roberts pizzarotti

Environmental Management Plan
Schools at Meadowbank Education and Employment Precinct (SMEEP)
18 November 2020

Document Details

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Document Authorisation

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18/11/2020	18/11/2020	18/11/2020
Date	**Date**	**Date**

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1 DOCUMENT CONTROL

All changes made to the Project Environmental Management Plan are recorded in the amendment table below. The version number and date of revision for the current document revision are shown in the-footer of the document.

1.1 Revision History

Revision	Date	Description of changes	Prepared by	Approved by
01	16/04/2020	Initial issue to SINSW	SH	NK
02	22/07/2020	Main Works issue to SINSW	JF	DV
03	07/08/2020	SSD9343 Conditions update	OM	DV
04	24/09/2020	Updated Superintend to Colliers & Updated RP Policy	OM	DV
05	18/11/2020	CTPMP Endorsed by City of Ryde	OM	DV

1.2 Management Reviews

Review date	Details	Reviewed by
16/04/2020	Review before issue to SINSW	NK

1.3 Controlled Copies

Name	Position	Date	Revision
Damian Vella	Project Manager	18/11/2020	05

2 DEFINITIONS AND ABBREVIATIONS

Term/Abbreviation	Definition
AS/NZS	Australian Standard/New Zealand Standard
Client (Principal)	The party to whom Roberts Pizzarotti is contracted for a Project
Client's Representative	The person appointed by the Client to perform the duties of the "Superintendent" Colliers International Limited (Colliers) as defined in the contract
Consultant	The party engaged to perform the design, preparation of detailed 'For Construction' documentation and necessary certification to meet contractual requirements.
D&C	Design and Construct
ECP	Environmental Control Plan – defines management measures for a specific environmental aspect
EEO	Energy Efficiency Opportunities
EHS	Environment, Health and Safety
EIA	Environmental Impact Assessment
EIS	Environmental Impact Statement
ESS	Environmental Effects Statement
EMP	Environmental Management Plan – this document
Environment	The Project's surroundings, including air, water, land, flora, fauna, humans and their interaction
Environmental Aspect	An element of the Project that has potential to cause environmental impacts
Environmental Impact	A change to the environment, positive or negative, caused by environmental aspects
EPBC Act	Environmental Protection and Biodiversity Conservation Act (Commonwealth) - legislation to protect and manage matters of national environmental significance
EPA	Environment Protection Authority
ESD	Ecologically Sustainable Development
H&S	Health and Safety
HSC	Health and Safety Committee
HSEQ	Health, Safety, Quality and Environment
IMS	Integrated Management System
ITP	Inspection and Test Plan – defines the steps to be taken to check and verify an activity or product
NGER	National Greenhouse and Energy Reporting
OEH	Office of Environment and Heritage
O&M	Operations and Maintenance
PAP	Principal's Authorised Person

Term/Abbreviation	Definition
PM	Project Manager
PMP	Project Management Plan
PP	Process Procedure – A work instruction, which details the technical/engineering/safety/quality/environmental methodology for a particular activity
RP	Roberts Pizzarotti
SEP	Site Environmental Plan – site level document providing a map or spatial representation of the site identifying the location of specific environmental controls and sensitive areas, and detailing practical environmental management methods to be implemented at specific work sites
SDS	Safety data sheet
SWMS	Safe Work Method Statement – a planning process to determine detailed methodology, identification of hazards, risks and control measures, used to break down and analyses individual PRA work elements. Specific risk assessment based on day to day tasks, facilitated by supervision and involving consultation with workforce before task is undertaken. Signed off by all people undertaking the task.
Subcontractor	Any company, body or person who is contracted to Roberts Pizzarotti for the purpose of supplying plant and/or services
System Element	The administrative activities that need to be implemented and controlled to ensure that the product or service meets environmental requirements
The Project	Schools at Meadowbank Education and Employment Precinct (SMEEP)
TMP	Traffic Management Plan
PRA	Project Risk Assessment – High level strategic risk assessment conducted on the workplace and broken down into work components for the purpose of identifying system, training and legislative controls requirements, and identifying the need for further detailed planning and risk assessment activities. The PRA also fulfils the function of an aspects and impacts register.

Table 01 – Terms of reference, definitions and abbreviations.

3 PURPOSE AND APPLICATION

This Environmental Management Plan (EMP) for the Schools at Meadowbank Education and Employment Precinct (The Project) outlines the Roberts Pizzarotti system for managing and minimising the environmental impacts of its activities, meeting its legislative and contractual obligations and providing a means of continually improving environmental performance.

This EMP provides a ‘road map’ for the implementation of the Project Environmental Management Systems, including plans, procedures and forms. It provides directions to the documents required to address Environmental Management for the Project. This EMP is for use by all Project personnel and subcontractors during the Project.

3.1 Environmental Management Plan

The EMP has been developed in accordance with the requirements of ISO 14001 and the Roberts Pizzarotti (RP) Integrated Management System. It incorporates the requirements of the contract including:

– Legislative and contractual requirements and other environmental obligations
– Approval conditions
– Roberts Pizzarotti Environmental Policy objectives
– Objectives and measurable targets associated with the potential environmental impacts of the Project
– Processes and procedures that RP will adopt to identify, manage and control the environmental aspects and impacts (using a risk management approach)
– Provision of adequate resources and allocation of responsibilities for ensuring the effective implementation of this EMP
– Methods for maintaining records and requirements for reporting
– Process for monitoring and reviewing the environmental management performance of the Project to drive continual improvement

This EMP has been revised to incorporate all relevant contractual information and obligations.

Project-based Roberts Pizzarotti personnel are required to sign the EMP acknowledgment form in Appendix 02.

3.2 Supplementary Plans

Supplementary Plans may be required by the contract or deemed necessary by the Project Manager. Supplementary environmental plans that are required will be included as annexures to this plan.

Other environmental management plans may include, but not limited to the following:

– Noise and Vibration Management Plan
– Waste Management Plan
– Traffic Management Plan
– Community & Stakeholder Engagement Plan

3.3 Interfacing with Other Plans

This EMP should be read in conjunction with the other suite of Project specific management plans:

– Project Management Plan
– Construction Management Plan
– Design Management Plan
– Work Health and Safety Management Plan
– Quality Management Plan
– Workplace Relations Management Plan

3.4 Environmental Policy

The Project and its nominated contractors will operate in accordance with the Roberts Pizzarotti Environmental Policy as shown in Appendix 01. The policy is reviewed and endorsed on an annual basis by the Chief Executive Officer (CEO) to ensure it's on going suitability and effectiveness.

The Project's commitment to the Environmental Policy will be demonstrated by:

- Communication of the policy intent to all personnel through inductions and notice board displays
- Provision of adequate resources and assigning responsibilities to implement and maintain the EMS
- Achievement of the Project Targets / Objectives and regular reviews to manage their suitability and effectiveness

3.5 Project Scope

Meadowbank Education and Employment Precinct (The Precinct) will cater for 1,000 primary students, 1,500 high school students and a 120 place Intensive English Centre (IEC) to accommodate the relocation of Meadowbank Public School and Marsden High School. The co-located schools will also take enrolment pressure off surrounding primary and high schools exceeding student capacity and accommodate future population growth within City of Ryde Local Government Area (LGA). The Precinct will contain high quality classrooms, collaborative learning spaces, open spaces and associated school facilities.

The proposal will contribute to a once-in-a-generation 'Education and Employment Precinct' in Meadowbank. The precinct combines primary, secondary and tertiary education facilities to form a future focused learning environment comprised of the proposal and the existing TAFE NSW.

Specifically, this management plan seeks development consent for the Schools at Meadowbank Education and Employment Precinct (SMEEP) Project:

- A multi-level, multi-purpose, integrated school building with a primary school wing and high school wing. The school building is connected by a centralised library that is embedded into the landscape. The school building contains:
  - Collaborative general and specialist learning hubs, with a combination of enclosed and open spaces;
  - Adaptable classroom home bases;
  - Four level central library, with primary school library located on ground floor and high school library on levels 1 to 3.
  - Laboratories and workshops;
  - Staff workplaces;
  - Canteens;
  - Indoor gymnasium;
  - Multipurpose communal hall;
  - Outdoor learning play and recreational areas (both covered and uncovered).
- Associated site landscaping and public domain improvements;
- An on-site car park for 60 parking spaces; and
- Construction of ancillary infrastructure and utilities as required.

3.6 Receiving Environment

The site is located on NSW Department of Education property adjacent to the northern portion of the TAFE NSW Meadowbank campus at 2 Rhodes Street, Meadowbank.

The site an irregular shaped parcel of land with a total area of approximately 3.3 hectares. It has been cleared of buildings that were previously part of the TAFE NSW Meadowbank Campus (under separate approval).

The site is generally undulating and features a central depression at the centre. This results in the site having falls of approximately 14m to both the east and west. Due to the site's topography, it is identified as being flood affected and subject to a 1 in 100-year flood to +8.2RL.

The site is also subject to a 60m train vibration clearance buffer that runs along the western boundary of the site. No built form is permitted to encroach this area.

The site contains a well-established tree network. The vegetation is a defining characteristic of the site, with numerous semi-mature and matures that include a variety of exotic (introduced) and non-local native species. Most of the trees are clustered along the western edge if the site (railway corridor), northern corner and along the Rhodes Street frontage.

3.7 Approach

Roberts Pizzarotti is committed to undertaking business in a manner that recognises the importance of environmental protection and sustainability through a risk and opportunity-based approach.

Our vision is to achieve environmental excellence through:

– Shared responsibility for self-regulation and continual improvement

– Understanding and accepting environmental accountability and responsibility

– Ensuring effective communication of information for improved performance

3.8 Environmental Risk and Opportunity

Prior to the commencement of works, the Project will identify environmental risks and opportunities, in order to limit, manage and improve the impact of works.

Overall risks to the project are managed through the Project Risk Assessment (PRA) (Refer to WHS Plan). Additional risks and opportunities may be identified during the Project and this EMP should be updated to reflect these changes. As defined in the **RP-PROC-011_Risk Management**, a risk may have a positive or negative impact, however in order to differentiate controls required verses improvement potential, for the purpose of this EMP they have been classed as Risks (negative impact) and Opportunities (positive impact).

Environmental risks and opportunities of particular importance to this Project are defined in the Environmental Control Plans (ECP's) within this plan and the Project Risk Assessment.

4 LEGAL AND OTHER REQUIREMENTS

All personnel associated with the project will comply with all relevant requirements including:

– Laws – Acts, regulations, policies, etc;

– Environment Protection Licence (if applicable) and permits;

– Development consents, and;

– Relevant industry standards / codes.

An assessment of the relevant legislative instruments has been conducted and recorded in **Appendix 03**.

Compliance conditions shall be incorporated into this Environmental Management Plan. Specific details and controls are included in the associated sub-plans, project risk assessment and/or environmental risk action plans (ERAPs).

A copy of relevant Permits, Licences and any development approvals relevant to Roberts Pizzarotti activities will be kept on site.

4.1 Project Approval and Development Consent

The works are to be delivered as a State Significant Development of the Environmental Planning and Assessment Act 1979. The approval process includes specific planning conditions and commitments that must be addressed in this EMP and delivered during the project.

A Conditions of Approval Compliance Tracking Matrix will be established upon commencement to ensure the approval conditions are captured, addressed and closed out. The Matrix includes all relevant conditions to RP's scope of work and will be updated as the works progress and reviewed on a quarterly basis to verify compliance with each condition.

Specific conditions of approval relevant to construction activities are included in the project's Operational Controls in the aspect specific Environmental Risk Action Plans (ERAPs).

Non-compliances with the conditions will be documented and addressed as per the RP Integrated Management System.

5 OBJECTIVES AND TARGETS

The project is committed to maintaining a high level of excellence in environmental compliance and diligence. Project objectives and targets have been developed to establish a baseline for the success of the project to be measured on. The objectives and targets are defined in Table 03 and 04, and in aspect-specific Environment Control Plans.

Roberts Pizzarotti has committed to the following Performance Targets:

Objectives	Target
Environmental Incident Frequency Rate (EIFR) = No. Class 1 & 2 incidents x 1,000,000 divided by the man hours worked for the period	0.00
Breaches & Infringements	Nil
Certification Major Non-Conformances	Nil

Table 03 – Roberts Pizzarotti company-wide performance targets.

OBJECTIVES	TARGET
Conduct regular Environmental Inspections	Weekly– completion of environmental inspection checklist
Conduct regular Environmental Observations	Daily – supervisors to maintain site diary detailing daily observations
Prevent serious Environmental Incidents	Nil Class 1 or 2 incidents
Complete the project with no statutory environmental infringements, prosecutions or breach of conditions of approval	No infringements No prosecutions No breaches of conditions of approval
Conduct operations in accordance with Community and Regulatory expectations	No substantiated community complaints relating to works outside of approval No breaches of conditions of approval
Waste	90%

Table 04 – Project specific objectives and targets.

6 RESPONSIBILITIES AND AUTHORITIES

Authorities and responsibilities for all positions are defined in this plan below and communicated in job descriptions and other project documentation. Key responsibilities are indicated in the project organisational chart. Key responsibilities and authorities include;

6.1 Head of Operations

– Ensure that independent audits of the system are conducted

- Review audit outcomes and take action as necessary
- Review regional environmental performance through the monthly reporting cycle
- Authorise resourcing on environmental issues
- Resolve major issues which cannot be resolved by the Construction Director

6.2 Construction Director

- Ensure that internal audits of the system are conducted
- Review audit corrective actions and take action as necessary to ensure timely close out of issues
- Authorise expenditure on environmental issues within delegation of authority
- Resolve major issues which cannot be resolved by the Project Manager

6.3 HSEQ Manager

- Provide environmental support to the project team
- Consult project team on updates or changes to legislative requirements
- Facilitate internal and external audits
- Consult with environmental regulator on key environmental issues, incidents or breaches

6.4 Project Manager

- Ensure that project responsibilities and authorities are defined and communicated
- Provide adequate resources to meet environmental objectives
- Approve the EMP and various sub-plans and ensure effective implementation and maintained
- Allocate appropriate resources and provide support for the implementation of the EMP
- Report to senior management on the environmental performance, including assurance, incident and/or environmental breaches
- Take action to resolve environmental non-conformances and incidents
- Ensure suppliers and subcontractors comply with requirements;
- Report environmental incidents to the client / local authorities, as required.

6.5 Site Manager

- Supervise all site construction activities and personnel by ensuring that they meet environmental and other requirements
- Organise and manage site plant, labour and temporary materials
- Ensure that site environmental controls are properly maintained and provide support to the EHS Manager/Coordinator
- Report all environmental incidents
- Take action to resolve non-conformances and incidents
- The Project 24-hour contact will be Site Manager – Darrin Lane 0409 609 709

6.6 Procurement

- Carefully select suppliers and subcontractors based upon their ability to meet stated requirements
- Ensure that purchase orders and agreements include environmental requirements as necessary
- Where practical, select materials which are “environmentally friendly”

6.7 Project EHS Manager / Coordinator

- Ensure that the EMP is effectively established, implemented and maintained on the project
- Ensure compliance with all relevant statutes, regulations, rules, procedures, standards and policies
- Liaise with the Principal's Environmental Representative and/or Superintendent on environmental issues, including the written notification of non-conformances (incidents, emergencies or deviations from the EMP)
- Ensure that all personnel on site receive appropriate environmental induction and training and are aware of their environmental responsibilities under relevant legislation and the contract
- Report to the Project Manager on the performance of the system and improvement opportunities
- Provide support to the project team to enable them to meet their environmental commitments
- Ensure that environmental records and files are collected and maintained
- Regular compliance checking as required by this EMP
- Ensure that non-conformances and environmental incidents are recorded, and written reports provided to the Client's Representative and/or HSEQ Manager within 24-hours. Liaise with the required stakeholders to confirm the nature of the corrective action required and comply with the timeframe within which corrective actions must occur
- Ensure that environmental controls, materials and equipment are maintained

6.8 Contractors

– Comply with all legal and contractual requirements
– Comply with site environmental requirements
– Comply with management / supervisory directions
– Participate in induction and training as directed
– Report all incidents in a timely manner

6.9 All Personnel

– Comply with the relevant Acts, Regulations and Standards
– Comply with the Company's environmental policy and procedures
– Promptly report to management on any non-conformances, environmental incidents and/or breaches of the system
– Undergo induction and training in environmental awareness as directed by management
– Report all incidents
– Act in an environmentally responsible manner

7 OPERATIONAL CONTROL

7.1 Environmental Risk Assessment and Control

Project wide environmental obligations, aspects and impacts, and risks associated with the project shall be identified and assessed prior to the commencement of the project by the Project Manager in consultation with the project team and recorded in either or all of the following risk assessments or documents, as required:

– Project Risk Assessment (PRA) – (refer to WHS Plan-Appendix 04)
– Environmental Risk Action Plans (ERAPs) contained in **Appendix 04** of this plan
– Sub-plans contained in **Appendix 09** or standalone documents referenced below
– SWMS, Inspection and Test Plans / check sheets (as appropriate)
– Work instructions or procedures (e.g. refuelling and servicing)

Risks levels (i.e. Consequence and Likelihood) in relation to environmental Aspects and Impacts rated as 'High' or 'Medium' are considered 'Significant' as they have the potential to adversely impact on the environment, result in additional costs, potential fines and/or damage Roberts Pizzarotti's reputation.

Significant environmental issues, with a risk ranking of High or Medium, will be controlled to a degree which is commensurate with the level of risk and the level of influence which the company has over these issues. The control measures to address these issues are documented in Environmental Risk Action Plans which are contained in **Appendix 04**.

Activities, aspect or impacts that represent a high risk after control measures have been applied must be reviewed / redesigned or have approval of the Head of Operations and HSEQ Manager.

7.2 Hold Points

The activities outlined in the table below are not to proceed without objective review and approval by the nominated authority. Proceeding past a specified Hold Point without authorisation is deemed as a system non-conformance.

These activities below are considered hold points.

Item	Process Held	Acceptance Criteria	Approval Authority
Environmental Management Plan	Site activities	Site specific Environmental Management Plan has been developed, reviewed and approved.	Project Manager
Dewatering	Dewatering / pumping water off the site.		Site Manager
Sediment and erosion control measures	Construction activities involving ground disturbance.	Sediment and Erosion Control Plan has been developed, reviewed, approved and implemented	Project Manager
Dangerous Goods	Transport of dangerous goods	Verification that transport vehicles meet the requirements.	Site Manager
Dangerous Goods	Storage of dangerous goods	Verification that bunded storage is provided and that offset distances are maintained for the storage area.	Site Manager
Site clearing / vegetation removal	Commencement of site clearing or vegetation removal.	Clearing limits have been verified against the project approval environmental assessment, limits have been set-out and vegetation to be retained has been delineated and or protected.	Project Manager
Construction Methodologies – direct delivery and subcontract works.	Construction process representing potential medium or high impact to the environment.	Construction methodology / SWMS / JSEA have been reviewed by the Site Environmental Management Representative and addresses the requirements of the EMP ERAPs.	Responsible Engineer
Controlled / Hazardous Waste	Transport of Controlled / Hazardous waste from the site	Verification that the waste has been classified in accordance with the guidelines, transport licensing in place and landfill can lawfully receive the waste	Project Manager
Spoil Transport	Removal of spoil from site	Verification that the spoil has been classified and the disposal location can lawfully receive the waste.	Project Manager

Table 05 – Environment control hold points.

7.3 Environmental Control Plan

The project Environmental Control Plan(s) or ECP is prepared to assist in the planning and delivery of the project. It is specific to the site or work area and outlines the location of protection measures, monitoring requirements, conditions of approval and environmentally sensitive areas. It is the practical application of the proposed control measures.

A copy of the project Environmental Control Plan is provided in Appendix 05 of this EMP.

The Environmental Control Plan is to be used in project inductions, work site set-up, reviewing ongoing environmental performance, included as information in tender documents to subcontractors (where applicable) and in support of ancillary environmental approvals.

The project Environmental Control Plan shall include but not limited to:

– The worksite layout and boundary, including entry/exit points and internal roads and clearing limits
– Location of adjoining land-use and nearest noise sensitive receivers
– Location and type of sediment and erosion control measures, including size / capacity of detention basins and wheel wash facilities
– Location of site offices
– Location of spill containment and clean-up equipment
– Location of worksite waste management facilities
– Location of environmentally sensitive areas (e.g. threatened species, critical habitat, contaminated areas, heritage zones, etc)
– Vegetation and trees to be protected
– Location of stormwater drainage and watercourses leading to / from the worksite

7.4 Design

If the project is a design and construct contract in which Roberts Pizzarotti is responsible for the design functions. The following environmental issues should be considered during the design of the temporary works:

– How to minimise any adverse impacts on the environment including energy efficient operation, incorporation of sustainable or recycled materials
– How to improve design efficiency to conserve natural resources
– Address specific sustainability requirements
– How to meet environmental codes, regulations and other requirements
– As per Condition B12a.vii) External lighting complies with AS4282-2019 Control of the obtrusive effects of outdoor lighting. Given the construction hours, the likelihood for external hours is not anticipated, however in the event of requirement for external lighting during construction, this will be installed in accordance with AS4282-2019.

These issues should be considered, while taking into account the practicalities and economic realities of the project / workplace. The design process is controlled in accordance with the Project Design Management Plan.

7.5 Procurement

The supply of goods and/or services by suppliers and subcontractors will be controlled by the Project and Contracts Managers as follows:

– Environmental issues should be taken into account when selecting subcontractors and suppliers

– Suppliers of chemicals and hazardous substances will be required to submit safety data sheets with delivery or prior to chemicals arriving on site. Prior approval to bring hazardous substances to site may need to be obtained from the client / superintendent

– Subcontractors will be required to submit an environmental control plan covering work which is likely to have a significant impact on the environment. Alternatively, they will be required to work under this EMP

The environmental performance of subcontractors will be monitored during site inspections.

7.6 Handling, Storage, Packaging and Transport

The handling, storage, packaging and transport of goods will be controlled in accordance with the applicable regulations, codes and standards.

Dangerous Goods/Hazardous materials will be stored and handled in accordance with Safety Data Sheets and the requirements of the Australian Dangerous Goods Code.

The Dangerous Goods (Road and Rail Transport) Act includes specific requirements in relation to the transport of dangerous goods. Where dangerous goods are to be transported as a result of the project, the requirements of the Act must be complied with by Roberts Pizzarotti and third parties.

Regardless of the quantity, appropriate transport documentation must be included with each load unless a specific exemption exists.

Transport documentation must include the following:

– Project/workplace name, contact number

– Transporter name, contact number

– Transport date, origin and destination

– Product name, classification, container type, quantity

These materials will be stored in a safe area (e.g. bunded and/or store) which will prevent or contain accidental spillage and harm to the environment. Further details are provided in **Appendix 04** in the ERAP - Delivery and Storage of Chemicals, Fuels and Oils and including Dangerous Goods requirements.

Safety data sheets must be stored along with or at the point of storage and/or freely accessed using the ChemAlert application.

7.7 Plant and Equipment

Plant and equipment used onsite by Roberts Pizzarotti and contractors will be maintained in a safe and serviceable manner in accordance with both legislative requirements and RP IMS procedures and standards.

In particular the following requirements apply:

– Plant will be inspected prior to operation on site, particularly fuel lines, hydraulic hoses or other items with the potential to impact the environment are to be inspected. Items found to be worn, damaged or otherwise degraded are to be replaced prior to operation;

– Plant will be serviced, re-fuelled and washed-down only in approved areas where hydrocarbons can be captured and then properly disposed;

– Fuelling will be carried out in bunded areas when fuelling from bulk tanks (where applicable);

– Plant and equipment will be maintained to prevent / fix oil leaks;

– Plant will be driven and operated only in approved areas;

– Plant will have effective pollution control and sound attenuation devices fitted.

7.8 Emergency Preparedness and Response

The types of environmental emergencies which could occur on this site as outlined in **Appendix 06**. The client and relevant statutory and regulatory authorities (such as the EPA) will also be informed as necessary.

Environmental emergencies will be handled by:

– Immediately reporting all incidents to the Project Manager / Site Manager who will assess the situation and manage the following steps:

– Immediately take all reasonable steps to contain further damage or danger to personnel and the environment;

– Inform relevant authorities in accordance with the regulatory requirements;

– Contact emergency service personnel as necessary (e.g., local fire brigade, spill clean-up services, etc). Site emergency response team will also be contacted.

– Provide notification to the HSEQ Manager, Head of Operations, CEO and RP Legal counsel immediately via initial internal incident notification;

– Inform the Client's Representative as necessary and in accordance with contractual requirements;

– Complete a detailed report of the incident using HSE Incident report form and upload to RPs designated electronic database;

– Liaise with the Client's Representative regarding corrective and preventive actions required and the timeframes within which these actions must occur;

– The designated personnel will undertake an investigation to determine the corrective and preventive actions.

Information on the handling of hazardous materials is contained in the safety data sheet application, ChemAlert. Emergency Services contact numbers are to be displayed in the main site office.

8 MONITORING AND MEASUREMENT

Key characteristics of the project operations and activities which have a significant impact on the environment will be regularly monitored and measured.

MONITORING / REPORTING ASPECT	DETAILS
Inspection and Monitoring	Nominated project staff will perform weekly environmental inspections and monitoring during the site establishment, construction and site demobilisation phases Inspections and monitoring will be carried out in using RP-HSE-101-HSE Inspection form or i-Auditor Project Procedures will be prepared as necessary to specify how monitoring is to be undertaken, including responsibility and frequency Monitoring results and any corrective actions identified will be recorded in RPs designated electronic database National Greenhouse and Energy Reporting related information will be collected and uploaded into RPs designated electronic database Inspection checklists and any corrective actions identified will be recorded in RPs designated electronic database
Calibration of monitoring equipment	Monitoring equipment will be calibrated in accordance with equipment OEM manual Monitoring equipment will be calibrated prior to use Any equipment identified as having doubtful accuracy or precision will be removed from use and recalibrated Where any monitoring equipment is found to be out of calibration, the validity of the previous monitoring results will be assessed and documented. Calibration of monitoring equipment will be recorded in the project document management system.
Reporting	The following information will be retained for inclusion in the Reports as follows; – HSE Inspections (Project) – HSE Incidents / complaints (Project) – Waste, water use data (NGERS – Annually) – Innovations and achievements This information may also be included in the Client Monthly Report
Non-conformance and Incident Management	Non-conformance Reports will be raised, tracked and closed out in accordance with **RP-PROC-010_Audits, Inspections and Corrective Action** Incident Reports will be raised, tracked and closed out in accordance with **RP-PROC-012_Incident Management and Reporting Procedure**.

Table 06 – Environment control hold points.

The following environmental issues / non-conformances are to be included within **RP-REG-009-Incident and Event Tracking Register** and/or **RP-REG-003-Action** respectively, as corrective actions.

– Internal inspection outcomes that cannot be rectified immediately;
– Incidents and associated corrective actions;
– Internal audit observations/non-compliance;
– Client audits or other notice of waste;
– Notices or action from regulatory authorities.

Where deemed necessary by the Project EHS Manager / Coordinator and as a result of revisions to project scope or changes to project risks, additional Environmental Risk Action Plans to control potential impacts may need to be updated or developed.

8.1 Corrective Actions

Corrective actions are differentiated by risk ranking. The nominated timeframes to resolve items on the CAR Register are as follows:

1 = High	2 = Medium	3 = Low
Action: Imminent risk – issue must be rectified immediately	**Action:** Risk not imminent however issue is to be rectified immediately.	**Action:** Rectify within 24 hours or time frame specified.

Refer to **RP-PROC-010_Audits, Inspections and Corrective Action** Procedure.

Further monitoring and reporting activities against operational objectives and targets are listed in Section 05 of this Plan.

8.2 Monthly Environmental Reporting

Each report to be included in the Monthly Project HSE Report and issued to the HSEQ Manager on a monthly basis. The report is to include specific details relating to risks, status of control measures, update to plans, ESCPs and the objective and target performance indicators nominated within the report.

On a monthly basis, monthly environmental indicators, energy use, water consumption and waste information shall be entered into RPs designated electronic database, including NGER information, such as:

– Waste consumption including volume purchased from water suppliers, volume of water extracted from surface water sources and volume of ground water sources
– Subcontractor energy and emissions

Monthly oversight of inspection outcomes, audit issues and corrective actions provided through the Actions created within RPs designated electronic database. Actions are to be addressed in accordance with the timeframes outlined in **RP-PROC-010_Audits, Inspections and Corrective Action**.

9 INCIDENTS, COMPLAINTS, CORRECTIVE AND PREVENTATIVE ACTION

9.1 Incident Classifications

Environmental Incident is classified into three classes:

Class 1	Class 2 (Including Potential)	Class 3
Class One Environmental Incidents create permanent or long-term damage to the environment. This damage will result in the environment taking 12 months or more to return to pre-existing conditions. Major environmental investigation and potential for large prosecution.	Class Two Environmental Incidents create short to medium term damage to the environment. This damage will result in the environment taking up to 12 months to return to pre-existing conditions Potential for prosecution or infringement notice	Class Three Environmental Incidents typically cause short term or nuisance damage. The damage is easily rectified usually within one day. Class 3 incidents do not cause medium or long-term damage.
Where a Class 1 incident occurs the Chief Executive Officer, HSEQ Manager, Head of Operations and RP Legal counsel are to be informed immediately. Class 1 incidents shall be subject to an Incident Causal Analysis Method (ICAM) investigation.	Where an actual or potential Class 2 incident has occurred, RP Senior Management is to be informed via the Project Manager.	Where a Class 3 incident has occurred, the RP Site Manager or immediate foreman/supervisor is to be informed. Class 3 incidents must be recorded on RP-REG-009-Incident and Event Tracking Register.
All Class 1 & Class 2 incidents will be reported to the relevant State & Federal Authorities as required under relevant Acts & Regulations.		

Table 07 – Environmental incident classification types and reporting requirements.

9.2 Incident and Complaint Reporting

All environmental incidents and complaints are to be reported, investigated and actions closed out in accordance with **RP-PROC-012_Incident Management and Reporting.**

All incidents are to be recorded on **RP-REG-009-Incident and Event Tracking Register.**

RP-FRM-008-Incident Notification and Investigation Report shall be completed and issued to the Project Manager for all Potential or Actual Class 1 or Class 2 incidents.

Reporting of Actual and Potential Class 1 and Class 2 Incidents and complaints shall occur within the timeframes outlined in the **RP-PROC-012_Incident Management and Reporting** procedure.

Class 1 and Class 2 reportable incidents shall be reviewed by relevant personnel in the distribution list above prior to the issue of formal correspondence to external parties or regulatory authorities. Authorities are to be notified in accordance with the legislative time frames in the applicable state.

Complaints will be reported to external authorities in accordance with specific licence/permit or approval requirements. Roberts Pizzarotti will provide notification of the incident/complaint to the Client's Representative as required and in accordance with the contract.

Client Notification Type	Contract Requirement
Initial verbal notification	Refer SSD9343 Condition A24; A25; A26; A27; A28
Environmental Incident report requirements	Immediately notify the Principal of any pollution incident that may cause material harm to the environment, providing evidence that notification requirements of the POEO Act have been met, where applicable. Report immediately the details of any waste removed from the Site and not disposed of at a lawful facility. When requested, provide an incident investigation report, including identification of cause of the incident and corrective actions taken, in the form directed.

Table 08 – Client incident reporting requirements.

9.3 Investigations

Each incident shall be sufficiently investigated to allow specific and detailed corrective and preventative actions to be identified, actioned and closed out. Where an environmental non-conformance or incident is identified, Corrective and preventive actions shall be developed and may include:

– Review and improve existing environmental controls and job safety analyses/ work method statements

– Site rehabilitation

– Increased site inspections and monitoring

– Modify construction or installation methods

– Increase environmental awareness including re-training and tool-box meetings

The Project Manager will convene a briefing with relevant members of the Senior Management Team to provide an update on the incident investigation and to allow active involvement in the investigation process. The briefing will include discussion on the progress of the investigation and any specific initial findings. A status report on any rectification work or maintenance activities to the relevant environmental controls will also be provided.

The following information relating to the incident investigation shall be forwarded to the Construction Director and Regional HSEQ Manager.

9.4 External Incident Notification NSW

The EPA must be notified immediately of all pollution incidents that cause or threaten material harm to the environment.

Harm to the environment is "material" if the effect (or potential effect) from an incident on the health or safety of humans or ecosystems is not trivial and or results in actual or potential loss or property damage of an amount, or amounts in aggregate, exceeding $10,000.

Incidents requiring notification to the EPA must also be immediately notified to the Regional HSEQ Manager.

If an incident presents an immediate threat to human health or property, 000 is to be called in accordance with the procedures outlined in the project Emergency Response Plan – Appendix 05 of the WHS Plan.

The EPA Environment Line is to be contacted on 131555.

The notification will need to include information on:

– The time, date, nature, duration and location of the incident
– The location of the place where pollution is occurring or is likely to occur
– The nature, the estimated quantity or volume and the concentration of any pollutants involved
– The circumstances in which the incident occurred (including the cause of the incident, if known)
– The action taken or proposed to be taken to deal with the incident and any resulting pollution or threatened pollution
– Other information prescribed by the regulations

In addition to notifying the EPA of pollution incidents other authorities as outlined below must also be notified immediately:

– The Ministry of Health (via the local Public Health Unit - 02 9391 9000)
– The SafeWork NSW Authority (13 10 50)
– Fire and Rescue NSW on 000
– The local council – City of Ryde
– The Planning Secretary, as per SSD9343 Consent Requirements

Regardless of the actual or potential impact, these authorities must be notified under the amended legislation for all notifiable pollution incidents. Further information in relation to the incident must be provided immediately if it becomes available after the initial notification. Records of contact with and details of the information provided to external authorities must be maintained in the project records.

9.5 Commonwealth Matters

Environmental incidents relating to the Environmental Protection and Biodiversity Conservation Act must be notified to the Secretary of the Department within 7 days of the event.

These types of incidents include the death or injury to the following:

– Migratory bird species;
– Listed marine species;
– Threatened species or listed ecological community (includes taking).

9.6 Client Complaints

All communications from the Client (including CAR's and Audit reports) expressing concern or dissatisfaction with the implementation or operation of the EMP shall be documented in accordance with Section 9.2 of this plan.

Corrective and preventive actions may include:

- Site remediation and rehabilitation
- Increased site inspections and monitoring
- Increase environmental awareness (re-training, tool-box meetings)
- Review and improve existing environmental controls and job safety analyses/ work method statements
- All community complaints to be addressed in accordance with requirements of Condition B7.

10 TRAINING AND AWARENESS

All employees will receive suitable environmental induction / training to ensure that they are aware of their responsibilities and are competent to carry out the work.

Environmental requirements will be explained to employees during the site induction, orientations and on-going training via pre-start and tool box meetings, briefings, email notifications, etc.

All employees (including subcontractors) will receive induction / training in the following:

– Environmental Policy
– Site environmental objectives and targets
– Understanding individual authorities and responsibilities
– Environmental Risks and Controls
– Emergency procedure and response (e.g. Spill clean-up)
– Basic understanding of their legal obligations

Personnel performing tasks which can cause significant environmental impacts will be deemed competent on the basis of appropriate education, training and/or experience.

All RP operational staff on this project will be consulted on the requirements and implementation of this EMP. Initial training in the project EMP shall be undertaken within 1 month of the project commencement date. EMP training for new staff members shall be completed within 1 month of their commencement on the project.

Training in the operation and implementation of RP's Integrated Management System shall be provided for all operational staff during the company induction.

The EHS Manager/Coordinator will establish a schedule of environmental training in conjunction with the Site Manager. Training in high risk aspects shall be undertaken as the project progresses. An outline of the proposed training is provided below. The training shall be scheduled to reflect the requirements of the construction program.

Aspect	Training Inclusion	Personnel Required	Method / Frequency
Emergency Spill Response	Use and location of spill kits, spill control Emergency response procedures, drills	Operational personnel	Project Induction Pre-start / tool meetings Internal RP course run as required for site personnel
Erosion and Sediment Control	Standard erosion and sediment controls from the Landcom 'Blue Book' Implementation of controls on site Erosion and sediment control plans	Operational personnel	Project Induction Pre-start / tool meetings
Heritage and Archaeological Awareness	Stop works and reporting protocols for discovery of previously unknown heritage and archaeological items Exclusion zones / no-go areas	Operational personnel	Project Induction Pre-start / tool meetings Protocol posted on message boards

Aspect	Training Inclusion	Personnel Required	Method / Frequency
Contamination Awareness	Contamination status of site Stop works protocols for unidentified potential contamination (hydrocarbons, asbestos, etc)	Operational personnel	Project Induction Pre-start / tool meetings Process distributed to workers and posted on message boards
Environmental Legal Obligations	POEO Act and other project requirements Applicable fines and prosecutions	Operational personnel	Project Induction Pre-start / tool meetings
Energy and Resource Usage	Awareness training of energy and resource efficiency in the workplace including office/compound and site initiatives such as harvesting rainwater for dust suppression instead of potable mains water and use of bio-fuels	Operational personnel	Project Induction Pre-start / tool meetings
Community / Stakeholder Awareness	Adjacent community and Project involvement Relevant Project stakeholders Accepted behaviours Approved hours of work	Operational personnel	Project Induction Pre-start / tool meetings
Biodiversity	Wildlife status of project and surrounds Stop work and reporting protocols for injured wildlife Measures to stop feral animals coming to site	Operational personnel	Project Induction Pre-start / tool meetings

Table 09 – Environmental impacts and aspects training schedule.

11 AUDITING

11.1 Environmental Management System Audit

Auditing of the Project Environmental Management System will be carried out in accordance with Regional HSEQ Audit Schedule. The audit will evaluate compliance with this EMP and associated documentation including legal, contractual and other requirements.

The HSEQ Manager, in consultation with the other managers, will decide on the frequency, scope and timing of project/workplace audits. It is expected that the project will be audited within 3 months of commencing on site and approximately every 6 months thereafter.

An audit report will be issued to the Project Management Team for action. A follow up/close out audit will be coordinated within 1 month of the issue of the audit report. Audits shall be captured within the RPs designated electronic database. Actions associated with audits shall also be logged in the RPs designated electronic database.

11.2 Management Review

The Project Manager in consultation with the EHS Manager / Coordinator will check the status and adequacy of the Project Environmental Management Plan to ensure that it meets current client and Company requirements as well as relevant environmental standards.

The Plan will be reviewed as and when required during the course of the contract when the following situations arise:

– Client recommendations for changes (particularly following initial review);

– Changes to the Company's Integrated Management System;

– Opportunities for improvement or deficiencies in the project system are identified;

– Following an audit of the system or the occurrence of significant incidents and non-conformances.

APPENDICES

Appendix 01 – Environmental Policy

POLICY AND PROCEDURE
ENVIRONMENTAL POLICY

roberts pizzarotti

Roberts Pizzarotti is committed to reducing the impact of its operations on the environment. We acknowledge that as a service organization we can minimize the negative impact on the environment in many small ways as well as role model responsible and sustainable environmental behavior for our people, suppliers and the community.

The key principles and actions underpinning our policy are:

- Take environmental issues seriously at a Senior Management Level
- Develop and support small-scale environmental improvement plans at sites wherever possible
- Consulting with employees and suppliers to ensure that environmental impacts on sites are understood and addressed effectively

We maintain and continuously improve an Integrated Management System that complies with the requirements of ISO 14001:2015 and all environmental legislation and other requirements which are relevant to Roberts Pizzarotti.

Our environmental objectives are to:

- Minimize environmental impact on land, water, air, flora, and fauna
- Prevention of pollution, protect the environment, preserve natural resources and conserve all heritages

To achieve these objectives, we shall act to:

- Ensure high levels of management and staff involvement in achieving stated objectives
- Continuously engage all stakeholders in meaningful consultation and communication
- Use suppliers, wherever possible, who have similar environmental objectives as ourselves and give preference to environmentally friendly products and equipment
- Always weigh the environmental benefits of a product equally with its price and safety benefits
- Measure our performance and use this information for the continual improvement of our services and the Integrated Management System

Roberts Pitzarotti's environmental policy applies to our managers, employees and external providers. It expresses our ongoing commitment to understand, abide by and regularly review, consistent with the monitoring and audit schedule these key principles and actions.

Date: 10/08/2020

Alison Mirams
Chief Executive Officer

RP-POL-002 – ENVIRONMENTAL POLICY
REVISION NO: 02
ISSUE DATE: 10/08/2020
When printed this document is an uncontrolled version and should be checked against the electronic version for validity
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Appendix 02– ENV Plan Sign Off

I have read and understand the requirements of the role, processes, responsibilities and accountabilities as outlined within this Project Environmental Plan.

Name	Position	Date Reviewed	Signature

Appendix 03 – Legal and Other Requirements

The relevant legal and other requirements are outlined in the table below:

Legal and Other Requirements	Summary of Obligations	Relevance to the Project / Notes and System
Environmental Planning Legislation		
Environmental Planning and Assessment Act 1979	This Act establishes a system of environmental planning and assessment of development proposals for the State.	High Relevance The DA conditions and obligations are incorporated into the specification documents and Roberts Pizzarotti's EMP.
Local Government Act 1993 Local Government (General) Regulation 2005	The Local Government Act and Local Government (General) Regulation provide a legal framework for an environmentally responsible system of Local Government including the responsibility to administer various regulatory systems (e.g. Environmental Planning, Development Consents and Conditions of Approval).	High Relevance The local Council (the Local Government body for this area) has number powers to control local issues including Development Applications (other than state significant development).
Roads Act 1993 Roads (General) Regulation 2000	This Act and Regulation primarily provide for such things as the opening and closing of public roads, identification of road boundaries and road widening, road levels, classification of public roads, road work, protection of public road and regulation of traffic, regulation of work, structures and activities.	Medium Relevance This Act is mostly an administrative Act for RMS and has minor relevance to carrying out the works.
Soil Conservation Act 1938	This Act makes provision for the conservation of soil resources, farm water resources and the mitigation of erosion. The Act is binding on the Crown, however the Crown is not liable for prosecution. The Act provides for notification in the government gazette catchments where erosion is liable to cause degradation of rivers, lakes etc (i.e. protected land).	Medium Relevance This Act is mostly an administrative Act for RMS and has minor relevance to carrying out the works.
Environment Protection and Biodiversity Conservation Act 1999 (Cwth)	The main purpose of this Act is to provide for the protection of the environment especially those aspects that are of national environmental importance and to promote ecological sustainable development. The Act binds the Crown. Do not take, use, keep or interfere with "nationally significant" cultural and natural resources, protected wildlife and protected plants without Approval.	No Relevance This Act is of little relevance to the contractor on this project as it has been determined not to trigger the provisions of the act.
Native Vegetation Act 2003	This Act and Regulation provide for the conservation and management of Native Vegetation by requiring Development Consent to be obtained for the clearing of Native vegetation.	Low Relevance Clearing of native vegetation is not required outside of the contract.

Legal and Other Requirements	Summary of Obligations	Relevance to the Project / Notes and System
Native Vegetation Regulation 2013	Section 12 of the Native Vegetation Act 2003 excludes the clearing of land carried out in accordance with consent under Division 3 of Part 9 of the Roads Act 1993. Clearing of native vegetation required for construction of the work under the contract would be covered by such consent. The Native Vegetation Regulation 2013 allows for the development of self-assessable codes for clearing of feral species, clearing of invasive species, environmental works, thinning native vegetation, clearing of paddock trees, and clearing of mulga.	
Land and Environment Court Act 1979	The Land and Environment Court is constituted under this Act. The jurisdiction of the Court is divided into numerous classes. The relevant classes for the project covers matter such as the prosecution for offences under various environmental legislation and to appeal against conditions of approvals, permits or orders.	Low Relevance The relevance of this Act would only apply to work under the contract if Roberts Pizzarotti were prosecuted for an Environmental Offence.
Greenhouse Gas (GHG) Emissions National Greenhouse and Energy Reporting Act 2007	Corporations emitting more than 50kT of carbon dioxide equivalent units are required to register and report their Scope 1 and Scope 2 emissions for all Facilities in which they have Operational Control. Facilities emitting more than 25kT of carbon dioxide equivalent units must register and report Scope 1 and Scope 2 emissions.	High Relevance Roberts Pizzarotti is a registered entity under this act. As such, where Roberts Pizzarotti has Operational Control, the Scope 1 and Scope 2 emissions associated with the project must be reported. This includes the collation and reporting of subcontractors site emissions. Roberts Pizzarotti does/does not have Operational Control of this facility.
Contaminated Land Legislation		
Contaminated Land Management Act 1997	This Act provides for a process to investigate and remediate land that has been contaminated and presents a significant risk of harm to human health. Section 60 of the Act is a “Duty to Report Contamination”. This duty applies to owners of land and persons who become aware their activities have contaminated the land.	Medium Relevance The relevance of this Act to the contractor will be in the event suspected or potentially contaminated ground is found during construction activities.
Fire Control Legislation		
Rural Fires Act 1997	This Act is intended to prevent, mitigate and suppress bush and other fires. It places a duty on Roberts Pizzarotti as the occupier of the site to extinguish	Low Relevance This project site and surrounding areas are not prone to bush fires.

Legal and Other Requirements	Summary of Obligations	Relevance to the Project / Notes and System
	fires during bush fire danger periods or if unable to do so notify appropriate firefighting authorities of the existence of the fire and its location.	
Hazardous Substances Legislation		
Environmentally Hazardous Chemicals Act 1985	This Act prohibits the manufacturing, processing, keeping, distributing, conveying, using, selling or disposing of an environmental hazardous chemical or waste (prescribed activity) except under the provisions of a chemical control or a licence. The EPA is required to prepare inventories of environmentally hazardous chemicals and declared chemical wastes.	Low Relevance It is not anticipated any environmentally hazardous chemicals or declared chemical waste will be used or stored on the site. The Act therefore has little relevance to the site other than being aware of the existence of registers of declared chemical wastes and environmentally hazardous chemicals.
Dangerous Goods (Road and Rail Transport) Act 2008	The purpose of this Act is to regulate the transport of Dangerous Goods by road and rail in order to promote public safety and protect property and the environment. The transport of Dangerous Goods is required to be appropriately licensed (both vehicle and driver). Depending on the quantities being transported, the Act outlines specific requirements for including appropriate placards on the transport vehicle, emergency procedures, PPE, manifest documentation and fire extinguishers.	Medium Relevance The relevance of the Act is in respect to the transport of dangerous good to & from the site. The project will require the use of a variety of dangerous goods. Roberts Pizzarotti will need to review and ensure Dangerous Goods requirements are addressed where transported by its vehicles, plant and equipment.
Water Management Act 2000 Water Management (General) Regulation 2004	This Act repeals the Rivers and Foreshores Improvement Act, 1948 and the Water Act, 1912. The provisions of both the aforesaid Acts are progressively rescinded as Water Management Plans are prepared and gazetted for catchment areas within the state. This Act and Regulation provide for the protection, conservation and ecologically sustainable development of water sources of the State and in particular to protect, enhance and restore water sources and their associated ecosystems.	No Relevance This Act has no direct relevance at this time to the construction work under this contract. The project approval does not trigger the provisions of this Act.
Dams Safety Act 1978	This Act constitutes the Dams Safety Committee and confers and imposes on the Committee functions relating to the safety of certain prescribed dams.	Low Relevance It is unlikely any action in respect to this project will endanger the safety of any prescribed dam
Coastal Protection Act 1979	This Act requires public authorities to notify the Coastal Council of NSW of any information, proposed activity or work that in the opinion of the public authority is relevant to the exercise of the function of the Coastal Council.	No Relevance The project is not located in areas associated with this act.

Legal and Other Requirements	Summary of Obligations	Relevance to the Project / Notes and System
	It further empowers the Minister for the Department of Commerce to require public authorities to obtain consent prior to carrying out development in the coastal zone or giving consent to a person to occupy or carry out development in the coastal zone.	
National Parks and Wildlife Act 1974	The relevance of this Act is firstly in respect to the protection and preservation of aboriginal artefacts. Discovery of material on site suspected as being of aboriginal origin must be reported and protected pending assessment and direction by the Client's Representative. Secondly it is an offence under Part 8A of this Act to pick or harm threatened species. (Refer to the notes under the Threatened Species Conservation Act for more information)	Low Relevance No identified aboriginal artefacts have been identified within the construction area. The only relevance would be if new previous unknown artefacts were discovered during construction
Threatened Species Conservation Act 1995 Threatened Species Conservation Regulation 2002 Threatened Species Conservation (Savings and Transitional) Regulation 1996	This Act and Regulations provide for obtaining licenses to harm or pick threatened species populations or ecological communities whether plant or animal or to damage any critical habitat. The offence of picking or harming any threatened species is covered under the National Parks & Wildlife Act Part 8A. It is a defence under Part 8A of that Act if the offence was essential to carrying out development that is in accordance with a Development Consent within the meaning of the EP&A Act or an approval within the meaning of Part 5 of the EP&A Act.	No Relevance No threatened species of flora or fauna listed in the schedules of this Act have been identified within the area of the proposed work.
Fisheries Management Act 1994	This Act is applicable to all waters within the state including private and public waters and all permanent and intermittent waters. The Act is most relevant in respect to maintaining water quality and ensuring no polluted water from site works enters streams, creeks and waterways. In addition, this Act also has relevance for the removal of marine vegetation.	Low Relevance Along with the POEO Act water discharging from the site must not pollute the adjacent streams or watercourses.
Marine Pollution Act 1987	This Act creates offences for discharges of oil, oily mixtures and noxious liquid substances from ships into State waters.	No Relevance The site is located adjacent to state waters and may involve the use of applicable vessels.
Noxious Weeds Act 1993	This Act provides for the classification and control of noxious weeds. Declared noxious weeds are classified as Class 1, State Prohibited Weeds; Class 2, Regionally prohibited Weeds, Class 3 Regionally Controlled Weeds, Locally Controlled Weeds and Class 5 Restricted Plants. The	Low Relevance The Act applies to owners or occupiers of land including public authorities and thus does not apply to Roberts Pizzarotti.

Legal and Other Requirements	Summary of Obligations	Relevance to the Project / Notes and System
	characteristics of each class is given in Section 8 (2) of the Noxious Weeds Amendment Act 2005. Class 1, 2 & 5 weeds are referred to in the Act as "Notifiable Weeds".	
Water Act 1912	This Act provides for licences to extract water for construction purposes either from surface or artesian sources. Should construction water be extracted from surface (other than sedimentation ponds) or artesian sources a licence will be required.	Low Relevance It is not proposed that construction water will be obtained from surface (e.g. creeks, lakes etc) or artesian sources.
Heritage Act 1977	This Act provides for the preservation and conservation of heritage items such as building, works, relic, places of historic interest, scientific, cultural, social, archaeological, architectural, natural or aesthetic significance. Under this Act a relic means any deposit, object or material evidence which is 50 or more years old and relates to the settlement of the area (not being an aboriginal settlement). It is an offence under this Act to wilfully and knowingly damage or destroy items of heritage value. Do not demolish damage, move or develop around any place, building, work, relic, moveable object, precinct, or land that is the subject of an interim heritage order or listing on the State Heritage Register or heritage listing in a Local Environmental Plan without an approval from the Heritage Council (NSW) or local council.	Low Relevance No heritage items have been identified.
Wilderness Act 1987	An Act to provide for the permanent protection of and proper management of Wilderness Areas and to promote the education of the public in the appreciation, protection and management of wilderness. The Act and associated Regulations provides a mechanism for the identification and declaration of Wilderness areas.	No Relevance This project is not within or immediately adjacent to a declared Wilderness area. This Act has little or no relevance to the project.
Plantations and Re-afforestation Act 1999	This Act is intended to facilitate the reforestation of land and development of timber plantations. It provides codified environmental standards together with a streamlined integrated scheme for the establishment and management and harvesting of timber and other forest plantation products.	No Relevance The location of work under this contract is not located within or adjacent to reforested or plantation forest land.
Australian Heritage Council (Consequential & Transitional Provisions) Act 2003	The Australian Heritage Council (Consequential and Transitional Provisions) Act 2003 repealed the Australian Heritage Commission Act 1975. The Australian Heritage Council Act 2003 establishes the Australian Heritage Council. The Council is required to identify places to be included in	No Relevance The site is not on Register of the National Estate of places.

Legal and Other Requirements	Summary of Obligations	Relevance to the Project / Notes and System
Australian Heritage Council Act 2003 (Cwth)	the National Estate and to maintain a Register of the National Estate of places.	
Aboriginal and Torres Strait Islander Heritage Protection Act 1984 (Cwth)	This Act provides for the preservation and protection from injury or desecration to areas and objects of particular significance to Aboriginals. Areas and objects can be protected by Ministerial Declaration and it is then and offence to contravene such a declaration.	No Relevance No areas or objects within the works site have been identified as being subject to such a declaration and this Act is of little relevance to the project.
Ozone Protection Act 1989	This Act provides for a system of controls and to regulate and prohibit the manufacture, sale, distribution, use, emission, re-cycling & disposal of stratospheric ozone depleting substances and articles that contain these substances. The impact is that appropriately qualified people in accordance with this Act must undertake all servicing and maintenance of this type of equipment.	Low Relevance The relevance of this Act will relate to the use of refrigerators and air conditioning units in site buildings and vehicles which still contain CFCs. Such items are unlikely to be found on site.
Protection of the Environment Operations Act 1997	This Act is of most relevance to work being carried out under this contract. It integrates into one Act all the controls necessary to regulate pollution and reduce degradation of the environment, provides for licensing of scheduled development work, scheduled activities and for offences and prosecution under this Act.	High Relevance The Act provides for the issuing of environmental protection notices to control work and activities not covered by licences. Section 148 of the Act requires a pollution incident causing or threatening material harm to the environment to be notified to the EPA and other authorities immediately.
Sydney Water Act 1994	This Act establishes the Sydney Water Corporation as a statutory State-owned corporation. The functions of the Sydney Water Corporation is to supply and store water, provide sewerage services, provide stormwater drainage and dispose of waste water within it area of operations.	Low Relevance Coordination may be required with Sydney Water during the works
Sydney Water Catchment Management Act 1999	This Act establishes the Sydney Catchment Authority as a statutory corporation representing the Crown. The role of the Sydney Catchment Authority is to manage and protect the catchment areas and catchment infrastructure works, be a bulk water supplier and to regulate activities within or affecting the catchment areas	Low Relevance This project will not impact on areas regulated by the Sydney Catchment Authority.
Pesticides Act 1999 Pesticides Regulation 1995	This Act and Regulation establish a legislative framework to regulate the use of pesticides. They have the objective to promote the protection of human health, the environment, property and trade in relation to pesticides. It is an offence under this Act and Regulation to wilfully or negligently misuse pesticides.	Low Relevance It is not envisaged that pesticides will be used on the project by Roberts Pizzarotti.

Legal and Other Requirements	Summary of Obligations	Relevance to the Project / Notes and System
Waste Avoidance and Resource Recovery Act 2001	This Act repeals the Waste Minimisation and Management Act, 1995.The purpose of the Act is to encourage the most efficient use of resources and to reduce environmental harm in accordance with the principles of ecological sustainable development. The Act provides for the making of policies and strategies to achieve these ends. It is an offence under the Protection of the Environment Operations Act to wilfully or negligently dispose of waste in a manner that harms or is likely to harm the environment.	Medium Relevance The relevance of the Act to this project is to implement the strategies by adopting the hierarchy of avoidance; avoidance of unnecessary resource consumption; resource recovery (including reuse, reprocessing, recycling and energy recovery), disposal (as a last resort).

Appendix 04 – Operational Control Procedures - Environmental Risk Action Plans

Environmental Risk Action Plans will be developed for each environmental issue which has a risk ranking of Medium or High.

Significant environmental issues will be managed according to the Environmental Risk Action Plans below.

Noise and Vibration	
Objective	– To comply with contractual requirements and ensure that noise and vibration from construction activities does not cause environmental nuisance.
Targets	– No valid noise / vibration complaints resulting from construction works. – No unreasonable noise or vibration. – No noise and vibration impacts on external receptors.

Legal, Contractual and Other Requirements	– Contract Specification Clause
	– Planning consent conditions – SSD9343
	– Audible construction works unless otherwise approved by the Client shall be restricted to:
	  – 7am – 6pm Monday – Friday
	  – 8am – 1 pm Saturdays
	  – 6pm – 7pm Monday – Friday (Approved After Hours)
	  – 1pm – 4 pm Saturdays (Approved After Hours)
	  – No work outside of these hours without approval
	– Construction activities that are inaudible external to the site may be undertaken outside of these hours where approved
	– Development Consent
	– Protection of the Environment Operations Act 1997
	– Protection of the Environment Operations (Noise Control) Regulation 2000
	– Local Government Act 1993
	– AS2436 Guide to Noise Control on Construction, Maintenance and Demolition Sites

Noise and Vibration	
Site specific planning / approval conditions / licence conditions	Refer SSD9343 Conditions B14; C3; C4; C5; C7; C12; C13; C14; C15; C16; C17; C18

Controls
(means and resources)
	– No work will be undertaken outside of the agreed hours without prior approval
	– Where work outside the hours nominated above hours is required, approval shall be gained prior to the commencement of works
	– Where construction vibration is found to be causing a disturbance to, the construction methods shall be reviewed to reduce the impact where possible
	– Site offices, compounds and sheds will be located so as to have no negative impact on the noise amenity of nearby sensitive receptors
	– Delivery operations or other noise generating activities at compound and storage areas will take place during the designated construction hours nominated above, unless specifically required by Police or RTA requirements
	– Where practical, substitution of excessively noise processes with alternative processes
	– Avoiding where practical the use of noisy plant simultaneously close together or adjacent to sensitive receptors
	– High efficiency mufflers must be fitted to all plant and equipment to minimise the generation of noise
	– All plant will be maintained in accordance with the manufacturer's requirements.
	– Noise generating equipment to be orientated away from sensitive areas
	– Undertaking loading and unloading activities away from sensitive areas and during designated construction hours
	– Select the most appropriate plant and equipment to minimise noise generation and include where necessary screening and enclosures
	– On-site generators and auxiliary power sources used during construction should be positioned away from existing buildings to buffer noise/ vibration
	– Regular checks are to be undertaken to ensure all equipment and vehicles are in good working order and are operated correctly. Checking should include:
	  – engine covers
	  – defective silencing equipment
	  – rattling components
	  – leakages in compressed air lines

Noise and Vibration	
	– Awareness training and information will be provided to project personnel in relation to the vibration requirements on the project and the need to minimise vibration when in close proximity to operational areas – Plant, equipment and processes shall be selected so as to limit construction related vibration – Restrict or modify working hours to minimise impact if required. Include periods of respite where possible when vibration generating activities are being undertaken – Refer Appendix 08 – Construction Noise and Vibration Management Sub-Plan
Responsibilities	– The Site Manager will ensure construction activities comply with these requirements and implement the control measures – The Site Manager/Project Manager will obtain approval to work outside approved hours
Timeframe	– Duration of site works
Monitoring and Reporting	– Weekly inspections to be recorded on form HSE Inspection – Complaints to be recorded on form HSE Incident Notification Report – Daily inspection (pre-start) checks and regular servicing of equipment – Daily / weekly check sheets to be kept for engine-driven or other 'noisy' equipment

Tree Protection	
Objective	– To comply with contractual and Development Consent requirements and ensure that on-site trees are protected, where required from construction activities.
Targets	– Compliance with Development Consent requirements in relation to protected trees from Local Council. – No damage/ death to trees marked as protected on the project. – All Roberts Pizzarotti staff and subcontractors are informed of the requirements of protected trees on the project.
Legal, Contractual and Other Requirements	– Contract specification clause – Planning consent conditions – SSD9343

Tree Protection	
	– Heritage Act 1977 – Local Government Act 1993 – Local Government (General) Regulation 2005
Site specific planning / approval conditions / licence conditions	Refer SSD9343 Condition C19
Controls (means and resources)	– Ensure approval is provided to remove trees – Appropriately trained and qualified tree removal contractors to be used – Awareness training in the need to preserve vegetation to be retained – Provide barricading or other suitable protection measures for trees to be retained
Responsibilities	– Site Manager, Project Manager and Roberts Pizzarotti Staff to ensure all targets are met
Timeframe	– Duration of works by Roberts Pizzarotti
Monitoring and Reporting	– HSE Inspection & Reporting

Dust and Air Quality	
Objective	– To comply with contractual requirements and ensure that dust and other air emissions from construction activities do not cause impacts on sensitive receivers and equipment
Targets	– No valid dust complaints from construction works – No dust impacting on offsite activities or surrounding residences – No release of contaminants, (odour, smoke etc) into the air – Comply with construction contract conditions

Dust and Air Quality	
Legal, Contractual and Other Requirements	– Contract specification – Planning consent conditions – SSD9343 – Protection of the Environment Operations Act 1997 – Protection of the Environment Operations (Clean Air) Reg 2002 – Local Government Act 1993
Site specific planning / approval conditions / licence conditions	Refer SSD9343 Conditions C20; C21
Controls (means and resources)	– Spraying formations and exposed work areas to suppress dust using water carts, tankers and other suitable equipment – Minimise traffic on exposed areas – create designated haul roads – Cover haul vehicles loads & ensure tail gates are closed when operating on public roads – Provide shaker grids or rumble strip at site egress points. Note where aggregate is used, minimum size is 150mm – Remove mud from haul vehicles prior to entering public roads – Remove spilt mud by construction equipment or vehicles on public roads – Reprogram dust generating work during periods of high wind – Provide awareness training in the need to minimise dust during site inductions and toolbox talks – Regular visual monitoring of dust generation – Maintenance of Plant & Equipment as per manufacturers requirements
Responsibilities	– The Site Manager/Project Manager to implement the requirements of this plan – Site Manager to inspect the works at regular intervals to identify areas of dust generation
Timeframe	– Shaker grids to be installed prior to commencement of works (where applicable) – Water tankers and other measures available at the commencement of earthworks – Spilt mud and sediment to be removed from public roads prior to the end of each shift – Duration of site works

Dust and Air Quality	
Monitoring and Reporting	– Weekly inspections to be recorded on Form HSE Inspection – Complaints to be recorded on form HSE Incident Notification Report

Waste	
Objective	– To comply with contractual and legislative requirements and ensure that waste from construction activities does not have the potential to escape from the site and cause an environmental nuisance / harm.
Targets	– No incidents where waste is stored in a position where it has the potential to move off-site. – All off site movements of waste will be tracked. – The principles of the waste management hierarchy will be adopted, where practicable. – Target to reuse or recycle 80% by weight of construction waste. – Waste will be minimised where-ever possible.
Legal, Contractual and Other Requirements	– Contract Specification Clause – Planning consent conditions – SSD9343 – Protection of the Environment Operations Act 1997 – Protection of the Environment Operations (Waste) Regulation 2005 – Waste Avoidance and Resource Recovery Act 2001 – Local Government Act 1993 – Local Government (General) Regulation 2005
Site specific planning / approval conditions / licence conditions	Refer SSD9343 Conditions B15; C31 – C35
Controls	– Licensed waste contractors will be utilised to remove waste.

Waste	
(means and resources)	– All waste is to be disposed of at a lawful facility. Note: A lawful facility includes one that has the appropriate Development Consent, Environment Protection Licence or is complying with EPA approved conditions and requirements. – Use a licensed contractor to remove waste from site. – Waste must be classified prior to disposal – refer to NSW EPA Waste Classification Guidelines – All spoil material removed from the site will be classified as per the NSW EPA Waste Classification Guidelines. Only a suitable Licensed or approved facility or approved site may receive the waste. – Records of the quantity and final location of the spoil material will be retained. – Use skip bins and ensure there are an adequate number of bins on site to hold all waste generated. – Provide bins to enable waste segregation – Provide recycling services. E.g. Paper, Concrete, Steel, Cardboard, Timber. – Ensure housekeeping is maintained and waste is disposed of to the appropriate bin. – Retain waste disposal permits and figures on the amount of waste that has been removed from site. Refer Appendix 09 - Construction Waste Management Sub-Plan
Responsibilities	– Site Manager will ensure waste is correctly stored, classified, recorded, tracked and minimised at all times – The Project Manager is accountable for ensuring lawful waste disposal – All personnel are responsible for ensuring waste is placed in the bins provided.
Timeframe	– Duration of site works.
Monitoring and Reporting	– Skips monitored visually by the Site Supervision on a daily basis. – Form HSE Inspection to be used to verify site waste practices – Waste disposal records to be recorded in Waste Tracker, stored on the Project G Drive

Water Quality, Site Drainage and Erosion and Sediment Control	
Objective	– To comply with contractual and legislative requirements and ensure that water discharged off-site from construction and erosion and sediment control (ESC) activities does not cause environmental nuisance / harm.
Targets	– No sediment impacts to the surrounding environment and waterways as a result of the works – Prevent water quality impacts off site as a result of erosion and sedimentation.
Legal, Contractual and Other Requirements	– Protection of the Environment Operations Act 1997 – Water Management Act 2000 – Local Government Act 1993
Site specific planning / approval conditions / licence conditions	Refer SSD9343 Conditions B17; B20; B28; B29; B30; C22; C24;

Controls
(means and resources)
	– Erosion and sediment control plans (ESCPs) will be developed and implemented prior to the commencement of topsoil stripping and earthworks.
	– The development of ESCPs will be guided by the Blue Book and other guidelines where required.
	– Particular attention will be paid to the design criteria for sediment fences, straw bales, catch drains, diversion drains, sandbags and similar controls
	– Permanent drainage to be installed as early in the program as possible
	– All water to be discharged in accordance with legislation and only after Roberts Pizzarotti approval.
	– Discharge quality must comply with:
	  – TSS: ≤ 50mg/lt (~Turbidy 30NTU). If this cannot be achieved though natural settling, then the trapped sediment laden water is to be flocculated with gypsum applied at a rate of approx. 40kg/100m3.
	  – pH: Between 6.5 and 8.5.
	– Provide shaker grids or rumble strip at site egress points. Note where aggregate is used, minimum size is 150mm
	– Top soil/mulch stockpiles to be not greater than 2.0m in height. All stockpiles will be located clear of watercourses and drainage works.
	– Wastewater management facilities shall only be provided through connection to existing sewer or proprietary storage and pump out systems are permitted.

Water Quality, Site Drainage and Erosion and Sediment Control	
	– Wastewater storage and pump out systems shall be procured, installed and operated, including the provision of automatic cut off valves for inflows and high level alarms. – All disturbed surfaces will be revegetated within 1 month of final land forming and in compliance with the landscaping plans. – Erosion and Sediment Control devices are to be maintained when their capacity has been reduced by 25%. – Under no circumstances will temporary stockpiles be placed within 5m of the site boundary or in position where it could impact adjacent property. – Toolbox talks will be conducted for employees and subcontractors on the requirements of the Erosion and Sediment Control Plan. – The Erosion and Sediment Control Plan is to be maintained and up to date for the current site conditions – Use sand bag check dams to protect stormwater drains as required. – All ESC works will be removed immediately prior to final completion and all surfaces will be returned to pre-existing condition. – Groundwater contamination. Containment methods such as Stockpiling, placing silt bags on the site, will reduce the impact of groundwater contamination. The containment methods will be employed to prevent potential leeching of groundwater, and to prevent overland movement of potentially contaminated material. Silt & sediments controls will be employed around the works zones. – Where treatment (including potentially contaminated waste water) is unable to be treated/stored and managed onsite, a waste contractor will also be engaged to assist in the management and disposal of the waster to an approved treatment facility. Refer Appendix 10 – Flood Emergency Plan.
Responsibilities	– All staff to ensure adequate ESC devices are installed and maintained. – The PER will undertake “at least weekly” inspections of on-site ESC devices, plus prior to expected rainfall and after rainfall. – The Site Manager is responsible for the repair/ management of any damage or additional ESC devices, as required.
Timeframe	– Duration of site works.
Monitoring and Reporting	– Visually monitored daily by site supervision. – Weekly inspections to be documented on form HSE Inspection – Maintenance activities for ESCPs shall be documented – items that cannot be immediately repaired are to be documented on the project CAR Register. – All water quality data including quantity, quality and dates of water release will be maintained the project records.

Traffic Management	
Objective	– To comply with contractual requirements and ensure that noise and additional traffic from construction activities does not cause an environmental nuisance
Targets	– No valid complaints resulting from congestion from construction traffic outside the approved Traffic Management Plan – Comply with traffic management standards – No visible cueing in streets surrounding the site
Legal, Contractual and Other Requirements	– Planning consent conditions – SSD9343 – Protection of the Environment Operations Act 1997 – Roads Act 1993 – RTA Traffic Control at Worksites – Roads (General) Regulation 2000 – Local Government Act 1993
Site specific planning / approval conditions / licence conditions	Refer SSD9343 Conditions B13; B18; B19, B26; C9;
Controls (means and resources)	– A Traffic Management Plan shall be developed detailing the route to the site, times of activity, types of machinery, signage, traffic control measures, etc. – An approved Traffic Control Plan is required for any activity on/or immediately adjacent to public roads – The Traffic Management Plan will detail the monitoring and inspection requirements – There will be no cueing of vehicles on any roads adjacent to or in the vicinity of the site – There will be no construction parking in non-approved zones or parking areas – Ensure pedestrian access ways are clearly defined and maintained – Regular checks are to be undertaken to ensure all equipment and vehicles are in good working order and are operated correctly. Checking should include: – defective silencing equipment

Traffic Management	
	– rattling components Refer Appendix 11 – Construction Traffic and Pedestrian Management Sub Plan
Responsibilities	– The Site Manager is responsible for ensuring traffic management plans and TCPs are developed, approved and implemented
Timeframe	– Duration of site works.
Monitoring and Reporting	– HSE Incident Notification Report to be used to document complaints. – Daily inspection, checks and regular maintenance to be completed for traffic control measures.

Hazardous / Contaminated Material	
Objective	– To comply with contractual and legislative requirements and ensure that hazardous / contaminated material from construction activities does not cause an environmental nuisance / harm and is disposed of in accordance with legislative requirements
Targets	– No environmental incidences involving contaminated/ hazardous materials – No pollution events of the surrounding environmental and water ways by contaminated material – All off-site movement of any found contaminated material will be tracked
Legal, Contractual and Other Requirements	– Contract specification clause – Dangerous Goods Safety Management Act 2001 – Dangerous Goods Safety Management Regulation 2001 – AS/ NZS 1940: 2004 - The Storage and Handling of Flammable and Combustible Liquids – Australian Dangerous Goods Code, 5th Edition
Site specific planning / approval conditions / licence conditions	Refer SSD9343 Conditions C23; C35

Hazardous / Contaminated Material	
Controls (means and resources)	Suspected material may include that which is visibly different to surrounding material, fibrous in nature, exhibits hydrocarbon odours or other unexpected characteristics, unknown containers, piping, underground storage tanks, or similar structures are discovered: – Follow protocols in the contract, RAP or Client Environmental Management Plan – Immediately cease work and contact the Site Manger / Foreman / Supervisor – Demarcate the 'unexpected find' to prevent access and install appropriate environmental and safety controls. – Project Manager to contact the client representative – If substance is assessed as not presenting an unacceptable risk to human health. Site Manger / Foreman / Supervisor to remove controls and continue work In addition, the following controls will be incorporated: – Manage any contaminated material as per legislative/EPA requirements including the testing and assessment at the direction of the Client's representative – Protect the environment by implementing control measures to divert surface runoff away from the potentially contaminated ground – Capture and manage any surface runoff contaminated by exposure to contaminated ground – Environmental awareness training relating to the identification and management of acid sulphate soils to be provided to all site personnel involved in earthworks, excavation or drainage construction activities –
Responsibilities	– Site Manger / Foreman / Supervisors, Project Manager and Roberts Pizzarotti Staff to ensure all targets are met
Timeframe	– Contaminated Material: Duration of any contaminated material removal – Hazardous Material: Duration of site works
Monitoring and Reporting	– Receipts for the disposal of any found hazardous material will be filed on site by the EHS Manager / Coordinator – The finding of any contaminated material on site will be reported monthly by the EHS Manager / Coordinator using the Monthly HSE Report form

Trade Waste	
Objective	– To comply with contractual and legislative requirements and ensure that trade waste from construction activities does not cause an environmental nuisance / harm
Targets	– All trade waste to be discharged in accordance with legislation and approvals – Educate Roberts Pizzarotti staff and subcontractors on the relevant legislation, the correct use of the washout system and the Roberts Pizzarotti Trade Waste Permit where required – Reduced impacts to the surrounding environment and waterways
Legal, Contractual and Other Requirements	– Development Consent conditions, Consent No.: SSD9343 – Contract specification clause – Sydney Water Act 1994. – Sydney Water Catchment Management Act 1999
Site specific planning / approval conditions / licence conditions	Refer SSD9343 Conditions B16; C31- C35
Controls (means and resources)	– Provide a washout system on site which complies with all relevant legislation and contract conditions – Any paint washout required shall only be undertaken in the designated areas with appropriate bunding and control measures. – Ensure the washout system is in a location which is away from stormwater drains and water courses – Trade waste or other prohibited substances will not be discharged into infrastructure (storm water drains or sewerage system) without the approval – Note: Roberts Pizzarotti staff and subcontractors may be prosecuted if they are found illegally dumping trade waste and could be responsible for paying sewerage system repair costs – Toolbox talks will be conducted for Roberts Pizzarotti staff and subcontractors in the correct use of the washout system and legislation – Ensure the washout system is monitored and cleaned on a regular basis
Responsibilities	– The Project Manager will ensure a permit has been obtained prior to discharging trade waste – The EHS Manager / Coordinator will ensure all relevant subcontractors undertake toolbox talks in relation to washout legislation and use.

Trade Waste	
Timeframe	– At all times when there is site connection to sewage facilities
Monitoring and Reporting	– Visually monitored daily by the EHS Manager / Coordinator – HSE Inspection report to detail any trade waste issues, follow up by EHS Manager / Coordinator

Concrete Washout	
Objective	– To comply with contractual and legislative requirements in relation to the washing out of concrete on the project
Targets	– Nil spills or uncontrolled release of concrete – No instances of uncontrolled concrete washout
Legal, Contractual and Other Requirements	– Protection of the Environment Operations Act (1997)
Site specific planning / approval conditions / licence conditions	Refer SSD9343 Condition C33
Controls (means and resources)	– Concrete washout to be constructed with geo-fabric lining and bunded – Location of washout to be at least 20m away from any drainage line or stormwater system – Washout to be constructed to the dimensions of 6m x 3m x .5m deep prior to commencement of concrete works – Washout to be barricaded off on all sides when not in use to prevent unauthorised entry – Washout area is to be inspected daily by the Site Manager to ensure residual water levels don't exceed 75% of capacity – Daily inspection of concrete washout to be undertaken, report and rectify issues using site diary or other means – Washout area to be cleaned when the capacity has been reduced below 50% – Cleaning of washout to involve, removal of spoiled geo-fabric material and disposed off in licensed landfill. Records to be retained

Concrete Washout	
	– Where possible waste concrete shall be returned to the batch plant or concrete recycler – Concrete truck drivers are to be advised of the location of the washout area prior to arrival on site – The requirements relating to concrete washout on site are to be provided to the supplier prior to the works
Responsibilities	– The Site Manager will ensure that an approved and prepared area for concrete washout is available – All personnel are required to ensure that the requirements of this ERAP are implemented for their operations – Site Manager /Project Manager are required to advise Roberts Pizzarotti of any concrete spills – The Site Manager is responsible for confirming these requirements with the concrete supplier prior to the works
Timeframe	– Duration of site works
Monitoring and Reporting	– Weekly inspections to be recorded on Form HSE Inspection – Incidents or spills of concrete to be recorded on form HSE Incident Notification

Delivery and Storage of Chemicals, Fuels and Oils and including Dangerous Goods requirements	
Objective	– To comply with contractual and legislative requirements in relations to the transport of dangerous goods – To comply with contractual and legislative requirements in relation to the storage of chemicals, fuels and oils on the site. – To ensure contractual and legislative requirements in relation to hazardous substances and dangerous goods are adequately addressed for all operations – there are specific additional requirements relating to the storage and transport of dangerous goods
Targets	– Zero spills or uncontrolled release of fuel, oils or chemicals associated with Roberts Pizzarotti's Operations. – Compliance with relevant transport and storage requirements – All vehicles transporting dangerous goods have appropriate placards, licenses and emergency equipment and procedures
Legal, Contractual and Other Requirements	– AS/ NZS 1940: 2004 – The Storage and Handling of Flammable and Combustible Liquids – Dangerous goods (Road and Rail Transport) Act 2008 – Dangerous goods (Road and Rail Transport) Regulation 2008

Delivery and Storage of Chemicals, Fuels and Oils and including Dangerous Goods requirements	
	– Australian Dangerous Goods Code, 7th Edition – Contract specification
Site specific planning / approval conditions / licence conditions	N/A
Controls (means and resources)	The following are the minimum general control measures to be implemented on the project, however additional control measures may be required following the completion of the construction process procedure/work method statement for the proposed activity: – Minimise storage of fuel, oil, chemicals or other dangerous goods on site, though efficient and timely ordering – The SDS and material risk assessment and including any specific control measures are to be submitted where required to the Client's Representative for each and every substance to be brought on to site – A risk assessment relating to the use of these materials is to be completed in accordance with the Work Health and Safety Plan prior to the arrival of these goods to site – SDS and associated documentation for each material to be reviewed prior to the completion of the risk assessment for the relevant construction process. A copy to be included with the SWMS – Ensure SDSs are available on site for all fuels, oils, chemicals and dangerous goods. Suppliers are to provide SDS prior to dispatch of the material – Chemicals, fuels and oils to be stored in a securely bunded area with appropriate signage, at all times when not specifically in use – Chemicals fuels, oils and chemicals to be stored inside impervious bunds of sufficient capacity to contain 110% of the stored volume. Bunded areas must have sufficient cover to prevent ingress of rain – Materials removed from the bunded storage area for use are to be returned to the bund at the end of each shift – Storage sites are to be > 20m away from operational facilities, drainage lines, areas prone to flooding or on slopes > 1V:10H. – Operator, driver or Supervisor to be in attendance at all times when unloading of fuel, oil or chemicals takes place on site – No water to be discharged from bunded areas into site drainage system. Contaminated water to be removed by appropriately licensed contractor & discharged to a suitably licensed waste facility – Delivery drivers are to be provided with specific drop off and storage instructions. – Spill kits & absorbent material to be located adjacent to storage bunds

Delivery and Storage of Chemicals, Fuels and Oils and including Dangerous Goods requirements

- Training is to be provided to RP personnel in the application of this ERAP and the use of spill kits.
- Absorbent material used to clean up spills to be disposed of in accordance with the EPA Waste Classification Guidelines
- A register of Chemicals, Fuels/Oils and Hazardous materials is to be kept onsite and maintained for the duration of the project
- Each construction method statement shall identify the use of chemicals, fuels & oils and hazardous materials
- SWMSs to address the specific requirements relevant to the work to be undertaken and document relevant site control measures.
- Dangerous Goods
- Ensure transporters of these materials are appropriately licensed. This includes relevant licenses for vehicles and drivers
- Dangerous goods that are to be transported in receptacles greater than 500lt/kg may require specific licenses and shall not be transported by Roberts Pizzarotti without the Project Manager/Workplace Manager's approval
- Where dangerous goods are transported by Roberts Pizzarotti, a SWMS must be developed and include dangerous goods requirements
- Transport information/manifest is required to be included with any quantity of Dangerous Goods transported by Roberts Pizzarotti – Form 1232 Dangerous Goods Transport Note is to be used unless it can be demonstrated that the activity is exempt.
- The SWMS statement must address the requirement for Licensing, Placards or other specific regulatory requirements
- Transport activities in quantities that trigger the requirements of a "Placard Load" under the regulations require the following:
  - Transport vehicle to have appropriate Dangerous Goods Placard
  - Transport documents including manifests
  - Emergency procedures and information in an appropriate holder
  - 30B fire extinguisher
  - Double-sided reflectors
  - Driver safety equipment and PPE
  - Goods must be secured and where required segregated from incompatible goods.
  - Dangerous goods must be appropriately marked in accordance with the Australian Dangerous Goods Code

Typical dangerous goods associated with operations include the following:

Type of Goods	DG Class	Type of Goods	DG Class	Type of Goods	DG Class

Delivery and Storage of Chemicals, Fuels and Oils and including Dangerous Goods requirements

LPG Gas	2.1	Epoxy paint including hardener	8	Plumbing adhesive	3
Open Gear Lubricant	2.1	Chemical Anchor - parts A & B	8	Diesel	3
Marker Paint	2.1	Chemical Anchor	8	Joint/gap sealant	3
Silicone Lubricant	2.1	Chemical Anchor	8	Dry Film Lubricating Paint	3
Fuel Gas for welding/cutting	2.1	Adhesive Mortar	8	Joint/gap sealant	5.2
Fuel Gas for welding/cutting	2.2	Acid	8	Sealant	6.1
Air Operated Tool Lubrication	3	Degreaser (Pile Rigs)	9	Flocculant	8
Zinc Primer Paint	3	Engine Coolant	9	Rail Welding Consumables	1.4 S
Air tool lubricant - workshop	3	Antifreeze	9	Adhesive	3
Petrol-Unleaded	3	Grout	9		
Sealant	3	Form Oil	9		

Dangerous Goods Storage

– Dangerous goods storage on site must comply with the requirements of AS 1940:2004 including maintaining separation distances for incompatible materials.
– The proposed materials need to be assessed for compatibility and required separation distances or control measures implemented.

Delivery and Storage of Chemicals, Fuels and Oils and including Dangerous Goods requirements	
	– Flammable materials storage is to be >15m from site facilities, officers, amenities or protected places. – Quantities to be stored must be assessed to determine if they are considered manifest quantities - manifest quantities will require notification to WorkCover. – A storage location plan is required and needs to include internal layout, location of registers/manifests for the storage location. – Bunding to be impervious and of sufficient capacity to contain 110% of the stored volume – Appropriate spill containment material and fire extinguishers are also required.
Responsibilities	– Engineering personnel are responsible for identification of requirement to transport Dangerous Goods – Relevant Project Manager or Site Manager is responsible for ensuring all vehicles carry appropriate placards, licenses, emergency equipment and procedures – The Site Manager is required to ensure that sufficient bunds are available and that material is stored appropriately. – Engineering personnel are responsible for ensure SDS and other relevant documentation are obtained and where required submitted to the Client's Representative prior to the material arriving on site. Relevant documentation also includes appropriate risk assessment. – The EHS Manager / Coordinator is responsible for ensuring the Chemicals, Fuels/Oils & Hazardous Substances register is maintained.
Timeframe	– Duration of operations. The requirements apply to goods transported by Roberts Pizzarotti and third parties.
Monitoring and Reporting	– Plant / project risk assessments – Weekly inspections to be recorded on Form HSE Inspection – Register of Chemicals, Fuels/Oils and Hazardous Materials – Incidents or spills to be recorded on form HSE Incident Notification – Storage areas are to be inspected by the foreman / supervisory personnel on a weekly basis.

Flora and Fauna	
Objective	– To comply with contractual and legislative requirements and ensure that native fauna and flora are protected from construction activities.

Flora and Fauna	
Targets	– No death or injury to fauna including the Green and Golden Bell Frog – No unapproved destruction of flora
Legal, Contractual and Other Requirements	– Environmental Protection and Biodiversity Conservation Act – Threatened Species Conservation Act 1995
Site specific planning / approval conditions / licence conditions	Refer SSD9343 Condition C19
Controls (means and resources)	– If native fauna is identified within the disturbance footprint, the person taking the action must take all necessary steps to minimise harm and mortality to those animals. – Open excavations and storage areas to be inspected regularly for the presence of fauna species. – No clearing or vegetation removal to occur without the Client's approval – All vegetation to be retained shall be protected. – Works will only be undertaken in designated areas. – The clearing limits and protected vegetation is to be clearly communicated to site personnel during site inductions and toolbox talks. – Plant and equipment brought on to site must be cleaned and free of deleterious material, mud and other material that may harbour weed seeds – Identification of noxious weeds is to be notified to the Client's representative for action. – Construction plant, equipment and materials are not to be stored within the dripline of any trees or vegetation to be retained. – No personnel on site are permitted to hunt, fish, feed, capture, extract, or otherwise disturb aquatic, animal, or vegetative species while performing any tasks in performance of the work.
Responsibilities	– All personnel are responsible for ensuring that the clearing limits are addressed and native flora and fauna species are protected. – All site personnel to undertake toolbox talks in relation to the reporting process for injury/ death to fauna or clearing of flora occurring beyond the required limits for construction.
Timeframe	– Duration of the works.

Flora and Fauna	
Monitoring and Reporting	– Visually monitored daily – Weekly environmental inspection form HSE Inspection detailing any flora and fauna.

Archaeology and Heritage	
Objective	– To comply with contractual and legislative requirements and ensure that existing and undiscovered heritage and archaeological items are protected from construction activities.
Targets	– Heritage Act 1977 – National Parks and Wildlife Act 1974
Legal, Contractual and Other Requirements	– No disturbance or damage to existing known heritage sites or items. – Unknown or undocumented heritage sites are not knowingly destroyed, defaced or damaged. – Identify and protect any new artefacts or heritage sites before any harm can take place. – Any relics found on site will be kept safe for consideration of incorporation into site fixtures
Site specific planning / approval conditions / licence conditions	Refer SSD9343 Conditions C27; C28; C29; C30
Controls (means and resources)	– Awareness training on the need for the preservation of artefacts and items of heritage value to be provided during the site induction. – Location of currently identified archaeological and heritage items are to be nominated on the Environmental Control Plan. – Exclusion fencing will be provided around the perimeter of any identified heritage or archaeological items. – Awareness training on the need to stop work and to report on new sites, artefacts or items of heritage value. – Should any new items be discovered that are suspected of being of heritage significance, whether Indigenous or European, work in the specific area would cease and Roberts Pizzarotti is to be notified immediately. – Should suspected heritage or archaeological items including human remains be found during the works, the following procedure will apply:

Archaeology and Heritage	
	– Work is to cease in the area immediately and Roberts Pizzarotti notified – The matter is to be referred to the client – The object is to be left in place – GPS coordinates of the item are to be noted – Photographic records of the item and its location are to be made Refer Appendix 12 – Unexpected Finds Protocol for Aboriginal & Non-Aboriginal Heritage
Responsibilities	– All personnel on site are to ensure that archaeological and heritage items are protected from damage or disturbance, unless – The Environmental Manager will ensure all site personnel undertake toolbox talks in relation to protection of nominated items that were previously unknown.
Timeframe	– Throughout construction activities
Monitoring and Reporting	– Visual monitoring weekly of any existing items – Completion of weekly environmental inspection report HSE Inspection

Appendix 05 – Environmental Control Plan

REFER G Drive, G:\20_Projects_2020\E19024 Meadowbank School\10.0 Project Management Plans\05 Environmental Management

Appendix 06 – Emergency Preparedness and Response

The types of environmental emergencies that could occur on this site are tabulated below.

Note: This plan is designed to supplement both the Roberts Pizzarotti Project Emergency Response Plan and the Client's site emergency response plan/s, where available.

Emergency	Preparation	Response	Responsibility
Significant adverse dust event due to weather conditions: High winds	Monitor meteorological conditions for the area - develop contingency for wind speeds in excess of 16m/s (55km/hr) High wind 'stop works' protocols in place Establish contingency strategy for additional dust control measures, additional water carts, dust suppressants, stockpile covers etc	Dust generating activities will cease under direction of the EHS Manager or Foreman / Supervisor until adverse conditions subside. Deploy additional mitigation measures to exposed areas stockpiles and other dust generating items will be water sprayed or covered.	EHS Manager / Coordinator Foreman / Supervisor
Discovery of friable asbestos.	Review previous land uses, environmental reports for potential for friable asbestos. Include asbestos awareness in the site induction where the potential exists Include contingency in relevant work procedures and SWMSs Identify potential service providers for asbestos control and removal.	Quarantine suspected area Cover or provide dust mitigation strategy Engage licensed/approved removal and disposal organisation Complete post removal verification	Project Manager Site Manger / Foreman / Supervisor EHS Manager / Coordinator
Flooding	Monitor meteorological conditions – develop contingency strategy for rainfall > 100mm in 24hours or potential for > 1in 5 ARI All chemicals, fuels and other hazardous substances to be in secured containers	Recover materials washed from site including sediment and other waste. Check effectiveness of erosion and sedimentation devices and other flood controls, maintain where required and safe to do so.	Site Manger / Foreman / Supervisor EHS Manager / Coordinator

Emergency	Preparation	Response	Responsibility
	and stored within a sealable shipping container Remove plant and equipment from low lying areas Secure plant that cannot be removed Review site drainage flow paths: Redirect site drainage to prevent flooding of residential/business premises Ensure site drainage does not concentrate surface flow Review and address the potential for excess water entering the site Review and maintain erosion and sedimentation controls		
Temporary erosion and sediment controls are damaged during rainfall.	Plan controls to be suitable for expected conditions Ensure sufficient materials, labour and plant are available for additional controls.	A review of the site to be undertaken by EHS Manager and Site Manger / Foreman / Supervisor. Controls to be repaired or replaced within 24 hours of detection, immediately if inclement weather current.	EHS Manager / Coordinator Site Manger / Foreman / Supervisor
Damage to sediment basin	Check basins for suitability to project requirements; size, treatment type, etc Basin outlet to be designed to remain functional in 1 in 20 ARI event Ensure basin construction is in accordance with QA requirements including relevant ITPs.	Water in damaged basin to be pumped to another secure basin, or discharged if it meets the site criteria. Damage to be repaired as soon as practical. Repairs to be monitored when basin brought back online.	EHS Manager / Coordinator Site Manger / Foreman / Supervisor
Spill of hazardous or toxic substance (< 20L)	Awareness training of appropriate response and procedures to be incorporated into Project Induction SDS on site for all materials and kept up to date	Report spills immediately to Site Manager and/or the EHS Manager / Coordinator Attempts to be made to limit or contain the spill using sand bags to construct a bund wall, use of absorbent material, temporary sealing of cracks or leaks in	Site Manger / Foreman / Supervisor EHS Manager / Coordinator

Emergency	Preparation	Response	Responsibility
	Adequate supply of absorbent materials available in the site compound and on vehicles at work location	containers, use of geotextile or silt fencing to contain the spill. Site Manager and Supervisors to coordinate the response, clean up and disposal of the material Material to be disposed of in accordance with the manufacturers' recommendations and applicable legislation.	
Major spill of hazardous or toxic substance off site or to environmentally sensitive area (> 20L)	Awareness training of appropriate response and procedures to be incorporated into Environmental and Safety Induction SDS on site for all materials and kept up to date Adequate supply of absorbent materials available in the site compound and on vehicles in work location Emergency telephone numbers for Emergency Response organisations/fire brigade prominently displayed around office and issued to supervisors Initial contact to be made with relevant organisations at project commencement	Report spill immediately to Project Manager and/or Site Manager who will notify the client Attempts to be made to limit or contain the spill using sand bags to construct a bund wall, use of absorbent material, temporary sealing of cracks or leaks in containers, use of geotextile or silt fencing to contain the spill, transferring remaining material. Implement procedures to notify the relevant authorities. Site Manager to coordinate the response, clean up Fire brigade or emergency organisations should be called if spill cannot be controlled by site resources. Evacuation procedures are to be implemented to remove non-essential personnel from the affected area On site client personnel are informed of the incident, internal reporting as per potential Class 1 matter. Access and egress to the area is established to ensure the appropriate vehicles have effective access and congestion is minimised. Senior Officer from fire brigade /emergency organisation assumes control of the operation with Roberts Pizzarotti personnel assisting as required.	Project Manager Site Manger / Foreman / Supervisor EHS Manager / Coordinator

Emergency	Preparation	Response	Responsibility
		Commence data gathering and investigation once emergency is contained	
Vibration causing structural damage	Choose correct plant when working near structures; minimise size and impact Use safe working distances during planning phase Implement vibration monitoring at commencement of vibration generating works to ensure compliance with standards	Activities causing vibration would cease under direction of the EHS Manager / Coordinator or Site Manger / Foreman / Supervisor. Any occupants of buildings may be evacuated with due consideration to safety, and the area secured to prevent unauthorised access. A structural assessment to be undertaken; and if any damage is associated with construction, rectification work would be agreed.	EHS Manager / Coordinator Project Manager
Unapproved clearing / damage to protected vegetation – threatened/endangered species	Clearly demarcate site boundaries Clearly demarcate clearing areas and brief site personnel Identify/mark vegetation to be retained or that is protected. Identify species that may be impacted, include material within the project induction Included requirements within construction planning documentation.	Immediately cease activities Engage consultant to assess damage to vegetation and presence of any endangered or threatened communities.	Site Manger / Foreman / Supervisor EHS Manager / Coordinator
Injury/death to protected/endangered/threatened fauna	Identify potentially impacted species prior to commencement on site. Identify species that may be impacted, include material within the project induction Review/inspect vegetation to be cleared prior to clearing – utilise ecologist/spotter where there is the potential for endangered/threatened species	Immediately cease activities upon discovery of injured fauna Implement procedure for short-term stabilisation and transport to Vet or WIRES Undertake additional vegetation inspection to identify any remaining fauna prior to recommencement.	Site Manger / Foreman / Supervisor EHS Manager / Coordinator

Emergency	Preparation	Response	Responsibility
	Engage with local vet/WIRES representative on the appropriate contact/procedure Site procedure for the short-term management of injured fauna		
Damage / destruction of **indigenous** heritage item	Ensure site investigations detail any heritage items on or in proximity to the site. Include awareness material within the project induction Develop a 'stop works' protocol for any heritage find on site.	Cease works and stabilise the area, under the direction of the Environmental Manager or Site Manger / Foreman / Supervisor. The Environmental Manager is to report the remnants to the client and regulatory authority. Request an archaeologist to assess the significance and archaeological potential of the uncovered feature.	EHS Manager / Coordinator
Damage / destruction of **European** heritage	Ensure site investigations detail any heritage items on or in proximity to the site. Develop a 'stop works' protocol for any heritage find on site.	Cease works and stabilise the area, under the direction of the Environmental Manager or Site Manger / Foreman / Supervisor. Contact an archaeologist to assess the significance and archaeological potential of the uncovered feature.	EHS Manager / Coordinator

Appendix 07 – Conditions of Approval Compliance Tracking Matrix

Refer SSD 9343 Consent Conditions

Appendix 08 – Construction Noise and Vibration Management Sub-Plan

School at the Meadowbank Education and Employment Precinct

Construction Noise and Vibration Management Sub-Plan (CNVMSP)

Project ID	20200342.2
Document Title	Construction Noise and Vibration Management
Attention To	Roberts Pizzarotti (NSW) Pty Limited

Revision	Date	Document Reference	Prepared By	Checked By	Approved By
0	3/07/2020	20200342.2/0307A/R0/TH	TH	MS	MS
1	10/07/2020	20200342.2/1007A/R1/TH	TH		VF

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1 INTRODUCTION

This report presents our assessment of the processes which will be followed in order to manage noise and vibration from construction activities associated with the development of School at the Meadowbank Education and Employment Precinct, 2 Rhodes Street, Meadowbank. This report is pursuant to development consent SSD 9343 condition B14 in accordance with condition B11.

The principal objective of this study is to undertake an evaluation of work to be performed during construction phases of the project and forecast potential impacts of noise and vibration. The evaluation will be used to formulate and streamline effective regulation and mitigation measures.

The principal issues which will be addressed in this report are:

- Specific activities that will be conducted and the associated noise/vibration sources;
- Identification of potentially affected noise/ vibration sensitive receivers;
- The development, hours of work and excavation period;
- The construction noise requirements specified in consent condition B14 (ref: SSD 9343),
- Noise/ vibration response procedures,
- Assessment of potential noise/ vibration from the proposed demolition, excavation and construction activities; and
- Contingency plans to be implemented in the event of non-compliances and/or noise complaints

2 SITE DESCRIPTION & PROPOSED DEVELOPMENT

The proposed works includes excavation and ground works, construction of structure and internal fit-out of a multi-storey educational facility.

Excavation and construction works will provide for a basement vehicle carpark below five levels of predominantly adaptable learning, administrative, staff and library areas. Other areas include outdoor playgrounds, a gymnasium and multi-purpose hall.

The previously conducted *Meadowbank Education and Employment Precinct Schools Project Noise Impact* Assessment (NIA) prepared at SSDA stage by this office dated 10 October 2019 (ref: 20180641.1/1604A/R10/MF) indicates that the nearest affected receivers are as follows:

Receiver 1 (R1) - Residential dwellings located along Bank Street, west of the site. Receiver 1 residences are located on the western side of the rail corridor. The majority of these dwellings do not have a direct line of sight to ground level site activities (the raised rail corridor provides screening) with exception of 54 Bank Street, which is located on higher ground and is the closest residence to the development site.

Receiver 2 (R2) – Residential dwellings located adjacent to Macpherson Street. These dwellings lie adjacent to the north-eastern site boundary.

Receiver 3 (R3) – Residential dwellings located south-east of development site across See Street. These residences are closest to the south-eastern site boundary.

Receiver 4 (R4) – TAFE NSW Meadowbank campus will be located adjacent to southern site boundary with the nearest building being the Meadowbank TAFE College Library.

Receiver 5 (R5) – Existing light industrial properties are located adjacent the northern site boundary across of Rhodes Street.

An aerial photo of the site, monitoring locations and surrounding receivers is shown below in Figure 1.

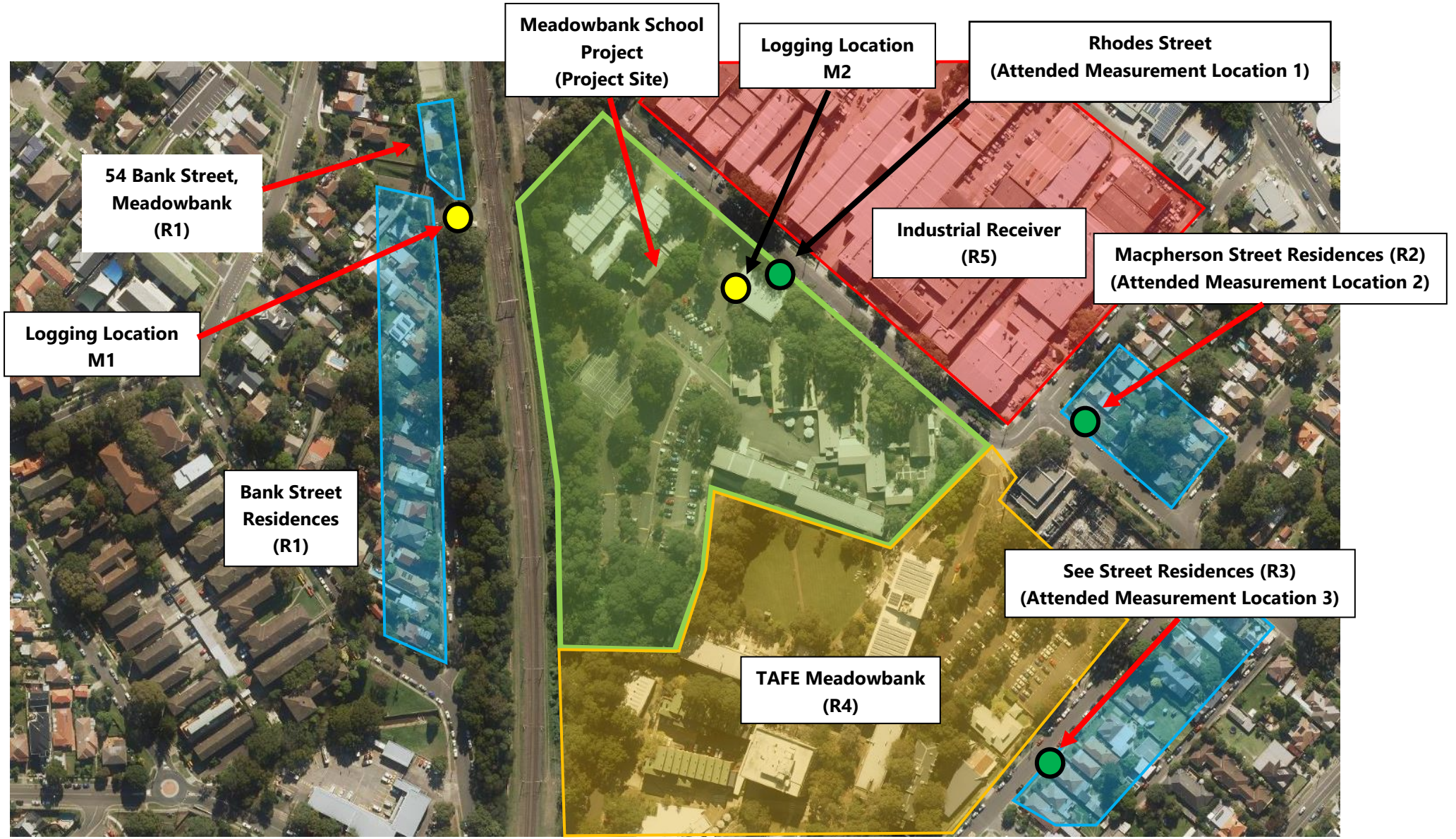


Figure 1-: Site Survey and Monitoring Positions. Sourced from SixMaps NSW

3 ACTIVITIES TO BE CONDUCTED AND ASSOCIATED NOISE SOURCES

The construction period has been divided into the main work phases along with the primary noise producing equipment and activities likely to occur in each phase.

3.1 EXCAVATION AND GROUNDWORKS

This stage will include the following noise intensive works:

- Excavator (up to 30 tonnes) to carry waste material from site.
- Excavator with hydraulic hammer.
- Hand tools – Saw cutters, Impact drills, electric drills, hammering (jack hammers) and angle grinders.
- The operation of tower crane with diesel generator on crane arm,
- Hand tools – Saw cutters, Impact drills, electric drills, hammering (jack hammers) and angle grinders; and
- Materials handling and removal.

3.2 STRUCTURE AND FIT-OUT

Construction stage will include erection of the building structure, followed by internal fit out works and general landscaping. Typical activities during this stage include:

- Piling
- Hand tools – impact drills, electric drills, hammering (jack hammers) and angle grinders.
- Concrete pump, concrete truck and associated concrete vibrators.
- Trucks, trailers and forklifts delivering materials and removing spoil from site.
- Tower crane with diesel generator on crane arm.

4 HOURS OF WORK AND DURATION

4.1 HOURS OF WORK

Consent conditions C3-C7 (ref: SSD 9343) stipulate that construction hours are limited as follows:

Construction Hours

C3. Construction, including the delivery of materials to and from the site, may only be carried out between the following hours:
- (a) between 7am and 6pm, Mondays to Fridays inclusive; and
- (b) between 8am and 1pm, Saturdays.
- (c) No work may be carried out on Sundays or public holidays.

C4. Notwithstanding condition C3, provided noise levels do not exceed the existing background noise level plus 5 dB, works may also be undertaken during the following hours:
- (a) between 6pm and 7pm, Mondays to Fridays inclusive; and
- (b) between 1pm and 4pm, Saturdays.

C5. Construction activities may be undertaken outside of the hours in condition C3 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; or
- (c) where the works are inaudible at the nearest sensitive receivers.

C6. Notification of such construction activities as referenced in condition C4 must be given to affected residents before undertaking the activities or as soon as is practical afterwards.

C7. Rock breaking, rock hammering, sheet piling, pile driving and similar activities may only be carried out between the following hours:
- (a) 9am to 12pm, Monday to Friday;
- (b) 2pm to 5pm Monday to Friday; and
- (c) 9am to 12pm, Saturday.

A summary of approved construction hours is provided in Table 1 below:

Table 1 – Summary of Approved Construction Hours

Construction Activity	Development Consent Condition	Day of the Week – Permitted Times		
		Monday - Friday	Saturday	Sunday & Public Holidays
Construction and delivery of materials to and from site	C3	7:00am – 6:00pm	8:00am – 1:00pm	None permitted.
Construction and delivery of materials to and from site	C4 (BG+5 noise limit)	6:00pm – 7:00pm	1:00pm – 4:00pm	None permitted
Rock breaking, rock hammering, sheet piling, pile driving	C7	9:00am – 12:00pm and 2:00pm – 5:00pm	9:00am – 12:00pm	None permitted

5 EXISTING BACKGROUND NOISE LEVELS

Both long term unattended noise logging and attended noise measurements were previously conducted at SSDA stage in order to quantify the existing local acoustic environment. These measurements are detailed in the NIA prepared by this office dated 10 October 2019 (ref: 20180641.1/1604A/R10/MF) and are summarised below:

Table 2 – Summary of Background Noise Monitoring

Location	Period/Time	Measured Rating Background Noise Level dB(A)$L_{90(Period)}$
Bank Street Residences Location M1 (refer to Figure 1)	Day (7am-6pm)	42
	Evening (6pm-10pm)	40
	Night (10pm-7am)	38
Rhodes Street Attended Measurement Location 1 (refer to Figure 1)	Day (7am-6pm)	50
	Evening (6pm-10pm)	50
	Night (10pm-7am)	40
Macpherson Street Residences Attended Measurement Location 2 (refer to Figure 1)	Day (7am-6pm)	52
	Evening (6pm-10pm)	52
	Night (10pm-7am)	42
See Street Residences Attended Measurement Location 3 (refer to Figure 1)	Day (7am-6pm)	50
	Evening (6pm-10pm)	50
	Night (10pm-7am)	41
Meadowbank School Project Site Location M2 (refer to Figure 1)	Day (7am-6pm)	39
	Evening (6pm-10pm)	44
	Night (10pm-7am)	42

6 CONSTRUCTION NOISE AND VIBRATION EMISSION MANAGEMENT LEVELS

6.1 NOISE MANAGEMENT LEVELS

Noise emissions associated with construction activities on the project site to external areas of receivers will be assessed in with reference to the following:

- Development Consent SSD 9343
- NSW EPA's I*nterim Construction Noise Guideline (DECC, 2009),*
- Protection of the Environment Operations Act 1997,
- Australian Standard AS2436:2010 "Guide to Noise Control on Construction, Maintenance and Demolition Sites.

6.1.1 Development Consent SSD9343

Consent condition B14 states the following:

B14. The Construction Noise and Vibration Management Sub-Plan (CNVMSP) must address, but not be limited to, the following:

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

(b) describe procedures for achieving the noise management levels in EPA's *Interim Construction Noise Guideline* (DECC, 2009);

(c) include the recommended noise management and mitigation measures included within the *Meadowbank Education and Employment Precinct Schools Project Noise Impact Assessment* dated 10 October 2019 and prepared by Acoustic Logic Consultancy Pty Ltd as updated by Addendum Acoustic Statement ref: 20190000.1/1216A/R0/TT dated 16 December 2019 and prepared by Acoustic Logic Consultancy Pty Ltd;

(d) hours of construction in accordance with conditions C3 to C7;

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

(f) include strategies that have been developed with the community for managing high noise generating works;

(g) describe the community consultation undertaken to develop the strategies in condition B14(f);

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

(i) include a program to monitor and report on the impacts and environmental performance of the development and the effectiveness of the management measures in accordance with condition B11(d).

Consent conditions C12-C15 state the following:

Construction Noise Limits

C12. The development must be constructed to achieve the construction noise management levels detailed in *the Interim Construction Noise Guideline* (DECC, 2009). All feasible and reasonable noise mitigation measures must be implemented and any activities that could exceed the construction noise management levels must be identified and managed in accordance with the management and mitigation measures identified in the approved CNVMP.

C13. The Applicant must ensure construction vehicles (including concrete agitator trucks) do not arrive at the site or surrounding residential precincts outside of the construction hours of work outlined under condition C3.

C14. The Applicant must implement, where practicable and without compromising the safety of construction staff or members of the public, the use of 'quackers' to ensure noise impacts on surrounding noise sensitive receivers are minimised.

C15. Any noise generated during construction of the development must not be offensive noise within the meaning of the *Protection of the Environment Operations Act 1997* or exceed approved noise limits for the site.

6.1.1.1 NSW Environmental Protection Authority (EPA) document – "Interim Construction Noise Guideline (ICNG) 2009"

The EPA's ICNG assessment requires:

- Review of noise levels at nearby development
- If necessary, recommendation of noise control 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 for construction during the recommended standard hours:

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

The guideline also provides external management levels for land used for commercial or industrial purposes to be assessed at the most affect occupied point of the premises. EPA guidelines recommend a construction noise management level for industrial receivers of 75dB(A)$L_{eq(15\text{-}minute)}$.

Section 4.1.2 of the guideline provides that, for other sensitive land uses such as classrooms at educational institutions, the noise management level should not exceed 45 dB(A) internally.

6.1.2 Protection of the Environment Operations Act 1997,

We note that, in the absence of specific noise limits provided in the Protection of the Environment Operations Act 1997 with respect to construction noise, it is considered that adherence to the requirements of the NSW EPA's ICNG is sufficient in the assessment of 'offensive noise'.

6.1.3 Construction Noise Management Levels Summary

Nosie management levels applicable to the development site and surrounding receivers are summarised in the following tables.

Table 3 – Construction Noise Emission Management Level (Residents)

Receiver Type	"Noise Affected" Level - dB(A)$L_{eq(15min)}$	"Highly Noise Affected" Level - dB(A)$L_{eq(15min)}$
Residential Receivers R1, R2 & R3	Background + 10dB(A) (construction hours as per consent condition C3)	75
	Background + 5dB(A) (construction hours as per consent condition C4)	N/A

Noise management levels to other receiver types surrounding the development are summarised below:

Table 4 – Construction Noise Emission Management Level (Other)

Receiver Type	Noise Management Level - dB(A)$L_{eq(15min)}$
Meadowbank TAFE - Classrooms (R4)	45 (internal)
Industrial Receivers (R5)	75

6.1.4 Australian Standard AS2436:2010 "Guide to Noise Control on Construction, Maintenance and Demolition Sites

Australian Standard AS2436 does not provide specific noise management targets. The guideline focuses on strategies for developing feasible and reasonable mitigation methodologies, management controls and community liaison to reach realistic compromises between the needs of construction activities and potentially affected receivers.

For the control and regulation of noise from construction sites AS2436:2010 *Guide to noise control on construction, maintenance and demolition sites* nominates the following:

- That reasonable suitable noise management objectives are established.
- That all practicable measures be taken on the building site to regulate noise emissions, including the siting of noisy static processes to locations of the site where they can be shielded, selecting less noisy processes, and if required regulating demolition hours, and

6.2 VIBRATION OBJECTIVES

Development consent conditions state the following with respect to vibration:

Vibration Criteria

C16. Vibration caused by construction at any residence or structure outside the site must be limited to:

(a) for structural damage, the latest version of *DIN 4150-3 (1992-02) Structural vibration - Effects of vibration on structures* (German Institute for Standardisation, 1999); and

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

C17. Vibratory compactors must not be used closer than 30 metres from residential buildings unless vibration monitoring confirms compliance with the vibration criteria specified in condition C16.

C18. The limits in conditions C16 and C17 apply unless otherwise outlined in a Construction Noise and Vibration Management Plan, approved as part of the CEMP required by condition B14 of this consent.

The criteria and the application of the guidelines mentioned in condition C16 are discussed in separate sections below.

6.2.1 German Standard DIN 4150-3 (1999-02) - Ground Borne Vibrations and Damage Limits

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 5.

It is noted that the peak velocity is the absolute 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 5 – DIN 4150-3 (1999-02) Safe Limits for Building Vibration

TYPE OF STRUCTURE		PEAK PARTICLE VELOCITY (mms^{-1})			
		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

6.2.2 Environmental Noise Management Assessing Vibration: a technical guideline (DEC, 2006) - Managing Assessing Impacts

Department of Environment and Conservation NSW "Assessing Vibration: A Technical Guideline" (Feb 2006) is based on the guidelines contained in BS 6472:1992. This guideline provides procedures for assessing tactile vibration and regenerated noise within potentially affected buildings.

The recommendations of this guideline should be adopted to assess and manage vibration within the excavation/construction site.

Table 6 – EPA Recommended Vibration Criteria

Place	Time	RMS acceleration (m/s^2)		RMS velocity (mm/s)		Peak velocity (mm/s)	
		Preferred	Maximum	Preferred	Maximum	Preferred	Maximum
Continuous Vibration							
Critical Working Areas	**Daytime**	0.005	0.01	0.1	0.2	0.14	0.28
Residences		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							
Critical Working Areas	**Daytime**	0.005	0.01	0.1	0.2	0.14	0.28
Residences		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 ASSESSMENT OF NOISE EMISSIONS

7.1 ACTIVITIES TO BE CONDUCTED AND THE ASSOCIATED NOISE SOURCES

We have been advised of the typical equipment/processes anticipated to be used on the project site. Noise impacts from these activities on the amenity of the surrounding identified sensitive receivers will be predicted based on the A-weighted sound power levels outlined in the table below.

Table 7 – Equipment Sound Power Levels

EQUIPMENT /PROCESS	SOUND POWER LEVEL dB(A)
Excavator with Bucket (up to 30 tonnes)	105
Excavator with Hydraulic Hammer	120
Concrete Saw	105
Bobcat	100
Heavy Trailers (idling)	95
CFA Piling	103
Concrete Pump	105
Concrete Vibrators	100
Heavy Trailers (idling)	95
Hand Tools (Used Externally)	100
Work Zone (Forklifts, Trucks, etc.)	95
Tower Crane – Diesel Generator on Crane Arm	105

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

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

1. On-site measurements;
2. Table D2 of Australian Standard 2436-1981 & Table A1 of Australian Standard 2436-2010; and
3. Data held by this office from other similar studies.

7.2 NOISE EMISSION PREDICTIONS AND ASSESSMENT

7.2.1 Methodology

Noise generated by plant and equipment will be managed to generally comply with the nominated acoustic criteria, and where this noise goal may be exceeded, noise will be managed based on principles consistent with Australian Standard 2436.

Predictions of noise levels at the sensitive receivers identified have been made of the construction processes with the potential to produce significant noise.

It is noted that many of the noise sources are present over a small period of the day or may be present for a few days with a significant intervening period before the activity occurs again.

7.2.2 Predicted Noise Levels

An assessment of the principal sources of noise emission has been undertaken to identify the activities that may produce noise and/or vibration impacts so that appropriate ameliorative measures can be formulated.

Noise levels from construction works have been predicted at the surrounding receivers and assessed against the construction noise management levels set out in Section 6. Refer to tables below for predicted noise levels for each receiver.

Table 8 – Predicted Noise Emissions to Residential Receiver R1

Activity	Predicted Level dB(A)$L_{10(15\text{-minute})}$	Noise Management Level	Comment
Excavator with Bucket (30 tonnes)	47 to 59	**NSW EPA *Interim Construction Noise Guideline*** **Residential Areas** Noise Affected Level: 52 dB(A)$L_{eq(15min)}$ (for condition C3 approved hours) 47 dB(A)$L_{eq(15min)}$ (for condition C4 approved hours) Highly Noise Affected Level: 75dB(A)$L_{eq(15min)}$ **(Assessed at property boundary)**	See discussion in Section 7.3.
Excavator with Hydraulic Hammer	62 to 74		
Concrete Saw	47 to 59		
Bobcat	47 to 59		
Heavy Trailers (idling)	53 to 65		
CFA Piling	42 to 54		
Concrete Pump	47 to 59		
Concrete Vibrator	42 to 54		
Heavy Trailers (idling)	37 to 49		
Hand Tools (used externally)	42 to 54		
Work Zone (forklifts, trucks, etc)	37 to 49		
Tower Crane – Diesel Generator on Crane Arm	48 to 53		

We note that the raised rail corridor between the development site and R1 provides natural screening to the majority of residences with the exception of 54 Bank Street. Predicted noise levels above do not take in to account attenuation from screening and, as such, is a conservative assessment of noise impacts at this location.

Table 9 – Predicted Noise Emissions to Residential Receiver R2

Activity	Predicted Level dB(A)$L_{10(15\text{-minute})}$	Noise Management Level	Comment
Excavator with Bucket (30 tonnes)	47 to 60	**NSW EPA *Interim Construction Noise Guideline*** **Residential Areas** Noise Affected Level: 62 dB(A)$L_{eq(15min)}$ (for condition C3 approved hours) 57 dB(A)$L_{eq(15min)}$ (for condition C4 approved hours) Highly Noise Affected Level: 75dB(A)$L_{eq(15min)}$ **(Assessed at property boundary)**	See discussion in Section 7.3.
Excavator with Hydraulic Hammer	62 to 75		
Concrete Saw	47 to 60		
CFA Piling	53 to 66		
Bobcat	42 to 55		
Concrete Pump	47 to 60		
Concrete Vibrator	42 to 55		
Heavy Trailers (idling)	37 to 50		
Hand Tools (used externally)	42 to 55		
Work Zone (forklifts, trucks, etc)	37 to 50		
Tower Crane – Diesel Generator on Crane Arm	51 to 59		

Table 10 – Predicted Noise Emissions to Residential Receiver R3

Activity	Predicted Level dB(A)$L_{10(15\text{-minute})}$	Noise Management Level	Comment
Excavator with Bucket (30 tonnes)	44 to 54	**NSW EPA *Interim Construction Noise Guideline*** **Residential Areas** Noise Affected Level: 60 dB(A)$L_{eq(15min)}$ (for condition C3 approved hours) 55 dB(A)$L_{eq(15min)}$ (for condition C4 approved hours) Highly Noise Affected Level: 75dB(A)$L_{eq(15min)}$ **(Assessed at property boundary)**	See discussion in Section 7.3.
Excavator with Hydraulic Hammer	59 to 69		
Concrete Saw	44 to 54		
CFA Piling	50 to 60		
Bobcat	39 to 49		
Concrete Pump	44 to 54		
Concrete Vibrator	39 to 49		
Heavy Trailers (idling)	34 to 44		
Hand Tools (used externally)	39 to 49		
Work Zone (forklifts, trucks, etc)	34 to 44		
Tower Crane – Diesel Generator on Crane Arm	48 to 53		

Table 11 – Predicted Noise Emissions to TAFE Receiver R4

Activity	Predicted Level dB(A)$L_{10(15\text{-minute})\ (internal)}$	Noise Management Level	Comment
Excavator with Bucket (30 tonnes)	28 to 53	**AS2107 Noise Management Level** **Internal Classroom Areas** 45 dB(A)$L_{eq(15min)}$ **(Assessed within nearest classroom)**	See discussion in Section 7.3.
Excavator with Hydraulic Hammer	43 to 68		
Concrete Saw	28 to 53		
CFA Piling	34 to 59		
Bobcat	23 to 48		
Concrete Pump	28 to 53		
Concrete Vibrator	23 to 48		
Heavy Trailers (idling)	18 to 43		
Hand Tools (used externally)	23 to 48		
Work Zone (forklifts, trucks, etc)	18 to 43		
Tower Crane – Diesel Generator on Crane Arm	33 to 44		

Table 12 – Predicted Noise Emissions to Industrial Receiver R5

Activity	Predicted Level dB(A)$L_{10(15\text{-minute})}$	Noise Management Level	Comment
Excavator with Bucket (30 tonnes)	50 to 69	**NSW EPA *Interim Construction Noise Guideline*** **Industrial areas** Noise Management Level: 75dB(A)$L_{eq(15min)}$ **(Assessed at property boundary)**	See discussion in Section 7.3.
Excavator with Hydraulic Hammer	65 to 84		
Concrete Saw	50 to 69		
CFA Piling	56 to 75		
Bobcat	45 to 64		
Concrete Pump	50 to 69		
Concrete Vibrator	45 to 64		
Heavy Trailers (idling)	40 to 59		
Hand Tools (used externally)	45 to 64		
Work Zone (forklifts, trucks, etc)	40 to 59		
Tower Crane – Diesel Generator on Crane Arm	54 to 65		

7.3 DISCUSSION – NOISE

Predicted construction noise levels to surrounding receivers, as presented in tables above, are summarised and discussed below:

7.3.1 Residential Receivers R1, R2 & R3

Construction noise impacts to residential receivers are predicted to be generally compliant with the noise affected level for residences on Macpherson Street (R2) and See Street (R3), whilst intermittent exceedances are expected when conducting activities near to the north western site boundary (near to Bank Street residences)

Construction activities conducted within condition C4 approved hours are predicted to be generally compliant with BG+5dB(A) criterion at R3, whilst intermittent exceedances are expected when measured at R2 & R3 property boundaries.

For identified residential receivers, regular exceedances of noise management level are predicted when operating excavators with hammer attachment, though it is not expected that the highly noise affected management level will be exceeded.

7.3.2 TAFE Receiver R4

Noise levels within classroom areas of Meadowbank TAFE are expected to be compliant with the noise management levels when construction activities occur 40m or further from the nearest building façade.

Regular exceedances of the noise management level are expected when conducting construction activities within the 40m zone.

7.3.3 Industrial Receiver R5

Noise impacts to industrial receivers across Rhodes St are predicted to be generally compliant with the noise management levels, though regular exceedances are expected when operating excavators with hammer attachment near to the northern-eastern site boundary.

7.3.4 Operation During Approved "After Hours" Times

The background noise levels for residential receivers during the approved additional hours are not significantly different to the approved hours. Therefore, noise limits based on these background noise levels plus 5 dB(A) can be used for the residential receivers. For the remaining receivers it is proposed to adopt the amenity NML's as noise limits where a receiver is "in use" at that time.

As the above discussion indicates there is a range of activities that can be undertaken during the C4 approved hours without exceeding the noise limits imposed. The ability to undertake some of these activities will depend on the location on the site.

8 GROUND VIBRATION IMPACTS

Primary vibration generating activities are bulk excavation (if in rock) and demolition. As there are no sensitive receivers adjacent to the demolition and bulk exaction areas the impacts of these works should be minimal. We also note that excavation in soil is not typically expected to create vibration levels exceeding EPA guidelines.

Given the distance of the development site from residential receivers, vibration levels are unlikely to exceed the structural damage or amenity vibration criteria detailed in Section 6.2.

It is expected that excavation and piling works will be occurring near to Meadowbank TAFE (R4). Given the low sensitivity to vibration the building and use, building damage limits and amenity management levels are unlikely to be exceeded provided that recommendations provided in Section 9 are adopted.

Notwithstanding, due to the proximity to future site works, it is recommended that vibration monitoring during the demolition and excavation phases occurs at this location. For the remaining buildings, where complaints are received as a result of vibration impacts, the complaints procedure listed in Section 10 should be followed and, where required, vibration monitoring should be implemented.

9 SPECIFIC NOISE CONTROLS

9.1 NIA (REF: 20180641.1/1604A/R10/MF) NOISE CONTROLS

As stipulated in consent condition B14, recommended noise mitigation measures presented in the NIA prepared by this office dated 10 October 2019 as updated by the Addendum Acoustic Statement (ref: 20190000.1/1216A/R0/TT) should be adopted. They are as follows:

- As the TAFE Meadowbank campus will be operating during the period of construction activities, it is recommended that scheduling of respite periods should be negotiated with Meadowbank TAFE. Negotiation should take into consideration student holiday breaks and typical class hours.
- Notification of the noisy works (excavation, concrete pours) should be provided to the nearby residents. The notification should outline the expected duration of the activity and provide contact details in the event of complaint.
- Dumping/loading of waste material should be done as far as practicable from the residential properties.
- Location of concrete pumps as par as practicable from residential property boundaries.
- Trucks should turn off their engines if queuing outside the site or if they arrive at the site prior to 7am.

9.2 EXCAVATOR NOISE & HYDRAULIC HAMMERING

Where feasible, the use of a concrete crusher attachment for excavators should be considered as an alternative to hydraulic/pneumatic hammers during demolition and rock sawing. The use of a ripper attachment on bulldozers in preference to hammering closer to boundaries, where feasible.

9.3 CONCRETE PUMPS, PILING PLANT

Noise from concrete pumps and piling rigs have the potential to result in intermittent exceedances of allowable noise levels. It is recommended that CFA pilling should be conducted instead of hammer or vibro-piling where practical.

Concrete pumps should not be operated prior to 7:30 am and be placed as close as possible to the middle of the site (where feasible) to reduce proximity to the nearby receivers. We note that operational limits for piling are inherently addressed in consent condition C7.

9.4 ACOUSTIC BARRIERS

The placement of barriers at the source is generally only effective for static plant (tower cranes, diesel generators). 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 15 dB(A) can be affected. Where only partial obstruction of line of sight occurs, noise reductions of 5 to 8 dB(A) may be achieved. Where no line of sight is obstructed by the barrier, generally no noise reduction will occur.

Screens around work areas will provide no material benefit for receivers R4 and R5, as these developments are multistorey and will overlook screening.

We note that the raised rail corridor provides natural screening to Bank Street residents with the exception of 54 Bank Street.

9.5 OTHER ACTIVITIES

In the event of complaint, noise management techniques identified in this report should be employed to minimise the level of noise impact if management levels are found to be exceeded. This may include additional community consultation and re-scheduling of loud construction processes.

Notwithstanding above, general management techniques and acoustic treatments are included in Section 9.6 which may be implemented on a case-by-case basis to reduce noise emissions to surrounding receivers.

9.6 GENERAL RECOMMENDATIONS

Other noise management practices which may be adopted are discussed below. In addition, notification, reporting and complaints handling procedures should be adopted as recommended in this report.

9.6.1 Treatment of Specific Equipment

Where construction process or appliances are noisy, the use of silencing devices may be possible. These may take the form of engine shrouding, or special industrial silencers fitted to exhausts.

9.6.2 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).

9.6.3 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. By carrying out this activity by use of bulldozers ripping and/or milling machines lower levels of noise will result.

9.6.4 Establishment of Site Practices

This involves the formulation of work practices to reduce noise generation. This includes locating fixed plant items as far as possible from residents as well as rotating plant and equipment to provide respite to receivers. Construction vehicles accessing the site should not queue in residential streets and should only use the designated construction vehicle routes. Loading of these vehicles should occur as far as possible from any sensitive receiver.

9.6.5 Management Training

All site managers should be aware of noise and vibration limits, applicable control measures and methods. They should ensure that all agreed noise and vibration measures are carried out by employees and sub-contractors.

A copy of the Noise Management Plan is to be available to contractors, and site inductions should detail the site contact in the event of noise complaints.

9.6.6 Respite Periods

We note that development consent condition C7 provides specific time periods in which plant or activities with the potential to exceed noise management levels are permitted to operate. This inherently provides periods, subsequently reducing the occurrence and severity of noise impacts to surrounding receivers.

The respite periods would apply to very noisy works exceeding the highly noise affected management levels or as stipulated for the activities included in Condition C7. It is noted that the only activities predicted to exceed the HNML's are those described in C7.

9.6.7 Noise Monitoring

Noise monitoring can be undertaken to determine the effectiveness of measures which are been implemented, whilst the results of monitoring can be used to devise further control measures.

Attended noise measurements can be undertaken at key stages (i.e; demolition, bulk excavation, first major concrete pour) when particularly noise generating activities are undertaken or specific items of plant (ie. Excavator with hammer attachments) are in operation.

Attended noise measurements should be conducted in accordance with Australian Standard AS1055: 2018 *'Acoustics- Description and measurement of environmental noise'*, and should include the following:

- Type 1 or 2 sound meter (calibrated)
- Use of appropriate noise descriptor (in this case, $L_{eq(15min)}$).
- Detail of measurement position and proximity to reflecting surface if any (building or similar). Measurement positions will typically be a residential property boundary.

Monitoring not be should be conducted under adverse weather conditions. The conditions applying at the time of the measurements should be indicated in the reporting.

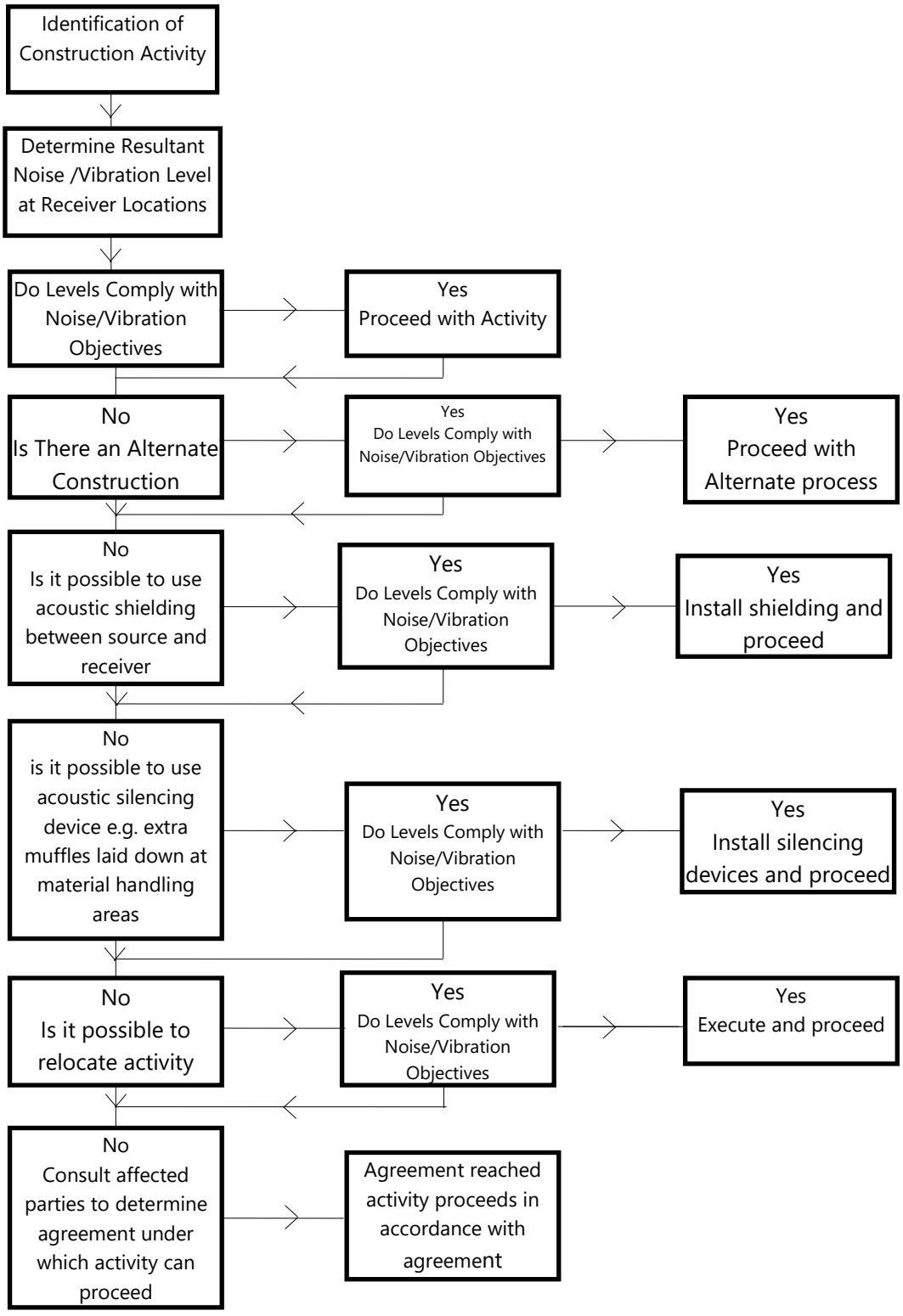
9.6.8 Vibration Monitoring

Vibration levels during the demolition and excavation phases should occur at the nearby Meadowbank TAFE College Library. The measurement location should be near the middle of the common boundary between the two properties, or as otherwise determined from time to time to best measure representative vibration levels. The monitor used should log the peak particle velocities and also transmit SMS warnings to the contractor and acoustic expert if a pre-determined threshold is exceeded. Regular reports should be provided (twice monthly) showing the vibration levels recorded and comparing these to the criteria.

Attended or unattended monitoring should also be undertaken at other locations in response to complaints, as appropriate.

9.7 CONTROL OF CONSTRUCTION NOISE AND VIBRATION – PROCEDURAL STEPS

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



10 COMMUNITY INTERACTION AND COMPLIANTS HANDLING

Consent condition B7 states the following with respect to community interaction:

B7. No later than two weeks before the commencement of construction, a Community Communication Strategy must be submitted to the Planning Secretary for information. The Community Communication Strategy must provide mechanisms to facilitate communication between the Applicant, the relevant Council and the community (including adjoining 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.

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.

(e) include any specific requirements around traffic, noise and vibration, visual impacts, amenity, flora and fauna, soil and water, contamination, heritage.

Complaints handling procedures and protocols should be conducted in accordance with Section 8.5 of the project Community Communication Strategy (CCS) as developed by NSW Department of Education.

The CCS can be accessed via the following link:

https://www.schoolinfrastructure.nsw.gov.au/projects/m/meadowbank-education-and-employment-precinct.html#category-reports

NSW Department of Education provided a three page project update issued to nearby businesses and residents on Tuesday 11th August 2020 (link below). As per the update, local residents were given until Wednesday 19th August 2020 to provide feedback to the SINSW.

https://www.schoolinfrastructure.nsw.gov.au/content/dam/infrastructure/projects/m/meadowbank-education-precinct/august-updates-2020/Meadowbank_Education_and_Employment_Precint_Project_update_August_2020.pdf

The Meadowbank Education and Employment Precinct Project Update document generally details the following:

- Key project stages
- Progress summary
- Community impacts management
- Avenues for community feedback
- FAQ

For transparency, project schedule, development consent requirements and proposed mitigation measures are summarised in accessible language for those outside of construction and planning industries (i.e. residents). Proposed mitigation measures for high noise producing activities are as follows:

- Notification before the commencement of works.
- Rock breaking, hammering, sheet piling, pile driving, and similar activities are to be conducted with effective equipment and respite periods for residents. Rock breaking hours to be limited in accordance with consent condition C7.
- If complaints received, construction methods to be adjusted where practical and extended respite periods implemented.

Further community consultation is detailed in table 3 of section 6.1 of the CCS.

11 CONCLUSION

This document presents a noise and vibration management plan for construction activities proposed at School at the Meadowbank Education and Employment Precinct, 2 Rhodes Street, Meadowbank.

The principal issues which addressed in this report are:

- Specific activities that will be conducted and the associated noise/vibration sources;
- Identification of potentially affected noise/ vibration sensitive receivers;
- The development, hours of work and excavation period;
- The construction noise and vibration requirements specified in development conditions of consent (ref: SSDA 9343).
- Noise/ vibration response procedures;
- Assessment of potential noise/ vibration from the proposed demolition, excavation and construction activities; and
- Contingency plans to be implemented in the event of non-compliances and/or noise complaints.

The assessment of noise and vibration indicates that construction actives associated with the project development may generate noise levels that will require some additional management. Adoption of the controls detailed in Section 9 of this report and adherence to the requirements of development consent will ensure that noise impacts will be minimised.

Vibration goals have also been set in this report to minimise structural damage risk for existing structures close to the project site and to protect human comfort.

Noting the above, we find the construction noise and vibration management requirements of consent condition B14 to be satisfied.

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

Yours faithfully,

Acoustic Logic Consultancy Pty Ltd
Thomas Hutchens

Artist impression of the Meadowbank Education Precinct Schools

Schools at the Meadowbank Education and Employment Precinct

Project update

August 2020

Investing in our schools

The NSW Government is investing $6.7 billion over four years to deliver more than 190 new and upgraded schools to support communities across NSW. In addition, a record $1.3 billion is being spent on school maintenance over five years. This is the largest investment in public education infrastructure in the history of NSW.

The NSW Department of Education is committed to delivering new and upgraded schools for communities across NSW. The delivery of these important projects is essential to the future learning needs of our students and supports growth in the local economy.

Schools at the Meadowbank Education and Employment Precinct

A project is underway to relocate Meadowbank Public School and Marsden High School to the Meadowbank Education and Employment Precinct, following the construction of new facilities.

The Meadowbank Education Precinct will cater for 1000 primary school students, 1500 secondary school students and a further 120 Intensive English Centre students.

The new school facilities will house the separate primary school and high school in multilevel, multipurpose buildings connected with play spaces and landscaped areas.

Progress summary

The State Significant Development application was approved by the Department of Planning, Industry and Environment on 21 May 2020.

Site establishment began in June 2020 and remediation works commenced on 1 July 2020.

Next steps

Early construction works are expected to start in late August 2020 starting with earthworks, piling and the installation of in-ground services.

Nearby residents and businesses will be notified prior to this work starting.

Managing construction impacts

As part of the consent to carry out the work, the main contractor is required to develop plans that details how construction impacts on nearby local residents will be minimized. These impacts include noise, vibration and vehicle movements.

You can view the consent conditions, including those required for managing construction impacts via the Department of Planning, Industry and the Environment's Major Projects portal at planningportal.nsw.gov.au/major-projects/project/10581.

Your feedback

You can contribute to the development of strategies to effectively manage construction impacts. Your feedback is sought on how we propose to manage construction activities listed in the table below. Please provide your feedback by Wednesday 19 August 2020 via email or phone.

For more information contact:

School Infrastructure NSW
Email: schoolinfrastructure@det.nsw.edu.au
Phone: 1300 482 651
www.schoolinfrastructure.nsw.gov.au

Activity	Consent condition and proposed activities
General	**Proposed actions:** ▪ We will provide advance notice of work to the local community, particularly when we anticipate high noise generating works. ▪ Noise levels on site will not exceed the noise control guidelines that are outline in the EPA Environmental Noise Control Manual for construction and demolition works. ▪ Construction works, including the delivery of materials to and from the site, are currently approved to take place between 7:00am and 6:00pm Mondays to Fridays and between 8:00am and 1:00pm on Saturdays. No night work is currently approved for this project and no work is currently approved on Sundays or public holidays.
Construction	**Consent condition:** ▪ All reasonable steps must be taken to minimise dust generated during all works. **Proposed actions:** ▪ Exposed surfaces and stockpiles will be managed with regular watering to minimise dust. ▪ Public roads will be kept clean. ▪ All trucks entering or leaving the site with loads will have their loads covered.
Construction	**Consent condition:** ▪ Measures are to be implemented to ensure road safety and network efficiency during construction. **Proposed actions:** ▪ Trucks will be well maintained and will be required to observe speed limits. ▪ Trucks will only use approved truck routes to and from the site. ▪ On-site parking is required for construction workers to minimise demand for parking in nearby streets.

Construction	**Consent condition:**
	▪ Achieve the noise management levels in EPA's Interim Construction Noise Guideline (DECC, 2009).
	▪ Measures are to be implemented to manage high noise generating works, in close proximity to sensitive receivers.
	Proposed actions:
	▪ If high noise generating works are planned, neighbours will be notified of this before work starts.
	▪ If rock breaking, rock hammering, sheet piling, pile driving and similar activities are required, effective equipment will be chosen and respite periods for local residents be put in place. Rock breaking hours will be strictly limited to approved hours of:
	  ▪ 9:00am to 12:00pm, Monday to Friday
	  ▪ 2:00pm to 5:00pm Monday to Friday; and
	  ▪ 9:00am to 12:00pm, Saturday.
	▪ For high noise generating works, if complaints are received, work will be managed to reduce the impact to local residents by implementing shorter time periods, or alternating with quieter work methods were practical.

Construction	**Consent condition:**
	▪ Provide a mechanism for the community to discuss or provide feedback regarding construction impacts.
	Proposed actions:
	▪ The community information phone line and email address will be available throughout the project and for a minimum of 12 months following completion of the project:
	  ▪ Phone: 1300 482 651
	  ▪ Email: schoolinfrastructure@det.nsw.edu.au

Frequently asked questions

Will street parking be impacted during construction?

There will be minimal impact to street parking as parking will available on site for workers. The impact of our project on the community is considered in our planning. We work with council and the community to identify issues and put in place mitigation measures.

How will traffic be managed?

Traffic management will be in place where required for the safety of the local community and workers. Traffic controllers will be used to manage entry and exit of vehicles to and from the construction site as necessary. Vehicles will give way to pedestrians at all times.

What steps will be taken to control noise and dust?

The contractor will implement dust and noise control measures. Dust and noise are minimised with hoarding, shade cloth and spraying water.

Will utility services be interrupted as part of construction?

School Infrastructure NSW (SINSW) coordinates upgrades or new supplies of utility services with local providers to minimise disruption. In the event that there will be any disruption to the local area, we will notify businesses and residents well in advance.

Why was the planning approval for this project been fast tracked?

The schools at the Meadowbank Education and Employment Precinct is among the first wave of projects that had their assessments fast tracked. Having the SSD application fast tracked will mean the project can get underway sooner and the overall construction pipeline can continue to grow.

Does this mean the usual checks and community consultation will be waived to fast track the projects?

The assessment process was accelerated, not changed. The usual planning rules and policies will apply, and all projects have been assessed under the Environmental Planning and Assessment Act 1979.

Will the community still get to have a say on projects that are being fast tracked?

All of the projects being fast tracked have completed the substantive planning work and are post the exhibition and community consultation phase. We will continue to engage and inform the community during the project.

Due to the need to meet requirements under Public Health Orders, a range of digital engagement tools will be used to communicate with the community and stakeholders to seek any comment or feedback. This will include digital project updates, online sharing of information session material, the SINSW website, community information line and mailbox.

What will the standard construction hours be?

SINSW works with the local council and stakeholders to minimise the impact of construction works on the local community. This means we comply with the local council's standard working hours. Adherence to these guidelines is often a condition of development approval. Construction hours are 7:00am to 6:00pm Monday to Friday and 8:00am to 1:00pm Saturdays. No work will be conducted on Sundays or public holidays.

Qualifications & Experience

2010-2012 Advanced Diploma of Sound Production, NMIT

2017-2019 Master of Architectural Science (Audio and Acoustics), University of Sydney

2019-Current Project Engineer, Acoustic Logic Consultancy

Outline of Experience

Beginning at ALC in 2019, Tom has worked in detailed assessment of acoustic impacts and been involved in the design of noise/vibration attenuation systems to meet relevant statutory codes (BCA, EPA guidelines and Australian Standards).

His work involves the investigation, design and construction supervision of noise and vibration control measures associated with mechanical services and building works.

Whilst being employed with Acoustic Logic, Tom has been responsible for noise and vibration engineering for residential, hospital, commercial and special projects including;

- Building acoustics and building services noise control.
- Environmental noise modelling and assessment.
- Traffic, train and aircraft noise prediction.
- Industrial Noise Control.
- Construction Noise and Vibration.
- NSW Office of Liquor and Gaming acoustic assessment.
- Testing and assessment of walls/floors/glazing/building services.

Project Experience

A sample of projects Tom has been or is currently involved with as a Project Engineer include the following:

Crown Resorts Sydney – Hotel, gaming, entertainment and residential development

Hornsby Ku-ring Gai Hospital – Public hospital expansion

School at the Meadowbank and Employment Precinct – State significant education development

Campbell's Stores, Circular Quay – Entertainment precinct

1 Castlereagh Street, Sydney – Commercial development

Marriot, Auburn – Hotel development

School at the Meadowbank Education and Employment Precinct (SSD 9343): Submission of Construction Noise and Vibration Management Sub-Plan in accordance with Condition B11 & B14

Condition	Condition requirements	Document reference
B11	B11. Management plans required under this consent must be prepared in accordance with relevant guidelines, and include: (a) detailed baseline data;	Sections 6&7
	(b) details of: i) the relevant statutory requirements (including any relevant approval, licence or lease conditions); ii) any relevant limits or performance measures and criteria; and iii) the specific performance indicators that are proposed to be used to judge the performance of, or guide the implementation of, the development or any management measures;	Sections 4&5
	(c) a description of the measures to be implemented to comply with the relevant statutory requirements, limits, or performance measures and criteria;	Section 9
	(d) a program to monitor and report on the: i) impacts and environmental performance of the development; ii) effectiveness of the management measures set out pursuant to paragraph (c) above;	Section 9.6.7 & 9.6.8
	(e) a contingency plan to manage any unpredicted impacts and their consequences and to ensure that ongoing impacts reduce to levels below relevant impact assessment criteria as quickly as possible;	Section 9.6.7 & 9.6.8

Condition	Condition requirements	Document reference
B11	(f) a program to investigate and implement ways to improve the environmental performance of the development over time;	Section 9.6.7, 9.6.8 & 9.7
	(g) a protocol for managing and reporting any: i) incident and any non-compliance (specifically including any exceedance of the impact assessment criteria and performance criteria); ii) complaint; iii) failure to comply with statutory requirements; and	Section 9.6.7, 9.6.8, 6.7 & 10
	(h) a protocol for periodic review / update of the plan and any updates in response to incidents or matters of non-compliance.	Section 9.6.7, 9.6.8 & 9.7
B14	The Construction Noise and Vibration Management Sub-Plan (CNVMSP) must address, but not be limited to, the following: (a) be prepared by a suitably qualified and experienced noise expert;	Refer to attached CV, pg36
	(b) describe procedures for achieving the noise management levels in EPA's Interim Construction Noise Guideline (DECC, 2009);	Section 9
	(c) include the recommended noise management and mitigation measures included within the Meadowbank Education and Employment Precinct Schools Project Noise Impact Assessment dated 10 October 2019 and prepared by Acoustic Logic Consultancy Pty Ltd as updated by Addendum Acoustic Statement ref: 20190000.1/1216A/R0/TT dated 16 December 2019 and prepared by Acoustic Logic Consultancy Pty Ltd;	Section 9.1
	(d) hours of construction in accordance with conditions C3 to C7;	Section 4.1
	(e) describe the measures to be implemented to manage high noise generating works such as piling, in close proximity to sensitive receivers;	Section 10
	(f) include strategies that have been developed with the community for managing high noise generating works;	Section 10 pg. 31

Condition	Condition requirements	Document reference
B14	(g) describe the community consultation undertaken to develop the strategies in condition B14(f);	Section 10 pg. 31
	(h) include a complaints management system that would be implemented for the duration of the construction; and	Section 10 pg. 31
	(i) include a program to monitor and report on the impacts and environmental performance of the development and the effectiveness of the management measures in accordance with condition B11(d).	Section 9.6.7 & 9.6.8

Post Approval – Consultation

Consultation needs to be meaningful, done with courtesy and respect and be well documented. These are people/ organisations that we need to be building meaningful relationships with.

Conditions of all consent can require consultation with a range of stakeholders. Consultation in the post approval world needs to be well documented to satisfy the condition requirements.

Examples include Council, service providers (eg. Electricity gas etc.), consult with local bus provider and TfNSW.

Read each condition carefully, any reference to consult triggers consultation.

Typically on State Significant Development, there will be a specific consultation condition as to how this piece can be appropriately addressed.

Consultation is not:

- A token gesture
- Done at the end of the piece of work,
- An email to the relevant stakeholder with no response;
- A meeting with the stakeholder with no meeting minutes.

Consultation is:

- Meaningful
- Done prior to the requirement,
- Captures an outcome,
- Identifies matters resolved,
- Identifies matters unresolved,
- Any disagreements are disclosed; and
- How we are going to address unresolved matters?

How to capture all the relevant details on consultation requirements? Any consultation requirement in a condition is required to be accompanied with the following table:

Education
School Infrastructure

Post Approval Consultation Record

Identified Party to Consult:	Community
Consultation type:	Project update for surrounding residents and businesses
When is consultation required?	Prior to commencement of contruction
Why	Condition B14 of SSD9394
When was consultation scheduled/held	11 August 2020 to 19 August 2020
When was consultation held	11 August 2020 to 19 August 2020
Identify persons and positions who were involved	SINSW, surrounding residents, surrounding businesses
Provide the details of the consultation	Introduction to project, update on project, in particular the following sections addressed Condition B14(f) – strategies that have been developed with the community for managing high noise generating works. Consent condition: ■ Achieve the noise management levels in EPA's Interim Construction Noise Guideline (DECC, 2009). ■ Measures are to be implemented to manage high noise generating works, in close proximity to sensitive receivers. Proposed actions: ■ If high noise generating works are planned, neighbours will be notified of this before work starts. ■ If rock breaking, rock hammering, sheet piling, pile driving and similar activities are required, effective equipment will be chosen and respite periods for local residents be put in place. Rock breaking hours will be strictly limited to approved hours of: ■ 9:00am to 12:00pm, Monday to Friday ■ 2:00pm to 5:00pm Monday to Friday; and ■ 9:00am to 12:00pm, Saturday. ■ For high noise generating works, if complaints are received, work will be managed to reduce the impact to local residents by implementing shorter time periods, or alternating with quieter work methods were practical. Consent condition: ■ Provide a mechanism for the community to discuss or provide feedback regarding construction impacts. Proposed actions: ■ The community information phone line and email address will be available throughout the project and for a minimum of 12 months following completion of the project: ■ Phone: 1300 482 651 Email: schoolinfrastructure@det.nsw.edu.au
What specific matters were discussed?	Consent condition: ■ Achieve the noise management levels in EPA's Interim Construction Noise Guideline (DECC, 2009).

	■ Measures are to be implemented to manage high noise generating works, in close proximity to sensitive receivers. Proposed actions: ■ If high noise generating works are planned, neighbours will be notified of this before work starts. ■ If rock breaking, rock hammering, sheet piling, pile driving and similar activities are required, effective equipment will be chosen and respite periods for local residents be put in place. Rock breaking hours will be strictly limited to approved hours of: ■ 9:00am to 12:00pm, Monday to Friday ■ 2:00pm to 5:00pm Monday to Friday; and ■ 9:00am to 12:00pm, Saturday. ■ For high noise generating works, if complaints are received, work will be managed to reduce the impact to local residents by implementing shorter time periods, or alternating with quieter work methods were practical. Consent condition: ■ Provide a mechanism for the community to discuss or provide feedback regarding construction impacts. Proposed actions: ■ The community information phone line and email address will be available throughout the project and for a minimum of 12 months following completion of the project: ■ Phone: 1300 482 651 Email: schoolinfrastructure@det.nsw.edu.au
What matters were resolved?	No feedback was received during the consultation period, as such, all matters are considered resolved and the above high noise generating works mitigation measures are to be implemented as part of the Construction Noise and Vibration Management Plan.
What matters are unresolved?	No matters were unresolved.
Any remaining points of disagreement?	No remaining points of disagreement.
How will SINSW address matters not resolved?	Not applicable.

Appendix 09 – Construction Waste Management Sub-Plan

Construction Waste Management Plan

Schools at Meadowbank Education and Employment Precinct

Date: AUGUST 2020

roberts pizzarotti

Document Details

Title	Construction Waste Management Plan
Client	School Infrastructure NSW (SINSW)
Document Reference Number	RP-WMP-PLN-001
Principal Contractor	Roberts Pizzarotti (NSW) Pty Ltd (RP)
Roberts Pizzarotti Project No.	E19024
ABN	61 620 108 483
Project Address	2 Rhodes Street, Meadowbank NSW 2114

Document Authorisation

Damian Vella	Daniel Dufau	Lorne Battison
PROJECT MANAGER	**SITE MANAGER**	**EHS MANAGER / COORDINATOR**
14/08/2020	14/08/2020	14/08/2020
Date	**Date**	**Date**

TABLE OF CONTENTS

1 INTRODUCTION

This Construction Waste Management Plan (CWMP) is a sub-plan of the Construction Environmental Management Plan (CEMP).

This CWMP is for use on the Roberts Pizzarotti (RP) Meadowbank School project to assist in minimising, managing/recycling waste and to ensure that client requirements are met along with the needs and expectations of other interested parties including its legislative and contractual obligations and Development Consent requirements (B15 Construction Waste Management Sub-Plan requirements).

The waste management strategy for the project includes identifying waste generally generated on construction projects, reviewing opportunities to minimise use of those waste products, controlling waste on site, ensuring waste is correctly classified and ensuring waste generated on the project is recycled or disposed of in accredited waste facilities.

2 DOCUMENT CONTROL

All changes made to the Project WMP are recorded in the amendment table below. The version number and date of revision for the current document revision are shown in the footer of the document.

The CWMP is a working document and may be subject to change throughout the life of the project. This may result in the CWMP being amended and this shall occur through the issue of a revised document.

2.1 Revision History

Revision	Date	Description of changes	Prepared by	Approved by
01	15/07/2020	Review	O. Matlapeng	Damian Vella
02	17/07/2020	Updated for SSD9343 ConditionB15	O. Matlapeng	Damian Vella
03	14/08/2020	Hazardous Waste	O. Matlapeng	Damian Vella

2.2 Management reviews

Review date	Details	Reviewed by
15/07/2020		Damian Vella

2.3 Controlled copies

Name	Position	Date	Revision
Damian Vella	Project Manager	15/07/2020	02
G Drive & Aconex	Document Control	15/07/2020	02
G.Drive & Aconex	Document Control	14/08/2020	03

3 PROJECT SCOPE

The Schools at Meadowbank Education and Employment Precinct (SMEEP) will cater for 1,000 primary students, 1,500 high school students and a 120 place Intensive English Centre (IEC) to accommodate the relocation of Meadowbank Public School and Marsden High School. The co-located schools will also take enrolment pressure off surrounding primary and high schools exceeding student capacity and accommodate future population growth within City of Ryde Local Government Area (LGA). The Precinct will contain high quality classrooms, collaborative learning spaces, open spaces and associated school facilities.

The proposal will contribute to a once-in-a-generation 'Education and Employment Precinct' in Meadowbank. The precinct combines primary, secondary and tertiary education facilities to form a future focused learning environment comprised of the proposal and the existing TAFE NSW.

The SMEEP Project generally comprises:

–A multi-level, multi-purpose, integrated school building with a primary school wing and high school wing. The school building is connected by a centralised library that is embedded into the landscape. The school building contains:

- Collaborative general and specialist learning hubs, with a combination of enclosed and open spaces;
- Adaptable classroom home bases;
- Four level central library, with primary school library located on ground floor and high school library on levels 1 to 3.
- Laboratories and workshops;
- Staff workplaces;
- Canteens;
- Indoor gymnasium;
- Multipurpose communal hall;
- Outdoor learning play and recreational areas (both covered and uncovered).

– Associated site landscaping and public domain improvements;

– An on-site car park for 60 parking spaces; and

– Construction of ancillary infrastructure and utilities as required.

Project Value - $200m

Project Hours Monday to Friday 7am to 6pm; Saturday 8am to 1pm

Restricted Project Hours Monday to Friday 6pm to 7pm; Saturday 1pm to 4pm

4 PURPOSE

The purpose of this Construction Waste Management Plan is to meet our project objectives and targets and to comply the requirements of the SSD9343 Condition B15.

B15	The Construction Waste Management Sub-Plan (CWMSP) must address, but not be limited to, the following: (a) detail the quantities of each waste type generated during construction and the proposed reuse, recycling and disposal locations; and (b) removal of hazardous materials, particularly the method of containment and control of emission of fibres to the air, and disposal at an approved waste disposal facility in accordance with the requirements of the relevant legislation, codes, standards and guidelines, prior to the commencement of construction.	a) Refer section 8.3 b) Refer section 8.6

5 OBJECTIVES AND TARGETS

The objective of this CWMP is to ensure that all risks associated with construction waste management are considered and managed effectively during construction.

This CWMP seeks to ensure that construction waste is managed effectively to prevent any negative environmental impact on the surrounding environment or receiving resource recovery and waste facilities.

This CWMP aims to satisfy the following objectives:

– Address the requirements of the relevant environmental legislation as it applies to this project;

– Summarise potential impacts on the environment from the proposed works, and;

– Document environmental procedures to control potential environmental impacts.

The following targets have been identified in terms of waste management for the project;

– Waste products are recovered and reused on site where reasonable and practical;

– Undertaken recovery/recycling of all recyclable materials such as concrete, steel, aluminium, paper and plastics. This may be undertaken on site or at an offsite recovery facility;

– All residual waste products are sent to appropriately licensed destinations for recycling, reuse, treatment or disposal;

– No contamination incident occurring as a result of waste storage, transport or disposal;

– No rejection of loads by the receiving facility for non-compliant wastes;

– Regulated wastes stored, transported, tracked and disposed of as per regulated waste legislation;

– No construction waste/litter to leave the site in an uncontrolled manner;

– Documentation of the intended management of wastes e.g. avoid, reduce, reuse, recycle or dispose to ensure waste is managed in accordance with accepted standards and appropriately implemented waste control measures, and;

– Implementation of waste minimisation initiatives where practical.

The measurable targets supporting these objectives that will be reported on throughout the project are:

KEY PERFORMANCE INDICATOR	TARGET
Dispose of waste material in accordance with legislative requirements	100%

Table 03 – Waste management performance targets and objectives and project key performance indicators.

6 LEGISLATION

6.1 Legislation

Legislation	Legislation Summary
Protection of the Environmental Operations Act, 1997	The Act details how to obtain Environmental Protection Licence for scheduled activities e.g. road construction. Also, it identifies procedures on how to prevent pollution and details offences and penalties for a range of environmental issues.
Protection of the Environment Operations (General) Regulation 2009	This Regulation provides requirements in respect of pollution incident response management plans. Also, it prescribes certain matters for the purposes of the definition of water pollution.
NSW Protection of the Environment Operations (Waste) Regulation, 2005	The Act describes the waste types that require to be tracked during transportation.
Contaminated Land Management Act, 1997	This Act identifies the processes to identify, report and manage any recognized land contamination.
Waste Avoidance and Resources Recovery Act, 2001	The Act introduces procedures for efficient use of resources to decrease and prevent environmental harm
National Greenhouse and Energy Reporting Act, 2007	This Act aims to encourage the procedures of reporting and reducing greenhouse gas emissions.
Noxious Weeds Act 1993	The Act imposes obligations on occupiers of land to control noxious weeds declared for their area.
Environmentally Hazardous Chemical Act 1985	The Act details the processes to manage native vegetation.

6.2 Other Guidelines and Standards

The main guidelines and standards relevant to this plan are;

- EPA Waste Classification Guidelines
- Section 198 of the Protection of the Environment Operations Act 1997
- Best Practice Waste Reduction Guidelines for the Construction and Demolition Industry (tools for Practice), Natural Heritage Trust, 2000.
- Heads of Asbestos Coordination Authorities (HACA) Charter, NSW Government.
- How to Manage and Control Asbestos in the Workplace – Code of Practice, SafeWork NSW.
- Managing Risks of Hazardous Chemicals in the Workplace code of Practice, SafeWork NSW

7 ROLES AND RESPONSIBILITIES

Role	Purpose / Responsibility
Project Manager Damian Vella	– Maintains overall accountability for project delivery, meeting Client requirements and all contract requirements – To ensure all available resources comply with the environmental requirements in all aspects of project delivery – Establishes waste management objectives and key performance indicators (KPIs) – Defines and communicates responsibilities and authorities to project team – Liaises with Health Infrastructure and its nominated representatives as necessary – Provides feedback to RP senior management on performance and continuous improvement of integrated management system
Senior Project Engineer / Project Engineer Sam Hamilton Onneile Matlapeng Todd Thornton	– Implements the WMP and communicates responsibilities and expectations to project and delivery team – Ensures the WMP objectives and key performance indicators (KPIs) are met – Coordinates waste contractor engagement
Site Manager Daniel Dufau	– Manages all site construction activities – Coordinate the delivery of plant and materials – Liaises with plant operations staff to coordinate and programme waste management removal – To ensure all waste management measures and procedures are implemented.
Site Engineer / Cadet Marika Casimatis	– Maintains documents and document control of waste related documentation

Table 07 – Key project management roles and responsibilities.

8 WASTE MANAGEMENT

8.1 Waste Classifications

The classification of waste is based on the Environmental Protection Agency (EPA)PA *Waste Classification Guidelines - Classifying Waste*.

The classification of wastes is necessary to determine whether licensed transporters are required, and at which landfill the waste may be disposed.

The EPA classify waste into 6 classifications - Special Waste, Liquid Waste, Hazardous Waste, Restricted Solid Waste, General Solid Waste (putrescible), General Solid Waste (non-putrescible).

Waste classification requires NATA laboratory analysis unless the waste has previously been pre-classified by the EPA.

8.2 Identifying waste in construction

The strategy to minimise waste on the Meadowbank School project includes identifying the waste generally generated in construction work, the table below lists waste generating products:

Types of Material	Possible Reuse and Recycling
Excavation Material	Keep on site and reuse for landscaping activities, construction roads etc, disposed of in separate waste bin, recycled at waste facility
Hazardous Materials (asbestos)	Disposed of as special waste, currently there is no recycling capability
Green Waste	Separated, some chipped and stored on-site for reuse on landscaping, disposed of in separate waste bin, recycled at waste facility
Bricks	Disposed of in separate waste bin, recycled at waste facility
Concrete	Disposed of in separate waste bin, recycled at waste facility
Timber	Reuse for formwork, disposed of in general waste Chip remainder for use in landscaping, recycled at waste facility
Steel	Disposed of in separate waste bin, recycled at waste facility
Food scraps	Separate storage bin available on-site, disposed of in separate waste bin, recycled at waste facility
Equipment and product packaging	Disposed of in general waste, recycled at waste facility
Hazardous substance containers	Disposed of in general waste, currently there is no recycling capability

8.3 Waste Expectations for the Project

The following table identifies the forecast materials expected to be classified as waste for the project:

Types of Material	Estimated QTY	Waste Classification	Possible Reuse and Recycling	Estimated % recycled
Hazardous Materials (asbestos)	Zero	Special Waste	Disposed of as special waste	0%
Excavation Material	10,000 m3	General Solid Waste (non-putrescible) (VENM)	Keep on site and reuse for landscaping activities, construction roads etc, disposed of in separate waste bin, recycled at waste facility	100%
Paper/ Cardboard/ Plastic/ Glass	300T	General Solid Waste (non-putrescible)	Disposed of in separate waste bin, recycled at waste facility	100%
Green Waste	15T	General Solid Waste (putrescible)	Separated, some chipped and stored on-site for reuse on landscaping, disposed of in separate waste bin, recycled at waste facility	100%
Bricks	Unknown quantities	General Solid Waste (non-putrescible)	Disposed of in separate waste bin, recycled at waste facility	100%
Concrete	18,000T	General Solid Waste (non-putrescible)	Crushed and reused in roads, landscaping etc, disposed of in separate waste bin, recycled at waste facility	90%
Timber	Unknown quantities	General Solid Waste (non-putrescible)	Reuse for formwork, Chip remainder for use in landscaping, recycled at waste facility	100%
Steel	500T	General Solid Waste (non-putrescible)	Disposed of in separate waste bin, recycled at waste facility	100%
Food scraps	Unknown quantities	General Solid Waste (putrescible)	Temporary storage bin available on-site, disposed of in separate waste bin, recycled at waste facility	50%
Equipment and product packaging	10T	General Solid Waste (non-putrescible)	Disposed of in general waste, recycled at waste facility	80%
Hazardous substance containers	1T	General Solid Waste (non-putrescible)	Disposed of in general waste, currently there is no recycling capability	0%

8.4 Opportunities for waste reduction

The organisation aims to reduce, reuse and recycle waste with a view to minimising waste going to landfill by identifying types of waste generally generated on construction projects and identifying opportunities to minimise waste generation and re-use programs

Controlling the waste minimisation and reduction strategies will be by implementing the Waste Minimisation Hierarchy as described below:

Reduce

Waste avoidance by reducing the quantity of waste being generated is the simplest and most cost effective way to minimise waste. It is the most preferred option in the Waste Management

Hierarchy and is therefore ranked first.

Reuse

Reuse occurs when a product is used again for the same or similar use with no reprocessing.

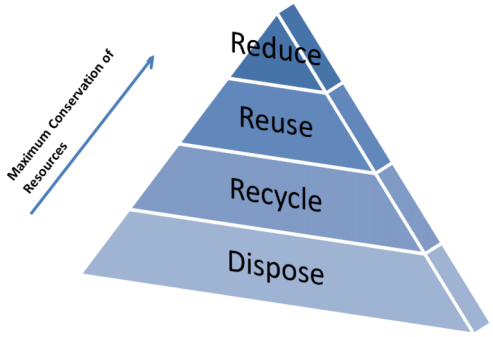
Reusing a product more than once in its original form reduces the waste generated and the energy consumed, which would have been required to recycle.

Recycle

Recycling involves the processing waste into a similar non-waste product consuming less energy than production from raw materials. Recycling spares the environment from further degradation, saves landfill space and saves resources.

Dispose

Removing waste from worksites, compounds and offices and dumping in a licensed landfill site, or other appropriately licensed facility.



- Specific locations for waste management including recycling bins and stockpile locations will be established on site.
- Waste will be disposed to an appropriate licensed facility.
- All wastes being transported off site must be covered.
- All recycled materials will be considered for use on site.
- The site will be cleaned of litter.
- Any hazardous waste and dangerous goods will be stored in according to the SDS requirements.
- Any hazardous waste including asbestos will be managed by an appropriately licensed contractor and transported to an OEH (EPA) approved site.
- Promote recyclable packaging with contractors and suppliers

8.5 Controlling Waste Onsite

Waste on the project is collected in waste bins located throughout the project (also known as skip bins). The bins are relocated depending on construction activities. Site waste is monitored on site by the RP Site Management team and contractors instructed to undertake housekeeping when applicable.

Hazardous waste that requires specific classification and disposal processes are separated from the General Solid Waste Bins.

8.6 Hazardous Waste

The process for dealing with Hazardous Waste is outlined in the Project Risk Assessment. The PRA- Hazardous Material is noted below.

Project Risk Assessment — Link to PRA List

Project:	Meadowbank School	Location:	Meadowbank NSW	Project No.:	N/A	Sheet No.:	Hazardous Materials

* For explanation of Likelihood & Consequence ratings, see the 'Risk Matrix' tab

LINE ITEM	ACTIVITY, PROCESS, METHODOLOGY	DISCIPLINE (WHS, ENV, QA)	POTENTIAL SAFETY, ENVIRONMENTAL AND QUALITY HAZARDS (Hazards / Risks / Aspects)	Initial Risk Rating			CONTROL MEASURES	Residual Risk Rating			PERSON RESPONSIBLE
				Likelihood	Consequence	Rating		Likelihood	Consequence	Rating	
<Insert No> E.g. 01	**HAZARDOUS MATERIALS** - Asbestos Containing Material (ACM) - Removal of lead - Removal of other hazardous materials		<Insert description of hazard / Risk / aspect> E.g. Interaction with public, traffic, pedestrians and local businesses			High	<Insert hierarchical control measures> E.g. Traffic Control, management plans / TCP, spotters for loading/unloading, signage and stop/slow personnel, after hours or night shift activities to reduce exposure Designated personnel access ways are to be established to separate personnel from travelling vehicles.			High	<Insert responsibilities> E.g. PD - Project Director PM - Project Manager PE - Project Engineer SM - Site Manager FM - Foreman/Supervisor EHS - EHS Manager/Coordinator
1	**Asbestos Containing Material (ACM)** - Assessment of Hazardous Materials - Removal of ACM - Disposal of ACM - Clearance of ACM	WHS	**Assessment of hazardous materials** Failure to assess the ground for the presence of hazardous materials before commencing work resulting in workers being exposed to asbestos risk	1	1	High	The subcontractor must ensure an independent hygienist has been engaged and completed a review/report on the ground for the presence of hazardous materials prior to commencing demolition work Effective signage and barricades to be set up to warn and prevent untrained/qualified people from entering the area **- Hygienist Hazardous Materials Report**	3	1	Medium	PM PE
		WHS	**Removal of ACM - Planning** Failure to adequately plan management of asbestos on the project exposing people to asbestos risk	1	1	High	The subcontractor must ensure an Asbestos Removal Control Plan has been developed in accordance with SafeWork NSW C.O.P - How to Manage and Control Asbestos in the Workplace The subcontractor must ensure the relevant licenses to remove asbestos (company, supervisor and workers) The subcontractor must ensure that the regulator notifications are in place The subcontractor must ensure suitably qualified workers are engaged to identify the ACM as listed in the Hygienist Hazardous Materials Report The subcontractor must ensure a HRCW SWMS has been developed for the removal of ACM The subcontractor must ensure health monitoring is in place as per legislation for the removal workers **- Hygienist Hazardous Materials Report** **- Asbestos Removal Control Plan** **- Asbestos Removal License** **- Asbestos Removal Supervisor Licence** **- Notification to Remove Asbestos to the Regulator** **- subcontractor Skills and Training Register** **- HRCW SWMS**	3	1	Medium	PE SM EHS
		WHS	**Removal of ACM - Worker exposure** Workers being exposed to hazardous substances causing life threatening illness	1	1	High	The ACM removal supervisor must ensure the removal workers are following the HRCW SWMS at all times The ACM removal supervisor must ensure the required PPE is maintained and worn correctly The ACM removal subcontractor must ensure disposable coveralls are used and any clothing worn under coveralls must be disposed of or suitably bagged for laundering as asbestos contaminated clothing in a suitable laundering facility that is equipped to launder asbestos-contaminated clothing The ACM removal subcontractor must ensure suitable decontamination facilities are in place All ACM to be wet down when ever possible to prevent fibres becoming airborne during removal/transit Any Friable removal of ACM must be fully encapsulated with a negative air pressure system in place as per the SafeWork NSW C.O.P - How to safely remove asbestos **- Subcontractor Skills and Training Register** **- HRCW SWMS**	3	1	Medium	SM FM EHS
		ENV	**Disposal of ACM** Illegal dumping of hazardous waste causing public exposure to life threatening illness	2	1	High	The subcontractor must ensure all ACM waste is bagged and labelled correctly The subcontractor must ensure that ACM is disposed of at a site that is authorised to accept ACM waste and provide RP with the waste facility receipts **- Waste facility receipts**	3	1	Medium	PE
		WHS	**Clearance of ACM** Failure to have a suitably qualified and experienced person undertake and validate clearance of hazardous materials resulting in workers being exposed to asbestos risk	1	1	High	The subcontractor must ensure an independent licensed asbestos assessor has been engaged to complete a clearance inspection and a clearance certificate issued prior to the workplace/area being re-occupied **- Asbestos assessor clearance certificate**	3	1	Medium	PE SM EHS
	Removal of lead - Assessment - Notification - Exposure - Clearance - Disposal	WHS	**Assessment** Failure to assess the workplace resulting in workers becoming unknowingly exposed to lead	2	2	Medium	The subcontractor must ensure an independent hygienist has been engaged and completed a review/report on the building for the presence of lead containing materials prior to commencing demolition work (paints, old pipes/tanks etc) **- Hygienist Hazardous Materials Report**	3	2	Low	

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Project Risk Assessment — Link to PRA List

Project:	Meadowbank School	Location:	Meadowbank NSW	Project No.:	N/A	Sheet No.:	Hazardous Materials

* For explanation of Likelihood & Consequence ratings, see the 'Risk Matrix' tab

LINE ITEM	ACTIVITY, PROCESS, METHODOLOGY	DISCIPLINE (WHS, ENV, QA)	POTENTIAL SAFETY, ENVIRONMENTAL AND QUALITY HAZARDS (Hazards / Risks / Aspects)	Initial Risk Rating			CONTROL MEASURES	Residual Risk Rating			PERSON RESPONSIBLE
2		WHS	**Notification** Failure to notify the regulator resulting in prosecution	2	2	Medium	The subcontractor must notify the State Regulator of the removal of lead at least 7 days in advance of the removal work **- Regulator Notification**	3	2	Low	
		WHS	**Exposure** Workers exposed to lead resulting in personal health issues	2	1	High	The subcontractor is to determine safe methodology in removing objects that have lead containing materials The subcontractor must have a health monitoring program in place for workers who are exposed to lead **- Health monitoring results** **- HRCW SWMS**	3	1	Medium	
		WHS	**Clearance** Failure to adequately inspect and clear the work area resulting in workers unknowingly being exposed to lead risk	2	2	Medium	The subcontractor must ensure an independent licensed hygienist has been engaged to complete a clearance inspection and a clearance certificate issued prior to the workplace/area being re-occupied **- Hygienist clearance certificate**	3	2	Low	
		ENV	**Disposal** Failure to dispose of lead in an approved facility resulting in contaminating the environment	2	1	High	The subcontractor must ensure all lead waste is appropriately bagged and labelled and also disposed of at a site that is authorised to accept the lead materials waste and provide RP with the waste facility receipts **- Waste facility receipts**	3	1	Medium	
3	**Removal of other hazardous materials** (e.g. Ozone depleting substances, SMF, PCB's) - Assessment - Removal - Clearance - Disposal	WHS	**Assessment of hazardous materials** Failure to assess the building for the presence of hazardous materials before commencing work resulting in workers being exposed to unknown risk	2	2	Medium	The subcontractor must ensure an independent hygienist has been engaged and completed a review/report on the building/Ground for the presence of hazardous materials prior to commencing demolition work **- Hygienist Hazardous Materials Report**	3	2	Low	PE SM EHS
		WHS	**Removal of hazardous materials** Workers being exposed to unknown hazardous materials	2	1	High	The subcontractor to review the hygienist hazardous materials report and ensure effective methodology put in place to safely remove the materials The subcontractor must ensure an experienced person positively identifies the hazardous materials listed in the hygienist hazardous materials report The subcontractor must ensure the workers removing/handling the hazardous materials have been adequately trained in the health risk from being exposed to the material and how to safely handle/remove the material SMF is to be appropriately bagged to prevent blowing away in strong winds The subcontractor must ensure health monitoring is in place as per legislation for the removal workers when exposed to chemicals listed in schedule 14 of the NSW WHS Regulations 2017 **- Hygienist Hazardous Materials Report** **- Subcontractor Skills and Training Register** **- HRCW SWMS**	3	1	Medium	SM FM
		WHS	**Clearance** Failure to adequately inspect and clear the work area resulting in workers unknowingly being exposed to hazardous materials risk	2	1	High	The subcontractor must ensure an independent licensed hygienist has been engaged to complete a clearance inspection and a clearance certificate issued prior to the workplace/area being re-occupied - Hygienist clearance certificate	3	1	Medium	PE SM
		ENV	**Disposal** Failure to dispose of hazardous materials in an approved facility resulting in contaminating the environment	2	2	Medium	The subcontractor must ensure all hazardous materials waste is disposed of at a site that is authorised to accept the hazardous materials waste and provide RP with the waste facility receipts **- Waste facility receipts**	3	2	Low	PE EHS
						High				High	
						High				High	

Distribution: — Appendix 04: Project WHS Plan

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All hazardous Waste removed from site, must be transported in a controlled manner, with appropriate method of containment and control of emissions of fibres to the air. The waste removal record must be provided to verify that the waste has been classified in accordance with the guidelines, transport licensing in place and that landfill can lawfully receive the waste. The removal of hazardous material must be undertaken in accordance with all applicable legislation, standards, codes and guidelines.

8.7 Waste storage and Handling

During bulk excavation works, waste material will be reused onsite. Where waste cannot be used onsite it will be removed by a suitably licensed contractor and sent to pre-approved waste and resource recovery facilities. The handling, storage and transport of hazardous materials and waste shall be in accordance with RP Project Work, Health and Safety Management Plan, the National Code of Practice, the relevant Safety Data Sheet (SDS) on the product and the hazardous materials management procedures.

During construction, RP will provide skip bins on the ground floor. These bins will be provided for the use of subcontractors on a daily basis. RP will also supply 2m3 tipper bins, 1m3 wheelie and Otto bins throughout the duration of the project.

A food scrap bin will also be provided for putrescible waste products, separate from the general-purpose bins.

The type of bin will be required for the various activities being carried out;

– 2m3 bins will be utilised during the structure phase on the decks;

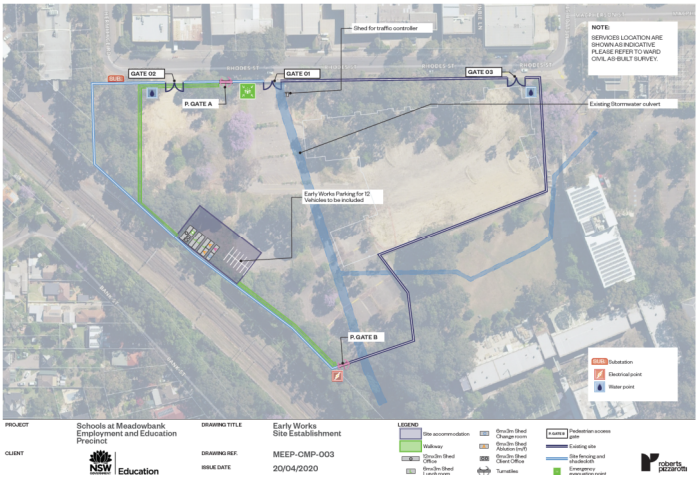
– 1m3 bins during typical floor services and fit out stages, and;

– Otto bins during the finishes to completion.

Storage of waste oils and chemicals shall be in a purpose built secured bunded area. The capacity of the bunded area is to be at least 110% of the chemical stored within. An emergency response spill kit shall be located adjacent to the bunded area.

All storage containers and locations for the various waste streams shall be clearly labelled to ensure that mixing of wastes is avoided.

All material removed during the de-silting of drainage structures and sediment structures shall be disposed of in an approved disposal area on site. Where spoil material is to be removed from the site for offsite disposal, RP must ensure that the waste is classified in accordance with the OEH Waste Classification Guidelines.



8.8 Disposal of Waste

The project has engaged Bingo as the project waste management service provider.

All construction waste (including steel, timber, glass, bricks, packaging etc) is included in the waste bins on site and sorted, recycled and disposed of in landfill by Bingo at the waste treatment facility.

Food waste is placed in a separate bin near the amenities, this service is provided by Bingo

Concrete waste during concrete pours is recycled by Bingo.

Bingo have an accredited Environmental Management System to the ISO14001:2015 standard (Certificate Number 72617748231E) issued by Best Practice Certification - They are ISO accredited for safety, environment and quality. Contact Person: Nick Saad. Email: Nick.Saad@bingoindustries.com.au & Mobile:0424 174 577.

Bingo Recycling Centre's combine bin storage, waste collection, waste recycling and waste transfer to service the building and construction industry and domestic waste management needs in New South Wales. Wastes collected by Bingo Bins are taken directly to one of these facilities where approximately 90% of wastes are converted to recovered resources.

The nearest recycling facility to Meadowbank Schools will be, Auburn and Eastern Creek.

Bingo (Genesis) Recycling Centre Eastern Creek	EPL No. 20121
Bingo Recycling Centre Auburn	EPL No. 10935
Bingo Recycling Centre Artarmon	EPL No. 20763
Bingo Recycling Centre Banksmeadow	EPL No. 12857
Bingo (Genesis) Recycling Centre Alexandria	EPL No. 4679
Bingo Recycling Centre Greenacre	EPL No. 20847
Bingo Recycling Centre Kembla Grange	EPL No. 20601
Bingo Recycling Centre Mortdale	EPL No. 20622
Bingo Recycling Centre Revesby	EPL No. 20607
Bingo Recycling Centre St Marys	EPL No. 20621
Bingo Recycling Centre Tomago	EPL No. 20585

In summary, Bingo Bins take all their mixed waste skip bins directly to EPA Licensed Recycling Centres. From there the waste is sorted and separated into the following material classes for processing and recycling.

Type of Material	Where Processed/ Recycled	How Processed/ Recycled
Heavy Recyclable Materials (soil, dirt, sand, rubble, concrete, brick, tiles, asphalt, stone)	Bingo Recycling Centres	Re-processed into recycled products (such as recycled soil, fill sand, aggregates, roadbase) by crushing and screening.
Timber/ Green Waste	ANL/ Genesis	Re-processed into woodchip and mulch by shredding.
Metal/ Steel	Sell & Parker/ CMI	Re-processed into new metal and steel products by shearing, baling and re-smeltering.
Brick/ Concrete	Boral/ Genesis	Re-processed into recycled products (such as fill sand, aggregates, roadbase) by crushing and screening.
Cardboard/ Paper/ Plastic	Polytrade Recycling/ J.J. Richards/ Orora	Re-processed into new cardboard, paper and plastic products by breaking down the material into a form for re-use.
Plasterboard	ReGyp	Re-processed into gypsum products by shredding and screening.
General Waste	SUEZ Landfill/ Horsley Park Landfill/ Genesis Landfill	n/a

Bingo & Genesis Recycling Centres

76-82 Burrows Road, Alexandria NSW 2015

10 Mclachlan Ave, Artarmon NSW 2064

3-5 Duck Street, Auburn NSW 2144

38 McPherson Street, Banksmeadow NSW 2019

Honeycomb Drive, Eastern Creek NSW 2766

35 Wentworth St, Greenacre NSW 2190

50 Wyllie Road, Kembla Grange NSW 2526

20 Hearne Street, Mortdale NSW 2223

37-51 Violet Street, Revesby NSW 2212

25 Dunheved Circuit, St Marys NSW 2760

29 Laverick Avenue, Tomago NSW 2322

ANL

210 Martin Road, Badgerys Creek NSW 2555

Sell & Parker

45 Tattersall Road, Blacktown NSW 2148

CMI

38 York Road, Ingleburn NSW 2565

Boral

6-10 Burrows Road South, St Peters NSW 2044

Polytrade Recycling

32 South St, Rydalmere NSW 2116

40 Madeline St, South Strathfield NSW 2136

J.J. Richards

12 Heald Rd, Ingleburn NSW 1890

8 Kommer Pl, St Marys NSW 2760

Orora

1891 Botany Rd, Matraville NSW 2036

ReGyp

330 Captain Cook Drive, Kurnell NSW 2231

SUEZ Landfill

Elizabeth Drive, Kemps Creek NSW 2178

Horsley Park Landfill

Wallgrove Road, Horsley Park NSW 2164

Genesis Landfill

Honeycomb Drive, Eastern Creek NSW 2766

8.9 Waste Records

Various waste records will be generated throughout the project, these records include:

- Waste removal/recycling reports
- EPA Waste Facility Licenses

The records are maintained in the project G Drive. Additional waste dockets generated by subcontractors for special waste (hazardous substances etc) are maintained in the relevant subcontractor's folder - G:\20_Projects_

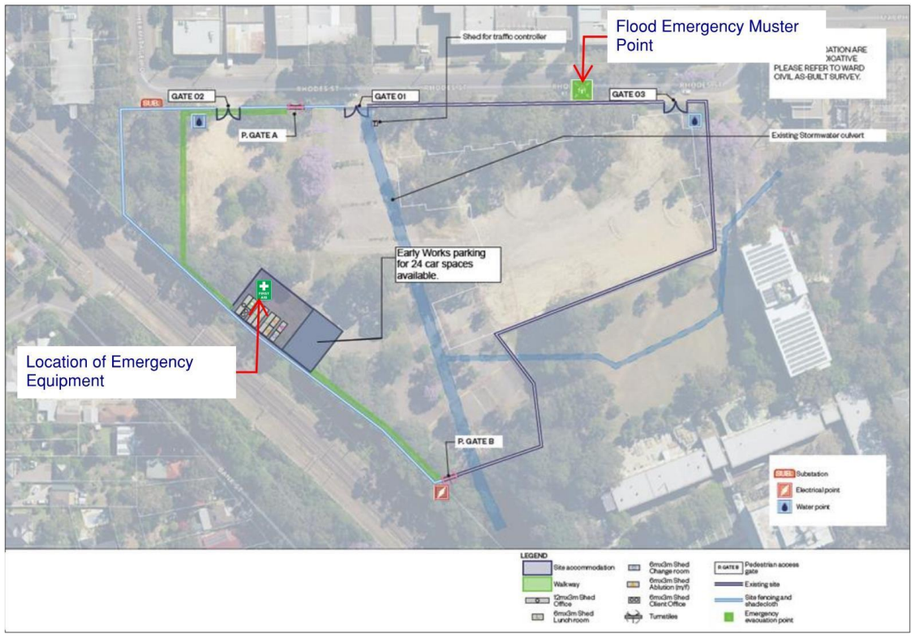
Appendix 10 – Flood Emergency Response Plan

Emergency Response Plan – Flooding of Site – Main Works

Purpose: To describe how flooding of site will be managed to ensure the risks of injury, illness and environmental damage are minimised on the project.

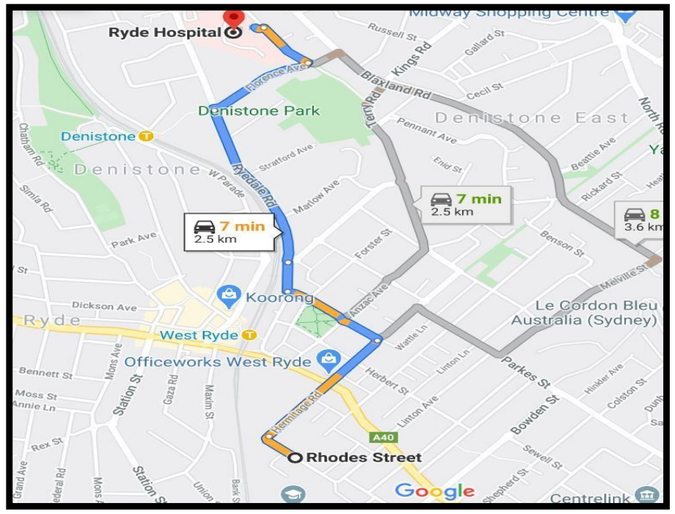
Site Details		Key Personnel/ Emergency Response Team (ERT)	Contact Number	Responsibilities	Acceptance of ERT Responsibility (Wet Signature and Date)
Project Name: Main Works (SSDA9343)	Location: 2 Rhodes Street, Meadowbank	Emergency Response Team Leader: Ivan Johnston Emergency Response Deputy Team Leader: Colm Drumgoole	0410 430 193 0403 411 475	Assess the situation and determine the First Aid and emergency resources required Dispatch First Aid to assess and treat injured persons If outside assistance is required, delegate a contact for emergency services and have them call 000 Manage Incident operations Ensure the safety of all personnel Maintain a log of all activities	
Client Contact: Roberts Pizzarotti: Daniel Dufau– 0413 228 892 Todd Thornton – 0413 071 104		First Aid Representatives: Ivan Johnston Kirolos Saman Colm Drumgoole	0410 430 193 0478 658 143 0403 411 475	Assess the situation Protect yourself, patient and others from harm Assess the injured person Provide first aid as required.	
		ERT members: Ivan Johnston Colm Drumgoole Kirolos Saman Rory Kelly	0410 430 193 0403 411 475 0478 658 143 0404 439 409	Immediately identify and stop site work activities Assess the incident and determine if evacuation of the site is required Announce requirement to Evacuate by Radio Broadcast on UHF Radio Channel 27 "Emergency, Emergency, Emergency" move to muster point Sound air horn, 3 long blasts, pause and repeat 3 long blasts Move to the muster point and obtain WARD Prestart Meeting Document from the site office Assess the safety and wellbeing of all workers Arrange for first aid for any injured worker	
ERP Approved By	Project Manager: Rory Kelly	Wet Signature			Date: 21/07/2020
	Health and Safety Manager: Michelle Tauroa	Wet Signature			Date: 21/07/2020

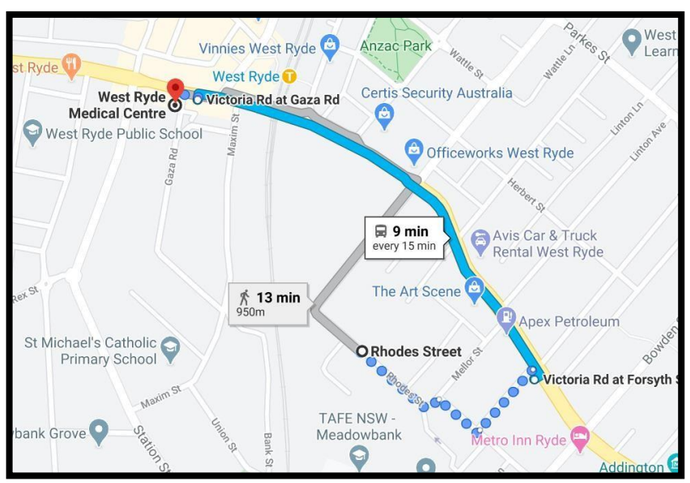
Emergency Response Plan – Flooding of Site – Main Works



Emergency Equipment Located at site accommodation.

Emergency Services	000
Closest hospital	Ryde Hospital, Denistone Rd, Eastwood NSW 2122 (02) 9858 7888
Closest Medical Centre	West Ryde Medical Centre, 990 Victoria Rd, West Ryde NSW 2114 (02) 9808 3333





Emergency	Alarm Device	Alarm Device Location
Flooding of Site	2 Way Radio/phone	Spotter

Always assess the scene and ensure your own safety before approaching.

Do not attempt to drive vehicles/plant through flooded areas.

Emergency services to be called using *'000'*.

Step	Action	Who
1.	Notify the supervisor of flooding area.	Person discovering
2.	Assess the scene and determine that no-one is caught in flooding.	Person discovering/Supervisor
3.	If possible stop the source of water. Check for any trapped personnel	Person discovering/Supervisor
4.	If it is safe to do so then assist people to leave flooded area.	Person discovering/Supervisor
5.	If someone is trapped or injured then notify emergency services using '000'.	Person discovering/Supervisor
6.	Depending on area of flooding assess if a pump can be used to remove water and coordinate with Supervisor.	Person discovering/Supervisor
7.	When able to then evacuate to the emergency assembly area (adjacent to gate 1)	Person discovering/Supervisor
8.	If not able to evacuate to assembly area then move to higher ground and notify Supervisor of your position. Then notify NSW SES for rescue using the number '132 500'.	Person discovering/Supervisor
9.	Sound alarm to evacuate to the emergency assembly area	ERT member
10.	Conduct roll call using pre-start and account for all persons.	ERT member
11.	If persons are missing then notify emergency services using '000'. If someone needs rescue but it is not life threatening then contact NSW SES using '132 500'	ERT member
12.	Notification to Snr Management as per the Emergency Response Procedure	Project Manager

Note: Refer to the Emergency Equipment and Training Register for full list of required equipment.

The Emergency Equipment Register should be displayed on site with this Emergency Response Plan.

Measures and requirements to address impacts on hydrology and minimise flooding impacts are outlined the table below. These are general measures that should be implemented before a flooding event and apply to all site areas of the Project.

Emergency Response Plan – Flooding of Site – Main Works

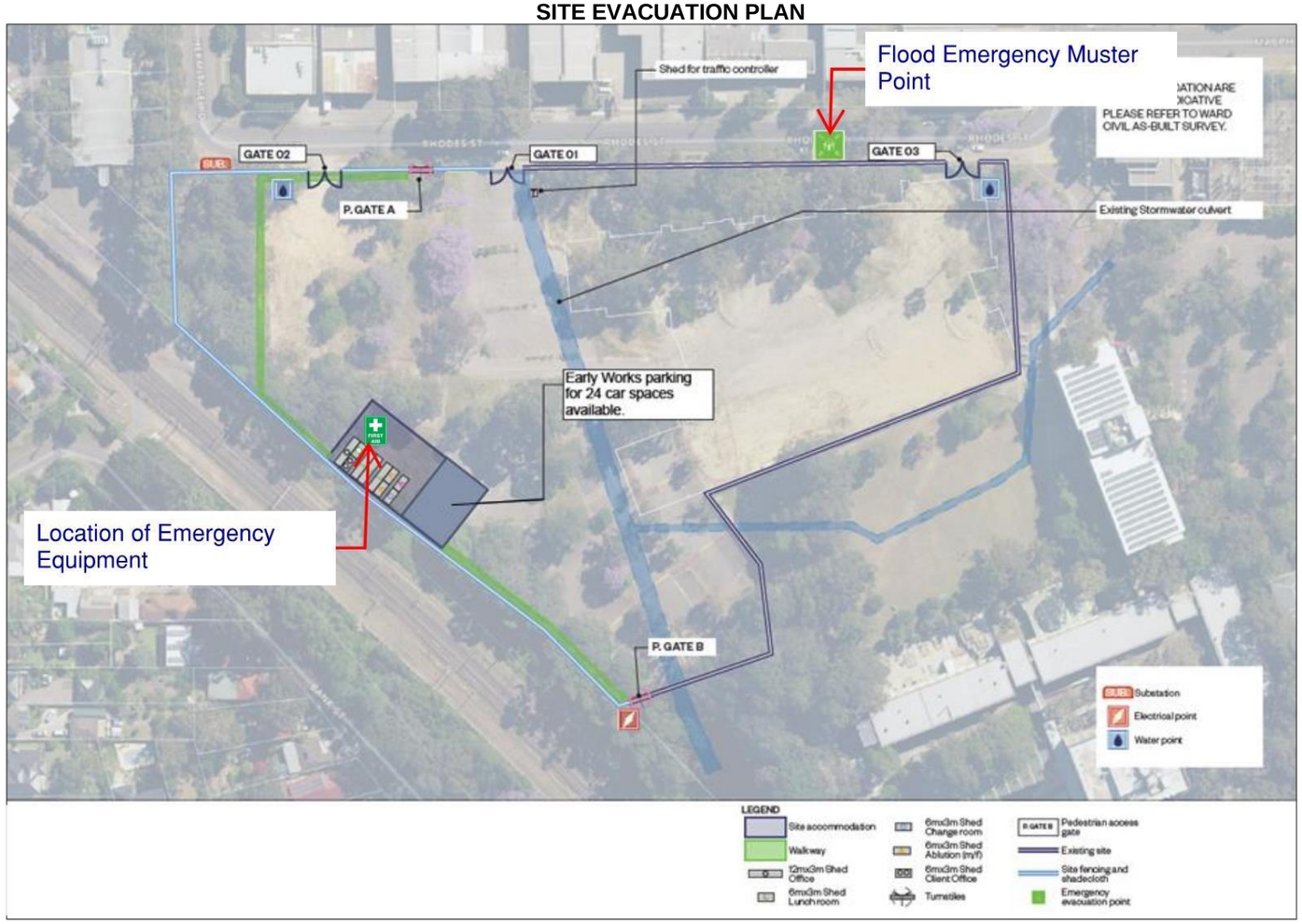
ID	Measure/ Requirement	Resources needed	When to implement	Responsibility
FMP1	Avoid the need or extent of any obstructions to be placed within flood risk areas and overland flowpaths in the first instance, and minimise if avoidance is not feasible or reasonable.	Planning time to re-locate, consider alternatives for obstructions.	Construction	Environment Manager/ Project Site Engineer
FMP2	Remove construction equipment from flood risk or overland flow areas if rainfall in excess of the action level (10mm in any 24hr period) is approaching and at the completion of each day's work activity. The extent of the flood risk and overland flow areas would be defined during the detailed construction planning phase.	Qualified site personnel to relocate plant and materials.	Construction/ construction planning	Environment Manager
FMP3	Stage earthworks located within the floodplain to ensure that the extent of works exposed at any one time is minimised.	Planning time to develop staging.	Construction	Project Site Engineer
FMP4	Remove all temporary structures, embankments, haul barriers and working pads as soon as feasible after serving their purpose.	Site personnel for decommissioning of completed areas.	Construction	Project Site Engineer
FMP5	Locate stockpile sites outside the 20 year ARI flood. The flood immunity provided to stockpile sites would depend on the duration of stockpiling operations, the type of material stored and the nature of the downstream waterway or any other specified requirements. Locations to be defined during detailed construction planning.	Planning time to re-locate, consider alternatives for obstructions.	Construction/ construction planning	Project Site Engineer
FMP6	Include flood risk areas within site induction material, with stormwater and flood management to be addressed in regular tool box/project start-up meetings.	Planning time to compile site risk and safe-work material.	Construction	Environment Manager/ Project Site Engineer
FMP7	Monitor temperature, humidity, wind velocity and rainfall onsite daily, using data available from Bureau of Meteorology.	Personnel to monitor forecasts and live data.	Construction	Project Manager
FMP8	Prepare site specific erosion and sediment control plans prior to the commencement of each stage of construction. Include landforms and flow paths, existing drainage infrastructure, controls, stockpile locations and management of spoil in accordance with *Managing Urban Stormwater: Soils and Construction Volume 1*.	Planning time to develop erosion and sediment strategy.	Construction/ construction planning	Environment Manager/ Project Site Engineer
FMP9	Implement temporary and permanent erosion and sediment controls to prevent sediment from leaving the construction site.	Qualified personnel to install measures.	Construction	Environment Manager/ Project Site Engineer
FMP10	Check the operation of all project-related sediment and erosion controls at least once per day during operational hours, to help identify potential water pollution risks.	Qualified personnel to inspect and advise changes.	Construction	Environmental Manager
FMP11	Maintain stabilised areas as much as practical to prevent erosion.	Personnel to maintain work areas.	Construction	Environment Manager/ Project Site Engineer
FMP12	Divert stormwater runoff around disturbed areas of the site where practical to prevent contamination with runoff from the disturbed areas. Where this is not possible, control measures such as diversion drains will be constructed to ensure stormwater runoff does not cause additional erosive impacts.	Qualified personnel to verify location of appropriate erosion and sediment control measures.	Construction	Environment Manager/ Project Site Engineer
FMP13	Locate bunded chemical storage areas within secure compound and have provision for protection from rainfall. To avoid the cumulative effect of multiple container failure the bund will be sufficient to contain 110% of all materials contained within the bund.	Planning time to allocate appropriate storage areas.	Construction	Environment Manager/ Project Site Engineer

ID	Measure/ Requirement	Resources needed	When to implement	Responsibility
FMP14	Implement water quality control measures prior to the commencement of construction activities.	Qualified personnel to verify location of appropriate erosion and sediment control measures.	Construction	Environment Manager/ Project Site Engineer
FMP15	Upon predicted rainfall in excess of the action level (10mm in any 24hr period), erosion and sediment controls will be inspected to ensure maintenance is not required. Inspection of controls during rainfall event will occur to ensure they are performing.	Qualified personnel to verify condition of installed erosion and sediment control measures.	Construction	Environment Manager/ Project Site Engineer

Other Site Specific mitigation measures may be implemented below -

Site Specific ID	Location/Activity	Flood Risk/Potential Impact	Measure / Requirement
FMP16	All construction sites	Direct rainfall on all construction sites within the scope of the PLR has the potential to cause erosion of disturbed areas.	Site construction manager/superintendent to alert personnel to prepare the site for significant rainfall events based on monitoring. Severe weather warnings will be obtained from: Australian Bureau of Meteorology's Commercial Weather Services to provide advanced notice of large rainfall events, which will alert the construction team onsite. COP FloodSmart system notification warnings of impending flooding of the CBD and upstream catchment areas to the west of the CBD. Ryde SES. For flood specific warning times, refer to SES website and Bureau of Meteorology, as each flood event if different. In extreme rainfall a flood emergency protocol will be required.
FMP17	All construction sites	Localised Overland Flooding has the potential to inundate work areas, damage equipment and stockpiles and cause erosion of disturbed areas.	Overland flows will need to be diverted around the construction sites using bunding or swales, either along any existing table drains beside cross streets or through the construction sites via appropriate drainage lines. Discharge locations for all flow routes to be maintained and diversions not to route overland flows onto adjacent properties.
FMP18	All construction sites	Evacuation and Refuge Protocols	In the event of an evacuation, all personnel to move calmly to the nominated evacuation assembly area, and do not leave the evacuation area until the all clear has been given. The Flood Emergency Muster area is located outside gate 3. Evacuation routes cannot be shown on plan as site is constantly changing. Due to the changing site layout, all personnel to frequently familiarise themselves with the evacuation routes. For the latest Evacuation Route plans, refer to the site office and induction.
FMP19	All construction sites	Training/ Awareness	All site personnel to be inducted into the environmental requirements of the project, including the procedure for flooding of site.
FMP20	All construction sites	Floodplain Risk Management Guidelines	The Ryde Floodplain Risk Management Study and Plan 2015, identifies Meadowbank School in a High Risk Flood Risk zone. The Floodplain Risk Management Study 2015 has been reviewed in the development of Flood Emergency Response Plan. The Ryde Floodplain Risk Management Study and Plan 2015, flood modelling indicated that there would be a number of areas within the study area where development would be subject to flood depths exceeding 2m in the 1% AEP event, including parts of Meadowbank Tafe. The SES is equipped with local knowledge which can be used to disseminate required warnings in a suitable and timely fashion. The project shall continually refer to SES website and BOM to ensure preparedness for flood event is maintained.

SITE EVACUATION PLAN



Refer the site office and the induction for the latest evacuation routes.

27 July 2020

Kirolos Saman
Project Engineer, Ward Civil
2-6 Orion Road
LANE COVE WEST NSW 2066

Cc: onneile.matlapeng@robertpizzarotti.com;
todd.thornton@robertspizzarotti.com

Dear Kirolos,

ADVICE: NSW STATE EMERGENCY SERVICE ON BUSINESS FLOOD EMERGENCY RESPONSE PLAN

Thank you for contacting the NSW State Emergency Service in regards to reviewing the Flood Emergency Response Plan for Schools at Meadowbank Education and Employment Precinct located on 2 Rhodes St, Meadowbank.

We appreciate your business taking such a proactive approach in preparing for Flood and Storm Emergencies.

The Floodplain Development Manual 2005, Section N7.1 discusses the limitations of private flood plans. In accordance with section N7.2 the NSW SES does not provide support development conditions requiring endorsement or review of private plans by the NSW SES. NSW SES also does not provide reviews on private flood emergency plans due to lack of resources to deal with the volume across NSW.

To provide support and assist, NSW SES directs you to the online resources which are available to the community on the www.ses.nsw.gov.au website which include helpful pages such as:

- Know Your Risk (enter your town or postcode).
- Local Plans and Guides
- Flood Storm and Tsunami Plans which includes locally endorsed NSW SES Flood Emergency Sub Plans
- Emergency Business Continuity Plan online tool which steps you through the process of developing your our Business Emergency Plan.

We note that specific local advice may be helpful when completing steps 6 and 8 of the online Emergency Business Continuity Plan.

NSW SES - Metro Zone
2 Johnston Road, Bass Hill NSW
PO Box 431,Kingswood NSW 2197
P 132 500
E communityplanning@ses.nsw.gov.au
www.ses.nsw.gov.au
ABN: 88 712 649 015

For future enquiries please contact us via the Contact Us form on the NSW SES website, with a request for the local NSW SES Unit to contact you to provide guidance on these parts of your Emergency Plan.

Yours faithfully,

Shelly Stingmore

Shelly Stingmore
Planning & Research Officer
Metro - High Risk Hazard Planning
NSW State Emergency Service
Mobile 0408 286 022
Email: shelly.stingmore@one.ses.nsw.gov.au

KIROLOS SAMAN

EDUCATION:

Bachelor of Engineering – (Civil) - University of Technology, Sydney
Diploma in Engineering Practice - University of Technology, Sydney

PROFESSIONAL SUMMARY:

Proven civil engineering professional with strong communication, technical, administrative & organizational skills who is experienced in a variety of government and commercial engineering projects. Organized, driven & able to meet and enforce strict deadlines & project objectives with strong emphasis on cost, quality & timeparameters.

EMPLOYMENT SUMMARY:

2019 to Current	**Project Engineer: Ward Civil & Environmental Engineering** Ensuring project compliance with respect to environmental, cost, quality & time parameters through stringent project control mechanisms.
2019 to Current	**Director: Orious Civil** Setting out strategic direction, risk assessment & mitigation including business development. Overseeing Estimating, budget & program formulation for commercial/industrial civil works packages.
2019 to 2019	**Project Engineer: Seymour Whyte Constructions** Managing technicians, site supervisors and contractors by assigning works and monitoring adherence to required standards including monitoring construction progress, identifying and assessing project risks.
2015 to 2019	**Project Engineer/Jr Project Manager: AWJ Civil** Managing engineering aspects of projects alongside Project Manager & Site Manager to achieve project cost, quality & WHSE objectives across a number of projects. Including Liaising with local authorities, clients & client teams
2014 to 2015	**Site Engineer: Antoun Civil Engineering** Supervising & coordinating programmed construction activities & ensuring quality objectives are thoroughly met through Inspection & Test Plans including procurement of materials and engagement of trades within purchasing procedures
2013 to 2014	**Cadet Engineer: City of Sydney Council (Client Side)** Administering council objectives through compilation of project briefs, tender selection & supervision of works across a number of sensitive projects which contain high community exposure including cycleway, roads and footpath upgrades
2012 to 2013	**Cadet (Voluntary): Antoun Civil Engineering** Administering project documentation, completing risk assessments & generating job specific ITPs

School at the Meadowbank Education and Employment Precinct (SSD 9343): Submission of Flood Emergency Response Sub-Plan in accordance with Condition B17

Condition	Condition requirements	Document reference
B17	The Flood Emergency Response Sub-Plan (FERSP) must address, but not be limited to, the following:	
	(a) be prepared by a suitably qualified and experienced person(s) in consultation with the State Emergency Service;	Refer to CV pg 8 The SES have been consulted in the preparation of this plan, refer letter from SES received 27.07.2020 pg. 6
	(b) address the provisions of the Floodplain Risk Management Guidelines (EESG);	Refer pg4, FMP20
	(c) include details of:	
	i) the flood emergency responses for both construction phase of the development;	Refer pg3 and pg4, FMP1 – FMP15
	ii) predicted flood levels;	Refer pg4, FMP20
	iii) flood warning time and flood notification;	Refer pg4, FMP 16
	iv) assembly points and evacuation routes;	Refer pg5, Site Evacuation Plan; pg4 FMP18
	v) evacuation and refuge protocols; and	Refer pg4, FMP18
	vi) awareness training for employees and contractors.	Refer pg4, FMP19

Appendix 11 – Construction Traffic and Pedestrian Management Sub-Plan

Onneile Matlapeng

From: Yafeng (Alex) Zhu <YafengZ@ryde.nsw.gov.au>
Sent: Friday, 13 November 2020 11:49 AM
To: Onneile Matlapeng
Cc: Damian Vella; John Begley
Subject: RE: 2 Rhodes Street Meadowbank CTPMP Final Approval
Attachments: 2 Rhodes Street Meadowbank CPTMP (Main Works) - Final Approval - 13 November 2020.pdf

Hi Onneile,

See attached final approval for the CTPMP.

As discussed earlier today on site, can you please fix up the temporary 'No Stopping' signs within Mellor Street to improve the visibility of the signs.

Also once the approved work zone shifts along Rhodes Street, the temporary 'No Stopping' signs are to be installed in accordance with the signage plan.

There is an addendum fee for the assessment of the construction traffic, which includes today's site inspection. Our fee for this work is $324 (GST included – 2 hours @ $162 per hour). Could you please arrange for payment to be made with Council's Customer Service (Ph: 02 9952 8222) and present the receipt to me.

Kind regards,

Alex

Yafeng (Alex) Zhu
Senior Coordinator - Transport Development
TRANSPORT
P (02) 9952 8383
M 0434 859 375
E YafengZ@ryde.nsw.gov.au
W www.ryde.nsw.gov.au

City of Ryde

Customer Service Centre 1 Pope Street, Ryde (Within Top Ryde City shopping centre)
North Ryde Office Riverview Business Park, Building 0, Level 1, 3 Richardson Place, North Ryde

Let's Connect Facebook | Twitter | Instagram | YouTube | eNews

From: Onneile Matlapeng <onneile.matlapeng@robertspizzarotti.com>
Sent: Wednesday, 4 November 2020 10:46 AM
To: Yafeng (Alex) Zhu <YafengZ@ryde.nsw.gov.au>; Yafeng (Alex) Zhu <YafengZ@ryde.nsw.gov.au>

Cc: Damian Vella <damian.vella@robertspizzarotti.com>; John Begley <JohnB@ryde.nsw.gov.au>; Brett Maynard <brett.maynard@gta.com.au>; Mackenzie Brinums <Mackenzie.Brinums@gta.com.au>
Subject: 2 Rhodes Street Meadowbank CTPMP Final Approval

Hi Alex,

Here's a OneDrive link to CTPMP email to Ryde Council 03.11.2020.

In response to your email received on 15 October 2020.

- "No Stopping" signs – The relocated no stopping signs have been installed on 3rd November 2020, please refer attached our Attachment 01.
- We have attached the SINSW MEEP Works Notice issued to residents on 29 Sept 2020, advising of the restricted parking changes.
- "Road Use Permit"- The Road Use Permit was obtained on 30 September 2020. Permit #2415172 refer attached.

In relation to Condition #11 of the Interim Approval, Roberts Pizzarotti advise that the 30 truck movements are required without restrictions. In line with the Whole of Precinct Approach issued by Colliers to City of Ryde.

Roberts Pizzarotti can confirm the following permits are in place;

- Work Zone Permit Stage 01 – City of Ryde Permit #2412761
- Work Zone Permit Stage 02 – City of Ryde Permit #2415167
- Crane over Council Airspace – City of Ryde Permit #2415176
- Hoarding Type B – City of Ryde Certificate #HCT2020/0027

We request your Final Approval of the CTPMP.

If there are any queries, please don't hesitate to contact us.

Kind Regards,
Onneile Matlapeng
Senior Project Engineer
roberts pizzarotti
Roberts Pizzarotti Pty Ltd
Level 54
Governor Phillip Tower
1 Farrer Place
Sydney NSW 2000
M +61 417 656 473

Schools at Meadowbank Education and Employment Precinct

Main Works
Construction Traffic and Pedestrian Management Plan

Prepared by: GTA Consultants (NSW) Pty Ltd for Roberts Pizzarotti
on 20/08/2020
Reference: N183630
Issue #: A

GTAconsultants

Schools at Meadowbank Education and Employment Precinct

Main Works

Construction Traffic and Pedestrian Management Plan

Client: Roberts Pizzarotti

on 20/08/2020

Reference: N183630

Issue #: A

Quality Record

Issue	Date	Description	Prepared By	Checked By	Approved By	Signed
A	18/08/2020	Issued for interim Council approval	Sherry Merson Mackenzie Brinums	Mackenzie Brinums	Brett Maynard	

GTAconsultants

Melbourne | Sydney | Brisbane
Adelaide | Perth

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Appendices

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1. INTRODUCTION

01

1.1. Background

Roberts Pizzarotti commissioned GTA Consultants (GTA) in May 2020 to prepare a Construction Traffic and Pedestrian Management Plan (CTPMP) for main works including structure, fit-out and landscaping and external works for the Schools @ Meadowbank Education and Employment Precinct (SMEEP) at 2 Rhodes Street, Meadowbank. A CTPMP was previously prepared and approved for the early works which included site establishment and remediation, excavation and piling works.

Specifically, this CTPMP seeks to address Condition B13, B18, B19 and B26 of the project approval (SSD 9343). The condition requirements and the location where the requirements have been addressed are outlined in Table 1.1.

Table 1.1: Consent condition requirements

Condition	Condition requirements	Document reference
B13	A Construction Traffic and Pedestrian Management Sub-Plan (CTPMSP) must be prepared to achieve the objective of ensuring safety and efficiency of the road network and address, but not be limited to, the following: (a) be prepared by a suitably qualified and experienced person(s)	Section 1.1
	(b) be prepared in consultation with Council and TfNSW;	Section 1.2
	(c) be informed by, and incorporate any recommendations of the RSA	No RSA was required. Section 4 outlines proposed management measures.
	(d) detail the measures that are to be implemented to ensure road safety and network efficiency during construction in consideration of potential impacts on general traffic, cyclists and pedestrians and bus services; and	Section 4.2, 4.3, 4.4
	(e) detail heavy vehicle routes, access and parking arrangements	Section 3.4, 3.5, 3.8
	(f) swept paths analysis to be carried out, showing that the largest vehicles can turn safely at all intersections along the proposed approach and departure route	Appendix A
	(g) include location of all proposed work zones	Section 3.6
	(h) details of the haulage routes and the construction hours	Section 3.3, 3.8
	(i) details of estimated number and type of construction vehicle movements including morning and afternoon peak and off- peak movements for each stage of construction	Section 3.7
	(j) details of the construction program highlighting details of peak construction activities and proposed construction staging	Section 3.1
	(k) any potential impacts to general traffic, cyclists, pedestrians and bus services within the vicinity of the site from construction vehicles during the construction of the proposed works	Section 4.2, 4.3, 4.4
	(l) cumulative impacts of the proposed construction and ongoing projects in the vicinity of the site including SSD 10349 TAFE Hub redevelopment (if approved)	Section 4.8
	(m) detail the measures that are to be implemented to ensure road safety and network efficiency during construction in consideration of potential impacts on general traffic, cyclists and pedestrians and bus services.	Section 4.2, 4.3, 4.4

INTRODUCTION

Condition	Condition requirements	Document reference
B18	A Driver Code of Conduct must be prepared and communicated by the Applicant to heavy vehicle drivers and must address the following: (a) minimise the impacts of earthworks and construction on the local and regional road network (b) minimise conflicts with other road users (c) minimise road traffic noise (d) ensure truck drivers use specified routes.	Appendix C
B19	Prior to the commencement of construction, the Applicant must submit a Construction Worker Transportation Strategy to the Certifier. The Strategy must detail the provision of sufficient parking facilities or other travel arrangements for construction workers in order to minimise demand for parking in nearby public and residential streets or public parking facilities. A copy of the strategy must be submitted to the Planning Secretary and Council for information.	Appendix D
B26	Prior to the commencement of construction, evidence of compliance with the following requirements must be submitted to the Certifier and a copy provided to Council for information: (a) all construction vehicles must be able to enter and leave the site in a forward direction (b) the swept path of the longest construction vehicle entering and exiting the site in association with the new work, as well as manoeuvrability through the site, is in accordance with the latest version of AS 2890.2 (c) the safety of vehicles and pedestrians accessing adjoining properties, where shared vehicle and pedestrian access occurs, has been addressed.	Section 3.5 and Appendix A

The following report sets out an assessment with consideration of the following:

- site accesses
- requirement for works zones
- anticipated heavy vehicle movements
- heavy vehicle routes to and from the site
- requirements for pedestrians and cyclists.

This CTPMP has been prepared by engineers who holds the Transport for NSW (TfNSW) Prepare a Works Zone Traffic Management Plan certification. Details of the accredited engineers are provided below:

- Mackenzie Brinums - Certification No. 0051848769, exp. 7 November 2021
- Brett Maynard - Certification No. 0052374425, exp. 21 May 2023.

1.2. Consultation

In accordance with the requirements of the Consent Conditions, Condition B13(b) this CTPMP must be developed in consultation with Council and TfNSW.

An Early Works CTPMP has previously been developed in consultation with Council. A draft Early Works CTPMP was submitted to Council on 13 May 2020. Following multiple rounds of comments, the Early Works CTPMP was finalised and approved by Council on 12 June 2020 (Council approval letter reference LDA2019/436).

The Main Works CTPMP builds on the Early Works CPTMP, with much of the proposed construction traffic and pedestrian management measures consistent with the early works stage with updated to construction vehicle accesses and anticipated size and frequency of construction vehicles deliveries. A draft Main Works CTPMP has been issued to Council and TfNSW for review and comment in order to gain approval of the CTPMP.

A meeting was also held with Council and TfNSW on 3 August 2020 to discuss and workshop comments on the CTPMP. Following the meeting, TfNSW provided comments via email, with these comments largely related to the swept path assessment. These comments have now been addressed as indicated by the correspondence in Appendix E, with the updated swept path assessment provided in Appendix A.

Roberts Pizzarotti will continue to liaise with Council and TfNSW throughout the construction of the project to satisfy any concerns with the proposed construction methodology and/or materials handling.

In response to consultation with Council, the number of parking spaces to be provided during peak activities has been increased from 24 to 100.

1.3. References

In preparing this report, reference has been made to the following:

- Traffic Control at Work Sites manual, TfNSW, July 2018
- Australian Standard AS1742.3:2019 Manual of Uniform Traffic Control Devices – Traffic control for works on roads
- plans prepared by Roberts Pizzarotti as referenced in this report
- other documents and data as referenced in this report.

2. EXISTING CONDITIONS

02

2.1. Site Location and Local Context

The site is located on the northern portion of the former TAFE NSW site at 2 Rhodes Street, Meadowbank. The site is bounded by Rhodes Street to the north, the railway line to the west and the Meadowbank TAFE campus to the east. Meadowbank Railway Station is located on the southern side of the Meadowbank TAFE campus.

The site location is illustrated in Figure 2.1 and has an area of approximately 3.3 hectares. The site is legally described as Lot 10 in DP1232584 being part of Lot 1 in DP 837179.

Figure 2.1: Subject site and environs

Base image source: Nearmap

2.2. Existing Road Network

Rhodes Street

Rhodes Street functions as a collector road and is aligned in an east-west direction. It is a two-way road configured with one traffic lane and one parking lane in each direction within a 11-metre wide carriageway.

Kerbside parking is permitted on both sides of the road. Rhodes Street carries around 1,100 vehicles per day in the eastbound direction and 1,400 vehicles per day in the westbound direction.

Rhodes Street is shown in Figure 2.2 and Figure 2.3.

Figure 2.2: Rhodes Street (looking east)

Figure 2.3: Rhodes Street (looking east)

Hermitage Road

Hermitage Road functions as a collector road and is aligned in a north south direction. It is a two-way road configured with one travel lane and one parking lane in each direction within a 10-metre wide carriageway. Kerbside parallel parking is permitted on both sides of the road. Hermitage Road intersects Victoria Road at a signalised intersection, permitting all turning movements.

Hermitage Road carries around 1,700 vehicles per day in the southbound direction and 1,900 vehicles per day in the northbound direction.

Hermitage Road is shown in Figure 2.4.

Victoria Road

Victoria Road is a classified State Road (Roads and Maritime controlled) and is aligned in an east-west direction. Near the site, it is a two-way road configured with three travel lanes in each direction. Kerbside parking is not permitted on both sides of the road. The road carriageway is around 20 metres wide.

Victoria Road is shown in Figure 2.5.

Figure 2.4: Hermitage Road (looking south)

Figure 2.5: Victoria Road (looking east)

Mellor Street

Mellor Street functions as a local road and near the site is aligned in a north-south direction. It is a two-way road configured with one travel lane and one parking lane in each direction within an 11-metre wide carriageway. Mellor Street provides left-in/ left-out access to Victoria Road.

Kerbside parking is permitted on both sides of the road, and is generally unrestricted, with a short section of two-hour time restriction between Mulvihill Street and Victoria Road from 8:30am to 6:00pm, Monday to Friday and from 8:30am to 12:30pm on Saturdays.

2.3. Existing Public Transport

2.3.1. Train Services

Meadowbank Railway Station and West Ryde Station are located around 700 metres south and 750 metres north from the proposed development site, respectively. Both Meadowbank and West Ryde stations are on the T9 Northern Line, with services running from Epping to Central every 30 minutes.

2.3.2. Bus Services

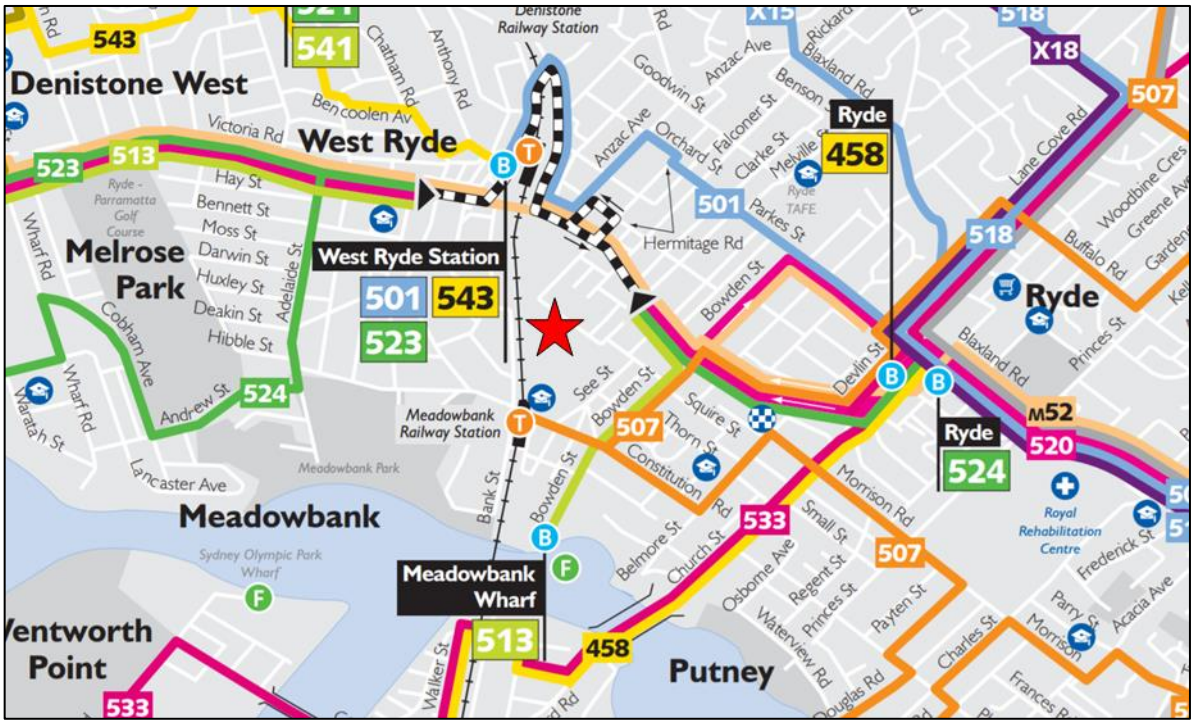
Bus route 507 operates near the site with the nearest stop located at Meadowbank Railway Station. Bus routes 520, 524, 534 and M52 operate along Victoria Road. The surrounding bus network services are detailed in Table 2.1 and shown indicatively in Figure 2.6.

Table 2.1: Bus service frequency

Bus route number	Description	AM/ PM peak frequency	Off-peak frequency
507	Macquarie University to City Circular Quay via Putney	20-30 minutes	60 minutes
513	Carlingford to Meadowbank Wharf via West Ryde	60 minutes	60 minutes
524	Ryde to Parramatta via West Ryde	30 minutes	60 minutes
M52	Parramatta to City Circular Quay (limited stops)	10 minutes	15 minutes

Source: https://transportnsw.info/routes/bus accessed 25 June 2020

Figure 2.6: Surrounding bus network



Base image source: https://transportnsw.info/document/1697/region-guide-north-shore-west.pdf accessed 25 June 2020

3. OVERVIEW OF CONSTRUCTION ACTIVITIES

03

3.1. Description and Duration of Works

The early works CTPMP was previously completed and approved by City of Ryde Council on 12 June 2020. This CTPMP report provides information regarding the main works methodology which includes construction works associated with the structure, fit-out, landscaping and external works.

The expected duration of all works related to the project is 19 months, with the works expected to commence in June 2020 and be completed by January 2022. The key milestones for the project are shown in Table 3.1, with details of the main activities and duration for each stage.

Table 3.1: Project Staging

Stage		Start Date	End Date	Duration
Early works	Site establishment and remediation	June 2020	September 2020	3 months
	Excavation and piling	September 2020	February 2021	5 months
Main works	Structure	February 2021	June 2021	4 months
	Fit out and landscaping	June 2021	November 2021	5 months
	External works	November 2021	January 2022	3 months

Peak construction activities for each stage are expected to occur during the following times:

- Site establishment and remediation July 2020 – August 2020
- Excavation and piling September 2020 – October 2020
- Structure Mid-February 2021 – Mid-May 2021
- Fit out and landscaping June 2021 – Mid-October 2021
- External works November 2021 – December 2021.

3.2. Head Contractor Contact Details

The nominated Roberts Pizzarotti representative for any required Council or stakeholder contact is:

- Todd Thornton – Senior Project Engineer – 0421 832 643.

Relevant site contact details for the appointed contractor(s) will also be affixed to the fencing around the work site.

3.3. Hours of Operation

Construction, including the delivery of materials to and from the site, will be carried out during the following periods:

- Weekdays: 7:00am to 6:00pm
- Saturdays: 8:00am to 1:00pm
- Sundays and public holidays: No works permitted.

Other works that do not exceed the existing background noise level plus 5 dB may also be undertaken during the following hours:

- Weekdays: 6:00pm to 7:00pm
- Saturdays: 1:00pm to 4:00pm.

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

- Weekdays: 9:00am to 12:00pm and 2:00pm to 5:00pm
- Saturdays: 9:00am to 12:00pm.

Roberts Pizzarotti will be responsible for instructing and controlling all subcontractors regarding the hours of work.

3.4. Construction Worker Parking

During the main works stage, an average of around 250 workers is expected on-site at any one time, with peak activities expected to generate around 300 workers on-site. There will be a number of elements throughout the build which will be pre-fabricated 'off site', reducing the amount of labour required on-site to complete the works.

Around 100 on-site parking spaces will be provided during peak activity for construction workers. These will be in the north-western corner of the site and designated to specific workers.

Given the site's proximity to high frequency public transport services, including Meadowbank Railway Station, all workers will be encouraged to use public transport to access the site, with appropriate tool/ equipment drop-off arrangements made. On this basis, all construction workers including sub-contractors are either to park within the construction site or use public transport. No on-street parking will be permitted. This will be incorporated into the site induction program. A construction worker pedestrian gate will be provided on the southern side of the site to allow for quick and easy connection with Meadowbank Station to the south rather than workers having to walk around Meadowbank TAFE and entering via Rhodes Street. This represents a travel path of less than 250 metres walk from Meadowbank Station. A Construction Worker Transportation Strategy has been prepared to outline the strategy to reduce demand for private vehicle travel to the site by workers and is included in Appendix D.

Any construction worker arrivals and departures by vehicle would be outside of road network peak hours, and as such are unlikely to impact the surrounding road network.

3.5. Construction Site Access

During the main works stage, Gates 1 and 3 will be used for construction vehicles while Gate 2 will be used to access the on-site construction worker parking area. The gate locations are consistent with that used in the early works stage of the project. The largest vehicles accessing Gate 1 will be 19-metre articulated vehicles and 18.1-metre truck and dog combinations, while Gate 3 will accommodate vehicles up to and including 18.1 metre truck and dog combinations and 12.5 metre heavy rigid vehicles. Both Gates 1 and 3 will operate as two-way, with the traffic controller located on the corner of Rhodes Street/ Mellor Street to communicate with drivers to ensure no general traffic is approaching around the corner when construction vehicles are exiting Gate 3. Gate 2 will be associated with the construction worker car park will also operate as two-way.

The proposed site access locations for the main works stage are shown in Figure 3.1 .

Figure 3.1: Main works site access arrangements

Base image source: Roberts Pizzarotti, drawing reference: SMEP-CMP-011 dated 3 June 2020

A swept path assessment has been completed for 19-metre articulated vehicles accessing the site from Victoria Road, incorporating proposed changes to kerbside parking restrictions as agreed with Council and discussed further in Section 4.5.

The swept path assessment indicates that there are constraints for long vehicles on the existing local road network, particularly around the corners on Rhodes Street and at the Victoria Road/ Mellor Street intersection when trucks are turning left into Mellor Street. It is noted that the design vehicles used for swept path analysis are conservative, as they need to represent a broad national vehicle fleet. An on-site demonstration was completed at Rhodes Street/ Mellor Street and Rhodes Street/ Hermitage Road with Council, confirming that both 12.5 metre heavy rigid vehicles and the truck and dog combinations to be used for the project are able to navigate these corners without crossing the centreline.

It is recognised there will be some constraint with 19-metre articulated vehicles and as such, traffic controllers will be located at both ends of Rhodes Street and on Mellor Street near Victoria Road to stop traffic in the opposing direction when 19-metre articulated vehicles are approaching and departing the site. At the Mellor Street/ Victoria Road intersection, a traffic controller will be positioned at the driveway on the eastern side of the road immediately north of Mulvihill Street.

There are two additional driveways between this location and Victoria Road, with one driveway on each side of the road. Considering the low vehicle turnover of the driveway on the western side of the road (904 Victoria Road) and this access being gated, it is proposed that vehicle egress from this site be

restricted by placement of a temporary barrier on the driveway when articulated vehicles are approaching the site. The affected property will be notified of this arrangement during construction, with appropriate ongoing coordination to minimise disruption. Vehicles exiting the driveway on the eastern side of the road (Apex Petroleum) are required to give-way to vehicles entering Mellor Street from Victoria Road as per standard NSW road rules, noting that clear sight lines are available. In the event there is a vehicle exiting the service station as a articulated vehicle is approaching, the articulated vehicle would be travelling at low speed to turn left into Mellor Street which in-turn will create an adequate gap in traffic on Victoria Road to allow an outbound vehicle on Mellor Street to exit onto Victoria Road. Vehicles seeking to exit the service station while an articulated vehicle is turning would incur a minor delay, with clear visibility of the turning vehicle.

Given the frequency of articulated vehicles (1-2 vehicles per hour), the low frequency of vehicles exiting the service station and the low probability of an articulated vehicle approaching and car exiting the driveway at the same time, this arrangement is considered appropriate. This also applies to the two kerbside parking spaces on the western side of Mellor Street to the north of the traffic controller. The traffic controller will be able to communicate with drivers of any parked cars in these two spaces to warn them of approaching construction vehicles.

Truck drivers would be required to communicate with all traffic controllers on approach to give advanced warning for traffic controllers to prepare to stop any opposing traffic.

All loading and unloading of materials will be undertaken on-site or in the proposed work zone as discussed further in Section 3.6. Accredited traffic controllers will be positioned at all site accesses (when in use) to manage pedestrian and general traffic movements as construction vehicles are entering/ exiting the site.

Queuing or marshalling of construction vehicles will not be permitted on the road network, with call-up procedures to be put in place to manage arrivals.

3.6. On-Street Work Zone

It is proposed to provide on-street work zones along Rhodes Street, as shown in Figure 3.2.

Figure 3.2: On-street work zone location

Base image source: Nearmap

The work zone location is proposed to cover a length of approximately 140 metres to accommodate vehicles up to 19-metre articulated vehicles and will allow for loading and unloading activities. This work zone would also be able to accommodate several vehicles at once to limit potential congestion on the surrounding road network. It is anticipated that this could involve an articulated vehicle and around four rigid vehicles including concrete pump trucks and concrete trucks.

The 140 metre length is required due to topography constraints with the site. The site itself is relatively steep which not only limits manoeuvrability on-site, but also limits where loading by crane can take place. Given the size of the development, multiple cranes are required, with one crane located on each side of the proposed building structure. As such, the extent to which each crane can access vehicles along the work zone is limited. By extending the work zone between Gates 1 and 3, it also separates on-street parking from the work zone and construction site accesses, improving safety near the work site.

Figure 3.3: Work zone and crane locations

Source: Roberts Pizzarotti, drawing reference: SMEP-CMP-017 dated 22 July 2020

The works zone on location will require the temporary removal of approximately 23 on-street car parking spaces. The work zone is proposed to be in operation during the approved work zone hours as detailed in Section 3.3. Outside work zone periods, existing kerbside restrictions will be reinstated. The temporary loss of parking in this location is considered acceptable noting the loss of parking is along the site frontage only and does not impact any parking along the frontage of neighbouring properties.

The specific details of the work zone will be subject to separate approvals by Council.

3.7. Construction Traffic Volumes

As previously mentioned, the site will be primarily serviced by vehicles of a size up to and including 12.5 metre heavy rigid vehicles, 18.1-metre truck and dog combinations and 19-metre articulated vehicles during the main works stage.

The anticipated number of vehicles for the main works will be on average around 40 vehicles per day (5 vehicles per hour or 10 vehicle movements per hour), with peak activities expected to generate around 90 vehicles per day (10-12 vehicles per hour or 20-24 vehicle movements per hour).

A construction vehicle Driver Code of Conduct has been prepared and will be communicated to all driver's related to the SMEEP project. The Driver Code of Conduct is provided in Appendix C.

3.8. Construction Traffic Routes

Construction traffic will generally have origins and destinations to/ from the north and west of the site. The proposed construction vehicle routes have been selected to minimise the use of local roads and use arterial roads where possible. The proposed routes are as follows and are shown in Figure 3.4 and Figure 3.5:

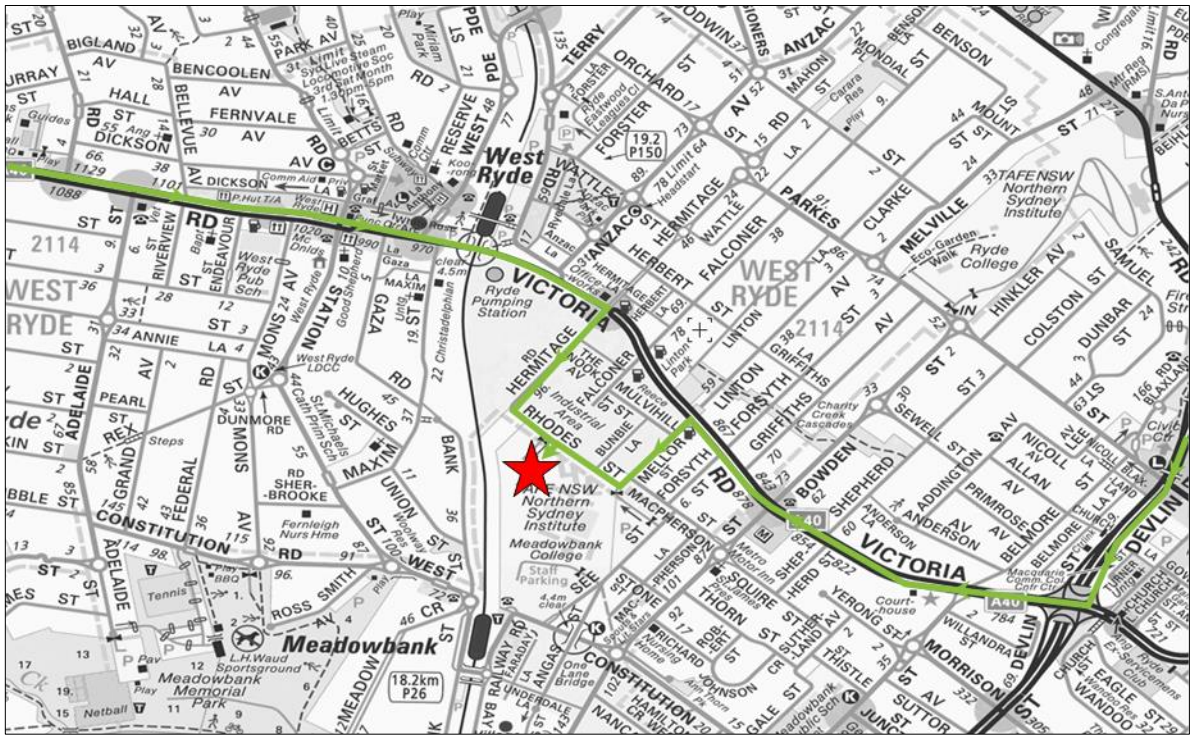
Approach

- From north:
  - Pennant Hills Road, Silverwater Road, Victoria Road, Hermitage Road, Rhodes Street
  - Lane Cove Road, Victoria Road, Mellor Street, Rhodes Street.
- From west:
  - M4 Western Motorway, James Ruse Drive, Victoria Road, Hermitage Road, Rhodes Street
  - Old Windsor Road, Cumberland Highway, James Ruse Drive, Victoria Road, Hermitage Road, Rhodes Street.

Departure

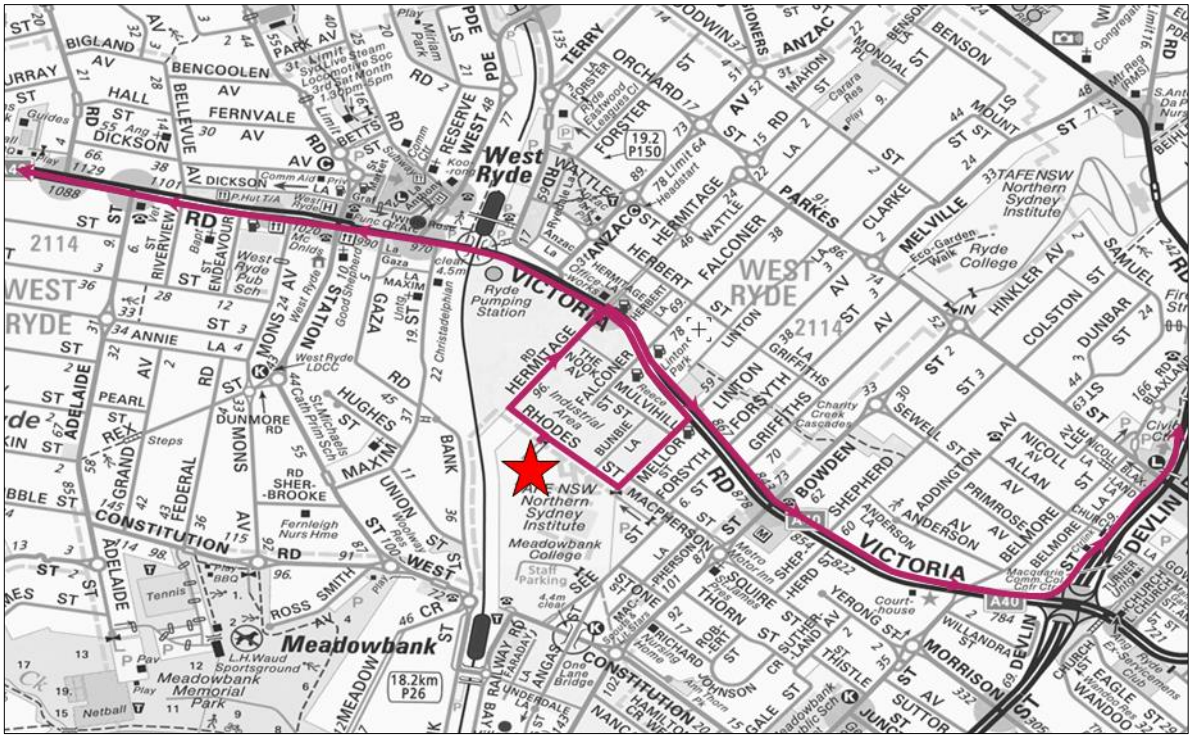
- Towards north:
  - Rhodes Street, Mellor Street, Victoria Road, Silverwater Road, Pennant Hills Road
  - Rhodes Street, Hermitage Road, Victoria Road, Lane Cove Road.
- Towards west:
  - Rhodes Street, Mellor Street, Victoria Road, James Ruse Drive, M4 Western Motorway
  - Rhodes Street, Mellor Street, Victoria Road, James Ruse Drive, Cumberland Highway, Old Windsor Road.

Figure 3.4: Construction vehicle approach routes



Base image source: Sydway

Figure 3.5: Construction vehicle departure routes



Base image source: Sydway

4. CONSTRUCTION PEDESTRIAN AND TRAFFIC MANAGEMENT

04

4.1. Traffic Control Plan

Preliminary Traffic Control Plans (TCPs) for the proposed works are included in Appendix B. The TCPs presents the principles of traffic management and is subject to WorkCover requirements.

Detailed information for work site operation is contained in the *Traffic Control at Work Sites* manual (TfNSW, 2018). The control of traffic at work sites must be undertaken in accordance with WorkCover requirements and Roberts Pizzarotti's own workplace health and safety manuals.

The proposed TCPs for the work site include the following considerations and assumptions:

- Construction vehicle activity, including the loading/ unloading of trucks and all materials handling to be completed within the construction site boundaries and/ or work zone.
- Placement of accredited site personnel or traffic controllers to manage construction vehicle access to the site and minimise disruption to through traffic.
- Construction site accesses to provide appropriate sight distances and safe environment for all users.
- Clear definition of the work site boundary to be provided by erection of construction A-Class and B-Class hoarding and fencing around the site boundaries adjacent to public roads.
- Pedestrians to be guided around the site via existing footpaths.
- Pedestrian safety to be maintained at all times.
- All signage will be clean, clearly visible and unobstructed.

4.2. Pedestrian and Cyclist Management

Pedestrian and cyclist movements will be maintained around the site throughout the duration of the works. A-Class hoarding/ fencing will be installed around the perimeter of the site to prevent pedestrian access. B-Class hoarding will also be installed between Gate 1 and 3 above the Rhodes Street footpath to maintain pedestrian movement along Rhodes Street when overhead works are being completed. Traffic controllers will be positioned at site accesses (when in use) throughout the works to temporarily hold pedestrians when vehicles are entering and exiting the site.

4.3. Public Transport

The construction work is not expected to impact existing bus services near the site.

4.4. Traffic Impacts

Some minor increase in average delay to vehicles at surrounding key intersections such as on Victoria Road can be expected at times during the construction period. That said, truck movements will be minimised as much as possible during road network peak hours. As mentioned previously, traffic controllers will be required at each end of Rhodes Street and on Mellor Street near Victoria Road to stop opposing traffic temporarily when 18.1-metre truck and dog combinations, 19-metre articulated vehicles and potentially 12.5 metre heavy rigid vehicles (pending the outcomes of an on-site trial demonstration with Council as proposed in the early works CTPMP) are approaching and/ or departing the site. Considering the low traffic volumes along Rhodes Street, this arrangement is considered appropriate.

As part of any site induction, drivers should be specifically alerted to the pedestrian activity associated with the TAFE NSW site, with appropriate care and safety at this location.

4.5. Parking Impacts

The site accesses for the main works are in the same location as the early works site accesses. Through consultation with Council, it has also been agreed that the following kerbisde parking spaces will be temporarily removed and converted to 'no stopping' zones to assist 18.1-metre truck and dog combinations and 19-metre articulated vehicles navigating the corners at Rhodes Street/ Mellor Street and Rhodes Street/ Hermitage Road:

- Loading zone and two spaces along the southern side of Rhodes Street between the easternmost site access and Macpherson Street
- One parking space on the western side of Mellor Street to the immediate north of Rhodes Street
- One parking space on the northern side of Rhodes Street at its eastern end near Mellor Street
- Three parking spaces on the eastern side of Hermitage Road to the immediate north of Rhodes Street
- Two parking spaces on the southern side of Rhodes Street at its western end near Hermitage Road.

The signage plan completed and approved as part of the Early Works CTPMP has been updated to incorporate the above changes to kerbside restrictions and is included in Appendix F.

The proposed Rhodes Street work zone will also result in the temporary removal of around 23 on-street parking spaces on the southern side of the road during the approved work hours. Existing kerbside restrictions (unrestricted parking) will be reinstated outside these hours.

Considering the above, the main works stage of the project will result in the temporary removal of nine on-street parking spaces and one loading zone for the duration of the works, while an additional 23 spaces will be temporarily removed during work hours to accommodate the work zone.

The temporary reduction in on-street parking is considered appropriate and acceptable to maximise safety on the surrounding local roads during the construction of such a significant development. It is also noted that the majority of parking removed as a result of the construction works is along the frontage of the site, which limits the impact along the frontage of neighbouring properties.

The use of on-street parking on the surrounding local road network by construction personnel will not be permitted. This restriction will be communicated during site inductions and is further addressed in Appendix D.

4.6. Impacts to Neighbouring Properties

Surrounding property access is not expected to be affected during the construction work of the proposed development.

4.7. Emergency Vehicle Access

Access to the subject site and adjacent buildings by emergency vehicles would not be affected by the works as road and footpath frontages would remain unaffected during these stages of the works. Emergency protocols on the site would include a requirement for suitably accredited site personnel to assist with emergency access from the street.

Consequently, any potential impacts on emergency access would be effectively managed throughout the works.

Liaison would be maintained with the police and emergency services agencies throughout the construction period and a 24-hour contact would be made available for 'out-of-hours' emergencies and access.

4.8. Existing and Future Developments

It is anticipated that the construction for the Meadowbank TAFE Multi-Trades and Digital Technology Hub project will also be occurring concurrently (if approved), however it is understood that the construction program has not yet been finalised and the accompanying CTPMP has not yet been prepared. Roberts Pizzarotti will liaise with the appointed contractor (Hansen Yuncken) for the new TAFE building and car park site and monitor the cumulative impact of the two sites to ensure any traffic impact is minimised. It is expected that heavy vehicle approach and departure routes for the two projects can be separated as part of minimising such impacts.

In addition, there is ongoing construction work occurring in the Shepherds Bay precinct. Heavy vehicles accessing this area would typically use Bowden Street and are therefore separated from SMEEP construction traffic.

No other existing or future developments of significance are known to be occurring concurrently in the immediate area surrounding the site.

4.9. Traffic Movements in Adjoining Council Areas

No adverse impact is expected from the movement of heavy vehicles through adjacent council areas.

4.10. Site Inspections and Record Keeping

The construction work would be monitored to ensure that it proceeds as set out in the Construction Management Plan prepared by Roberts Pizzarotti and this CTPMP. A daily inspection before the start of the construction activity should take place to ensure that conditions accord with those stipulated in the plans and there are no potential hazards. Any potential risks or non-conformances to the CTPMP would be identified, recorded and dealt with if they arise.

4.11. Site Induction

All staff employed on the site by Roberts Pizzarotti (including sub-contractors) would be required to undergo a site induction. The induction would include permitted access routes to and from the construction site for site staff and delivery vehicles, limited parking arrangements, as well as standard environmental, WHS, driver protocols and emergency procedures. The agreed work hours must be included as part of this induction.

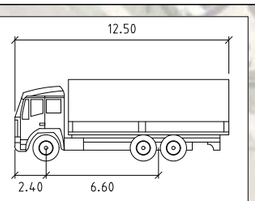
A.SWEPT PATH ASSESSMENT

A

SWEPT PATH KEY

- VEHICLE CENTRE LINE
- VEHICLE TYRE PATH
- VEHICLE BODY PATH
- 500mm CLEARANCE FROM VEHICLE BODY

ASSUMED SPEED 15km/h FOR ON-STREET AND 5km/h FOR OFF-STREET MANOEUVRES



HRV

	meters
Width	: 2.50
Track	: 2.50
Lock to Lock Time	: 6.0
Steering Angle	: 35.2

VICTORIA STREET

MELLOR ROAD

HRV STANDARDS (AU)

12.5m HRV TO STRADDLE KERB SIDE AND MIDDLE LANE TO TURN LEFT ONTO MELLOR STREET

N

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WARNING
BEWARE OF UNDERGROUND SERVICES
THE LOCATIONS OF UNDERGROUND SERVICES ARE APPROXIMATE ONLY AND THEIR EXACT POSITION SHOULD BE PROVEN ON SITE. NO GUARANTEE IS GIVEN THAT ALL EXISTING SERVICES ARE SHOWN.

DESIGNED	R.ZHANG
DESIGN CHECK	M.BRINUMS
APPROVED BY	B.MAYNARD
DATE ISSUED	18 AUGUST 2020

SCALE A3 0 2.5 5 10 1:500

CAD FILE NO. N183630-04-P6.DWG

2 RHODES STREET, MEADOWBANK

MAIN WORKS
SWEPT PATH ASSESSMENT

DRAWING NO. N183630-04-01 SHEET 01 OF 14 ISSUE P6

SWEPT PATH KEY

- VEHICLE CENTRE LINE
- VEHICLE TYRE PATH
- VEHICLE BODY PATH
- 500mm CLEARANCE FROM VEHICLE BODY

ASSUMED SPEED 15km/h FOR ON-STREET AND 5km/h FOR OFF-STREET MANOEUVRES

TRUCK AND DOG 18.1m

meters

First Unit Width	: 2.50	Lock to Lock Time	: 6.0
Trailer Width	: 2.50	Steering Angle	: 36.9
First Unit Track	: 2.50	Articulating Angle	: 70.0
Trailer Track	: 2.50		

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SCALE A3 0 2.5 5 10 1:500

2 RHODES STREET, MEADOWBANK

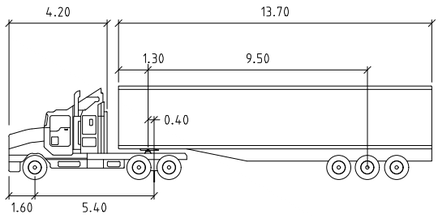
MAIN WORKS
SWEPT PATH ASSESSMENT

DRAWING NO. N183630-04-02 SHEET 02 OF 14 ISSUE P6

SWEPT PATH KEY

- VEHICLE CENTRE LINE
- VEHICLE TYRE PATH
- VEHICLE BODY PATH
- 500mm CLEARANCE FROM VEHICLE BODY

ASSUMED SPEED 15km/h FOR ON-STREET AND 5km/h FOR OFF-STREET MANOEUVRES



AV

	meters		
Tractor Width	: 2.50	Lock to Lock Time	: 6.0
Trailer Width	: 2.50	Steering Angle	: 28.3
Tractor Track	: 2.50	Articulating Angle	: 70.0
Trailer Track	: 2.50		

19m AV REQUIRE TO ENCROACH ON OPPOSING TRAFFIC LANE FOR LEFT TURN MANOEUVRE ONTO MELLOR STREET

INDICATIVE TRAFFIC CONTROLLER LOCATION

19m AV TO STRADDLE KERB SIDE AND MIDDLE LANE TO TURN LEFT ONTO MELLOR STREET

VICTORIA STREET

MELLOR ROAD

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2 RHODES STREET, MEADOWBANK

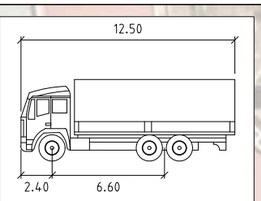
MAIN WORKS
SWEPT PATH ASSESSMENT

DRAWING NO. N183630-04-03 SHEET 03 OF 14 ISSUE P6

SWEPT PATH KEY

- VEHICLE CENTRE LINE
- VEHICLE TYRE PATH
- VEHICLE BODY PATH
- 500mm CLEARANCE FROM VEHICLE BODY

ASSUMED SPEED 15km/h FOR ON-STREET AND 5km/h FOR OFF-STREET MANOEUVRES



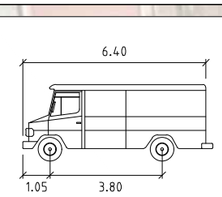
HRV

	meters
Width	: 2.50
Track	: 2.50
Lock to Lock Time	: 6.0
Steering Angle	: 35.2

SWEPT PATH KEY

- VEHICLE CENTRE LINE
- VEHICLE TYRE PATH
- VEHICLE BODY PATH
- 300mm CLEARANCE FROM VEHICLE BODY

ASSUMED SPEED 15km/h FOR ON-STREET AND 5km/h FOR OFF-STREET MANOEUVRES



SRV

	meters
Width	: 2.30
Track	: 2.30
Lock to Lock Time	: 6.0
Steering Angle	: 38.0

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SCALE A3 — 0 2.5 5 10 — 1:500

CAD FILE NO. N183630-04-P6.DWG

2 RHODES STREET, MEADOWBANK

MAIN WORKS
SWEPT PATH ASSESSMENT

DRAWING NO. N183630-04-04 SHEET 04 OF 14 ISSUE P6

SWEPT PATH KEY

- VEHICLE CENTRE LINE
- VEHICLE TYRE PATH
- VEHICLE BODY PATH
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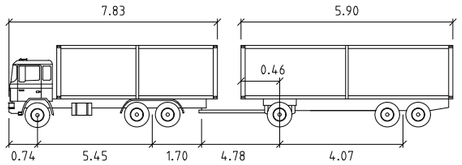
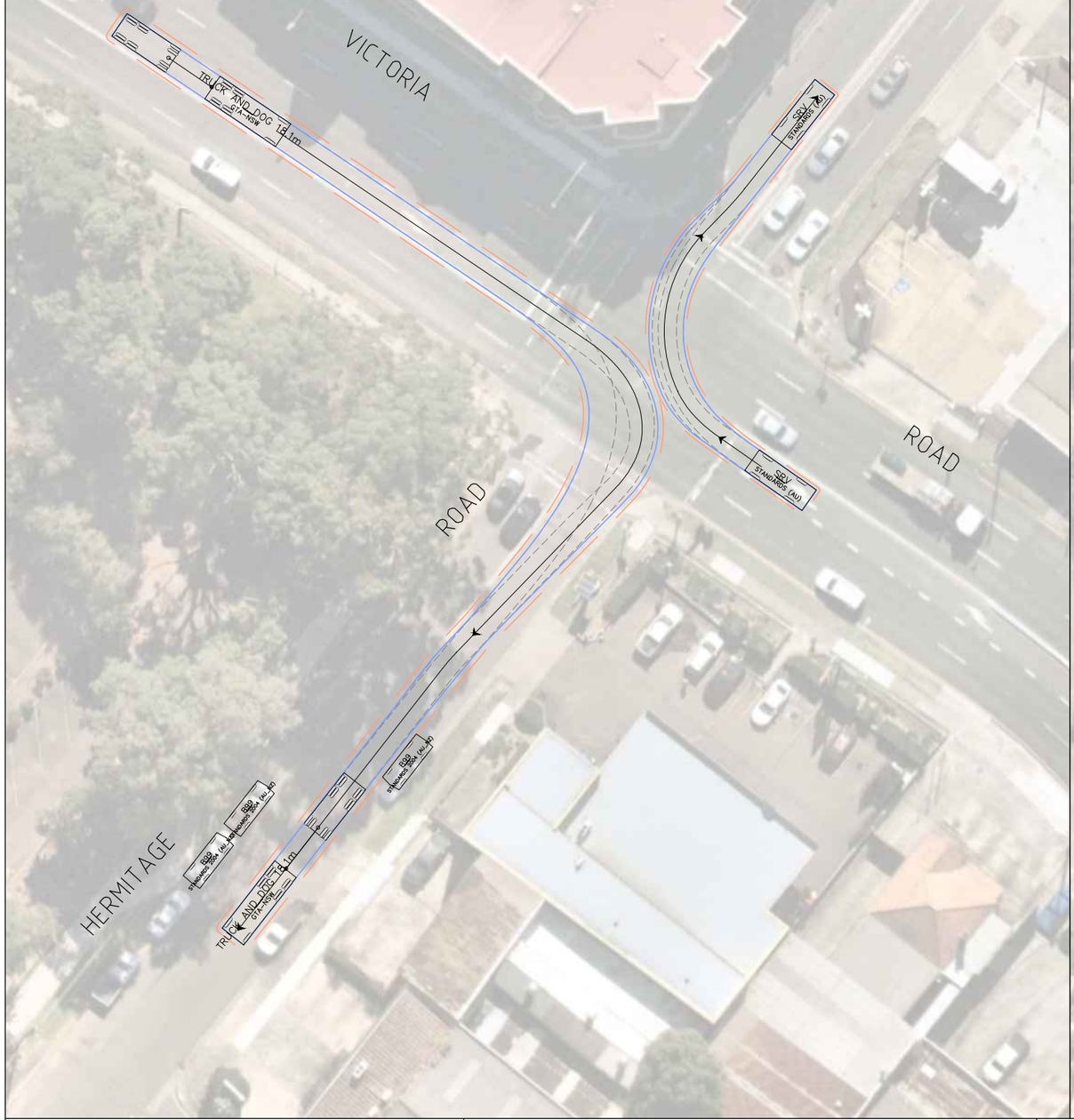


TRUCK AND DOG 18.1m

	meters		
First Unit Width	: 2.50	Lock to Lock Time	: 6.0
Trailer Width	: 2.50	Steering Angle	: 36.9
First Unit Track	: 2.50	Articulating Angle	: 70.0
Trailer Track	: 2.50		



SWEPT PATH KEY

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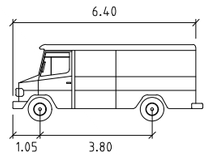
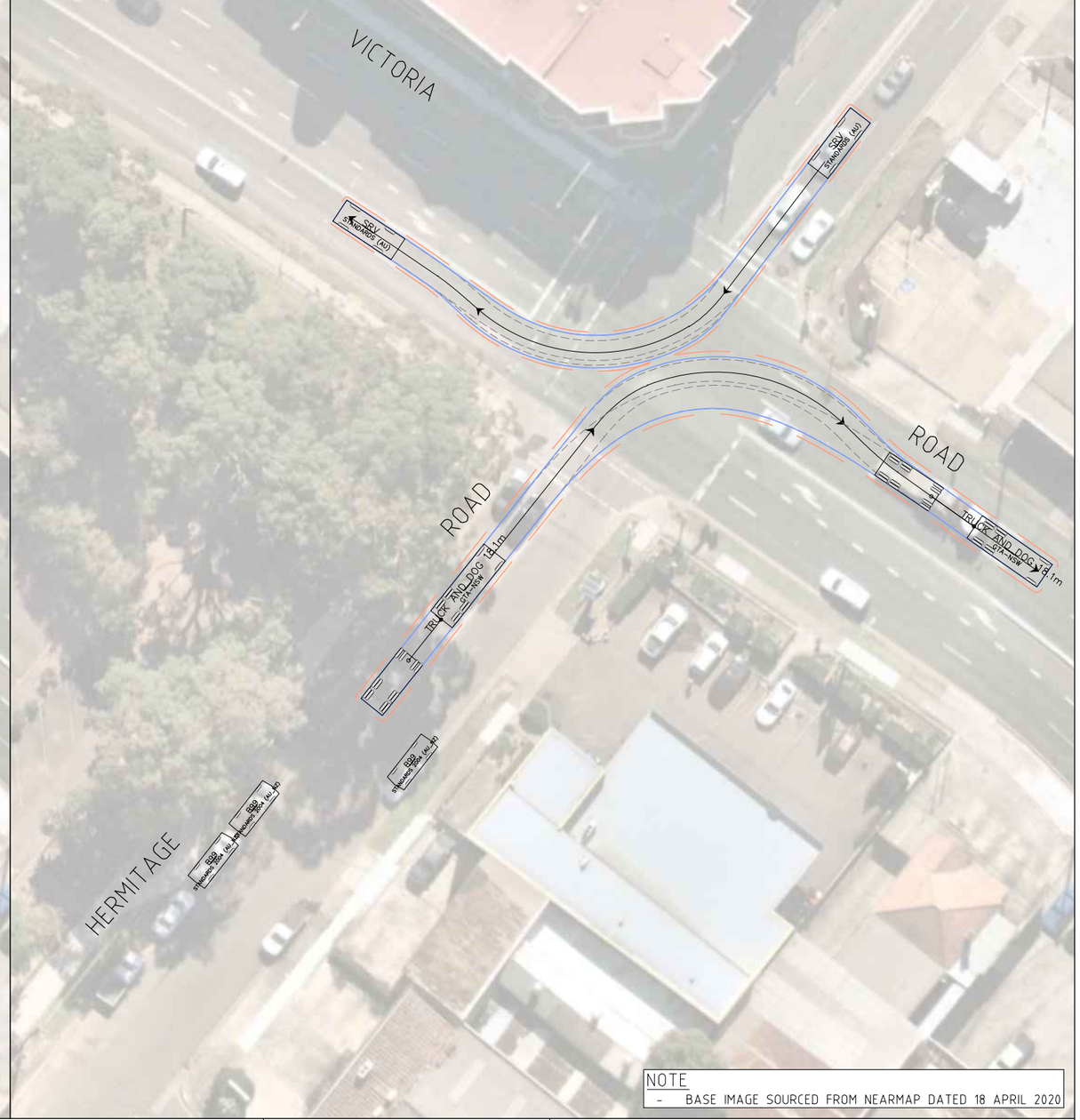
- VEHICLE TYRE PATH
- VEHICLE BODY PATH
- 300mm CLEARANCE FROM VEHICLE BODY

ASSUMED SPEED 15km/h FOR ON-STREET AND 5km/h FOR OFF-STREET MANOEUVRES



SRV

	meters
Width	: 2.30
Track	: 2.30
Lock to Lock Time	: 6.0
Steering Angle	: 38.0



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PRELIMINARY PLAN
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WARNING
BEWARE OF UNDERGROUND SERVICES
THE LOCATIONS OF UNDERGROUND SERVICES ARE APPROXIMATE ONLY AND THEIR EXACT POSITION SHOULD BE PROVEN ON SITE. NO GUARANTEE IS GIVEN THAT ALL EXISTING SERVICES ARE SHOWN.

DESIGNED	R.ZHANG
DESIGN CHECK	M.BRINUMS
APPROVED BY	B.MAYNARD
DATE ISSUED	18 AUGUST 2020
CAD FILE NO.	N183630-04-P6.DWG

SCALE A3 0 2.5 5 10 1:500

2 RHODES STREET, MEADOWBANK

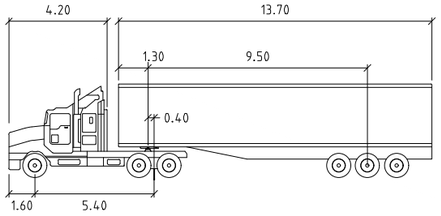
MAIN WORKS
SWEPT PATH ASSESSMENT

DRAWING NO. N183630-04-05 SHEET 05 OF 14 ISSUE P6

SWEPT PATH KEY

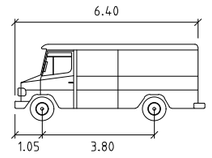
- VEHICLE CENTRE LINE
- VEHICLE TYRE PATH
- VEHICLE BODY PATH
- 500mm CLEARANCE FROM VEHICLE BODY

ASSUMED SPEED 15km/h FOR ON-STREET AND 5km/h FOR OFF-STREET MANOEUVRES



AV

	meters		
Tractor Width	: 2.50	Lock to Lock Time	: 6.0
Trailer Width	: 2.50	Steering Angle	: 28.3
Tractor Track	: 2.50	Articulating Angle	: 70.0
Trailer Track	: 2.50		



SRV

	meters
Width	: 2.30
Track	: 2.30
Lock to Lock Time	: 6.0
Steering Angle	: 38.0

VICTORIA ROAD

ROAD

HERMITAGE

SRV STANDARDS (AU)

AV STANDARDS (AU)

B99 STANDARDS (AU)

N

NOTE
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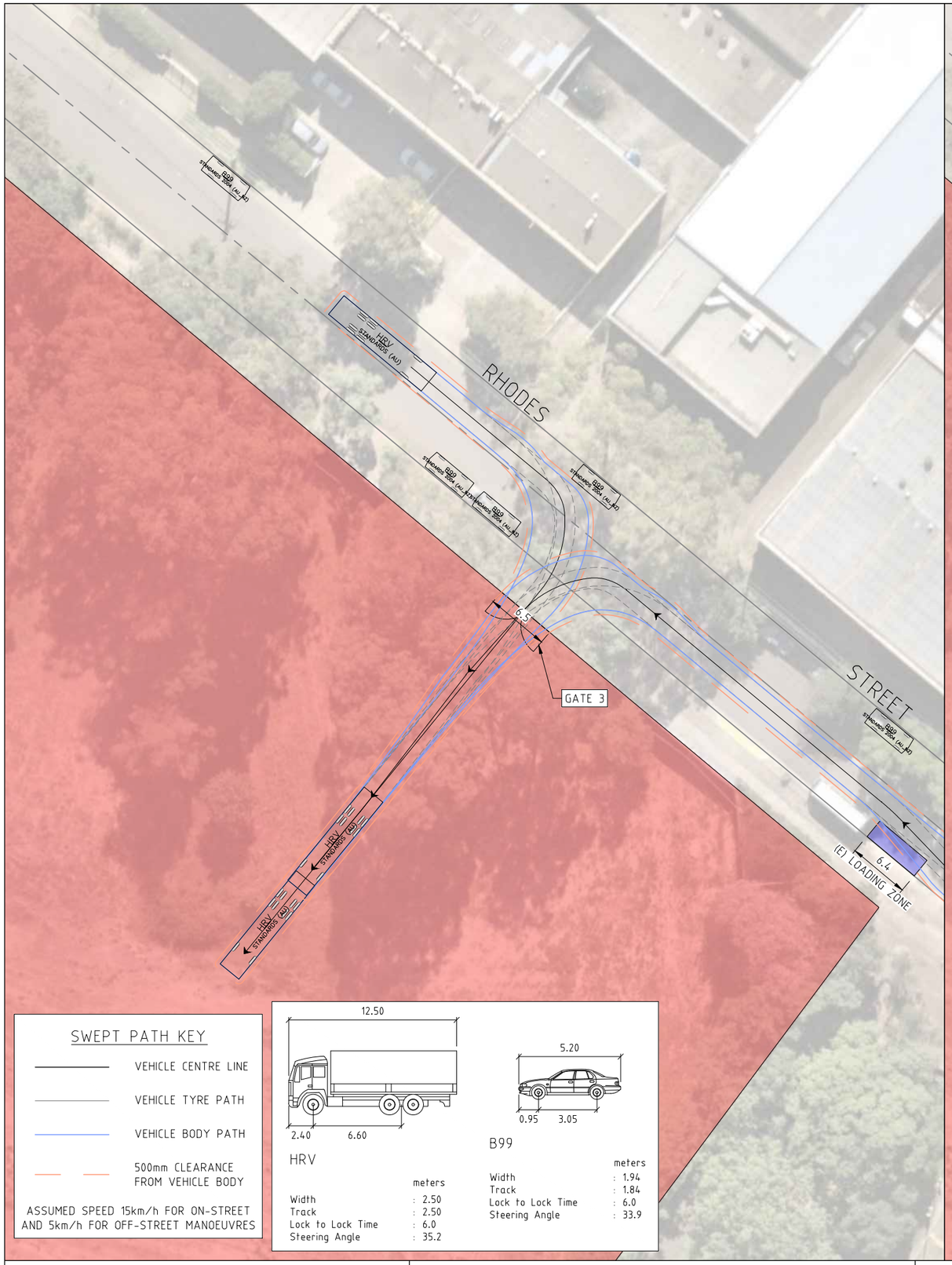
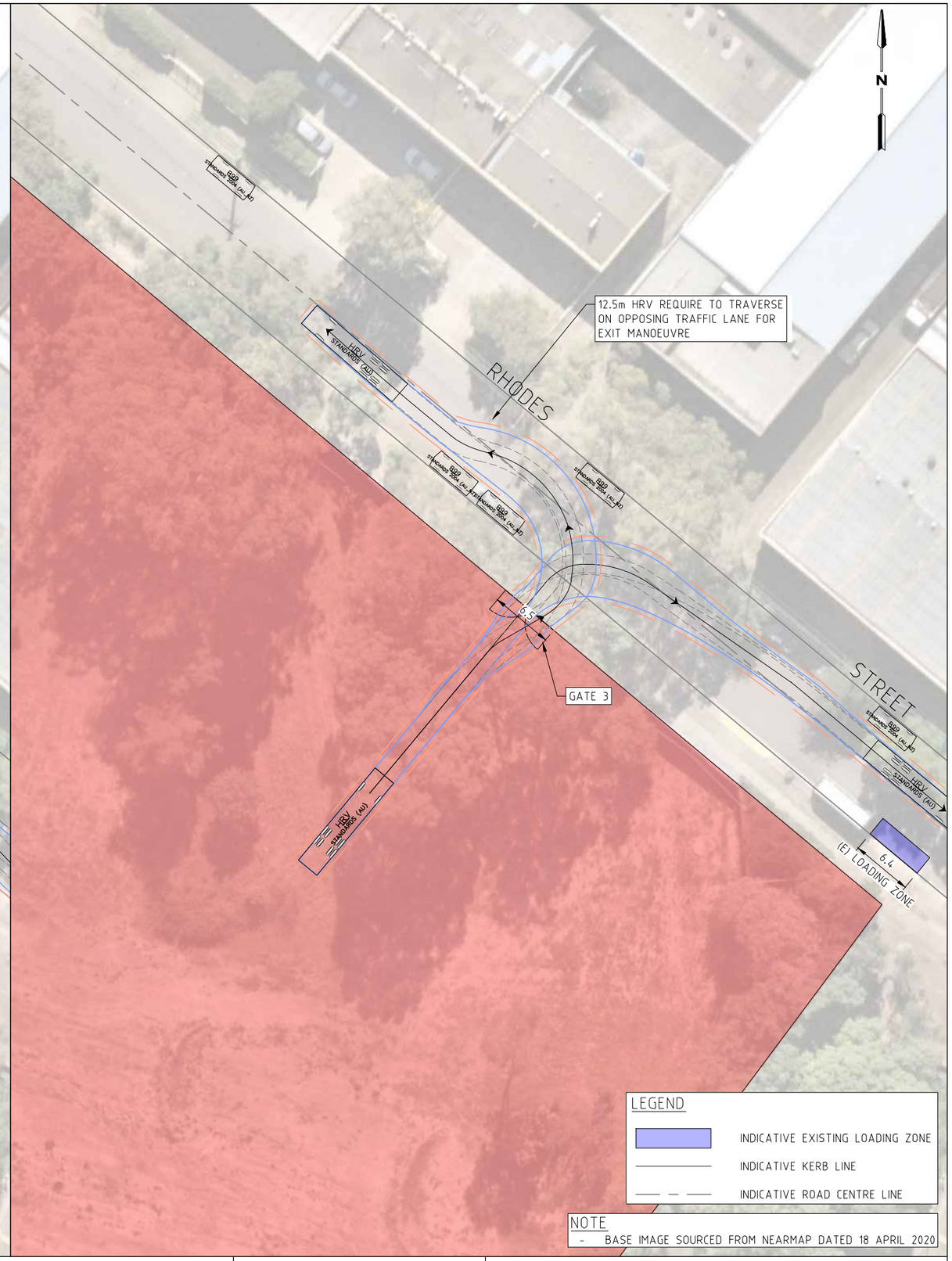
CAD FILE NO. N183630-04-P6.DWG

2 RHODES STREET, MEADOWBANK

MAIN WORKS
SWEPT PATH ASSESSMENT

DRAWING NO. N183630-04-06 SHEET 06 OF 14 ISSUE P6





SWEPT PATH KEY

- VEHICLE CENTRE LINE
- VEHICLE TYRE PATH
- VEHICLE BODY PATH
- 500mm CLEARANCE FROM VEHICLE BODY

ASSUMED SPEED 15km/h FOR ON-STREET AND 5km/h FOR OFF-STREET MANOEUVRES

HRV

	meters
Width	: 2.50
Track	: 2.50
Lock to Lock Time	: 6.0
Steering Angle	: 35.2

B99

	meters
Width	: 1.94
Track	: 1.84
Lock to Lock Time	: 6.0
Steering Angle	: 33.9

LEGEND

- INDICATIVE EXISTING LOADING ZONE
- INDICATIVE KERB LINE
- INDICATIVE ROAD CENTRE LINE

NOTE
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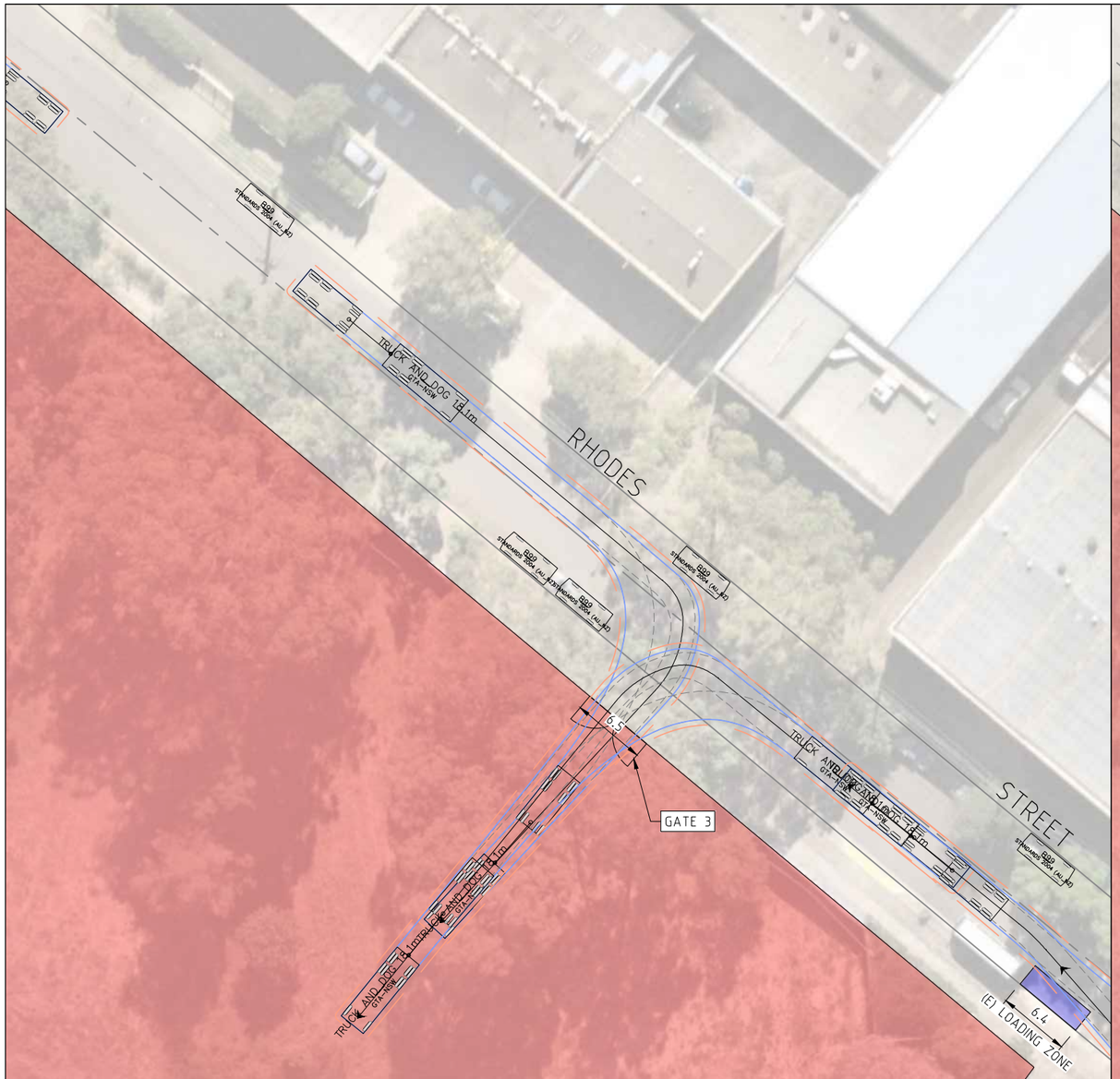
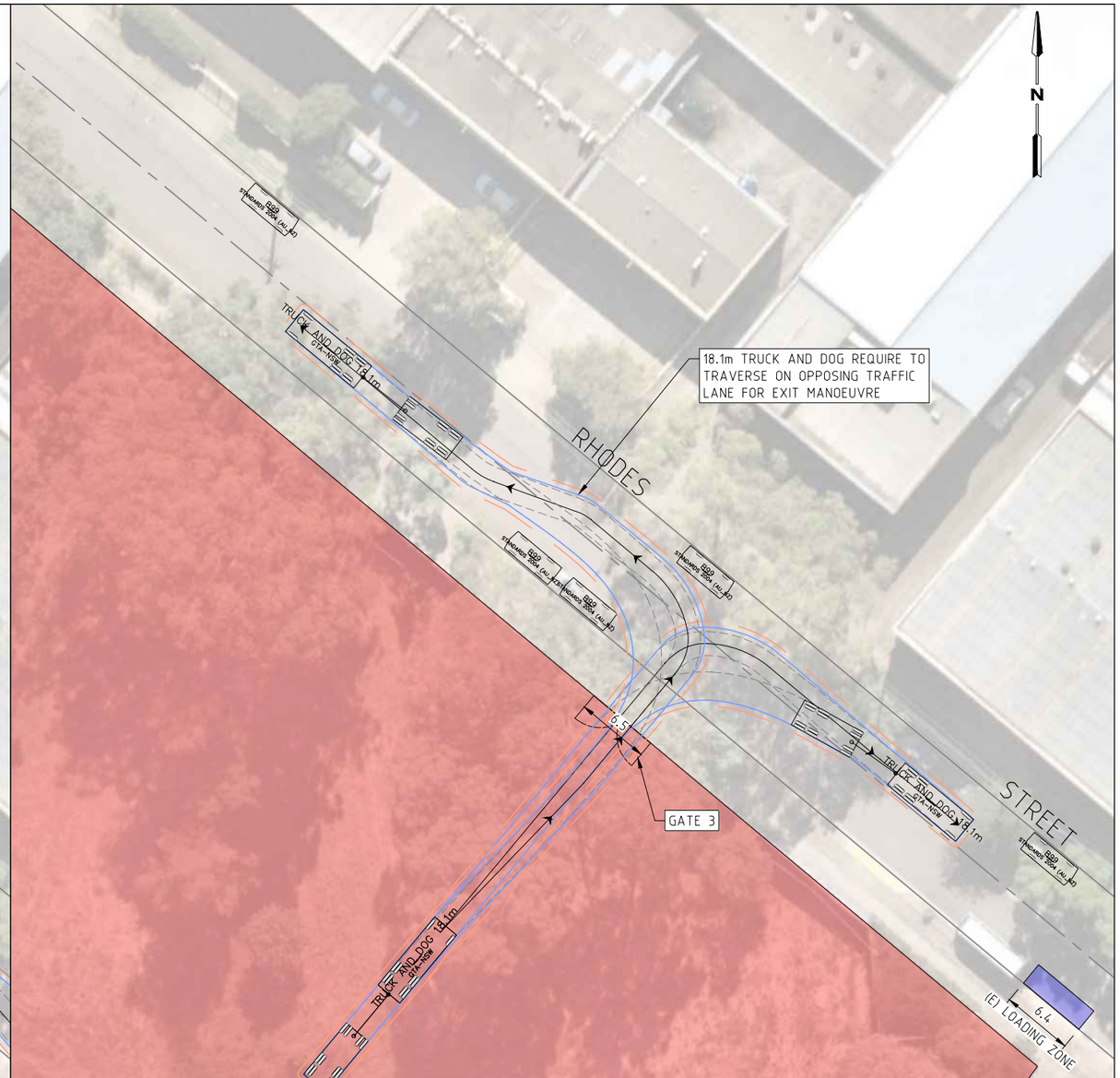
2 RHODES STREET, MEADOWBANK

MAIN WORKS
SWEPT PATH ASSESSMENT

DRAWING NO. N183630-04-07 SHEET 07 OF 14 ISSUE P6





SWEPT PATH KEY

- VEHICLE CENTRE LINE
- VEHICLE TYRE PATH
- VEHICLE BODY PATH
- 500mm CLEARANCE FROM VEHICLE BODY

ASSUMED SPEED 15km/h FOR ON-STREET AND 5km/h FOR OFF-STREET MANOEUVRES

TRUCK AND DOG 18.1m

	meters		
First Unit Width	: 2.50	Lock to Lock Time	: 6.0
Trailer Width	: 2.50	Steering Angle	: 36.9
First Unit Track	: 2.50	Articulating Angle	: 70.0
Trailer Track	: 2.50		

B99

	meters
Width	: 1.94
Track	: 1.84
Lock to Lock Time	: 6.0
Steering Angle	: 33.9

LEGEND

- INDICATIVE EXISTING LOADING ZONE
- INDICATIVE KERB LINE
- INDICATIVE ROAD CENTRE LINE

NOTE

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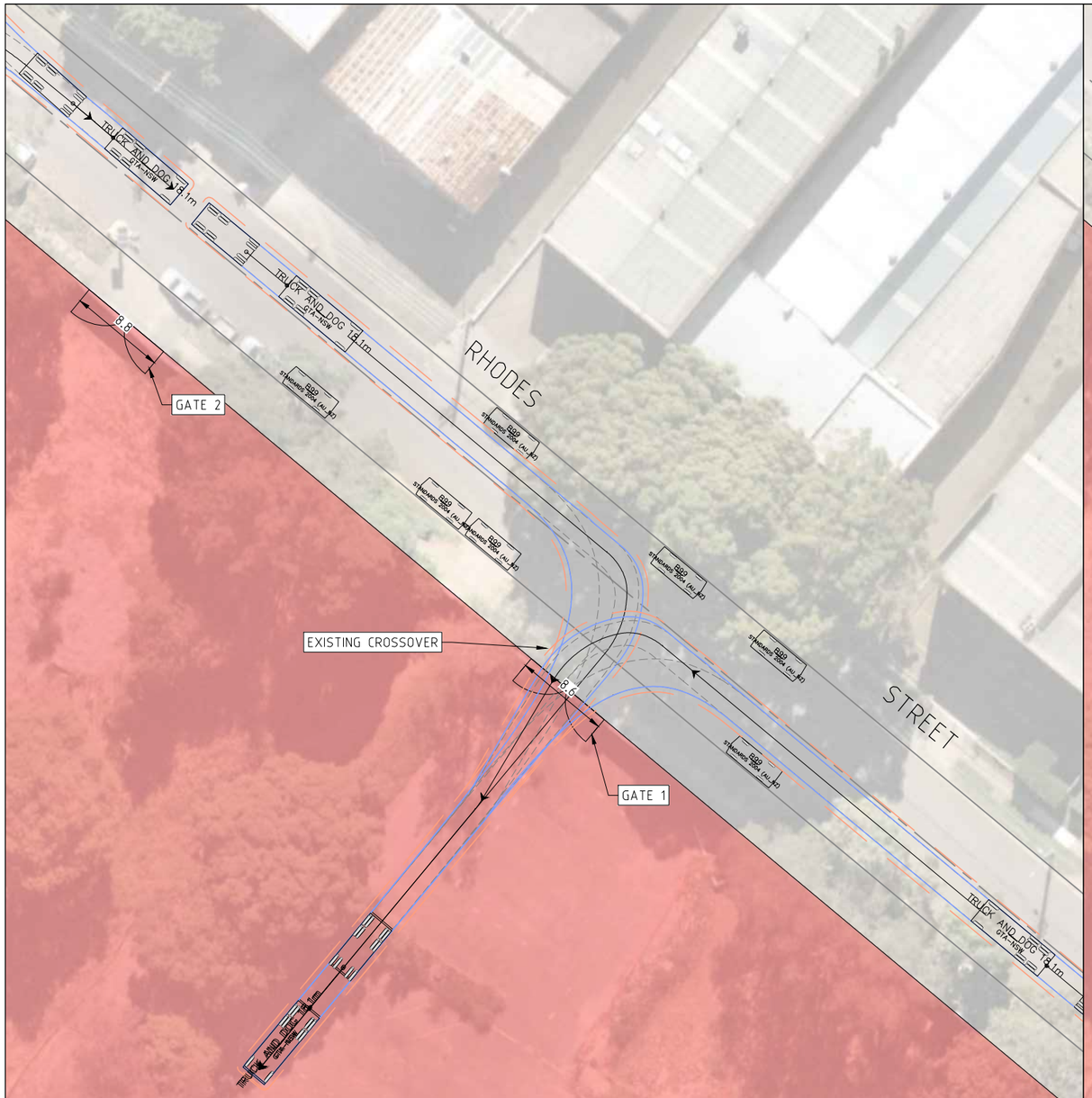
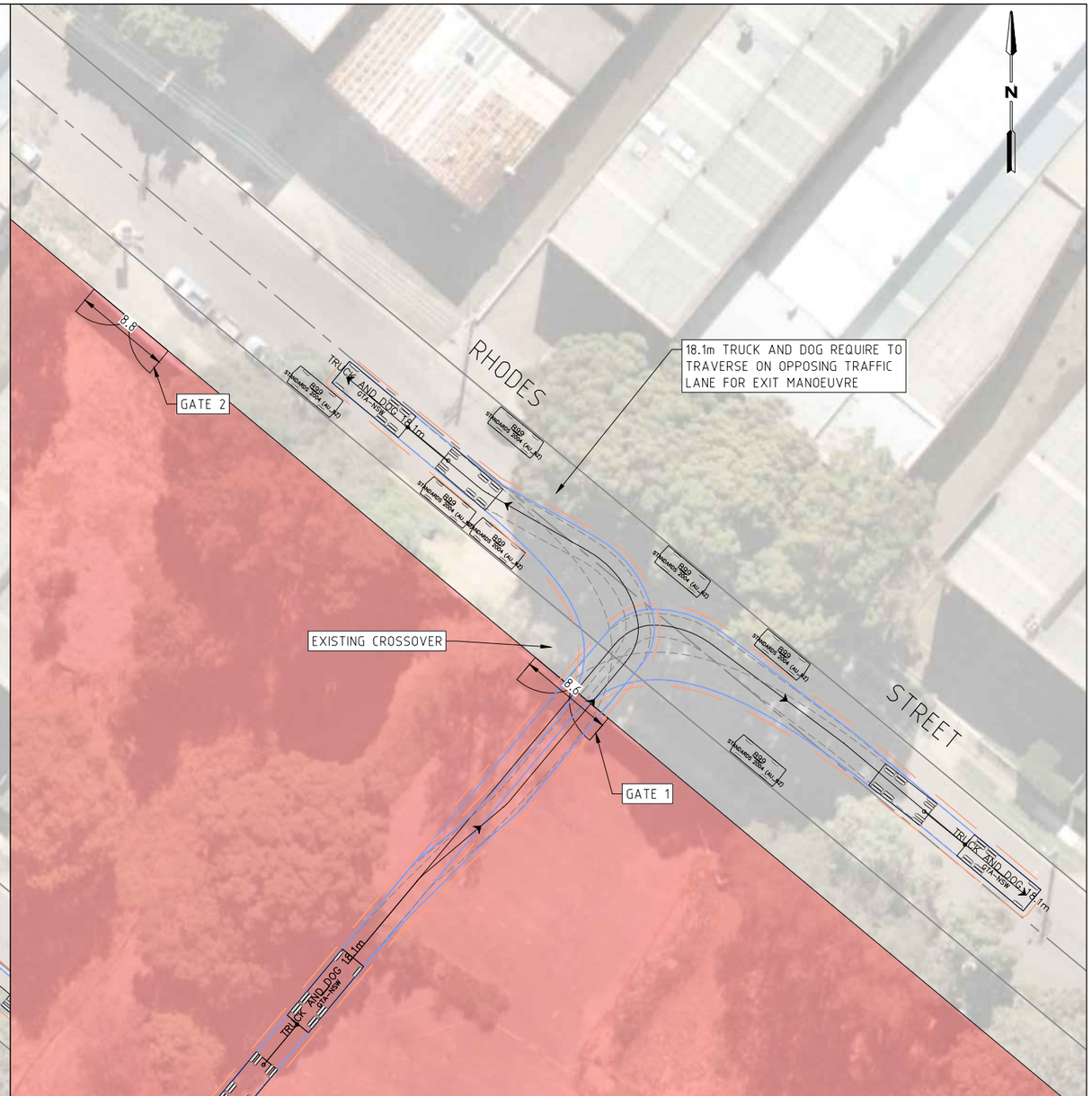
2 RHODES STREET, MEADOWBANK

MAIN WORKS
SWEPT PATH ASSESSMENT

DRAWING NO. N183630-04-08 SHEET 08 OF 14 ISSUE P6

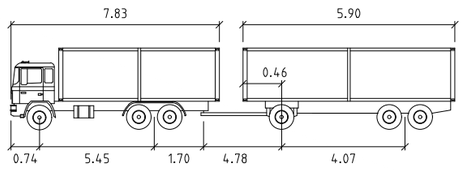




SWEPT PATH KEY

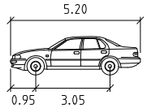
- VEHICLE CENTRE LINE
- VEHICLE TYRE PATH
- VEHICLE BODY PATH
- 500mm CLEARANCE FROM VEHICLE BODY

ASSUMED SPEED 15km/h FOR ON-STREET AND 5km/h FOR OFF-STREET MANOEUVRES



TRUCK AND DOG 18.1m

	meters		
First Unit Width	: 2.50	Lock to Lock Time	: 6.0
Trailer Width	: 2.50	Steering Angle	: 36.9
First Unit Track	: 2.50	Articulating Angle	: 70.0
Trailer Track	: 2.50		



B99

	meters
Width	: 1.94
Track	: 1.84
Lock to Lock Time	: 6.0
Steering Angle	: 33.9

LEGEND

- INDICATIVE KERB LINE
- INDICATIVE ROAD CENTRE LINE

NOTE

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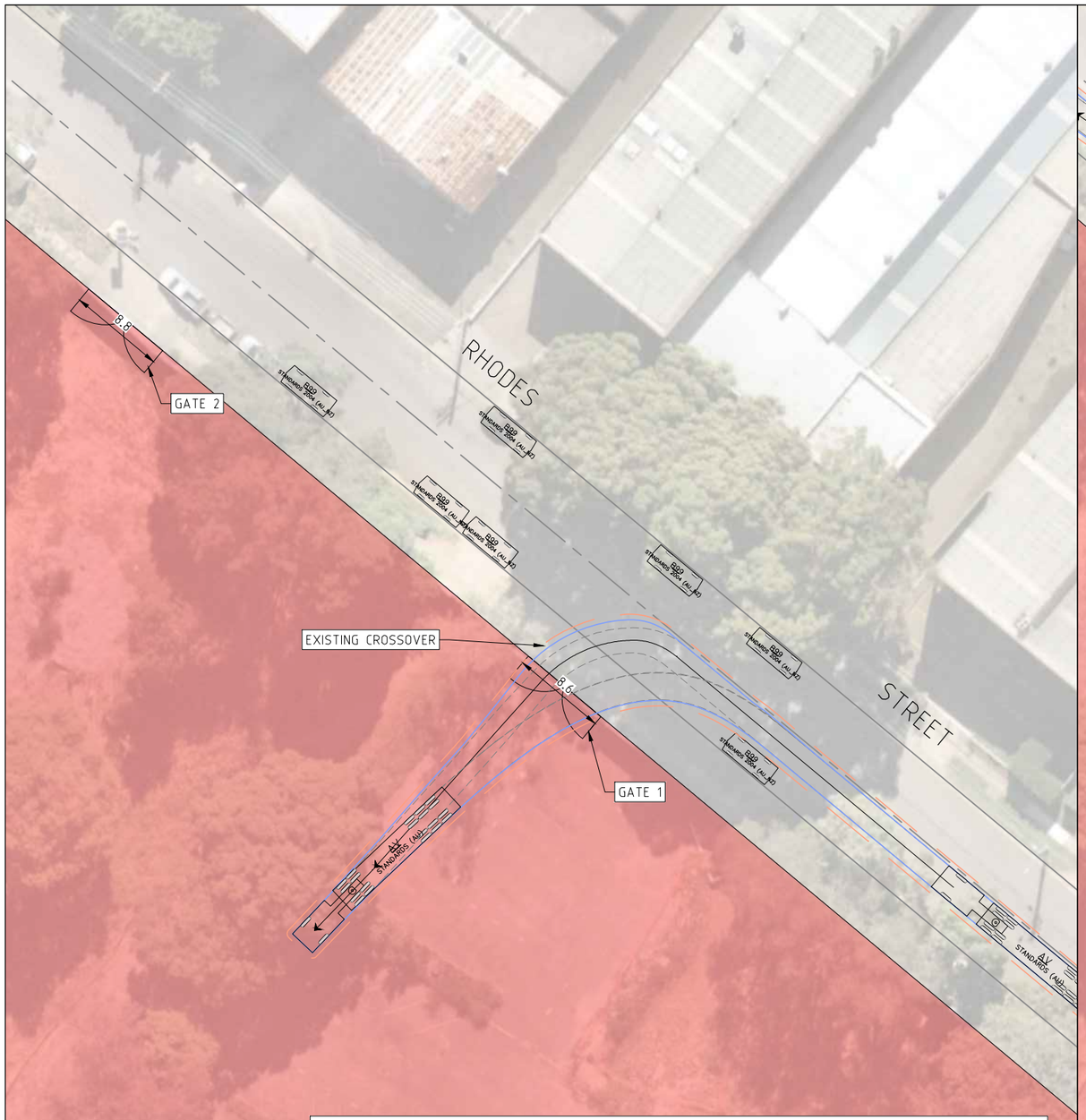
CAD FILE NO.	N183630-04-P6.DWG

2 RHODES STREET, MEADOWBANK

MAIN WORKS
SWEPT PATH ASSESSMENT

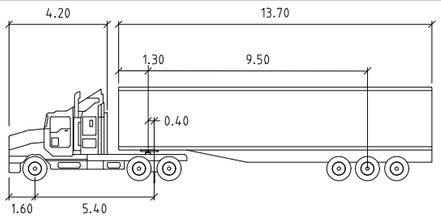
DRAWING NO. N183630-04-09 SHEET 09 OF 14 ISSUE P6



SWEPT PATH KEY

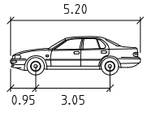
- VEHICLE CENTRE LINE
- VEHICLE TYRE PATH
- VEHICLE BODY PATH
- 500mm CLEARANCE FROM VEHICLE BODY

ASSUMED SPEED 15km/h FOR ON-STREET AND 5km/h FOR OFF-STREET MANOEUVRES



AV

	meters		
Tractor Width	: 2.50	Lock to Lock Time	: 6.0
Trailer Width	: 2.50	Steering Angle	: 28.3
Tractor Track	: 2.50	Articulating Angle	: 70.0
Trailer Track	: 2.50		



B99

	meters
Width	: 1.94
Track	: 1.84
Lock to Lock Time	: 6.0
Steering Angle	: 33.9

LEGEND

- INDICATIVE KERB LINE
- INDICATIVE ROAD CENTRE LINE

NOTE

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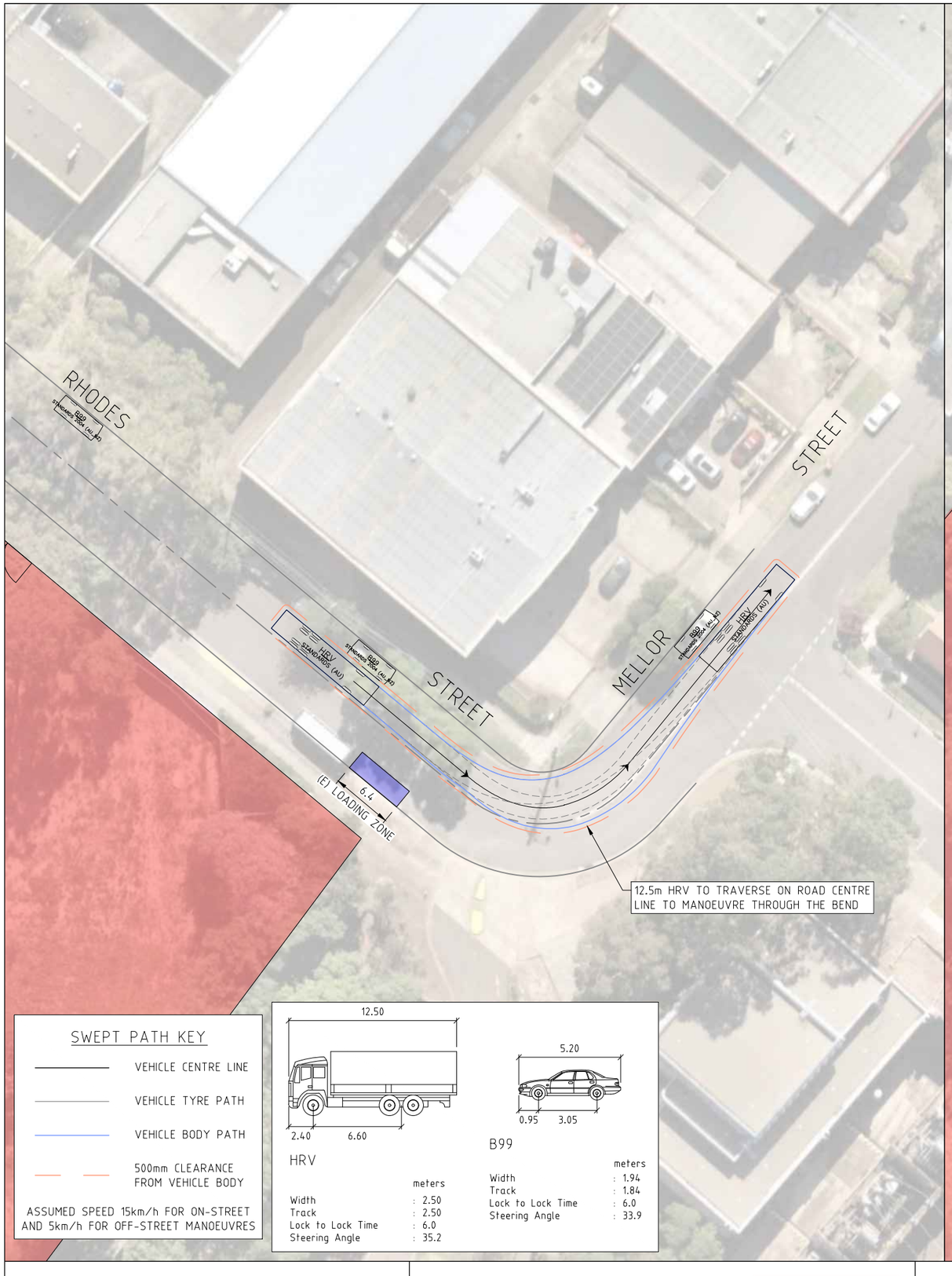
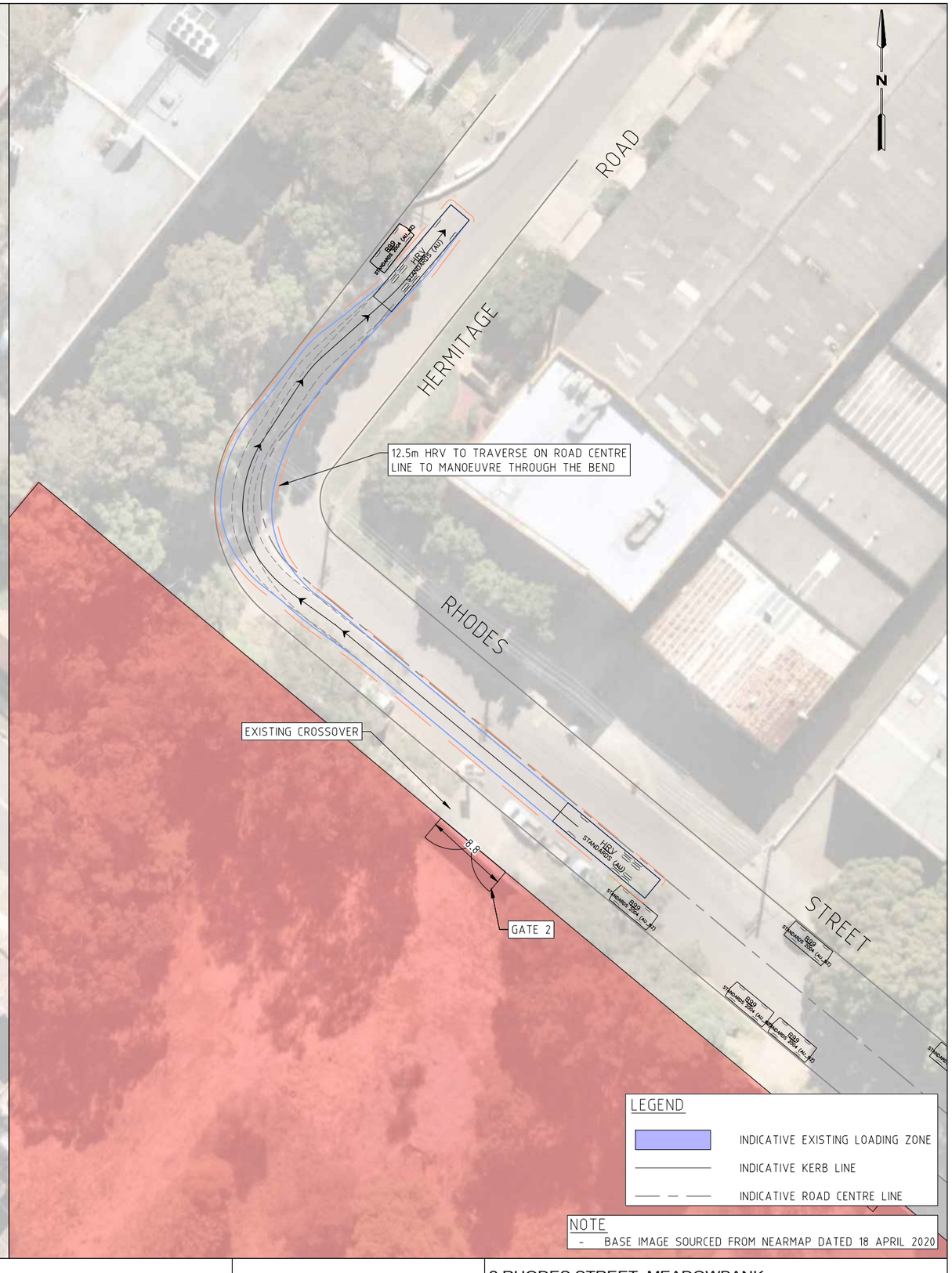
CAD FILE NO.	N183630-04-P6.DWG

2 RHODES STREET, MEADOWBANK

MAIN WORKS
SWEPT PATH ASSESSMENT

DRAWING NO. N183630-04-10 SHEET 10 OF 14 ISSUE P6





SWEPT PATH KEY

- VEHICLE CENTRE LINE
- VEHICLE TYRE PATH
- VEHICLE BODY PATH
- 500mm CLEARANCE FROM VEHICLE BODY

ASSUMED SPEED 15km/h FOR ON-STREET AND 5km/h FOR OFF-STREET MANOEUVRES

HRV

	meters
Width	: 2.50
Track	: 2.50
Lock to Lock Time	: 6.0
Steering Angle	: 35.2

B99

	meters
Width	: 1.94
Track	: 1.84
Lock to Lock Time	: 6.0
Steering Angle	: 33.9

LEGEND

- INDICATIVE EXISTING LOADING ZONE
- INDICATIVE KERB LINE
- INDICATIVE ROAD CENTRE LINE

NOTE

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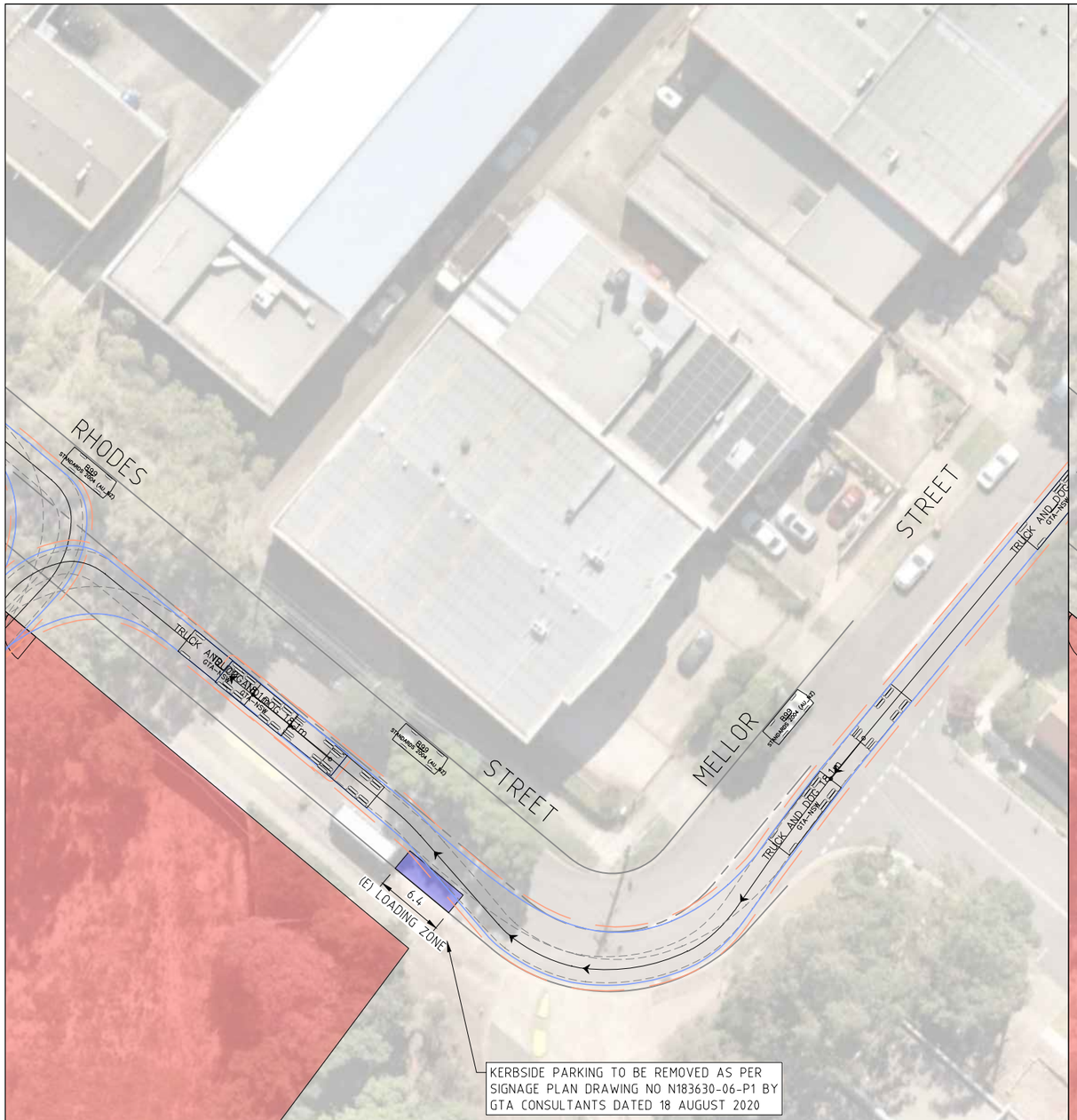
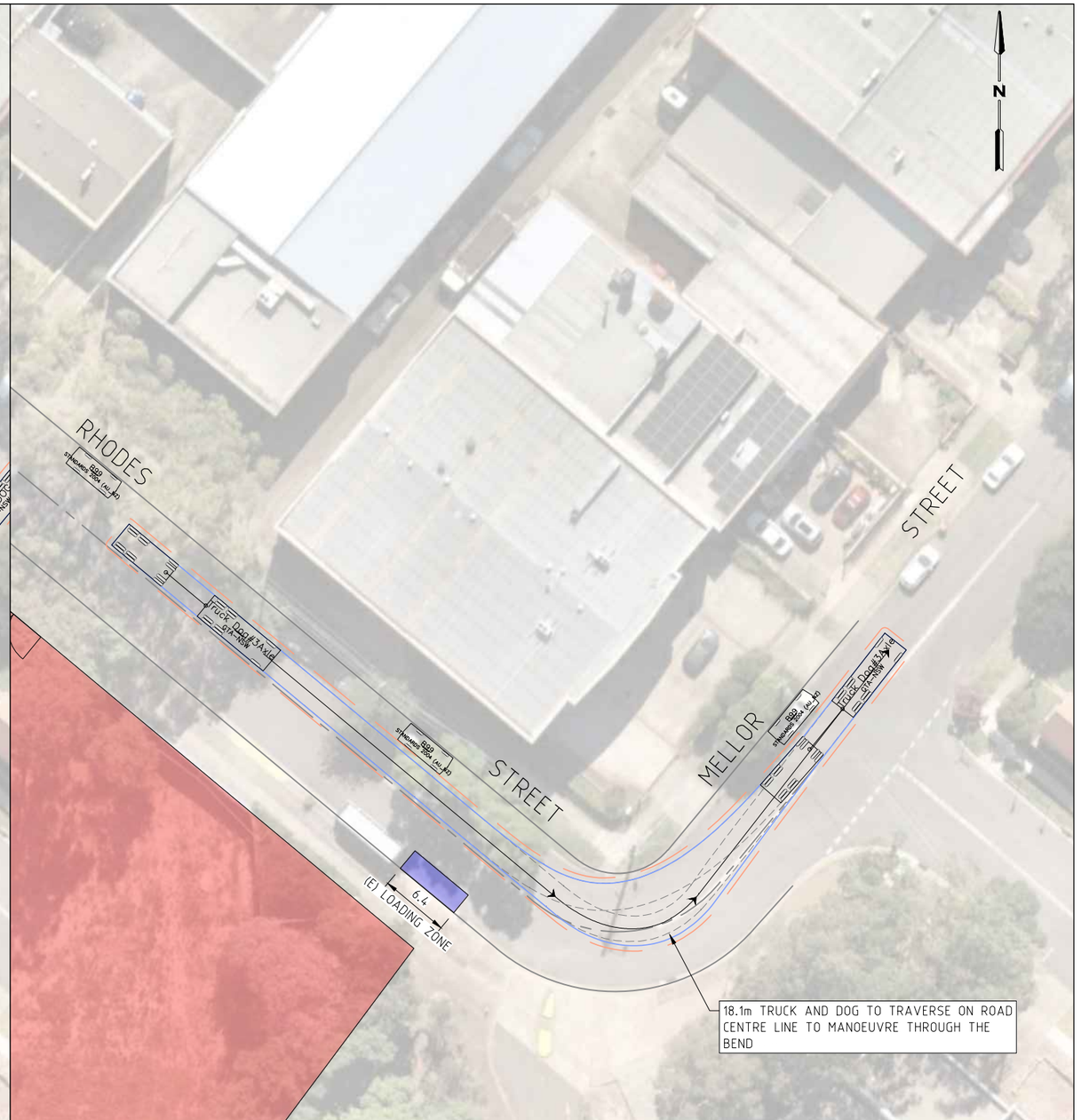
CAD FILE NO.	N183630-04-P6.DWG

2 RHODES STREET, MEADOWBANK

MAIN WORKS
SWEPT PATH ASSESSMENT

DRAWING NO. N183630-04-11 SHEET 11 OF 14 ISSUE P6

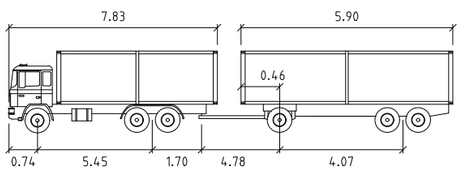




SWEPT PATH KEY

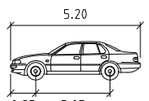
- VEHICLE CENTRE LINE
- VEHICLE TYRE PATH
- VEHICLE BODY PATH
- 500mm CLEARANCE FROM VEHICLE BODY

ASSUMED SPEED 15km/h FOR ON-STREET AND 5km/h FOR OFF-STREET MANOEUVRES



TRUCK AND DOG 18.1m

	meters		
First Unit Width	: 2.50	Lock to Lock Time	: 6.0
Trailer Width	: 2.50	Steering Angle	: 36.9
First Unit Track	: 2.50	Articulating Angle	: 70.0
Trailer Track	: 2.50		



B99

	meters
Width	: 1.94
Track	: 1.84
Lock to Lock Time	: 6.0
Steering Angle	: 33.9

LEGEND

- INDICATIVE EXISTING LOADING ZONE
- INDICATIVE KERB LINE
- INDICATIVE ROAD CENTRE LINE

NOTE
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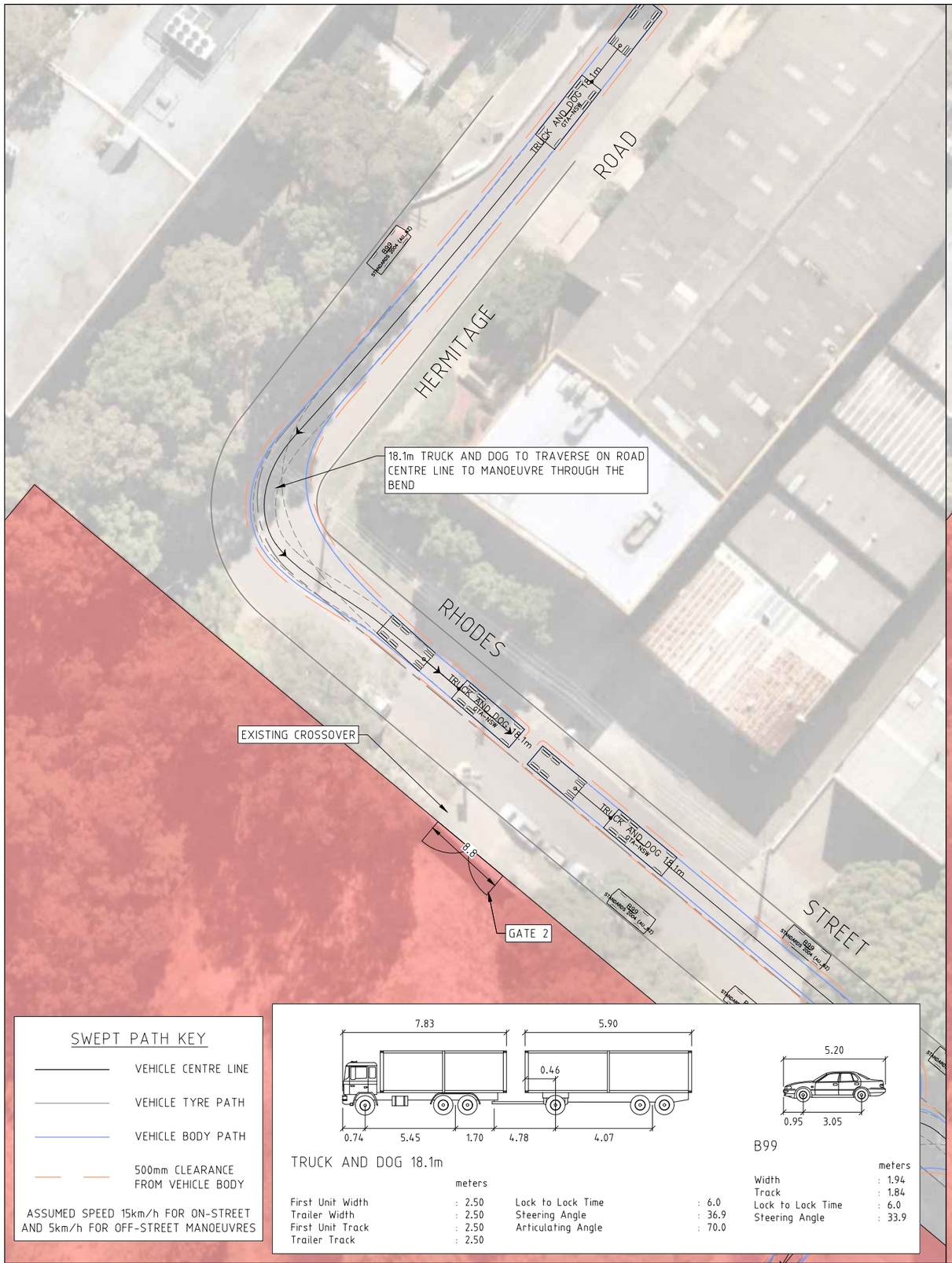
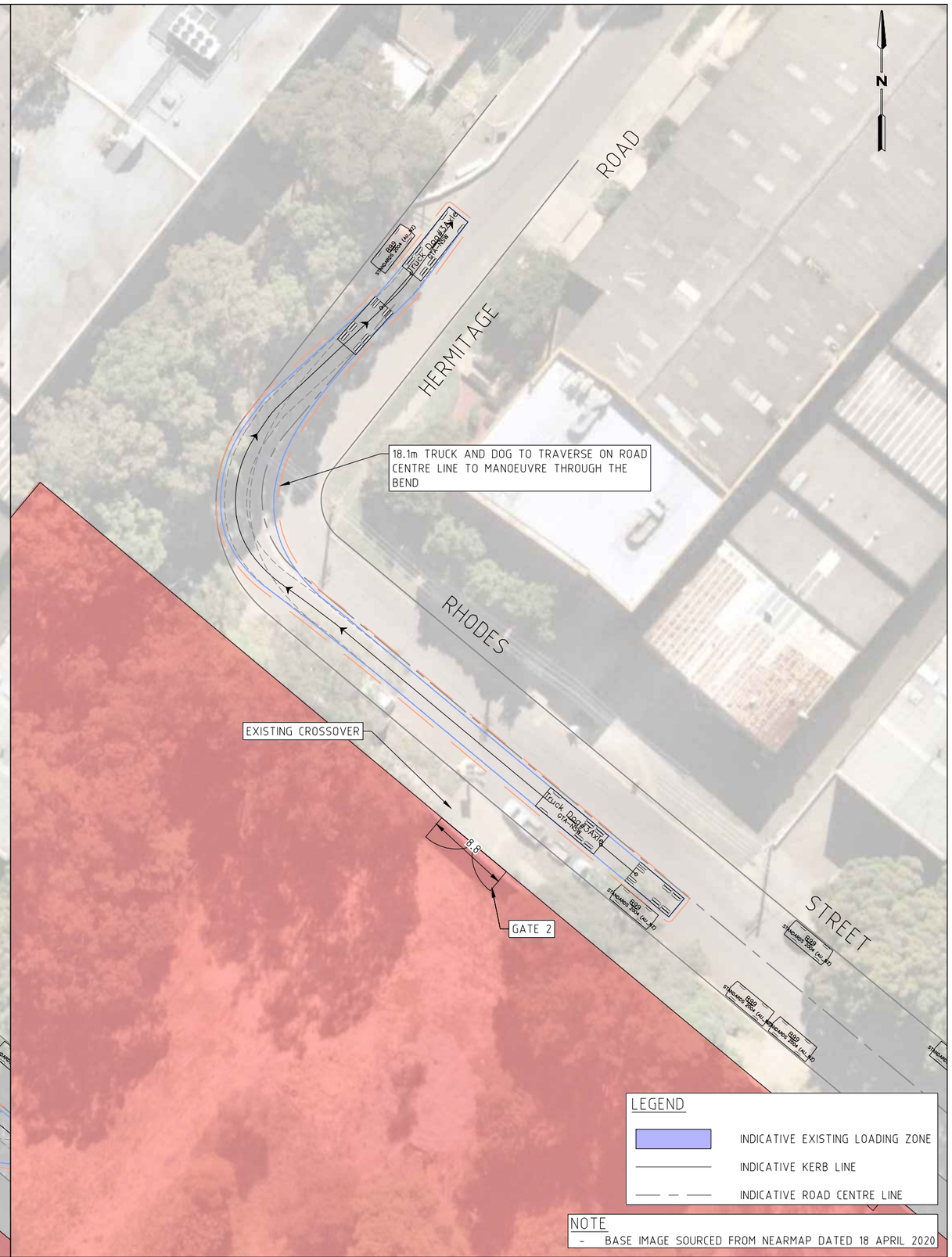
CAD FILE NO. N183630-04-P6.DWG

2 RHODES STREET, MEADOWBANK

MAIN WORKS
SWEPT PATH ASSESSMENT

DRAWING NO. N183630-04-12 SHEET 12 OF 14 ISSUE P6





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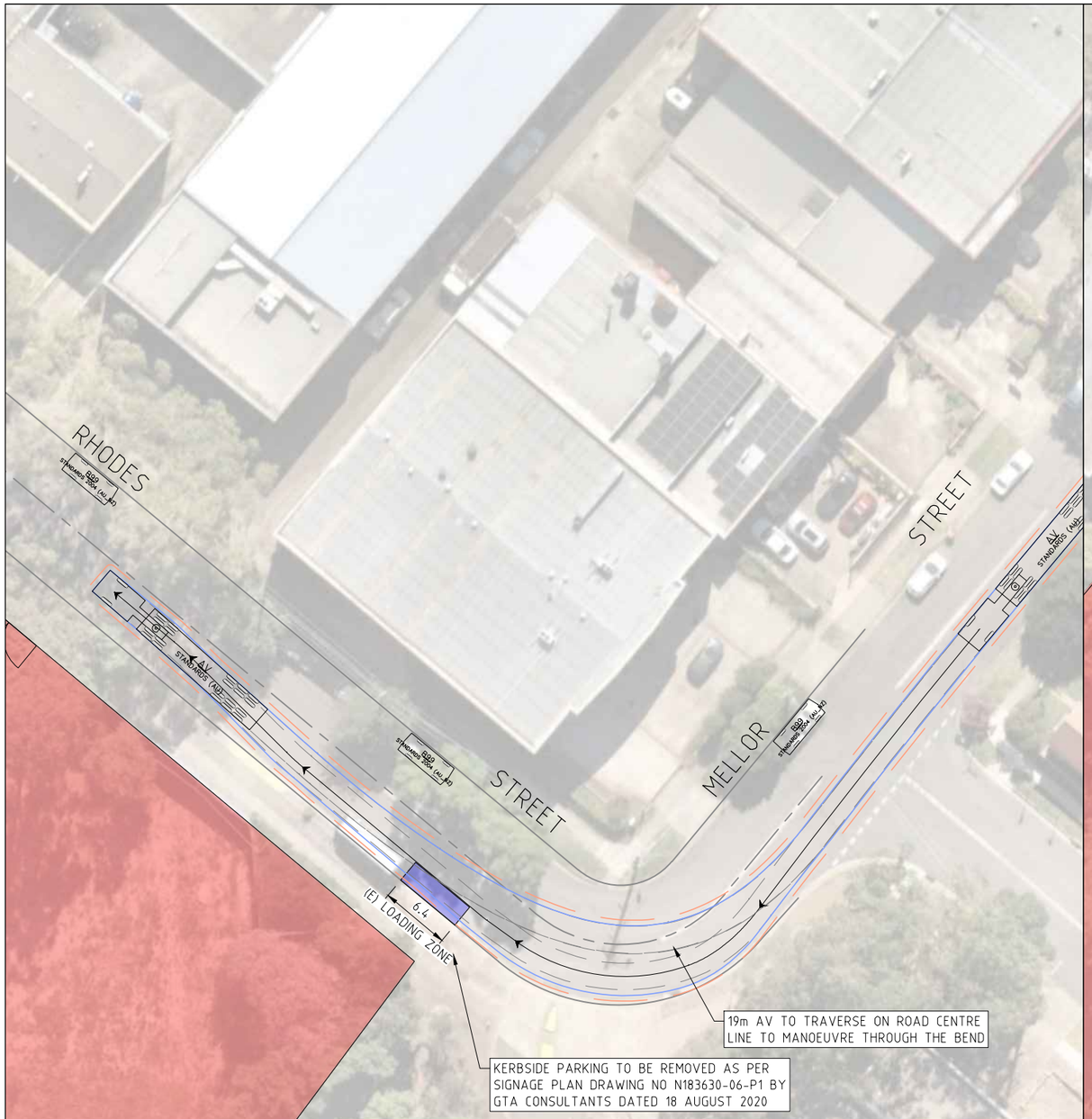
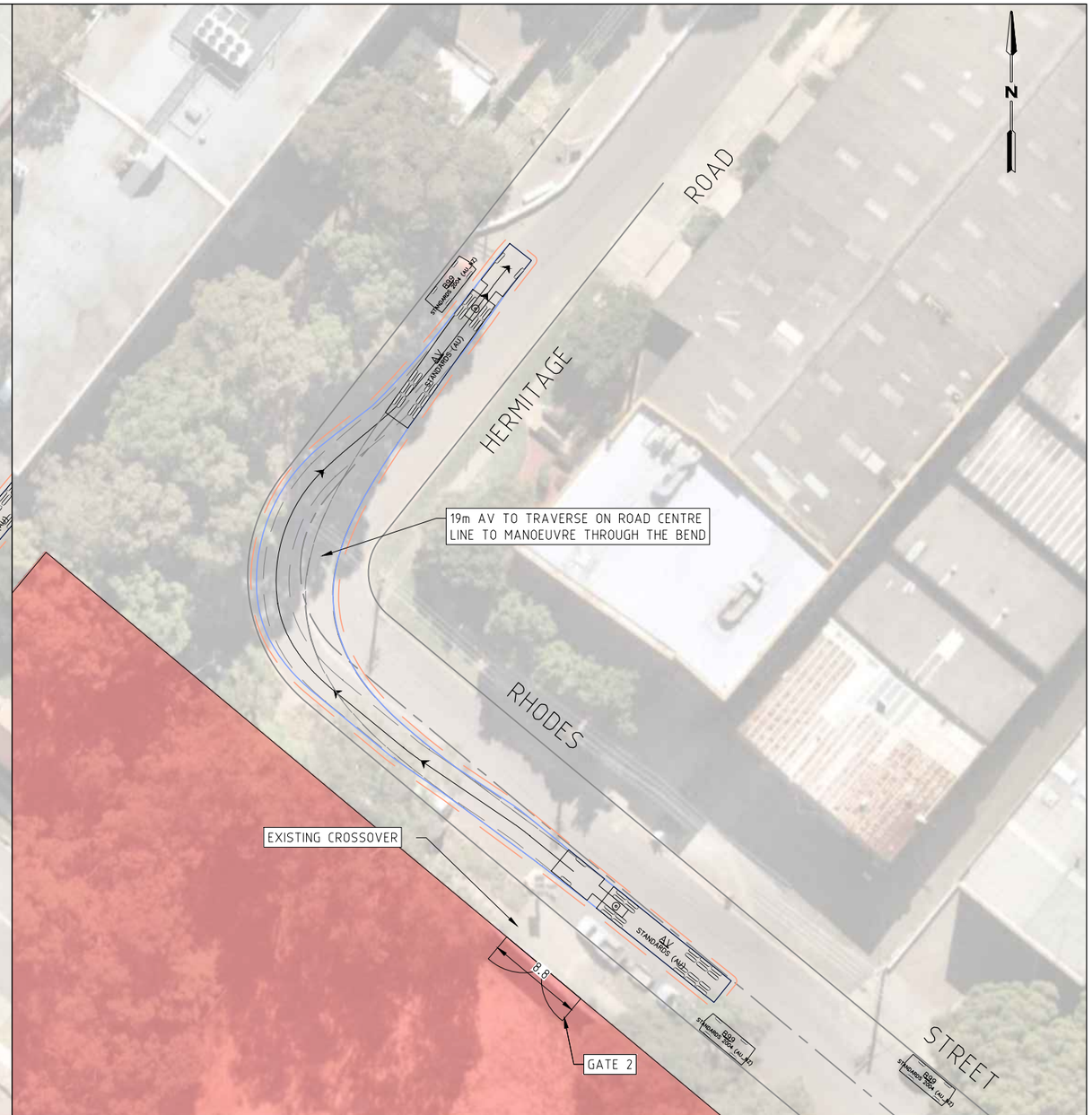
2 RHODES STREET, MEADOWBANK

MAIN WORKS
SWEPT PATH ASSESSMENT

DRAWING NO. N183630-04-13
SHEET 13 OF 14
ISSUE P6

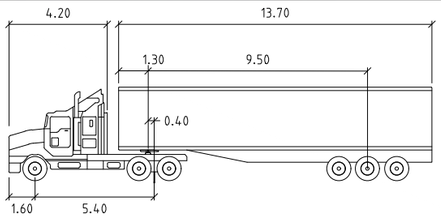




SWEPT PATH KEY

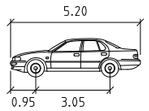
- VEHICLE CENTRE LINE
- VEHICLE TYRE PATH
- VEHICLE BODY PATH
- 500mm CLEARANCE FROM VEHICLE BODY

ASSUMED SPEED 15km/h FOR ON-STREET AND 5km/h FOR OFF-STREET MANOEUVRES



AV

	meters		
Tractor Width	: 2.50	Lock to Lock Time	: 6.0
Trailer Width	: 2.50	Steering Angle	: 28.3
Tractor Track	: 2.50	Articulating Angle	: 70.0
Trailer Track	: 2.50		



B99

	meters
Width	: 1.94
Track	: 1.84
Lock to Lock Time	: 6.0
Steering Angle	: 33.9

LEGEND

- INDICATIVE EXISTING LOADING ZONE
- INDICATIVE KERB LINE
- INDICATIVE ROAD CENTRE LINE

NOTE

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SCALE A3 0 2.5 5 10 1:500

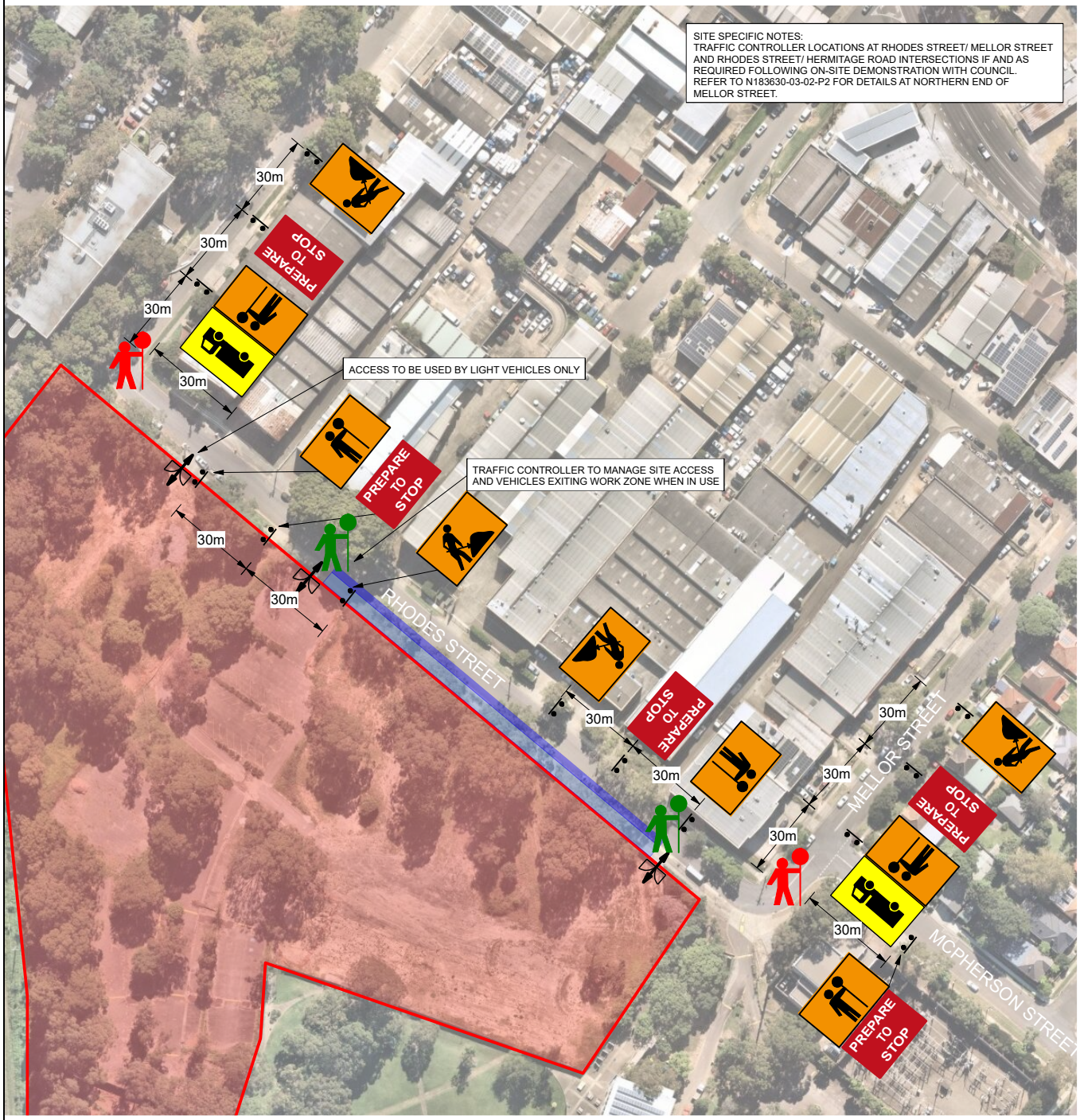
2 RHODES STREET, MEADOWBANK

MAIN WORKS
SWEPT PATH ASSESSMENT

DRAWING NO. N183630-04-14 SHEET 14 OF 14 ISSUE P6

B.TRAFFIC CONTROL PLANS

B



TRAFFIC MANAGEMENT NOTES:
1. NOT ALL DIMENSIONS SHOWN ARE TO SCALE.
2. LOCATION OF SIGNS ARE TO BE CONFIRMED ON-SITE TO ENSURE APPROPRIATE VISIBILITY.
3. ALL SIGNS TO BE MINIMUM SIZE A.
4. ALL SIGNS TO BE CLASS 1 RETROREFLECTIVE.
5. ALL TRAFFIC CONTROL PLANS ARE TO BE IMPLEMENTED IN ACCORDANCE WITH THE RMS "TRAFFIC CONTROL AT WORK SITES" MANUAL, VER 5 (RMS 2018) AND AUSTRALIAN STANDARDS AS1742.3:2019 MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES, PART 3: TRAFFIC CONTROL DEVICES FOR WORKS ON ROADS.
6. THIS TRAFFIC CONTROL PLAN MUST BE SETUP BY A PERSON HOLDING AN "IMPLEMENT TRAFFIC MANAGEMENT PLAN" TICKET AND THE RMS TRAFFIC CONTROL AT WORK SITES CHECKLIST SHALL BE COMPLETED PRIOR TO IMPLEMENTATION.
7. THE ACCREDITTED PERSONNEL SHALL IMPLEMENT THE APPROVED TCP BEFORE ANY PHYSICAL WORK COMMENCES AND ENSURE A COPY OF THE TCP IS KEPT ON-SITE. THE ACCREDITTED PERSONNEL SHALL ALSO DRIVE THROUGH THE SITE BEFORE WORKS BEGIN TO ENSURE THAT THE TCP HAS BEEN IMPLEMENTED CORRECTLY AND THAT IT WILL WARN, INSTRUCT AND GUIDE ROAD USERS AS DESIGNED. ANY VARIATIONS MADE TO THE PLAN MUST BE MARKED ON THE PLAN AND INITIALLED BY THE ACCREDITTED PERSONNEL.
8. IT IS THE RESPONSIBILITY OF AN ACCREDITTED PERSONNEL WITH A 'PREPARE A WORK ZONE TRAFFIC MANAGEMENT PLAN' TICKET TO ENSURE THE FOLLOWING:
- THE INTEGRITY OF ALL TRAFFIC CONTROL MEASURES THROUGH TO THE FINAL REMOVAL. THIS INCLUDES DAILY CHECKS OF ALL SIGNS AND DEVICES. THE CORRESPONDING RECORDS OF CHECKS SHALL BE KEPT ON FILE FOR AUDITING PURPOSES.
- VEHICULAR ACCESS AND SERVICING REQUIREMENTS ARE TO BE MAINTAINED AT ALL TIMES TO ADJACENT PROPERTIES AFFECTED BY TRAFFIC CONTROL MEASURES.
- AT ALL TIMES AN UP-TO-DATE COPY OF "TRAFFIC CONTROL AT WORK SITES" SHOULD BE AVAILABLE FOR REFERENCE AND IMPLEMENTATION AS REQUIRED ON-SITE.
9. ALL WORKERS WILL BE CONFINED TO THE DEDICATED WORKS AREA SHOWN ON THE PLAN.
10. IF THE WORKSITE IS LEFT UNATTENDED IT IS THE CONTRACTOR'S DUTY TO ENSURE THAT THE APPROPRIATE MEASURES ARE TAKEN TO PROVIDE A SAFE ENVIRONMENT FOR VEHICLES AND PEDESTRIANS TO RELEVANT AUSTRALIAN STANDARDS.
11. TRAFFIC CONTROLLERS (T1-34) AND PREPARE TO STOP (T1-18) SIGNS ARE TO BE COVERED OR REMOVED WHEN TRAFFIC CONTROLLER/S ARE NOT ON SITE.
12. ALL SIGNAGE IS TO BE CLEAN, CLEARLY VISIBLE AND NOT OBSCURED.
13. ROADWORK SIGNS TO BE COVERED OR REMOVED WHEN WORKERS ARE NOT ON SITE.
14. ALL WORKERS MUST ADHERE TO THE APPLICABLE SAFE WORK DISTANCE AS DESCRIBED IN AS1742.3:2019.
15. ALL DISTANCES BETWEEN SIGNS ARE TO BE IN ACCORDANCE WITH SECTION 2.5.2 OF AS1742.3:2019. HOWEVER, MODIFICATIONS CAN BE MADE TO SUIT SITE CONDITIONS.

LEGEND

- WORK AREA
- A-CLASS HOARDING/ FENCING
- B-CLASS HOARDING
- WORK ZONE
- CONSTRUCTION GATE
- VEHICLE ACCESS
- TRAFFIC CONTROLLERS MANAGING POSSIBLE VEHICLE ENCROACHMENT OVER CENTRE LINE
- TRAFFIC CONTROLLERS MANAGING SITE ACCESSES WHEN IN USE
- SIGN POST

CERTIFICATION
THE UNDERSIGNED HAS COMPLETED AND OBTAINED:
- PREPARE A WORK ZONE TRAFFIC MANAGEMENT PLAN

CERTIFICATE NO: 0051848769 (MACKENZIE BRINUMS)

GTAconsultants
www.gta.com.au

2 RHODES STREET, MEADOWBANK

MAIN WORKS
TRAFFIC CONTROL PLAN

DATE: 14/07/2020
DRAWING NO. N183630-03-01-P2

TRAFFIC MANAGEMENT NOTES:
1. NOT ALL DIMENSIONS SHOWN ARE TO SCALE.
2. LOCATION OF SIGNS ARE TO BE CONFIRMED ON-SITE TO ENSURE APPROPRIATE VISIBILITY.
3. ALL SIGNS TO BE MINIMUM SIZE A.
4. ALL SIGNS TO BE CLASS 1 RETROREFLECTIVE.
5. ALL TRAFFIC CONTROL PLANS ARE TO BE IMPLEMENTED IN ACCORDANCE WITH THE RMS "TRAFFIC CONTROL AT WORK SITES" MANUAL, VER 5 (RMS 2018) AND AUSTRALIAN STANDARDS AS1742.3:2019 MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES, PART 3: TRAFFIC CONTROL DEVICES FOR WORKS ON ROADS.
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7. THE ACCREDITTED PERSONNEL SHALL IMPLEMENT THE APPROVED TCP BEFORE ANY PHYSICAL WORK COMMENCES AND ENSURE A COPY OF THE TCP IS KEPT ON-SITE. THE ACCREDITTED PERSONNEL SHALL ALSO DRIVE THROUGH THE SITE BEFORE WORKS BEGIN TO ENSURE THAT THE TCP HAS BEEN IMPLEMENTED CORRECTLY AND THAT IT WILL WARN, INSTRUCT AND GUIDE ROAD USERS AS DESIGNED. ANY VARIATIONS MADE TO THE PLAN MUST BE MARKED ON THE PLAN AND INITIALLED BY THE ACCREDITTED PERSONNEL.
8. IT IS THE RESPONSIBILITY OF AN ACCREDITTED PERSONNEL WITH A 'PREPARE A WORK ZONE TRAFFIC MANAGEMENT PLAN' TICKET TO ENSURE THE FOLLOWING:
- THE INTEGRITY OF ALL TRAFFIC CONTROL MEASURES THROUGH TO THE FINAL REMOVAL. THIS INCLUDES DAILY CHECKS OF ALL SIGNS AND DEVICES. THE CORRESPONDING RECORDS OF CHECKS SHALL BE KEPT ON FILE FOR AUDITING PURPOSES.
- VEHICULAR ACCESS AND SERVICING REQUIREMENTS ARE TO BE MAINTAINED AT ALL TIMES TO ADJACENT PROPERTIES AFFECTED BY TRAFFIC CONTROL MEASURES.
- AT ALL TIMES AN UP-TO-DATE COPY OF "TRAFFIC CONTROL AT WORK SITES" SHOULD BE AVAILABLE FOR REFERENCE AND IMPLEMENTATION AS REQUIRED ON-SITE.
9. ALL WORKERS WILL BE CONFINED TO THE DEDICATED WORKS AREA SHOWN ON THE PLAN.
10. IF THE WORKSITE IS LEFT UNATTENDED IT IS THE CONTRACTOR'S DUTY TO ENSURE THAT THE APPROPRIATE MEASURES ARE TAKEN TO PROVIDE A SAFE ENVIRONMENT FOR VEHICLES AND PEDESTRIANS TO RELEVANT AUSTRALIAN STANDARDS.
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13. ROADWORK SIGNS TO BE COVERED OR REMOVED WHEN WORKERS ARE NOT ON SITE.
14. ALL WORKERS MUST ADHERE TO THE APPLICABLE SAFE WORK DISTANCE AS DESCRIBED IN AS1742.3:2019.
15. ALL DISTANCES BETWEEN SIGNS ARE TO BE IN ACCORDANCE WITH SECTION 2.5.2 OF AS1742.3:2019. HOWEVER, MODIFICATIONS CAN BE MADE TO SUIT SITE CONDITIONS.

LEGEND

- WORK AREA
- A-CLASS HOARDING/ FENCING
- B-CLASS HOARDING
- WORK ZONE
- CONSTRUCTION GATE
- VEHICLE ACCESS
- TRAFFIC CONTROLLERS MANAGING POSSIBLE VEHICLE ENCROACHMENT OVER CENTRE LINE
- SIGN POST

CERTIFICATION
THE UNDERSIGNED HAS COMPLETED AND OBTAINED:
- PREPARE A WORK ZONE TRAFFIC MANAGEMENT PLAN

CERTIFICATE NO: 0051848769 (MACKENZIE BRINUMS)

GTAconsultants
www.gta.com.au

2 RHODES STREET, MEADOWBANK

MAIN WORKS
TRAFFIC CONTROL PLAN

DATE: 11/08/2020
DRAWING NO. N183630-03-02-P3

C. DRIVER CODE OF CONDUCT

APPENDIX: DRIVER CODE OF CONDUCT

C.1. Context and Purpose

The following driver code of conduct seeks to address Condition B18 of SSD 9343, as reproduced below:

B18: A Driver Code of Conduct must be prepared and communicated by the Applicant to heavy vehicle drivers and must address the following:

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

(b) minimise conflicts with other road users

(c) minimise road traffic noise

(d) ensure truck drivers use specified routes.

This code of conduct will be communicated to all site workers during the site induction process. Workers will be reminded of the requirements of the code of conduct regularly in toolbox meetings.

C.2. Travel Speeds

All vehicles associated with the SMEEP site are required to travel within the posted speed limits on public roads. In situations where driver's visibility and traffic safety on public roads is affected by weather-related conditions such as heavy rainfall or fog, construction vehicles should reduce their speed limit until visibility and traffic safety has improved.

C.3. Haulage Routes and Timing of Transport

All construction vehicles associated with the SMEEP site will follow the designated approach and departure routes. These routes are detailed below and shown in Figure C.1 and Figure C.2.

Approach

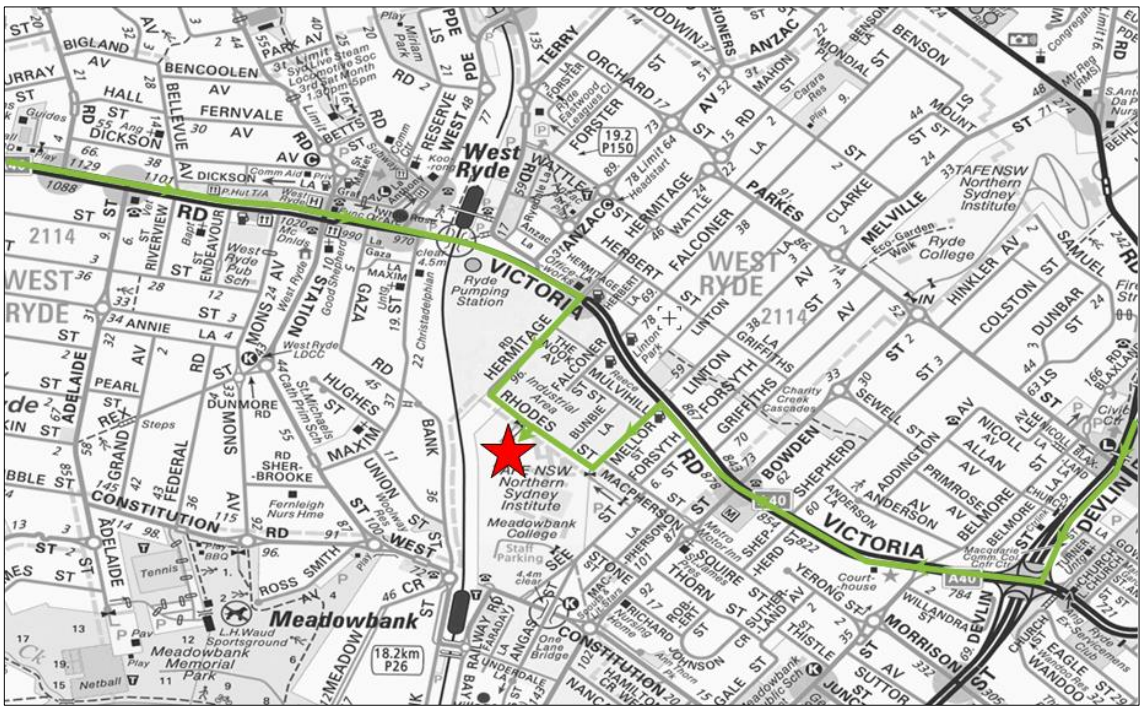
- From north:
  - Pennant Hills Road, Silverwater Road, Victoria Road, Hermitage Road, Rhodes Street
  - Lane Cove Road, Victoria Road, Mellor Street, Rhodes Street
- From west:
  - M4 Western Motorway, James Ruse Drive, Victoria Road, Hermitage Road, Rhodes Street
  - Old Windsor Road, Cumberland Highway, James Ruse Drive, Victoria Road, Hermitage Road, Rhodes Street.

Departure

- Towards north:
  - Rhodes Street, Mellor Street, Victoria Road, Silverwater Road, Pennant Hills Road
  - Rhodes Street, Hermitage Road, Victoria Road, Lane Cove Road
- Towards west:
  - Rhodes Street, Mellor Street, Victoria Road, James Ruse Drive, M4 Western Motorway
  - Rhodes Street, Mellor Street, Victoria Road, James Ruse Drive, Cumberland Highway, Old Windsor Road.

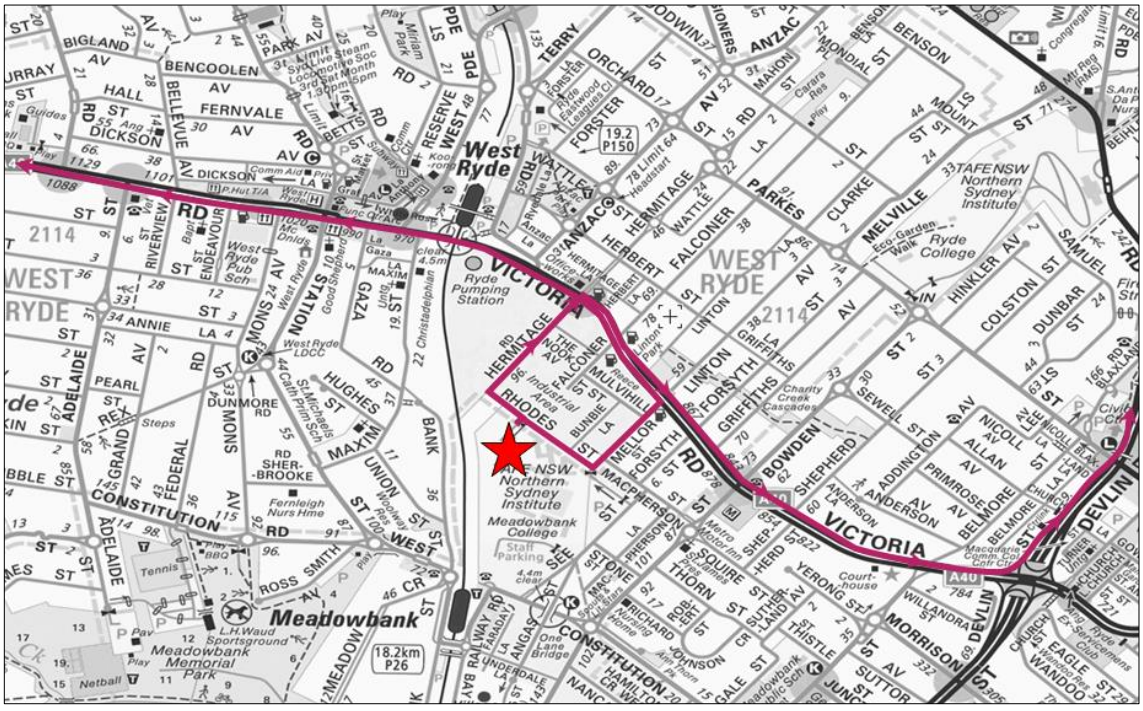
APPENDIX: DRIVER CODE OF CONDUCT

Figure C.1: Construction vehicle approach routes



Base image source: Sydway

Figure C.2: Construction vehicle departure routes



Base image source: Sydway

C.4. Safe Driving Practices

The operators of all vehicles associated with the SMEEP site should maintain a high level of awareness and respect for all other road users. All on-site staff will receive a site induction, which will include details regarding the TMP and this code of conduct. Regular toolbox meetings will be held to maintain awareness of required controls. Details of the traffic and access training and induction will focus on:

- objectives of the TMP
- mitigation measures required to be implemented
- traffic and access monitoring and reporting requirements
- incident investigation and response protocols.

Training is to be provided prior to start-up of any traffic and access related management tasks and updated if task, equipment or procedures are expected to change (or have changed).

The following requirements should be adhered to at all times:

- obey all laws and regulations
- do not drive whilst under the influence of alcohol, drugs, nor any medication which may affect ability to drive
- be medically fit to drive at all times and inform site coordinators upon awareness of any medical condition which may affect ability to drive
- drive in a considerate manner at all times and respect the rights of others to use and share the road space
- be respectful to neighbouring properties when entering and exiting the site
- report all vehicle defects to the relevant employer. Serious defects must be corrected immediately, or an alternative vehicle supplied
- any vehicle crash or incident resulting in injury or significant damage to property must be reported to the police
- report any near misses
- always adhere to the site working hours
- only drive construction vehicles when conducting works related to the project
- securely fasten and cover loads, as appropriate
- keep vehicles clean and in good mechanical condition to reduce environmental impacts
- extra care should be taken when driving at dawn or dusk
- vehicles must give way to pedestrians, cyclists and emergency vehicles.

C.5. Maintenance Requirements

The operators of all vehicles associated with the SMEEP site should implement a high level of maintenance. The following requirements would be adhered to at all times:

- Ensure vehicles comply with relevant State legislation in relation to roadworthiness and modifications.
- Undergo regular vehicle checks and maintenance.
- Ensure vehicles have correctly fitted mufflers to minimise noise disturbance.

D. CONSTRUCTION WORKER TRANSPORTATION STRATEGY

APPENDIX: CONSTRUCTION WORKER TRANSPORTATION STRATEGY

D.1. Context and Purpose

The following Construction Worker Transport Strategy seeks to address Condition B19 of SSD 9343, as reproduced below:

B19: Prior to the commencement of construction, the Applicant must submit a Construction Worker Transportation Strategy to the Certifier. The Strategy must detail the provision of sufficient parking facilities or other travel arrangements for construction workers in order to minimise demand for parking in nearby public and residential streets or public parking facilities. A copy of the strategy must be submitted to the Planning Secretary and Council for information.

This strategy has been developed to minimise the impact of construction workers accessing the site by vehicular means with respect to available parking in surrounding streets.

D.2. Aims and Strategies

The following Aims and Strategies will be implemented for the project.

D.2.1. Public and Active Transport

Aim

- Construction workers will be encouraged to use public and active transport to access the site.

Strategy

- Site induction to include limitations on parking on-site and in surrounding street.
- Public transport connection information to be made available to workers as well as acknowledgement of the pathway from Meadowbank Station to the construction worker gate on the southern side of the site.
- Lead representatives from subcontractors to be asked to coordinate their respective worker travel arrangements (including shuttle/ car-pooling as appropriate).

D.2.2. Parking on Public Roads

Aim

- Encourage workers not to park on local public roads.

Strategy

- Include in Site Induction restrictions on parking on local public roads and reinforce in toolbox talks.
- Treat as “CBD site” with no parking available in immediate vicinity of work.
- Advise suitable alternatives away from the site that limit impact on surrounding residents.
- Encourage car-pooling to reduce number of cars parking in the designated parking area on-site.
- Request that subcontractors with a significant number of workers implement car-pooling arrangements.
- Encourage site staff and management to work remotely where practicable.
- Monitor surrounding streets periodically and issue warnings if workers found to be using on-street parking.

D.2.3. Deliveries and Equipment storage

Aim

- Reduce the need for workers to access site with personal vehicles.

Strategy

- Secure areas to be made available within site to allow storage of materials, tools and equipment, reducing vehicular activity to the site.
- Equipment and tools to be modularised in shipping containers where practical to reduce multiple small deliveries in personal vehicles.
- Where small deliveries are required, dedicated “drop-off” and “pick-up” zones within site to be identified to reduce on-site parking.

D.2.4. Alternative Parking Locations

Aim

- Investigate dedicated alternative parking locations for construction workers.

Strategy

- Investigate dedicated alternative parking locations for construction workers when the site reaches more than 100 workers on-site at any given time. This includes consultation with project stakeholders such as Council.

E. STAKEHOLDER CORRESPONDENCE

Mackenzie Brinums

From: Mitch Ryan <mitchell.ryan@transport.nsw.gov.au>
Sent: Wednesday, 5 August 2020 2:02 PM
To: Mackenzie Brinums
Cc: Brett Maynard; Onneile Matlapeng; Sam Hamilton
Subject: RE: Schools @ Meadowbank Education and Employment Precinct CTPMP
Attachments: N183630-04-P4.pdf

Hi Mackenzie and all,

Appreciate the updated swept paths.

Based upon the attached I am satisfied that the movements work and consider my comments closed at this stage.

I noted that Ryde Council had some concerns about this CTMP in its initial form. As this could result in change to the CTMP, I note that it is possible that I may have more notes/comments depending on any changes.

If further revisions of the CTMP do occur can I just be kept updated? I can draft an approval from TfNSW to provide once I know the CTMP is in its final form.

Happy to help if anything further is required.

Kind Regards,

Mitchell Ryan
Network & Safety Officer
North West Precinct
Greater Sydney
Transport for NSW

T 02 8849 2685
Level 5, 27 Argyle Street Parramatta NSW 2150

From: Mackenzie Brinums [mailto:Mackenzie.Brinums@gta.com.au]
Sent: Wednesday, 5 August 2020 9:42 AM
To: Mitch Ryan <mitchell.ryan@transport.nsw.gov.au>
Cc: Brett Maynard <brett.maynard@gta.com.au>; Onneile Matlapeng <onneile.matlapeng@robertspizzarotti.com>; Sam Hamilton <sam.hamilton@robertspizzarotti.com>
Subject: RE: Schools @ Meadowbank Education and Employment Precinct CTPMP

Hi Mitch

Thanks for your email. See attached for updated swept paths. The 12.5m HRV left turn out of Mellor Street has been refined to utilise the left lane only, and opposing right turn movements have been shown at the Victoria Road/ Hermitage Road intersection.

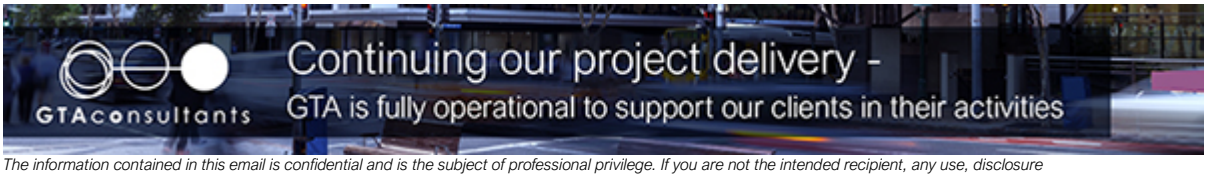
I trust this addresses your queries. Let me know if any issues.

Regards

Mackenzie Brinums
Senior Consultant
GTA Consultants
P 02 8448 1800 D 02 8448 1813 M 0414 600 989
Level 16, 207 Kent Street, Sydney, NSW 2000
Mackenzie.Brinums@gta.com.au

www.gta.com.au

To read GTA's update to clients and industry partners on our response to COVID-19, please click here.



From: Mitch Ryan <mitchell.ryan@transport.nsw.gov.au>
Sent: Wednesday, 5 August 2020 8:22 AM
To: Mackenzie Brinums <Mackenzie.Brinums@gta.com.au>
Cc: Brett Maynard <brett.maynard@gta.com.au>; Onneile Matlapeng <onneile.matlapeng@robertspizzarotti.com>; Sam Hamilton <sam.hamilton@robertspizzarotti.com>
Subject: RE: Schools @ Meadowbank Education and Employment Precinct CTPMP

Good morning Mackenzie,

Apologies I am working at a reduced capacity at the moment being under the weather.

Thank you for sending this through to confirm that this was not an option. To throw back to the meeting Monday, I was suggesting might be useful if it could be provided for council's record as their preference was for AV's to take this route. I was under the impression this was not achievable, and confirm I am satisfied to discount this route. As advised to council in the meeting, I would not accept AV's straddling the right turn lane and adjacent through lane, even if this would work (which I would think it couldn't due to the diamond phasing), perhaps only in the complimentary phases.

TfNSW had one main concern. This pertained to the departure of HRV's from Mellor into Victoria Road. Swept paths show the movement encroaches into all westbound lanes and we would like to see how this could be improved. It was mentioned that the signals at Bowden would provide sufficient breaks in traffic to achieve a gap, however given issues with speed and the geometry here I would prefer to see as minimal impact as possible.

I also mentioned a smaller curiosity regarding the approach movements at the signals at Hermitage Road. As a diamond phase can run for the right turns off Victoria Road, I would like the swept paths showing the opposing right turn at the same time as the HRV and Truck & Dog?

Essentially my notes were just around the orange swept paths. Happy to take any questions.

Intersection	Movement	HRV (12.5m)	Truck & Dog (18.1m)	AV (19m)
Victoria and Hermitage	Approach	Opposing right turning movements?	Opposing right turning movements?	Not Provided. Not utilised?
	Departure	Will have to filter through opposing through + left turn traffic.	Will have to filter through opposing through + left turn traffic.	Will have to filter through opposing through + left turn traffic.
Victoria Road and Mellor	Approach			
	Departure	All lanes impacted		Not Provided. Not utilised?

Kind Regards,

Mitchell Ryan
Network & Safety Officer
North West Precinct

Greater Sydney
Transport for NSW

T 02 8849 2685
Level 5, 27 Argyle Street Parramatta NSW 2150

From: Mackenzie Brinums [mailto:Mackenzie.Brinums@gta.com.au]
Sent: Tuesday, 4 August 2020 4:54 PM
To: Mitch Ryan <mitchell.ryan@transport.nsw.gov.au>
Cc: Brett Maynard <brett.maynard@gta.com.au>; Onneile Matlapeng <onneile.matlapeng@robertspizzarotti.com>; Sam Hamilton <sam.hamilton@robertspizzarotti.com>
Subject: Schools @ Meadowbank Education and Employment Precinct CTPMP

Hi Mitch

Thanks for your time yesterday to discuss the CTPMP for the Schools @ Meadowbank Education and Employment Precinct project. I understand TfNSW only had a comment regarding whether it was possible for 19m semi-trailers to approach the site by turning right from Victoria Road into Hermitage Road. As discussed, this manoeuvre is not possible as the swept path shows the vehicle would conflict with the central median and encroach into the northbound lane on Hermitage Road. See below for a screenshot of the swept path.

Can you please confirm this addresses your comments on the CTPMP?

Regards

Mackenzie Brinums
Senior Consultant
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P 02 8448 1800 D 02 8448 1813 M 0414 600 989
Level 16, 207 Kent Street, Sydney, NSW 2000
Mackenzie.Brinums@gta.com.au
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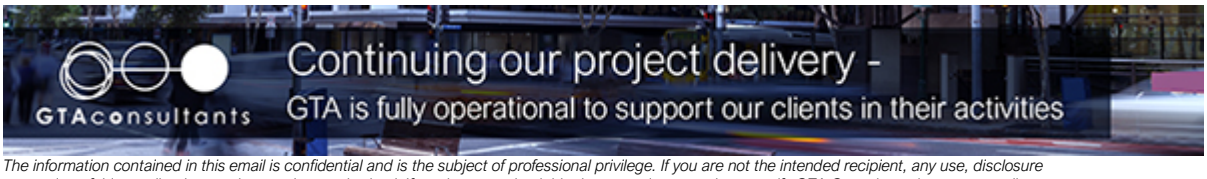

Before printing, please consider the environment

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Brett Maynard

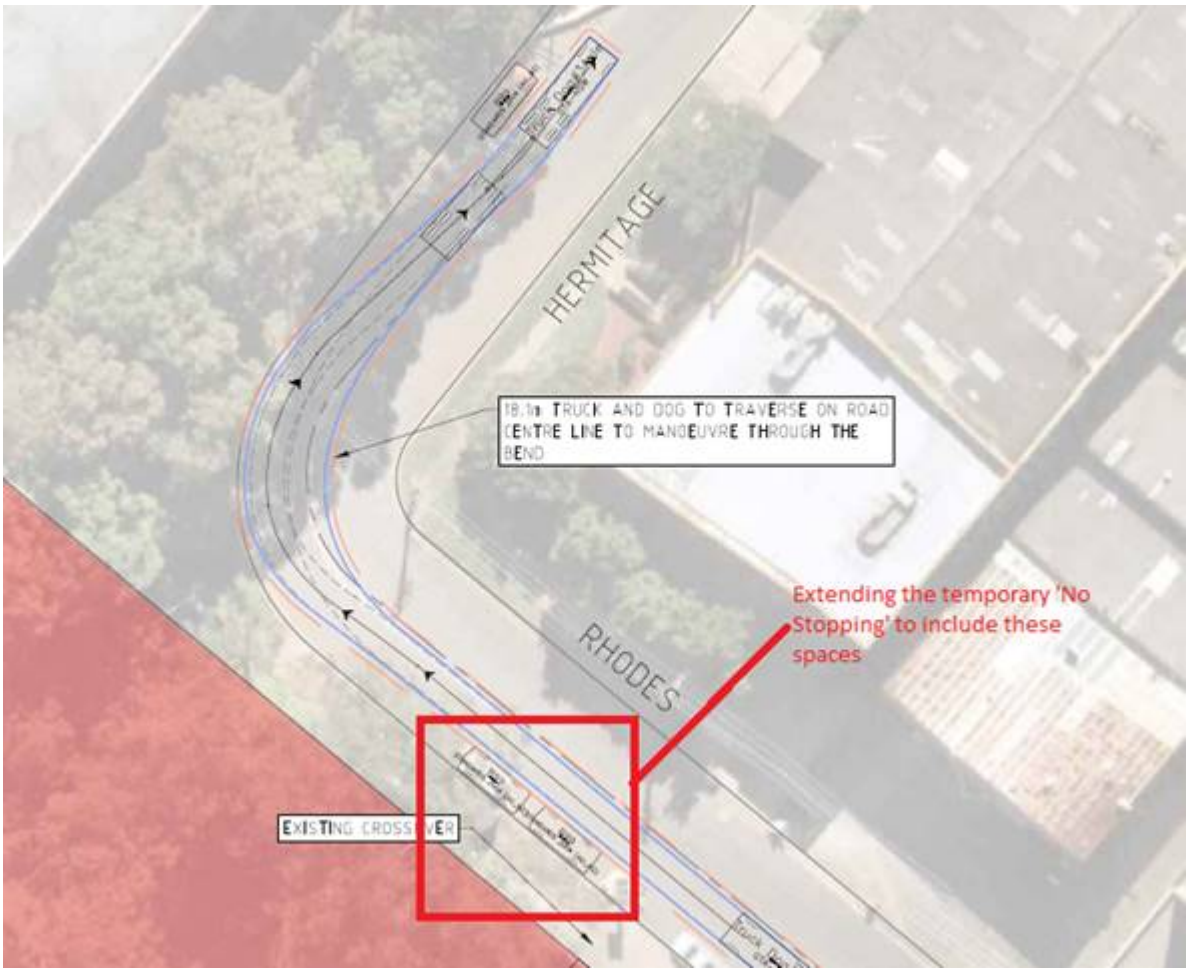
From: Yafeng (Alex) Zhu <YZhu@ryde.nsw.gov.au>
Sent: Tuesday, 18 August 2020 2:02 PM
To: Brett Maynard; 'Onneile Matlapeng'; Julien Quan
Cc: John Begley; Sam Hamilton; Mackenzie Brinums; Todd Thornton; Damian Vella
Subject: RE: Schools @ Meadowbank Education and Employment Precinct - Main Works CTPMP CRM:0181808
Attachments: Signage plan markup.pdf

Hi Brett,

Thanks for the updated CTMP.

I have reviewed the updated document and have a few minor comments:

1) Can you add a comment in section 3.4 of the CTPMP that "all construction workers including sub-contractors" are to either park within the construction site or use public transport. No on-street paring will be allowed". This will form one of the conditions of the interim approval that I have prepared.
2) With regards to the 19m AV swept paths, such vehicles many manoeuvre better with the temporary removal of the two spaces along the southern side of Rhodes Street (shown below – being an extract of page 40 of the CTPMP). Can you run a swept path test to see if there is an improvement in manoeuvrability. This may involve some slight alterations to the signage plan.



3) For the signage plan – See attached markup containing my comments.

Can you please update your CTPMP to address the above comments, so I can release the interim approval.

Please also note the some of the conditions which form part of this approval:

1) 19m semis are to be restricted to outside of peak commuter periods (7:00am – 9:00am and 4:00pm – 6:00pm), with only 1 semi travelling to/from the site allowed over a 1 hour period;
2) The builder is required to apply for a road use permit for the loss of parking to assist with the manoeuvring of 18.1m long truck and dog vehicles and 19m semis; and
3) As with the early works approval, a joint inspection with Council is to be undertaken to determine whether a 19m semi can manoeuvre around the bends at Rhodes St/Hermitage Rd and Rhodes St/Mellor St. Should there be safety issues identified traffic controllers are to be considered.

Kind regards,

Alex

Yafeng (Alex) Zhu
Senior Coordinator - Transport Development
TRANSPORT
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M 0434 859 375
E YZhu@ryde.nsw.gov.au
W www.ryde.nsw.gov.au

City of Ryde

Customer Service Centre 1 Pope Street, Ryde (Within Top Ryde City shopping centre)
North Ryde Office Riverview Business Park, Building 0, Level 1, 3 Richardson Place, North Ryde

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From: Brett Maynard [mailto:brett.maynard@gta.com.au]
Sent: Friday, 14 August 2020 8:29 AM
To: Yafeng (Alex) Zhu; 'Onneile Matlapeng'; Julien Quan
Cc: John Begley; Sam Hamilton; Mackenzie Brinums; Todd Thornton; Damian Vella
Subject: [SUSPICIOUS MESSAGE] RE: Schools @ Meadowbank Education and Employment Precinct - Main Works CTPMP CRM:0181808

This Message contains suspicious characteristics and has originated outside your organization.

Hi Alex

Further to the recent comments and discussions with Council, please see the attached updated CTPMP for approval. Should you have any further queries, please don't hesitate to call while reviewing.

Cheers

Brett Maynard
Director
GTA Consultants

P 02 8448 1800 D 02 8448 1808 M 0414 240 412
Level 16, 207 Kent Street, Sydney, NSW 2000
brett.maynard@gta.com.au
www.gta.com.au

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From: Yafeng (Alex) Zhu <YZhu@ryde.nsw.gov.au>
Sent: Friday, 7 August 2020 1:15 PM
To: 'Onneile Matlapeng' <onneile.matlapeng@robertspizzarotti.com>; Julien Quan <JQuan@ryde.nsw.gov.au>
Cc: John Begley <JBegley@ryde.nsw.gov.au>; Brett Maynard <brett.maynard@gta.com.au>; Sam Hamilton <sam.hamilton@robertspizzarotti.com>; Mackenzie Brinums <Mackenzie.Brinums@gta.com.au>; Todd Thornton <todd.thornton@robertspizzarotti.com>; Damian Vella <damian.vella@robertspizzarotti.com>
Subject: RE: Schools @ Meadowbank Education and Employment Precinct - Main Works CTPMP CRM:0181808

Hi Onneile,

Thanks for sending across the amended CTMP.

We can provide an interim approval provided the following issues can be satisfactorily resolved within the CTMP:

1. **19m long semi-trailer access via Mellor St** - The TCP shown on page 42 of the CTMP indicates that a traffic controller is to be positioned within Mellor St to the immediate north of Mulvihill St to assist with a semi-trailer accessing Mellor St from Victoria Rd. Under this proposed arrangement, Council's Transport Department have the following concerns, which need to be addressed:
   - There is no temporary traffic control advanced warning signage within Mulvihill St to inform eastbound drivers of the presence of this traffic controller;
   - Parking along both sides of Mellor St to the north of Mulvihill St is generally restricted to 2P, which result in a high parking turnover. Based on the swept path shown on page 28 of the revised CTMP, a 19m semi-trailer is required to occupy the majority of the road pavement between kerbs, which would affect the safety and efficiency of vehicles leaving the kerbside parking space within that section of the road. How is this to be safely managed? Please note, a traffic controller should only be controlling movement in one direction. Using a traffic controller to control traffic/parking activity from multiple directions is considered to be an unsafe practice.
   - The swept path need to show a 19m semi-trailer being able to get around the traffic controller and queued northbound traffic within Mellor St.

2. **19m long semi-trailer/18.1m Truck and Dog manoeuvring at the bends within Mellor/Rhodes St and Rhode St/Hermitage Rd –**. The TCP shown on page 41 of the revised CTMP proposes a traffic controller at each bend, which is considered to be unsafe as the swept paths show a 19m semi-trailer/18.1m Truck and Dog encroaching over the centre of the road at these bends. In order to ensure such vehicles can safely manoeuvre at these locations, consideration should be given to the temporary removal of some on-street parking spaces in the immediate vicinity of these bends for the duration of construction. This measure would also assist in minimising the risk to nearby on-street parked vehicles (e.g. a parked vehicle being side swiped by a turning truck, etc.) during the construction period. The extent of the temporary 'No Stopping' restrictions is to be reflected in a signage and linemarking plan within the CTMP, which is to be based on updated swept paths.

3. **Parking –** As mentioned in my previous email, the CTMP approved during the planning stage proposed approximately 200 car parking spaces to be provided on-site for construction staff. The CTMP prepared as part of the CC proposes only 24 parking spaces for an average employment level of 300 people and a maximum employment level of 450 people. This is a significant drop in the temporary off-street parking to be provided, which cannot be supported by the Transport Department due to significant impact it will have on the parking amenity within the surrounding Council roads, whereby parking is already at premium, despite workers being encouraged to use public transport (as indicated in the CTMP). As mentioned in the meeting on Monday, you cannot equate Meadowbank railway station to the railway stations in the CBD, whereby there are more frequent services in the CBD. In this regard, the likelihood of workers parking within the surrounding local streets is expected to be high.

4. **Work Zone –** I recall in our meeting on Monday that it was mentioned that up to 5 construction vehicles could be expected to occupy the work zone at any one time. This could comprise 1 semi (19m) and 4 rigid trucks (length of each vehicle assumed to be the length of a standard 12.5m HRV). This would require a length of around 70 – 80m rather than 140m specified in the CTMP. Please ensure the justification for the length and requirement of a work zone along the site frontage is specified/incorporated in the CTMP for further review by Council's Transport Department.

Kind regards,

Alex

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City of Ryde

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North Ryde Office Riverview Business Park, Building 0, Level 1, 3 Richardson Place, North Ryde

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From: Onneile Matlapeng [mailto:onneile.matlapeng@robertspizzarotti.com]
Sent: Thursday, 6 August 2020 11:20 AM
To: Julien Quan; Yafeng (Alex) Zhu
Cc: Yafeng (Alex) Zhu; John Begley; Brett Maynard; Sam Hamilton; Mackenzie Brinums; Todd Thornton; Damian Vella
Subject: [SUSPICIOUS MESSAGE] RE: Schools @ Meadowbank Education and Employment Precinct - Main Works CTPMP CRM:0181808

This Message contains suspicious characteristics and has originated outside your organization.

Hi Alex, Julien,

Thank you for meeting with us on Monday 3 August 2020, to discuss the Meadowbank School.
We request an interim approval from City of Ryde with any conditions listed, for Roberts Pizzarotti to address.

We attach with our email, a revised CTPMP rev3, updated to include evidence of stakeholder consultation.

Please contact us should you have any queries.

Kind Regards,
Onneile Matlapeng
Senior Project Engineer

roberts pizzarotti

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From: Todd Thornton <todd.thornton@robertspizzarotti.com>
Sent: Thursday, 30 July 2020 10:04 AM
To: Mackenzie Brinums <Mackenzie.Brinums@gta.com.au>; Julien Quan <JQuan@ryde.nsw.gov.au>
Cc: Yafeng (Alex) Zhu <YZhu@ryde.nsw.gov.au>; John Begley <JBegley@ryde.nsw.gov.au>; Brett Maynard <brett.maynard@gta.com.au>; Sam Hamilton <sam.hamilton@robertspizzarotti.com>; Onneile Matlapeng <onneile.matlapeng@robertspizzarotti.com>
Subject: RE: Schools @ Meadowbank Education and Employment Precinct - Main Works CTPMP CRM:0181808

Hi Julien

Thanks for your comments on the Main Works CTPMP. Please see below comments in green for your consideration. Please also find attachments referenced in the below response. Look forward to receiving your feedback.

1. **Work Zone**: The CTPMP proposed a 140m work zone along Rhodes Street at the cost of ~23 parking spaces. Please clarify why the work zone is required, considering the subject site is not constrained in terms of size. The significant loss of parking over a prolong period of time is unlikely to be supported by Council as parking in the vicinity is at/near capacity. Please consider reducing the size of the work zone to accommodate one heavy vehicle at any time and also clarify the duration of the work zones. Please note that Council charge the work zone on a per meter per month basis. **Due to the topography of the site, we are limited with loading/ unloading on-site. The tower cranes to service the project are required to pick up and unload utilising a combination of Rhodes St and the site. We also note that post occupation of the development, street parking will be removed.**

- **A 'workzone' on Rhodes Street is required for the construction works and the unloading of construction vehicles via the tower cranes both red and yellow, refer to CMP drawings titled: ' Site Establishment – Main Works Stage 3'**
  - **The attached document titled: ' Preliminary Construction Management Plan' that was part of the SSDA documentation on page 18 talks about the closure of the entire frontage of Rhodes St. This has been considered and reduced to the length to the length of 140m. 'Closure of the footpath along the entire frontage of the site to Rhodes Street. This zone would be used primarily for queuing of waiting trucks, to reduce congestion. A Works Zone Permit issued by Ryde Council will be necessary for this to occur.'**

- **The building site area where construction works of has solid surfaces are takes up a significant amount of site area, also during construction we have to provide site accommodation and facilities for the workforce and management staff of the project. So overall site area for trucks within the site is restricted.**

2. **Parking Provision**: It is proposed to have 24 parking spaces to accommodate for the demand of 300-450 workers. Whilst the CTPMP stated that no workers are permitted to park in the vicinity, it would be impossible to manage or enforce that requirement. Please provide a break down of number of workers and available parking provisions on-site for different stages. More parking spaces should be made available at early stages and also when the basement car park is constructed. Please also explore other alternatives for providing parking, e.g. negotiate with TAFE to arrange parking for construction workers.
   All workers travel arrangements will be monitored by Roberts Pizzarotti to ensure public transport is utilised where possible. The site is unable to accommodate large quantities of parking on due to:

- **The nature of the programme and sequencing of the works does not allow for large areas of car parking to be provided. Please note there is a peak of resources of 350+ only for a few months, and either side of this peak will be less numbers.**
- **Temporary Site Accommodation for 350+ workers (COVID 19 requires social distancing of workers significantly increasing accommodation requirements) and office facilities for a team of management staff need to be provided on the site, further reducing available car parking space;**
- **Roberts Pizzarotti propose to consult with City of Ryde Traffic Department on an ongoing basis to monitor the surrounding road network parking situation to ensure site compliance with this CTPMP. Should there be failings identified, as per the Early Works CTPMP approval letter, City of Ryde reserve the right to impose alterations to the approved CTPMP.**
- **The site accommodation and amenities has been set up at the southern end of the project as being the closest walking distance to Meadowbank train station. Please refer to CMP drawing titled: ' Site Establishment – Main Works Stage 3', area highlighted in purple.**

- **Our induction and communications with the subcontractors and workforce strongly encourages the use of public transport to the site being the train or bus.**
- **The building site area where construction works are to take place takes up approximately 70% of site area and the materials handling, logistics and construction works plus the topography of the site and the landscaping and trees that are to be retained doesn't allow for an increased carparking quantities onsite. Please refer to the attached site plan drawing number: MSP-WB-AR-11002.**

3. **Truck Volume**: The CTPMP proposed on average 40 heavy vehicles per day (in total 80 movements) and peak 90 heavy vehicles per day, which is equivalent to 10/24 per hour for average/peak. This would have a significant impact on the efficiency of the network, considering that traffic controllers is required for 19m articulated vehicles. **19m articulated vehicles are for intermittent large deliveries of machinery/materials. These vehicles will be used outside of peak road network hours, under traffic control guidance. it's estimated the peak activity would likely result in 1-2 semi's per hour.** Please provide a break down of the truck size per hour for all stages. **Refer attached.** Furthermore, Council's preference is to minimise the movements during peak periods (say 10 movements per hour) **This cannot always be accommodated due to the nature of the project (for example large concrete pours), however where this is possible this will be implemented.** and restrict 19m articulated vehicles' movement to outside of peak hours only. **(this can be accommodated where possible)** Please also consider reducing the number of truck movements per day.
   The Transport and Accessibility Impact Assessment submitted to support the SSDA for the school indicates the school is expected to generate 220 vehicle movements in the AM peak hour in 2022. The traffic generation for the proposed construction works is considered minor in comparison. Conservatively assuming one heavy vehicle is equivalent to three passenger car units on average, 24 heavy vehicle movements per hour during peak activity could be considered equivalent to 72 car movements per hour, less than a third of the anticipated traffic generation of the school post occupation.

1. **19m Articulated Vehicles**: The swept path analysis shows that Mellor Street, Rhodes Street and Hermitage Street is not capable of handling this type of vehicle. We have great concerns regarding whether the proposed movements are safe and whether they would cause significant delays to other road users. Please consider use truck and dogs only, or clarify why the semis are required, and how much would be access the site during different stages. These movements should be minimised as much as possible. **Truck and dog**

movements will be minimal following the Early Works stage of the project, and will not be a common vehicle going forward. Reinforcement, structure and fit out related materials are required to be delivered on semis and cannot be delivered on smaller vehicle sizes.

1. Mellor Street: The CTPMP proposed to use traffic controllers on Mellor Street to assist with the left turning movement from Victoria Road. Under this arrangement, how would one safely manage the driveways and parked vehicles along the western side of Mellor St to the north of the TC, when the semi is entering from Victoria Rd? This is a major safety concern. **The 19m vehicle to navigate this corner will be travelling very slow (will be loaded), so by nature will reduce potential for collision of parked vehicles and driveways. The swept paths demonstrate there is no conflict between semis turning left into Mellor St from Victoria Road with parked cars on the western side of the road. The swept path also indicates the semi is back on the correct side of the road by time it reaches the northern most driveway on the western side of Mellor Street and therefore a traffic controller at this location would be able to stop any northbound vehicles on Mellor Street and any exiting vehicles from this driveway. Any vehicles exiting the driveway on the eastern side of the road are required to give way to any vehicles on Mellor Street.**
2. Hermitage/Rhodes: The turning movement at the bend requires traffic controller to temporary stop the traffic. This will have an detrimental impact on the efficiency of the network if there will be high frequency semi movements throughout the day. Please clarify the breakdown of truck size as mentioned above. **Semi's would account for up to 1-2 vehicles per hour at peak. Mellor Street, Rhodes Street and Hermitage Road are minor local roads which experience low volumes throughout the day and minor delays a couple of times and hour will have a negligible impact on operation of these roads.**
3. Access via the gate: The outbound swept path shows that a semi would require a much larger gap in the traffic when egressing the site, comparing to a truck&dog. How would this be managed, especially if the inbound and outbound movements are conflicting? Any queuing/marshalling of heavy vehicles on public road is strictly prohibited**. Radio communications with the traffic controllers will manage this intermittent movement, with inbound vehicles to be prioritised to avoid queuing on Rhodes Street. The 'workzone' to Rhodes St can assist where vehicles do not enter site and reduce the potential conflict of inbound and outbound to the site as they can be unloaded via tower crane.**
4. Outbound Swept Path: No outbound swept path of 19m Articulated vehicle is provided. Please clarify the route that this type of vehicle will adopt and provide the corresponding swept path analysis. **The swept paths attached to the CTPMP include a semi exiting via gate 1, turning right from Rhodes into Hermitage and right onto Victoria Road (Sheets 3, 6 and 10 of Appendix A). Semis will not access Gate 3.**

Regards

Todd Thornton
Senior Project Engineer

roberts pizzarotti

Roberts Pizzarotti Pty Ltd
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From: Mackenzie Brinums <Mackenzie.Brinums@gta.com.au>
Sent: Monday, 27 July 2020 2:21 PM

To: Julien Quan <JQuan@ryde.nsw.gov.au>
Cc: Yafeng (Alex) Zhu <YZhu@ryde.nsw.gov.au>; John Begley <JBegley@ryde.nsw.gov.au>; Brett Maynard <brett.maynard@gta.com.au>; Sam Hamilton <sam.hamilton@robertspizzarotti.com>; Todd Thornton <todd.thornton@robertspizzarotti.com>; Onneile Matlapeng <onneile.matlapeng@robertspizzarotti.com>
Subject: RE: Schools @ Meadowbank Education and Employment Precinct - Main Works CTPMP CRM:0181808

Hi Julien

Thanks for the comments below. As discussed just now, it may be better to work through Roberts Pizzarotti's construction management plan and the comments below in a meeting. You mentioned Council is still working from home so it's likely this will need to be via MS Teams. Can you please indicate availability during the following times and I'll send out an invite:

- 3pm-5pm Wednesday 29 July
- 11am-3pm Thursday 30 July.

Thanks

Mackenzie Brinums
Senior Consultant
GTA Consultants
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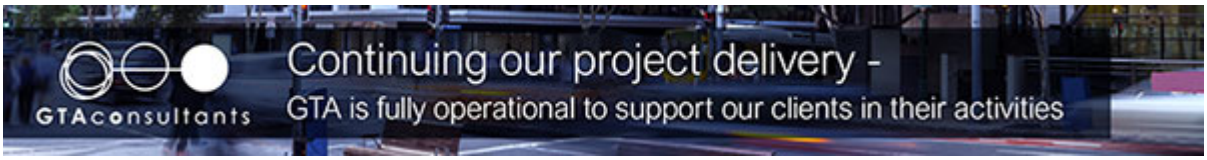
To read GTA's update to clients and industry partners on our response to COVID-19, please click here.



From: Julien Quan <JQuan@ryde.nsw.gov.au>
Sent: Wednesday, 22 July 2020 5:27 PM
To: Mackenzie Brinums <Mackenzie.Brinums@gta.com.au>
Cc: Yafeng (Alex) Zhu <YZhu@ryde.nsw.gov.au>; John Begley <JBegley@ryde.nsw.gov.au>
Subject: RE: Schools @ Meadowbank Education and Employment Precinct - Main Works CTPMP CRM:0181808

Hi Mackenzie,

I've noticed that the main work CTPMP is proposing some major changes to the approved early works CTPMP and thus we require the following further information to be provided:

- **Work Zone**: The CTPMP proposed a 140m work zone along Rhodes Street at the cost of ~23 parking spaces. Please clarify why the work zone is required, considering the subject site is not constrained in terms of size. The significant loss of parking over a prolong period of time is unlikely to be supported by Council as parking in the vicinity is at/near capacity. Please consider reducing the size of the work zone to accommodate one heavy vehicle at any time and also clarify the duration of the work zones. Please note that Council charge the work zone on a per meter per month basis.
- **Parking Provision**: It is proposed to have 24 parking spaces to accommodate for the demand of 300-450 workers. Whilst the CTPMP stated that no workers are permitted to park in the vicinity, it would be impossible to manage or enforce that requirement. Please provide a break down of number of workers and available parking provisions on-site for different stages. More parking spaces should be made available at early stages and also when the basement car park is constructed. Please also explore other alternatives for providing parking, e.g. negotiate with TAFE to arrange parking for construction workers.

- **Truck Volume**: The CTPMP proposed on average 40 heavy vehicles per day (in total 80 movements) and peak 90 heavy vehicles per day, which is equivalent to 10/24 per hour for average/peak. This would have a significant impact on the efficiency of the network, considering that traffic controllers is required for 19m articulated vehicles. Please provide a break down of the truck size per hour for all stages. Furthermore, Council's preference is to minimise the movements during peak periods (say 10 movements per hour) and restrict 19m articulated vehicles' movement to outside of peak hours only. Please also consider reducing the number of truck movements per day.
- **19m Articulated Vehicles**: The swept path analysis shows that Mellor Street, Rhodes Street and Hermitage Street is not capable of handling this type of vehicle. We have great concerns regarding whether the proposed movements are safe and whether they would cause significant delays to other road users. Please consider use truck and dogs only, or clarify why the semis are required, and how much would be access the site during different stages. These movements should be minimised as much as possible.
    - Mellor Street: The CTPMP proposed to use traffic controllers on Mellor Street to assist with the left turning movement from Victoria Road. Under this arrangement, how would one safely manage the driveways and parked vehicles along the western side of Mellor St to the north of the TC, when the semi is entering from Victoria Rd? This is a major safety concern.
    - Hermitage/Rhodes: The turning movement at the bend requires traffic controller to temporary stop the traffic. This will have an detrimental impact on the efficiency of the network if there will be high frequency semi movements throughout the day. Please clarify the breakdown of truck size as mentioned above.
    - Access via the gate: The outbound swept path shows that a semi would require a much larger gap in the traffic when egressing the site, comparing to a truck&dog. How would this be managed, especially if the inbound and outbound movements are conflicting? Any queuing/marshalling of heavy vehicles on public road is strictly prohibited.
    - Outbound Swept Path: No outbound swept path of 19m Articulated vehicle is provided. Please clarify the route that this type of vehicle will adopt and provide the corresponding swept path analysis.

Kind regards,
Julien

Julien Quan
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From: Mackenzie Brinums [mailto:Mackenzie.Brinums@gta.com.au]
Sent: Thursday, 16 July 2020 8:40 AM
To: Julien Quan
Cc: Yafeng (Alex) Zhu; Brett Maynard; Onneile Matlapeng; Todd Thornton; Sam Hamilton
Subject: Schools @ Meadowbank Education and Employment Precinct - Main Works CTPMP CRM:0181808

Hi Julien

We've now developed the Main Works CTPMP for the Meadowbank Schools project which builds on the methodology from the Early Works CTPMP. Are you able to please review and let us know if any comments?

Please don't hesitate to call if you have any queries and let us know if there's any way we can speed up the approval process.

Thanks
Mack

Mackenzie Brinums
Senior Consultant
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www.gta.com.au

To read GTA's update to clients and industry partners on our response to COVID-19, please click here.

F. SIGNAGE PLAN

F

EXISTING SIGNAGE SCHEDULE

R5-400 (LR) R5-400 (L) R5-400 (R) R5-23 (L)

R5-23 (R)

RELOCATED/ NEW SIGNAGE SCHEDULE

R5-400 (LR)	R5-400 (L)	R5-400 (R)
x1 NEW	x2 RELOCATED	x3 RELOCATED

NOTE:
- IT IS NOTED THAT THESE ARE TEMPORARY SIGNAGE ARRANGEMENT FOR THE CONSTRUCTION WORKS AT 2 RHODES STREET, MEADOWBANK

NEARMAP AERIAL IMAGE DATED 18 APRIL 2020

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Brisbane 07 3113 5000
Adelaide 08 8334 3600
Perth 08 6169 1000

nearmap.com

PRELIMINARY PLAN
FOR DISCUSSION PURPOSES ONLY SUBJECT TO CHANGE WITHOUT NOTIFICATION

WARNING
BEWARE OF UNDERGROUND SERVICES
THE LOCATIONS OF UNDERGROUND SERVICES ARE APPROXIMATE ONLY AND THEIR EXACT POSITION SHOULD BE PROVEN ON SITE. NO GUARANTEE IS GIVEN THAT ALL EXISTING SERVICES ARE SHOWN.

DESIGNED R.ZHANG	DESIGN CHECK M.BRINUMS
APPROVED BY B.MAYNARD	DATE ISSUED 18 AUGUST 2020

SCALE A3 0 5 10 20 1:1000

CAD FILE NO. N183630-06-P2.DWG

SCHOOLS AT MEADOWBANK EDUCATION AND EMPLOYMENT PRECINCT
2 RHODES STREET, MEADOWBANK
SIGNAGE PLAN

DRAWING NO. N183630-06-01 SHEET 01 OF 01 ISSUE P2

GTAconsultants

www.gta.com.au

Post Approval – Consultation

Consultation needs to be meaningful, done with courtesy and respect and be well documented. These are people/ organisations that we need to be building meaningful relationships with.

Conditions of all consent can require consultation with a range of stakeholders. Consultation in the post approval world needs to be well documented to satisfy the condition requirements.

Examples include Council, service providers (eg. Electricity gas etc.), consult with local bus provider and TfNSW.

Read each condition carefully, any reference to consult triggers consultation.

Typically on State Significant Development, there will be a specific consultation condition as to how this piece can be appropriately addressed.

Consultation is not:

- A token gesture
- Done at the end of the piece of work,
- An email to the relevant stakeholder with no response;
- A meeting with the stakeholder with no meeting minutes.

Consultation is:

- Meaningful
- Done prior to the requirement,
- Captures an outcome,
- Identifies matters resolved,
- Identifies matters unresolved,
- Any disagreements are disclosed; and
- How we are going to address unresolved matters?

How to capture all the relevant details on consultation requirements? Any consultation requirement in a condition is required to be accompanied with the following table:

Education
School Infrastructure

Post Approval Consultation Record

Identified Party to Consult:	City of Ryde and TfNSW
Consultation type:	Email Correspondence and Virtual Meeting held
When is consultation required?	Prior to approval of CTPMP
Why	Condition B13 of SSD9394
When was consultation scheduled/held	29 May 2020 16 July 2020 3 August 2020 7 August 2020 14 August 2020 21 August 2020 October 2020 (multiple dates) 11 November 2020 13 November 2020
When was consultation held	29 May 2020 16 July 2020 3 August 2020 7 August 2020 14 August 2020 21 August 2020 October 2020 (multiple dates) 11 November 2020 13 November 2020
Identify persons and positions who were involved	City of Ryde – Yafeng Zhu; Julien Quan; John Begley GTA- Brett Maynard; Mackenzie Brinums TfNSW – Mitch Ryan RP- Onneile Matlapeng; Todd Thornton; Sam Hamilton; Damian Vella
Provide the details of the consultation	As part of the Remediation LDA2019/0436 the CTPMP for Meadowbank School project was submitted to City of Ryde. On 29 May 2020, the Early Works CTPMP was approved by City of Ryde. The updated CTPMP was submitted to City of Ryde for the main works SSD9343 Condition B13 on 16 July 2020. Comments were received on 22 July 2020. A meeting was convened to address the City of Ryde comments on the 3 August 2020. City of Ryde, GTA, TfNSW and Roberts Pizzarotti attended the virtual meeting. A revised CTPMP was submitted on 14 August 2020, addressing City of Ryde concerns.

	On 21 August 2020, City of Ryde provided an Interim Approval CTPMP with multiple conditions listed. During October 2020, Roberts Pizzarotti, applied for Road Use Permits, Work Zone Permits; Hoarding Permits etc. These were part Ryde Council listed conditions of the Interim Approval CTPMP. The permits were granted by City of Ryde during October 2020. On 11 November 2020, City of Ryde, undertook a inspection of all the installed & relocated temporary road signage. On the 13 November 2020, City of Ryde issued the Final Approval of the CTPMP Rev A (dated 18 August 2020).
What specific matters were discussed?	Work Zone Parking Provisions Truck Volumes 19m articulated vehicles. (Refer Appendix E Stakeholder Communications of CTPMP for email attachments of items discussed) All matters above were resolved on the 13 November 2020, with Final Approval of the CTPMP Rev A(dated 18 August 2020) granted by City of Ryde.
What matters were resolved?	The following matters were addressed in the revised CTPMP. Parking Provisions Use of 19m articulated Work Zone Truck volumes. All matters above were resolved on the 13 November 2020, with Final Approval of the CTPMP Rev A(dated 18 August 2020) granted by City of Ryde.
What matters are unresolved?	None confirmed. Final Approval of the CTPMP Rev A (dated 18 August 2020) was granted on 13 November 2020.
Any remaining points of disagreement?	None confirmed. Final Approval of the CTPMP Rev A (dated 18 August 2020) was granted on 13 November 2020.
How will SINSW address matters not resolved?	Not applicable.

Appendix 12 – Unexpected Finds Protocol for Aboriginal & Non-Aboriginal Heritage

URBIS

ABORIGINAL CULTURAL HERITAGE – LEGISLATIVE REQUIREMENTS

NATIONAL PARKS AND WILDLIFE ACT 1974 (NPW ACT)

- **Primary legislation for the protection of Aboriginal cultural heritage in New South Wales.**
- **Provides statutory protection for Aboriginal objects by making it illegal to 'harm' or desecrate Aboriginal objects and Aboriginal places.**
- **Penalties include:**

❑ **Harm or desecration of an object that the person knows is an Aboriginal object**

Individual - $275,000 - $550,000/ maximum 1-2 years imprisonment

Corporation - $1,100,000

❑ **Harm an Aboriginal object**

Individual - $55,000 - $110,000

Corporation - $220,000

❑ **Harm or desecrate an Aboriginal place**

Individual - $550,000/ maximum imprisonment 2 years

Corporation - $1,100,000

"Aboriginal object":

Any deposit, object or material evidence relating to the Aboriginal habitation of the area that comprises New South Wales, being habitation before or concurrent with (or both) the occupation of that area by persons of non-Aboriginal extraction, and includes Aboriginal remains.

"Aboriginal place":

Any place declared to be an Aboriginal place under section 84 of the NPW Act.

Such places are declared by the Minister, and published in the Gazette, as being or having been of special significance with respect to Aboriginal culture.

"Harm":

Destruction, defacing or damaging an Aboriginal object or place; or

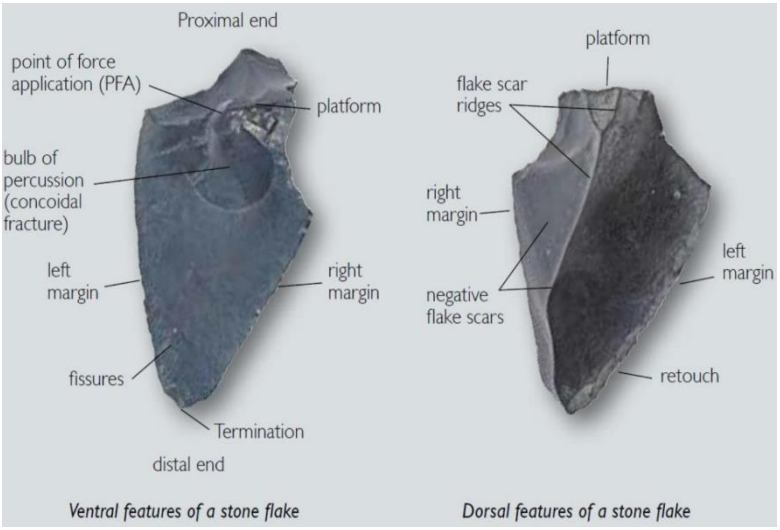
Moving the object from the location in which it is situated.

URBIS

CULTURAL HERITAGE SITE TYPES – MAY BE FOUND DURING WORKS

ABORIGINAL STONE ARTEFACTS

- Several types of stone were used by Aboriginal people to create tools for many everyday uses, such as cutting meat and vegetation, or as tips on the ends of spears.
- Commonly used stone types flaked to produce stone tools are fine-grained materials including quartz, quartzite, silcrete and chert.
- These artefacts will look like rocks, but often with distinctive sharp edges or other features as shown in the image at right.
- If suspected stone artefacts are found they must be managed in accordance with the NPW Act.



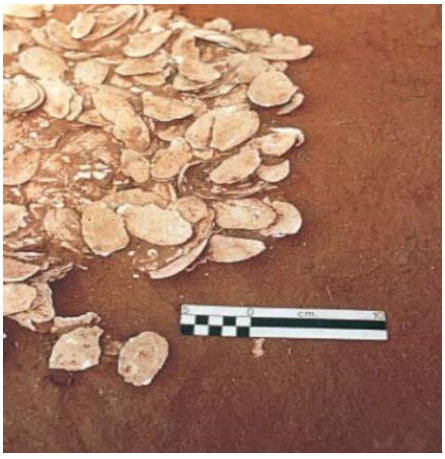
If stone artefacts are thought to be found, follow the Chance Finds Procedure

URBIS

CULTURAL HERITAGE SITE TYPES – MAY BE FOUND DURING WORKS

MIDDENS

- The diet of Aboriginal people living along the coast or along watercourses often included many species of shellfish.
- Large dumps of shells discarded after eating the contents are called 'middens'.
- Middens can include large quantities of shells, charcoal, ash, stone artefacts, plant remains, stone, bone and sometimes burials.
- It is unlikely middens will be found during works, but if large collections of shell are found it could be a midden.
- Any such finds require management under the NPW Act.



If a midden is thought to be found, follow the Chance Finds Procedure

URBIS

CULTURAL HERITAGE SITE TYPES – MAY BE FOUND DURING WORKS

GRINDING GROOVES

- Elongated, oval-shaped indentations in stone outcrops, usually sandstone.
- Formed by grinding stone tools, such as axe heads, along the sandstone to create a sharp cutting edge.
- Generally found along watercourses or water bodies (rivers, lakes, swamps), along drainage lines, or where water accumulates during and after rain such as sandstone ledges or outcrops. Water was essential in the sharpening process to make the stone more abrasive and also to reduce dust.
- Can range in size from 80 to 500mm length (roughly).
- Usually found in clusters. Rarely found as a single grinding groove.

Greenstone Axes before and after Grinding

If grinding grooves are thought to be found,
follow the Chance Finds Procedure

URBIS

ARCHAEOLOGICAL FINDS PROCESS

NEW DISCOVERY IS MADE

STOP WORK IN VICINITY OF FIND

- Work stops upon discovery. Discovery is **not moved**.
- Contact Urbis Principal Archaeologist Balazs Hansel on 0499 986 833 to discuss, assess the find, and provide further instruction.

HUMAN SKELETAL REMAINS

- Contact NSW Police on 131 444 and Enviroline 131 555 for further instructions and assessment.
- No works to continue in the vicinity of the find until directed by the Police.

- Works recommence upon direction of NSW Police

SUSPECTED ARCHAEOLOGICAL MATERIAL

Not Archaeological Material

- Find assessed by archaeologist as **not** archaeological material. Works can recommence with caution.

Archaeological Material

- Find assessed by archaeologist as archaeological material.

Not Potentially Significant

- Archaeologist determines the find is unlikely to be significant.
- Find is recorded by archaeologist if necessary
- Works recommence upon instruction by archaeologist.

Potentially Significant

- Archaeologist determines the find is likely to be significant.
- Archaeologist to advise on process required, which may include:
  - Consultation with Aboriginal Groups and the Aboriginal Cultural Heritage Regulation Branch of the Department of Premier and Cabinet
  - Notification to the Aboriginal Cultural Heritage Regulation Branch, Department of Premier and Cabinet
  - Archaeological Excavation
- Works do not proceed until directed by archaeologist

Appendix 13 – Construction Soil and Water Management Sub-Plan

roberts pizzarotti

Construction Soil and Water Management Plan
Schools at Meadowbank Education and Employment Precinct

November 2020

Document Details

Title	Construction Soil and Water Management Plan
Client	School Infrastructure NSW (SINSW)
Principal Contractor	Roberts Pizzarotti Pty Ltd.
Roberts Pizzarotti Project No.	E19024
ABN	61 620 108 483
Project Address	2 Rhodes Street, Meadowbank NSW 2114

Document Authorisation

Damian Vella	**Darrin Lane**	**Todd Thornton**
PROJECT MANAGER	**SITE MANAGER**	**SENIOR PROJECT ENGINEER**
18.11.2020	18.11.2020	18.11.2020
Date	**Date**	**Date**

CONTEXT

This Construction Soil and Water Management procedure forms part of the Construction Environmental Management Plan.

This Environmental Sub Plan has been prepared to address the requirements of Condition B16

B16. The Applicant must prepare a Construction Soil and Water Management Plan (CSWMSP) and the plan must address, but not be limited to the following:

(a) be prepared by a suitably qualified expert, in consultation with Council;

(b) describe all erosion and sediment controls to be implemented during construction, including as a minimum, measures in accordance with the publication Managing Urban Stormwater: Soils & Construction (4th edition, Landcom 2004) commonly referred to as the 'Blue Book';

(c) provide a plan of how all construction works will be managed in a wet-weather events (i.e. storage of equipment, stabilisation of the Site);

(d) detail all off-Site flows from the Site; and

(e) describe the measures that must be implemented to manage stormwater and flood flows for small and large sized events, including, but not limited to 1 in 5-year ARI and 1 in100- year ARI.

- **School at the Meadowbank Education and Employment Precinct (SSD 9343): Submission of Construction Soil and Water Management Plan in accordance with Condition B16**

Condition	Condition requirements	Document reference
B16	The Applicant must prepare a Construction Soil and Water Management Plan (CSWMSP) and the plan must address, but not be limited to the following:	
	(a)be prepared by a suitably qualified expert, in consultation with Council;	The Soil and Erosion Control plans MSP-EN-CV-0401 and MSP-EN-CV-0451 prepared by Enstruct have been provided to council as part of the Early Works, and confirmed by City of Ryde as satisfactory, email correspondence received 18.06.2020 The Soil and Erosion Control plans MSP-EN-CV-0401 and MSP-EN-CV-0451 prepared by Enstruct have been provided to council as part of Condition B29 and B30, City of Ryde have confirmed these are satisfactory email correspondence received 22.07.2020. **pg3 - 4** Phillip Lambey, Director (Civil) of Enstruct is a Chartered Practicing Engineer (CPEng) and a member of the National Engineers Register (NER) has prepared Verification Statement dated 23 July 2020 confirming that Details contained within Sediment & Erosion Control drawings MSP-EN-CV-00401 and MSPEN- CV-00451 demonstrate compliance with Condition B16 The B16 pack was reissued to City of Ryde, with a response received 23 Sep 2020, the email confirming that the consultation with City of Ryde has been completed.
	(b)describe all erosion and sediment controls to be implemented during construction, including as a minimum, measures in accordance with the publication Managing Urban Stormwater: Soils &	Refer Enstruct drawings, MSP-EN-CV-0401 and MSP-EN-CV-0451; **pg5 – 6**

	Construction (4th edition, Landcom 2004) commonly referred to as the 'Blue Book';	
	(c)provide a plan of how all construction works will be managed in a wet-weather events (i.e. storage of equipment, stabilisation of the Site);	Refer Wet Weather Construction Works Plan; **pg9 - 17**
	(d) detail all off-Site flows from the Site; and	Refer Enstruct drawings, MSP-EN-CV-0401 and MSP-EN-CV-0451; **pg5 - 6**
	(e)describe the measures that must be implemented to manage stormwater and flood flows for small and large sized events, including, but not limited to 1 in 5-year ARI and 1 in 100- year ARI.	Refer Enstruct Statement and detail; **pg7-8**

Post Approval – Consultation

Consultation needs to be meaningful, done with courtesy and respect and be well documented. These are people/ organisations that we need to be building meaningful relationships with.

Conditions of all consent can require consultation with a range of stakeholders. Consultation in the post approval world needs to be well documented to satisfy the condition requirements.

Examples include Council, service providers (eg. Electricity gas etc.), consult with local bus provider and TfNSW.

Read each condition carefully, any reference to consult triggers consultation.

Typically on State Significant Development, there will be a specific consultation condition as to how this piece can be appropriately addressed.

Consultation is not:

- A token gesture
- Done at the end of the piece of work,
- An email to the relevant stakeholder with no response;
- A meeting with the stakeholder with no meeting minutes.

Consultation is:

- Meaningful
- Done prior to the requirement,
- Captures an outcome,
- Identifies matters resolved,
- Identifies matters unresolved,
- Any disagreements are disclosed; and
- How we are going to address unresolved matters?

How to capture all the relevant details on consultation requirements? Any consultation requirement in a condition is required to be accompanied with the following table:

Post Approval Consultation Record

Identified Party to Consult:	City of Ryde Council
Consultation type:	Email correspondence
When is consultation required?	Prior to commencement of construction
Why	Condition B16 of SSD9394
When was consultation scheduled/held	18 June 2020 22 July 2020 20 August 2020 23 September 2020
When was consultation held	18 June 2020 22 July 2020 20 August 2020 23 September 2020
Identify persons and positions who were involved	Onneile Matlapeng – Senior Project Engineer (Roberts Pizzarotti) Manel Mariner – Senior Engineer (City of Ryde)
Provide the details of the consultation	Email correspondence providing sediment and erosion controls plans for both the early works DA and SSD. The same plan was utilised for both planning pathways. The B16 package was issued again to City of Ryde for feedback and comments. A response received 23 Sep 2020, the email confirming that the consultation with City of Ryde has been completed.
What specific matters were discussed?	The Soil and Erosion Control plans MSP-EN-CV-0401 and MSP-EN-CV-0451 prepared by Enstruct have been provided to council as part of the Early Works, and confirmed by City of Ryde as satisfactory, email correspondence received 18.06.2020 The Soil and Erosion Control plans MSP-EN-CV-0401 and

	MSP-EN-CV-0451 prepared by Enstruct have been provided to council as part of Condition B29 and B30, City of Ryde have confirmed these are satisfactory email correspondence received 22.07.2020. The B16 pack was reissued to City of Ryde on 20.08.2020. A response received 23 Sep 2020, the email confirming that the consultation with City of Ryde has been completed.
What matters were resolved?	City of Ryde confirmed the Soil and Erosion Control plans were satisfactory for both Early works and SSD.
What matters are unresolved?	None The final B16 package was provided to City of Ryde for feedback. A response received 23 Sep 2020, the email confirming that the consultation with City of Ryde has been completed.
Any remaining points of disagreement?	No remaining points of disagreement.
How will SINSW address matters not resolved?	None remaining. A response received 23 Sep 2020, the email confirming that the consultation with City of Ryde has been completed.

23/07/2020

McKenzie Group
Level 6
189 Kent Street
Sydney NSW 2000

For the attention of: - Elie Ishac

Dear Elie,

Meadowbank Education and Employment Precinct Schools Project (SSD 9343):
Conditions A8 and B16a

We hereby confirm that Sediment & Erosion Control drawings MSP-EN-CV-00401 and MSP-EN-CV-00451 submitted to demonstrate compliance with Condition B16, have also been provided to City of Ryde under Condition B29 and B30.

City of Ryde has confirmed via email received 22 July 2020 (attached) that the drawings are satisfied, under B29 and B30.

We hereby provide this statement to demonstrate our consultation with Council.

We confirm that consultation has been done in accordance with Condition A8 and B16a

Yours sincerely,
for
enstruct group pty ltd

Phillip Lambley, CPEng, NER,
Director – Civil

Attachments: Correspondence from Manel Mariner (City of Ryde)

Tim Henderson

From: Onneile Matlapeng <onneile.matlapeng@robertspizzarotti.com>
Sent: Thursday, 23 July 2020 12:08 PM
To: Tim Henderson; Nathaniel Ko
Cc: Martin O'Shea; Nathaniel Ko; Damian Vella
Subject: FW: SSD9343 Condition B29 and B30 _ 2 Rhodes Street Meadowbank [Filed 23 Jul 2020 12:21]
Attachments: MSP-EN-CV-00851-09.pdf; MSP-EN-CV-00852-09.pdf; MSP-EN-CV-00853-09.pdf; MSP-EN-CV-00901-01 (6).pdf; 200720 Civil Design Statement (1) Consition B29 and B30.pdf; MSP-EN-CV-00201-13.pdf; MSP-EN-CV-00202-3.pdf; MSP-EN-CV-00203-3.pdf; MSP-EN-CV-00204-3.pdf; MSP-EN-CV-00401-13 (7).pdf; MSP-EN-CV-00451-10 (6).pdf

Hi Tim, Nathaniel,

We forward for your record, email from City of Ryde confirming that Enstruct drawings and Statement submitted for condition B29 and B30 have been accepted.

Kind Regards,
Onneile Matlapeng
Senior Project Engineer
roberts pizzarotti
Roberts Pizzarotti Pty Ltd
Level 54
Governor Phillip Tower
1 Farrer Place
Sydney NSW 2000
M +61 417 656 473

From: Manel Mariner <MMariner@ryde.nsw.gov.au>
Sent: Wednesday, 22 July 2020 1:44 PM
To: Onneile Matlapeng <onneile.matlapeng@robertspizzarotti.com>
Cc: Gasan Mohamad <GMohamad@ryde.nsw.gov.au>; Lidia Pajmakoska <LPajmakoska@ryde.nsw.gov.au>; Damian Vella <damian.vella@robertspizzarotti.com>; Marie Khoury <marie.khoury@robertspizzarotti.com>; Alicia Hunter <AHunter@ryde.nsw.gov.au>
Subject: RE: SSD9343 Condition B29 and B30 _ 2 Rhodes Street Meadowbank

Hi Onneile,

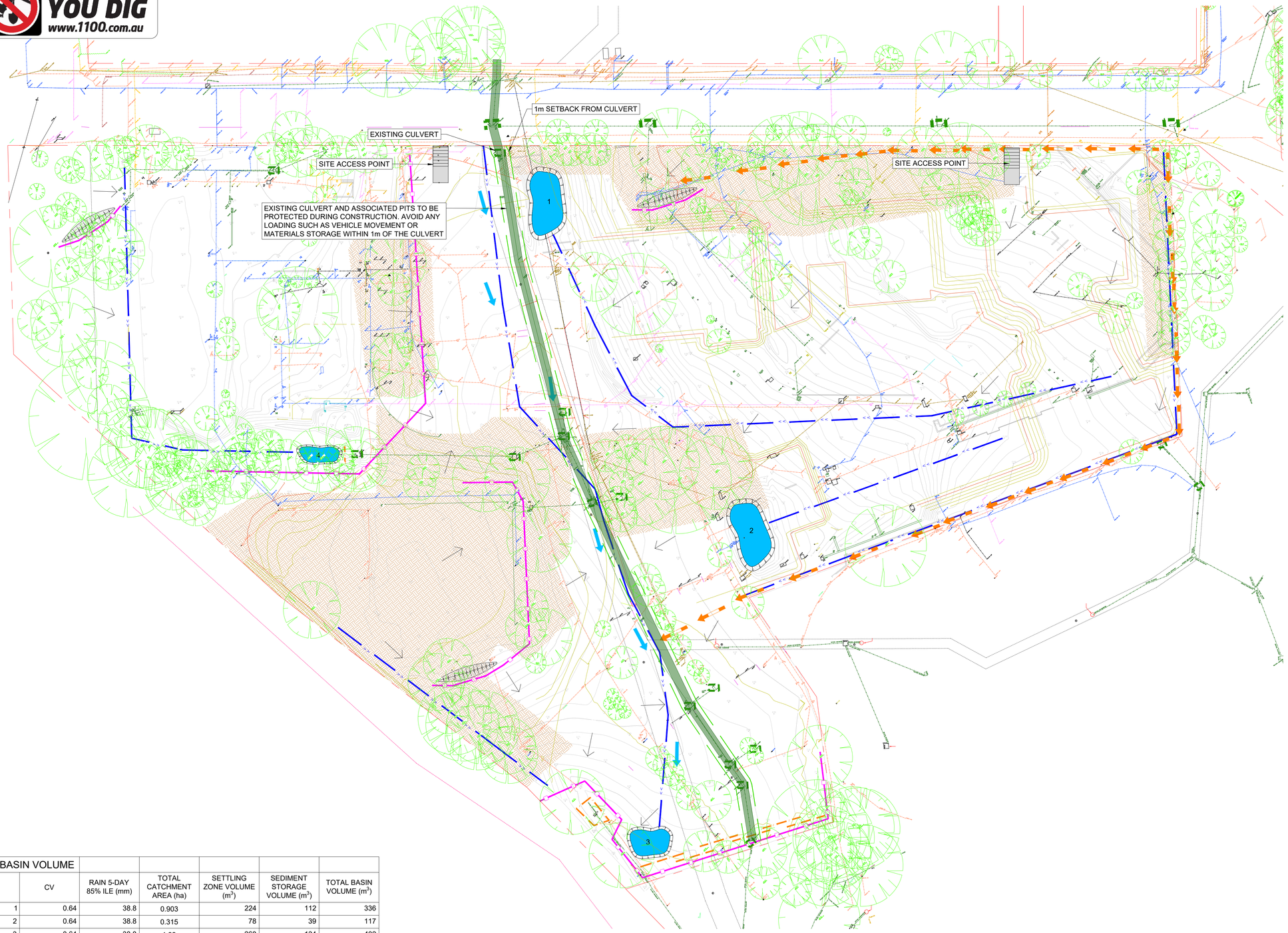
Hope this email finds you well.

I can confirm that conditions 29 and 30 are satisfied with the documents you provided (re-attached now)

Kind regards,

Manel Mariner
Senior Engineer - Stormwater and Floodplain Management
ASSETS & INFRASTRUCTURE
P (02) 9952 8289
M 0434 859 371
E MMariner@ryde.nsw.gov.au

DIAL BEFORE YOU DIG
www.1100.com.au



LEGEND:

- SITE BOUNDARY
- PROPOSED SEDIMENT FENCE
- PROPOSED TEMPORARY CATCH DRAIN
- PROPOSED STRAW BAIL SEDIMENT FENCE
- PROPOSED TEMPORARY SHAKER GRID AND WASH DOWN FACILITY
- TEMPORARY SANDBAGS AROUND PITS:
  1. AFTER PAVEMENT WORKS ARE COMPLETE IF WORKS ARE ONGOING UPSTREAM
  2. TO EXISTING GRATED PITS DOWNSTREAM OF CONSTRUCTION WORKS
- PROPOSED STRAW BALE AROUND PIT
- OPTIONAL STOCKPIPLE LOCATION WITH SEDIMENT FENCE
- PRIMARY OVERLAND FLOW DIRECTION
- SECONDARY OVERLAND FLOW DIRECTION
- FALL
- SEDIMENT BASIN
- PROPOSED CONTOURS
- EXISTING CONTOURS
- EXISTING CULVERT AND 1m BUFFER ZONE
- REFER TO LANDSCAPE ARCHITECT PLANS FOR EXISTING TREES TO BE RETAINED AS PART OF THE WORKS
- UNDISTURBED AREAS. REFER TO DRAWING MSP-CV-0901 FOR DETAILS

NOTE:
- REFER TO DRAWING: MSP-EN-CV-0451, FOR SEDIMENT AND EROSION CONTROL DETAILS

TOTAL BASIN VOLUME						
SITE	CV	RAIN 5-DAY 85% ILE (mm)	TOTAL CATCHMENT AREA (ha)	SETTLING ZONE VOLUME (m^3)	SEDIMENT STORAGE VOLUME (m^3)	TOTAL BASIN VOLUME (m^3)
1	0.64	38.8	0.903	224	112	336
2	0.64	38.8	0.315	78	39	117
3	0.64	38.8	1.08	268	134	402
4	0.64	38.8	0.855	212	106	318

TOPOGRAPHY SURVEYED AFTER DEMOLITION WORKS BY
' TOTAL SURVEY SOLUTIONS'
DATED 18/05/20
PLAN NUMBER 200850.0002

Recent revision history

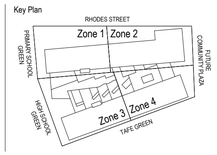
#	Status	Description	Date
01		ISSUE FOR INFORMATION	06/07/18
02		50% SD ISSUE	13/07/18
03		ISSUE FOR DEMOLITION	18/07/18
04		80% SD ISSUE	31/08/18
05		FOR COSTING	25/03/19
06		SSDA ISSUE	15/05/19
07		DRAFT 90% SD	29/05/19
08		SD ISSUE	14/06/19
09		ISSUED FOR APPROVAL	07/10/19
10		ISSUED FOR APPROVAL	11/10/19
11		CONSTRUCTION CERT.	13/05/20
12		CONSTRUCTION CERT.	14/05/20
13		CONSTRUCTION CERT.	29/05/20

Notes

Contractor must verify all dimensions on site before commencing work or preparing shop drawings.

Do not scale drawings.

Key Plan



Contractor
roberts pizzarotti

Project
MEADOWBANK EDUCATION AND EMPLOYMENT PRECINCT SCHOOLS PROJECT

Client
NSW GOVERNMENT Education School Infrastructure

Issuer
enstruct
enstruct group pty ltd
Level 4, 2 Glen Street, Milsons Point NSW 2061
Telephone (02) 8904 1444
http: //www.enstruct.com.au

Project number 5645
Size check 25mm
Checked TAH
Approved PAL
Sheet size A1
Scale 1:500

Sheet title
SEDIMENT AND EROSION CONTROL PLAN

Sheet number MSP-EN-CV-00401
Revision 13
Status CONSTRUCTION CERT.

Date generated 15/05/2020 11:21:09 AM ----

EROSION AND SEDIMENT CONTROL:

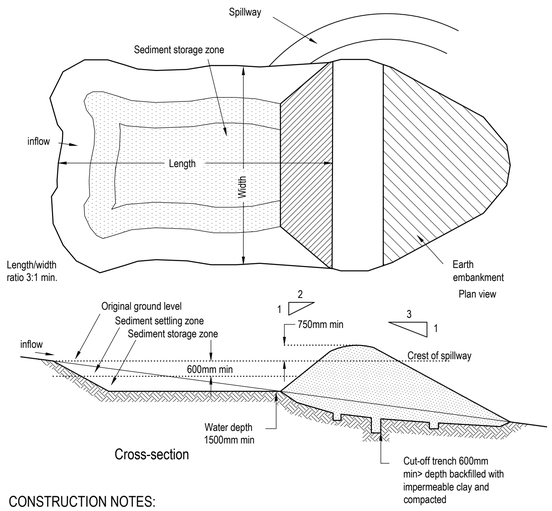
1. THE CONTRACTOR SHALL PROVIDE ADEQUATE TRUCK WASH FACILITIES AT THE SITE EXIT AND SHALL CLEAN ALL VEHICLES EXITING THE SITE TO ENSURE MATERIALS AND MUD IS NOT TRANSPORTED AND DEPOSITED OFF SITE. WATER FROM ANY WASHBAY IS TO BE DIVERTED TO THE SEDIMENT FENCE OR TO THE SEDIMENT BASIN PRIOR TO DISCHARGE.
2. NOTWITHSTANDING THE EROSION AND SEDIMENT CONTROL NOTES THE CONTRACTOR SHALL NOTE THEIR OVERARCHING OBLIGATION WITH THE CITY OF RYDE COUNCIL IN RESPECT OF ENVIRONMENTAL CONTROLS. PARTICULARLY ONGOING TESTING OF DISCHARGE, MAINTENANCE, DREDGING OF SEDIMENTATION PONDS AND FINAL FILTRATION AT OUTLETS.
3. THE CONTRACTOR SHALL TAKE ALL STEPS NECESSARY TO PROTECT THE ENVIRONMENT AND IN PARTICULAR SHALL CONTROL EROSION, SEDIMENTATION AND POLLUTION DURING CONSTRUCTION IN ACCORDANCE WITH THE REQUIREMENTS OF THE EPA, DEC, COUNCIL, AND THE EROSION AND SEDIMENT CONTROL PLAN.
4. EROSION AND SEDIMENT CONTROL DEVICES ARE TO BE CONSTRUCTED IN ACCORDANCE WITH "MANAGING URBAN STORMWATER - SOILS AND CONSTRUCTION' (2004 - BLUE BOOK), AND CITY OF RYDE COUNCIL'S DCP.
5. EROSION AND SEDIMENT CONTROL DEVICES SHALL BE CONFIRMED IN THE QUALITY PLAN PRODUCED BY THE CONTRACTOR AND SHALL BE IMPLEMENTED AND ADJUSTED TO SUIT CONSTRUCTION ACCESS AND STAGING. FOR STAGING REFER TO CONTRACTOR'S ENVIRONMENTAL CONSTRUCTION MANAGEMENT PLAN
6. FOLLOWING EVERY RAINFALL EVENT EXCEEDING 10mm OR WHEN BASINS ARE GREATER THAN 50% FULL, WATER SHALL BE TESTED FOR COMPLIANCE WITH EPA'S STANDARDS AND, IF FOUND NOT TO COMPLY, WATER SHALL BE TREATED BY APPROPRIATE FLOCCULATION, FILTRATION OR OTHER APPROVED METHODS.
7. WATER SHALL NOT BE REMOVED FROM SEDIMENT BASIN UNTIL TESTED WATER MEETS EPA WATER QUALITY REQUIREMENTS e.g <50 MG/L SUSPENDED SOLIDS.
8. CONTRACTOR TO PROVIDE ALL PERIMETER SITE FENCING FOR SECURITY & SAFETY PURPOSES AS REQUIRED.
9. OBTAIN APPROVALS FROM SYDNEY WATER OR COUNCIL TO PUMP TO RECEIVING PIT.
10. EMPTY SEDIMENT BASIN WITHIN 72 HOURS OF RAINFALL TREAT WATER AS NECESSARY TO ACHIEVE REQUIRED WATER QUALITY STANDARDS.
11. THE CONTRACTOR SHALL TAKE ALL NECESSARY STEPS TO LIMIT THE CREATION OF DUST NUISANCE, WHICH MIGHT ARISE DURING THE EXECUTION OF WORKS. DUST SUPPRESSION CONTROLS INCLUDE BUT ARE NOT LIMITED TO
    - BOUNDARY HOARDING TO REMAIN IN PLACE TO REDUCE THE VOLUME OF DUST LEAVING THE SITE. KEEP ACCESS GATES CLOSED WHERE PRACTICABLE.
    - AREAS SHALL BE WET DOWN TO MINIMISE DUST EMISSIONS
    - REGULAR PERIODIC CLEAN-UP OF WORK AND STAGING AREAS
    - VACUUM ATTACHMENTS TO CUTTING, DRILLING AND GRINDING EQUIPMENT IS MANDATORY
12. FOLLOWING EVERY RAINFALL EVENT, EROSION AND SEDIMENT CONTROLS SUCH AS SEDIMENT FENCES, HAY BALES AND SANDBAGS SHOULD BE CHECKED. REMOVE CAPTURED SEDIMENT AND CARRY OUT REPAIRS TO CONTROLS WHERE REQUIRED TO MAINTAIN EFFECTIVE CAPTURE OF SEDIMENTS.

REMEDIATION NOTES:

1. REMOVE ALL DEBRIS AND SMOOTH ALL EXPOSED AREAS TO GRADE EVENLY TO EXTENT OF EXPOSED AREA TO MATCH EXISTING SURROUNDING GROUND LEVELS
2. SPRAY GRASS EXTENT OF DISTURBED AREA
3. MAINTAIN AND WATER SPRAY GRASS UNTIL ESTABLISHMENT OF DENSE GRASS COVER

NOTE:

- THIS DRAWING IS TO BE READ IN CONJUNCTION WITH MSP-ENS-CV-0401

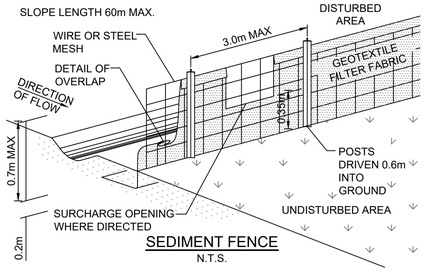


CONSTRUCTION NOTES:

1. REMOVE ANY VEGETATION AND TOPSOIL FROM UNDER THE DAM WALL AND FROM WITHIN THE STORAGE AREA.
2. CONSTRUCT A CUT-OFF TRENCH 500 MM DEEP AND 1200 MM WIDE ALONG THE CENTRELINE OF THE EMBANKMENT EXTENDING TO A POINT ON THE GULLY WALL LEVEL WITH THE RISER CREST.
3. MAINTAIN THE TRENCH FREE OF WATER AND RECOMPACT THE MATERIALS WITH EQUIPMENT AS SPECIFIED IN THE SWMP TO 95 PER CENT STANDARD PROCTOR DENSITY.
4. SELECT FILL FOLLOWING THE SWMP THAT IS FREE OF ROOTS, WOOD, ROCK, LARGE STONE OR FOREIGN MATERIAL.
5. PREPARE THE SITE UNDER THE EMBANKMENT BY RIPPING TO AT LEAST 100 MM TO HELP BOND COMPACTED FILL TO THE EXISTING SUBSTRATE.
6. SPREAD THE FILL IN 100 MM TO 150 MM LAYERS AND COMPACT IT AT OPTIMUM MOISTURE CONTENT.
7. CONSTRUCT THE EMERGENCY SPILLWAY.
8. REHABILITATE THE STRUCTURE FOLLOWING THE SWMP.

EARTH BASIN - WET
(APPLIES TO 'TYPE D' AND TYPE F' SOILS ONLY)

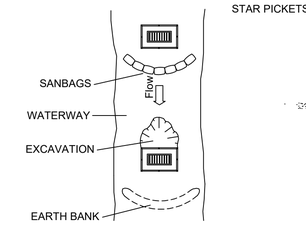
DRAINAGE AREA 0.6ha MAX. - SLOPE GRADIENT 1:2 MAX.



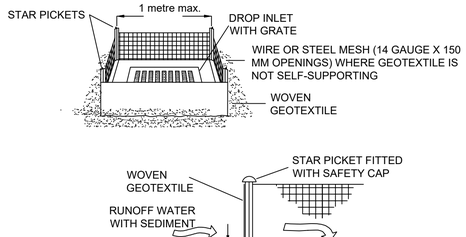
SEDIMENT FENCE
N.T.S.

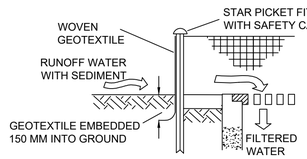
INSTALLATION
1. EXCAVATE A TRENCH 200mm DEEP.
2. DRIVE POSTS 500-700mm INTO GROUND AT A MAXIMUM SPACING OF 3.0m CENTRES.
3. PLACE AND FIX SUPPORT MESH (F52) TO POST.
4. LAY BIDIM GEOFABRIC (SF 2000) AGAINST THE SUPPORT MESH AND FIX BY TIE WIRE, STAPLES OR HOG RINGS.
5. PLACE BIDIM IN TRENCH AND BACKFILL WITH SOIL.

NOTE:
POSITION OF SEDIMENT FENCE AS DIRECTED BY SUPERINTENDENT. FENCE TO REMAIN IN PLACE UNTIL EXCAVATION IS BELOW FOOTPATH LEVEL.



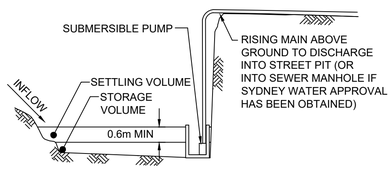
FOR DROP INLETS AT NON-SAG POINTS, SANDBAGS, EARTH BANK OR EXCAVATION USED TO CREATE ARTIFICIAL SAG POINT





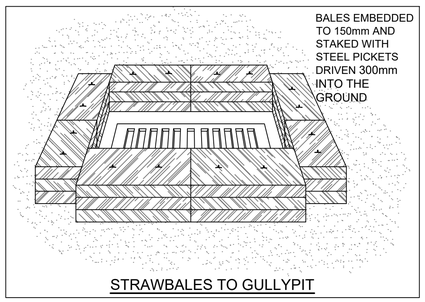
CONSTRUCTION NOTES
1. FABRICATE A SEDIMENT BARRIER MADE FROM GEOTEXTILE OR STRAW BALES.
2. FOLLOW STANDARDS DRAWING 6-8 FOR INSTALLATION PROCEDURES FOR GEOFABRIC. REDUCE THE PICKET SPACING TO 1 METRE CENTRES.
3. IN WATERWAYS, ARTIFICIAL SAG POINTS CAN BE CREATED WITH SANDBAGS OR EARTH BANKS AS SHOWN IN THE DRAWING.
4. DON NOT COVER THE INLET WITH GEOTEXTILE UNLESS THE DESIGN IS ADEQUATE TO ALLOW FOR ALL WATERS TO BYPASS IT.

GEOTEXTILE INLET FILTER
N.T.S.

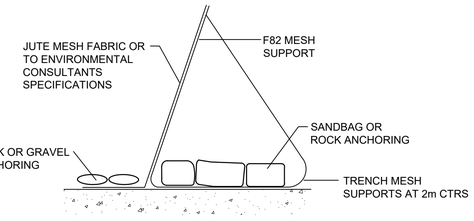


TYPICAL SECTION THROUGH SEDIMENT BASIN
N.T.S.

NOTE:
BASIN SIZE AND DEPTH TO SUIT EXCAVATION CONSTRAINTS

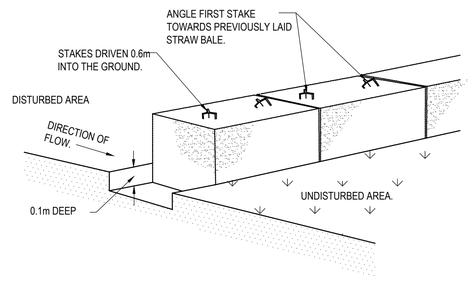


STRAWBALES TO GULLYPIT

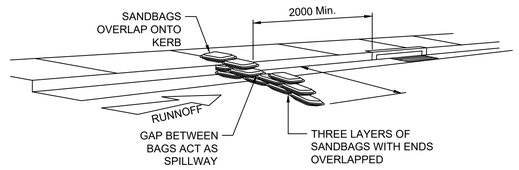


ALTERNATIVE SEDIMENT FENCE
N.T.S.

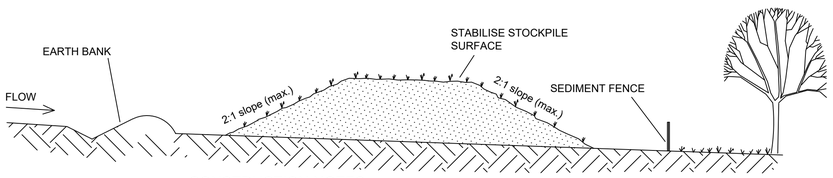
ALTERNATIVE SEDIMENT FENCE NOTES
1. INSTALL THIS TYPE OF SEDIMENT FENCE WHEN USE OF SUPPORT POSTS IS NOT DESIRABLE OR NOT POSSIBLE. SUCH CONDITIONS MIGHT APPLY, FOR EXAMPLE, WHERE APPROVAL IS GRANTED FROM THE APPROPRIATE AUTHORITIES TO PLACE THESE FENCES IN HIGHLY SENSITIVE ESTUARINE AREAS.
2. USE BENT TRENCH MESH TO SUPPORT THE F82 WELDED MESH FACING AS SHOWN ON THE DRAWING ABOVE. ATTACH THE JUTE MESH TO THE WELDED MESH FACING USING UV-RESISTANT CABLE TIES.
3. STABILISE THE WHOLE STRUCTURE WITH SANDBAG OR ROCK ANCHORING OVER THE TRENCH MESH AND THE LEADING EDGE OF THE JUTE MESH. THE ANCHORING SHOULD BE SUFFICIENTLY LARGE TO ENSURE STABILITY OF THE STRUCTURE IN THE DESIGN STORM EVENT, USUALLY THE 10 YEAR EVENT.



STRAW BALE SEDIMENT FILTER
CONSTRUCT AS SHOWN ON PLAN
NTS

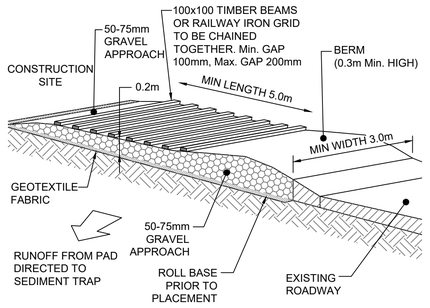


SANDBAG SEDIMENT TRAP
N.T.S.

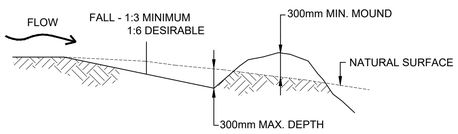


CONSTRUCTION NOTES
1. PLACE STOCKPILES MORE THAN 2 (PREFERABLY 5) METRES FORM EXISTING VEGETATION, CONCENTRATED WATER FLOW, ROADS AND HAZARD AREAS.
2. CONSTRUCT ON THE CONTOUR AS LOW, FLAT, ELONGATED MOUNDS.
3. WHERE THERE IS SUFFICIENT AREA, TOPSOIL STOCKPILES SHALL BE LESS THAN 2 METRES IN HEIGHT.
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.

STOCKPILES
N.T.S.



TEMPORARY CONSTRUCTION EXIT/ENTRANCE
N.T.S.



CATCH DRAIN
N.T.S.

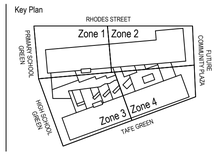
CATCH DRAIN GRADE	CAPACITY
1%	200 L/s
2%	290 L/s
3%	360 L/s
4%	420 L/s
5%	470 L/s

Recent revision history

#	Status	Description	Date
01		ISSUE FOR INFORMATION	06/07/18
02		50% SD ISSUE	13/07/18
03		80% SD ISSUE	31/08/18
04		FOR COSTING	25/03/19
05		SSDA ISSUE	15/05/19
06		DRAFT 90% SD	29/05/19
07		SD ISSUE	14/06/19
08		CONSTRUCTION CERT.	13/05/20
09		CONSTRUCTION CERT.	14/05/20
10		CONSTRUCTION CERT.	29/05/20

Date generated 14/05/2020 5:22:42 PM ----

Key Plan



Contractor
roberts pizzarotti

Project
MEADOWBANK EDUCATION AND EMPLOYMENT PRECINCT SCHOOLS PROJECT

Client
NSW GOVERNMENT Education School Infrastructure

Issuer
enstruct
enstruct group pty ltd
Level 4, 2 Glen Street, Milsons Point NSW 2061
Telephone (02) 8904 1444
http: //www.enstruct.com.au

Project number 5645
Size check 25mm
Checked TAH
Approved PAL
Sheet size A1
Scale NOTED

Sheet title
SEDIMENT AND EROSION CONTROL DETAILS

Sheet number MSP-EN-CV-00451
Revision 10
Status CONSTRUCTION CERT.

21/08/2020

enstruct group pty ltd
ABN 32 094 570 671
Tel: +61 2 8904 1444
www.enstruct.com.au
Level 4, 2 Glen Street,
Milsons Point,
NSW, 2061,
Australia

Roberts Pizzarotti Pty Ltd
Level 54 Governor Phillip Tower
1 Farrer Place
Sydney NSW 2000

Job Number 5645

For the attention of: - David McDonnell

Dear David,

Meadowbank Education and Employment Precinct Schools Project
Response to Condition B16(e)

This letter has been prepared in response to the request to demonstrate compliance with Condition B16 (e):

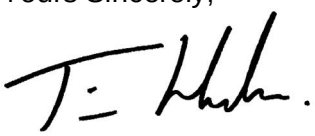
> B16. The Applicant must prepare a Construction Soil and Water Management Plan (CSWMSP) and the plan must address, but not be limited to the following:
>
> > (e) describe the measures that must be implemented to manage stormwater and flood flows for small and large sized events, including, but not limited to 1 in 5-year ARI and 1 in 100- year ARI.

We note the following:

- The notes on MSP-EN-CV-00451 Sediment and Erosion Control Details make reference to “Managing Urban Stormwater: Soils and Construction” (2004 Blue Book) which provides guidance on managing small and large sized storm events including the 1 in 5-year ARI and 1in 100-year ARI storm events. In this regard for the MEEPS project:
  - Sediment basins are located above the 5-year ARI flood extent
  - Catch drains are included on MSP-EN-CV-00401 Sediment and Erosion Control Plan to divert upstream storm flows around the site work areas. These drains address the 5-year ARI storm event as a minimum.
  - Sediment basin spillway are designed to be stable in a 100-year ARI event.
  - Temporary stockpiles are located outside of the 100-year ARI flood extents.
- The current documentation describes measures to management stormwater and flood flows in small and large sized event. For further clarity on this matter, our next revision of the drawings will include additional notes for the stability of basin spillways and the locations of stockpiles with respect to the 100-year ARI storm event (refer attached markups)

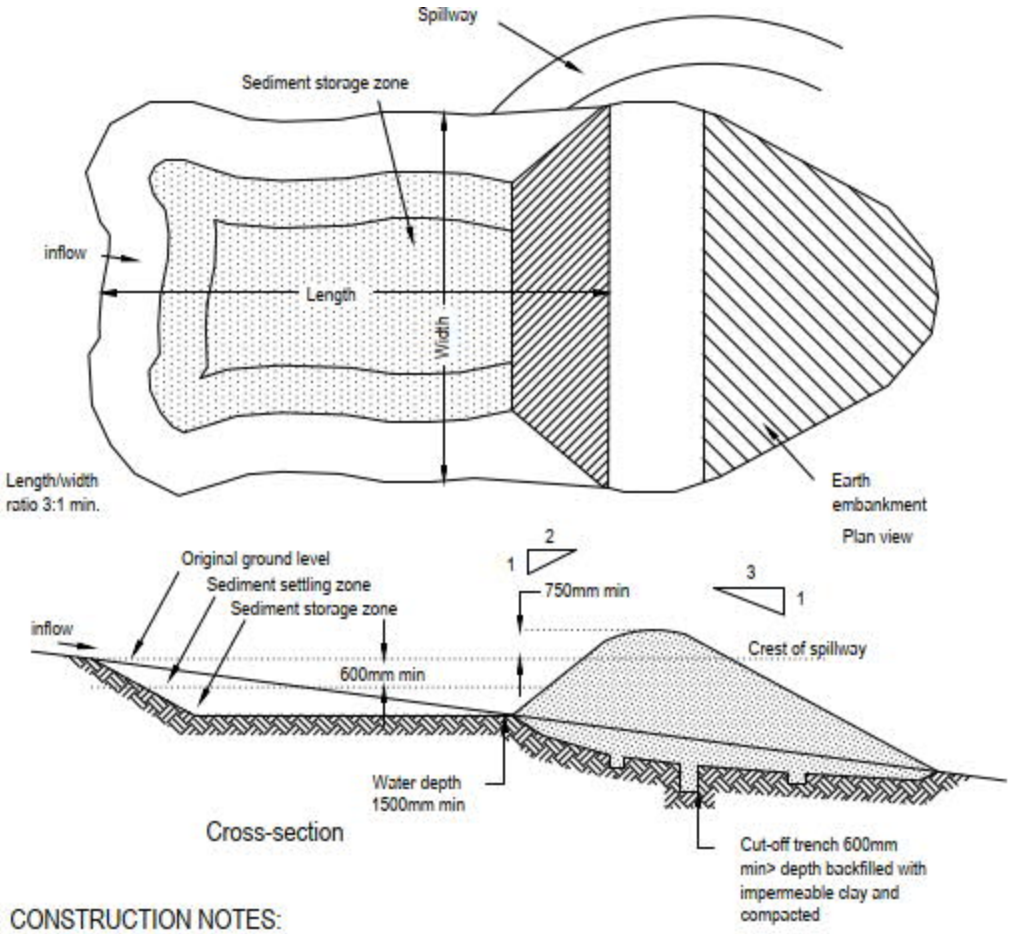
Should you have any further questions, please do not hesitate to contact the undersigned

Yours Sincerely,



for
enstruct group pty ltd

Tim Henderson
Senior Engineer

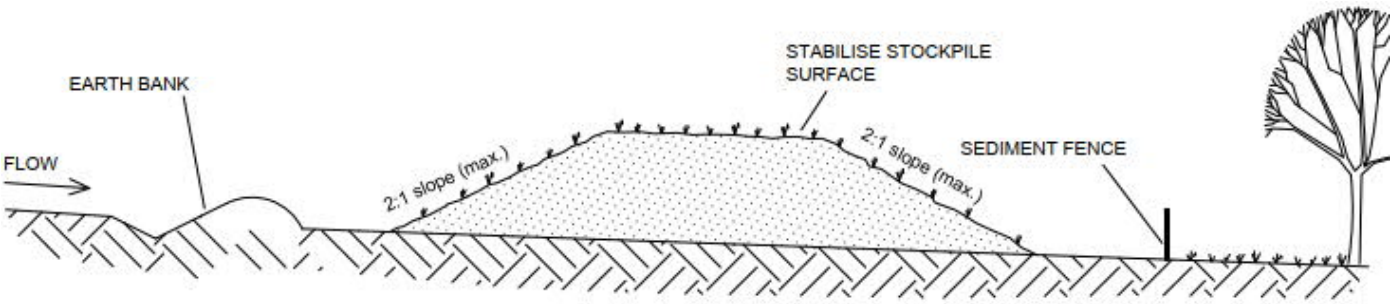


CONSTRUCTION NOTES:

1. REMOVE ANY VEGETATION AND TOPSOIL FROM UNDER THE DAM WALL AND FROM WITHIN THE STORAGE AREA.
2. CONSTRUCT A CUT-OFF TRENCH 500 MM DEEP AND 1200 MM WIDE ALONG THE CENTRELINE OF THE EMBANKMENT EXTENDING TO A POINT ON THE GULLY WALL LEVEL WITH THE RISER CREST.
3. MAINTAIN THE TRENCH FREE OF WATER AND RECOMPACT THE MATERIALS WITH EQUIPMENT AS SPECIFIED IN THE SWMP TO 95 PER CENT STANDARD PROCTOR DENSITY.
4. SELECT FILL FOLLOWING THE SWMP THAT IS FREE OF ROOTS, WOOD, ROCK, LARGE STONE OR FOREIGN MATERIAL.
5. PREPARE THE SITE UNDER THE EMBANKMENT BY RIPPING TO AT LEAST 100 MM TO HELP BOND COMPACTED FILL TO THE EXISTING SUBSTRATE.
6. SPREAD THE FILL IN 100 MM TO 150 MM LAYERS AND COMPACT IT AT OPTIMUM MOISTURE CONTENT.
7. CONSTRUCT THE EMERGENCY SPILLWAY. TO MAINTAIN STABILITY DURING A 100-YEAR ARI STORM EVENT
8. REHABILITATE THE STRUCTURE FOLLOWING THE SWMP.

EARTH BASIN - WET

(APPLIES TO 'TYPE D' AND TYPE F' SOILS ONLY)



CONSTRUCTION NOTES

1. PLACE STOCKPILES MORE THAN 2 (PREFERABLY 5) METRES FORM 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. STOCKPILES TO BE LOCATED OUTSIDE OF THE 100-YEAR ARI FLOOD ZONE

STOCKPILES

N.T.S.

roberts pizzarotti

Wet Weather Construction Works Plan
Schools at Meadowbank Education and Employment Precinct (SMEEP)
July 2020

Document Details

Title	Wet Weather Construction Works Plan
Client	School Infrastructure NSW (SINSW)
Document Reference Number	RP-ENV-PLN-002
Principal Contractor	Roberts Pizzarotti (NSW) Pty Ltd (RP)
Roberts Pizzarotti Project No.	20008
ABN	61 620 108 483
Project Address	2 Rhodes Street, Meadowbank, NSW 2114

Document Authorisation

Damian Vella		Todd Thornton
PROJECT MANAGER	**SITE MANAGER**	**SENIOR PROJECT ENGINEER**
15.07.2020		15.07.2020
Date	**Date**	**Date**

TABLE OF CONTENTS

1 DOCUMENT CONTROL

All changes made to the Wet Weather Construction Works Plan are recorded in the amendment table below. The version number and date of revision for the current document revision are shown in the-footer of the document.

1.1 Revision History

Revision	Date	Description of changes	Prepared by	Approved by
Rev1	15/07/2020	Initial Document, as per SSD9343 Condition B16c	Todd Thornton	Damian Vella

1.2 Management Reviews

Review date	Details	Reviewed by

1.3 Controlled Copies

Name	Position	Date	Revision

2 INTRODUCTION

2.1 Context

This Wet Weather Construction Works Plan forms part of the Construction Environmental Management Plan for the Meadowbank and Education and Employment Precinct (the Project).

This Environmental sub plan has been prepared to address the requirements in SSD9343 Condition B16 (c) (below).

B.16

C) provide a plan of how all construction works will be managed in a wet-weather events (i.e. storage of equipment, stabilisation of the Site);

2.2 Document Audience

This plan applies to all project and operations personnel, including managers, supervisors, casual, temporary or permanent employees, contractors, subcontractors, visitors and clients.

3 PURPOSE

This Wet Weather Construction Works Plan provides management strategies, prevention and mitigation measures to minimise and manage the impacts of wet weather events during construction. It applies to all works associated with the SMEEP Works.

3.1 Project Scope

The project is located on 2 Rhodes Street, Meadowbank.

The work being undertaken under the contract includes but is not limited to, the following:

- Site Establishment & controls
- Clearing
- Protection of existing culvert
- Bulk earthworks inclusive of batter works
- Piling platform preparation
- Substructure works
- Inground services works
- Structure Works
- Façade, Services & Fitout
- Landscaping and public domain works

4 OBJECTIVES

The objectives of this plan include:

- To describe the measures to be implemented to minimise any potential environmental health and safety risks to people resulting from a wet weather event on the project.
- Describe controls to be implemented to ensure wet weather does not adversely impact the Project site or surrounding areas during construction.
- Ensure appropriate measures are implemented to address the relevant requirements in SSD9343 B16 (c) and all relevant legislation.

5 MITIGATION STRATEGIES

Control measures for managing severe weather events on SMEEP are documented in the table below:

	General	Responsibility
1.	Scheduling weather susceptible tasks outside high risk periods. Weather forecasts to be reviewed daily when planning works.	Site Manager/Senior Project Engineer
2.	Forecast weather events and required controls are to be tabled in pre starts and toolboxes.	Site Manager
3.	Location of temporary material storage sites or laydown areas to be located in zones outside of flood risk.	Site Manager
4.	Locating temporary site buildings above flood prone land and with due consideration of site access and egress during wet weather.	Site Manager
5.	Materials handling areas and construction access roads are to be sealed appropriately so wet weather will not cause erosion or subsidence.	Site Manager/Project Manager
6.	Earthworks methodology to allow for appropriate drainage during construction.	Site Manager/Senior Project Engineer
7.	Monitoring rainfall forecasted, storm speed, intensity and direction and alerts for severe weather to allow time to secure materials and get workers to undercover areas.	Site Manager/Project Manager
8.	Having sufficient dewatering equipment on site at all times to allow works to resume after wet weather events.	Site Manager
9.	All erosion and sediment installations as per the Erosion and Sediment Control Plan are installed and operating correctly.	Site Manager
10.	Move all vehicles and/or mobile equipment to higher elevation/ground when there is heavy rain forecast.	Site Manager
11.	Ensure plant and equipment is secure and under cover where possible.	Site Manager

12.	Ensure that no live electrical equipment is susceptible to water ingress. Any electrical equipment that may be exposed to water is to be appropriately rated and sealed.	Site Manager
13.	Conduct post wet weather event inspections as deemed necessary.	Site Manager/Senior Project Engineer
14.	Designate, identify, and communicate shelter areas for use during events of inclement weather.	Site Manager
15.	Remove and/or trim tree limbs, dead/rotting trees, or dead tree branches near at-risk areas.	Site Manager
16.	Ensure temporary and permanent waterproofing is in place throughout the building to minimise water ingress and potential damage.	Site Manager/Senior Project Engineer
17.	Ensure all temporary and permanent works are secured when wet weather is forecast.	Site Manager
18.	All workers that may be exposed to wet weather are relocated where they can work undercover. If this is not possible, workers are to be placed in the sheds until such time the wet weather subsides, and it is safe to return to work.	Site Manager/Project Manager
19.	Subcontractors are to review their own inclement weather policies and implement controls as required.	Site Manager/Subcontractors

Table 04– Wet weather construction measures to be implemented throughout the Project.

6 REVIEW

This plan will be reviewed after each severe wet weather event to continuously improve and rectify deficiencies in the plan. Should no such events occur this plan will be reviewed after 6 months.

TODD THORNTON
SENIOR PROJECT ENGINEER

QUALIFICATION

- Bachelor of Construction Management (Building) (Honours)

YEARS IN INDUSTRY

- 8 years

OVERVIEW

Todd has extensive experience in complex building infrastructure projects in the residential, commercial, health and defence sectors. He gained exposure to various aspects of project management and construction, ranging from technical on-site solutions, procurement and contract administration.

Proficient in utilising various IT software including Primavera P6, the Microsoft suite, Archicad, Navisworks 3D Software and Buildsoft estimating software, Todd can operate efficiently in high pressure environments to meet deadlines. He has developed his set of skills through a developed n exposure to a variety of complex projects in multiple sectors of the construction industry.

STRENGTHS TODD WILL BRING TO THE PROJECT

- Versatile in balancing short and long-term needs by anticipating a range of factors
- Strong at evaluating information quickly and comfortable managing in uncertain situations
- Great focus on continuous improvement and innovation to find better ways of doing things

TODD THORNTON
SENIOR PROJECT ENGINEER

PROJECT EXPERIENCE

2015-2018 Project Engineer	New Air Combat Capability (NACC) Facilities Project at Williamtown - Delivery Phase - Defence Managing Contractor - facility upgrades at RAAF Base including F-35A Operational Precinct, Squadron Headquarters, aircraft maintenance facilities, Runway Works, Explosive Ordnance Facilities and 2OCU Complex Training Facilities	$850m
2013 - 2015 Site Engineer	Tamworth Hospital Redevelopment - NSW Health Infrastructure Design&Construct - refurbishment of existing buildings along with a new multi-level health building which houses both impatient and diagnostic services	$125m
2012 - 2013 Site Engineer	Emerant Lane, Lane Cove - Sakkara Design&Construct - construction of two six-level luxury apartments buildings featuring garden terraces and balconies with views across the Harbor	$25m
2012 - 2014 Site Engineer	Westmead Millennium Institute, Westmead - Westmead Hospital Design&Construct - nine-storey, 17,800 m² medical research facility including more than 8,000m² of specialised laboratories and support areas	$85m
2011 - 2012 Construction Worker	Westrac Facility, Tomago - Westrac Construct Only - construction of the operational head office facilities including 16 buildings 80,000m^2 of paved area and associated hardstand areas across a 25 hectare site	$110m

Onneile Matlapeng

From: Manel Mariner <ManelM@ryde.nsw.gov.au>
Sent: Wednesday, 23 September 2020 10:12 AM
To: Onneile Matlapeng
Subject: FW: 2 Rhodes Street, Meadowbank - SSD9343 Condition B16
Attachments: B16 Final Combined.pdf

Dear Onneile,

Thanks for sending the CSWMSP.
Please take this email as confirmation of your consultation with Council.

Kind regards,

Manel Mariner
Senior Engineer - Stormwater and Floodplain Management
ASSETS & INFRASTRUCTURE
P (02) 9952 8289
M 0434 859 371
E ManelM@ryde.nsw.gov.au
W www.ryde.nsw.gov.au

City of Ryde

Customer Service Centre 1 Pope Street, Ryde (Within Top Ryde City shopping centre)
North Ryde Office Riverview Business Park, Building 0, Level 1, 3 Richardson Place, North Ryde

Let's Connect Facebook | Twitter | Instagram | YouTube | eNews

From: Onneile Matlapeng [mailto:onneile.matlapeng@robertspizzarotti.com]
Sent: Wednesday, 9 September 2020 9:07 AM
To: City of Ryde <CityofRyde@ryde.nsw.gov.au>
Cc: Alicia Hunter <AliciaHu@ryde.nsw.gov.au>
Subject: 2 Rhodes Street, Meadowbank - SSD9343 Condition B16

Dear Sir/Madam,

SSD9343 Condition B16, requires consultation with Council.

B16	The Applicant must prepare a Construction Soil and Water Management Plan (CSWMSP) and the plan must address, but not be limited to the following: (a) be prepared by a suitably qualified expert, **in consultation with Council;** (b) describe all erosion and sediment controls to be implemented during construction, including as a minimum, measures in accordance with the publication Managing Urban Stormwater: Soils & Construction (4th edition, Landcom 2004) commonly referred to as the 'Blue Book'; (c) provide a plan of how all construction works will be managed in a wet-weather events (i.e. storage of equipment, stabilisation of the Site); (d) detail all off-Site flows from the Site; and (e) describe the measures that must be implemented to manage stormwater and flood flows for small and large sized events, including, but not limited to 1 in 5-year ARI and 1 in100- year ARI.

We hereby submit the Construction Soil and Water Management Plan.

Please contact me should you have any queries.

Kind Regards,

Onneile Matlapeng
Senior Project Engineer
roberts pizzarotti
Roberts Pizzarotti Pty Ltd
Level 54
Governor Phillip Tower
1 Farrer Place
Sydney NSW 2000
M +61 417 656 473

Appendix 14 – Unexpected Finds Protocol for Contamination and Associated Communications Protocols

Our project Environmental Consultants Alliance Geotechnical have developed the Project RAP. Section 7.3.5 of the RAP outlines the process for dealing with contamination unexpected finds.

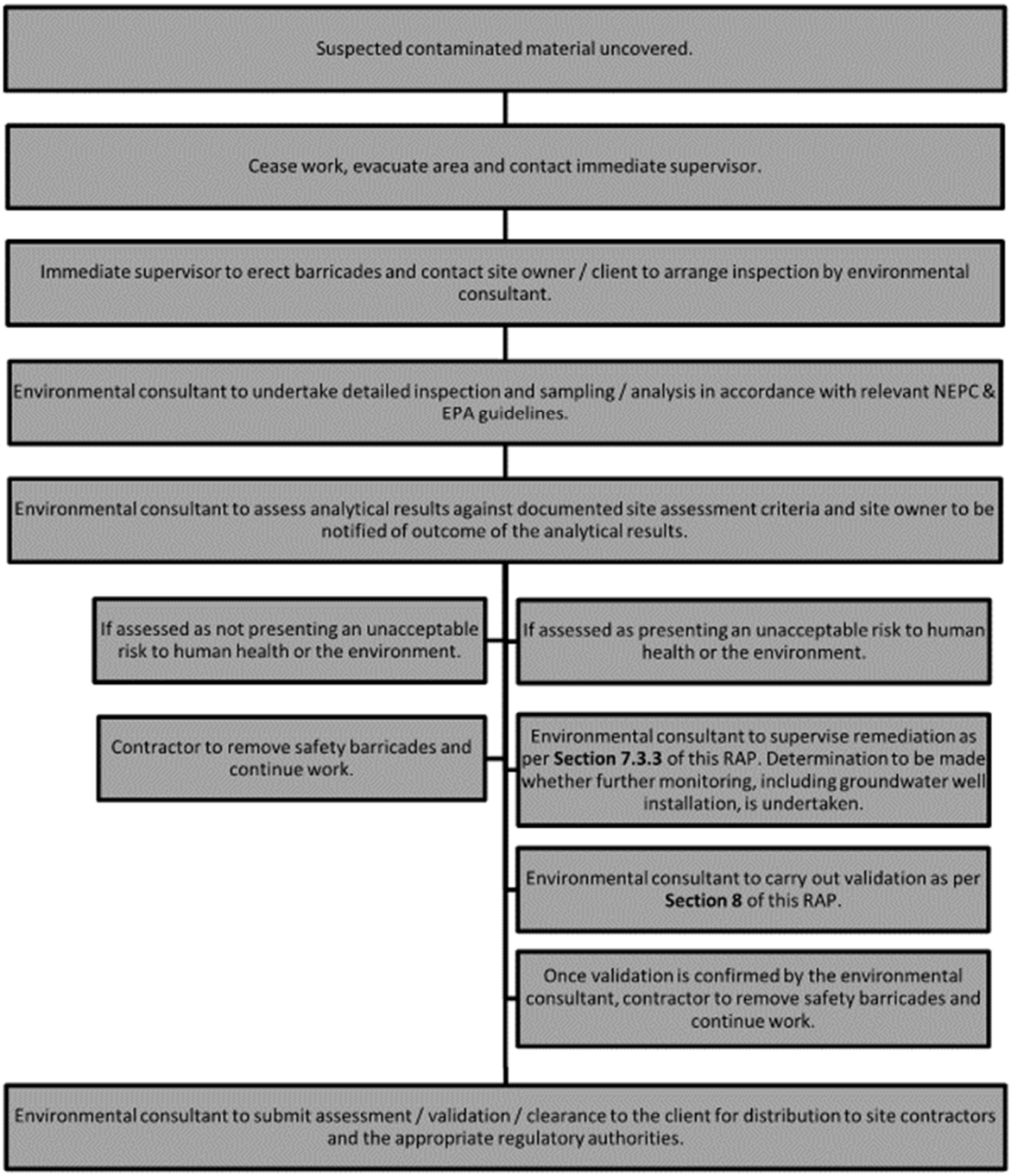
7.3.5. Unexpected Finds Protocol

The contamination assessments to date have not indicated the presence of significant soil contamination that is unacceptable for the proposed land use beyond the area of remediation described in this RAP. However, it is possible that unexpected finds may be present within the fill material. To this end, an unexpected finds protocol has been compiled, and is summarised herein. Unexpected finds could include, but are not limited to:

- Other underground storage tanks that are previously not identified;
- Buried containers and drums;
- Phase separated hydrocarbons;
- Powders and other suspicious buried material;
- Potentially hazardous materials; and
- Evidence of contamination including significant staining, odours and discolouration.

In the event that any material suspected of containing potentially hazardous substances is found during remediation works, the following unexpected finds protocol is to be followed:

Unexpected Finds Protocol



Appendix 15 – Waste Classifications for Materials removed/ Validated

Alliance Geotechnical
ENGINEERING | ENVIRONMENTAL | TESTING
Your On-Site Geotechnical & Environmental Specialists

T: 1800 288 188
E: office@allgeo.com.au
W: www.allgeo.com.au
P: PO Box 275
Seven Hills NSW, 1730

20 July 2020 **Project:** 10834-LTR-1-2

Mr. Todd Thornton
Roberts Pizzarotti Pty Ltd
Level 54, Governor Phillip Tower
1 Farrer Place
SYDNEY NSW 2000

Via email: todd.thornton@robertspizzarotti.com

Dear Todd

B12. (i) waste classification (for materials to be removed) and validation (for materials to remain) be undertaken to confirm the contamination status in these areas of the site.

As per Condition B12 of State Significant Development (SSD) application (SSD-9343), Alliance Geotechnical (AG) can confirm that as part of the remedial activities being implemented for the site, waste classification of all soil materials to be removed from site, and validation of the residual soils is being undertaken as per the approved Remedial Action Plan (RAP) for the development.

All waste classifications reports prepared by AG will be verified by the appointed site auditor (Mrs Rebeka Hall) prior to dispatch from the site, so as to ensure the lawful disposal of waste from the project. AG will also prepare a final Site Validation Report (SVR), as per the NSW EPA *Consultants reporting on contaminated sites, Contaminated land guidelines*, 2020 which will detail all of validation results for all residual soil materials to remain on the site. The SVR will also be verified and endorsement from the appointed site auditor.

We trust that the above responses are sufficient to address the requirements of the SSD condition.

Should you require further information, please do not hesitate to contact me.

Yours faithfully

Aidan Rooney
B.Sc (Hons) Env. Science & Technology
Principal Environmental Scientist
Alliance Geotechnical Pty Ltd

Appendix 16 – Conditions Table

Schools at the Meadowbank Education and Employment Precinct (SSD9343): Submission of Construction Environmental Management Plan in accordance with Condition B12

Condition	Condition requirements	Document reference
B12	Prior to the commencement of construction, the Applicant must submit a Construction Environmental Management Plan (CEMP) to the Certifier and provide a copy to the Planning Secretary. The CEMP must include, but not be limited to, the following:	SSD9343- B12- CEMP RP rev 5, 18 November 2020
	(a) Details of: (i) Hours of work:	Appendix 4, Hours of Work, p38
	(ii) 24-Hour contact details of site manager;	Section 6.5, 24 Hour Contact Details p13
	(iii) management of dust and odour to protect the amenity of the neighborhood	Dust and Air Quality, p41
	(iv) stormwater control and discharge	Water Quality, Site Drainage and Erosion and Sediment Control, p44 Refer Appendix 13, pg72
	(v) measures to ensure that sediment and other materials are not tracked onto the roadway by vehicles leaving the site;	Water Quality, Site Drainage and Erosion and Sediment Control, p44 Refer Appendix 13, pg72
	(vi) groundwater management plan including measures to prevent groundwater contamination;	Training and Awareness, p27 Refer pg 46, Water Quality, Site Drainage and Erosion and Sediment Control.
	(vii) external lighting in compliance with AS 4282-2019 Control of the Obtrusive effects of outdoor lighting	Section 7.4, p17
	(viii) community consultation and complaints handling	Section 9.6, p25
	(b) Construction Traffic and Pedestrian Management Sub-Plan (see condition B13)	Appendix 11, Construction Traffic and Pedestrian Management Sub-Plan, p70
	(c) Construction Noise & Vibration Management Sub-Plan (see condition B14)	Appendix 08, Construction Noise & Vibration Management Sub-Plan, p67

	(d) Construction Waste Management Sub-Plan (see condition B15)	Appendix 09, Construction Waste Management Sub-Plan, p68
B12	(e) Construction Soil and Water Management Sub-Plan (see condition B16)	Appendix 13, Construction Soil and Water Management Sub-Plan, p72
	(f) Flood Emergency Response (see condition B17)	Appendix 10, Flood Emergency Response Plan, p69
	(g) an unexpected finds protocol for contamination and associated communications procedure;	Training and Awareness, p27 Refer Appendix 14 – Unexpected Finds Protocol for Contamination and associated Communications Protocols, pg73
	(h) an unexpected finds protocol for Aboriginal and non-Aboriginal heritage and associated communications procedure	Appendix 12, Unexpected Finds Protocol for Aboriginal & Non-Aboriginal Heritage, pg71
	(i) waste classification (for materials to be removed) and validation (for materials to remain) be undertaken to confirm the contamination status in these areas of the site	Refer Appendix 15, Waste Classifications for Materials Removed/ Validated, pg75
	Management plans required under this consent must be prepared in accordance with the relevant guidelines, and include:	
B11	(a) detailed baseline data;	Not applicable for this management plan
	(b) details of: (i) the relevant statutory requirements (including any relevant approval, license or lease conditions);	Section 4, Legal and Other Requirements, p11
	(ii) any relevant limits or performance measures and criteria; and	Section 5, p12
	(iii) the specific performance indicators that are proposed to be used to judge the performance of, or guide the implementation of, the development or any management measures;	Section 5, Performance Targets, p12
	(c) a description of the measures to be implemented to comply with the relevant statutory requirements, limits, or performance measures and criteria;	Section 4 p11, Appendix 3 p31
	(d) a program to monitor and report on the:	Section 7, p15

	(i) impacts and environmental performance of the development;	
	(ii) effectiveness of the management measures set out pursuant to paragraph (c) above;	Section 7, p15
	(e) a contingency plan to manage any unpredicted impacts and their consequences and to ensure that ongoing impacts reduce to levels below relevant impact assessment criteria as quickly as possible;	Appendix 6, p61
	(f) a program to investigate and implement ways to improve the environmental performance of the development over time;	Section 7.5, p18 Section 7.3, p17
	(g) a protocol for managing and reporting any: (i) incident and any non-compliance (specifically including any exceedance of the impact assessment criteria and performance criteria);	Section 8, p20
	(ii) complaint;	Section 9.6, p25
	(iii) failure to comply with statutory requirements; and	Section 8, Monitoring and Measurement, p20
	(h) a protocol for periodic review of the plan and any updates in response to incidents or matters of non-compliance	Section 11.2, Management Review, p28