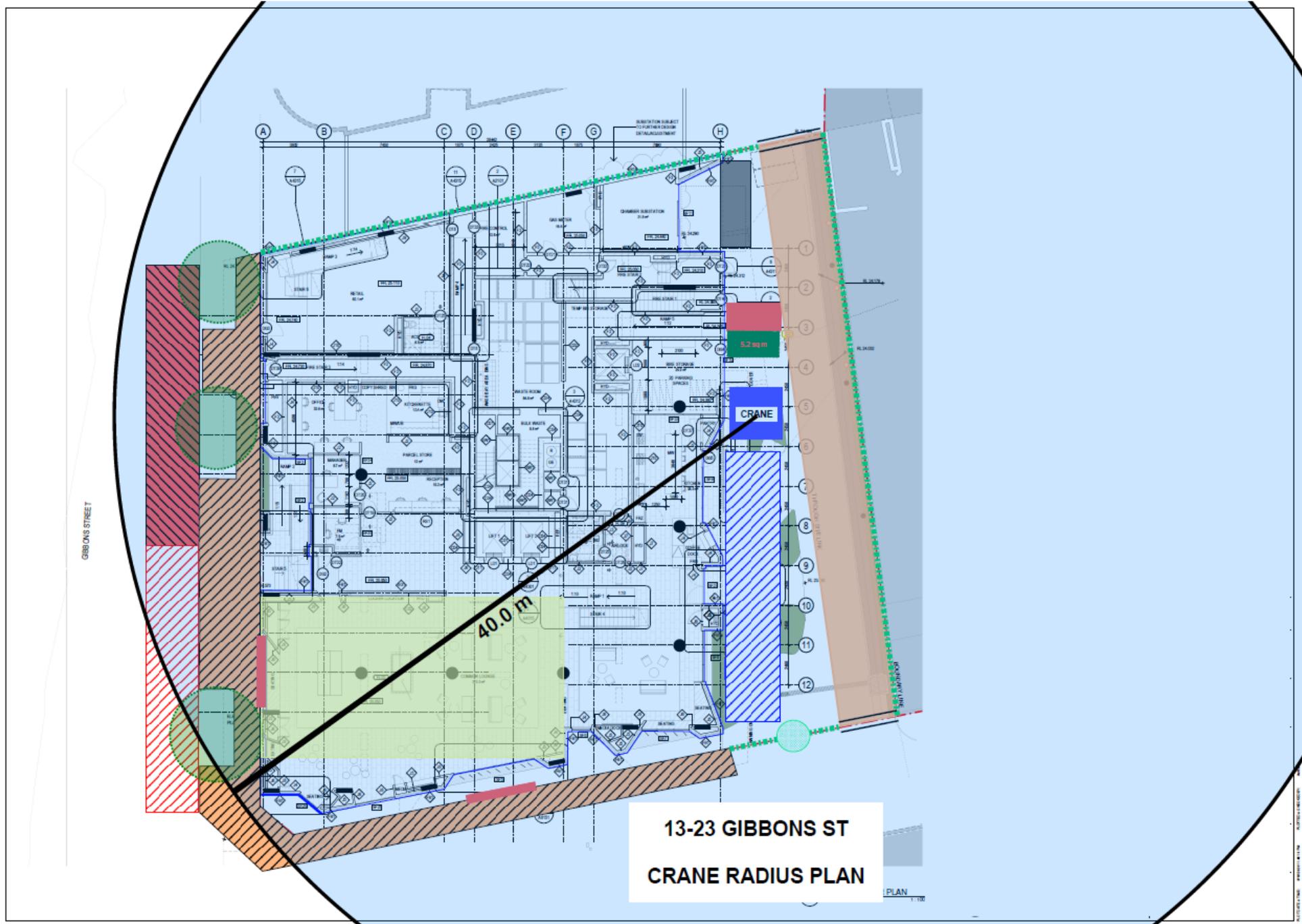
- **R1:** Residential Receiver 1 – Multi storey residential development under construction at 11 Gibbons St.
- **R2:** Residential Receiver 2 – Existing multi storey residential building located across Gibbon St.
- **R3:** Residential Receiver 3 – Existing residential development located across Margaret Street.
- **R4:** Residential Receiver 4 – Existing residential development located along eastern side of Regent Street.

Detailed noise receiver locations have been marked in Figure 1 below.



Figure 1 – Project Site, Noise Receivers and Measurement





### 3 BACKGROUND NOISE MEASUREMENT

Long term unattended background noise measurements were undertaken by Northrop along eastern boundary of the project site at project approval stage as part of the Acoustic Assessment for Development Application, document reference (SY181777-AUR01) Revision D dated 07/01/2019). Results of background noise monitoring are presented in the table below.



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**Table 1 – Measured Background Noise Levels, dB(A) L<sub>90</sub>**

<b>LOCATION</b>	<b>PERIOD/TIME</b>	<b>BACKGROUND NOISE LEVEL dB(A) L<sub>90</sub></b>
Eastern boundary of project site	Day (7am to 6pm)	57

## 4 CONSENT CONDITIONS

### 4.1 DA CONDITION C16

Prior to the commencement of any construction work (including demolition), a **Construction Noise and Vibration Management Plan (CNVMP)** prepared by a suitably qualified person shall be submitted to the Certifier. The **CNVMP** shall (but not be limited to):

- (a) be prepared in accordance with the EPA's Interim Construction Noise Guideline;
- (b) identify nearby sensitive receivers and land uses;
- (c) identify the noise management levels for the project;
- (d) identify the construction methodology and equipment to be used and the key sources of noise and vibration;
- (e) details of all reasonable and feasible management and mitigation measures to be implemented to minimise construction noise and vibration;
- (f) be consistent with and incorporate all relevant recommendations and noise and vibration mitigation measures outlined in the Acoustic Report, prepared by Northrop, dated 7 January 2019;
- (g) ensure all potentially impacted sensitive receivers are informed by letterbox drops prior to the commencement of construction of the nature of works to be carried out, the expected noise levels and duration, as well as contact details for a construction community liaison officer; and
- (h) include a suitable proactive construction noise and vibration monitoring program which aims to ensure the construction noise and vibration criteria in this consent are not exceeded.

Prior to the commencement of works, a copy of the **CNVMP** must be submitted to Council and the Planning Secretary

### 4.2 CONDITION D8 TO D13

D8. The development must be constructed with the aim of achieving the construction noise management levels detailed in the Interim Construction Noise Guideline (Department of Environment and Climate Change, 2009). All feasible and reasonable noise mitigation measures shall be implemented and any activities that could exceed the construction noise management levels shall be identified and managed in accordance with the **CEMP** and **CNVMP**.

D9. If the noise from a construction activity is substantially tonal or impulsive in nature (as described in Chapter 4 of the NSW Industrial Noise Policy), 5 dB(A) must be added to the measured construction noise level when comparing the measured noise with the construction noise management levels.

D10. Heavy vehicles and oversized vehicles must not queue or idle on Gibbons Street, Margaret Street or William Lane outside of construction zones awaiting access to the site.

D11. The Applicant must schedule intra-day 'respite periods' for construction activities predicted to result in noise levels in excess of the "highly noise affected" levels, including the addition of 5 dB to the predicted levels for those activities identified in the Interim Construction Noise Guideline as being particularly annoying to noise sensitive receivers.

D12. Wherever practical, and where sensitive receivers may be affected, piling activities are completed using bored piles. If driven piles are required, they must only be installed where outlined in the **CEMP**.

D13. Vibration caused by construction at any residence or structure outside the subject site must be limited to:

- (a) for structural damage vibration to buildings (excluding heritage buildings), British Standard BS 7385 Part 2-1993 Evaluation and Measurement for Vibration in Buildings;
- (b) for structural damage vibration to heritage buildings, German Standard DIN 4150 Part 3 Structural Vibration in Buildings Effects on Structure;

(c) for human exposure to vibration, the evaluation criteria presented in British Standard BS 6472- Guide to Evaluate Human Exposure to Vibration in Buildings (1Hz to 80 Hz) for low probability of adverse comment; and

(d) these limits apply unless otherwise outlined in the **CEMP**

## 5 NOISE MANAGEMENT TRIGGER LEVEL

### 5.1.1 EPA Interim Construction Noise Guideline

The EPA Interim Construction Noise Guideline (ICNG) assessment requires:

- Determination of noise generation goals (based on ambient noise monitoring).
- Review of operational noise levels at nearby development.
- If necessary, recommendation of noise controls strategies in the event that compliance with noise emission goals is not possible.

EPA guidelines adopt differing strategies for noise control depending on the predicted noise level at the nearest residences:

- *“Noise affected” level.* Where construction noise is predicted to exceed the “noise effected” level at a nearby residence, the proponent should take reasonable/feasible work practices to ensure compliance with the “noise effected level”. For residential properties, the “noise effected” level occurs when construction noise exceeds ambient levels by more than  $10\text{dB(A)}_{L_{\text{eq}}(15\text{min})}$ .
- *“Highly noise affected level”.* Where noise emissions are such that nearby properties are “highly noise effected”, noise controls such as respite periods should be considered. For residential properties, the “highly noise effected” level occurs when construction noise exceeds  $75\text{dB(A)}_{L_{\text{eq}}(15\text{min})}$  at nearby residences.

A summary of relevant construction noise management trigger levels is presented below.

**Table 2 – Noise Management Trigger Levels - Residential**

<b>Location</b>	<b>“Noise Affected” Level - <math>\text{dB(A)}_{L_{\text{eq}}(15\text{min})}</math></b>	<b>“Highly Noise Affected” Level - <math>\text{dB(A)}_{L_{\text{eq}}(15\text{min})}</math></b>
Surrounding Residential Receivers	67	75

If noise levels exceed the criteria identified in the tables above, reasonable and feasible noise management techniques will be reviewed.

## 6 VIBRATION LIMIT

As required by consent conditions vibration caused by construction at any residence or structure outside the subject site will be assessed with reference to:

- For structural damage vibration, German Standard DIN 4150-3 *Structural Vibration: Effects of Vibration on Structures*; and
- For human exposure to vibration, the acceptable vibration values set out in the Environmental Noise Management Assessing Vibration: a technical guideline (DEC, 2006).

Vibration impact to rail tunnel has been addressed in a separate report and not repeat it in this section.

### 6.1 FOR RESIDENTIAL RECEIVERS

#### 6.1.1 Structure Borne Vibrations (Building Damage Criteria)

German Standard DIN 4150-3 (1999-02) provides vibration velocity guideline levels for use in evaluating the effects of vibration on structures. The criteria presented in DIN 4150-3 (1999-02) are presented in Table 4.

It is noted that the peak velocity is the value of the maximum of any of the three orthogonal component particle velocities as measured at the foundation, and the maximum levels measured in the x- and y- horizontal directions in the plane of the floor of the uppermost storey.

**Table 3 – DIN 4150-3 (1999-02) Safe Limits for Building Vibration**

TYPE OF STRUCTURE	PEAK PARTICLE VELOCITY (mms <sup>-1</sup> )			
	At Foundation at a Frequency of			Plane of Floor of Uppermost Storey
	< 10Hz	10Hz to 50Hz	50Hz to 100Hz	All Frequencies
1 Buildings used in commercial purposes, industrial buildings and buildings of similar design	20	20 to 40	40 to 50	40
2 Dwellings and buildings of similar design and/or use	5	5 to 15	15 to 20	15
3 Structures that because of their particular sensitivity to vibration, do not correspond to those listed in Lines 1 or 2 and have intrinsic value (e.g. buildings that are under a preservation order)	3	3 to 8	8 to 10	8

The surrounding residential building would be considered a Type 2 structure.

### 6.1.2 Assessing Amenity

The NSW EPA document "Assessing Vibration: A Technical Guideline" provides procedures for assessing tactile vibration and regenerated noise within potentially affected buildings and is used in the assessment of vibration impact on amenity.

Relevant criteria are presented below.

**Table 4 – EPA Recommended Vibration Criteria**

		RMS acceleration (m/s <sup>2</sup> )		RMS velocity (mm/s)		Peak velocity (mm/s)	
Place	Time	Preferred	Maximum	Preferred	Maximum	Preferred	Maximum
Continuous Vibration							
Residences	Daytime	0.01	0.02	0.2	0.4	0.28	0.56
Offices		0.02	0.04	0.4	0.8	0.56	1.1
Workshops		0.04	0.08	0.8	1.6	1.1	2.2
Impulsive Vibration							
Residences	Daytime	0.3	0.6	6.0	12.0	8.6	17.0
Offices		0.64	1.28	13.0	26.0	18.0	36.0
Workshops		0.64	1.28	13.0	26.0	18.0	36.0

## 7 ACTIVITIES TO BE CONDUCTED AND THE ASSOCIATED NOISE SOURCES

Typically, the most significant sources of noise or vibration generated during a construction project will be demolition, excavation, civil works (compaction, asphaltting) and piling.

We note that demolition work and site establishment has largely been completed as part of an early works package and is not part of this assessment.

**Table 5 - Sound Power Levels of the Proposed Equipment**

<b>Equipment /Process</b>	<b>Sound Power Level dB(A)*</b>
Excavator with hydraulic hammering	120
CFA Bored Piling Rig	110
Concrete Pump	105
Mobile Crane	100
Trucks	100
Electric Tower Crane	95
Powered Hand Tools	95

The noise levels presented in the above table are derived from the following sources, namely:

- Table A1 of Australian Standard 2436-2010.
- Data held by this office from other similar studies.

\*Noise levels take into account correction factors (for tonality, intermittency where necessary).

## 8 NOISE EMISISON PREDICTION

Noise emissions from the demolition/excavation/construction of the project site have been predicted at the receiver locations using SoundPlan™ modelling software implementing the ISO 9613-2:1996 "Acoustics – Attenuation of Sound During Propagation Outdoors – Part 2: General Method of Calculation" noise propagation Standard. Sound Power Level data used in the SoundPlan™ modelling is based on Table 5 of this report. The following weather conditions are included in the modelling based on the requirements of ISO9613:

- Wind speed of between 1m/s and 5m/s.
- 10 degrees with 70% relative humidity.

SoundPlan™ modelling has been carried out based on the following assumptions:

### **Demolition of Ground and Basement/ Excavation:**

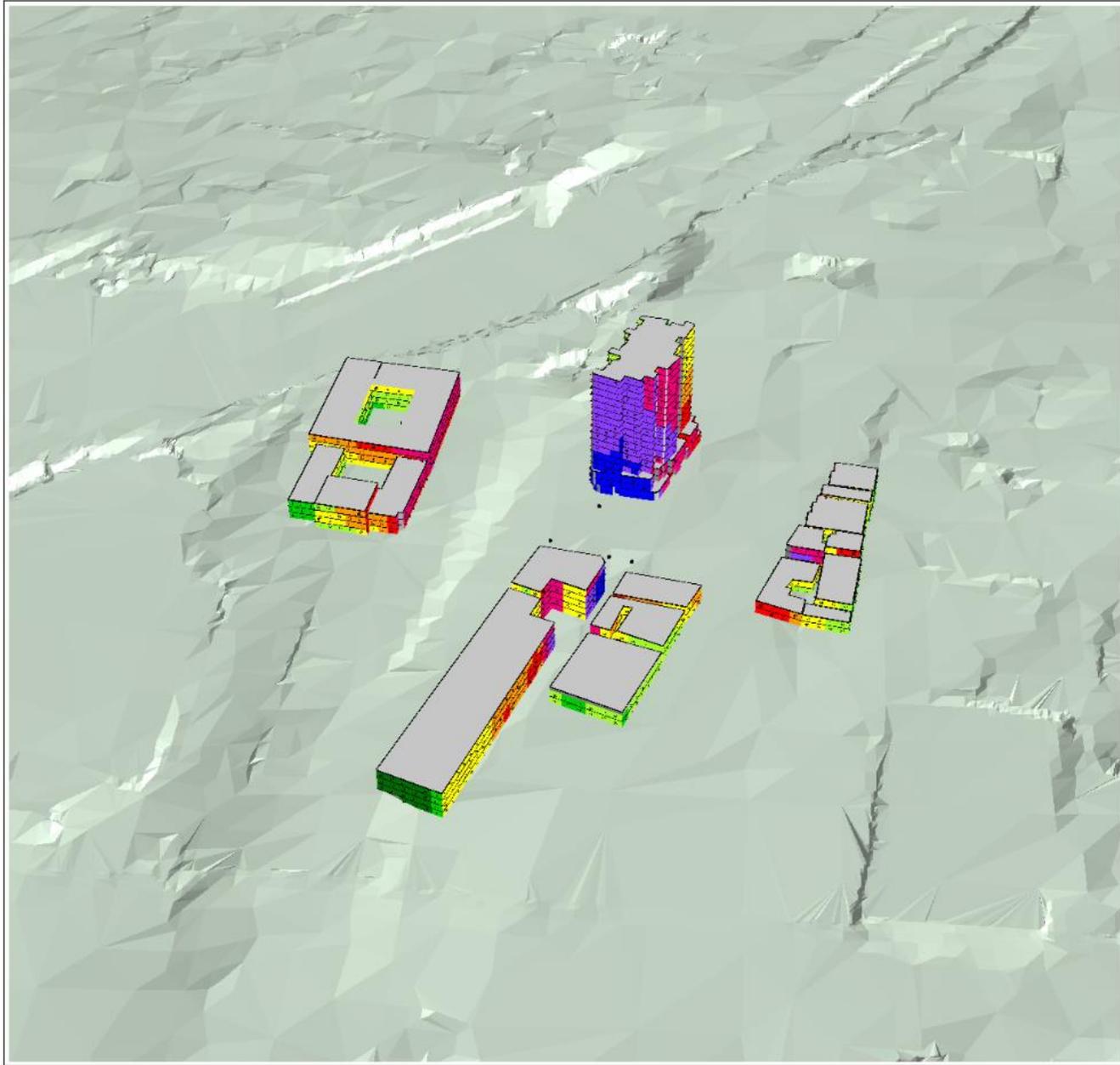
- 1 x excavator with hydraulic hammer, noise source is located at 1.0m above ground.
- 2 x CFA Piling at 4.0m above ground.
- Semi-Trailer at 1.5m above ground.

**Construction:**

- Concrete truck, noise source is located at 1.0m above ground.
- Concrete pump, noise source is located at 1.0m above ground.
- 3 x electric hand tool, noise source is located at 1.0m above ground.
- Electric crane, noise source is located at 10m above ground.
- Semi-trailer truck, noise source is located at 1.5m above ground.

Detailed SoundPlan modelling results have been graphed and presented below:

## 8.1 DEMOLITION /EXCAVATION STAGE



**13-23 Gibbons Street Redfern**

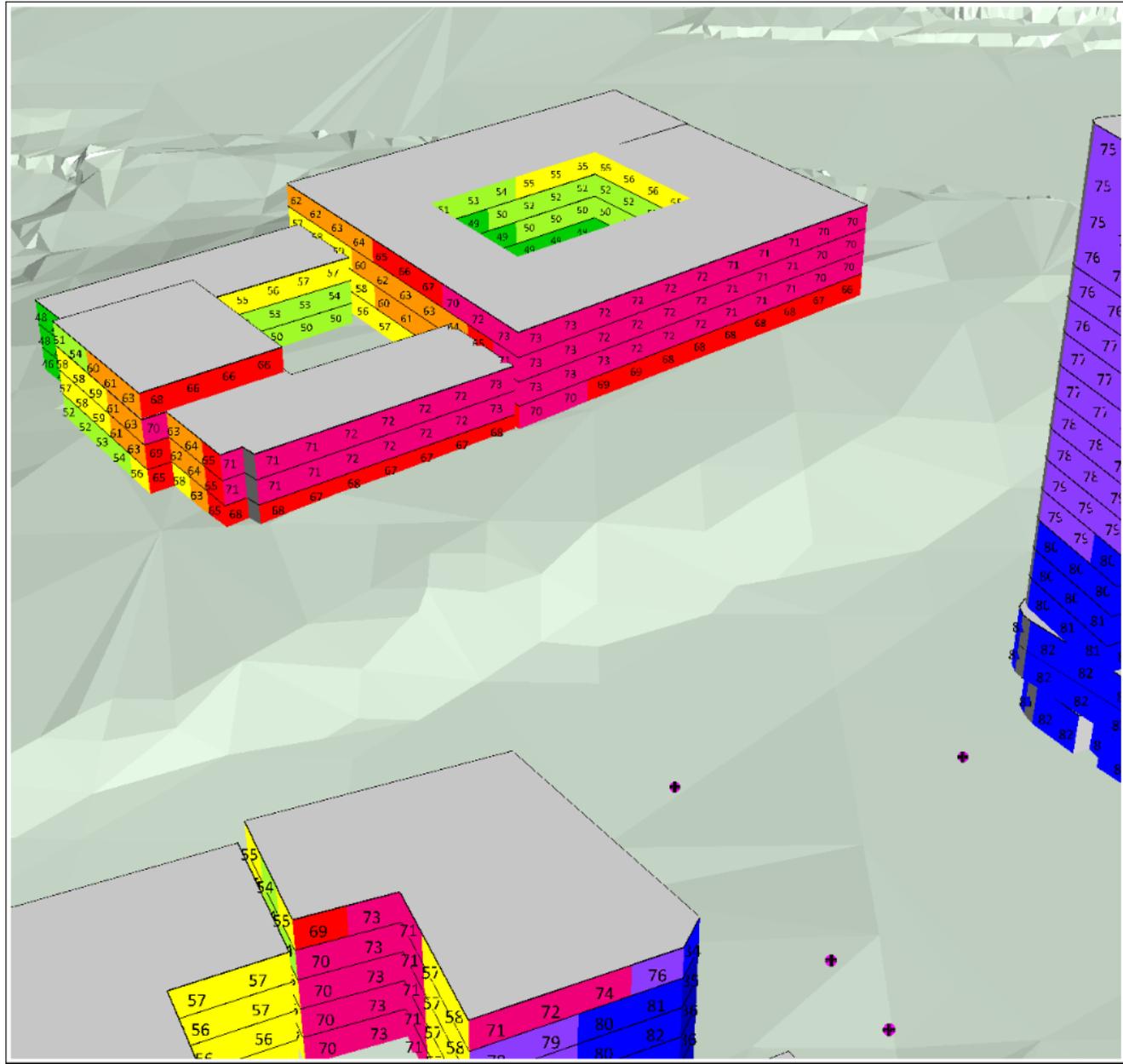
Predicted Demolition  
and Excavation Noise Levels

Prepared by: OB  
Date: 6/04/2021

**Noise Level  
L<sub>Aeq</sub>  
in dB(A)**

Green	< 45
Light Green	45 - 50
Yellow	50 - 55
Orange	55 - 60
Red	60 - 65
Pink	65 - 70
Purple	70 - 75
Blue	75 - 80
Dark Blue	80 - 85
Black	85 - 90
Dark Grey	90 - 95
Black	>= 95



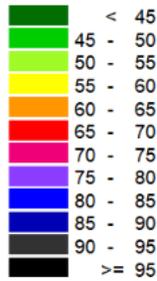


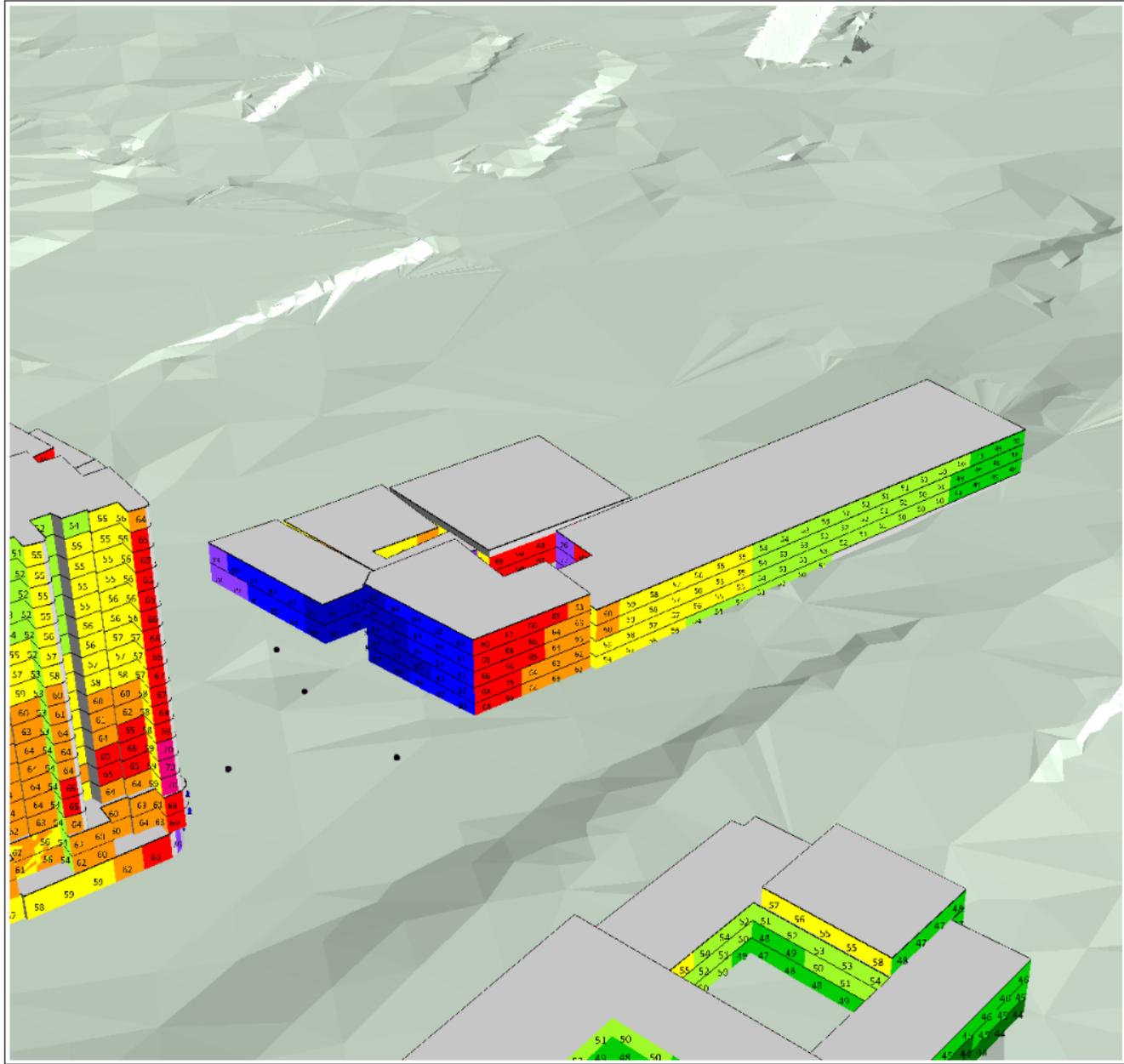
**13-23 Gibbons Street Redfern**

Predicted Demolition and Excavation Noise Levels

Prepared by: OB  
Date: 6/04/2021

**Noise Level LAeq in dB(A)**





**13-23 Gibbons Street Redfern**

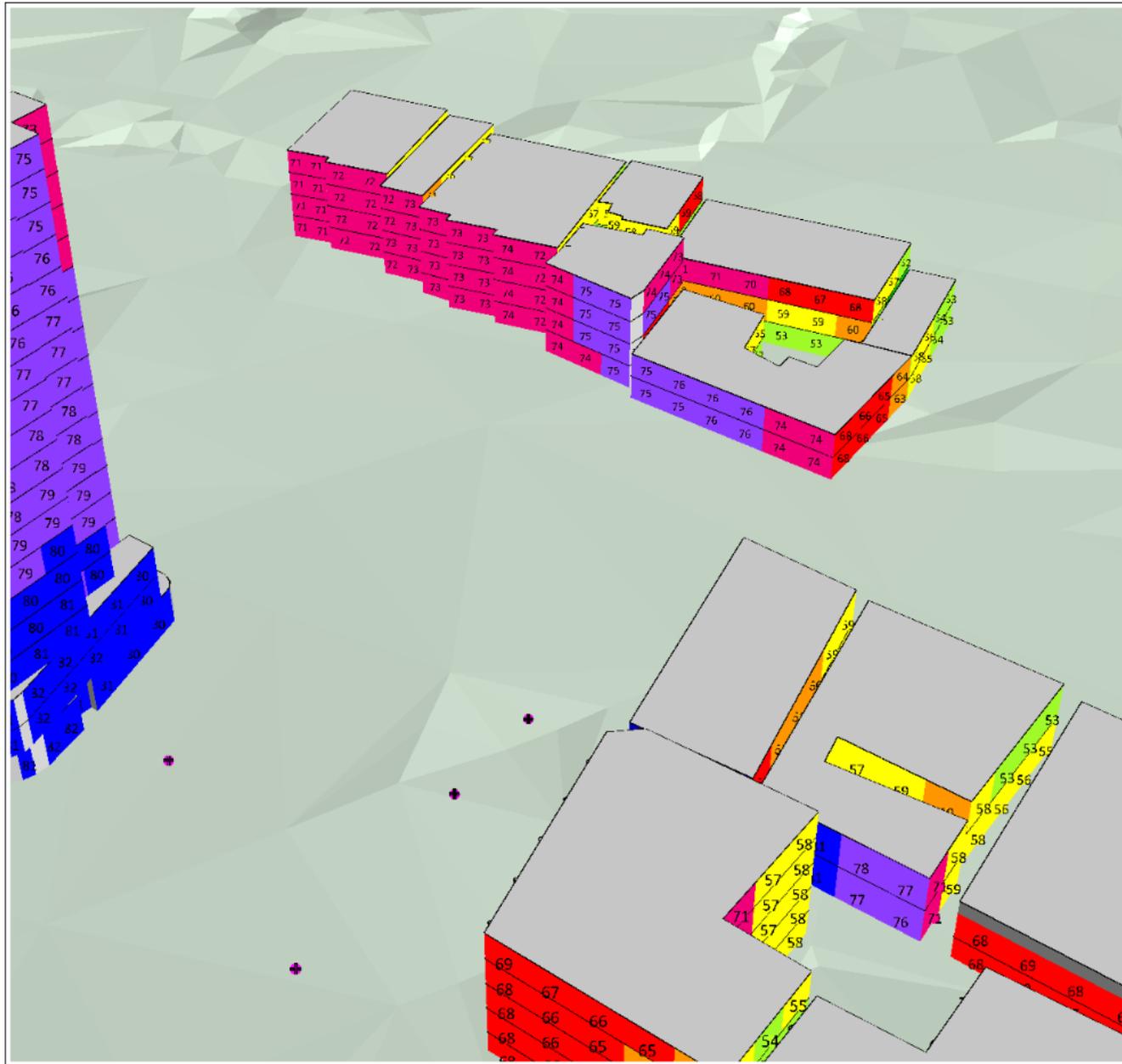
Predicted Demolition  
and Excavation Noise Levels

Prepared by: OB  
Date: 6/04/2021

**Noise Level  
L<sub>Aeq</sub>  
in dB(A)**

Green	< 45
Light Green	45 - 50
Yellow	50 - 55
Orange	55 - 60
Red	60 - 65
Pink	65 - 70
Purple	70 - 75
Blue	75 - 80
Dark Blue	80 - 85
Black	85 - 90
Dark Grey	90 - 95
Black	>= 95



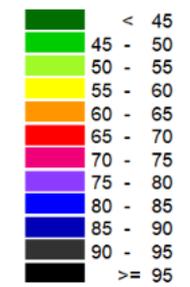


**13-23 Gibbons Street Redfern**

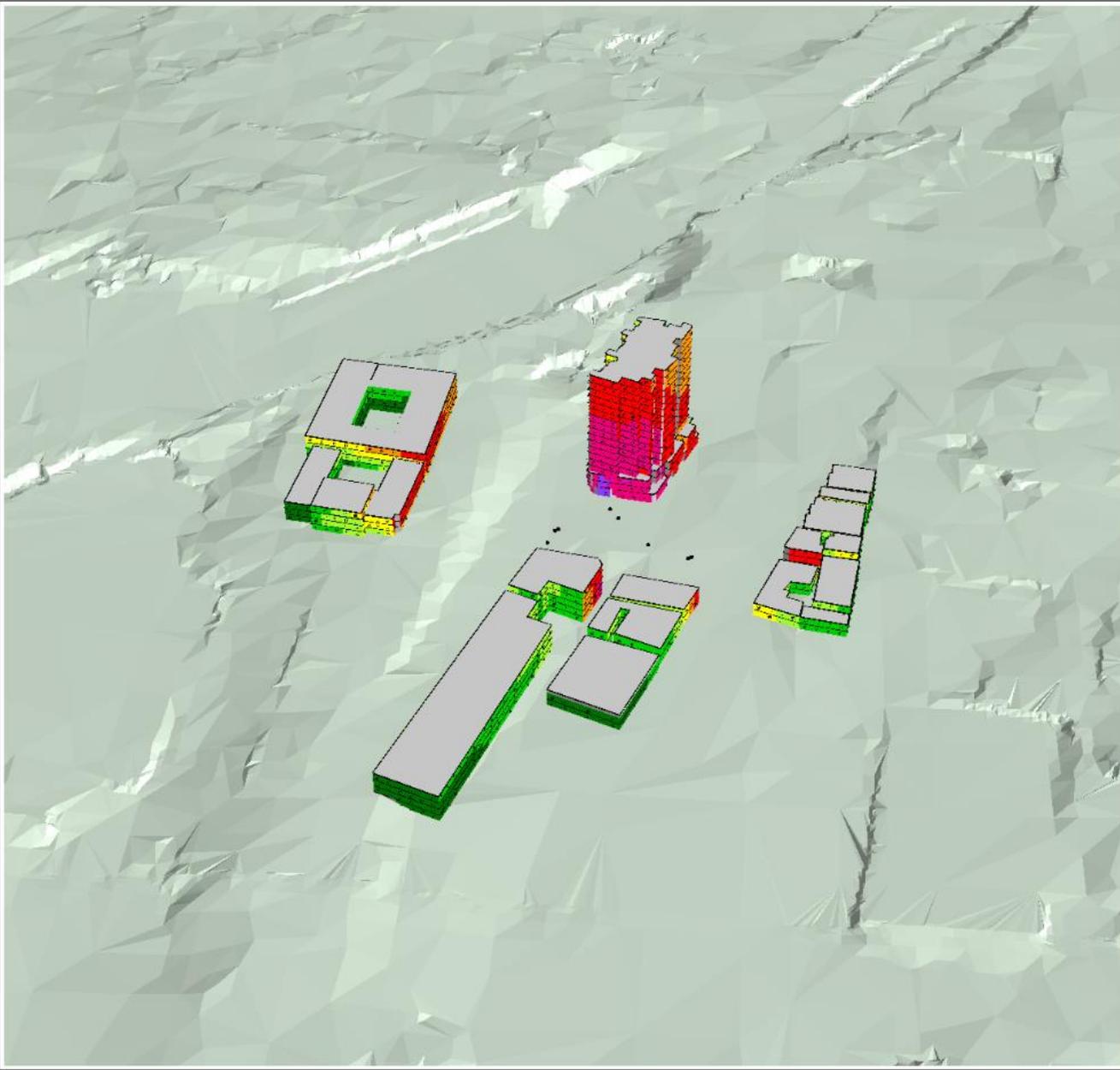
Predicted Demolition and Excavation Noise Levels

Prepared by: OB  
Date: 6/04/2021

**Noise Level  
LAeq  
in dB(A)**



## 8.2 CONSTRUCTION STAGE



**13-23 Gibbons Street Redfern**

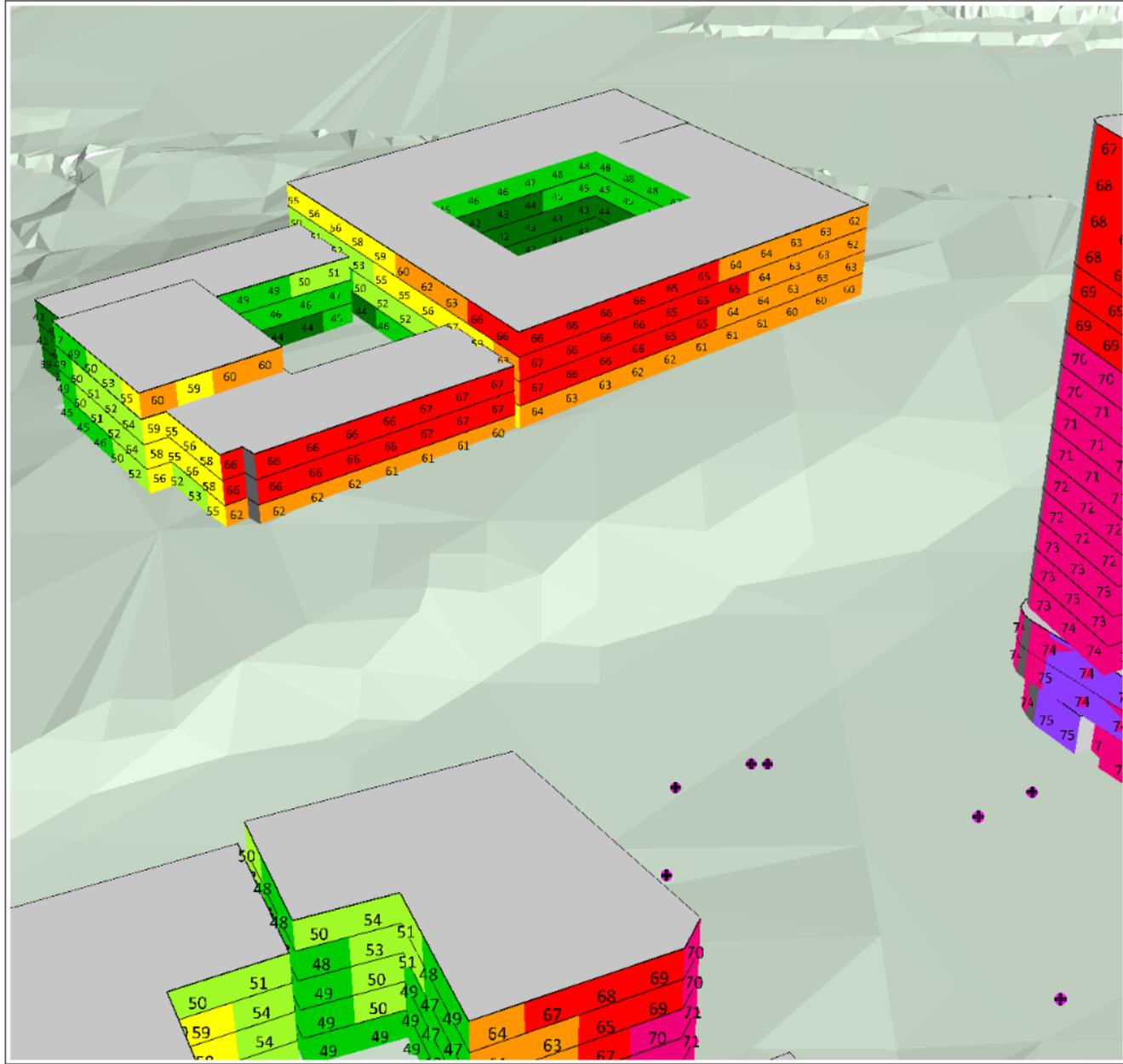
Predicted Construction Noise Levels

Prepared by: OB  
Date: 6/04/2021

**Noise Level  
LAeq  
in dB(A)**

Green	< 45
Light Green	45 - 50
Yellow-Green	50 - 55
Yellow	55 - 60
Orange	60 - 65
Red	65 - 70
Pink	70 - 75
Purple	75 - 80
Blue	80 - 85
Dark Blue	85 - 90
Black	90 - 95
White	≥ 95



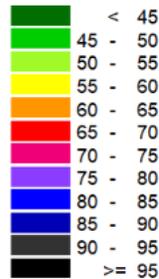


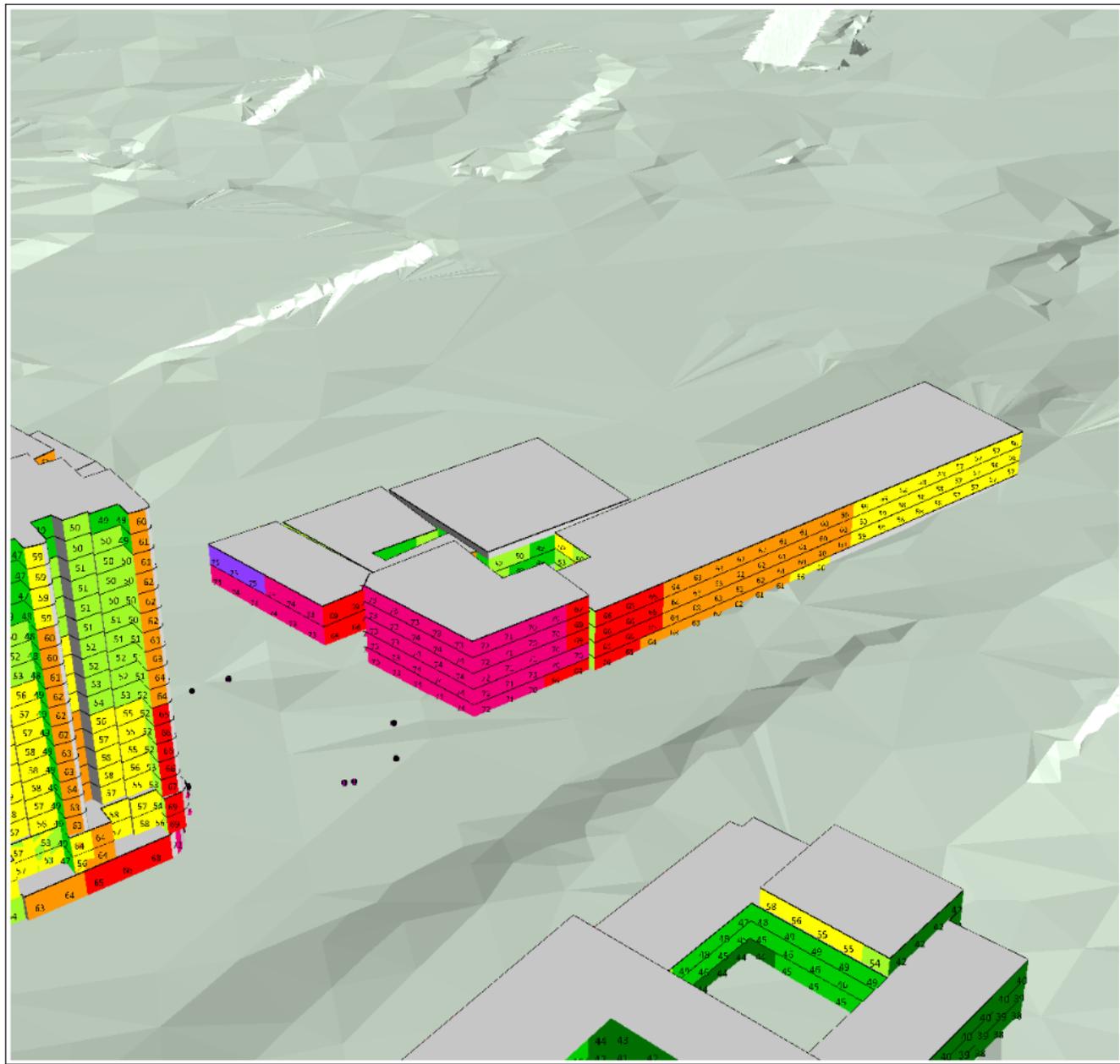
**13-23 Gibbons Street Redfern**

Predicted Construction Noise Levels

Prepared by: OB  
Date: 6/04/2021

**Noise Level  
LAeq  
in dB(A)**





**13-23 Gibbons Street Redfern**

Predicted Construction Noise Levels

Prepared by: OB  
Date: 6/04/2021

**Noise Level  
LAeq  
in dB(A)**

- < 45
- 45 - 50
- 50 - 55
- 55 - 60
- 60 - 65
- 65 - 70
- 70 - 75
- 75 - 80
- 80 - 85
- 85 - 90
- 90 - 95
- >= 95

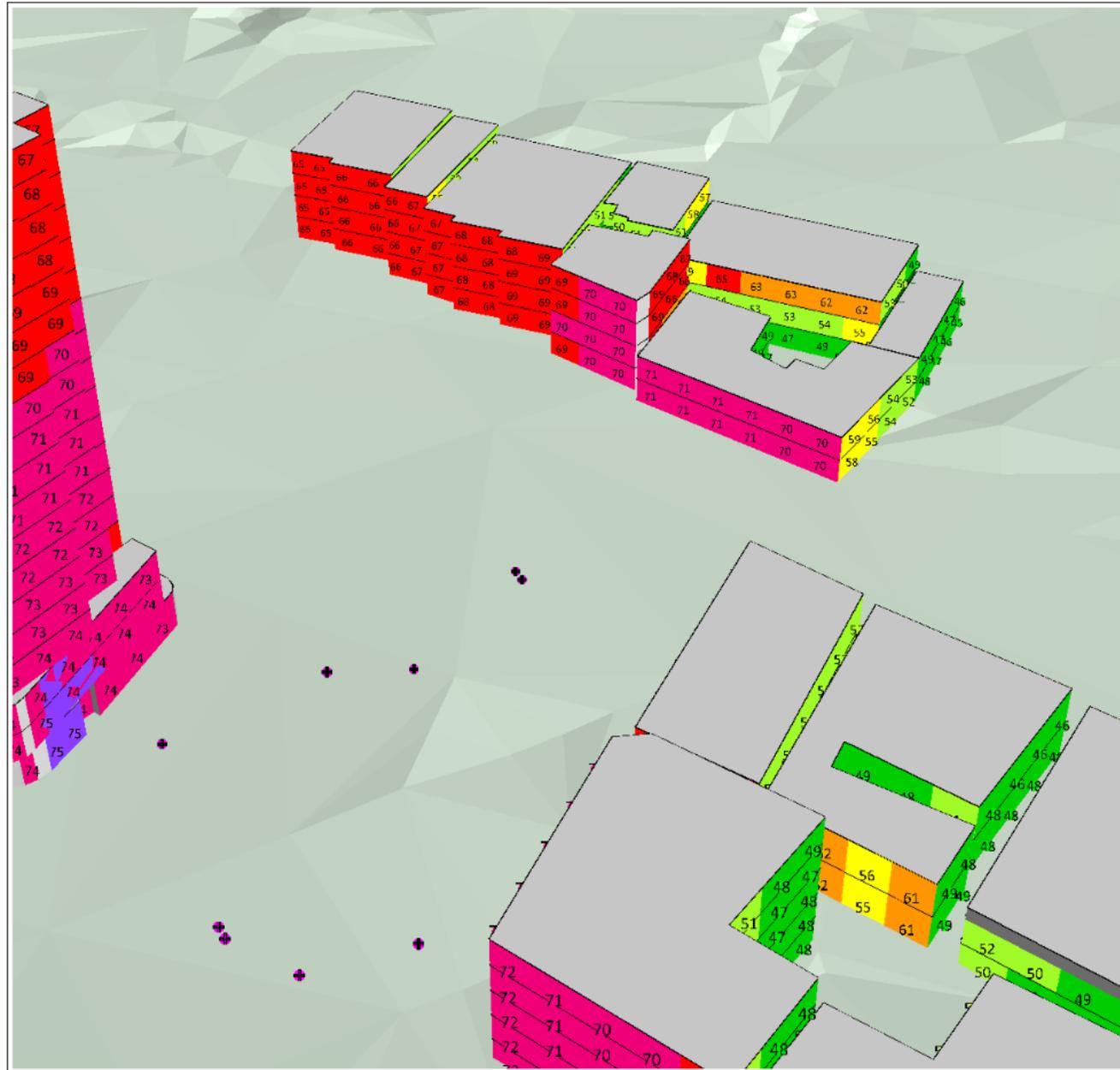
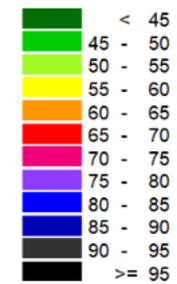


**13-23 Gibbons Street Redfern**

Predicted Construction Noise Levels

Prepared by: OB  
Date: 6/04/2021

**Noise Level  
LAeq  
in dB(A)**



### 8.3 SUMMARY OF NOISE PREDICTION

**Table 5 – Predicted Noise Levels**

Receiver	Predicted Noise Level during Demolition /Excavation Stage	Predicted Noise Level during Construction Stage dB(A)Leq, 15min	Noise Management Trigger Levels dB(A)Leq, 15min	Highly Affected Noise Level dB(A)Leq	Findings
R1	Receiver Building is Not Occupied	≤ 75 dB(A)	67	75	Noise levels are generally lower than Highly Affected Noise Level
R2	≤ 73 dB(A)	≤ 67 dB(A)	67	75	Noise levels are all lower than Highly Affected Noise Level
R3	≤ 86 dB(A)	≤ 83 dB(A)	67	75	Noise levels are exceed the highly affected noise levels when working close to southern boundary
R4	≤ 77 dB(A)	≤ 71 dB(A)	67	75	Noise levels are generally lower than Highly Affected Noise Level except hammering close to eastern boundary

### 8.4 DISCUSSION – NOISE

- Receiver 1 is under construction and it wouldn't be occupied during excavation /demolition stage. The noise during construction stage is generally lower than the highly affected noise levels to this receiver.
- Receiver 2- the noise emission is predicted exceed the noise management trigger level for short time periods but they are all lower than the highly affected noise levels.
- Receiver 3- this receiver is close to the project site and the predicted noise levels exceed the highly affected noise levels by EPA ICNG when machines work close to southern boundary.
- Receiver 4- noise emission from project site is generally lower than the highly affected noise levels except hydraulic hammer located close to the eastern boundary.

As the hydraulic hammering used by project site is for short time period and will not result significant noise exceedance.

## 8.5 DISCUSSION - VIBRATION

Typically, excavation of slab is the activities with the greatest potential for generation of vibration. As the magnitude of vibration activities is not possible to be predicted the vibration monitoring system is recommended during the demolition of GF/Basement Level.

## 8.6 RECOMMENDATIONS

In light of the above, we recommend:

- The scheduling of construction activities should be undertaken to reasonably minimise noise impacts to all surrounding land uses.
  - In this regard, highly noise intrusive works including piling, use of excavators and concrete pours should not take place prior to 8am where noise levels at surrounding receivers would exceed the levels in Table 2.
  - Where works are expected which may exceed the highly noise affected management level, respite periods are to be provided. At this stage, it may only be expected that excavation/concrete pouring activities could marginally exceed this noise level at the residential property immediately bounding site to the south.
- Community consultation/notification - Notification (leaflet or similar) of nearby residents is recommended, detailing the duration of excavation works and schedule of planned concrete pours. Although exceedances of the noise management levels is expected at surrounding receivers, the relatively short duration of excavation and structural works would not require any further mitigation measures (such site hoardings to the southern boundaries of site).
- Materials handling/vehicles:
  - Trucks and bobcats to use a non-tonal reversing beacon (subject to OH&S requirements) to minimise potential disturbance of neighbours.
  - Avoid careless dropping of construction materials into empty trucks.
  - Trucks, trailers and concrete trucks (if feasible) should turn off their engines during idling to reduce noise impacts (unless truck ignition needs to remain on during concrete pumping).
- Vibration monitoring is recommended on the southern and northern boundary of site, .
- Complaints handling:
  - An after hours contact number is displayed outside of the building site, so that in the event that surrounding development believes that a noise breach is occurring, they may contact the site.
  - In the event of complaint, the procedures outlined in Section 11 are adopted. Additional methods of control of construction noise and additional noise control measures which may be adopted by the site are detailed in Sections 9 & 10.

## **8.7 VIBRATION MONITORING**

### **8.7.1 Vibration Monitoring Equipment**

Vibration monitoring is to be conducted using Texcel ETM type monitors with externally mounted tri-axial geophones. The geophones will be located as close as practicably possible to the location of the sensitive structure. It is noted that the location of the monitor may need to be placed within the site in question due to security risks.

The monitors are to be set to send an SMS message when alert levels have been exceeded at the location of the geophone.

### **8.7.2 Vibration Monitoring Locations**

Vibration monitoring is required during the GF/Basement demolition and excavation stage of the project at the following locations:

- Northern boundary of site – adjacent R1 residential receiver.
- Southern boundary of site

In the event that ongoing construction activities are considerably below the relevant vibration levels, it is recommended that vibration monitoring requirements for the project be reviewed with the relevant stakeholders.

### **8.7.3 Vibration Monitoring Results**

The ETM vibration monitors can be downloaded remotely to actively review all monitoring data recorded at the monitoring location, including any vibration events found to exceed the trigger levels nominated in Section 6.

In the event multiple events exceeding the nominated trigger levels are recorded, all data recorded by the monitor is to be reviewed and forwarded to a nominated representative of the building contractor. It is proposed that reports are provided regular intervals, with any exceedance in the nominated vibration criteria documented.

### **8.7.4 Vibration Monitoring Alerts**

The following personnel will receive alarms in the event that the nominated vibration trigger levels are exceeded at the site:

1. Acoustic consultant/advisor;
2. Excavation site foreman;
3. The superintendent and any other representative nominated by the project superintendent.

### 8.7.5 Additional Recommendations

Should ongoing measurements of excessive vibration criteria occur (or in the event trigger levels are exceeded) immediate measures shall be undertaken to investigate the cause of the exceedance and identify the required changes to work practices.

In the case of exceedances of the vibration limits all vibration intensive equipment shall cease until the exceedance is investigated.

The effectiveness of any changes shall be verified before continuing. Documentation and training of site staff shall occur to ensure the practices that produced the exceedances are not repeated.

All repeated exceedances of the trigger level should be fully investigated and reported to management. The investigation of a complaint shall involve where applicable:

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

Where an activity is found to be emitting excessive vibration, the cause is to be rectified as soon as possible.

### 8.7.6 Contingency Plans

The following course of action is recommended to address situations where vibration exceeding recommended levels are recorded at the site.

#### **Selection of Alternate Equipment or Process**

Where an activity is found to generate excessive vibration levels, it may be possible to select an alternative approach or appliance. For example; the use of a hydraulic hammer on certain areas of the site may potentially generate high levels of vibration. By replacing this activity with the use of pneumatic hammers, bulldozers ripping and/or milling machines; the result will be a reduction of vibration at the vibration sensitive rail line.

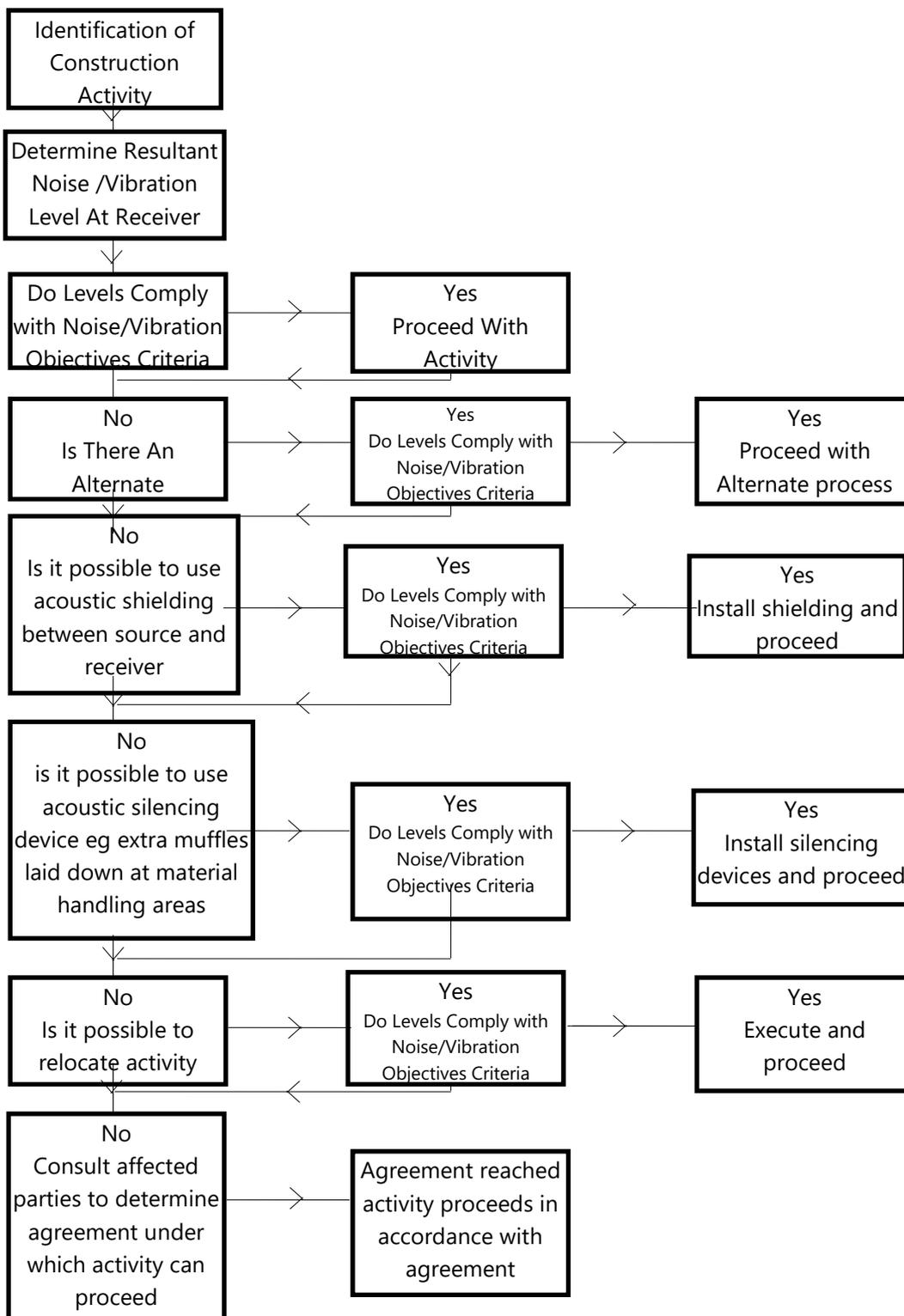
The use of saw cutting equipment to break the ridged connection between areas of rock being excavated and vibration sensitive structure is also an effective way to significantly reduce the transfer of vibration.

#### **Additional Vibration Monitoring**

Additional attended vibration monitoring measurements can be undertaken to determine the effectiveness of measures which have been implemented. The results of monitoring can be used to devise further control measures and identify vibration generating activity.

## 9 CONTROL OF CONSTRUCTION NOISE AND VIBRATION – PROCEDURAL STEPS

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



## **10 ADDITIONAL NOISE AND VIBRATION CONTROL METHODS**

In the event of complaints, there are a number of noise mitigation strategies available which can be considered.

The determination of appropriate noise control measures will be dependent on the particular activities and construction appliances. This section provides an outline of available methods.

### **10.1 SELECTION OF ALTERNATE APPLIANCE OR PROCESS**

Where a particular activity or construction appliance is found to generate excessive noise levels, it may be possible to select an alternative approach or appliance. For example; the use of a hydraulic hammer on certain areas of the site may potentially generate high levels of noise. Undertaking this activity using bulldozers, ripping and/or milling machines will result in lower noise levels.

### **10.2 ACOUSTIC BARRIER**

Given the position of adjacent development, it is unlikely that noise screens will provide significant acoustic benefit for commercial or residential receivers, but will provide noticeable improvement for those on ground level.

The placement of barriers at the source is generally only effective for static plant. Equipment which is on the move or working in rough or undulating terrain cannot be effectively attenuated by placing barriers at the source.

Barriers can also be placed between the source and the receiver.

The degree of noise reduction provided by barriers is dependent on the amount by which line of sight can be blocked by the barrier. If the receiver is totally shielded from the noise source reductions of up to 15dB(A) can be effected. Where only partial obstruction of line of sight occurs, noise reductions of 5 to 8dB(A) may be achieved. Where no line of sight is obstructed by the barrier, generally no noise reduction will occur.

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

### **10.3 MATERIAL HANDLING**

The installation of rubber matting over material handling areas can reduce the sound of impacts due to material being dropped by up to 20dB(A).

### **10.4 TREATMENT OF SPECIFIC EQUIPMENT**

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

### **10.5 ESTABLISHMENT OF SITE PRACTICES**

This involves the formulation of work practices to reduce noise generation. A more detailed management plan will be developed for this project in accordance to the construction methodology outlining work procedures and methods for minimising noise.

### **10.6 COMBINATION OF METHODS**

In some cases it may be necessary that two or more control measures be implemented to minimise noise.

## 11 DEALING WITH COMPLAINTS

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

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

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

A permanent register of complaints should be held.

## 12 CONCLUSION

A noise and vibration assessment has been undertaken of the proposed 18 storey student accommodation at 13-23 Gibbons Street, Redfern.

- Noise impact is generally lower than the highly affected noise levels except the high noise activities such as hydraulic hammering located close to the receivers. The hammering is only for a short time period under this project.
- Vibration monitoring system is recommended to be located along northern and southern boundary during demolition of GF/Basement and excavation to safeguard the neighbouring buildings.

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

Yours faithfully,



Acoustic Logic Pty Ltd  
Alex Washer



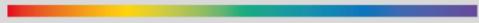
30/03/21

**13-23 Gibbons St Redfern  
Q1235**

**CONSTRUCTION WASTE  
MANAGEMENT PLAN**

Date: 30/03/21



**RICHARD CROOKES**  
  
**CONSTRUCTIONS**

Delivering  
Certainty

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# 1 Introduction

This Construction Waste Management Plan has been prepared for Project Q1235 – 13-23 Gibbons St, Redfern

## 1.1 Purpose of the Plan

Richard Crookes Constructions (RCC) recognises the importance of promoting building design and construction techniques which minimise waste and provides an efficient recycle procedure for all waste material.

The purpose of this plan is to outline processes for:

- Objectives and Targets;
- Operational Controls;
- Recording, Monitoring Corrective Action; and,
- Reporting.

The aim of this Plan is to ensure that all waste resulting from construction activities is managed in an effective and environmentally aware manner, specifically:

- To minimise the generation of waste to landfill
- To maximise waste avoidance and reuse of materials on site
- To ensure that an efficient recycling procedure is applied to waste materials
- To make employees and subcontractors aware of their waste management responsibilities

Preparation of this Construction Waste Management Plan has been undertaken with reference to the relevant City of Sydney requirements, as well as industry best practices.

In particular, compliance with The National Occupational Health and Safety Commission National Standard for Construction Work [NOHSC: 1016:2005] and other relevant national standards pertaining to the construction process is required under the Environmental Planning and Assessment Regulation 2000. Section 143 of the Protection of the Environment Operations Act 1997 requires waste to be transported to a place that can lawfully accept it. It will be the responsibility of the site's developer to ensure that all contractors:

- Provide details of their operating licence to transport waste
- Clearly specify where all wastes are to be transported
- Confirm the capacity of the nominated facilities to receive/manage the waste;
- Retain construction waste/recycling dockets on site to confirm which authorised waste/recycling facilities received the material for recycling and disposal; and
- Provide reports on management aspects (types, quantities and disposal pathways).

## 1.2 Site Location

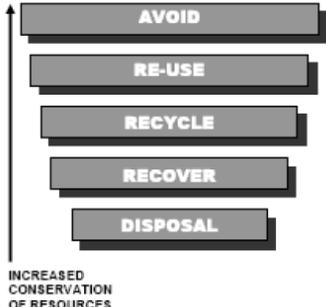


## 2 RCC Objectives and Targets

RCC’s overall objective is to achieve a minimum of (80%) for recycled waste (by weight) generated by the Project.

The Operational Controls implemented to achieve this include:

Operational Controls		Method of Recording
General	Identify any hazardous and toxic materials (e.g. asbestos) and comply with WorkCover requirements. Develop project Waste Management Plan Try not to over-order on materials (initial waste avoidance). Communicate housekeeping & litter reduction rules with subcontractors during contract letting and site inductions.	Hazardous substance survey Waste Records Inductions

Operational Controls		Method of Recording
Implement the waste hierarchy – avoid, reuse, recycle and lastly disposal to landfill.		
<p><b>Waste Minimisation Hierarchy</b></p>  <p>The diagram shows a vertical stack of five horizontal bars, each representing a level of the waste hierarchy. From top to bottom, the bars are labeled: AVOID, RE-USE, RECYCLE, RECOVER, and DISPOSAL. To the left of the bars is a vertical arrow pointing upwards, with the text 'INCREASED CONSERVATION OF RESOURCES' written vertically next to it.</p>		
Demolition Plan	<p>Demolition disposal for concrete, bricks, plasterboard, timber, tiles, PVC, metal, paper &amp; cardboard, glass, appliance, carpet, vegetation, soil – to Recycled Facility</p> <p>Asbestos ACM to be removed by a licenced contractor (up to 30 June 2007 &gt;200m<sup>2</sup>, 1 July 2007 &gt; 50m<sup>3</sup>, from 1 Jan 2008 &gt; 10m<sup>2</sup> of bonded asbestos) &amp; managed in accordance with WHS Act &amp; Regulation 2012 and EPA requirements.</p> <p>Lead paints &amp; dusts will be removed using we sanding and vacuum techniques (cleaners which comply with AS/NZS 3544 Industrial vacuum cleaners for particulates hazardous to health). Waste will be contained within sealed plastic bags for disposal. Clean up with a wet mop.</p>	Monthly Waste Report Disposal dockets
Consider recycling reprocessing	<p>Where practicable:</p> <ul style="list-style-type: none"> <li>Timber for reuse or mulching</li> <li>Aluminium wall frames – reprocess</li> <li>Plasterboard – recycled or use as soil improvers</li> <li>Steel – reprocess</li> <li>Toughened Glass – reprocess</li> <li>Carpet &amp; underlay – reprocess &amp; mulch mats</li> </ul>	Monthly Waste Report
Product Stewardship	Investigate returning waste to the supplier? (e.g. plasterboard, packaging)	Contract/ Supply agreem'ts
Putrescibles Waste	Putrescible waste is to be contained in bins and collected by licenced contractor for disposal	Invoices
Contaminated Soils	Contaminated soils will be excavated and classified in accordance with EPA guidelines "Environmental Guidelines: Assessment, Classification & Management of Liquid & Non-Liquid Wastes" (June 2004) – <a href="http://www.environment.nsw.gov.au/waste/envguidlns/index.htm">www.environment.nsw.gov.au/waste/envguidlns/index.htm</a> .	RAP Reports Test Reports Waste Records Disposal Dockets
Virgin Excavated Natural Materials (VEMN)	<p>VENM excavated from site with suitable compaction qualities will be beneficially re-used on other construction sites whenever possible. Disposal to landfill will be the last option.</p> <p>No fill will be received on site that does not comply with EPA guidelines i.e. Contamination limits appropriate to the development.</p>	Test Reports Waste Records Disposal Dockets
Acid Sulphate Soils (ASS)	Potential for acid sulphate soils ASS will be assessed based on the sites proximity to low-lying coastal areas e.g.	ASSMP Test Reports

Operational Controls		Method of Recording
	coastal plains, wetlands and mangroves where the surface elevation is less than five metres above mean sea level. If suspected, consultant to prepare Acid Sulphate Soil Management Plan (ASSMP). Excavation and neutralisation to be supervised by consultants as per ASSMP.	Product delivery (lime) dockets Site Plans
Monitoring	Bin(s) with heavy lids shall be provided for putrescibles waste Daily inspections shall be carried out to ensure the worksite is litter free.	Env. Inspection Checklist
Reporting	Waste reports/management plans indicate estimated waste min (80%) of accumulated totals for the project.	Monthly Reports
Non-Compliance	Generation of water pollution and/or air pollution from onsite waste storage Inappropriate/illegal off-site disposal of waste materials Asbestos & CCA treated timber contamination of recoverable waste stream thereby requiring landfill disposal.	Env. Inspection Checklist Incident Report, NCRS
Emergency Response	No specific requirements associated with waste management Scenarios such as spill, fires, explosions covered by the project emergency response plans.	Incident Report

## 2.1 Estimated Waste Quantities: Use This to Estimate the Waste Quantities

Source Blacktown Council Waste Not Development Control Plan (internet, [http://www.blacktown.nsw.gov.au/planning-anddevelopment/waste-not-overview/waste-not-overview\\_home.cfm](http://www.blacktown.nsw.gov.au/planning-anddevelopment/waste-not-overview/waste-not-overview_home.cfm), 2007).

Block of Flats (per 1000 m2)			
Waste Type	Conversion Factor	Demolition (t)	Construction (t)
Excavated Material	1.8 t/m3	na	na
Concrete (incl. Blocks)	2.4 t/m3	813	813
Bricks	1.0 t/m3	655	655
Timber Gyprock	Timber 0.5 t/m3 <sup>3</sup> Gyprock: 0.75 t/m3	22	22
Steel	2-4 t/m3	9	9
Roof Tiles	0.75 t/m3	33	33
Other – vegetation, cardboard, plastic	0.05 t/m3	26	26

Factory (per 1000 m2)			
Waste Type	Conversion (t to m3)	Demolition (t)	Construction (t)
Excavated Material	1.8 t/m3	na	na
Concrete	2.4 t/m3	448	0.25
Bricks	1.0 t/m3	205	2.10
Timber Gyprock	Timber 0.5 t/m3 <sup>3</sup> Gyprock: 0.75 t/m3	4	1.65
Steel	2-4 t/m3	23	0.45
Roof Tiles	0.75 t/m3	na	4.80
Other	0.05 t/m3	?	0.60

Office Block (per 1000 m2)			
Waste Type	Conversion (t to m3)	Demolition (t)	Construction (t)
Excavated Material	1.8 t/m3	7,410	5.10
Concrete	2.4 t/m3	1,485	18.80
Bricks	1.0 t/m3	124	8.50
Timber Gyprock	Timber 0.5 t/m3 <sup>3</sup> Gyprock: 0.75 t/m3	29	8.60

## 2.2 Materials Storage

All waste and recycling materials will be stored in bins provided by RCC. These bins will be appropriately coloured and signed to indicate what materials are to

be deposited into them and located to maximise the recovery of reusable/recyclable materials.

## 2.3 Liquid Waste

- Ensure water is used in moderation and no taps are left continuously running.
- Use any grey water produced on site for irrigation or for dust suppression.
- Only discharge clean water into storm water
- Manage all wastewater and runoff in accordance with Sydney Water requirements

## 2.4 Asbestos

The process for managing any materials that have initially been suspected of being, or containing, asbestos waste is as follows:

- Treat the material as asbestos unless proven otherwise
- Do not disturb the material (i.e., shift or place into a container)
- iSeek advice from a suitably qualified laboratory to test the material(s) to determine if it is or is not asbestos
- If determined not to be asbestos, then it can be managed as an inert waste
- If determined to be asbestos then it must be managed by a licenced contractor for packaging, removal and disposal
- If the material has accidentally been uncovered, then the area should be cleared, barriers erected to prevent access, NSW WorkCover and EPA notified, and if the material is broken, it should be covered with a fine spray/mist of water.
- For what has been conclusively identified as asbestos-containing materials (including soils), a specialist/licensed asbestos contractor will be used. As required, only workers trained in asbestos removal techniques will be allowed to manage the removal of asbestos-contaminated soil and any material contained in the buildings.
- In regard to disposal of asbestos containing materials, there are regulatory requirements under clause 42 of the Protection of the Environment Operations

(Waste) Regulation 2005 that apply to the management of asbestos waste, including:

- Waste must be stored on the premises in an environmentally safe manner.
- Non-friable asbestos material must be securely packaged at all times.
- Friable asbestos material must be kept in a sealed container.
- Asbestos-contaminated soil must be wetted down.
- All asbestos waste must be transported in a covered, leak-proof vehicle.
- Asbestos waste must be disposed of at a landfill site that can lawfully receive this waste.
- Always contact the landfill beforehand to find out whether asbestos is accepted and any requirements for delivering asbestos to the landfill.
- It is illegal to dispose of asbestos waste in domestic garbage bins.
- It is also illegal to re-use, recycle or dump asbestos waste.

### 3 Reporting

**Greenstar:**

The Project Green Star Administrator will be responsible for collecting monthly waste reports (Form 18.1) or utilising the waste subcontractor reporting format and issuing them to the Project Manager and Client Representative.

These reports will measure the weight of waste generated of material by classification, total weight of waste, percentage by weight recycled and percentage by weight to landfill.

**General waste reporting:**

Nominated member of the project team will be responsible for collecting monthly waste reports and issuing them to the Project Manager and Client Representative.

These reports will measure the weight of waste generated of material by classification, total weight of waste, percentage by weight recycled and percentage by weight to landfill.

### 4 Estimated Quantities

The Waste management plan – Construction chart (Form 18.2b) is an estimate of the core waste streams that will be removed from the 13-23 Gibbons St Project waste to be removed will be assessed for the Reuse & recycling content and the Disposal to landfill.

## 5 Subcontractor Management

Each subcontractor working on the site will be required to adhere to this Waste Management Plan.

RCC will ensure each subcontractor:

- Takes practical measures to prevent waste being generated from their work
- Implements procedures to ensure any waste that is created will be actively managed and where possible recycled, as part of the overall site recycling strategy or separately
- Ensures that the right quantities of materials are ordered, minimally packaged and where practical pre-fabricated, and any oversupplied materials are returned to the supplier
- Implements source separation of off-cuts to facilitate reuse, resale or recycling.

The Site Manager will be responsible for:

- Ensuring there is a secure location for on-site storage of materials to be reused on site, and for separated materials for recycling off site.
- Engaging qualified contractors to remove waste and recycling materials from the site.
- Coordinating subcontractors to maximise on site reuse of materials.
- Regular monitoring of bins by site supervisors to detect any contamination or leakage.
- Ensuring the site has clear signs directing staff to the correct location for recycling and stockpiling, and that each bin/skip/stockpile is clearly signposted.
- Providing training to all site employees and subcontractors in regard to the WMP as detailed in Section 7 below.

Should a subcontractor cause a bin to be significantly contaminated, the Site Manager will be advised through a non-conformance report and the offending subcontractor will then be required to take corrective action, at their own cost. The non-conformance process would be managed by the RCC's Quality Management System.

All site employees and sub-contractors will be required to attend an induction that will outline the components of the WMP and explain the site-specific practicalities of the waste reduction and recycling strategies outlined in the WMP.

All employees are to have a clear understanding of which products are being reused/recycled on site, and where they are stockpiled, and are also to be made aware of waste reduction efforts in regard to packaging.





## Memorandum

<b>To</b>	Cale Holmes – Richard Crookes Constructions Pty Ltd (HolmesC@richardcrookes.com.au)	<b>Date</b>	31 March 2021
<b>From</b>	David Holden	<b>Project No.</b>	86266.07.R.001.Rev0
<b>Subject</b>	Unexpected Finds Protocol – 13-23 Gibbons Street, Redfern		

Dear Cale,

In response to your recent email dated 23 March 2021, Douglas Partners Pty Ltd (DP) understands that an unexpected contamination finds protocol (UFP) is required prior to commencing works in accordance with the Conditions of the Development Consent. The development and implementation of a UFP is consistent with the recommendation provided in DP's contamination investigation report titled, '*Detailed Site Investigation, Proposed Multi-Storey Student Housing Development, 13-23 Gibbons Street, Redfern*', DP ref: 86266.04.R.001.Rev1 dated November 2018 (DP, 2018).

Given the results of DP (2018) which recorded generally low contaminant concentrations in soil at most sample locations, with all results within the site assessment criteria, and the proposed works which involves *inter alia* piling and bulk excavation within sections of the existing basement to about 0.5 m below existing levels, DP considers a basic contamination UFP would be suitable for the site.

The contamination UFP for the site is thus outlined below. DP recommends that the contamination UFP is incorporated into Richard Crookes Constructions Pty Ltd management plans for the site, as appropriate (e.g. Site Management Plan (SMP), Construction Environmental Management Plan (CEMP)).

### Contamination Unexpected Finds Protocol

All site personnel are to be inducted into their responsibilities under this UFP.

All site personnel are required to report unexpected signs of environmental concerns to the Site Manager if observed during the course of their works e.g., presence of unexpected asbestos containing material (ACM), petroleum, or other chemical odours, unnatural staining, potential contamination sources (such as buried drums or tanks) or chemical spills.

Should signs of concern be observed, the contractor is to, as soon as practical:

- J Place barricades around the affected area and cease work in that area. Covering of the surface with a geofabric or similar is also to be undertaken, where required;
- J Notify authorities needed to obtain emergency response for any health or environmental concerns (e.g., fire brigade);
- J Notify the Principal's Representative of the occurrence;

- J Notify any of the authorities that the Contractor is legally required to notify (e.g., EPA, Council); and
- J Notify the Environmental Consultant.

The Principal's Representative is to notify any of the authorities which the Principal is legally required to notify (e.g., EPA, Council).

Following the immediate response in the UFP a contingency plan is to be implemented.

### **Contamination Contingency Plan**

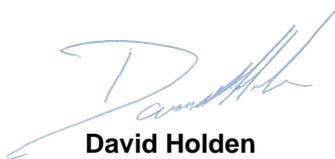
The contingency plan for the site is as follows:

- J The Environmental Consultant (or Occupational Hygienist as appropriate) to inspect the issue of concern and determine the nature of the issue and the appropriate approach to assessing or (if appropriate) managing the issue;
- J The Environmental Consultant (or Occupational Hygienist as appropriate) to undertake an assessment considered necessary to determine the management strategy for the area;
- J If contamination is found and remediation action is considered necessary, a remediation strategy for the area is to be prepared by the Environmental Consultant; and
- J If the area or proposed remediation strategy is significantly different than the works already proposed, the Consent Authority or Private Certifier (as appropriate) is to be provided notification of the proposed works.

It is noted that the limitations outline in DP (2018) also apply to the above.

If you require any further information on the above, please contact the undersigned.

**Douglas Partners Pty Ltd**



**David Holden**  
Environmental Scientist

Reviewed by:



**Paul Gorman**  
Principal



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