PEOPLE WHO BUILD

ADCO

CONSTRUCTION ENVIRONMENTAL

MANAGEMENT PLAN

PROJECT NAME

NEXTSENSE MACQUARIE PARK

PROJECT NO.

3565

REVISION

01

1 DOCUMENT PROPERTIES

Plan Title	Construction Environmental Management Plan
Document Owner	Senior Project Manager

Plan Control and Amendment

The current approved master version of this Management Plan is available electronically for all project personnel to access. The date and latest revision of the master document is stated in the footer below. For clarity, the footer must not be amended by the user or document owner – this ensures traceability to the relevant master revision.

Downloaded Management Plans are deemed uncontrolled and it is the responsibility of the user to ensure they are using the latest master revision.

The document owner is responsible for maintenance, review, updates, approval and distribution of this Management Plan. All changes to this Management Plan are to be recorded by the Document Owner in the Version History Table below. The first Version issued will be recorded as V1.

Version History			
Revision	Date	Description / Updates	Prepared by
01	28/02/2022	For Construction	Nick Tragoutsis

2 CONTENTS

3 ADCO PROJECT PERSONNEL CONSULTATION AND SIGN OFF

We, the undersigned, confirm that we have been consulted on the contents of this document, read and understood the contents of this document, and agree to implement the requirements of this Plan on this project site.

Name	Position	Signature	Date
Nick Tragoutsis	Senior Project Manager		
Michael Butterworth	Senior Site Manager		
Mick Baker	HSE Co-ordinator		
Thomas Dean	Senior CA		
Clare Kwon	CA		
Robert Petkovic	Foreman		

4 INTRODUCTION / PURPOSE

This Environmental Management Plan (EMP) has been prepared to detail the processes and measures that will be implemented by ADCO to manage the safety requirements for the project.

Our HSE (Health, Safety and Environmental) Management System, documents the manner in which construction-related activities are required to be completed on the ADCO project sites. This Management Plan provides information on how workplace health and safety will be managed on this project to provide a safe, injury and incident free workplace for workers and the general community. It establishes clear objectives and targets and provides mechanisms to regularly measure performance through inspections, observations and audits appropriate to the level of risk.

System documents which are referenced in this Plan or any associated Plan or Risk Register can be sourced by accessing the ADCO Hub (ADCO personnel only). Additional information can be obtained from the HSE Manager.

ADCO project personnel will be inducted into the requirements of this Plan and any associated Plan or Risk Register by the Project Manager. Evidence of induction and discussion will be recorded within section ADCO Project Personnel Consultation and Sign off.

This document will be reviewed on a periodic basis, not exceeding 6-monthly, to ensure its compliance to legislative and operational requirements. Review and updates to this plan will initiate a change to the plan revision number and be recorded in the “Version History’ section of the document. Superseded Plans will be marked as such and will be located within the Management Plan Folder located in the Site Office or electronically. Amendments to the Plan are noted in the “Document Properties section.

This Plan and any associated Plan or Risk Register (including any future revisions) will be supplied to subcontractors for review through the Aconex portal or another approved format.

Copies of this and superseded Project Management Plans and associated Risk Registers will also be maintained (archived) by ADCO for a period of at least 24 months following an update completion.

5 PRINCIPAL CONTRACTORS DETAILS

Name	State Address		ABN
ADCO Constructions Pty Ltd	Address	Level 2, 7-9 West Street	46 001 044 391
	Suburb	North Sydney	
	State	NSW	
	Phone	02 8437 5000	

6 PROJECT INFORMATION

Project Description	NextSense Centre Of Excellence Macquarie Park
Project Address	131 Culloden Rd, Macquarie Park NSW
Client	NextSense
Certifier	Blackett Maguire & Goldsmith
Project Period	17 months
Separable Portions	0
Site Manager 24hr Contact	Michael Butterworth 02 8437 5000 / 0437 095 339

7 SITE REQUIREMENTS

Main Site Entry Location	Culloden Road
Other Entry Points	West Precinct Road
Worker Entry Locations	As above
Visitor Entry Locations	As above
Site Plan	the Development Site shall be defined as shown in the project Site Plan and as otherwise described below (where north is located diagonally towards the corner of Culloden & Gymnasium Roads): • for the north-western boundary: the MQU campus boundary along Culloden Road, from bus-top layback area towards the corner of Gymnasium Road;

- for the north-eastern boundary: the kerb line of Gymnasium Road, from the corners of West Precinct Road to Culloden Road (noting the fire booster assembly is not to be enclosed by any required Tree Protection Zone (TPZ) fencing, Site fencing / hoardings; and
- for the southern boundary: the kerb line of West Precinct Road, from the corner of Gymnasium Road and following the roadway around the MQU car park area, such that the required TPZ is included within the Development Site area.

NextSense PROJECT SITE PLAN

8 LEADERSHIP

8.1 ENVIRONMENTAL POLICY

ENVIRONMENTAL MANAGEMENT POLICY

ADCO is committed to performing its business activities in an environmentally responsible and ecologically sustainable manner.

This Environmental Policy sets out the basis of our commitment and portrays the manner in which we will conduct our activities.

Our principle objectives are to:

- Develop and implement environmental management procedures that continually improve performance, prevent pollution and realise opportunities which make a positive contribution to the environment.
- Make environmental issues an integral part of our planning and decision-making process and provide resources to implement our environmental programs.
- Promote and encourage the adoption of ecologically sustainable principles and operational methods within ADCO and also with our Clients, Subcontractors and Suppliers.
- Set and monitor key objectives of our environmental performance.
- Manage project operations in compliance with applicable legislation and Standards.
- Promote our environmental policy by communicating our performance to internal and external stakeholders.
- Provide training for employees and information to Subcontractors emphasising their responsibility for participation in environmental management programs.

Integrate environmental initiatives into our procedures for procurement of goods and services.

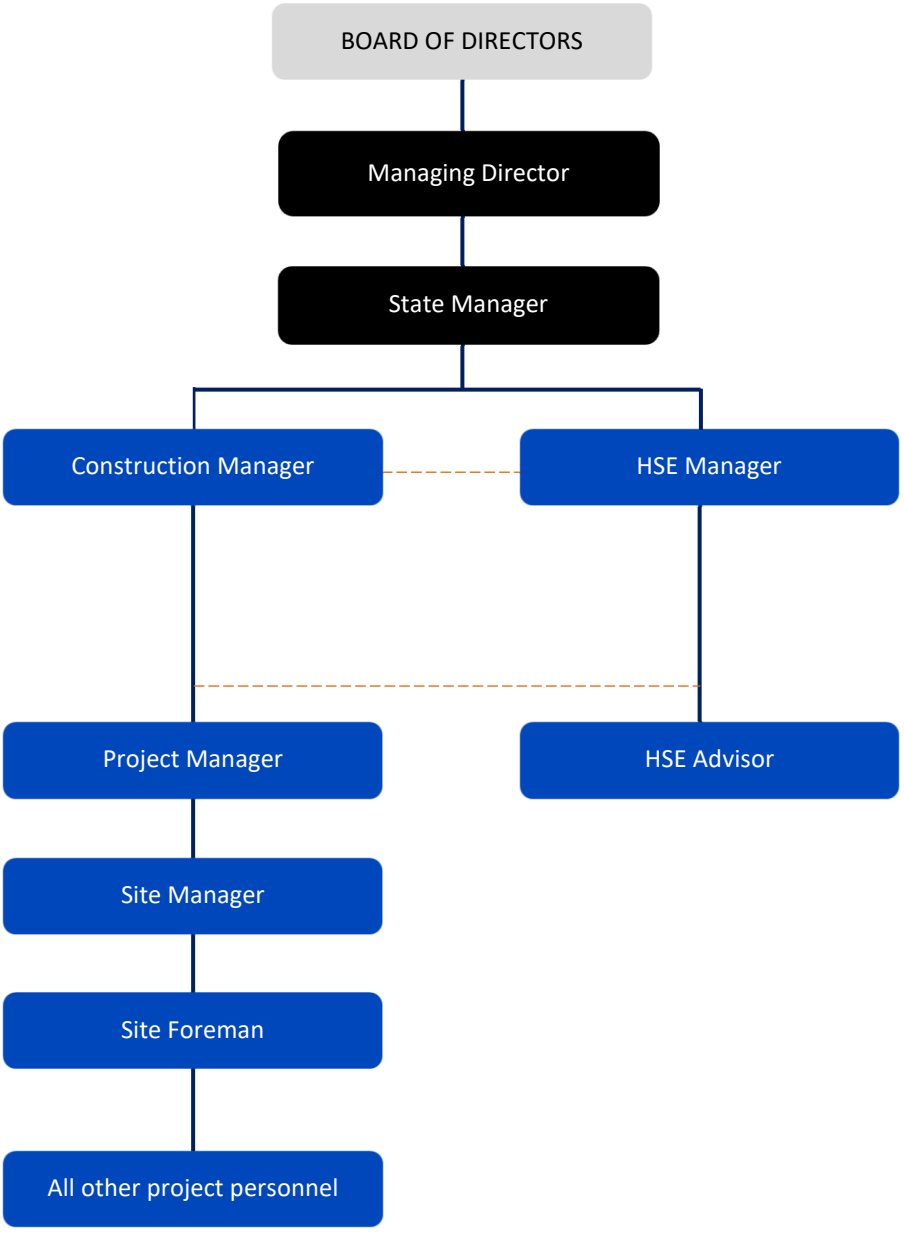
Our success is reliant on:

- Commitment to our philosophy, objectives and management systems by all employees.
- Participation in our management practices by external stakeholders.
- Commitment to comply with legal and other requirements to which the business subscribes.
- Continual improvement of our environmental performance against Key Objectives.
- Identification of opportunities to augment environmental and ecological sustainable practices on our projects.

DOCUMENT TITLE	ENVIRONMENTAL MANAGEMENT POLICY	DOCUMENT CREATED	26 FEBRUARY 2018
REVISION	1	DATE OF THIS REVISION	7 MAY 2019
		PAGE	1 of 1

8.2 PROJECT MANAGEMENT STRUCTURE

ADCO will provide a suitable and competent project team and associated subcontractors to effectively communicate and implement the requirements of the HSE management system.



Managing Director

Neil Harding

State Manager

John Basilisco

Construction Manager

Michael Kouknas

HSE Manager

Phil Provenzano

Senior Project Manager

Nick Tragoutsis

HSE Advisor

Mick Baker

Senior Site Manager

Michael Butterworth

Site Foreman

Robert Petkovic

8.3 ROLES AND RESPONSIBILITIES

Managing Director

Provide commitment, leadership and direction in the development, implementation and management of the Corporate Management Systems, including but not limited to:

- Development of a corporate strategic plan incorporating safety, environment, quality and health management risks and controls.
- An assessment of the effectiveness of the Corporate Management Systems. (e.g. review of incidents and non-conformances to identify non-conformance trends and areas of improvement to the Corporate Management Systems.)
- Full management obligations including continual improvement of the Corporate Safety, Environment and Quality Management Systems.
- Ensure that appropriate resources are allocated to ensure compliance legislative requirements and the requirements of the Corporate Management Systems.
- Ensure that resources are competent to deliver the requirements of the Corporate Management Systems.

State Manager

Ensure that:

- Corporate Management Systems are implemented at all levels in the State.
- Appropriate resources are allocated to project teams to ensure compliance legislative requirements and the requirements of the Corporate Management Systems.
- Project operations are in compliance with applicable state or federal legislation.
- A review of the safety, environment, quality and health management performance of the State is completed regularly to identify non-conformances, trends and areas of improvement.

Construction Manager

Ensure that:

- Corporate Management Systems are implemented on projects within the State.
- HSE requirements have been identified and accounted for during project tender processes.
- Project operations are in compliance with applicable state or federal legislation.
- Appropriate resources are allocated to project teams to ensure compliance legislative requirements and the requirements of the Corporate Management Systems.
- Project team personnel have received training to fulfil their duties and responsibilities with the Corporate Management Systems.
- A review of the safety, environment, quality and health management performance of the State is completed regularly to identify non-conformances, trends and areas of improvement.

Health, Safety & Environment (HSE) Manager

Ensure that:

- Legislative requirements for HSE management are implemented and maintained on project sites.
- The requirements of the Corporate HSE Management System are implemented on project sites.
- Where required, project HSE requirements and risks are identified during project tender and/or trade tender processes and incorporated into project management plans.

- Reviews of HSE performance are completed on all projects to ensure compliance with legislative and corporate requirements.

Project Manager

Ensure that:

- HSE requirements are identified and assessed during trade tender evaluations.
- In conjunction with the HSE Manager, project management plans are developed and implemented on projects.
- Resources are allocated to implement and maintain the HSE requirements on the project.
- ADCO project personnel have received training to fulfil their HSE responsibilities.
- Project personnel are aware of current HSE legislation and their obligations.
- HSE performance on the project is reviewed and non-compliant activities by employees and subcontractors are addressed.

Site Manager

Ensure that:

- Legislative requirements for HSE management are implemented and maintained on the project site.
- The requirements of project HSE Management Plans are implemented and managed on the project.
- The requirements of the Corporate Management Systems are implemented and managed on the project.
- Any issues which may arise over HSE requirements (legislative or Corporate) are managed on site.
- Employees and subcontractors complete their work in compliance with legislative and Corporate Management System requirements.
- Open lines of communication and consultation are maintained with the HSE Advisor and other parties (i.e. subcontractors, employee representatives) to ensure that the site operates in a safe manner and in compliance with regulatory and corporate requirements.
- HSE performance on the project is reviewed and non-compliant activities by employees and subcontractors are addressed.

HSE Advisor

Ensure that:

- Legislative requirements for HSE management are implemented and maintained on project sites.
- The requirements of the Corporate Management Systems are implemented on project sites.
- HSE performance on the project is reviewed and non-compliant activities by employees and subcontractors are addressed.

Health and Safety Representative (HSR)

In general:

- Participate in risk and hazard identification and control.
- Participate in incident investigations and management.
- Participate in workplace inspections (e.g. with the Committee, with the project team).
- Participate in project consultative forums. (e.g. HSE Committee)
- Consult with and represent workers (i.e. work group) in health and safety issues.

All Other Project Personnel

All personnel are responsible for actively promoting and complying with Safety, Health and Environmental Management requirements as determined / advised / required by ADCO. Activities that all personnel are required to participate in include, but are not limited to:

- Attend pre-start meetings.
- Conduct pre-start tasks analysis.
- Adhere to all permit requirements.
- Report all hazards, near misses and incidents (including injuries).
- Immediately stop any “at risk behaviour” identified during daily work activities.
- Attend safety presentations and toolbox meetings.
- Assist in achieving project HSE objectives and targets.

9 PLANNING

9.1 MANAGEMENT SYSTEM

ADCO’s Management System comprises, without limitation:

- Policies
- Procedures and Protocols
- Project Management Plans
- Supporting documentation
- Forms and Checklists
- Guidance documents
- Reports and Reviews
- Information systems

The Management System includes the disciplines of Quality, Safety and Environmental management which meet the requirements of:

- AS/NZS ISO 9001 (Quality Management Systems)
- AS/NZS 4801 (Occupational Health and Safety Management Systems)
- AS/NZS ISO 14001 (Environmental Management Systems).

All personnel working with or for ADCO are required to incorporate the requirements of our Management System into their operational activities.

9.2 RISK MANAGEMENT

Risk management is a proactive process that helps ADCO respond to change and facilitate continuous improvement throughout our business. The core to effective risk management is having a comprehensive understanding of the risks associated with the project works.

The identification of environmental risks (aspects and impacts) will consider:

- Situations / events that have the potential to give rise to injury or illness.
- The nature of potential injury or illness relevant to the activity, product or service.
- Past incidents, audit reports, etc.

The identification process will consider but not be limited to:

- The way work is arranged, managed, completed.
- The fabrication, installation and commissioning and handling and disposal (of materials, plant and equipment).
- The purchasing of goods and services.
- The inspection, maintenance, testing, repair and replacement of plant and equipment.

9.3 SAFETY IN DESIGN

Where ADCO does not have responsibility for the design of a building / component, a review of the buildability of the design will be completed any/all of the following: Design Manager, HSE Manager Project Manager, Estimator, Consultants, etc.

Where ADCO is able to influence design, a specific Safety in Design (SiD) process in accordance with the *Risk Management Procedure* will be carried out to ensure control of the design in regard to legislative requirements and to maximise the benefits of the design review process. The design review process will consider (where appropriate) the Hierarchy of Controls and look to eliminate risks at the design phase of the project. Safety hazards associated with design must be identified and managed with the aim to achieve successful identification of safety issues and other risks relevant to the design and the determination of measures to ensure fit for purpose and safe-operability requirements are achieved

SiD risk workshops involving the designers will evaluate the projects constructability and will be incorporated into the project risk register to ensure the identified risks and controls are in place for the project works.

9.4 PROJECT DOCUMENTATION

Prior to commencement of the project, the Project Manager and HSE Manager are required to develop the Project Management Plan, Risk Registers and any other supporting Plans. An assessment of project operating conditions will be made by completing the Project Review (Part A) – Commencement form. Information within the Risk Register will be supplied to subcontractors for trade pricing and development of their SWMS.

9.5 ASPECT AND IMPACT IDENTIFICATION AND REPORTING

ADCO encourages all site personnel to identify, report and action (where practicable and within their capacity to fix) hazards on the site whether within their work area or in any other accessed area. Risks or hazards, which cannot be actioned by the identifying person, must be reported to the Site Manager or HSE Advisor. The methods for reporting risks and hazards, include:

- Verbal notification.
- Advice at any of the consultative forums (e.g. pre-start meeting, committee meeting, subcontractor meeting).
- Completion of the Issues Notification form.

Where a Site Manager or HSE Advisor is notified of a risk or hazard the following must occur:

- The risk or hazard must be reviewed.
- The risk or hazard should be assessed, and appropriate controls developed according to the principles of the hierarchy of controls.

Risk and hazards will be identified by the ADCO project team through performance evaluation activities.

9.6 LEGAL AND OTHER REQUIREMENTS

Legislation

ADCO's Management System has been developed taking into account Legislative, Australian Standards, Codes of Practice and Federal Safety Commission requirements. Legislation, Codes of Practice and Standards which are applicable to the project are identified in the project Risk Register. Access to current Legislation, Codes of Practice and Standards is available to all project personnel. Subcontract workers should liaise with the Site Manager or HSE Advisor for access through IT Forums.

Site Rules

Site Rules are applicable to all workers on this project and are:

- Issued during the Workers Registration
- Discussed during the Site Induction.

- Discussed during the Visitor Induction.
- Posted on site noticeboards – for review while on site.
- Re-iterated as required during project consultative forums.

The objectives of the Site Rules are to:

- Meet legislative requirement for OHS and environmental management.
- Define ADCO's minimum operational standards.
- Prevent harm to people and the environment.
- Provide a safe working environment.

Conduct on Site

All persons entering the site are required to:

- Wear clothing such as shirts, shorts, trousers, etc. in a neat and tidy condition at all times. (No singlets, sleeveless shirts or inappropriate shorts permitted.
- Comply with site rules and procedures
- Observe restraint in the use of inappropriate language.
- Not use amenities except those expressly provided for construction personnel.
- Not bully or victimise any worker or management personnel.
- Not use amenities except those expressly provided for construction personnel.
- Report hazards and incidents immediately.
- Ensure that work area/s are kept fenced to not permit public access.
- Wear identification at all times. (e.g. Site Induction sticker)
- Wear the mandatory signed PPE at all times.
- Feel free to discuss any issues troubling you with our HSE Advisor or Site Manager (confidentiality will apply).

10 SUPPORT

10.1 TRAINING AND COMPETENCY

10.1.1 Training Needs Analysis

ADCO has undertaken a Training Need Analysis that identifies relevant training and competencies to undertake work activities. ADCO will communicate training and competency expectations throughout the procurement process to ensure the required skill levels of workers is understood and established.

ADCO will maintain a project induction / training register through its online HSE Management System HammerTech which will capture worker licences and competencies required to carry out works on the project.

Course / Competency Description	Position	Date to be completed by	Provider
Project Specific Induction	All workers	Prior to commencement onsite	Site Manager / Site Supervisor / HSE Advisor.
Toolbox Talk - Environmental Awareness	All workers	As required	Site Manager / Site Supervisor / HSE Advisor.

10.1.2 Project Specific Induction

Training and instruction are key requirements to ensuring that workers can perform their duties and tasks without risk to their health and safety or the health and safety of any other persons.

Project Induction

The ADCO induction process is a prescribed method of ensuring that workers are provided with information on:

- Environmental Management Plan – purpose and objectives
- Legal requirements
- Environmental Responsibilities
- Vegetation and fauna management requirements.
- Environmental monitoring and data reporting requirements.
- ASS, groundwater, dewatering and contaminated land management requirements.
- Aboriginal heritage and Aboriginal heritage management requirements.
- Hazardous Materials and hydrocarbon management requirements.
- Waste management requirements.
- Weed and hygiene requirements.
- Inspection and audit requirements
- Environmental emergency / spill response and incident management and reporting.
- Unexpected finds management.
- Sensitive areas including local residents, sites known of contamination, flora and fauna.

All persons who are attending the site for the purpose of completing construction activities must attend and complete the site induction (including the supply of skills competency evidence) before commencing any work activity on the site.

The project induction consists of an ADCO animated video with voice over which details the ADCO requirements for carrying out works on the project. Following the ADCO induction a project specific induction consisting of a PowerPoint presentation with voice over will be delivered by the ADCO Site Manager or HSE Advisor will incorporate project specific requirements.

Visitors

Visitors will not be site inducted and will be required to:

- Report to the Site Office on entry and at exit from the site.
- Sign in to and out of the Register – Visitors.
- Be accompanied and remain within two metres of a site inducted person at all times.
- Wear mandatory PPE as signposted.
- Wear footwear and clothing appropriate to a construction site.

Records

Induction information, including supporting documentation, will be maintained on site in a restricted storage facility, by the Site Manager and/or HSE Advisor or online HSE Management system.

Site induction information will be archived for a period of at least seven (7) years after completion of the project.

10.1.3 Training

ADCO Personnel

Training and competency requirements for ADCO personnel (mandatory and recommended) are noted in:

- Position Descriptions

- ADCO National Training Matrix

State Managers, Construction Manager and Project Managers must ensure that project personnel are trained and competent in accordance with the requirements noted in these documents. Information related to completed training will be maintained on and filed with the National Skills Register.

Subcontractors

Subcontractors are required to ensure that their personnel are in possession of the required licenses / competencies and have undergone training/ instruction to complete work activities in a safe manner.

The required licence / competency to undertake work is to be in accordance with applicable *Risk Management* or *Operational Management Procedure*.

Evidence of mandatory work activity competency (e.g. high-risk work license, certificates of competency, etc.) must be provided to ADCO at the time of site induction. Evidence supplied to and approved by ADCO will be included with the worker's induction records.

10.2 COMMUNICATION AND CONSULTATION

Pre Start Meetings

A daily Pre Start Meeting to identify and discuss safety issues / hazards / controls relative to daily work activities will be held by the Site Manager. Subcontract personnel (i.e. Supervisors) are required to attend the briefings prior to commencing their work activities and conduct pre-work briefings with their respective crews.

Issues to be discussed at the meeting, include but are not limited to:

- The tasks being completed by each trade during the shift.
- Risk and hazard management requirements including the requirement for any Permits.
- Incidents, accidents and near misses from any previous shifts.
- Health and safety issues raised by the workforce.
- Opportunities for worker input.

Details of the meetings (attendees, topics discussed, concerns arising, proposed actions) will be recorded on the Pre-Start Meeting form.

Toolbox Talks

On a daily or at the initiation of ADCO (e.g. following an incident), or at the request of workers, topic-based Toolbox Meetings will be held on the project. The objectives of toolbox meetings are to:

- Review the environmental performance in the work areas.
- Discuss any topical or promotional environmental items, bulletins or alerts.
- Discuss environmental aspects of work planned for the next week.
- Discuss any proposed changes to work procedures.
- Provide additional instruction to workers on quality, work health and safety and environment issues.
- Allow workers to raise issues.

Details of the discussion topic will be recorded on the Toolbox form. Toolbox Meeting Minutes will be displayed on Site Notice Boards for project personnel to review.

HS Committee Meetings

At the initiation of ADCO or at the request of workers, a Health and Safety Committee (HSC) may be established on the project. All subcontract companies are required to ensure that a representative (elected or nominated) participates if requested by ADCO.

Details of the meetings (attendees, topics discussed, concerns arising, proposed actions) will be recorded on the HSE Meeting form. Copies of the meeting minutes will be issued to all committee members and placed on the site noticeboard for general site review.

Other Meetings

Other forums which may be used for the discussion of safety, health and environmental management issues include, but are not limited to:

- Subcontractor coordination and management meetings.
- Client meetings.
- Stakeholder Meetings.

Details of the meetings (attendees, topics discussed, concerns arising, proposed actions) will be recorded on an applicable form and as required distributed to other parties.

Notification

Details of the dates and times of consultative forums will be advised to site workers at/on:

- Site Induction
- Pre Start Meetings
- Site Notice Boards

Notices – Alerts, Lessons Learnt and Bulletins.

Notices will serve as a reminder to workers of the messages that have already been delivered via project consultative forums. They will not serve as the primary method of work health and safety communication. Work health and safety notices will be posted on Site Notice Boards, located external to site offices and within amenity areas or other highly frequented areas and can include information such as:

- Company Environmental policies
- Cultural heritage
- Protected flora and fauna
- Restricted Areas / Site Sensitivity Maps
- Site Traffic Movement Plan

Notice Boards will be updated and maintained by the Site Manager and HSE Advisor.

Communication and Consultation across languages

In accordance with procedure *Consultation and Communication* ADCO has a process in place to ensure that communication and consultation occurs with all workers, including those with limited English. This includes:

- Assessing the language profile of the workforce.
- Delivery of project inductions.
- Subcontractors responsible for communicating and consulting with workers with limited English that includes use of translators and interpreters, diagrams and drawings, health and safety signage and allocation of resources for training, interpreters or translation of health and safety information.

11 DELIVERY

11.1 PROCUREMENT AND CONTRACT MANAGEMENT

11.1.1 Environmental in Procurement

Procurement Process

Prior to commencing any construction works and during the Procurement Process, ADCO will identify and list subcontractors / suppliers with capability to carry out the works. The suitability of subcontractors and suppliers (new and existing) will be assessed against:

- Their company profile, expertise and previous history;
- Internal recommendations of capability and reputation;
- Location and proximity to the project site;
- Their commercial and financial viability;
- Their compliance to regulatory / legislative requirements;
- Western Australian industry participation;
- Compliance with requirements to issue a full, fair and reasonable opportunity on the supply requirements for the project;
- New and retained apprentices and trainees;
- Construction methodology;
- Proposed personnel;
- Project resourcing;
- Adherence to ADCO management plans;
- Quality management;
- Ability to meet project timeframes;
- Cost of money for payment terms;
- Occupational health and safety; and
- Risk profile.

ADCO's HSE standards are required to be adopted and maintained throughout the life of the project. Prior to work on site, subcontractors require a briefing to ensure that all work health and safety precautions are in place and to review:

- How compliance with the Safety Management System will be achieved including site specific requirements.
- How they intend to comply with ADCO's systems.
- Documentation outlining their safe methods of work.
- Establishing performance monitoring, supervision and incident reporting protocols, and procedures.

ADCO and Subcontractors procuring plant, equipment and items to be used throughout project delivery are to review and inspect all items to ensure that no additional hazards / risks are unknowingly introduced on the project.

When materials are supplied to the Project, the project team member responsible for the procurement is to ensure all work health and safety information has been included and is distributed to the workers identified as needing to understand the requirements.

Products and Materials

Products and materials are subject to verification by the Site Manager at the time of purchase and/or at delivery to ensure conformance to contract requirements.

Goods delivered to the site, may be subject to a receiving inspection by ADCO or the subcontractor representative who takes delivery. Should it be required within the Inspection and Test Plan (ITP), evidence of review and acceptance (i.e. manufacturing certificates, standards verification, origin of supply, etc.) will be held in the project site

office for the duration of the project. At project completion, such documentation will be collated with “As Built” documentation or archived.

The Site Manager will be responsible for reviewing any Inspection and Test documentation required from and/or generated by the subcontractor in verification that their products and materials meet the requirements of the contract. Subcontractors must ensure goods are stored in designated areas and in accordance with the manufacturer’s requirements.

Non-conforming products will be labelled and segregated from conforming products and will be subject to the Non-conformance management process.

11.1.2 Subcontractor Management

Safe Work Method Statements

Prior to the commencement of ALL work activities including High Risk Works (as defined in the OSH legislative requirements) must provide Safe Work Method Statements (SWMS) to ADCO for review and acceptance.

The review and acceptance process is managed by the Site Manager and HSE Advisor. The Safe Work Method Statement Review Record form details the minimum requirements that must be detailed within SWMS documentation.

SWMS classified as High Risk under legislative requirements will reviewed utilising the Safe Work Method Statement Review Record – High Risk. Work activities that are not ‘High Risk’ as defined by legislation will be reviewed utilising the Safe Work Method Statement Review Record – ‘Low Risk’. Documents such as Procedures or Instructions are acceptable for Low Risk work activities.

- A description of the work activity.
- Details of Plant or substances to be used to complete the work activity.
- Risks and controls measures for the work activity.
- Environmental mitigation strategies for the work activity.
- Emergency management procedures for high risk activities.
- Details of who is responsible for managing the work activity and the controls.
- Evidence that workers have been consulted in the production of the SWMS and provided instruction and training.

Works cannot commence until SWMS documentation has been accepted for use.

Plant and Equipment

Subcontractors are required to maintain Inspection and Test Records and Plant Registers for all plant and equipment procured by them (or under their control) to meet legislative or standard requirements. A competent person is to maintain documented daily inspections (or as per manufacturers’ requirements) of the plant.

Copies of all plant documentation will be maintained on the online HSE Management System – HammerTech. The Equipment Register will provide prompts when plant and equipment is scheduled service or inspection.

Monitoring

The monitoring of subcontractor site activity compliance to accepted SWMS will be:

- Managed by the Site Manager and HSE Advisor through regular visual inspections.
- Documented on the Weekly Site Inspection Form.

Non Compliance

Where a non-compliance (to accepted work methods) is observed, the Site Manager or HSE Advisor will do any/all of the following:

- Stop the work activity.
- Cancel / suspended any active ATW Permit.
- Issue a non-compliance notice through Aconex or online HSE Management System.
- Issue a verbal instruction.
- Non-compliances will be listed in the Register – Non-Compliance or through Aconex.

Where a worker does not comply with a risk or behaviour control requirement, disciplinary action through the ADCO non-conformance system will be initiated. Dependent on the severity of the non-compliance, workers are subject to a tiered warning system and may receive up to 3 warnings for engaging in the same non-compliant activity.

Written warnings in the form of an Improvement Notice are issued to a company, when an individual of that company has engaged in a non-compliant activity.

ADCO reserves the right to deny a person access to site - irrespective of the number of warnings required / issued - if the non-compliance could / has resulted in a dangerous occurrence. This determination will be made in consultation with Construction Manager, Project Manager, Site Manager and HSE Manager.

Non-conformances identified through visual inspections, site inspections or task observations are documented within Register – Non- Conformances and is accessible to the ADCO project team.

Archiving

Subcontractor supplied documentation will be archived by ADCO for a period no less than seven (7) years after project completion. Duration of archiving may be extended if the Safe Work Method Statement is applicable to an incident or in relation to use of hazardous substances etc.

11.3 SYSTEMS OF WORK

11.3.1 Waste management

Waste sources

Identified sources of waste generated from project delivery include:

- Metal.
- Concrete / sand.
- Wood.
- Plasterboard.
- Excavated Material (if soil has been classified as contaminated)
- Organic.
- Glass
- Plastic
- Paper and cardboard
- Polystyrene

Waste Management

A form of waste minimisation, recycling and reuse program is established and promoted throughout the project period. Where waste minimisation is a requirement of project compliance (e.g. green star), waste strategies are included in the site induction program.

Waste categories on the project will consist of solid waste, liquid waste, food waste and contaminated waste (if applicable). Waste management of the project will consist of single

stream or co-mingled bins to collect waste material. All waste (excluding hazardous waste) will be transported to an offsite facility for disposal. The project will manage waste by:

- Designating waste storage areas.
- Recycling waste products wherever possible.
- Waste storage areas will be located in accessible areas for both vehicles and personnel to allow for easy access for collection and transport.
- Waste bins will be maintained in good condition to prevent leaks and spills.
- Defective containers will not be used for waste storage or transport.
- Hazardous waste (e.g. asbestos) will be contained and separated from other waste categories. Hazardous waste will be disposed of at an approved waste disposal facility and evidence of disposal i.e. waste disposal dockets obtained.
- Establishment of a designated concrete wash out area. Where practicable excess concrete will be recycled onsite for use e.g. access and egress routes or stabilise fill material.
- If applicable – Material contaminated by spills i.e. fuel, oil, lubricants etc. will be stored in sealed containers and disposed of at an approved facility.
- Actively encouraging Contractors and Suppliers to use non-toxic or recycled products and recycled packaging.
- Encouraging Contractors and Suppliers to reduce the amount of packaging materials brought on to site.
- Ensuring that all persons working on our projects are made aware of their responsibility for achieving a green working environment.
- Any contaminated soil on the project will be classified prior to removal and transport directly to an approved disposal facility.

Food Waste

- Food waste will be managed to prevent birds and vermin accessing the waste.
- Lidded food waste bins will be located in the site amenities areas i.e. offices / lunchrooms.
- Designated food waste bins will be emptied on a daily basis.
- Food waste bins are to be kept covered
- Food waste will be contained in bags which will be secured / tied when emptied
- Work areas are to be kept free of rubbish and other debris at all times.
- No food waste to be deposited directly into external construction waste skips.
- Active rodent control established on the site i.e. baits around site perimeter.

Housekeeping

The Site Manager will ensure that Site Amenities i.e. crib rooms and toilet blocks are maintained in a clean and tidy condition at all times. All waste bins shall be covered and sealed and all organic waste shall be removed from site on a regular basis.

Each Subcontractor must maintain a clean and tidy workspace. If after a formal warning, any Subcontractor who does not maintain their workspace in a clean and tidy manner and properly dispose of its waste, the Project Manager will arrange for the workspace to be cleaned and waste segregated to be properly disposed of with the associated costs back-charged to the non-compliant Subcontractor.

The Project Manager will ensure that an adequate number of waste bins have been provided and are located as close to areas of work as practicable for the material to be removed from the site by the subcontractor's waste removal contractor. All bins shall be covered by lids where available to prevent material from being dislodged during transport of storage.

Trucks and vehicles delivering goods, materials, plant, equipment, etc. must so far as practicable not traverse mud, dirt, stones or other materials to external areas of the site so as not to cause injury, nuisance or damage to the surrounding environment. Should surrounding roads, footpaths, watercourse and verges be soiled with dust, sand, grit, litter, debris, mud and the like caused by site activities, the Project Manager will undertake to have them cleaned immediately.

The site must be maintained in a clean and tidy condition at all times. A formal housekeeping inspection will be completed on a weekly basis by the project team utilising the Weekly Site Inspection form.

Waste Removal and Disposal

Removal and recycling of waste will be provided by a licenced waste removalist. Trucks removing material from site will have the loads securely covered to prevent spillage. Drivers are required to ensure that no materials are tracked onto the road.

Should surrounding roads, footpaths and verges be soiled with dust, sand, grit, litter, debris, mud and the like caused by site activities, the Project Manager will undertake to have them cleaned immediately e.g. road sweeper.

The transport of all materials from the site will comply with the requirements of the EPA, Local Councils, Road Transport Authorities (RTA) and other relevant authorities. Waste removed from site will be disposed of at an appropriately licenced waste disposal facility. On a monthly basis a Waste Management Report will be provided to ADCO which will detail quantities of waste that are recycled, reused or go to landfill.

11.3.2 Substance Management

Substance Use

ADCO will have appropriate measures in place to use and store hazardous substances / dangerous goods to prevent accidental or intentional release to the natural environment leading to environmental harm, including impacts to air and water. The following management protocols will be implemented and monitored for implementation on a daily basis:

- Maintaining a limit of 250 litres of each substance on site at any one time. Note: Any requirement to use or store more than this quantity, requires an ATW Permit issued.
- Subcontractors providing a site-specific SWMS detailing the work activities, risks and control measures. (No work will proceed until ADCO Constructions has accepted the SWMS).
- Current SDS for each substance will be available for reference. SDSs are to be Australian and issued within the previous 5 years. SDS information will be located in the Site Office.
- Current Register for such substances as used on the site. (The Register detailing the nature, quantity and location of all hazardous material must be maintained and regularly updated).
- Ensuring that the substances and their containers are correctly labelled and contained.
- Erection of appropriate warning/emergency panel signage to warn of the location of the substance.
- Ensuring that the substances are safe from use or access by other parties.

- Completing regular inspections of vehicles, containers, bunding and equipment to check for any leaks or spills.
- Providing appropriate fire suppression equipment.
- Providing details for ensuring that at the completion of the works, all residual stocks of substances are guaranteed to be removed from the construction area.

Substance Storage

Substances must be stored in accordance with Procedures - Substance Management. To ensure the protection of human health and the environment the following is to be implemented:

- Storing the substances in a manner which complies with the Code (and with AS 1940, AS 4332 and any other applicable legislation or standards)
- Storage units are only to be used outdoors.
- Storage units are not to be located where they could hinder escape from a building in the event of a fire or other emergency;
- Storage units are to be separated from boundaries and other buildings and infrastructure by the distances required by the relevant Australian Standard.
- Storage units must be adequately secured against high wind conditions.
- Storage units are to be positioned, or otherwise protected (e.g. with bollards) so that they are protected from vehicle impact.
- If two or more storage units are positioned together, they can only be treated as individual stores if they are separated by the distance required by the relevant Australian Standards.
- If two or more storage units are positioned together, they must not be positioned so that there is any restriction of ventilation through any of the installed vents.
- The area around storage units is to be kept clear of combustible materials (e.g. timber pallets), vegetation and refuse for a distance of at least 3 metres.
- Storage units are to be located at least 3 metres away from heat sources. Refer also to separation distance requirements outlined above.
- Storage units for flammable and oxidizing materials are to be kept away from ignition sources. This includes electrical installations (such as power-points, light-switches and light-fittings), traffic routes, carparks, and work areas where ignition sources may be present (e.g. areas where welding or grinding may take place).
- For gas cylinders in storage units, separate incompatible gas cylinders by at least 3 metres.
- Bunds to be of sufficient size and capacity to accommodate substances stored in the event of a spill.
- “DANGER” signage to be placed in visible positions to warn of dangers (flammable substances).
- Fire suppression equipment to be located with the substances.
- Incompatible goods are not to be stored in the same cabinet. Specific information for individual products can be found on the product Safety Data Sheet (SDS).

Spill management

Substances (chemicals and / or hydrocarbons) that leak into environment can lead to environmental and/or human harm. Equipment failure, poor operation or accidents can all give rise to the potential spills. Any spillage has the ability to impact soil, water, flora or fauna in an adverse manner.

To mitigate and control any unplanned event or spill, emergency spill kits will be strategically placed around the project and clearly defined on the Emergency Plan. Any

spill, irrespective of size, must be reported to the ADCO project team who will investigate and implement appropriate risk treatments.

In the event of hydrocarbon contamination as a result of project activities, the affected area will be contained and cleaned up.

11.3.3 Dust Management

General

ADCO will prevent any nuisance occurring through the discharge of dust, dirt, water, fumes and the like on to persons or property. Strategies to be implemented to prevent dust generation and potential nuisance includes but is not limited to:

- Restrict vehicle movements to designated routes.
- Apply water sprays to earthwork and demolition locations as required during periods of dry weather, strong winds or dust generating activities.
- Use shade cloth around work areas where practicable.
- In the event that excavated materials will be stockpiled, onsite stockpile management practices will be carried out. These include water sprays and locating stockpiles away from public and residential properties as much is reasonably practicable.
- Minimise dust generating construction activities during periods of high winds or adverse weather.
- Cease relevant construction activities should they be found to be generating excessive dust until effective control measures are implemented.
- As required, implement regular sweeping (including road sweeping) and cleaning activities.
- Monitor and manage the incidence of dust deposition from construction activities and construction vehicles.
- Daily and Weekly visual monitoring of dust and dust management controls will be carried out by the Site team..
- Ensure that subcontract personnel adopt work methods to include dust minimisation practices.
- Implement corrective action in response to diminished air quality as a consequence of construction activities or vehicles.
- Restrict construction traffic to designated / sign posted traffic routes.
- No burning off will occur on the site.
- Site amenities areas will have nil dust generating activities that will require additional dust management strategies in place.

Monitoring and recording

Where dust management controls are identified as being inadequate ADCO will investigate and identify the root cause and cease the dust generation activity until suitable controls have been implemented.

11.3.4 Construction Noise and Vibration Management

Management

ADCO will comply with AS/NZS 2436 Guide to Noise Control on Construction, Maintenance and Demolition Sites. Works will be carried out during the approved working hours only and all noise generated through plant will be assessed through the plant mobilisation and induction process.

To ensure that plant and equipment used throughout construction is the quietest reasonably available ADCO will:

- Ensure that Plant is inspected at first entry to site and then at regular intervals. Refer to Procedure: Operating Plant (mobile plant).
- Where practicable, position Plant / equipment (e.g. start-up, parking, refuelling, generators) away from noise-sensitive areas.
- Where practicable, avoid simultaneous operation of noisy Plant /or equipment.
- Ensure that Plant / equipment is serviced as per the manufacturer's instruction and maintained in good working order.
- Ensure that Plant / equipment is switched off when not in use.
- Where practicable, select alternative Plant or equipment to complete the activity.

The ADCO Project team will ensure compliance to noise and vibration management controls through:

- Communicate noise generating activities with key stakeholders.
- Carrying out works within approved Construction Hours.
- Regular inspections (documented in the Weekly Site Inspection) and completion of corrective actions where required.
- Inclusion of noise and vibration awareness and control requirements through consultative forums.
- The use of the daily Pre-Start Meeting to discuss awareness, control compliance and requirements.
- Ensuring, so far as is practicable, that personnel involved in or working near noise generating activities on the construction site, wear PPE applicable to the activity.
- Ensuring, that signage advising of the hazard/s are posted in visible locations around the work activity area.
- Where construction activities may result in noise / vibration impacts Facility, notification will be provided to the affected parties.
- The location of the works within the site will be considered and appropriate and suitable equipment will be selected based on the proximity to adjacent properties.

Monitoring and recording

Should a complaint be received regarding noise / vibration ADCO will investigate and identify the root cause and cease the noise / vibration generating activity. In the event that Noise / Vibration monitoring is deemed necessary monitoring will be carried out by a suitably qualified person.

11.3.5 Stockpile Management

Management

To prevent contamination of nearby watercourses and potential dust emissions which degrade air quality, ADCO will implement the following control measures:

- Stockpiles will be located as far away from residential buildings as is practical.
- Topsoil stockpiles to be located on flat areas, clear of drainage lines and at significant distance away from waterways, roads, and slopes of greater than 10%.
- Stockpiles to be located at least 3 metres from tree drip lines.
- Stockpiled materials not to be placed inside vegetation protection areas or within 5 metres of retained trees.
- Stockpiled materials not to be placed within 5 metres of waterways or stormwater inlets.
- Clean topsoil and friable subsoil to be stockpiled separately and re-spread in areas to be revegetated
- Weed infested topsoil to be stockpiled separately and removed from site or re-spread in a manner which mitigates the spread or re-introduction of weeds.

- Install bunding/silt fencing around stockpiles to prevent against water runoff.
- Dampen stockpiles by means of water sprays to management dust emissions.
- Where practicable, vegetate stockpiles to improve soil stability.
- In the event that stockpiles are to remain for extended periods of time (>12 months) hydro mulch or similar may be required to ensure stabilisation.
- Limit the height and volume of stockpiles so that control measures can be implemented.
- Stockpiles and control measures to be monitored regularly and immediately rectified as required.

11.3.6 Sediment Control and Onsite Water Management

Management

Surface water management will be considered into the staging of the construction works program. Regular inspections of stormwater and surface water controls will be undertaken, and issue identification and corrective actions recorded on the online HSE Management System.

The risk of erosion and sedimentation is a direct consequence of exposure of soil to rainfall and stormwater runoff. Sedimentation involves the deposition of eroded material into surrounding areas.

To control the risk of erosion or sediment impacting on the natural environment, ADCO will:

- Install erosion and sediment control devices to mitigate and manage the impact of excess soils on nearby roads, surface water quality, air quality, fauna and flora.
- Erosion and sedimentation controls to be monitored on a weekly basis or immediately following a rainfall event.
- Ensure that the handling and placement of excavated material is in accordance with WMS, Client instructions, EPA requirements etc.
- Complete daily inspections of stockpiles, excavated areas and control methods for erosion and sediment management.
- Residue to be disposed of in an appropriate manner.
- All drainage inlets near or within the site must be protected against silt infiltration and soil run off with the use of silt traps, sandbags and/or geo-fabric protection.
- ADCO Constructions will ensure that all drains and gutters leading to the storm water system within the Site have sediment control measures installed to prevent sediment entering into the drainage system and waterways.

Entering Site

- Identify vulnerable locations on site and install control devices as far as practicable to halt or alter course of water.
- Inspections prior to a major weather event.

Exiting Site

- Identify vulnerable drains, low points and stormwater runoff points.
- Install control devices (i.e. silt fencing, bunding, diversion devices, sandbags, etc).
- Daily inspections and maintenance of control

11.3.7 Materials Storage

General

Construction material required to carry out project works will be stored within designated storage areas within the site compound. The capacity of bunds and containment areas will be maintained at all times. Where necessary bunds will be pumped out after rain events, water tested and disposed of appropriately.

Prior to any delivery of materials, mobile plant or tools, subcontractors to consult with ADCO Site Management on the following:

- Permissible items permitted on site including DG/Hazardous Substances.
- Storage areas for trades / materials / substances / Plant.
- Permits or pre- entry inspections including documentation (e.g. Safety Data Sheets, Validation Certificates etc.) required for Plant, tools or substances.
- Hazardous substances and flammable goods to be stored in an approved lockable storage cage. Subcontractors to provide their own lockable cages.
- Pre- delivery inspections to ensure that materials are in accordance with SHE requirements.
- Use of bunds and containment areas.
- Items found not to be conforming are to be secured and removed from site.
- Capacity of bunds and containment areas will be maintained. Where necessary bunds will be pumped out after rain events and disposed of appropriately.

11.3.8 Foreign Object Damage

Site Compound

To manage the potential of Foreign Object Damage (FOD) within the site compound, ADCO will:

- Area to be contained within perimeter fencing.
- Appropriate storage containers based on the nature of the product being stored will be provided and located in a designated area.
- Containers must be closed except for when personnel are accessing or working within the container.
- Items within containers must be secured.
- Waste must be placed into supplied receptacles fitted with lids.
- Waste lids are to be closed at all times.
- Material or equipment stored external to site sheds or containers must not have any fittings, fixtures or wrapping which could come loose and cause a hazard.

Work Areas

To manage the potential of Foreign Object Damage (FOD) within project work areas, ADCO will:

- Material or equipment transported to the work area must be secured to ensure that no fittings, fixtures or wrapping could come loose and cause a hazard during transportation
- Work areas are to be maintained with a high standard of housekeeping at all times and must be free of loose material, packaging, debris etc. at the close of each shift.

11.3.9 Plant Movements

General

To ensure that no fuel, lubricant, mud, dirt, stones or other materials is spilled, or other materials is spilled or deposited onto roads or footpaths resulting in damage, loss, injury or nuisance ADCO will:

- Install control measures (i.e. water spraying, rumble grids, road sweepers) which limit the opportunity for dust, noise or spillage to occur.
- Limit site speed Limits.
- Loads to be covered prior to leaving the site.
- Daily inspections of control measures to be conducted and immediately rectified as required.
- Work activity requirements to be included in the Site Induction.

Traffic Management / Movement	/ Comply with any approved Traffic Management Plan for external site traffic management. / Where practicable, co-ordinate deliveries and site activities with out of peak traffic hours. / Monitor traffic flows and implement corrective actions in response to traffic impacts as a consequence of construction activities. / Daily inspections of control measures to be conducted and immediately rectified as required. / Work activity requirements to be included in the Site Induction. / If required under planning, inform local community about the timing and scale of construction traffic impacts.
Roads and Footpaths	/ Protect footpaths, kerbs and roads from damage through (e.g.) use of metal plates, restriction of heavy vehicles, prohibition for storing equipment or material on roads and footpaths etc. / Daily inspections of control measures to be conducted and immediately rectified as required. / Work activity requirements to be included in the Site Induction. / Should surrounding roads, footpaths, watercourse and verges be soiled with dust, sand, grit, litter, debris, mud and the like caused by site activities, the Project Manager will undertake to have them cleaned immediately.

11.3.10 Refuelling

Management

The following management protocols will be implemented:

/ There will be limited storage of fuels onsite.
/ Refuelling is to occur in designated refuelling areas with preference for refuelling to be carried out by mobile fuel vehicles / trailers.
/ Fuels, oils and chemicals are to be stored in accordance with the relevant Standards and all appropriate measures taken to ensure that environmental performance is being fulfilled
/ Regular inspections of vehicles, containers and equipment to be completed to check for any leaks or spills.
/ Ensure that appropriate storage facilities and fire suppression, spill management is used.
/ Ensure that containers are correctly labelled and that minimal quantities are stored on site.
/ Where possible, request substitution of substance with less harmful substances.
/ Major servicing of machinery to be completed off site.
/ Hoses to be fitted with a stop valve
/ Spill response kit to be readily available during refuelling activities.

11.3.11 Heat

Management

Throughout project delivery ADCO will ensure that workers are aware and have the required controls to mitigate the risk associated with long periods of heat and direct sunlight impacting on workers. Controls include but are not limited to:

/ Enforcing frequent breaks including weekly toolbox talks.
/ Use of SPF 50 sunblock and reapplication at frequent periods.
/ Site PPE Standards.
/ Increase fluid intake & additional water bubblers located throughout site.

- Scheduling most strenuous works to occur at cooler times of the day.
- Substituting physical activities to machine where applicable to reduce physical demands.
- Measure daily temperature and humidity and display on site notice boards.

11.3.12 Light

Management

Prior to works commencing onsite ADCO will identify sensitive areas that may be impacted by lighting. This includes stakeholder operations, surrounding residents and fauna. Lighting plants will be sited so as not to shine towards residential properties.

11.3.13 Flora and Fauna

Management

ADCO will not remove, damage or destroy, or cause to be removed, any trees or shrubs at the Site without written approval of the Client / Superintendent. Prior to works commencing onsite ADCO will identify flora and fauna that may be impacted by construction activities. Flora and fauna management controls will be communicated to project personnel through the following consultative forums:

- Subcontractor procurement meetings
- Project Specific Site Induction
- Daily debrief meetings
- Toolbox Meetings
- Site Notice boards and alerts.

ADCO will monitor compliance to fauna management through performance evaluation activities.

11.3.14 Dewatering

Management

In the event that dewatering is required a dewatering management plan will be provided specific for the dewatering scope. ADCO will liaise closely with key stakeholders and obtain all required regulatory approvals required for the dewatering works. Dewatering works will not commence until all approvals have been obtained.

11.3.15 Seasonal Weather

Management

In the event of an extreme weather event (such as a storm, heavy rainfall, high winds), ADCO will review the control measures identified within the EMP to ensure there is no environmental disturbance as a result of the weather event.

11.3.16 Cultural Heritage

Management

Where heritage management is a requirement of project compliance, work activities are completed with due consideration and protection. Cultural Heritage Management requirements will be included in the site induction and discussed through project consultative forums.

Unexpected Find

An ‘unexpected heritage find’ is “any unanticipated archaeological discovery that has not been identified during a previous assessment or is not covered by an existing permit under relevant legislation”.

The range of potential archaeological discoveries can include but are not limited to:

- Aboriginal stone artefacts, shell middens, burial sites, engraved rock art, scarred trees.

- Remains of infrastructure including buildings, footings, old kerbing and pavement, former road surfaces, timber and stone culverts, bridge footings and retaining walls.
- Artefact scatters including clustering of broken and complete bottles, glass, ceramics, animal bones and clay pipes.

When a "find" is identified in a work area:

1. All work in the find area must be stopped and the find must be reported to the Site Manager.
2. The Site Manager must establish a 'no-go zone' for at least 10 metres around the find. (e.g. fencing, solid barricades) where practical. No interference, including works, ground disturbance is allowed in the zone.
3. The Site Manager must notify the Project Manager.
4. The Project Manager to contact a heritage Adviser and arrange for the Adviser to assess the find.
5. Subject to assessment, work may recommence at a set distance from the item. Existing protective barriers may need to be adjusted.
6. To recommence work in the find area, the Project Manager must obtain written clearance from the Adviser including any additional project/heritage approvals/determinations.
7. Where required, the Project Manager / State HSE Manager will be required to update the Project Risk Register to reflect the find and any additional conditions / controls.
8. The Site Manager or HSE Advisor will be required to incorporate any changes to the site induction.

12 INCIDENT MANAGEMENT

The management of incidents will occur in accordance with *Procedure – Incident Management*.

Reporting

The reporting of all incidents from work activities within and outside the work boundary is mandatory on ADCO project sites. Incidents to be reported includes:

- Injuries regardless of severity
- Near Miss Events
- Environmental
- General incidents e.g. property, equipment and service damage.

Workers are advised at the site induction that all incidents irrespective of type or severity must be reported to the Site Manager or HSE Advisor immediately upon occurrence.

In accordance with contract requirements, ADCO will notify nominated representatives of incidents within agreed time frames.

Investigation

Examples of environmental incidents include, but are not limited to the following events:

- Unauthorised disturbance of vegetation;
- Hydrocarbon or chemical spill;
- Uncontrolled discharges into water bodies, creeks, stormwater drains etc;
- Breach of licence or permit conditions; and
- Unauthorised impacts to protected areas.

Incidents must be investigated by the Site Manager and HSE Advisor. The investigation is intended to:

- Collate information / documentation associated with the incident.
- Identify Contributing Factors and Root Causes
- Identify job system and behavioural factors leading to the incident.
- Identify non-conformances leading to the incident.
- Identify corrective and preventative action to mitigate recurrence of the incident.

The extent to which additional positions (e.g. Project Manager, HSE Manager, Construction Manager or Head of Risk and Compliance) are involved in the investigation of an incident is dependent on the severity and complexity of the incident.

Corrective actions and preventative actions are noted in Incident Investigation reports and implemented according to the ADCO risk management time frame. Incident reports are completed within 7 days of occurrence. Incident reports are closed out within 28 days of occurrence.

Monitoring	The Project Manager, Site Manager and HSE Advisor are responsible for ensuring that actions (corrective / preventative) arising out of an incident investigation are implemented and monitored for compliance.
Notification to Regulator	Where an incident is notifiable under the WHS legislation of the state in which it occurred, notification to the regulator will be made by any of the following positions: HSE Manager, Construction Manager, State Manager or Head of Risk and Compliance.
Retaining Records	All injury records and investigation findings will be retained within the online HSE management system - HammerTech.

12.1 COMPLAINT MANAGEMENT

Complaints can be raised for issues such as, noise, dust, light, pollution, perceived environmental management issued and breaches of regulatory approvals. A person may register a complaint with ADCO directly through verbal or consultative forums. Information relating to complaints is documented on the *Complaints Form*. Complaints are registered on the Register - Project Complaints. Complaints must:

- Be immediately reviewed and Investigated by the Project Manager, Site Manager and/or HSE Advisor.
- Be actioned within 48 hours by the Project Manager, Site Manager and/or HSE Advisor. Actions to be noted on the form. This includes a response (email or verbal) to the person generating the complaint.

In general, the below recommended actions should be followed:

- Respond to the complainant in an objective, polite and courteous manner.
- Engage with the complainant to correctly understand the complaint.
- Seek clarification and confirm the issues, relevant information, and outcomes sought (i.e. summarise the main points).
- Clarify the application of any relevant legislation, policies or procedures.
- Resolve the complaint and acknowledge the complainant.
- If the complaint cannot be resolved within a reasonable time frame, advise the complainant about the complaints process and indicative response.
- Take reasonable action to prevent similar complaints in the future

13 EMERGENCY MANAGEMENT

Refer to project Health and Safety Management Plan - Emergency Management which details the emergency management control required in the event of an environmental emergency.

14 MONITORING AND CONTINUAL IMPROVEMENT

Progress against project targets is monitored by the project team (Project Manager, Site Manager, HSE Advisor) through:

- Regular daily visual inspections of work activities.
- Completion of the Weekly Site Inspection report.
- Close out of identified actions for non-conformances.
- Internal / External Audits and Inspections.

Confirmation of achievement of project targets is reviewed through:

- Project Control Reports
- Project audits.
- Other internal or external audits (e.g. client, FSC).
- HammerTech reporting.
- A reduction in incident and non-conformances across the project, State and nationally.

In the event that project targets are not being achieved by the project team, the Construction Manager and State HSE Manager will implement change to ensure project targets are met.

14.1 AUDITS

Project audits completed by the HSE Manager or nominated person are a formal a review of project compliance against select criteria of the HSE Management System. Projects are required to be audited against both national (internal procedures) and project criteria (site specific).

The level of compliance to the requirements of the HSE System is determined by the audit score achieved. Any corrective action (e.g. non-conformances) identified in the audit, must be addressed by the site team within a maximum of seven working days of receipt of the audit report. Corrective actions and supporting evidence must be attached to the Audit Report within the online HSE Management System.

Audits are to occur in accordance with the project Audit Schedule which will detail the applicable audits to be carried out on the project.

14.1.1 Audit Schedule

Audit / Inspection Type	Frequency / Tine Frame	Participants
Internal HSE Audit	Twice throughout project delivery.	HSE Manager or nominated person (lead) / Construction Manager / Project Manager / HSE Advisor/ Site Manager
Third party system compliance audit i.e. Federal Safety Commission, BSi	As advised	Head of Risk and Compliance / HSE Manager / Construction Manager / Project Manager / HSE Advisor/ Site Manager

External HSE Audit	As requested by client & as agreed with ADCO	Client's external auditor

14.2 COMPLIANCE ACTIVITIES

14.2.1 Inspections

Performance monitoring will occur in accordance with *Procedure – Performance Management* which details ADCO's approach to monitoring work conditions and behaviour. ADCO will carry out daily and weekly workplace inspections to review and confirm compliance to approved work practices and controls.

Regular daily visual inspections of work activities and work areas will be completed by the Site Manager, HSE Advisor and Health and Safety Representative (if applicable). Formal inspections will be completed by the Project Manager, Site Manager, HSE Advisor using the *Weekly Site Inspection* form.

The inspection is required to reflect the level of compliance to:

- High Risk Work Activities
- Subcontractor Compliance
- General site conditions.

Inspections completed will be prioritised based on the level of risk and all records of inspections will be retained within HammerTech. "Issues" will be recorded for compliant and non-compliant observations within HammerTech. "Issues" identify the observation description, actions required to rectify, subcontractor responsible and time frame for implementation.

14.2.2 Monitoring – Environmental Compliance Obligations

On-site inspections and monitoring will be carried out to ensure environmental controls achieve their objectives and to facilitate modification where necessary. The table below details the projects inspection and monitoring requirements to ensure environmental compliance obligations are achieved.

Aspect	Compliance Obligation	Responsibility	Frequency
Dust	Monitoring for visible dust Depositional and Directional dust gauges	HSE Advisor / Site Manager	Daily – visual As required
Noise	Monitoring of Sound Pressure Levels	Project Manager	As requested to monitor the impacts of work activities
Vibration	Monitoring of vibration levels.	Project Manager	As requested to monitor the impacts of work activities
Waste Management	Use of waste bins– inspect contents	HSE Advisor / Site Manager	Weekly
Waste Management - Recycling	Waste disposal – documentation provided by waste removalist detailing quantities and percentage waste recycled / diverted from landfill.	Senior CA	Monthly

Aspect	Compliance Obligation	Responsibility	Frequency
Tree Protection Zone No-Go zones	Ensure areas are protected e.g. fenced and sign posted Ensure works are located outside fenced off areas Inspect protection for breaches. Inspect irrigation (if appliable)	HSE Advisor / Site Manager	Weekly
Hazardous Substances and Dangerous Goods	Review the storage of Hazardous Substances and Dangerous Goods. / Presence and detail of Safety Data Sheets (SDS) / Suitability and effectiveness of storage and bunding / Location of spill kits	HSE Advisor / Site Manager	Weekly
Sediment Control and Onsite Water Management	Monitoring to ensure sediment laden water is managed properly and not discharged offsite.	HSE Advisor / Site Manager	Daily – visual
Sediment Control and Onsite Water Management	Establishment of erosion and sediment control devices.	HSE Advisor / Site Manager	Weekly / Following a rainfall event
Weeds	Monitor weed infestations to ensure noxious weed infestations found within the area are controlled.	HSE Advisor / Site Manager	Weekly
Onsite water Management	Monitoring of water prior to discharge offsite	HSE Advisor / Site Manager	As required
Testing of excavated soil	Suspected contaminated soil from where excavated or prior to reuse at a different location onsite.	Project Manager	As required

Note: As applicable Environmental monitoring may involve collecting and interpreting data to provide quantification of the effectiveness of the Environmental Management System. All equipment used for environmental monitoring will be calibrated as per manufacturer's requirements. Where laboratory testing is required, a NATA accredited laboratory will be used. Certificates, checklists and records of the calibration, NATA accredited and installation checklists are maintained to verify compliance with these requirements.

14.3 ENVIRONMENTAL PERFORMANCE MEASUREMENT

The Management System objectives are to assist ADCO in:

- Achieving and maintaining compliance with the requirements ISO 9001, AS 4801 and ISO 14001 in each State in which ADCO operates;
- Maintaining a practical, proactive and efficient management system to support quality, safety and environmental management strategies on each project;

- Planning design and construction activities to minimise or eliminate quality, environmental and safety related risks;
- Promoting a proactive attitude towards work practices required to support the strategic vision;
- Supporting all persons involved with our business towards alignment with ADCO's strategies and to meet their accountabilities and responsibilities;
- Ensuring that all works undertaken and products, materials and equipment provided are fit for purpose and safe for use;
- Ensuring that non-conformances, defects and other issues and impacts are reported, corrected, analysed and corrective action implemented; and
- Providing a framework for continual improvement in its business activities.

These objectives are targeted and measured through the following performance indicators:

- Proactive reporting, investigation and closure of incidents and non-conformances;
- Quality processes implemented and managed on all projects, supported by staff training;
- Nil regulatory notices (i.e. improvements, infringements, prohibitions);
- Auditing achieving a Gold/Silver rating compliance on > 85% of projects;
- Nil incidents that adversely impact on the environment;
- Other targets set in annual and 3 year business plans and strategies for Horizon 1, 2 and 3.

14.4 PROJECT ENVIRONMENTAL OBJECTIVES AND TARGETS

The below Environmental Objectives and Targets will be set and implemented for the project and reviewed periodically in line with the management plan review. Objectives will be achieved through:

- Compliance with the requirements of this Health and Safety Management Plan
- Implementation of controls identified within the Project Risk Register
- All controls are implemented before commencing work to ensure all known risks are eliminated or controlled

14.4.1 Lead Indicators

Lead Indicator	Measurement	Validation	Target
Leadership Commitment	Environmental Management Plan - Environmental responsibilities described within Organisational Roles and Responsibilities	Approved Environmental Management Plan. Management Plan signed by ADCO project team.	Environmental Management Plan approved by all necessary parties within agreed timeframe Environmental Management Plan periodically reviewed, amended and re-issued as per agreed review frequency. 100% of Project team signed onto Management Plan.
Compliance with all standards, plans and audit schedules	Development of Audit Schedule	Audit schedule Audit Reports	100% audits executed as per Audit Schedule

Lead Indicator	Measurement	Validation	Target
	Audits conducted as per schedule	Audit actions Non-conformance register	100% of audit Reports completed within agreed timeframes 100% of actions associated with non-conformances closed out within agreed time
Communication and Consultation	Daily Pre-Work briefings Toolbox Meetings HSE Committee Meetings	Attendance registers Meeting minutes Training support material	Daily Pre start meeting Toolbox Meetings at nominated frequency

14..4.2 Lag Indicators

Lag Indicator	Measurement	Validation	Target
Dust complaints lodged by stakeholders	Response time and time frame for implementation of correction actions.	Complaints received and actioned within Complaint form.	Immediately reviewed and Investigated Be actioned within 48 hours
Noise complaints lodged by stakeholders	Response time and time frame for implementation of correction actions.	Complaints received and actioned within Complaint form.	Immediately reviewed and Investigated Be actioned within 48 hours
Vibration complaints lodged by stakeholders	Response time and time frame for implementation of correction actions.	Complaints received and actioned within Complaint form.	Immediately reviewed and Investigated Be actioned within 48 hours
Lighting complaints lodged by stakeholders	Number of lighting complaints received	Complaints received and captured within Complaint form.	Immediately reviewed and Investigated Be actioned within 48 hours
Contamination of marine, groundwater and surface water systems	Number of Environmental Incidents	Incident data reported in Environmental reports.	Zero
Spills greater than 100 Litres	Number of Environmental Incidents	Incident data reported in Environmental reports.	Zero

Lag Indicator	Measurement	Validation	Target
Spills which require an emergency response	Number of Environmental Incidents	Incident data reported in Environmental reports.	Zero
Injury or death of any fauna caused by vehicles or excavations	Number of Environmental Incidents	Incident data reported in Environmental reports.	Zero
Disturbance of vegetation outside the construction area due to construction activities	Number of Environmental Incidents	Incident data reported in Environmental reports.	Zero
Off-site traffic leaving formed roads or approved tracks	Number of Environmental Incidents	Incident data reported in Environmental reports.	Zero
Invasive species introduced into construction area	Number of Environmental Incidents	Incident data reported in Environmental reports.	Zero
Reportable Environmental Incidents	Number of Environmental Incidents	Incident data reported in Environmental reports.	Zero
Major Environmental Incidents	Number of Environmental Incidents	Incident data reported in Environmental reports.	Zero
Environmental Near Misses	Number of Environmental Incidents	Incident data reported in Environmental reports.	Zero
Cultural heritage Incident	Number of Environmental Incidents	Incident data reported in Environmental reports.	Zero
Minor Environmental Incidents (<25)	Number of Environmental Incidents	Incident data reported in Environmental reports.	<2
Minor spills controlled, contained and cleaned up within 24 hours	Number of Environmental Incidents	Incident data reported in Environmental reports.	100%
Hazardous materials managed and disposed of appropriately	Weekly Site Inspection Issue identification	Minimum one per week.	100%

14.5 CORRECTION AND CORRECTIVE ACTION

Activities on the project that may result in actions includes but is not limited to:

- Audits (Internal, External).
- Daily Inspections.
- Weekly Site Inspections.
- High Risk Work Activity Inspections.
- Subcontractor compliance monitoring inspections / task observations.

- General site observations.
- Hazard identifications / Issue Notification Form
- Incident investigations.
- Risk Assessments.
- Alerts / Notices

Actions identified from observations are to be entered into HammerTech and tracked until they are closed out within the timeframe noted. Upon identification or notification, the HSE Advisor or Site Manager must review and assess the risk and develop appropriate controls according to the principles of the hierarchy of controls.

Actions that arise from an incident or dangerous occurrence must be reviewed by the Project Manager, Construction Manager and State HSE Manager and reviewed for effectiveness through site monitoring activities. Actions, including amendments and updates, to the Management System and Management System Documentation must be authorised by the Head of Risk and Compliance, the HSE Leadership Group or the Quality Leadership Group.

Actions that arise from an external audit by will be entered into HammerTech for tracking and close out.

The assessment of results obtained through monitoring activities, non-conformances, correcting poor performance, investigating the reasons for poor performance and addressing the potential likelihood of future poor performance will be conducted in accordance with *Procedure – Performance Management*.

Where a worker does not comply with a risk or behaviour control requirement, disciplinary action through the ADCO non-conformance system will be initiated. Dependent on the severity of the non-compliance, workers are subject to a tiered warning system and may receive up to 3 warnings for engaging in the same non-compliant activity. Written warnings in the form of an Improvement Notice are issued to a company, when an individual of that company has engaged in a non-compliant activity. ADCO reserves the right to deny a person access to site - irrespective of the number of warnings required / issued - if the non-compliance could / has resulted in a dangerous occurrence. This determination will be made in consultation with Construction Manager, Project Manager, Site Manager and HSE Manager.

14.6 MEASURING, RECORDING, MONITORING AND REPORTING

ADCO utilises a range of tools, systems and forums to measure, monitor, implement, report, and respond on its performance, objectives, targets and impacts. These include, without limitation:

Tools / Systems

- Hammertech, Aconex, Dropbox, Power BI and CRM

Meetings, Forums and Reports

- Strategic Plans (Horizon 1, 2 and 3 Reports)
- Board Meetings
- State Management Meetings
- Leadership Forum
- HSE Leadership Group
- Quality Leadership Group
- Construction and Commercial Manager Forums
- Operational Assurance Reports
- Project Control Reports (project specific)
- PCG Reports (project specific)

15 ANNEXURES

01 NEXT SENSE_Construction,Noise,Vibration Management Plan

02 NEXT SENSE_Erosion + Sediment + Water Controls_Management Plan

03 NEXT SENSE_Community Communication Strategy Plan

04 NEXT SENSE_Macquarie Park_Waste Management Plan

05 NEXT SENSE_Macquarie Park_Environmental Management Plan

06 NEXT SENSE_Construction Traffic and Pedestrian Management Plan

ANNEXURE 01

NEXT SENSE_Construction,Noise,Vibration Management Plan

NextSense – 105 Culloden Road and Talavera Road, Macquarie Park

Construction Noise Vibration Management Sub Plan (CNVMSP)

ADCO

Report number: 220084-NextSense-CNVMSP-R1
Date: 22 February 2022
Version: For Information

Project Number: 220084

PULSE WHITE NOISE ACOUSTICS Level 5, 73 Walker Street, North Sydney NSW 2060
P 1800 4 PULSE (1800 478 573) **E** info@pwna.com.au **pwna.com.au** ABN 95 642 886 306

DOCUMENT CONTROL

Project Name	NextSense – 105 Culloden Road and Talavera Road, Macquarie Park
Project Number	220084
Report Reference	220084-NextSense-CNVMSP-R1
Client:	ADCO

Revision	Description	Reference	Date	Prepared	Checked	Authorised
1	Issue 1	220084-NextSense-CNVMSP-R1	22 February 2022	Ben White	Matt Furlong	Ben White

PREPARED BY:

Pulse White Noise Acoustics Pty Ltd
ABN 95 642 886 306
Level 5, 73 Walker Street, North Sydney, 2060
1800 4 PULSE

TABLE OF CONTENTS

TABLES

FIGURES

1 INTRODUCTION

Pulse White Noise Acoustics (PWNA) has been engaged to prepare a Construction Noise and Vibration Management Sub Plan (CNVMSP) for the construction activities to be undertaken as part of the NextSense project located at 105 Culloden Road and Talavera Road, Macquarie Park including Item C11 of the *Consolidated Consent* including the SSD-10451-MOD-1 (24/11/2021).

Onsite unattended and attended noise levels have previously been determined for the project and included in the White Noise Acoustics *RIDBC, Centre of Excellence, Macquarie University – Noise Impact Assessment* dated 1October 2020 and reference:20172_200917_Noise Impact Assessment_BW_R1. The details of the acoustic survey included in the *Noise Impact Assessment* report have been used in this assessment.

A glossary of acoustic terminology used throughout this report is included in Appendix A.

The author of this report is a director of Pulse White Noise Acoustics who is a member of the Australian Acoustic Society, details including Ben's CV and membership of the AAS are included in Appendix B.

1.1 Site Layout and Development Overview

The project includes the construction of a Centre of Excellence with a new building on the site to accommodate a learning facility. The proposed development includes areas for external play, administration areas as well as internal teaching spaces with the main access of Culloden Road.

The Centre of Excellence is located within Macquarie University precinct. The site is located to the southwest of Gymnasium Road and to the north of the exiting Macquarie University Sports and Aquatic Centre. See Figure 1 below.

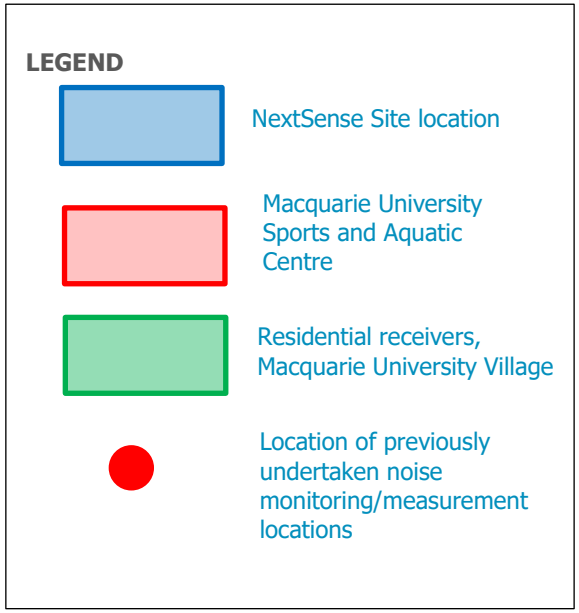
As part of the required construction works to be undertaken on the site there is no required demolition of building structures, such as concrete slabs and ground works include the removal of soft soil and fill with limited removal of rock or the like.

The nearest sensitive receivers to the site have been identified below.

Receiver 1: Existing Macquarie University student accommodation (Macquarie University Village).

Receiver 2: Macquarie University Sports and Aquatic Centre.

Figure 1 Site Map, Measurement Locations and Surrounding Receivers



1.2 SSD Compliance

This report has been undertaken in accordance with the requirements of Item C11 of the project's conditions of consent including the *Consolidated Consent* SSD-10451-MOD-1 (24/11/2021).

Details of conditions of consent and sections of the report which include the required items required by the consent are included in the table below.

Table 1 SSD Compliance Table

SSD Condition number	Requirement	Report Reference for Satisfaction
C11.	*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;*	Ben white is a director of Pulse White Noise Acoustics, Ben's CV and membership of the Australian Acoustic Society is included in Appendix B.
(b)	*describe procedures for achieving the noise management levels in EPA's Interim Construction Noise Guideline (DECC, 2009);*	Sections 4.1
(c)	*include strategies that have been developed with the community for managing high noise generating works;*	Section 6.2
(d)	*describe the community consultation undertaken to develop the strategies in condition C11(c);*	Section 0 and **Error! Reference source not found.**
(e)	*include a complaints management system that would be implemented for the duration of the construction.*	Section **Error! Reference source not found.**

2 EXISTING ACOUSTIC ENVIRONMENT

Measured noise levels from the attended noise survey undertaken as part of the White Noise Acoustics *RIDBC, Centre of Excellence, Macquarie University – Noise Impact Assessment* dated 1October 2020 and included in the projects SSD *Conciliated Consent.*

As part of the White Noise Acoustics *RIDBC, Centre of Excellence, Macquarie University – Noise Impact Assessment* dated 1October 2020 and reference:20172_200917_Noise Impact Assessment_BW_R1 includes an assessment which has been stated to be in accordance with the NSW EPA's *Noise Policy for Industry* (NPI, 2017) and included in the project SSD approvals.

The Rating Background Noise Level (RBL) is the background noise level used for assessment purposes and includes the 90th percentile of the daily background noise levels during each assessment period, being day, evening and night. The RBL LA90 (15minute) and LAeq noise levels presented within the *RIDBC, Centre of Excellence, Macquarie University – Noise Impact Assessment* are summarised in Table 2.

Table 2 Measured Ambient Noise Levels corresponding to the NPI's Assessment Time Periods

Measurement Location	Daytime[1] 7:00 am to 6:00 pm		Evening[1] 6:00 pm to 10:00 pm		Night-time[1] 10:00 pm to 7:00 am	
	L_{A90}[2] (dBA)	L_{Aeq}[3] (dBA)	L_{A90}[2] (dBA)	L_{Aeq}[3] (dBA)	L_{A90}[2] (dBA)	L_{Aeq}[3] (dBA)
Monitor Location: South West of the site						
Logger location to southwest of the site	43	54	37	42	33	37

Note 1: For Monday to Saturday, Daytime 7:00 am – 6:00 pm; Evening 6:00 pm – 10:00 pm; Night-time 10:00 pm – 7:00 am. On Sundays and Public Holidays, Daytime 8:00 am – 6:00 pm; Evening 6:00 pm – 10:00 pm; Night-time 10:00 pm – 8:00 am

Note 2: The L_{A90} noise level is representative of the "average minimum background sound level" (in the absence of the source under consideration), or simply the background level.

Note 3: The L_{Aeq} is the energy average sound level. It is defined as the steady sound level that contains the same amount of acoustical energy as a given time-varying sound.

Measured noise levels in accordance with the time periods defined by the NSW EPA RNP 2011 are presented below.

Table 3 Measured Ambient Noise Levels corresponding to the "RNP" Assessment Time Periods

Measurement Location	Daytime [1] 7:00 am to 10:00 pm	Night-time [1] 10:00 pm to 7:00 am
	L_{Aeq} (whole period) [2] (dBA)	L_{Aeq} (whole period) [2] (dBA)
Gymnasium Road	43	33
Culloden Road	46	33

Note 1: For Monday to Sunday, Daytime 7:00 am – 10:00 pm; Night-time 10:00 pm – 7:00 am.

Note 2: The L_{Aeq} is the energy average sound level. It is defined as the steady sound level that contains the same amount of acoustical energy as a given time-varying sound.

The proposed construction activities to be used on the stie will be undertaken in accordance with the SSD conditions including works during daytime hours.

3 PROJECT SSD REQUIREMENTS

This CNVSP has been prepared in accordance with Item C11 of the *Consolidated Consent* including the SSD-10451-MOD-1 (24/11/2021) which includes the following:

C11. 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 strategies that have been developed with the community for managing high noise generating works;

(d) describe the community consultation undertaken to develop the strategies in condition C11(c);

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

And Items D3 to D6, which includes the following:

Construction Hours

D3. Construction, including the delivery of materials to and from the site, may only be carried out between the following hours:

(a) between 7:00am and 6:00pm, Mondays to Fridays inclusive; and

(b) between 8:00am and 4:00pm, Saturdays.

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

D4. Construction activities may be undertaken outside of the hours in condition D3 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; or

(d) where a variation is approved in advance in writing by the Planning Secretary or his nominee if appropriate justification is provided for the works.

D5. Notification of such construction activities as referenced in condition D4 must be given to affected residents before undertaking the activities or as soon as is practical afterwards.

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

(a) 9am to 12pm, Monday to Friday;

(b) 2pm to 5pm Monday to Friday; and

(c) 9am to 12pm, Saturday.

4 NOISE AND VIBRATION CRITERIA

Relevant noise and vibration criteria for construction activities are detailed below.

4.1 Construction Noise Objectives

Relevant construction noise objectives applicable to this project are outlined below.

4.1.1 NSW EPA (Former DECC) Interim Construction Noise Guideline (ICNG) 2009

Noise objective for construction and demolition activities are discussed in the *Interim Construction Noise Guideline* (ICNG). The ICNG also recommends procedures to address potential impacts of construction noise on residences and other sensitive land uses. The main objectives of the ICNG are summarised as follows:

- Promote a clear understanding of ways to identify and minimise noise from construction works;
- Focus on applying all "feasible" and "reasonable" work practices to minimise construction noise impacts;
- Encourage construction to be undertaken only during the recommended standard hours unless approval is given for works that cannot be undertaken during these hours;
- Streamline the assessment and approval stages and reduce time spent dealing with complaints at the project implementation stage; and
- Provide flexibility in selecting site-specific feasible and reasonable work practices in order to minimise noise impacts.

The ICNG contains a quantitative assessment method which is applicable to this project. Guidance levels are given for airborne noise at residences and other sensitive land uses.

The quantitative assessment method involves predicting noise levels at sensitive receivers and comparing them with the Noise Management Levels (NMLs). The NML affectation categories for residential receivers have been reproduced from the guideline and are listed in the

Table 4 below.

Table 4 NMLs for Quantitative Assessment

Time of Day	Noise Management Level $L_{Aeq(15minute)}$ [1,2]	How to Apply
Residential Receivers		
Recommended standard hours: Monday to Friday 7 am to 6 pm Saturday 8 am to 1 pm No work on Sundays or public holidays	Noise affected RBL + 10 dB	The noise affected level represents the point above which there may be some community reaction to noise. • Where the predicted or measured LAeq(15minute) is greater than the noise affected level, the proponent should apply all feasible and reasonable work practices to meet the noise affected level. • The proponent should also inform all potentially impacted residents of the nature of works to be carried out, the expected noise levels and duration, as well as contact details.
	Highly noise affected 75 dBA	The highly noise affected level represents the point above which there may be strong community reaction to noise. • Where noise is above this level, the relevant authority (consent, determining or regulatory) may require respite periods by restricting the hours that the very noisy activities can occur, taking into account: 1. Times identified by the community when they are less sensitive to noise (such as before and after school for works near schools, or mid-morning or mid-afternoon for works near residences. 2. If the community is prepared to accept a longer period of construction in exchange for restrictions on construction times.
Outside the recommended standard hours above	Noise affected RBL + 5 dB	• A strong justification would typically be required for works outside the recommended standard hours. • The proponent should apply all feasible and reasonable work practices to meet the noise affected level. • Where all feasible and reasonable practices have been applied and noise is more than 5 dB above the noise affected level, the proponent should notify the community.
Commercial/Sports and Aquatic Centre		
When in use	70 dB(A)	Highly noise affected 75 dB(A)

Note 1 Noise levels apply at the property boundary that is most exposed to construction noise, and at a height of 1.5 m above ground level. If the property boundary is more than 30 m from the residence, the location for measuring or predicting noise levels is at the most noise-affected point within 30 m of the residence. Noise levels may be higher at upper floors of the noise affected residence.

Note 2 The RBL is the overall single-figure background noise level measured in each relevant assessment period (during or outside the recommended standard hours). The term RBL is described in detail in the NSW Industrial Noise Policy (EPA 2000).

Construction noise levels at other noise receivers are outlined below:

- Construction noise levels within classrooms other educational institutions is not recommended to exceed 45dBA $L_{Aeq,15minute}$, when measured internally.
- Construction noise levels at offices and retail outlets are not recommended to exceed 70dBA LAeq,15minute, when measured externally.

Based on the measured background noise levels summarised in Section 1.2, and the NMLs outlined above, the construction noise criteria to be used in this assessment are listed in Table 5.

Table 5 NMLs as basis for the acoustic assessment

Receiver Types	NML, dB $L_{Aeq(15minute)}$		
	Standard Hours **Monday to Friday: 7:00am to 6:00pm** **Saturday: 8:00am to 1:00pm**		**Outside Standard Hours** **All hours not listed in the adjacent column.**
Residential – Receiver 1, Macquarie University Village	**NAFL: 56** (RBL (46) + 10dB)	**HNAL: 75**	RBL + 5dB
Residential – Receiver 2, Macquarie University Sports and Aquatic Centre	**NAFL: 70**		

4.2 Vibration Criteria

Effects of ground borne vibration on buildings may be segregated into the following three categories:

- Human comfort – vibration in which the occupants or users of the building are inconvenienced or possibly disturbed.
- Effects on building contents – where vibration can cause damage to fixtures, fittings and other non-building related objects.
- Effects on building structures – where vibration can compromise the integrity of the building or structure itself.

4.2.1 Vibration Criteria – Human Comfort

Vibration effects relating specifically to the human comfort aspects of the project are taken from AV-TG. This type of impact can be further categorised and assessed using the appropriate criterion as follows:

- Continuous vibration – from uninterrupted sources.
- Impulsive vibration – up to three instances of sudden impact e.g., dropping heavy items, per monitoring period.
- Intermittent vibration – such as from drilling, compacting or activities that would result in continuous vibration if operated continuously.

Table 6 Continuous vibration acceleration criteria (m/s^2) 1 Hz-80 Hz

Location	Assessment period	Preferred Values		Maximum Values	
		z-axis	x- and y-axis	z-axis	x- and y-axis
Critical working areas (e.g. hospital operating theatres, precision laboratories)	Day or night-time	0.0050	0.010	0.10	0.20
Residences	Daytime	0.010	0.0071	0.020	0.014
	Night-time	0.007	0.005	0.014	0.010
Offices, schools, educational institutions and places of worship	Day or night-time	0.020	0.014	0.040	0.028
		0.04	0.029	0.080	0.058
Workshops	Day or night-time	0.04	0.029	0.080	0.058

Table 7 Impulsive vibration acceleration criteria (m/s^2) 1 Hz-80 Hz

Location	Assessment period	Preferred Values		Maximum Values	
		z-axis	x- and y-axis	z-axis	x- and y-axis
Critical working areas (e.g. hospital operating theatres, precision laboratories)	Day or night-time	0.0050	0.010	0.10	0.20
Residences	Daytime	0.30	0.21	0.60	0.42
	Night-time	0.10	0.071	0.20	0.14
Offices, schools, educational institutions and places of worship	Day or night-time	0.64	0.46	1.28	0.92
Workshops	Day or night-time	0.64	0.46	1.28	0.92

Table 8 Intermittent vibration impacts criteria (m/s$^{1.75}$) 1 Hz-80 Hz

Location	Daytime		Night-time	
	Preferred Values	Maximum Values	Preferred Values	Maximum Values
Critical working areas (e.g. hospital operating theatres, precision laboratories)	0.10	0.20	0.10	0.20
Residences	0.20	0.40	0.13	0.26
Offices, schools, educational institutions and places of worship	0.40	0.80	0.40	0.80
Workshops	0.80	1.60	0.80	1.60

4.2.2 Vibration Criteria – Building Contents and Structure

The vibration effects on the building itself are assessed against international standards as follows:

- For transient vibration: British Standard BS 7385: Part 2-1993 *"Evaluation and measurement for vibration in buildings Part 2: Guide to damage levels from ground borne vibration"* (BSI 1993); and
- For continuous or repetitive vibration: German DIN 4150: Part 3 – 1999 *"Effects of Vibration on Structure"* (DIN 1999).

4.2.3 Standard BS 7385 Part 2 - 1993

For transient vibration, as discussed in standard BS 7385 Part 2-1993, the criteria are based on peak particle velocity (mm/s) which is to be measured at the base of the building. These are summarised below.

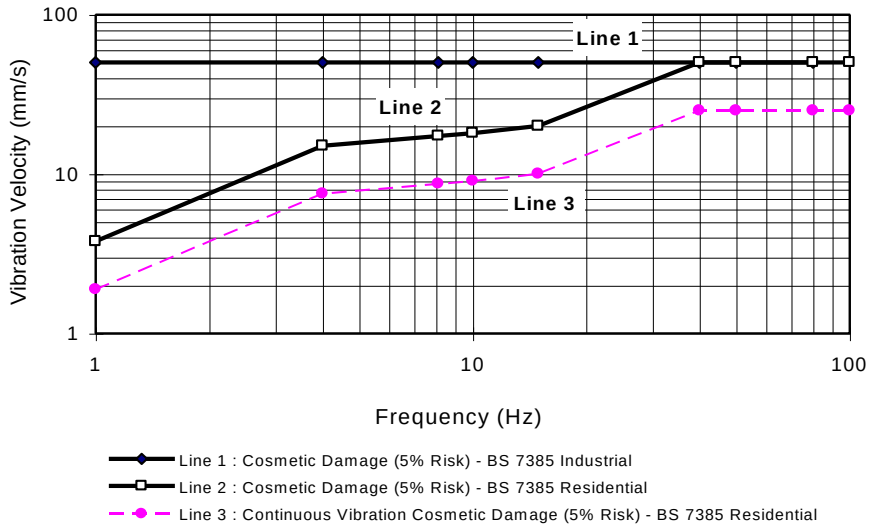
Table 9 Transient vibration criteria as per standard BS 7385 Part 2 - 1993

Line in Figure 2	Type of Building	Peak Component Particle Velocity in Frequency Range of Predominant Pulse	
		4 Hz to 15 Hz	15 Hz and Above
1	Reinforced or framed structures Industrial and heavy commercial buildings.	50 mm/s at 4 Hz and above	
2	Unreinforced or light framed structures Residential or light commercial type buildings	15 mm/s at 4 Hz increasing to 20 mm/s at 15 Hz	20 mm/s at 15 Hz increasing to 50 mm/s at 40 Hz and above

Standard BS 7385 Part 2 – 1993 states that the values in Table 9 relate to transient vibration which does not cause resonant responses in buildings.

Where the dynamic loading caused by continuous vibration events is such that it results in dynamic magnification due to resonance (especially at the lower frequencies where lower guide values apply), then the values in Table 9 may need to be reduced by up to 50% (refer to Line 3 in Figure 2).

Figure 2 BS 7385 Part 2 – 1993, graph of transient vibration values for cosmetic damage



In the lower frequency region where strains associated with a given vibration velocity magnitude are higher, the recommended values corresponding to Line 2 are reduced. Below a frequency of 4 Hz, where a high displacement is associated with the relatively low peak component particle velocity value, a maximum displacement of 0.6 mm (zero to peak) is recommended. This displacement is equivalent to a vibration velocity of 3.7 mm/s at 1 Hz.

The standard also states that minor damage is possible at vibration magnitudes which are greater than twice those given in Table 9, and major damage to a building structure may occur at values greater than four times the tabulated values.

Fatigue considerations are also addressed in the standard and it is concluded that unless the calculation indicates that the magnitude and number of load reversals is significant (in respect of the fatigue life of building materials) then the values in Table 9 should not be reduced for fatigue considerations.

4.2.4 Standard DIN 4150 Part 3 - 1999

For continuous or repetitive vibration, standard DIN 4150 Part 3-1999 provides criteria based on values for peak particle velocity (mm/s) measured at the foundation of the building; these are summarised in Table 10. The criteria are frequency dependent and specific to particular categories of structures.

Table 10 Structural damage criteria as per standard DIN 4150 Part 3 - 1999

Type of Structure	Peak Component Particle Velocity, mm/s			
	Vibration at the foundation at a frequency of			Vibration of horizontal plane of highest floor at all frequencies
	1 Hz to 10 Hz	10 Hz to 50 Hz	50 Hz to 100 Hz[1]	
Buildings used for commercial purposes, industrial buildings and buildings of similar design	20	20 to 40	40 to 50	40
Dwellings and buildings of similar design and/or use	5	5 to 15	15 to 20	15
Structures that, because of their sensitivity to vibration, do not correspond to those listed in lines 1 and 2 and are of great intrinsic value (e.g. buildings that are under a preservation order)	3	3 to 8	8 to 10	8

Note 1: For frequencies above 100Hz, at least the values specified in this column shall be applied.

5 NOISE AND VIBRATION ASSESSMENT

5.1 Construction Noise Assessment

Sound power levels have been predicted for the construction tasks identified in the project program. The equipment anticipated for use in each task is based on previous project experience. The sound power levels for the equipment likely to be used for each of the listed tasks are provided in Table 10 below.

Table 11 Summary of predicted sound power levels

Tasks	Equipment	Sound Power Levels (dBA re 1pW)	Aggregate Sound Power Level per Task (dBA re 1pW)
Site Establishment Works	Mobile crane	110	113
	Power hand tools	109	
	Semi Rigid Vehicle [1]	105	
Ground Works and limited Demolition	Excavator	112	119
	Hand held jack hammer [1]	111	
	Dump truck [1]	104	
	Concrete saw [1]	114	
	Skid steer	110	
	Power hand tools	109	
Structure	Hand held jack hammer [1]	106	117
	Concrete saw [1]	114	
	Power hand tools	109	
	Welder	101	
	Concrete pump truck	110	
	Concrete agitator truck	108	
Internal Works	Power hand tools	109	109
Common and External Works	Concrete agitator truck	108	117
	Saw cutter [1]	104	
	Dump truck [1]	104	
	Concrete saw [1]	114	
	Power hand tools	109	

Note 1: An assumed time correction has been applied, this being 5 minutes of operation in any 15-minute interval.

5.2 Predicted Construction Noise Levels

Predicted construction noise levels are presented below for each of the surrounding receivers in accordance with the NSW EPA ICNG.

Note:

- Predicted noise levels presented below are given in a range, this includes the expected minimums as well as the maximums.
- With regards to the maximum noise levels in the range, these are typically experienced when plant/works are within close proximity to a boundary. In our experience whilst these levels above NML's and considered intrusive they will only occur for a short time and is not a representation of noise levels during the entire construction period.

Table 12 Receiver 1 – Summary of preliminary predicted construction noise levels – Macquarie University Village

Phase	Activity	Aggregate Sound Power Level (dBA re 1pW)	Predicted Individual Noise Level at Receiver dBA $L_{Aeq\ 15\ minutes}$	Predicted Combined Noise Level at Receiver dBA $L_{Aeq\ 15\ minutes}$	Criteria dBA $L_{Aeq\ 15\ minutes}$	Summary of Result
Site Establishment Works	Mobile crane	113	56 to 68	60 to 71	**Standard Construction Hours** 46 + 10 = **56** **Highly Noise Affected Level** Standard Construction Hours **75**	Works indicatively predicted to have the potential to exceed the noise management level when working near a receiver. Mitigations of construction noise required to be undertaken including measures detailed in Section 6 of this report.
	Power hand tools		55 to 67			
	Semi Rigid Vehicle		52 to 63			
Ground Works and Demolition	Excavator	119	58 to 70	65 to 76		
	Handheld jack hammer		53 to 64			
	Dump truck		51 to 62			
	Concrete saw		61 to 72			
	Skid steer		56 to 68			
	Power hand tools		55 to 67			
Structure	Handheld jack hammer	117	53 to 64	64 to 76		
	Concrete saw		61 to 72			
	Power hand tools		55 to 67			
	Welder		47 to 59			
	Concrete pump truck		56 to 68			
	Concrete agitator truck		54 to 66			
Internal Works	Power hand tools	109	55 to 67	55 to 67		
Common and External Works	Concrete agitator truck	117	54 to 66	63 to 75		
	Saw cutter		51 to 62			
	Dump truck		51 to 62			
	Concrete saw		61 to 72			
	Power hand tools		55 to 67			

Table 13 Receiver 2 – Summary of predicted construction noise levels – Macquarie University Sports and Aquatic Centre

Phase	Activity	Aggregate Sound Power Level (dBA re 1pW)	Predicted Individual Noise Level at Receiver dBA $L_{Aeq\ 15\ minutes}$	Predicted Combined Noise Level at Receiver dBA $L_{Aeq\ 15\ minutes}$	Criteria dBA $L_{Aeq\ 15\ minutes}$	Summary of Result
Site Establishment Works	Mobile crane	113	58 to 76	61 to 79	**Standard Construction Hours** **70** **Highly Noise Affected Level** Standard Construction Hours **75**	Works indicatively predicted to have the potential to exceed the noise management level when working near a receiver. Mitigations of construction noise required to be undertaken including measures detailed in Section 6 of this report.
	Power hand tools		57 to 75			
	Semi Rigid Vehicle		53 to 71			
Ground Works and Demolition	Excavator	119	60 to 78	66 to 84		
	Handheld jack hammer		54 to 72			
	Dump truck		52 to 70			
	Concrete saw		62 to 80			
	Skid steer		58 to 76			
	Power hand tools		57 to 75			
Structure	Handheld jack hammer	117	54 to 72	65 to 83		
	Concrete saw		62 to 80			
	Power hand tools		57 to 75			
	Welder		49 to 67			
	Concrete pump truck		58 to 76			
	Concrete agitator truck		56 to 74			
Internal Works	Power hand tools	109	57 to 75	57 to 75		
Common and External Works	Concrete agitator truck	117	56 to 74	65 to 83		
	Saw cutter		52 to 70			
	Dump truck		52 to 70			
	Concrete saw		62 to 80			
	Power hand tools		57 to 75			

5.3 Construction Traffic Noise Assessment

For existing residences and other sensitive land uses affected by additional traffic on existing roads, the NSW *Road Noise Policy (RNP)* states that for noise associated with increased road traffic generated by land use developments, any increase in the total traffic noise level should be limited to 2 dB during both day and night-time periods. An increase of 2 dB represents a minor impact that is considered barely perceptible to the average person.

It is proposed that the construction traffic would access the site via the internal roadways of Macquarie University with access off Culloden Road and Gymnasium Road. All construction traffic will access the site and use the surrounding roadways in accordance with the site Construction Management plan and Item D8 of the *Consolidated Conditions,* which include the following.

Construction Traffic

D8. All construction vehicles must be contained wholly within the site, except if located in an approved on-street work zone, and vehicles must enter the site or an approved on-street work zone before stopping.

5.4 Vibration Assessment

In order to maintain compliance with the human comfort vibration criteria discussed in Section 4.2, it is recommended that the indicative safe distances listed in table below should be maintained. These indicative safe distances should be validated prior to the start of construction works by undertaking measurements of vibration levels generated by construction and demolition equipment by the contractor.

Additionally, any vibration levels should be assessed in accordance with the criteria discussed in Section 4.2.

Table 14 Recommended indicative safe working distances for vibration intensive plant

Plant	Rating / Description	Safe Working Distances (m)	
		Cosmetic Damage (BS 7385: Part 2 DIN 4150: Part 3)	Human Comfort (AVTG)
Vibratory roller	< 50 kN (Typically 1 – 2 tonnes)	5	15 – 20
	< 100 kN (Typically 2 – 4 tonnes)	6	20
	< 200 kN (Typically 4 – 6 tonnes)	12	40
	< 300 kN (Typically 7 – 13 tonnes)	15	100
	> 300 kN (Typically more than 13 tonnes)	20	100
Small hydraulic hammer	300 kg, typically 5 – 12 tonnes excavator	2	7
Medium hydraulic hammer	900 kg, typically 12 – 18 tonnes excavator	7	23
Large hydraulic hammer	1600 kg, typically 18 – 34 tonnes excavator	22	73
Vibratory pile driver	Sheet piles	2 – 20	20
Jackhammer	Hand held	1	Avoid contact with structure and steel reinforcements

6 NOISE AND VIBRATION MANAGEMENT PLAN

6.1 Acoustic Management Procedures

Table 15 below summarises the management procedures recommended for airborne noise and vibration impact. These procedures are also further discussed in the report as well as recommended mitigation measures. Hence, where applicable, links to further references are provided in Table 15.

Table 15 Summary of mitigation procedures

Procedure	Abbreviation	Description	Further Reference
General Management Measures	GMM	Introduce best-practice general mitigation measures in the workplace which are aimed at reducing the acoustic impact onto the nearest affected receivers.	Refer to Section 6 For noise impact, also refer to Section 6.1 For vibration impact, also refer to Section 6.3.1
Project Notification	PN	Issue project updates to stakeholders, discussing overviews of current and upcoming works. Advanced warning of potential disruptions can be included. Content and length to be determined on a project-by-project basis.	Refer to Section 6.
Verification Monitoring	V	Monitoring to comprise attended or unattended acoustic surveys. The purpose of the monitoring is to confirm measured levels are consistent with the predictions in the acoustic assessment, and to verify that the mitigation procedures are appropriate for the affected receivers. If the measured levels are higher than those predicted, then the measures will need to be reviewed and the management plan will need to be amended.	For noise impact, refer to Section 6 and Section 6.2.3. For vibration impact, refer to Section 6.3.2
Complaints Management System	CMS	Implement a management system which includes procedures for receiving and addressing complaints from affected stakeholders	Refer to Section **Error! Reference source not found.**
Specific Notification	SN	Individual letters or phone calls to notify stakeholders that noise levels are likely to exceed noise objectives. Alternatively, contractor could visit stakeholders individually in order to brief them in regards to the noise impact and the mitigation measures that will be implemented.	Refer to Section 6.
Respite Offer	RO	Offer provided to stakeholders subjected to an ongoing impact.	-
Alternative Construction Methodology	AC	Contractor to consider alternative construction options that achieve compliance with relevant criteria. Alternative option to be determined on a case-by-case basis. It is recommended that the selection of the alternative option should also be determined by considering the assessment of on-site measurements (refer to Verification Monitoring above).	-

The application of these procedures is in relation to the exceedances over the relevant criteria. For airborne noise, the criteria are based on NMLs. The allocation of these procedures is discussed in Section 6.1.1

For vibration, the criteria either correspond to human comfort, building damage or scientific and medical equipment. The application of these procedures is discussed in Section 6.1.2.

6.1.1 Allocation of Noise Management Procedures

For residences, the management procedures have been allocated based on noise level exceedances at the affected properties, which occur over the designated NMLs (refer to section 3). The allocation of these procedures is summarised in Table 16 below.

Table 16 Allocation of noise management procedures – residential receivers

Construction Hours	Exceedance over NML (dB)	Management Procedures (see definition above)
Approved Construction Hours Mon – Fri: 7:00 am to 7:00 pm Sat: 8:00 am – 1:00 pm	0 - 3	GMM
	4 - 10	GMM, PN, V [1], CMS, AC
	> 10	GMM, PN, V, CMS, SN, AC
Outside Standard Hours Mon – Fri: 7:00 am to 8:00 am Sat: 7:00 am to 8:00 am	0 - 10	GMM, AC
	11 - 20	GMM, PN, V [1], CMS, AC
	> 20	GMM, PN, V, CMS, SN, RO, AC

Notes

1. Verification monitoring to be undertaken upon complaints received from affected receivers

Please note the following regarding the allocation of these procedures:

- In addition to the above the projects *Conditions of Consent* require works to include the following:
    - Rock Breaking, rock hammering, sheet piling and similar activities may only be carried out between the following hours:
        - 9am to 12 midday – Monday to Friday.
        - 2 pm to 5pm – Monday to Friday.
        - 9am to 12 midday – Saturday's.
- The exceedances have been estimated as part of the acoustic assessment, and these are summarised in Section 5.2.
- The allocation of procedures is based on the assumptions used for noise level predictions (refer to Section 5.1). Consequently, these allocations can be further refined once additional details of the construction program become available.

6.1.2 Allocation of Vibration Management Procedures

Table 17 below summarises the vibration management procedures to be adopted based on exceedance scenarios (i.e., whether the exceedance occurs over human comfort criteria, building damage criteria, or criteria for scientific and medical equipment). Please note these management procedures apply for any type of affected receiver (i.e., for residences as well as non-residential receivers).

Table 17 Allocation of vibration management procedures

Construction Hours	Exceedance Scenario	Management Procedures
Approved Construction Hours Mon – Fri: 7:00 am to 6:00 pm Sat: 8:00 am – 4:00 pm	Over human comfort criteria (refer to Section 3)	GMM, PN, V, RO
	Over building damage criteria (refer to Section 3)	GMM, V, AC
Outside Standard Hours	Over human comfort criteria (refer to Section 3)	GMM, SN, V, RO, CMS
	Over building damage criteria (refer to Section 3)	GMM, V, AC

6.2 Site Specific Noise Mitigation Measures (including High Noise Affected Levels)

Predicted noise levels outlined in section 5.1 indicate exceedances above the Noise Management Levels (NMLs) as well as the Highly Noise Affected Level (HNAL) when in proximity to a boundary. To militate against any exceedances, the site will need to introduce periods of respite for activities which are creating noise levels above the HNAL and including activities such as piling, hydraulic hammering and the like (i.e. greater than 75dBA). See below.

Table 18 Recommended Respite Periods

Monday to Friday	Saturday
7:00am to 8:00am – No noisy works (Respite Period)	8:00am to 8:30am – No noisy works (Respite Period)
8:00am to 11:30am – Works	8:30am to 12:00pm – Works
11:30am to 12:30pm – No noisy works (Respite Period)	12:00pm to 1:00pm – No noisy works (Respite Period)
12:30pm to 3:30pm – Works	
3:30pm to 4:30pm – No noisy works (Respite Period)	1:00pm to 4:00pm – Works
4:30pm to 6:00pm – Works	

6.2.1 General Mitigation Measures

The contractor will, where reasonable and feasible, apply best practice noise mitigation measures. These measures shall include the following:

- Maximising the offset distance between plant items and nearby noise sensitive receivers.
- Preventing noisy plant working simultaneously and adjacent to sensitive receivers.
- Minimising consecutive works in the same site area.
- Orienting equipment away from noise sensitive areas.
- Carrying out loading and unloading away from noise sensitive areas.

In order to minimise noise impacts during the works, the contractor will take all reasonable and feasible measures to mitigate noise effects.

The contractor will also take reasonable steps to control noise from all plant and equipment. Examples of appropriate noise control include efficient silencers and low noise mufflers.

Construction works are to be conducted in accordance with the Conditions of Consent, which includes item D14 and include the following:

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

The contractor should apply all feasible and reasonable work practices to meet the NMLs and inform all potentially impacted residents of the nature of works to be carried out, the expected noise levels, duration of noise generating construction works, and the contact details for the proposal. Works will be undertaken in conjunction with the Community Communication Strategy, as required by Item B7 of the Conditions of Consent.

All construction vehicles (including concrete agitator trucks) do not arrive at the site or surrounding residential precincts outside of the construction hours of works outlined in the consent conditions, including:

- 7am to 6pm Monday to Friday
- 8am to 4pm Saturdays

6.2.2 Noise Monitoring

Noise monitoring will be performed by an acoustical consultant directly engaged by the contractor.

Noise monitoring is recommended to be undertaken by attended noise measurements at the start of any new phase of works (i.e. demolition, excavation or remediation works etc.). The statistical parameters to be measured should include the following noise descriptors: L_{Amin}, L_{A90}, L_{A10}, L_{A1}, L_{Amax} and L_{Aeq}. Unattended noise measurements should be conducted over consecutive 15 minute periods at the commencement of demolition and ground works on the site.

This monitoring should also be complemented by undertaking attended noise measurements in order to:

- Differentiate between construction noise sources and other extraneous noise events (such as road traffic and aircraft noise)
- Note and identify any excessive noise emitting machinery or operation.

In addition to the above detailed measurements, should any complaints be received which have not been determined previously, it should be confirmed by conducting additional attended noise measurements.

The survey methodology and any equipment should comply with the requirements discussed in Standard AS 1055.1-1997.

6.2.3 Noise Mitigation Measures for Non-Residential Receivers

Where exceedances have been identified in Section 3, the following mitigation measures are recommended:

- Undertake general mitigation measures as discussed in Section 6.
- Issue project updates to tenants in affected premises. The updates can include overview of current and upcoming works, as well as advanced warning of potential disruptions. These updates can also be issued through an email distribution list or via social media and in accordance with consent condition B7 requiring a Community Communication Strategy.
- Signage to be posted in order to provide stakeholders information regarding project details, emergency contacts and enquiry contact information in accordance with consent condition C1 requiring a site notice.

6.2.4 Alternate Equipment or Process

Exceedance of the site's NMLs should result in an investigation as to whether alternate equipment could be used, or a difference process could be undertaken. The assessment is required to be undertaken in coordination with the contractors undertaking the works to be conducted.

6.2.5 Acoustic Enclosures/Screening

Typically, on a construction site there are three different types of plant that will be used: mobile plant (i.e., excavators, skid steers, etc.), semi mobile plant (i.e., hand tools generally) or static plant i.e. (diesel generators).

For plant items which are static it is recommended that, in the event exceedances are being measured due to operation of the plant item, an acoustic enclosure/screen is constructed to reduce impacts. These systems can be constructed from Fibre Cement (FC) sheeting or, if airflow is required, acoustic attenuators or louvres.

For semi mobile plant, relocation of plant should be investigated to either be operated in an enclosed space or at locations away from a receiver.

With mobile plant it is generally not possible to treat these sources. However, investigations into the machine itself may result in a reduction of noise (i.e., mufflers/attenuators etc) and proactive mechanical maintenance.

6.3 Vibration Mitigation Measures

6.3.1 General Mitigation Measures

As part of the CNVMP, the following vibration mitigation measures should be implemented:

- Any vibration generating plant and equipment is to be in areas within the site in order to lower the vibration impacts to surrounding receivers.
- Investigate the feasibility of rescheduling the hours of operation of major vibration generating plant and equipment to within the allowable time set within the consent conditions which include 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.
- Use lower vibration generating items of construction plant and equipment; that is, smaller capacity plant.
- Minimise conducting vibration generating works consecutively in the same area (if applicable).
- Schedule a minimum respite period of at least 30 minutes after a period of continuous 2 hours of work.
- Use only dampened rock breakers and/or "city" rock breakers to minimise the impacts associated with rock breaking works.
- Conduct attended measurements of vibration generating plant at commencement of works in order to validate the indicative safe working distances advised in Table 14 and, consequently, to establish safe working distances suitable to the project. Measurements should be conducted at the nearest affected property boundary. These safe working distances should be defined by considering the vibration criteria discussed in Section 0 (i.e., criteria for structural damage, human comfort and impact to scientific or medical equipment).

6.3.2 Vibration Monitoring

Vibration monitoring should be undertaken continuously at the nearest most affected structures.

The monitoring location would be on a stiff part of the structure (at the foundation) on the side of the structure adjacent to the subject demolition and construction works.

The vibration monitoring system will be configured to record the peak vibration levels and to trigger an alarm when predetermined vibration thresholds are exceeded. The thresholds correspond to an "Operator Warning Level" and an "Operator Halt Level", where the Warning Level is 75% of the Halt Level. The Halt Level should be determined based on the vibration criteria for building contents and structure (detailed in section 4.2).

Exceedance of the "Operator Warning Level" would not require excavation or demolition work to cease, but rather, alerts the site manager to proceed with caution at a reduced force or load.

An exceedance of the "Operator Halt Level" would require the contractor to implement an alternative excavation technique pending further analysis of the vibration frequency content in order to determine any potential exceedance of the criteria.

The vibration monitoring equipment would be downloaded and analysed by the acoustical consultant monthly including reporting of the collected data.

Reports of the measured vibration levels and their likely impacts would be prepared by the acoustical consultant and issued to the contractor monthly.

Vibration monitoring should be undertaken including the following:

1. Vibration Monitoring to include long term continuous vibration logging.
2. Monitors set to record maximum vibration levels including Peak Particle Velocity (PPV) magnitudes.
3. Monitors are required to be SMS enabled such that any events recorded above 'alert levels can be instantaneously sent to suitable builder, acoustic consultant and contractor representatives.
4. In the event results re received above 'alert levels the following response to events are required as detailed in the table below.
5. Vibration monitoring should be undertaken for the periods including demolition, exaction and construction of the building structure including installation of concrete to ground floor as a minimum or on agreement with neighbouring stake holders in the event monitoring details no negative impacts during the construction of the project.

Table 19 Required Response to Vibration Events

Location/ Receiver Type	Event Type		
	Trigger	Alert	Alarm, Stop Work
Surrounding Residential Dwellings	6 mm/s	7 mm/s	8 mm/s
See Section below for response to Event Types			

The required response to recorded event types detailed in the table above are included in the following table.

Table 20 Required Response to Vibration Events

Event Type	Required Response
Trigger level	All events above the trigger level are required to be recorded by the vibration monitors.
Alert	Temporarily cease the vibration generating activity and assess the reason for vibration exceedances. Modify the related construction practice to prevent future exceedances. Keep records of subsequent breaches to demonstrate that vibrations for modified activity do not reach Alert Level. All *Alert* events are to be SMS messaged to the building contractor site manager, subcontractor and acoustic consultant.
Alarm	**Stop Work Event** All *Alarm* events are to be SMS messaged to a relevant Richard Crookes, subcontractor and acoustic consultant. The activity generating the vibration levels is to be stopped immediately. Suitable representatives of the building contractor, the relevant Subcontractor, Heritage Consultant and acoustic consultant. Vibration monitoring report to be completed. Visual assessment of affected property will be conducted to assess whether damage is evident. The item/s of work generating the vibration events is not be recommenced until an action plan is agreed and implemented.

6.4 Noise and Vibration Monitoring

As part of the management of noise from the proposed construction activities to be undertaken on the site the following noise and vibration monitoring is to be undertaken:

1. Noise Monitoring– Attended noise monitoring of excavation and construction activities is to be undertaken during the following periods:
    a. Commencement of any rock breaking or sawing on the site.
    b. In response to any ongoing complaints received from neighbours.

2. Vibration – Based on the proximity of the surrounding receivers to the works magnitudes of vibration resulting from construction activities required to be undertaken on the site (which does not include demolition of concrete structures or significant removal of rock as part of the ground works) are not expected to approach vibration limits detailed in Section 4.2 of this report, therefore permanent continuous vibration monitoring is not recommended.

    Attended vibration monitoring is to be undertaken at the following periods:
    a. Commencement of any high vibration generating activities including hydraulic hammering of rock or vibration rolling on the site.
    b. receiver location in the event complaints resulting from construction activities resulting from the perception of vibration are experienced by the occupants of buildings within the vicinity of the site.

6.5 Enquiries and complaints management

Should complaints arise they must be dealt with in a responsible and uniform manner, therefore, a management system to deal with complaints is detailed below:

Local residents and land owners should be informed by direct mail of a direct 24-hour telephone line where any noise complaints related to the construction will be recorded. The 24-hour telephone line number will be made available on the construction site signage.

All complaints should be investigated by the Contractor in accordance with the procedures outlined in Australia Standard 2436-2010. Consequently, a complaint response procedure should be implemented. Information to be gathered as part of this process should include:

- location of complainant
- time/s of occurrence of alleged noise or vibration impacts
- nature of impact particularly with respect to vibration
- Perceived source
- Prevailing weather conditions and similar details that could be utilised to assist in the investigation of the complaint.

All resident complaints will be responded to in the required timeframe and action taken recorded.

Post receiving a noise and or vibration complaint, the process outlined in the *Contingency Plans* below should be undertaken.

6.5.1 Community Notifications and Engagement

Active community consultation and the maintenance of positive relations with surrounding receivers would assist in alleviating concerns and thereby minimising complaint. It is common for construction projects to provide community consultation if an exceedance of noise goals has been predicted. This communication is commonly conducted in the form of a letter box drop or more active engagement with more highly impacted receivers.

This form of notification should provide specific notification of the duration and timing of the construction activities so that residents are informed about the proposed works ahead of time. The letter should also provide the community with a hotline number for a community liaison officer available to adequately respond to all project related enquiries.

Ideally the hotline number should provide concerned locals an opportunity to raise any concerns with the project proponent and provide an opportunity to determine the best method to satisfy all requirements.

Prior to the works onsite being undertaken, it is recommended that community consultation with the neighbouring affected parties be undertaken.

However, should not be limited to the beginning of the onsite works but throughout, providing the community with constant updates on the progress and upcoming works. In our experience these could include:

- Site noticeboard;
- Email notifications; and
- Letterbox drops.

Active communication and engagement is to be undertaken with the Macquarie University Village and the Macquarie University Sports and Aquatic Centre prior to works commencing.

6.6 Contingency Plans

Contingency plans are required to address noise or vibration problems if excessive levels are measured at surrounding sensitive receivers and/or if justified complaints occur. Such plans include:

- Stop the onsite works.
- Identify the source of the main equipment within specific areas of the site which is producing the most construction noise and vibration at the sensitive receivers; and
- Review the identified equipment and determine if an alternate piece of equipment can be used or the process can be altered.
- In the event an alternate piece of equipment or process can be used, works can re-commence.
- In the event an alternate piece of equipment or process cannot be determined implement a construction assessment to be performed by a suitably qualified acoustic consultant.

The building contractor shall have access to view the Contractor's noise measurement records on request. The Superintendent may undertake noise monitoring if and when required.

6.7 General Mitigation Measures (Australia Standard 2436-2010)

As well as the above project specific noise mitigation controls, AS 2436-2010 "*Guide to Noise and Vibration Control on Construction, Demolition and Maintenance Sites*" sets out numerous practical recommendations to assist in mitigating construction noise emissions. Examples of strategies that could be implemented on the subject project are listed below, including the typical noise reduction achieved, where applicable.

6.7.1 Additional Recommendations

- Regular reinforcement (such as at toolbox talks) of the need to minimise noise and vibration.
- Regular identification of noisy activities and adoption of improvement techniques.
- Avoiding the use of portable radios, public address systems or other methods of site communication that may unnecessarily impact upon nearby sensitive receivers.
- Where possible, avoiding the use of equipment that generates impulsive noise.
- Minimising the need for vehicle reversing for example (particularly at night), by arranging for one-way site traffic routes.
- Use of broadband audible alarms on vehicles and elevating work platforms used on site.
- Minimising the movement of materials and plant and unnecessary metal-on-metal contact.
- Minimising truck movements.

6.7.2 Plant and Equipment

- Choosing quieter plant and equipment based on the optimal power and size to most efficiently perform the required tasks.
- Selecting plant and equipment with low vibration generation characteristics.
- Operating plant and equipment in the quietest and most efficient manner.

6.7.3 On Site Noise Mitigation

- Maximising the distance between noise activities and noise sensitive land uses.
- Installing purpose-built noise barriers, acoustic sheds and enclosures.

6.7.4 Work Scheduling

- Providing respite periods which could include restricting very noisy activities to time periods that least affect the nearby noise sensitive locations, restricting the number of nights that after-hours work is conducted near residences or by determining any specific requirements.
- Scheduling work to coincide with non-sensitive periods.
- Planning deliveries and access to the site to occur quietly and efficiently and organising parking only within designated areas located away from the sensitive receivers.
- Optimising the number of deliveries to the site by amalgamating loads where possible and scheduling arrivals within designated hours.
- Including contract conditions that include penalties for non-compliance with reasonable instructions by the principal to minimise noise or arrange suitable scheduling.

6.7.5 Source Noise Control Strategies

Some ways of controlling noise at the source are:

- Where reasonably practical, noisy plant or processes should be replaced by less noisy alternatives.
- Modify existing equipment: Engines and exhausts are typically the dominant noise sources on mobile plant such as cranes, graders, excavators, trucks, etc. In order to minimise noise emissions, residential grade mufflers should be fitted on all mobile plant utilised on site.
- Siting of equipment: locating noisy equipment behind structures that act as barriers, or at the greatest distance from the noise-sensitive area; or orienting the equipment so that noise emissions are directed away from any sensitive areas, to achieve the maximum attenuation of noise.
- Regular and effective maintenance.

6.7.6 Miscellaneous Recommendations

Deliveries should be undertaken, where possible, during standard construction hours in accordance with the project SSD conditions.

Maximise hammer penetration (and reduce blows) by using sharp hammer tips. Keep stocks of sharp profiles at site and monitor the profiles in use.

It is advised that mobile plant and trucks operating on site for a significant portion of the project are to have reversing alarm noise emissions minimised. This is to be implemented subject to recognising the need to maintain occupational safety standards without compromising the safety of construction staff and members of the public.

No public address system should be used on site (except for emergency purposes).

7 CONCLUSION

This report details the Construction Noise and Vibration Management Sub Plan for the construction of the NextSense project located at 105 Culloden Road and Talavera Road, Macquarie Park including Item C11 of the *Consolidated Consent* including the SSD-10451-MOD-1 (24/11/2021).

An assessment of noise and vibration impacts from the required processes to be undertaken during the construction period of the project (including ground works and construction) has been undertaken and suitable treatments, management controls, perioding measurements and community engagement has been detailed in this report.

Providing the recommendations in this report are included in the construction of the site, compliance with the relevant EPA's *Interim Construction Noise Guideline* and the projects *Consent* will be achieved.

For any additional information please do not hesitate to contact the person below.

Regards

Ben White
Director

Pulse White Noise Acoustics

APPENDIX A: ACOUSTIC GLOSSARY

The following is a brief description of the acoustic terminology used in this report:

Ambient Sound	The totally encompassing sound in a given situation at a given time, usually composed of sound from all sources near and far.
Audible Range	The limits of frequency which are audible or heard as sound. The normal ear in young adults detects sound having frequencies in the region 20 Hz to 20 kHz, although it is possible for some people to detect frequencies outside these limits.
Character, acoustic	The total of the qualities making up the individuality of the noise. The pitch or shape of a sound's frequency content (spectrum) dictate a sound's character.
Decibel [dB]	The level of noise is measured objectively using a Sound Level Meter. The following are examples of the decibel readings of every day sounds; 0dB the faintest sound we can hear 30dB a quiet library or in a quiet location in the country 45dB typical office space. Ambience in the city at night 60dB Martin Place at lunch time 70dB the sound of a car passing on the street 80dB loud music played at home 90dB the sound of a truck passing on the street 100dB the sound of a rock band 115dB limit of sound permitted in industry 120dB deafening
dB(A)	*A-weighted decibels* The ear is not as effective in hearing low frequency sounds as it is hearing high frequency sounds. That is, low frequency sounds of the same dB level are not heard as loud as high frequency sounds. The sound level meter replicates the human response of the ear by using an electronic filter which is called the "A" filter. A sound level measured with this filter switched on is denoted as dB(A). Practically all noise is measured using the A filter. The sound pressure level in dB(A) gives a close indication of the subjective loudness of the noise.
Frequency	Frequency is synonymous to *pitch*. Sounds have a pitch which is peculiar to the nature of the sound generator. For example, the sound of a tiny bell has a high pitch and the sound of a bass drum has a low pitch. Frequency or pitch can be measured on a scale in units of Hertz or Hz.
Loudness	A rise of 10 dB in sound level corresponds approximately to a doubling of subjective loudness. That is, a sound of 85 dB is twice as loud as a sound of 75 dB which is twice as loud as a sound of 65 dB and so on
LMax	The maximum sound pressure level measured over a given period.
LMin	The minimum sound pressure level measured over a given period.
L1	The sound pressure level that is exceeded for 1% of the time for which the given sound is measured.
L10	The sound pressure level that is exceeded for 10% of the time for which the given sound is measured.
L90	The level of noise exceeded for 90% of the time. The bottom 10% of the sample is the L_{90} noise level expressed in units of dB(A).
Leq	The "equivalent noise level" is the summation of noise events and integrated over a selected period of time.
dB (A)	'A' Weighted overall sound pressure level
Sound Pressure Level, LP dB	A measurement obtained directly using a microphone and sound level meter. Sound pressure level varies with distance from a source and with changes to the measuring environment. Sound pressure level equals 20 times the logarithm to the base 10 of the ratio of the rms sound pressure to the reference sound pressure of 20 micro Pascals.
Sound Power Level, Lw dB	Sound power level is a measure of the sound energy emitted by a source, does not change with distance, and cannot be directly measured. Sound power level of a machine may vary depending on the actual operating load and is calculated from sound pressure level measurements with appropriate corrections for distance and/or environmental conditions. Sound power levels is equal to 10 times the logarithm to the base 10 of the ratio of the sound power of the source to the reference sound power of 1 picoWatt

NAFL	Noise Affected Level - As referred to in the EPA's *Interim Construction Noise Guideline* as the affected noise level for the trigger of construction noise mitigation requirements.
HNAL	High Noise Affected Level – As referred to in the EPA's *Interim Construction Noise Guideline.*
AV-TG	NSW EPA *Assessing Vibration Technical Guideline.*

APPENDIX B – BEN WHITE CV AND AAS MEMBERSHIP

Curriculum Vitae – Benjamin White

Employment Experience:

Director – Pule White Noise Acoustics November 2020 – Present

Director - White Noise Acoustics: March 2019 – Present

Director/Engineer - Acoustic Logic Consultancy: March 2001 – July 2018

Experience:

Ben White the Director of White Noise has over 17 years of experience in acoustic.

Ben has significant experience in providing acoustic services and expert advice in the following areas:

- Residential acoustic reports including aircraft noise (AS2021) assessments, traffic noise, train noise and vibration assessments.
- Noise emission assessments for various projects including assessments with planning requirements using EPA, Department of Planning, Council DCP's and similar regulatory requirements.
- Planning approvals including Development Applications for multi dwelling residential developments, commercial developments, hotels and boarding houses, places of entertainment, carparks, mixed use developments, shopping centres and the like.
- Expert court witness including Land and Environment Court and other expert witness work.
- Project planning and specifications for types of projects including residential, commercial, retail, hotel accommodation, warehouses and industrial developments and mixed-use projects.
- Project delivery for all types of projects including, design advice and project delivery requirements at all stages of projects during design and construction.
- Certification works including on site testing for the provision of certification of all types of projects including items required to comply with Part F5 of the BCA as well as project specific acoustic requirements.
- Mechanical design and advice for the treatments of mechanical services with project requirements.
- External façade design and specification.
- Specialised acoustic design advice including areas of projects.
- Issues with existing building include site surveys and audits as well as advice regarding rectification if required.

AUSTRALIAN ACOUSTICAL SOCIETY

This is to certify that

BENJAMIN WHITE

was admitted to the grade of

MEMBER

of the Australian Acoustical Society

on 27th October 2020

and is entitled to use the letters

M.A.A.S.

issued on 26th November 2020

S. Moore

President

General Secretary

AUSTRALIAN ACOUSTICAL SOCIETY A.C.N. 000 712 658 The Common Seal Of

This certificate remains the property of the Australian Acoustical Society

ANNEXURE 02

NEXT SENSE_Erosion + Sediment + Water Controls_Management Plan

GENERAL REQUIREMENTS

BACKGROUND

This is an Erosion and Sediment Control Plan (ESCP). It is for the works shown and shows the locations for erosion and sediment controls to be implemented for those works.

This ESCP has been prepared following the guidelines and standards in the NSW Blue Book Volume 1 (Landcom, 2004).

EROSION HAZARD ASSESSMENT

A = R x K x LS x P x C

The following values have been used:

R = 3,500 (Sourced from Landcom, 2004))
K = 0.04 (Sourced from Landcom, 2004 for the Glenorie Soil Landscape)
LS = ranges from 0.36 (60m, 2%) to 2.05 (80m, 8%)
P = 1.3 (for general construction areas)
C = 1.0 (Construction stage – i.e. no soil surface protection or ground cover applied)

Based on the above data, the potential soil loss for this site ranges from approximately 66 t/ha/yr to 373 t/ha/yr.

Under Blue Book standards, a sediment basin is required if the soil loss in a catchment is >200 t/yr.

STAGE 1 –

This site comprises of four disturbed catchments of 1.38 ha (CA1), 0.2 ha (CA2), 0.2 ha (CA3) and 0.17 ha (CA4) during Stage 1 works. Therefore a sediment basin is required for disturbed catchment CA1, as the potential soil loss is >200 t/yr. Refer to ESCP02 for minimum sediment basin sizing requirements.

STAGE 2 (once basement excavation works complete)–

During Stage 2 works the site is comprised of four disturbed catchments of 1.38 ha (CA5), 0.2 ha (CA6), 0.05 ha (CA7) and 0.7 ha (CA8). Therefore a sediment basin is required for disturbed catchment CA7, as the potential soil loss is >200 t/yr. Refer to ESCP03 for minimum sediment basin sizing requirements for Stage 2 works.

DESIGN ASSUMPTIONS AND BACKGROUND INFORMATION

- Basin design assumptions: 5day 85th%ile = 38.8 mm (Sourced from Landcom, 2004 for Ryde)
- Volumetric runoff coefficient (CV) = 0.64 (assuming hydrological group D runoff coefficient – low infiltration, high runoff)

GENERAL INSTRUCTIONS

1. Weather forecasts are to be monitored daily and the site prepared to minimise erosion, control drainage, and maximize sediment capture during rain events. Erosion and sediment controls removed or damaged during construction are to be repaired or reinstated prior to forecast rainfall.
2. Numbering on ESCP02-03 indicates the order that works are to be undertaken (i.e. 1 then 2, then 3 etc).
3. Erosion and sediment controls are to be implemented as part of initial site works, except as noted in this plan.
4. Minimise disturbance at any one time to only what is necessary for safe and efficient construction. Do not disturb new areas when rain is imminent unless appropriate controls can be implemented prior to rain occurring.
5. Undertake dust suppression as required to minimise the risk of dust rise.
6. Regular site inspections are to be conducted by the site environment manager (or their representative) of temporary controls and general site conditions and records of all such inspections are to be retained onsite. Inspections are to be undertaken:
   - 6.1. At least weekly during normal construction hours; and
   - 6.2. Prior to forecast rainfall (>50% chance of 10mm or more in 24 hours); and
   - 6.3. Daily during rain events (if safe to do so); and
   - 6.4. Within 24 hours of the cessation of a rain event that causes runoff (if safe to do so).
7. Undertake progressive stabilisation of lands as final earthworks are completed in each area (rather than waiting until the completion of works).
   - 7.1. Final rehabilitation is to achieve the C-factors (ground cover) detailed below:
     - 7.1.1. C-factor of 0.1 (>= 60% ground cover) within 20 days; and
     - 7.1.2. C-factor of 0.05 (70% ground cover) within 2 months/at completion of works.
   - 7.2. Areas to be revegetated are to be topsoiled first. Refer to Blue Book Standard Drawing SD 4-2 on ESCP04.
   - 7.3. Appropriate seedbed preparation should be carried out when revegetating lands (See Blue Book Standard Drawing SD 7-1 on ESCP07)
8. As areas are completed (i.e. at least 90% of any finished area has at least 70% final ground cover), temporary sediment and drainage controls can be decommissioned and removed.
9. Ensure all controls are located within the project limits.
10. This plan is to be updated as required to ensure it is relevant to the on-ground works being undertaken.

TOPSOIL STRIPPING AND SOIL MANAGEMENT

Soils are to be stripped and managed in accordance with the following:

- As much as possible soil is to be stripped when moist (not too wet or dry).
- Topsoil is to be stripped (to a depth of approximately 200mm) separately from the underlying subsoil. Topsoil depths may vary across the project site and care should be taken to avoid stripping underlying soil horizons (subsoil) with the topsoil layer.

SEDIMENT BASINS

- If so desired, dirty water accumulating in excavations/cut sections can be pumped or carted to the sediment basin providing adequate capacity is available and the basin won't overflow as a result. Note that the 5-day maintenance requirement for the sediment basin to be emptied still applies (see below).
- Within 5 calendar days of the conclusion of any rainfall causing runoff, the sediment basin is to be empty, ready for the next rainfall event. This might include testing water, treating (e.g. flocculating), de-watering and de-silting the sediment basin. See notes below regarding de-watering. If rainfall (causing runoff) occurs again within 5 days of the previous rain event, the 5-day requirement re-sets.
- Dirty water accumulating in the sediment basin can be used onsite for dust suppression or construction purposes. If this occurs it does not need to be treated first. Note that the 5-day maintenance requirement for the sediment basin to be emptied still applies.
- The design rainfall event for the sediment basin is 38.8mm (85th %'ile). It is assumed that the sediment basin might overflow in an event of more than 38.8mm over any 5-day period.
- The sediment basin is to include an outlet (weir overflow/spillway). The outlet is to be into an existing stormwater pit as shown on ESCP02-03.
- Water quality must be checked prior to any controlled release from the sediment basin. Refer to the 'Dirty Water Treatment and De-watering' notes below.
- Additional volume can be provided in sediment basin for storing water if so desired (i.e. they can be made bigger than is required by this ESCP). Markers will need to be installed within the sediment basin to indicate the various volumes.
- As much as is feasible, gypsum should be included in the sediment basin inlets to promote sediment settling.
- A marker peg (or similar) is to be included in the sediment basin showing the top level of the Sediment Storage volume.
- The sediment basin is to be de-silted whenever sediment accumulates to more than 60% of the Sediment Storage Volume. Sediment removed from the basin can be taken to a stockpile area, buried onsite or used as general fill. Ensure sediment removed from the sediment basin is not placed where it could wash, blow or fall offsite.

DIRTY WATER TREATMENT AND DE-WATERING

- Water accumulating in the sediment basin, trenches/excavations or in any other low points onsite can either be:
  - Re-used for dust suppression or construction purposes; or
  - Pumped into a tank, truck or other holding area for later treatment; or
  - Treated (if required) and tested in situ, then released off site once it meets the required water quality discharge criteria (see below); or
  - Spread out and infiltrated onto well vegetated lands within the site boundary at least 50m away from any waterway, swale or drainage line. Ensure water is applied slowly and in a manner to avoid concentrated surface runoff and/or erosion.
- Any active discharge of water from the project (i.e. where water is moved offsite via direct action such as pumping rather than flowing off the project as a result of heavy rainfall) is to achieve:
  - 50mg/L or less TSS (Total Suspended Sediment) or 65 NTU or less; and
  - pH 6.5 to 8.5 (neutral pH) ; and
  - No visible trace of oil and grease.
- Flocculation can be achieved by using gypsum at a rate of approximately 32 kg/100 m^3 of stormwater. Refer to manufacturers guidelines for dosage details for alternative flocculants/coaglulants.
- These de-watering requirements apply to dirty water accumulating in any sort of excavation, sump, or other ponded water on the project.
- If the water is going to be used within the construction site for dust-suppression or construction purposes and will drain back into the sediment capture system it does not require treatment.

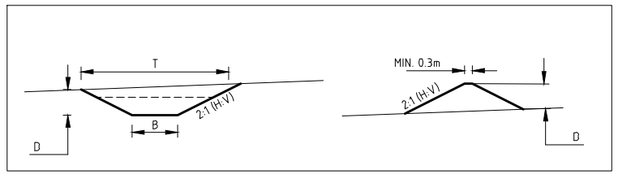
DOCUMENT CERTIFICATION

This plan has been developed based on agreed requirements as understood by SEEC at the time of engagement. It applies only to a specific task on the nominated lands. Other interpretations should not be made, including changes in scale or application to other projects. Changes to the project scope or extent might impact on the validity of this plan.

Any recommendations contained in this plan are based on an honest appraisal of the opportunities and constraints that existed at the site at the time of investigation, or as advised to us. Such recommendations are potentially subject to the limited scope and resources available. Within the confines of the above statements and to the best of my knowledge, this plan does not contain any incomplete or misleading information.

TABLE 1: CLEAN/DIRTY WATER DIVERSION SIZING AND LINING REQUIREMENTS.

DRAIN SIZING DETAILS	Refer to 'Detail 1' below		
Structure Name	CD1	DD1	DD2
Channel Details			
Flow Rate, Q (m^3/s)	0.05	0.305	0.192
Flow depth (m)	0.06	0.2	0.19
Channel/bund depth, D (m)	0.35	0.35	0.35
Channel base width, B (m)	0.5	0.5	0.5
Channel side slope (H:V)	2	2	2
Channel top width, T (m)	1.9	1.9	1.9
Lining Type	A	A	A
Drain slope (%)	9	2.5	1
DRAIN/BUND STABILISATION AND LINING			
Soil preperation prior to lining drains:			
- Refer to Blue Book Standard Drawing SD 5-7 on ESCP05.			
- Place topsoil over entire drain surface to a minimum depth of 75mm. Refer to Blue Book Standard Drawing SD 4-2 on ESCP04.			
Drain lining:			
Jute mesh + soil binder (e.g. Vital P47) + seed. Note that:			
- the binder is to be applied at max. 10% dilution; and			
- seed is to be a combinaton of suitable native perennials plus a non-invasive cover crop such as ryegrass or millet.			
Alternatively line drains with geofabric.			
Watering:			
- Regular watering required where rainfall is insufficient.			
- Ensure water is applied gently (not with a pressure spray).			



DETAIL 1: CLEAN/DIRTY WATER DIVERSION DRAIN/BUND

PHOTO 1: SANDBAGS INSTALLED ALONG NEW KERB AND GUTTER TO MINIMISE THE RISK OF SCOUR AND DIVERT FLOWS INTO KERBS.

NOTE: SANDBAGS ARE TO BE INSTALLED ALONG FRONT AND BACK OF NEW KERB AND GUTTER.

REV	DATE	DES.	DRN.	APP.	REVISION DETAILS
00	10/03/22	L.O.	L.O.	A.M.	FINAL ISSUE – FOR USE
B	09/03/22	L.O.	L.O.	A.M.	AMENDED AS PER CLIENT COMMENTS – ISSUED FOR FINAL REVIEW
A	08/03/22	L.O.	L.O.	A.M.	DRAFT ISSUE – FOR REVIEW

DRAWING STATUS	
DESIGN BY	L.O.
DRAWN BY	L.O.
FINAL APPROVAL	A.M.
SCALE: (on A3 Original)	N.T.S.

FINAL

North

CLIENT

ADCO

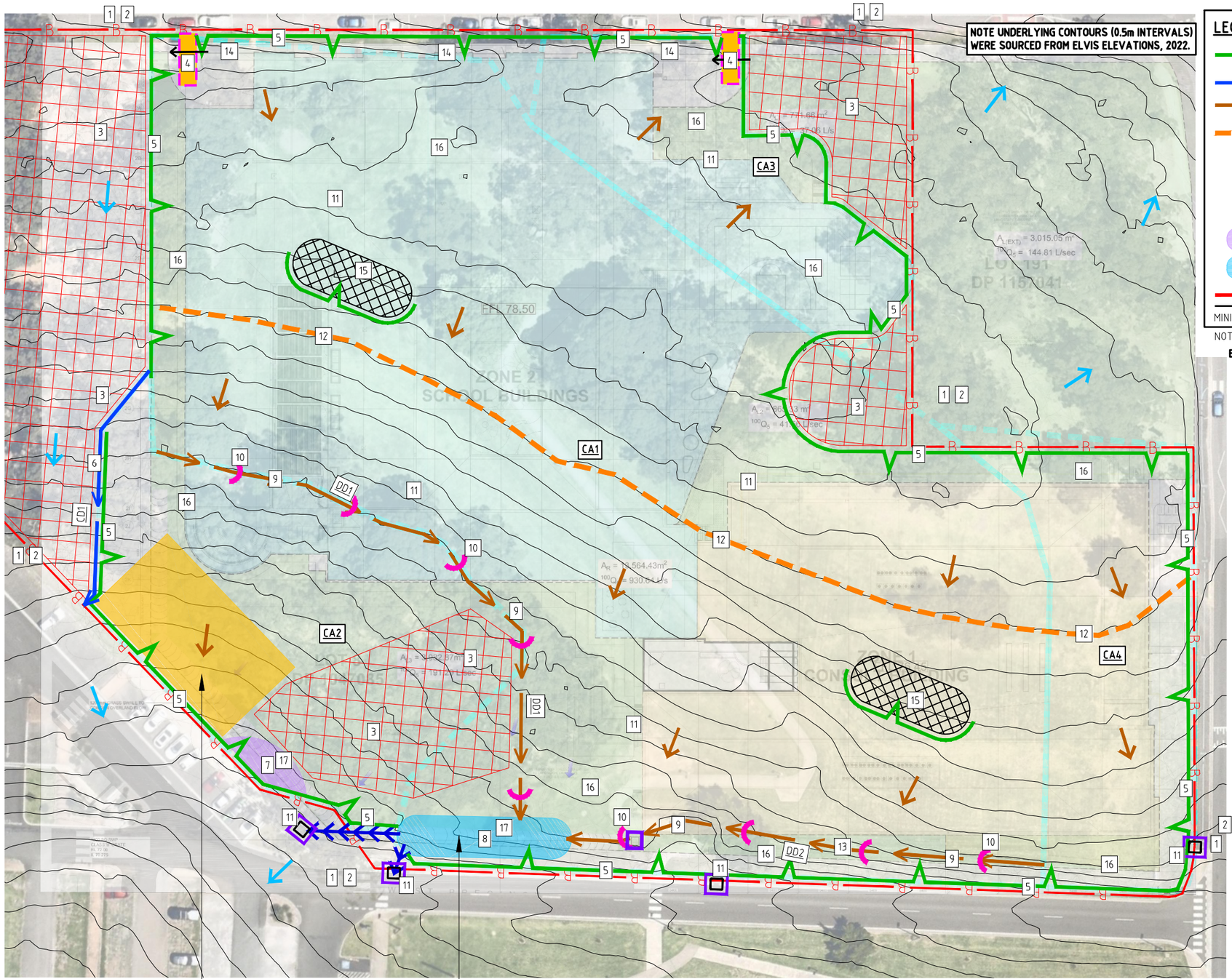
SEEC
Suites 7 & 8, 68-70 Station Street
PO Box 1098, Bowral NSW 2576.
(t) 02 4862 1633
(f) 02 4862 3088
email: reception@seec.com.au
WWW.SEEC.COM.AU

PROJECT TITLE
PROPOSED NEXTSENSE CENTRE OF EXCELLENCE FOR DEAF & BLIND CHILDREN
MACQUARIE PARK, NSW

DRAWING TITLE
EROSION AND SEDIMENT CONTROL PLAN, BACKGROUND AND GENERAL INSTRUCTIONS – SHEET 1 OF 9

PROJECT NO.	SUB-PR NO.	DRAWING NO.	REV
22000103	P01	ESCP01	00

Plot Date: Thursday, 10 March 2022 11:18:19 AM CAD File Name: M:\22000103 NextSense Centre of Excellence for Deaf & Blind Children – Macquarie Park\Drawings\22000103_P01_ESCP_REV 00.dwg



LEGEND:

- SEDIMENT FENCE (BLUE BOOK SD 6-8 ON ESCP06)
- CLEAN WATER DIVERSION
- DIRTY WATER DIVERSION
- CONTOUR BERM/SLOPE BREAK (MIN. 150mm HIGH)
- LINED SPILLWAY TO EXISTING STORMWATER SYSTEM
- CLEAN WATER FLOW DIRECTION
- DIRTY WATER FLOW DIRECTION
- SEDIMENT TRAP
- SEDIMENT BASIN (BLUE BOOK SD 6-4 ON ESCP06)
- SITE BOUNDARY/HOARDING
- STABILISED SITE ACCESS (BLUE BOOK SD 6-14 ON ESCP07)
- EXISTING STORMWATER PIT
- CATCHMENT BOUNDARY
- STOCKPILE AREA (BLUE BOOK SD 4-1 ON ESCP04)
- TRAFFICABLE HUMP/ROLLOVER
- NO DISTURBANCE - TPZ
- SITE COMPOUND (INDICATIVE LOCATION)
- PIT PROTECTION (REFER TO BLUE BOOK SD 6-12 AND IECA SD OG-01 & SA-01 ON ESCP08-09)
- CHECK DAM (BLUE BOOK SD 5-4 ON ESCP05)

MINIMISE DISTURBANCE TO ONLY WHAT IS REQUIRED FOR SAFE AND EFFICIENT CONSTRUCTION.

NOTE: UNDERLYING DESIGN PROVIDED BY CLIENT.

EROSION AND SEDIMENT CONTROL INSTRUCTIONS - STAGE 1 (MAIN WORKS)

1. Install flagging/hoarding to delineate clearing limits.
2. Minimise disturbance to only what is required for safe and efficient construction.
3. No ground disturbance is to occur within Tree Protection Zones (TPZs). Exact locations TBC onsite.
4. Install stabilised site access/exit points in the locations shown and anywhere else construction vehicles travel from unsealed areas on to sealed public roads. Refer to Blue Book Standard Drawing SD 6-14 on ESCP07.
   - 4.1. Ensure site access/exit points include a trafficable hump/rollover to minimise the risk of dirty water egress.
5. Install sediment fence downslope of areas of disturbance in the locations shown. Ensure returns are installed at max. 20m intervals. Refer to Blue Book Standard Drawing SD 6-8 on ESCP06.
   - 5.1. Options to create 'returns' include sandbags or straw bales at right angles to the sediment fence.
6. Install the clean water diversion drain/bund in the location shown. Refer Table 1 on ESCP01 for sizing and lining requirements.
7. Install a sediment trap in the location shown. Sediment trap to be constructed as large as feasible.
8. Construct a sediment basin including inlet and outlet structures in the location shown. Refer to Blue Book Standard Drawing SD 6-4 on ESCP06.
9. Install dirty water diversions DD1 and DD2 as shown. Refer to Table 1 on ESCP01 for sizing and lining requirements.
10. Install check dams (sandbags, coir logs or rock checks) at max. 20m intervals along dirty water diversions to reduce runoff velocities. Refer to Blue Book Standard Drawing SD 5-4 on ESCP05.
11. Stormwater Drainage and Utility Works - As much as possible:
    - Schedule proposed stormwater drainage and utility works for a period of little or no rainfall and complete as quickly as possible;
    - Limit the amount of open trenches/excavations at any one time;
    - Close trenches/excavations ASAP following pipe laying and pit installation;
    - Ensure that new pipes/pits are onsite and ready to be installed prior to opening trenches (to minimise the time the trenches/excavations are open if deliveries are delayed; and
    - Install pit protection around (gravel socks, coir logs or equivalent) or in (gully bags) all existing and new pits. Refer to IECA Standard Drawings SA-01 or OG-01 and Blue Book Standard Drawing SD 6-12 on ESCP08-09.
      - Pit protection is no longer required once upslope catchment has been stabilised (e.g. landscaped or asphalted).
      - Ensure pit protection does not cause water to pond onto live traffic lanes.
12. Install slope breaks/contour berms (min. 150mm high) at max. 80m intervals right across the entire site as shown prior to forecast rainfall (>50% chance of 10mm or more in 24 hours).
    - Slope breaks/contour berms can be formed as pushed up earth, sandbag bunds, or scratch drains.
    - Note these slope breaks are no longer required once the site is stabilised (e.g. landscaped or concreted).
13. During basement excavation works maintain DD2 for as long as possible to direct as much dirty water to the sediment basin as possible.
14. Install sandbag checks along front and back of all new kerb and gutters to minimise the risk of scour and divert flows into kerbs and pits. Refer to Photo 1 on ESCP01 for an example.
    - 14.1. Alternatively topsoil and install turf strips behind new kerb and gutter. Refer to Blue Book Standard Drawing SD 6-13 on ESCP08.
15. Stockpiles are to be managed in accordance with Blue Book Standard Drawing SD 4-1 on ESCP04. Exact locations TBC onsite.
    - 15.1. Stablise stockpiles with a biodegradable soil polymer or cover with grass, jute or geofabric to achieve at least 60% cover.
16. Undertake progressive stabilisation of lands (including batters and drains) as final earthworks and road works are completed in each area (rather than waiting until the completion of all works).
17. De-watering of water accumulating onsite is to be managed in accordance with the 'Dirty Water Treatment and Discharge Requirements' notes on ESCP01.

ENSURE SITE COMPOUND SURFACE CONSISTS OF SUITABLE AND COMPETENT MATERIAL (i.e. DGB OR EQUIVALENT). ENSURE SURFACES GRADE TOWARDS SEDIMENT TRAP AND AWAY FROM THE CLEAN WATER DIVERSION.

0 7.5 15 22.5 30 37.5m

Scale: 1:750 (A3 SHEET)

SEDIMENT BASIN MIN. SIZING REQUIREMENTS

DISTURBED CATCHMENT AREA	= 1.38 ha
STORAGE (SOIL) VOLUME	= 66 m^3
SETTLING (WATER) VOLUME	= 343 m^3
TOTAL BASIN VOLUME	= 409 m^3

NOTE PROVIDED A GEOFABRIC LINED SPILLWAY INTO THE EXISTING STORMWATER PIT OR KERB AND GUTTER AS SHOWN.

REV	DATE	DES.	DRN.	APP.	REVISION DETAILS
00	10/03/22	L.O.	L.O.	A.M.	FINAL ISSUE - FOR USE
B	09/03/22	L.O.	L.O.	A.M.	AMENDED AS PER CLIENT COMMENTS - ISSUED FOR FINAL REVIEW
A	08/03/22	L.O.	L.O.	A.M.	DRAFT ISSUE - FOR REVIEW

DRAWING STATUS	
DESIGN BY	L.O.
DRAWN BY	L.O.
FINAL APPROVAL	A.M.
SCALE: (on A3 Original)	1:750

FINAL

North

CLIENT: ADCO

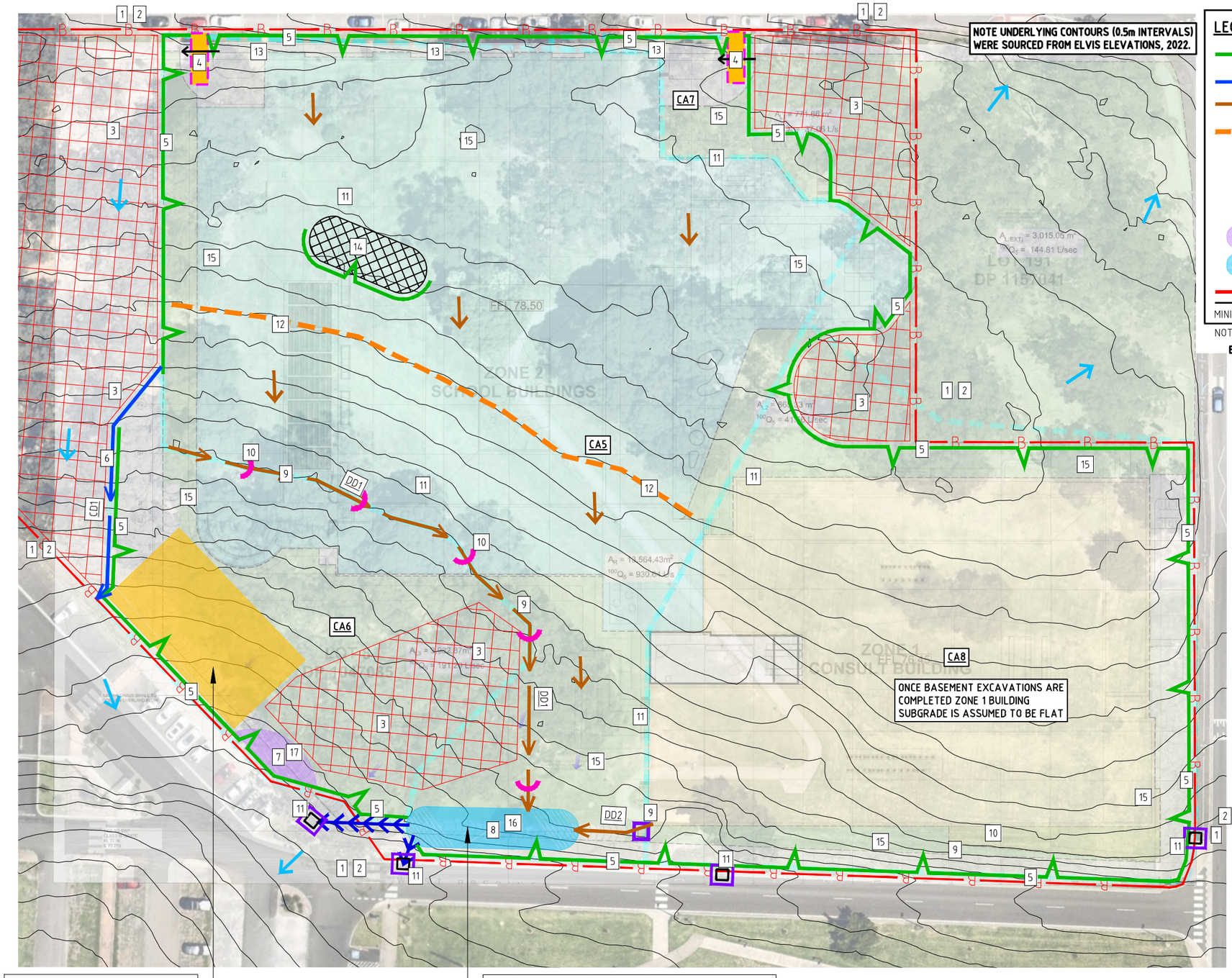
SEEC
Suites 7 & 8, 68-70 Station Street
PO Box 1098, Bowral NSW 2576.
(t) 02 4862 1633
(f) 02 4862 3088
email: reception@seec.com.au
WWW.SEEC.COM.AU

PROJECT TITLE: PROPOSED NEXTSENSE CENTRE OF EXCELLENCE FOR DEAF & BLIND CHILDREN
MACQUARIE PARK, NSW

DRAWING TITLE: EROSION AND SEDIMENT CONTROL PLAN - STAGE 1 SHEET 2 OF 9

PROJECT NO.	SUB-PR NO.	DRAWING NO.	REV
22000103	P01	ESCP02	00

Plot Date: Thursday, 10 March 2022 11:18:29 AM CAD File Name: M:\22000103 NextSense Centre of Excellence for Deaf & Blind Children - Macquarie Park\Drawings\22000103_P01_ESCP_REV 00.dwg



LEGEND:

- SEDIMENT FENCE (BLUE BOOK SD 6-8 ON ESCP06)
- CLEAN WATER DIVERSION
- DIRTY WATER DIVERSION
- CONTOUR BERM/SLOPE BREAK (MIN. 150mm HIGH)
- LINED SPILLWAY TO EXISTING STORMWATER SYSTEM
- CLEAN WATER FLOW DIRECTION
- DIRTY WATER FLOW DIRECTION
- SEDIMENT TRAP
- SEDIMENT BASIN (BLUE BOOK SD 6-4 ON ESCP06)
- SITE BOUNDARY/HOARDING
- STABILISED SITE ACCESS (BLUE BOOK SD 6-14 ON ESCP07)
- EXISTING STORMWATER PIT
- CATCHMENT BOUNDARY
- STOCKPILE AREA (BLUE BOOK SD 4-1 ON ESCP04)
- TRAFFICABLE HUMP/ROLLOVER
- NO DISTURBANCE - TPZ
- SITE COMPOUND (INDICATIVE LOCATION)
- PIT PROTECTION (REFER TO BLUE BOOK SD 6-12 AND IECA SD OG-01 & SA-01 ON ESCP08-09)
- CHECK DAM (BLUE BOOK SD 5-4 ON ESCP05)

MINIMISE DISTURBANCE TO ONLY WHAT IS REQUIRED FOR SAFE AND EFFICIENT CONSTRUCTION.

NOTE: UNDERLYING DESIGN PROVIDED BY CLIENT.

EROSION AND SEDIMENT CONTROL INSTRUCTIONS - STAGE 2 (BASEMENT EXCAVATION WORKS COMPLETE)

1. Maintain flagging/hoarding to delineate clearing limits.
2. Minimise disturbance to only what is required for safe and efficient construction.
3. No ground disturbance is to occur within Tree Protection Zones (TPZs). Exact locations TBC onsite.
4. IMaintan stabilised site access/exit points in the locations shown and anywhere else construction vehicles travel from unsealed areas on to sealed public roads. Refer to Blue Book Standard Drawing SD 6-14 on ESCP07.
   - 4.1. Ensure site access/exit points include a trafficable hump/rollover to minimise the risk of dirty water egress.
5. Maintain sediment fence downslope of areas of disturbance in the locations shown. Ensure returns are installed at max. 20m intervals. Refer to Blue Book Standard Drawing SD 6-8 on ESCP06.
   - 5.1. Options to create 'returns' include sandbags or straw bales at right angles to the sediment fence.
6. Maintain the clean water diversion drain/bund in the location shown. Refer Table 1 on ESCP01 for sizing and lining requirements.
7. Maintain sediment trap in the location shown. Sediment trap to be constructed as large as feasible.
8. Maintain the sediment basin including inlet and outlet structures in the location shown. Refer to Blue Book Standard Drawing SD 6-4 on ESCP06.
9. Maintain dirty water diversions DD1 and DD2 as shown. Refer to Table 1 on ESCP01 for sizing and lining requirements.
10. Maintain check dams (sandbags, coir logs or rock checks) at max. 20m intervals along dirty water diversions to reduce runoff velocities. Refer to Blue Book Standard Drawing SD 5-4 on ESCP05.
11. Stormwater Drainage and Utility Works - As much as possible:
    - Schedule proposed stormwater drainage and utility works for a period of little or no rainfall and complete as quickly as possible;
    - Limit the amount of open trenches/excavations at any one time;
    - Close trenches/excavations ASAP following pipe laying and pit installation;
    - Ensure that new pipes/pits are onsite and ready to be installed prior to opening trenches (to minimise the time the trenches/excavations are open if deliveries are delayed; and
    - Install pit protection around (gravel socks, coir logs or equivalent) or in (gully bags) all existing and new pits. Refer to IECA Standard Drawings SA-01 or OG-01 and Blue Book Standard Drawing SD 6-12 on ESCP08-09.
      - Pit protection is no longer required once upslope catchment has been stabilised (e.g. landscaped or asphalted).
      - Ensure pit protection does not cause water to pond onto live traffic lanes.
12. Install slope breaks/contour berms (min. 150mm high) at max. 80m intervals right across the entire site as shown prior to forecast rainfall (>50% chance of 10mm or more in 24 hours).
    - Slope breaks/contour berms can be formed as pushed up earth, sandbag bunds, or scratch drains.
    - Note these slope breaks are no longer required once the site is stabilised (e.g. landscaped or concreted).
13. Install sandbag checks along front and back of all new kerb and gutters to minimise the risk of scour and divert flows into kerbs and pits. Refer to Photo 1 on ESCP01 for an example.
    - 13.1. Alternatively topsoil and install turf strips behind new kerb and gutter. Refer to Blue Book Standard Drawing SD 6-13 on ESCP08.
14. Stockpiles are to be managed in accordance with Blue Book Standard Drawing SD 4-1 on ESCP04. Exact locations TBC onsite.
    - 14.1. Stablise stockpiles with a biodegradable soil polymer or cover with grass, jute or geofabric to achieve at least 60% cover.
15. Undertake progressive stabilisation of lands (including batters and drains) as final earthworks and road works are completed in each area (rather than waiting until the completion of all works).
16. De-watering of water accumulating onsite is to be managed in accordance with the 'Dirty Water Treatment and Discharge Requirements' notes on ESCP01.

ENSURE SITE COMPOUND SURFACE CONSISTS OF SUITABLE AND COMPETENT MATERIAL (i.e. DGB OR EQUIVALENT). ENSURE SURFACES GRADE TOWARDS SEDIMENT TRAP AND AWAY FROM THE CLEAN WATER DIVERSION.

SEDIMENT BASIN MIN. SIZING REQUIREMENTS

DISTURBED CATCHMENT AREA	= 1.38 ha
STORAGE (SOIL) VOLUME	= 66 m^3
SETTLING (WATER) VOLUME	= 343 m^3
TOTAL BASIN VOLUME	= 409 m^3

NOTE PROVIDED A GEOFABRIC LINED SPILLWAY INTO THE EXISTING STORMWATER PIT OR KERB AND GUTTER AS SHOWN.

0 7.5 15 22.5 30 37.5m

Scale: 1:750 (A3 SHEET)

REV	DATE	DES.	DRN.	APP.	REVISION DETAILS
00	10/03/22	L.O.	L.O.	A.M.	FINAL ISSUE - FOR USE
B	09/03/22	L.O.	L.O.	A.M.	AMENDED AS PER CLIENT COMMENTS - ISSUED FOR FINAL REVIEW
A	08/03/22	L.O.	L.O.	A.M.	DRAFT ISSUE - FOR REVIEW

DRAWING STATUS

DESIGN BY	L.O.
DRAWN BY	L.O.
FINAL APPROVAL	A.M.
SCALE: (on A3 Original)	1:750

FINAL

North

CLIENT: ADCO

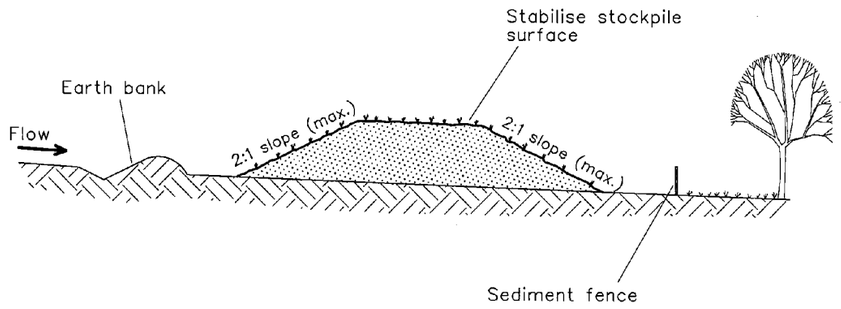
SEEC
Suites 7 & 8, 68-70 Station Street
PO Box 1098, Bowral NSW 2576.
(t) 02 4862 1633
(f) 02 4862 3088
email: reception@seec.com.au
WWW.SEEC.COM.AU

PROJECT TITLE: PROPOSED NEXTSENSE CENTRE OF EXCELLENCE FOR DEAF & BLIND CHILDREN
MACQUARIE PARK, NSW

DRAWING TITLE: EROSION AND SEDIMENT CONTROL PLAN - STAGE 2
SHEET 3 OF 9

PROJECT NO.	SUB-PR NO.	DRAWING NO.	REV
22000103	P01	ESCP03	00

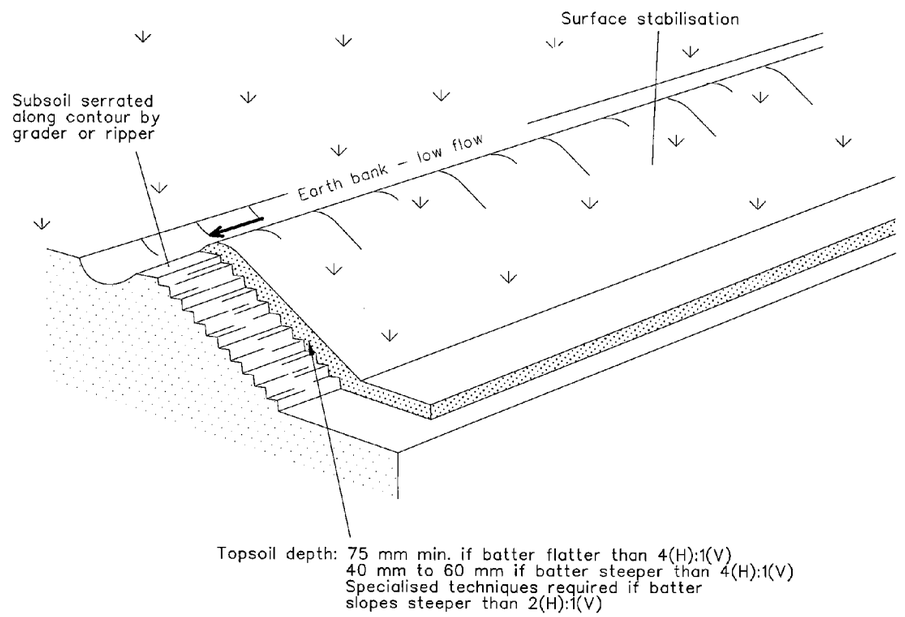
Plot Date: Thursday, 10 March 2022 11:18:33 AM CAD File Name: M:\22000103 NextSense Centre of Excellence for Deaf & Blind Children - Macquarie Park\Drawings\22000103_P01_ESCP_REV 00.dwg



Construction Notes

1. Place stockpiles more than 2 (preferably 5) metres from existing vegetation, concentrated water flow, roads and hazard areas.
2. Construct on the contour as low, flat, elongated mounds.
3. Where there is sufficient area, topsoil stockpiles shall be less than 2 metres in height.
4. Where they are to be in place for more than 10 days, stabilise following the approved ESCP or SWMP to reduce the C-factor to less than 0.10.
5. Construct earth banks (Standard Drawing 5-5) on the upslope side to divert water around stockpiles and sediment fences (Standard Drawing 6-8) 1 to 2 metres downslope.

STOCKPILES — SD 4-1



Construction Notes

1. Scarify the ground surface along the line of the contour to a depth of 50 mm to 100 mm to break up any hardsetting surfaces and to provide a good bond between the respread material and subsoil.
2. Add soil ameliorants as required by the ESCP or SWMP.
3. Rip to a depth of 300 mm if compacted layers occur.
4. Where possible, replace topsoil to a depth of 40 to 60 mm on lands where the slope exceeds 4(H):1(V) and to at least 75 mm on lower gradients.

REPLACING TOPSOIL — SD 4-2

ALL STANDARD DRAWINGS ARE FROM LANDCOM, 2004.

REV	DATE	DES.	DRN.	APP.	REVISION DETAILS
00	10/03/22	L.O.	L.O.	A.M.	FINAL ISSUE – FOR USE
B	09/03/22	L.O.	L.O.	A.M.	AMENDED AS PER CLIENT COMMENTS – ISSUED FOR FINAL REVIEW
A	08/03/22	L.O.	L.O.	A.M.	DRAFT ISSUE – FOR REVIEW

DRAWING STATUS	
DESIGN BY	L.O.
DRAWN BY	L.O.
FINAL APPROVAL	A.M.
SCALE: (on A3 Original)	N.T.S.
FINAL	

North

CLIENT: ADCO

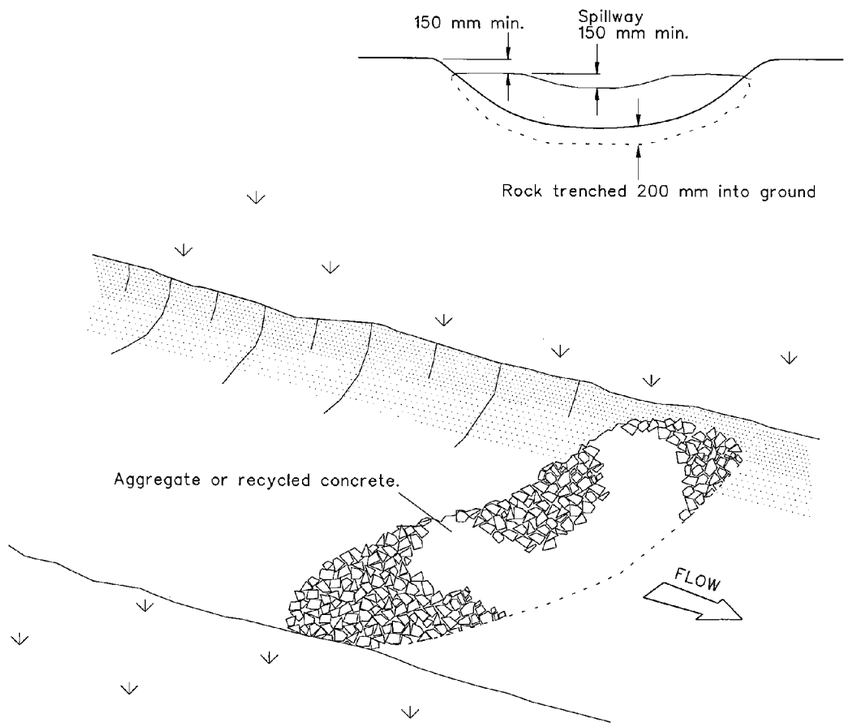
SEEC
Suites 7 & 8, 68-70 Station Street
PO Box 1098, Bowral NSW 2576.
(t) 02 4862 1633
(f) 02 4862 3088
email: reception@seec.com.au
WWW.SEEC.COM.AU

PROJECT TITLE: PROPOSED NEXTSENSE CENTRE OF EXCELLENCE FOR DEAF & BLIND CHILDREN MACQUARIE PARK, NSW

DRAWING TITLE: EROSION AND SEDIMENT CONTROL BLUE BOOK STANDARD DRAWING SHEET 4 OF 9

PROJECT NO.	SUB-PR NO.	DRAWING NO.	REV
22000103	P01	ESCP04	00

Plot Date: Thursday, 10 March 2022 11:18:36 AM CAD File Name: M:\22000103 NextSense Centre of Excellence for Deaf & Blind Children – Macquarie Park\Drawings\22000103_P01_ESCP_REV 00.dwg



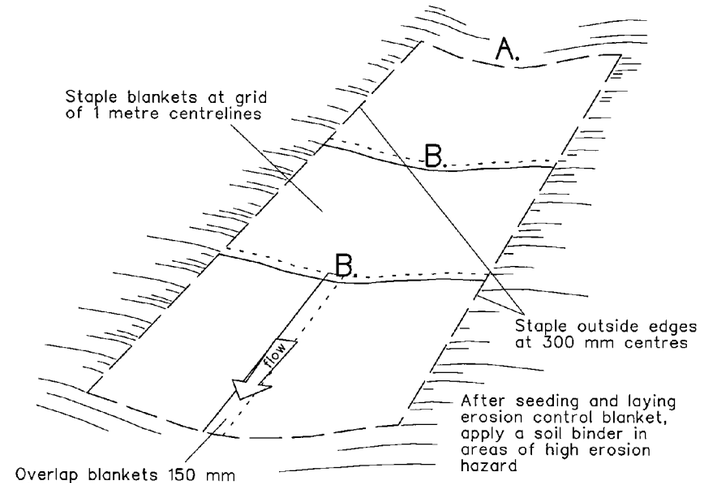
Spacing of check dams along centreline and scour protection below each check dam to be specified on SWMP/ESCP

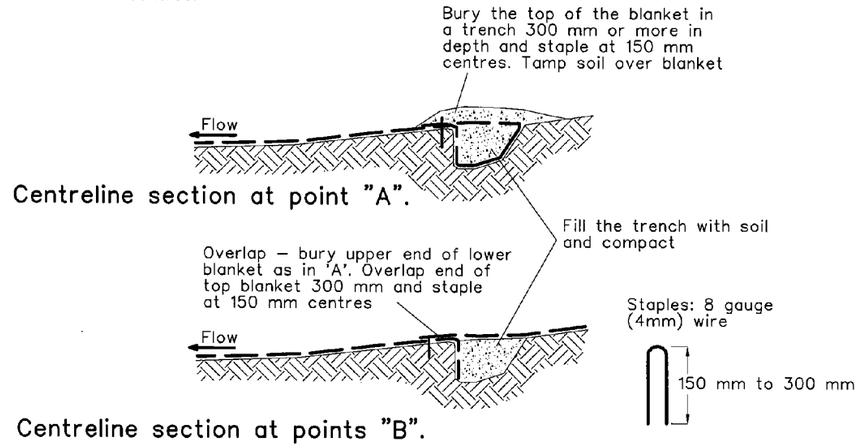
Construction Notes

1. Check dams can be built with various materials, including rocks, logs, sandbags and straw bales. The maintenance program should ensure their integrity is retained, especially where constructed with straw bales. In the case of bales, this might require their replacement each two to four months.
2. Trench the check dam 200 mm into the ground across its whole width. Where rock is used, fill the trenches to at least 100 mm above the ground surface to reduce the risk of undercutting.
3. Normally, their maximum height should not exceed 600 mm above the gully floor. The centre should act as a spillway, being at least 150 mm lower than the outer edges.
4. Space the dams so the toe of the upstream dam is level with the spillway of the next downstream dam.

ROCK CHECK DAM

SD 5-4





Construction Notes

1. Remove any rocks, clods, sticks or grass from the surface before laying matting
2. Ensure that topsoil is at least 75 mm deep.
3. Complete fertilising and seeding before laying the matting.
4. Ensure fabric will be continuously in contact with the soil by grading the surface carefully first.
5. Lay the fabric in "shingle-fashion", with the end of each upstream roll overlapping those downstream. Ensure each roll is anchored properly at its upslope end (Standard Drawing 5-7b).
6. Ensure that the full width of flow in the channel is covered by the matting up to the design storm event, usually in the 10-year ARI time of concentration storm event.
7. Divert water from the structure until vegetation is stabilised properly.

RECP : CONCENTRATED FLOW

SD 5-7

ALL STANDARD DRAWINGS ARE FROM LANDCOM, 2004.

REV	DATE	DES.	DRN.	APP.	REVISION DETAILS
00	10/03/22	L.O.	L.O.	A.M.	FINAL ISSUE – FOR USE
B	09/03/22	L.O.	L.O.	A.M.	AMENDED AS PER CLIENT COMMENTS – ISSUED FOR FINAL REVIEW
A	08/03/22	L.O.	L.O.	A.M.	DRAFT ISSUE – FOR REVIEW

DRAWING STATUS	
DESIGN BY	L.O.
DRAWN BY	L.O.
FINAL APPROVAL	A.M.
SCALE: (on A3 Original)	N.T.S.
FINAL	

North

CLIENT

ADCO

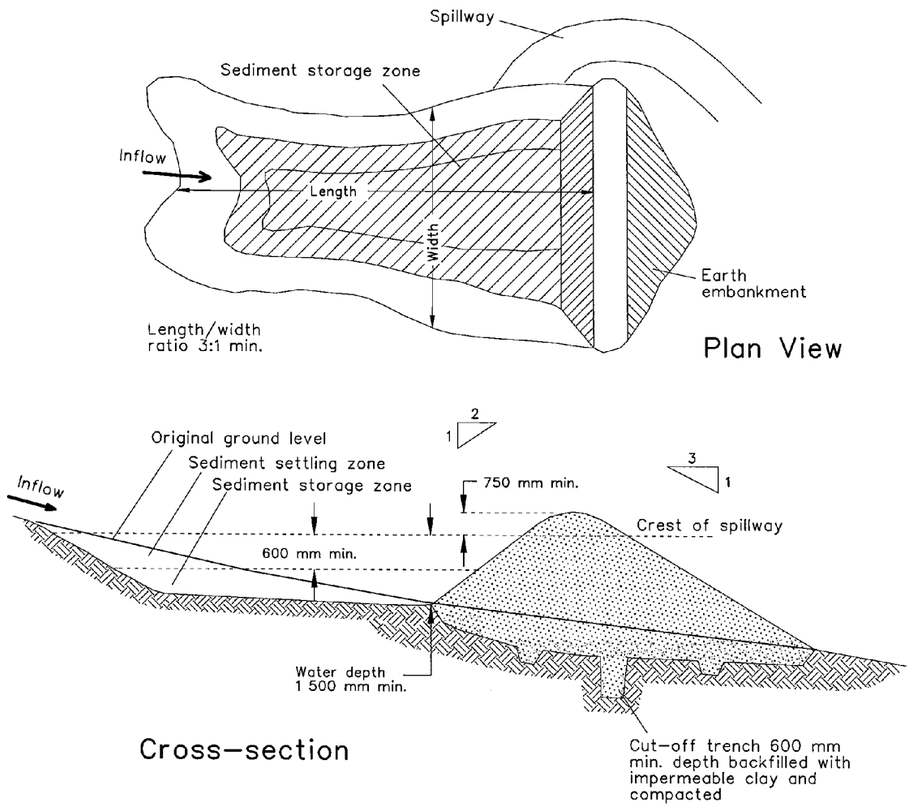
SEEC
Suites 7 & 8, 68-70 Station Street
PO Box 1098, Bowral NSW 2576.
(t) 02 4862 1633
(f) 02 4862 3088
email: reception@seec.com.au
WWW.SEEC.COM.AU

PROJECT TITLE
PROPOSED NEXTSENSE CENTRE OF EXCELLENCE FOR DEAF & BLIND CHILDREN
MACQUARIE PARK, NSW

DRAWING TITLE
EROSION AND SEDIMENT CONTROL
BLUE BOOK STANDARD DRAWING
SHEET 5 OF 9

PROJECT NO.	SUB-PR NO.	DRAWING NO.	REV
22000103	P01	ESCP05	00

Plot Date: Thursday, 10 March 2022 11:18:40 AM CAD File Name: M:\22000103 NextSense Centre of Excellence for Deaf & Blind Children – Macquarie Park\Drawings\22000103_P01_ESCP_REV 00.dwg



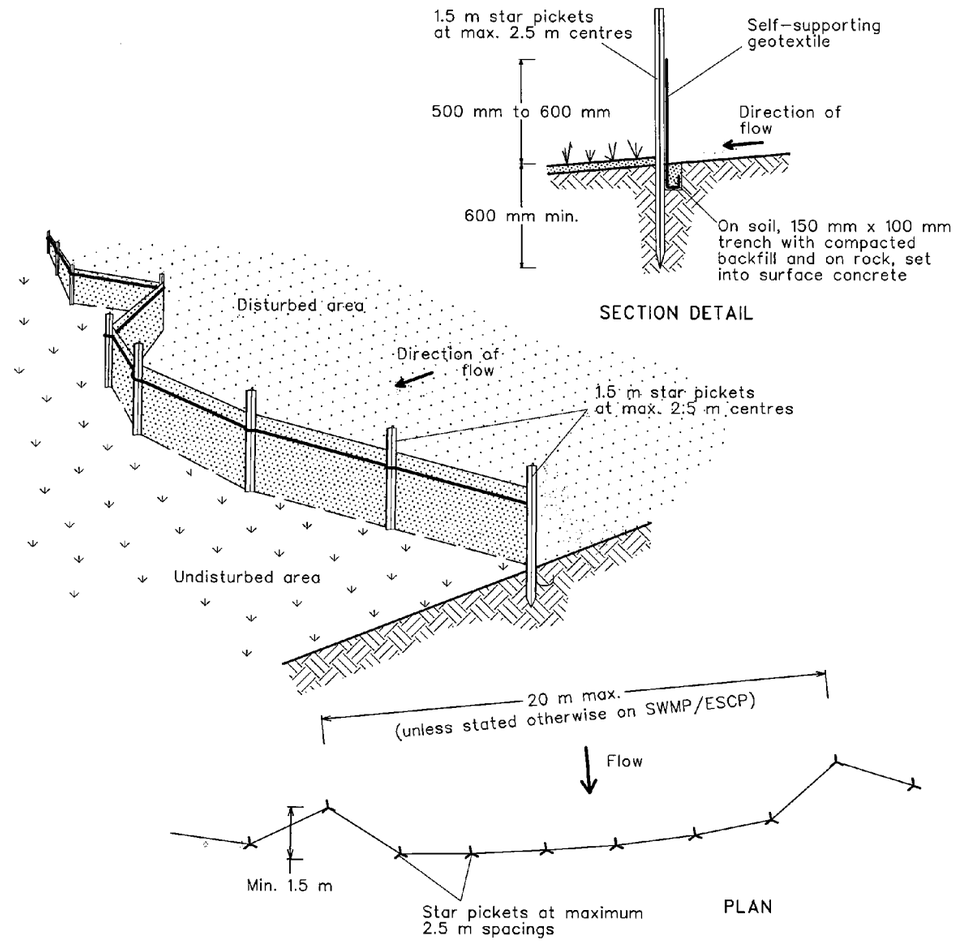
Construction Notes

1. Remove all vegetation and topsoil from under the dam wall and from within the storage area.
2. Construct a cut-off trench 500 mm deep and 1,200 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 following the SWMP.
7. Construct the emergency spillway.
8. Rehabilitate the structure following the SWMP.

EARTH BASIN - WET

(APPLIES TO 'TYPE D' AND 'TYPE F' SOILS ONLY)

SD 6-4



Construction Notes

1. Construct sediment fences as close as possible to being parallel to the contours of the site, but with small returns as shown in the drawing to limit the catchment area of any one section. The catchment area should be small enough to limit water flow if concentrated at one point to 50 litres per second in the design storm event, usually the 10-year event.
2. Cut a 150-mm deep trench along the upslope line of the fence for the bottom of the fabric to be entrenched.
3. Drive 1.5 metre long star pickets into ground at 2.5 metre intervals (max) at the downslope edge of the trench. Ensure any star pickets are fitted with safety caps.
4. Fix self-supporting geotextile to the upslope side of the posts ensuring it goes to the base of the trench. Fix the geotextile with wire ties or as recommended by the manufacturer. Only use geotextile specifically produced for sediment fencing. The use of shade cloth for this purpose is not satisfactory.
5. Join sections of fabric at a support post with a 150-mm overlap.
6. Backfill the trench over the base of the fabric and compact it thoroughly over the geotextile.

SEDIMENT FENCE

SD 6-8

ALL STANDARD DRAWINGS ARE FROM LANDCOM, 2004.

REV	DATE	DES.	DRN.	APP.	REVISION DETAILS
00	10/03/22	L.O.	L.O.	A.M.	FINAL ISSUE – FOR USE
B	09/03/22	L.O.	L.O.	A.M.	AMENDED AS PER CLIENT COMMENTS – ISSUED FOR FINAL REVIEW
A	08/03/22	L.O.	L.O.	A.M.	DRAFT ISSUE – FOR REVIEW

DRAWING STATUS	
DESIGN BY	L.O.
DRAWN BY	L.O.
FINAL APPROVAL	A.M.
SCALE: (on A3 Original)	N.T.S.
FINAL	

North

CLIENT

ADCO

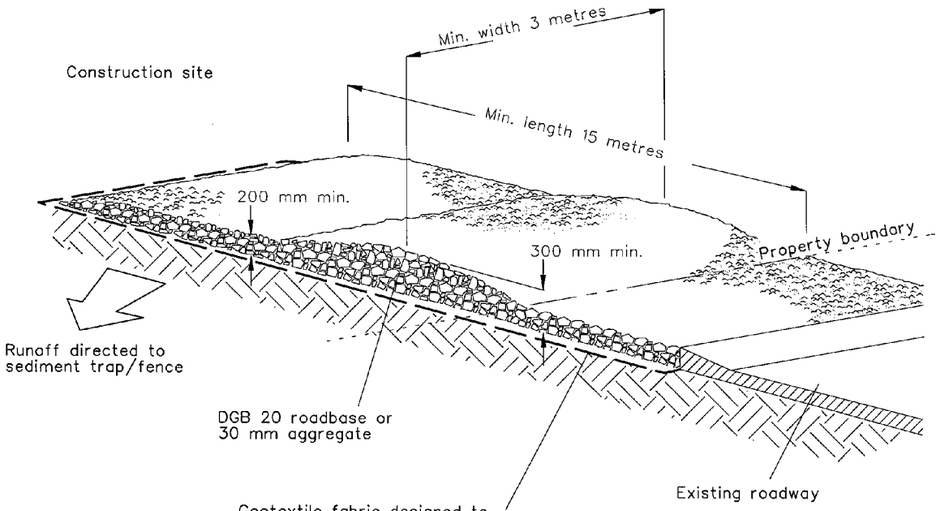
SEEC
Suites 7 & 8, 68-70 Station Street
PO Box 1098, Bowral NSW 2576.
(t) 02 4862 1633
(f) 02 4862 3088
email: reception@seec.com.au
WWW.SEEC.COM.AU

PROJECT TITLE
PROPOSED NEXTSENSE CENTRE OF EXCELLENCE FOR DEAF & BLIND CHILDREN
MACQUARIE PARK, NSW

DRAWING TITLE
EROSION AND SEDIMENT CONTROL
BLUE BOOK STANDARD DRAWING
SHEET 6 OF 9

PROJECT NO.	SUB–PR NO.	DRAWING NO.	REV
22000103	P01	ESCP06	00

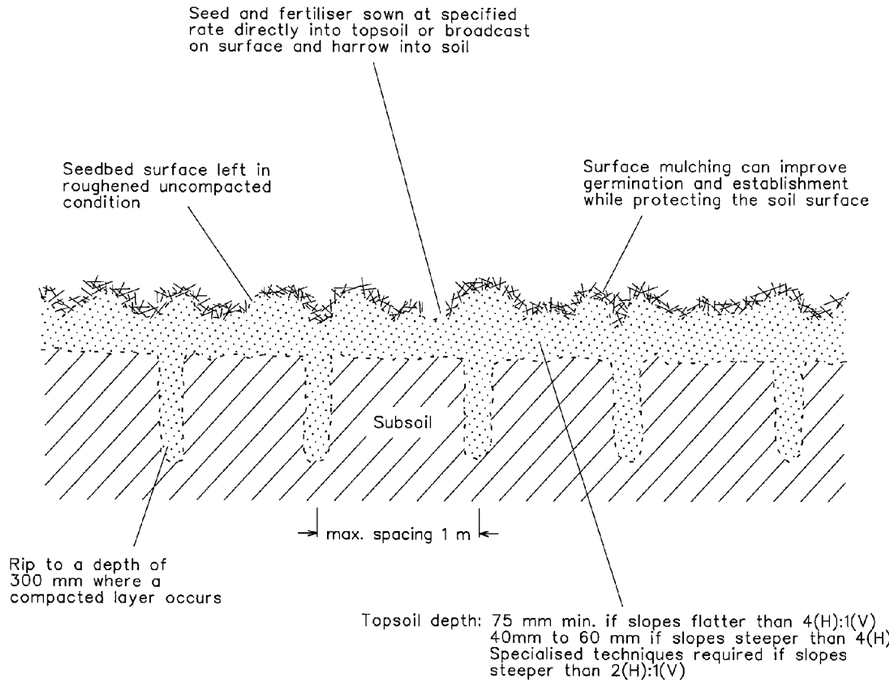
Plot Date: Thursday, 10 March 2022 11:18:45 AM CAD File Name: M:\22000103 NextSense Centre of Excellence for Deaf & Blind Children – Macquarie Park\Drawings\22000103_P01_ESCP_REV 00.dwg



Construction Notes

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

STABILISED SITE ACCESS — SD 6-14



Construction Notes

1. Loosen compacted soil before sowing any seed. If necessary, rip the soil to a depth of 300 mm. Avoid rotary hoe cultivation.
2. Work the ground only as much as necessary to achieve the desired tilth and prepare a good seedbed.
3. Avoid cultivation in very wet or very dry conditions.
4. Cultivate on or close to the contour where possible, not up and down the slope.

SEEDBED PREPARATION — SD 7-1

ALL STANDARD DRAWINGS ARE FROM LANDCOM, 2004.

REV	DATE	DES.	DRN.	APP.	REVISION DETAILS
00	10/03/22	L.O.	L.O.	A.M.	FINAL ISSUE – FOR USE
B	09/03/22	L.O.	L.O.	A.M.	AMENDED AS PER CLIENT COMMENTS – ISSUED FOR FINAL REVIEW
A	08/03/22	L.O.	L.O.	A.M.	DRAFT ISSUE – FOR REVIEW

DRAWING STATUS	
DESIGN BY	L.O.
DRAWN BY	L.O.
FINAL APPROVAL	A.M.
SCALE: (on A3 Original)	N.T.S.
FINAL	

North

CLIENT: ADCO

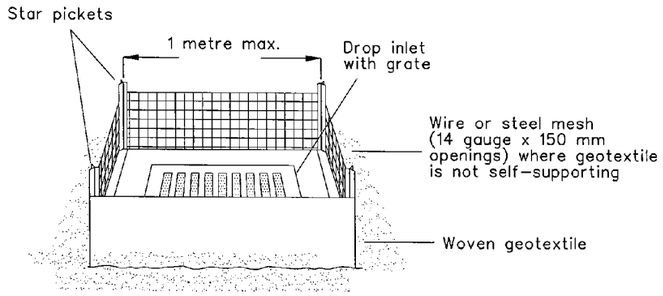
SEEC
Suites 7 & 8, 68-70 Station Street
PO Box 1098, Bowral NSW 2576.
(t) 02 4862 1633
(f) 02 4862 3088
email: reception@seec.com.au
WWW.SEEC.COM.AU

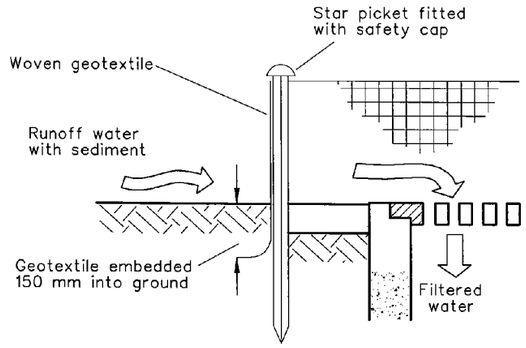
PROJECT TITLE: PROPOSED NEXTSENSE CENTRE OF EXCELLENCE FOR DEAF & BLIND CHILDREN MACQUARIE PARK, NSW

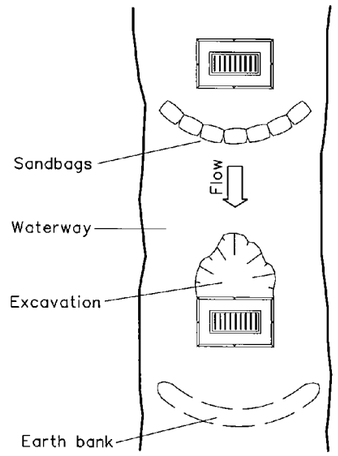
DRAWING TITLE: EROSION AND SEDIMENT CONTROL BLUE BOOK STANDARD DRAWING SHEET 7 OF 9

PROJECT NO.	SUB–PR NO.	DRAWING NO.	REV
22000103	P01	ESCP07	00

Plot Date: Thursday, 10 March 2022 11:18:51 AM CAD File Name: M:\22000103 NextSense Centre of Excellence for Deaf & Blind Children – Macquarie Park\Drawings\22000103_P01_ESCP_REV 00.dwg





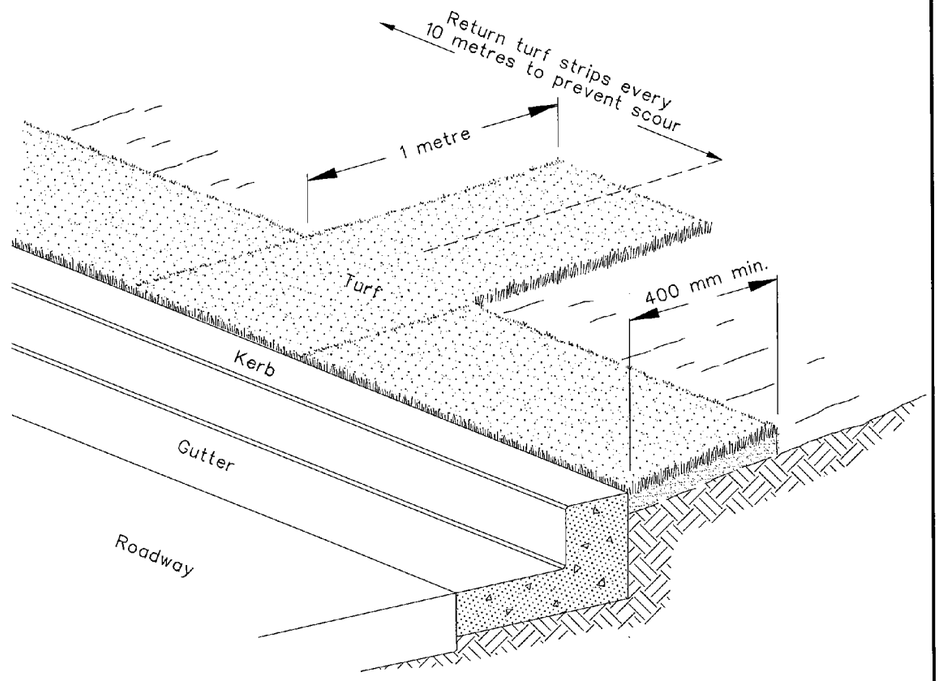


For drop inlets at non–sag points, sandbags, earth bank or excavation used to create artificial sag point

Construction Notes

1. Fabricate a sediment barrier made from geotextile or straw bales.
2. Follow Standard Drawing 6-7 and Standard Drawing 6-8 for installation procedures for the straw bales or 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. Do not cover the inlet with geotextile unless the design is adequate to allow for all waters to bypass it.

GEOTEXTILE INLET FILTER — SD 6-12



Construction Notes

1. Install a 400-mm minimum wide roll of turf on the footpath next to the kerb and at the same level as the top of the kerb.
2. Lay 1.4 metre long turf strips normal to the kerb every 10 metres.
3. Rehabilitate disturbed soil behind the

KERBSIDE TURF STRIP — SD 6-13

ALL STANDARD DRAWINGS ARE FROM LANDCOM, 2004.

REV	DATE	DES.	DRN.	APP.	REVISION DETAILS
00	10/03/22	L.O.	L.O.	A.M.	FINAL ISSUE – FOR USE
B	09/03/22	L.O.	L.O.	A.M.	AMENDED AS PER CLIENT COMMENTS – ISSUED FOR FINAL REVIEW
A	08/03/22	L.O.	L.O.	A.M.	DRAFT ISSUE – FOR REVIEW

DRAWING STATUS	
DESIGN BY	L.O.
DRAWN BY	L.O.
FINAL APPROVAL	A.M.
SCALE: (on A3 Original)	N.T.S.
FINAL	

North

CLIENT: ADCO

SEEC
Suites 7 & 8, 68-70 Station Street
PO Box 1098, Bowral NSW 2576.
(t) 02 4862 1633
(f) 02 4862 3088
email: reception@seec.com.au
WWW.SEEC.COM.AU

PROJECT TITLE: PROPOSED NEXTSENSE CENTRE OF EXCELLENCE FOR DEAF & BLIND CHILDREN MACQUARIE PARK, NSW

DRAWING TITLE: EROSION AND SEDIMENT CONTROL BLUE BOOK STANDARD DRAINGS SHEET 8 OF 9

PROJECT NO.	SUB–PR NO.	DRAWING NO.	REV
22000103	P01	ESCP08	00

Plot Date: Thursday, 10 March 2022 11:18:55 AM CAD File Name: M:\22000103 NextSense Centre of Excellence for Deaf & Blind Children – Macquarie Park\Drawings\22000103_P01_ESCP_REV 00.dwg

REV	DATE	DES.	DRN.	APP.	REVISION DETAILS
00	10/03/22	L.O.	L.O.	A.M.	FINAL ISSUE – FOR USE
B	09/03/22	L.O.	L.O.	A.M.	AMENDED AS PER CLIENT COMMENTS – ISSUED FOR FINAL REVIEW
A	08/03/22	L.O.	L.O.	A.M.	DRAFT ISSUE – FOR REVIEW

DRAWING STATUS: FINAL

DESIGN BY: L.O.
DRAWN BY: L.O.
FINAL APPROVAL: A.M.

SCALE: N.T.S.
(on A3 Original)

North

CLIENT

ADCO

SEEC
Suites 7 & 8, 68-70 Shirley Street
PO Box 1098, Bowral NSW 2576.
(t) 02 4862 1633
(f) 02 4862 3088
email: reception@seec.com.au
WWW.SEEC.COM.AU

PROJECT TITLE
PROPOSED NEXTSENSE CENTRE OF EXCELLENCE FOR DEAF & BLIND CHILDREN
MACQUARIE PARK, NSW

DRAWING TITLE
EROSION AND SEDIMENT CONTROL
IECA STANDARD DRAWINGS
SHEET 9 OF 9

PROJECT NO.	SUB-PR NO.	DRAWING NO.	REV
22000103	P01	ESCP09	00

Catchments & Creeks Pty Ltd

INSTALLATION

1. REFER TO APPROVED PLANS FOR LOCATION AND INSTALLATION DETAILS. IF THERE ARE QUESTIONS OR PROBLEMS WITH THE LOCATION, DIMENSIONS, OR METHOD OF INSTALLATION, CONTACT THE ENGINEER OR RESPONSIBLE ON-SITE OFFICER FOR ASSISTANCE.

2. ENSURE THAT THE INSTALLATION OF THE SEDIMENT TRAP WILL NOT CAUSE UNDESIRABLE SAFETY OR FLOODING ISSUES.

3. INSTALL SEDIMENT TRAP IN ACCORDANCE WITH STANDARD DRAWING SUPPLIED WITH THE APPROVED PLAN, OR AS DIRECTED BY THE SITE SUPERVISOR.

4. ENSURE THE SEDIMENT TRAP IS CONSTRUCTED UP-SLOPE OF AN ON-GRADE KERB INLET. THE SEDIMENT TRAP MUST NOT SURROUND THE KERB INLET UNLESS SPECIFICALLY DIRECTED BY THE SITE SUPERVISOR.

5. IF NECESSARY, INSTALL ADDITIONAL SEDIMENT TRAPS UP-SLOPE OF THE KERB INLET TO ADEQUATELY RETAIN THE EXPECTED QUANTITY OF SEDIMENT RUNOFF.

6. TAKE ALL NECESSARY MEASURE TO MINIMISE THE SAFETY RISK CAUSED BY THE STRUCTURE.

MAINTENANCE

1. INSPECT ALL SEDIMENT TRAPS DAILY AND IMMEDIATELY AFTER RUNOFF-PRODUCING RAINFALL. MAKE REPAIRS AS NEEDED.

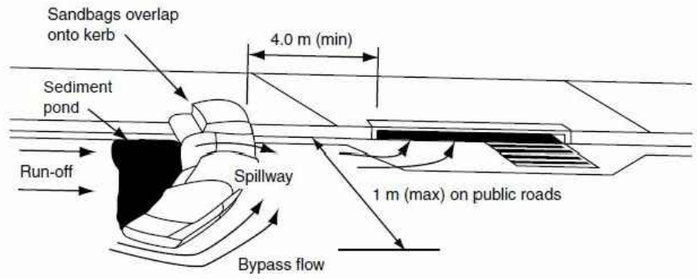
2. REMOVE COLLECTED SEDIMENT AND DISPOSE OF IN A SUITABLE MANNER THAT WILL NOT CAUSE AN EROSION OR POLLUTION HAZARD.

3. ENSURE SEDIMENT DOES NOT ENTER THE STORMWATER DRAIN DURING DE-SILTING OPERATIONS AND MAINTENANCE OF THE TRAP.

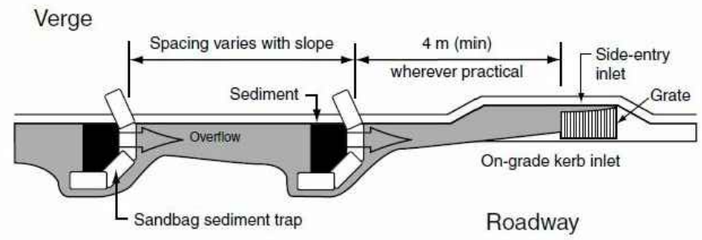
4. SEDIMENT ON THE ROAD MUST BE REMOVED IMMEDIATELY IF IT REPRESENTS A SAFETY HAZARD.

REMOVAL

1. WHEN THE UP-SLOPE DRAINAGE AREA HAS BEEN STABILISED, REMOVE ALL MATERIALS INCLUDED DEPOSITED SEDIMENT AND DISPOSE OF IN A SUITABLE MANNER THAT WILL NOT CAUSE AN EROSION OR POLLUTION HAZARD.



(a) Sandbag sediment collection dam



(b) Typical layout of on-grade kerb inlet sediment traps

Drawn:	Date:		
GMW	Dec-09	On-Grade Kerb Inlet Sediment Trap	OG-01

INSTALLATION

1. REFER TO APPROVED PLANS FOR LOCATION AND INSTALLATION DETAILS. IF THERE ARE QUESTIONS OR PROBLEMS WITH THE LOCATION, DIMENSIONS, OR METHOD OF INSTALLATION, CONTACT THE ENGINEER OR RESPONSIBLE ON-SITE OFFICER FOR ASSISTANCE.

2. ENSURE THAT THE INSTALLATION OF THE SEDIMENT TRAP WILL NOT CAUSE UNDESIRABLE SAFETY OR FLOODING ISSUES.

3. INSTALL SEDIMENT TRAP IN ACCORDANCE WITH STANDARD DRAWING SUPPLIED WITH THE APPROVED PLAN, OR AS DIRECTED BY THE SITE SUPERVISOR.

4. ENSURE THE SEDIMENT TRAP FULLY ENCLOSES THE KERB INLET. USE APPROPRIATE SPACERS TO ENSURE THE SEDIMENT TRAP DOES NOT BLOCK THE SIDE-ENTRY INLET.

5. IF NECESSARY, INSTALL ADDITIONAL 'ON-GRADE KERB INLET SEDIMENT TRAPS' UP-SLOPE OF THE SAG INLET TO ADEQUATELY RETAIN THE EXPECTED QUANTITY OF SEDIMENT RUNOFF.

6. TAKE ALL NECESSARY MEASURE TO MINIMISE THE SAFETY RISK CAUSED BY THE STRUCTURE.

MAINTENANCE

1. INSPECT ALL SEDIMENT TRAPS DAILY AND IMMEDIATELY AFTER RUNOFF-PRODUCING RAINFALL. MAKE REPAIRS AS NEEDED.

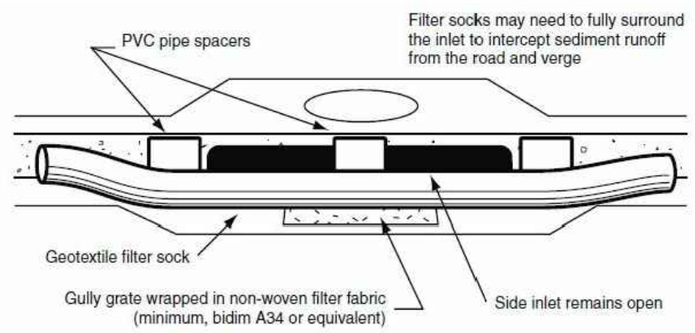
2. REMOVE COLLECTED SEDIMENT AND DISPOSE OF IN A SUITABLE MANNER THAT WILL NOT CAUSE AN EROSION OR POLLUTION HAZARD.

3. ENSURE SEDIMENT DOES NOT ENTER THE STORMWATER DRAIN DURING DE-SILTING OPERATIONS AND MAINTENANCE OF THE TRAP.

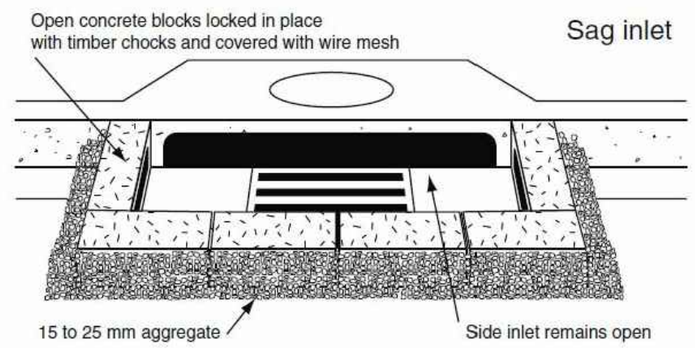
4. SEDIMENT ON THE ROAD SHALL BE REMOVED IMMEDIATELY IF IT REPRESENTS A SAFETY HAZARD.

REMOVAL

1. WHEN THE UP-SLOPE DRAINAGE AREA HAS BEEN STABILISED, REMOVE ALL MATERIALS INCLUDED DEPOSITED SEDIMENT AND DISPOSE OF IN A SUITABLE MANNER THAT WILL NOT CAUSE AN EROSION OR POLLUTION HAZARD.



(a) Filter sock sediment trap on a sag inlet



(b) Block and aggregate type sediment trap on a sag inlet

Drawn:	Date:		
GMW	Dec-09	Sag Kerb Inlet Sediment Trap	SA-01

Plot Date: Thursday, 10 March 2022 11:19:00 AM CAD File Name: M:\22000103 NextSense Centre of Excellence for Deaf & Blind Children – Macquarie Park\Drawings\22000103_P01_ESCP_REV 00.dwg

ANNEXURE 03

NEXT SENSE_Community Communication Strategy Plan

PEOPLE WHO BUILD

ADCO

COMMUNITY CONSULTATION PLAN

PROJECT NAME

NEXTSENSE MACQUARIE PARK

PROJECT NO.

3565

REPORT DATE

28 FEBRUARY 2022

REVISION

01

CONTENTS

1. INTRODUCTION

1.1. PROJECT DESCRIPTION

- NextSense is Australia's largest non-government not-for-profit provider of therapy, education and cochlear implant services for children and adults with vision or hearing loss. Established in 1861 as a school with residential facilities, NextSense moved to North Rocks in 1961, where the main campus is still located. NextSense's mission is to provide quality and innovative services, to achieve the best outcomes for current and future generations of Australians with vision and/or hearing loss. NextSense provides a broad range of specialist services which include:
    - Early Intervention
    - Allied Health & Therapy
    - Cochlear Implant Program
    - Schools (pre-school, primary to secondary programs)
    - Research & Professional Education
    - School support
    - Paediatric Audiology

The services provided are delivered by a broad group of professionals including: teachers, speech pathologists, occupational therapists, audiologists, orthoptists, psychologists, social workers, technology consultants, physiotherapists, and Ear, Nose and Throat (ENT) surgeons.

As part of RIDBC's 2016-2020 Strategic Intent it will relocate its school and clinical services activities from North Rocks to a purpose-built centre at Macquarie University (MQU). The new Centre of Excellence will further strengthen the relationship between MQU and NextSense, benefit the Australian Hearing Hub, and reinforce the cluster of research, audiology, and healthcare which already exists on the campus, which also includes the Cochlear Global Headquarters.

The Centre of Excellence will serve a diverse range of employees, students, users and visitors who will visit the centre for diagnostic services, therapy and rehabilitation, research, education, and corelated services. The facility will provide an intricate design response to the needs of the users, in particular children and adults with vision and hearing loss and other cognitive impairments.

The works include temporary works, amendment to/connections to temporary works, upgrades, decommissioning and termination of existing services, both from and to the new building.

1.2. PURPOSE OF THE PLAN

This Consultation Plan provides the framework which will enable ADCO Constructions to successfully manage communications and stakeholder engagement during construction of this project.

The plan forms an integral component of the Project Management Plan. It recognises and is consistent with project plans including those produced for the management of the environment, construction, work health and safety.

- The plan addresses the requirements requested in the SSD Condition C6 identified in Conditions of consent requiring approval from the DPIE.

2. OBJECTIVES & STRATEGIES

2.1. ROLES AND RESPONSIBILITIES

ADCO Constructions has been delegated responsibility for management and co-ordination of consultation, information and involvement and will perform these duties through the site project team as required by the project needs.

2.2. ADCO SENIOR PROJECT MANAGER

The main point of contact for the project will be the Senior Project Manager *(contact details as displayed on the ADCO Project Site Board)*. The Project Manager's responsibilities are those associated with advising members of the community and stakeholders on construction activity that could directly affect the community and stakeholders and to ensure that the PAP are informed of community and stakeholder issues including any approach by media, council, a member of parliament or local member.
The Senior Project Manager *(contact details as displayed on the ADCO Project Site Board)* will be available at all reasonable times to answer questions and to address any concerns including up-to-date information on:

- Planned construction activity
- Project construction progress

/ The Planning Secretary will be notified through the major projects portal immediately after ADCO becomes aware of an incident. The notification will identify the development (including the development application number and the name of the development if it has one) and set out the location and nature of the incident.
/ Subsequent notification will be given, and reports submitted in accordance with the requirements set out in Appendix 2.

2.3. LIMITATIONS

This plan is specifically written to address the external communication obligations required by the contractor.

2.4. DELIVERABLE, STRATEGY & TOOLS

The objectives and strategies for community information and involvement during construction have been developed in consideration of obligations detailed in the Conditions of Approval (CoA) Communications and Stakeholder Engagement Strategy, and in compliance with the requirements of the NSW Government's and Principal's guidelines, policies and referenced documents, in relation to community relations obligations.

Deliverable	Strategy
Community Information Forums	- ADCO will organise an Information Forum each month or as otherwise required. - Initial Information Forum events will be held within the project site office board room - Information Forum events will be held at times that will assure peak exposure to the community. - A detailed record of interaction with community members will be kept for future reference (if required) in the ADCO Community Contact Database (CCD). - ADCO will prepare project specific collateral to be used at the Information Forum events. Drafts of this information will be submitted to the PAP/PM for acceptance no later than 48 hours prior to the event. Typically, the following information will be available; > Handout update > Plan Drawings > 3D imagery
Website Updates	- ADCO propose that the content for the Project Website be extracted from the Contractors Monthly Report which is submitted monthly. If the PM required any bespoke content, then ADCO will provide accordingly.
Letterbox Drops	- ADCO will consult with the community via letterbox drops on key construction activities that may impact the community. It is anticipated that the following events will require formal consultation; > Project Award > Establishment of Compound / Site Access > Commencement of Remediation / Demolition > Completion
Site Signage	- Around the perimeter of the Project ADCO site signage will be clearly visible to the public. On this signage there will be clear direction to the following methods of contacting the project team; > Directional Signage to the Site Office > Phone Numbers of the Site Manager and Project Manager *(as displayed on the respective project boards)* > Afterhours emergency contact phone number - 1800 232 628 > Community Email: Nextsense.community@adcoconstruct.com.au
Community Communication	- ADCO propose to establish a fortnightly communication protocol via; > ADCOs project update newsletter > Feedback from the MQU and other stakeholders to ADCO on construction related activities and impacts

3. COMPLAINTS AND ENQUIRIES MANAGEMENT

3.1. MANAGING RESPONSIBILITY

The purpose of this section is to outline the procedure for managing complaints during the construction of the project. Complaints may include interaction with a community member or stakeholder who expresses dissatisfaction with the project, policies, staff members or subcontractors' actions, or proposed actions, during the project.

Complaints will generally be categorised in one of two ways for reporting:

- Unavoidable complaints – relating to the design, purpose, timing or planning of the project that are out of the control of ADCO.
- Avoidable complaint – relating to impacts from the construction or behaviour of the project and team.

3.2. MANAGING COMPLAINTS

3.2.1. UNAVOIDABLE COMPLAINTS

In the event that an unavoidable complaint is received, the complaint details will be registered on the ADCO Community Project Database and the both the client & Planning Secretary will be notified accordingly.

3.2.2. AVOIDABLE COMPLAINTS

In the event that an avoidable complaint is received, the following is the typical process for managing the event;

- Complaint received via in person, telephone or via email
- ADCO Senior Project Manager reviews detail and seeks further information via a phone call to the complainant if required
- The Planning Secretary will be notified through the major project's portal immediately after ADCO becomes aware of an incident. The notification will identify the development (including the development application number and the name of the development if it has one) and set out the location and nature of the incident.
- Subsequent notification will be given, and reports submitted in accordance with the requirements as stipulated in the SSDA *(attached to rear of management plan: Appendix #2 from SSDA Condition Matrix)*
- ADCO Senior Project Manager agrees remediation plan and implements
- ADCO Senior Project Manager formally closes out the issue with the complainant
- The complaint details are registered on the ADCO Project Complaints Database
- If deemed significant, the issue will be discussed at the next Project Control Group Meeting.

3.3. RESPONDING TO COMPLAINTS

The ADCO Senior Project Manager *(contact details as displayed on the ADCO Project Site Board)* will have responsibility for receiving and responding to complaints. The Senior Project Manager is suitably experienced and qualified to handle complaints and will be able to establish the nature of the complaint and the needs of the complainant.

To ensure equity in complaint handling;

- All complainants will be treated with respect and fairness
- All complaints will be considered on their merits
- The substance of a complaint dictates the level of resources dedicated to it, not a complainant's demands or behaviour

The ADCO Senior Project Manager and their team will work to expeditiously address and resolve all complaints and claims directed against the project.

NextSense: Centre of Excellence, Macquarie University

DA Matrix / Responsibility Document

DA No. SSD-10451 dated 30 April 2021

Appendix 2

WRITTEN INCIDENT NOTIFICATION AND REPORTING REQUIREMENTS

No.	REQUIREMENTS	RESPONSIBLE	NOTES	STATUS
1	A written incident notification addressing the requirements set out below must be emailed to the Planning Secretary through the major projects portal within seven days after the Applicant becomes aware of an incident. Notification is required to be given under this condition even if the Applicant fails to give the notification required under condition A20 or, having given such notification, subsequently forms the view that an incident has not occurred.	**D&C Contractor**		
2	Written notification of an incident must: a.identify the development and application number; b.provide details of the incident (date, time, location, a brief description of what occurred and why it is classified as an incident); c.identify how the incident was detected; d.identify when the applicant became aware of the incident; e.identify any actual or potential non-compliance with conditions of consent; f.describe what immediate steps were taken in relation to the incident; g.identify further action(s) that will be taken in relation to the incident; and h.identify a project contact for further communication regarding the incident.		Note	
3	Within 30 days of the date on which the incident occurred or as otherwise agreed to by the Planning Secretary, the Applicant must provide the Planning Secretary and any relevant public authorities (as determined by the Planning Secretary) with a detailed report on the incident addressing all requirements below, and such further reports as may be requested.	**D&C Contractor**		
4	The Incident Report must include: a.a summary of the incident; b.outcomes of an incident investigation, including identification of the cause of the incident; c.details of the corrective and preventative actions that have been, or will be, implemented to address the incident and prevent recurrence; and d.details of any communication with other stakeholders regarding the incident.		Note	

ANNEXURE 04

NEXT SENSE_Macquarie Park_Waste Management Plan

PEOPLE WHO BUILD

ADCO

WASTE MANAGEMENT PLAN

PROJECT NAME

NEXTSENSE MACQUARIE PARK

PROJECT NO.

3565

REVISION

01

VERSION CONTROL

Rev. No.	Issue Date	Approved By	Position	Details
01	28/02/2022	Nick Tragoutsis	Senior Project Manager	For Construction

ADCO PROJECT PERSONNEL CONSULTATION AND SIGN OFF

We, the undersigned, confirm that we have been consulted on the contents of this document, read and understood the contents of this document, and agree to implement the requirements of this Plan on this project site

Name	Position	Signature	Date
Nick Tragoutsis	Senior Project Manager		
Michael Butterworth	Senior Site Manager		
Mick Baker	HSE Co-ordinator		
Thomas Dean	Senior CA		
Clare Kwon	CA		
Robert Petkovic	Foreman		

CONTENTS

INTRODUCTION

Purpose of this Plan	This Management Plan has been produced for the following purposes: / Compliance to local and state legislation. / Establishment of objectives for the project. / Establishment of recycling requirements. / Subcontractor management requirements. / Other as determined by project or client requirements.
Plan Structure	Document to form part of Environmental Management Plan
Policies	Refer to the Corporate Policies
Application	This Management Plan addresses issues associated with the construction of the project and any impacts (permanent or otherwise) that construction activities may have on the building footprint and/or the surrounding areas.
HSE Management System	Document references contained in this Plan can be sourced by accessing the ADCO Constructions HUB. (ADCO Constructions personnel only).

PROJECT OBJECTIVES AND TARGETS

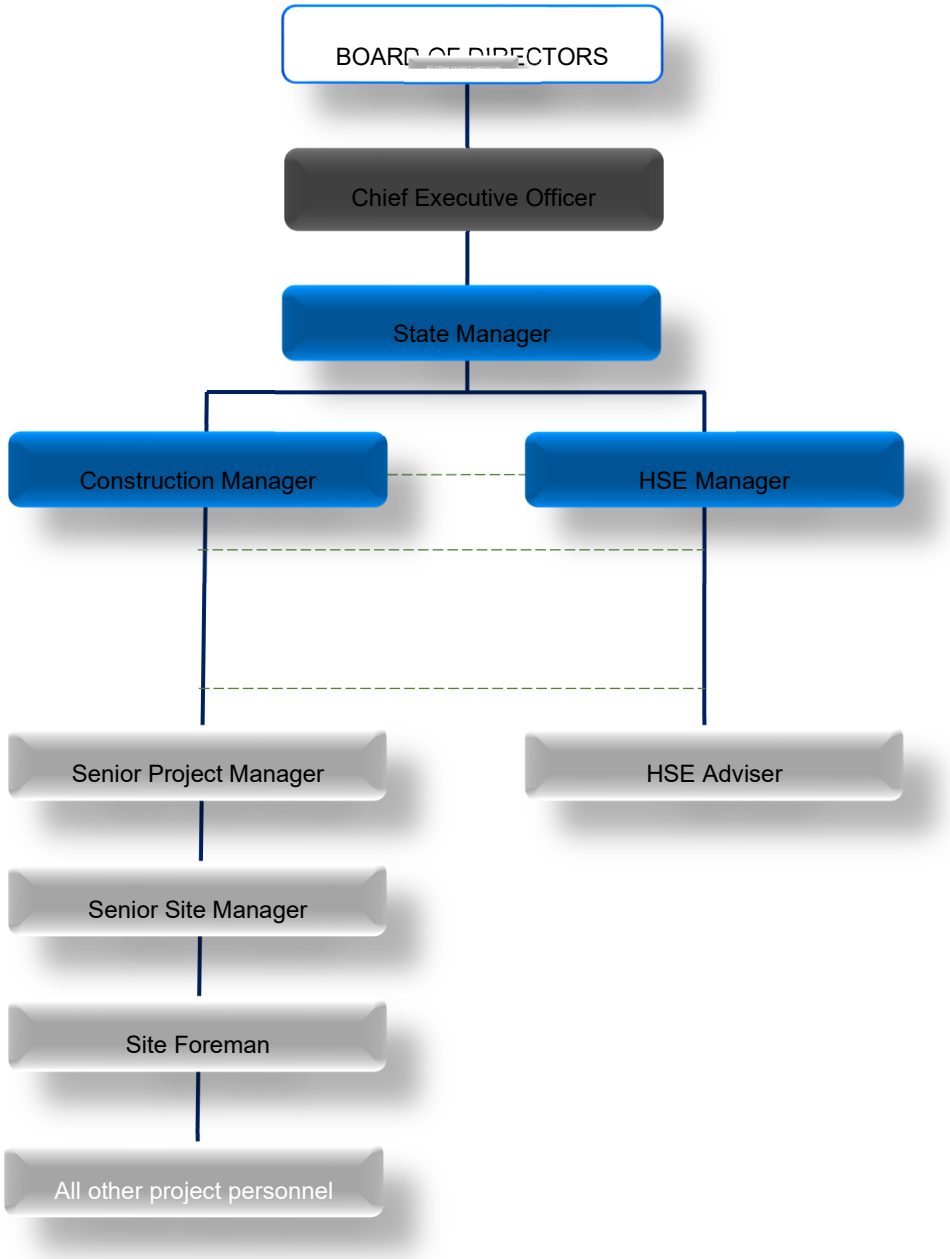
Objectives and Targets

/ Avoid waste where practicable via innovation.
/ Minimise waste where practicable by producing of site building component i.e. Concrete Panels, Bathroom Pods etc.
/ Recycle waste by requesting where possible the use of recyclable materials.
/ Treat waste (as required)
/ Dispose waste as last resort

Target:

/ 85/87% recycling (off site)
/ Treat all contaminated waste where possible and reuse / encapsulate on site

PROJECT MANAGEMENT STRUCTURE



Chief Executive Officer

Neil Harding

State Manager

John Basilisco

Construction Manager

Michael Kouknas

HSE Manager

Phil Provenzano

Senior Project Manager

Nick Tragoutsis

HSE Adviser

Mick Baker

Senior Site Manager

Michael Butterworth

Site Foreman

Robert Petkovic

POSITION DESCRIPTIONS

Chief Executive Officer

Provide commitment, leadership and direction in the development, implementation and management of the Corporate Management Systems, including but not limited to:

- Development of a corporate strategic plan incorporating safety, environment, quality and health management risks and controls.
- An assessment of the effectiveness of the Corporate Management Systems. (e.g. review of incidents and non-conformances to identify non-conformance trends and areas of improvement to the Corporate Management Systems.)
- Full management obligations including continual improvement of the Corporate Safety, Environment and Quality Management Systems.
- Ensure that appropriate resources are allocated to ensure compliance legislative requirements and the requirements of the Corporate Management Systems.
- Ensure that resources are competent to deliver the requirements of the Corporate Management Systems.

State Manager

Ensure that:

- Corporate Management Systems are implemented at all levels in the State.
- Appropriate resources are allocated to project teams to ensure compliance legislative requirements and the requirements of the Corporate Management Systems.
- Project operations are in compliance with applicable state or federal legislation.
- A review of the safety, environment, quality and health management performance of the State is completed regularly to identify non-conformances, trends and areas of improvement.

Construction Manager

Ensure that:

- Corporate Management Systems are implemented on projects within the State.
- HSE requirements have been identified and accounted for during project tender processes.
- Project operations are in compliance with applicable state or federal legislation.
- Appropriate resources are allocated to project teams to ensure compliance legislative requirements and the requirements of the Corporate Management Systems.
- Project team personnel have received training to fulfil their duties and responsibilities with the Corporate Management Systems.
- A review of the safety, environment, quality and health management performance of the State is completed regularly to identify non-conformances, trends and areas of improvement.

Health, Safety & Environment (HSE) Manager

Ensure that:

- Legislative requirements for HSE management are implemented and maintained on project sites.

- The requirements of the Corporate HSE Management System are implemented on project sites.
- Where required, project HSE requirements and risks are identified during project tender and/or trade tender processes and incorporated into project management plans.
- Reviews of HSE performance are completed on all projects to ensure compliance with legislative and corporate requirements.

Senior Project Manager

Ensure that:

- HSE requirements are identified and assessed during trade tender evaluations.
- In conjunction with the HSE Manager, project management plans are developed and implemented on projects.
- Resources are allocated to implement and maintain the HSE requirements on the project.
- ADCO project personnel have received training to fulfil their HSE responsibilities.
- Project personnel are aware of current HSE legislation and their obligations.
- HSE performance on the project is reviewed and non-compliant activities by employees and subcontractors are addressed.

Senior Site Manager

Ensure that:

- Legislative requirements for HSE management are implemented and maintained on the project site.
- The requirements of project HSE Management Plans are implemented and managed on the project.
- The requirements of the Corporate Management Systems are implemented and managed on the project.
- Any issues which may arise over HSE requirements (legislative or Corporate) are managed on site.
- Employees and subcontractors complete their work in compliance with legislative and Corporate Management System requirements.
- Open lines of communication and consultation are maintained with the HSE Adviser and other parties (i.e. subcontractors, employee representatives) to ensure that the site operates in a safe manner and in compliance with regulatory and corporate requirements.
- HSE performance on the project is reviewed and non-compliant activities by employees and subcontractors are addressed.

HSE Adviser

Ensure that:

- Legislative requirements for HSE management are implemented and maintained on project sites.
- The requirements of the Corporate Management Systems are implemented on project sites.
- HSE performance on the project is reviewed and non-compliant activities by employees and subcontractors are addressed.

Health and Safety Representative (HSR)	In general: / Participate in risk and hazard identification and control. / Participate in incident investigations and management. / Participate in workplace inspections (e.g. with the Committee, with the project team). / Participate in project consultative forums. (e.g. HSE Committee) / Consult with and represent workers (i.e. work group) in health and safety issues.
All Other Project Personnel	All personnel are responsible for actively promoting and complying with Safety, Health and Environmental Management requirements as determined / advised / required by ADCO. Activities that all personnel are required to participate in include, but are not limited to: / Attend pre-start meetings. / Conduct pre-start tasks analysis. / Adhere to all permit requirements. / Report all hazards, near misses and incidents (including injuries). / Immediately stop any "at risk behaviour" identified during daily work activities. / Attend safety presentations and toolbox meetings. / Assist in achieving project HSE objectives and targets.

PROJECT INFORMATION

Project Address	131 Culloden Rd, Macquarie Park NSW
Start Date	21st January 2022
Completion Date	31st May 2023
Project Overview	The Centre of Excellence is described as comprising two (2) buildings: • an academic building, comprising a pre-school and primary school together with its associated play areas; and • a clinical / administration building, which caters for NextSense's administrative, professional education and clinical services.

PROJECT WASTE MANAGEMENT

On Site Management	General	/ Waste products will be recycled wherever possible. / Waste bins will be provided and emptied regularly. / Waste unsuitable for recycling will be disposed of to an approved landfill. / Tipping dockets will be obtained as required.
	Solids and liquids	/ Disposal of any solid and liquid waste will be by an approved contractor to an approved location.
	Concrete	/ A concrete wash out area will be nominated on site. / Concrete washout will be recycled where possible and used on site to stabilise access or for fill material.
	Contaminated	/ Contaminated materials identified on site will be managed in accordance with specialist guidance.
	Stockpiles	/ Stockpiles will be in areas approved by the Site Manager. / Stockpiles will be managed to prevent pollution i.e. covered or sprayed etc.
Waste Contractors	During the construction of the project, removal and recycling of waste will be provided by: **Orange Bins.** Waste removed from site will be transported to an approved waste or recycling facility. All waste removed from site will be tracked through waste documents and/or monthly waste reports provided by the contractor.	
Waste Material	Concrete and masonry product	/ Concrete waste generated during demolition will be recycled / Concrete wash out will be used for access paths and road where possible. All other concrete waste will be placed in designated skips on site. / Excess concrete will be returned to the supplier. / Masonry recovered during demolition will be recycled where possible by the demolition contractor. / Masonry off cuts from construction may be reused on site for temporary access ways or placed in designated skip bins for recycling.
	General waste	/ All general waste generated on site including food scraps will be placed in the bins provided in the amenities buildings. / Such waste will be removed from site by an approved contractor.

Excavated material	/ Normal excavation methods will be used by the approved contractor. / Work areas will have identification barriers to prevent unauthorised access. All personnel will be required to follow the safety management plan while conducting excavations works. / Any contaminated soil to be removed will be tested prior to removal directly to waiting trucks. Contaminated material will be transported by the most direct route to an approved treatment/landfill facility. / The transport of all materials from the site will conform to the requirements of the EPA, Local Councils, RTA and other relevant authorities. / Where contaminated material is to be stockpiled the area is to be designated by the approved consultant or site manager. Protective barriers are to be in place to warn and protect workers on site. / Trucks removing material from site will have the loads securely covered to prevent spillage. Drivers are required to ensure that no materials are tracked onto the road. All traffic leaving the site is to use the designated wash down bay to remove mud, dust and other debris. / Materials to be removed from site may include: / General waste including organic material, concrete and other hard waste / Imported fill material / Topsoil / Landfill waste / General fill / Unsuitable material / Contaminated material
Green waste	/ Green waste generated as a result of tree felling, mulching or top soil removal will be: / Maintained on site and reused during landscaping works.
Glass, paper, plastic and cardboard	/ During the construction of the project, such products will be placed in designated bins for recycling.
Plasterboard	/ During the construction of the project, such products will be placed in designated bins for recycling.

Polystyrene	/ During the construction of the project, such products will be placed in designated bins for recycling.
Steel and aluminium	/ Where practicable, such products recovered during the demolition process will be recycled. During the construction of the project, such products will be placed in designated bins for recycling.
Timber	/ Timber recovered during the demolition process will be assessed on site by the demolition contractor and recycled where possible / Timber will be used and cut in the most economical fashion where ever possible. / Timbers for formwork, temporary structures and handrails will be reused and maintained at full lengths wherever possible. / Rainforest timbers and Australian high conservation timbers will not be used on this project.

ANNEXURE 05

NEXT SENSE_Macquarie Park_Environmental Management Plan

PEOPLE WHO BUILD

ADCO

ENVIRONMENTAL

MANAGEMENT PLAN

PROJECT NAME

NEXTSENSE MACQUARIE PARK

PROJECT NO.

3565

REVISION

01

1 DOCUMENT PROPERTIES

Plan Title	Environmental Management Plan
Document Owner	Senior Project Manager

Plan Control and Amendment

The current approved master version of this Management Plan is available electronically for all project personnel to access. The date and latest revision of the master document is stated in the footer below. For clarity, the footer must not be amended by the user or document owner – this ensures traceability to the relevant master revision.

Downloaded Management Plans are deemed uncontrolled and it is the responsibility of the user to ensure they are using the latest master revision.

The document owner is responsible for maintenance, review, updates, approval and distribution of this Management Plan. All changes to this Management Plan are to be recorded by the Document Owner in the Version History Table below. The first Version issued will be recorded as V1.

Version History			
Revision	Date	Description / Updates	Prepared by
01	28/02/2022	For Construction	Nick Tragoutsis

2 CONTENTS

3 ADCO PROJECT PERSONNEL CONSULTATION AND SIGN OFF

We, the undersigned, confirm that we have been consulted on the contents of this document, read and understood the contents of this document, and agree to implement the requirements of this Plan on this project site.

Name	Position	Signature	Date
Nick Tragoutsis	Senior Project Manager		
Michael Butterworth	Senior Site Manager		
Mick Baker	HSE Co-ordinator		
Thomas Dean	Senior CA		
Clare Kwon	CA		
Robert Petkovic	Foreman		

4 INTRODUCTION / PURPOSE

This Environmental Management Plan (EMP) has been prepared to detail the processes and measures that will be implemented by ADCO to manage the safety requirements for the project.

Our HSE (Health, Safety and Environmental) Management System, documents the manner in which construction-related activities are required to be completed on the ADCO project sites. This Management Plan provides information on how workplace health and safety will be managed on this project to provide a safe, injury and incident free workplace for workers and the general community. It establishes clear objectives and targets and provides mechanisms to regularly measure performance through inspections, observations and audits appropriate to the level of risk.

System documents which are referenced in this Plan or any associated Plan or Risk Register can be sourced by accessing the ADCO Hub (ADCO personnel only). Additional information can be obtained from the HSE Manager.

ADCO project personnel will be inducted into the requirements of this Plan and any associated Plan or Risk Register by the Project Manager. Evidence of induction and discussion will be recorded within section ADCO Project Personnel Consultation and Sign off.

This document will be reviewed on a periodic basis, not exceeding 6-monthly, to ensure its compliance to legislative and operational requirements. Review and updates to this plan will initiate a change to the plan revision number and be recorded in the “Version History’ section of the document. Superseded Plans will be marked as such and will be located within the Management Plan Folder located in the Site Office or electronically. Amendments to the Plan are noted in the “Document Properties section.

This Plan and any associated Plan or Risk Register (including any future revisions) will be supplied to subcontractors for review through the Aconex portal or another approved format.

Copies of this and superseded Project Management Plans and associated Risk Registers will also be maintained (archived) by ADCO for a period of at least 24 months following an update completion.

5 PRINCIPAL CONTRACTORS DETAILS

Name	State Address		ABN
ADCO Constructions Pty Ltd	Address	Level 2, 7-9 West Street	46 001 044 391
	Suburb	North Sydney	
	State	NSW	
	Phone	02 8437 5000	

6 PROJECT INFORMATION

Project Description	NextSense Centre Of Excellence Macquarie Park
Project Address	131 Culloden Rd, Macquarie Park NSW
Client	NextSense
Certifier	Blackett Maguire & Goldsmith
Project Period	17 months
Separable Portions	0

7 SITE REQUIREMENTS

Main Site Entry Location	Culloden Road
Other Entry Points	West Precinct Road
Worker Entry Locations	As above
Visitor Entry Locations	As above
Site Plan	the Development Site shall be defined as shown in the project Site Plan and as otherwise described below (where north is located diagonally towards the corner of Culloden & Gymnasium Roads): • for the north-western boundary: the MQU campus boundary along Culloden Road, from bus-top layback area towards the corner of Gymnasium Road; • for the north-eastern boundary: the kerb line of Gymnasium Road, from the corners of West Precinct Road to Culloden Road (noting the fire booster assembly is not to be enclosed by any required Tree Protection Zone (TPZ) fencing, Site fencing / hoardings; and

- for the southern boundary: the kerb line of West Precinct Road, from the corner of Gymnasium Road and following the roadway around the MQU car park area, such that the required TPZ is included within the Development Site area.

NextSense PROJECT SITE PLAN

8 LEADERSHIP

8.1 ENVIRONMENTAL POLICY

ENVIRONMENTAL MANAGEMENT POLICY

ADCO is committed to performing its business activities in an environmentally responsible and ecologically sustainable manner.

This Environmental Policy sets out the basis of our commitment and portrays the manner in which we will conduct our activities.

Our principle objectives are to:

- Develop and implement environmental management procedures that continually improve performance, prevent pollution and realise opportunities which make a positive contribution to the environment.
- Make environmental issues an integral part of our planning and decision-making process and provide resources to implement our environmental programs.
- Promote and encourage the adoption of ecologically sustainable principles and operational methods within ADCO and also with our Clients, Subcontractors and Suppliers.
- Set and monitor key objectives of our environmental performance.
- Manage project operations in compliance with applicable legislation and Standards.
- Promote our environmental policy by communicating our performance to internal and external stakeholders.
- Provide training for employees and information to Subcontractors emphasising their responsibility for participation in environmental management programs.

Integrate environmental initiatives into our procedures for procurement of goods and services.

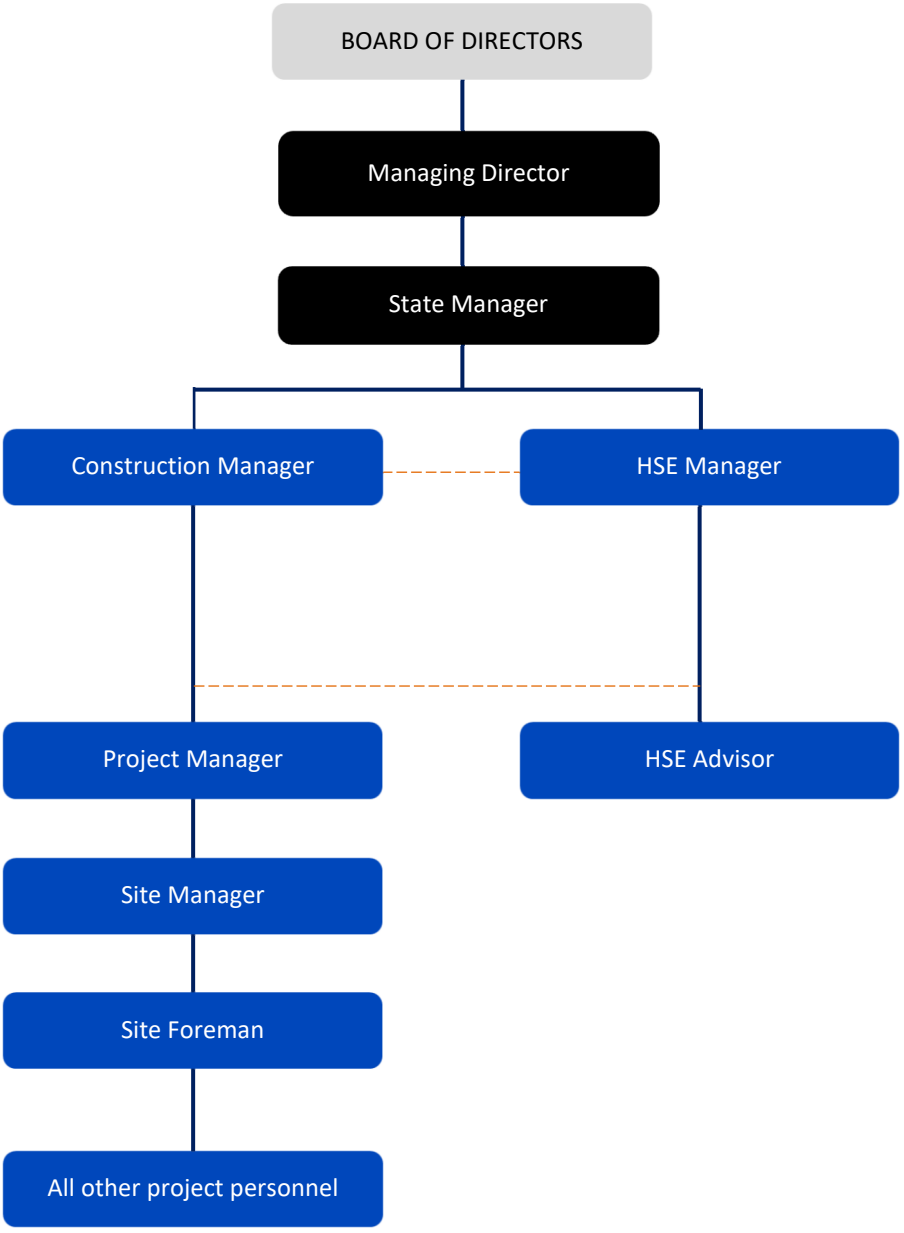
Our success is reliant on:

- Commitment to our philosophy, objectives and management systems by all employees.
- Participation in our management practices by external stakeholders.
- Commitment to comply with legal and other requirements to which the business subscribes.
- Continual improvement of our environmental performance against Key Objectives.
- Identification of opportunities to augment environmental and ecological sustainable practices on our projects.

DOCUMENT TITLE	ENVIRONMENTAL MANAGEMENT POLICY	DOCUMENT CREATED	26 FEBRUARY 2018
REVISION	1	DATE OF THIS REVISION	7 MAY 2019
		PAGE	1 of 1

8.2 PROJECT MANAGEMENT STRUCTURE

ADCO will provide a suitable and competent project team and associated subcontractors to effectively communicate and implement the requirements of the HSE management system.



Managing Director

Neil Harding

State Manager

John Basilisco

Construction Manager

Michael Kouknas

HSE Manager

Phil Provenzano

Senior Project Manager

Nick Tragoutsis

HSE Advisor

Mick Baker

Senior Site Manager

Michael Butterworth

Site Foreman

Robert Petkovic

8.3 ROLES AND RESPONSIBILITIES

Managing Director

Provide commitment, leadership and direction in the development, implementation and management of the Corporate Management Systems, including but not limited to:

- Development of a corporate strategic plan incorporating safety, environment, quality and health management risks and controls.
- An assessment of the effectiveness of the Corporate Management Systems. (e.g. review of incidents and non-conformances to identify non-conformance trends and areas of improvement to the Corporate Management Systems.)
- Full management obligations including continual improvement of the Corporate Safety, Environment and Quality Management Systems.
- Ensure that appropriate resources are allocated to ensure compliance legislative requirements and the requirements of the Corporate Management Systems.
- Ensure that resources are competent to deliver the requirements of the Corporate Management Systems.

State Manager

Ensure that:

- Corporate Management Systems are implemented at all levels in the State.
- Appropriate resources are allocated to project teams to ensure compliance legislative requirements and the requirements of the Corporate Management Systems.
- Project operations are in compliance with applicable state or federal legislation.
- A review of the safety, environment, quality and health management performance of the State is completed regularly to identify non-conformances, trends and areas of improvement.

Construction Manager

Ensure that:

- Corporate Management Systems are implemented on projects within the State.
- HSE requirements have been identified and accounted for during project tender processes.
- Project operations are in compliance with applicable state or federal legislation.
- Appropriate resources are allocated to project teams to ensure compliance legislative requirements and the requirements of the Corporate Management Systems.
- Project team personnel have received training to fulfil their duties and responsibilities with the Corporate Management Systems.
- A review of the safety, environment, quality and health management performance of the State is completed regularly to identify non-conformances, trends and areas of improvement.

Health, Safety & Environment (HSE) Manager

Ensure that:

- Legislative requirements for HSE management are implemented and maintained on project sites.
- The requirements of the Corporate HSE Management System are implemented on project sites.
- Where required, project HSE requirements and risks are identified during project tender and/or trade tender processes and incorporated into project management plans.

- Reviews of HSE performance are completed on all projects to ensure compliance with legislative and corporate requirements.

Project Manager

Ensure that:

- HSE requirements are identified and assessed during trade tender evaluations.
- In conjunction with the HSE Manager, project management plans are developed and implemented on projects.
- Resources are allocated to implement and maintain the HSE requirements on the project.
- ADCO project personnel have received training to fulfil their HSE responsibilities.
- Project personnel are aware of current HSE legislation and their obligations.
- HSE performance on the project is reviewed and non-compliant activities by employees and subcontractors are addressed.

Site Manager

Ensure that:

- Legislative requirements for HSE management are implemented and maintained on the project site.
- The requirements of project HSE Management Plans are implemented and managed on the project.
- The requirements of the Corporate Management Systems are implemented and managed on the project.
- Any issues which may arise over HSE requirements (legislative or Corporate) are managed on site.
- Employees and subcontractors complete their work in compliance with legislative and Corporate Management System requirements.
- Open lines of communication and consultation are maintained with the HSE Advisor and other parties (i.e. subcontractors, employee representatives) to ensure that the site operates in a safe manner and in compliance with regulatory and corporate requirements.
- HSE performance on the project is reviewed and non-compliant activities by employees and subcontractors are addressed.

HSE Advisor

Ensure that:

- Legislative requirements for HSE management are implemented and maintained on project sites.
- The requirements of the Corporate Management Systems are implemented on project sites.
- HSE performance on the project is reviewed and non-compliant activities by employees and subcontractors are addressed.

Health and Safety Representative (HSR)

In general:

- Participate in risk and hazard identification and control.
- Participate in incident investigations and management.
- Participate in workplace inspections (e.g. with the Committee, with the project team).
- Participate in project consultative forums. (e.g. HSE Committee)
- Consult with and represent workers (i.e. work group) in health and safety issues.

All Other Project Personnel

All personnel are responsible for actively promoting and complying with Safety, Health and Environmental Management requirements as determined / advised / required by ADCO. Activities that all personnel are required to participate in include, but are not limited to:

- Attend pre-start meetings.
- Conduct pre-start tasks analysis.
- Adhere to all permit requirements.
- Report all hazards, near misses and incidents (including injuries).
- Immediately stop any “at risk behaviour” identified during daily work activities.
- Attend safety presentations and toolbox meetings.
- Assist in achieving project HSE objectives and targets.

9 PLANNING

9.1 MANAGEMENT SYSTEM

ADCO’s Management System comprises, without limitation:

- Policies
- Procedures and Protocols
- Project Management Plans
- Supporting documentation
- Forms and Checklists
- Guidance documents
- Reports and Reviews
- Information systems

The Management System includes the disciplines of Quality, Safety and Environmental management which meet the requirements of:

- AS/NZS ISO 9001 (Quality Management Systems)
- AS/NZS 4801 (Occupational Health and Safety Management Systems)
- AS/NZS ISO 14001 (Environmental Management Systems).

All personnel working with or for ADCO are required to incorporate the requirements of our Management System into their operational activities.

9.2 RISK MANAGEMENT

Risk management is a proactive process that helps ADCO respond to change and facilitate continuous improvement throughout our business. The core to effective risk management is having a comprehensive understanding of the risks associated with the project works.

The identification of environmental risks (aspects and impacts) will consider:

- Situations / events that have the potential to give rise to injury or illness.
- The nature of potential injury or illness relevant to the activity, product or service.
- Past incidents, audit reports, etc.

The identification process will consider but not be limited to:

- The way work is arranged, managed, completed.
- The fabrication, installation and commissioning and handling and disposal (of materials, plant and equipment).
- The purchasing of goods and services.
- The inspection, maintenance, testing, repair and replacement of plant and equipment.

9.3 SAFETY IN DESIGN

Where ADCO does not have responsibility for the design of a building / component, a review of the buildability of the design will be completed any/all of the following: Design Manager, HSE Manager Project Manager, Estimator, Consultants, etc.

Where ADCO is able to influence design, a specific Safety in Design (SiD) process in accordance with the *Risk Management Procedure* will be carried out to ensure control of the design in regard to legislative requirements and to maximise the benefits of the design review process. The design review process will consider (where appropriate) the Hierarchy of Controls and look to eliminate risks at the design phase of the project. Safety hazards associated with design must be identified and managed with the aim to achieve successful identification of safety issues and other risks relevant to the design and the determination of measures to ensure fit for purpose and safe-operability requirements are achieved

SiD risk workshops involving the designers will evaluate the projects constructability and will be incorporated into the project risk register to ensure the identified risks and controls are in place for the project works.

9.4 PROJECT DOCUMENTATION

Prior to commencement of the project, the Project Manager and HSE Manager are required to develop the Project Management Plan, Risk Registers and any other supporting Plans. An assessment of project operating conditions will be made by completing the Project Review (Part A) – Commencement form. Information within the Risk Register will be supplied to subcontractors for trade pricing and development of their SWMS.

9.5 ASPECT AND IMPACT IDENTIFICATION AND REPORTING

ADCO encourages all site personnel to identify, report and action (where practicable and within their capacity to fix) hazards on the site whether within their work area or in any other accessed area. Risks or hazards, which cannot be actioned by the identifying person, must be reported to the Site Manager or HSE Advisor. The methods for reporting risks and hazards, include:

- Verbal notification.
- Advice at any of the consultative forums (e.g. pre-start meeting, committee meeting, subcontractor meeting).
- Completion of the Issues Notification form.

Where a Site Manager or HSE Advisor is notified of a risk or hazard the following must occur:

- The risk or hazard must be reviewed.
- The risk or hazard should be assessed, and appropriate controls developed according to the principles of the hierarchy of controls.

Risk and hazards will be identified by the ADCO project team through performance evaluation activities.

9.6 LEGAL AND OTHER REQUIREMENTS

Legislation

ADCO's Management System has been developed taking into account Legislative, Australian Standards, Codes of Practice and Federal Safety Commission requirements. Legislation, Codes of Practice and Standards which are applicable to the project are identified in the project Risk Register. Access to current Legislation, Codes of Practice and Standards is available to all project personnel. Subcontract workers should liaise with the Site Manager or HSE Advisor for access through IT Forums.

Site Rules

Site Rules are applicable to all workers on this project and are:

- Issued during the Workers Registration
- Discussed during the Site Induction.

- Discussed during the Visitor Induction.
- Posted on site noticeboards – for review while on site.
- Re-iterated as required during project consultative forums.

The objectives of the Site Rules are to:

- Meet legislative requirement for OHS and environmental management.
- Define ADCO's minimum operational standards.
- Prevent harm to people and the environment.
- Provide a safe working environment.

Conduct on Site

All persons entering the site are required to:

- Wear clothing such as shirts, shorts, trousers, etc. in a neat and tidy condition at all times. (No singlets, sleeveless shirts or inappropriate shorts permitted.
- Comply with site rules and procedures
- Observe restraint in the use of inappropriate language.
- Not use amenities except those expressly provided for construction personnel.
- Not bully or victimise any worker or management personnel.
- Not use amenities except those expressly provided for construction personnel.
- Report hazards and incidents immediately.
- Ensure that work area/s are kept fenced to not permit public access.
- Wear identification at all times. (e.g. Site Induction sticker)
- Wear the mandatory signed PPE at all times.
- Feel free to discuss any issues troubling you with our HSE Advisor or Site Manager (confidentiality will apply).

10 SUPPORT

10.1 TRAINING AND COMPETENCY

10.1.1 Training Needs Analysis

ADCO has undertaken a Training Need Analysis that identifies relevant training and competencies to undertake work activities. ADCO will communicate training and competency expectations throughout the procurement process to ensure the required skill levels of workers is understood and established.

ADCO will maintain a project induction / training register through its online HSE Management System HammerTech which will capture worker licences and competencies required to carry out works on the project.

Course / Competency Description	Position	Date to be completed by	Provider
Project Specific Induction	All workers	Prior to commencement onsite	Site Manager / Site Supervisor / HSE Advisor.
Toolbox Talk - Environmental Awareness	All workers	As required	Site Manager / Site Supervisor / HSE Advisor.

10.1.2 Project Specific Induction

Training and instruction are key requirements to ensuring that workers can perform their duties and tasks without risk to their health and safety or the health and safety of any other persons.

Project Induction

The ADCO induction process is a prescribed method of ensuring that workers are provided with information on:

- Environmental Management Plan – purpose and objectives
- Legal requirements
- Environmental Responsibilities
- Vegetation and fauna management requirements.
- Environmental monitoring and data reporting requirements.
- ASS, groundwater, dewatering and contaminated land management requirements.
- Aboriginal heritage and Aboriginal heritage management requirements.
- Hazardous Materials and hydrocarbon management requirements.
- Waste management requirements.
- Weed and hygiene requirements.
- Inspection and audit requirements
- Environmental emergency / spill response and incident management and reporting.
- Unexpected finds management.
- Sensitive areas including local residents, sites known of contamination, flora and fauna.

All persons who are attending the site for the purpose of completing construction activities must attend and complete the site induction (including the supply of skills competency evidence) before commencing any work activity on the site.

The project induction consists of an ADCO animated video with voice over which details the ADCO requirements for carrying out works on the project. Following the ADCO induction a project specific induction consisting of a PowerPoint presentation with voice over will be delivered by the ADCO Site Manager or HSE Advisor will incorporate project specific requirements.

Visitors

Visitors will not be site inducted and will be required to:

- Report to the Site Office on entry and at exit from the site.
- Sign in to and out of the Register – Visitors.
- Be accompanied and remain within two metres of a site inducted person at all times.
- Wear mandatory PPE as signposted.
- Wear footwear and clothing appropriate to a construction site.

Records

Induction information, including supporting documentation, will be maintained on site in a restricted storage facility, by the Site Manager and/or HSE Advisor or online HSE Management system.

Site induction information will be archived for a period of at least seven (7) years after completion of the project.

10.1.3 Training

ADCO Personnel

Training and competency requirements for ADCO personnel (mandatory and recommended) are noted in:

- Position Descriptions

- ADCO National Training Matrix

State Managers, Construction Manager and Project Managers must ensure that project personnel are trained and competent in accordance with the requirements noted in these documents. Information related to completed training will be maintained on and filed with the National Skills Register.

Subcontractors

Subcontractors are required to ensure that their personnel are in possession of the required licenses / competencies and have undergone training/ instruction to complete work activities in a safe manner.

The required licence / competency to undertake work is to be in accordance with applicable *Risk Management* or *Operational Management Procedure*.

Evidence of mandatory work activity competency (e.g. high-risk work license, certificates of competency, etc.) must be provided to ADCO at the time of site induction. Evidence supplied to and approved by ADCO will be included with the worker's induction records.

10.2 COMMUNICATION AND CONSULTATION

Pre Start Meetings

A daily Pre Start Meeting to identify and discuss safety issues / hazards / controls relative to daily work activities will be held by the Site Manager. Subcontract personnel (i.e. Supervisors) are required to attend the briefings prior to commencing their work activities and conduct pre-work briefings with their respective crews.

Issues to be discussed at the meeting, include but are not limited to:

- The tasks being completed by each trade during the shift.
- Risk and hazard management requirements including the requirement for any Permits.
- Incidents, accidents and near misses from any previous shifts.
- Health and safety issues raised by the workforce.
- Opportunities for worker input.

Details of the meetings (attendees, topics discussed, concerns arising, proposed actions) will be recorded on the Pre-Start Meeting form.

Toolbox Talks

On a daily or at the initiation of ADCO (e.g. following an incident), or at the request of workers, topic-based Toolbox Meetings will be held on the project. The objectives of toolbox meetings are to:

- Review the environmental performance in the work areas.
- Discuss any topical or promotional environmental items, bulletins or alerts.
- Discuss environmental aspects of work planned for the next week.
- Discuss any proposed changes to work procedures.
- Provide additional instruction to workers on quality, work health and safety and environment issues.
- Allow workers to raise issues.

Details of the discussion topic will be recorded on the Toolbox form. Toolbox Meeting Minutes will be displayed on Site Notice Boards for project personnel to review.

HS Committee Meetings

At the initiation of ADCO or at the request of workers, a Health and Safety Committee (HSC) may be established on the project. All subcontract companies are required to ensure that a representative (elected or nominated) participates if requested by ADCO.

Details of the meetings (attendees, topics discussed, concerns arising, proposed actions) will be recorded on the HSE Meeting form. Copies of the meeting minutes will be issued to all committee members and placed on the site noticeboard for general site review.

Other Meetings

Other forums which may be used for the discussion of safety, health and environmental management issues include, but are not limited to:

- Subcontractor coordination and management meetings.
- Client meetings.
- Stakeholder Meetings.

Details of the meetings (attendees, topics discussed, concerns arising, proposed actions) will be recorded on an applicable form and as required distributed to other parties.

Notification

Details of the dates and times of consultative forums will be advised to site workers at/on:

- Site Induction
- Pre Start Meetings
- Site Notice Boards

Notices – Alerts, Lessons Learnt and Bulletins.

Notices will serve as a reminder to workers of the messages that have already been delivered via project consultative forums. They will not serve as the primary method of work health and safety communication. Work health and safety notices will be posted on Site Notice Boards, located external to site offices and within amenity areas or other highly frequented areas and can include information such as:

- Company Environmental policies
- Cultural heritage
- Protected flora and fauna
- Restricted Areas / Site Sensitivity Maps
- Site Traffic Movement Plan

Notice Boards will be updated and maintained by the Site Manager and HSE Advisor.

Communication and Consultation across languages

In accordance with procedure *Consultation and Communication* ADCO has a process in place to ensure that communication and consultation occurs with all workers, including those with limited English. This includes:

- Assessing the language profile of the workforce.
- Delivery of project inductions.
- Subcontractors responsible for communicating and consulting with workers with limited English that includes use of translators and interpreters, diagrams and drawings, health and safety signage and allocation of resources for training, interpreters or translation of health and safety information.

11 DELIVERY

11.1 PROCUREMENT AND CONTRACT MANAGEMENT

11.1.1 Environmental in Procurement

Procurement Process

Prior to commencing any construction works and during the Procurement Process, ADCO will identify and list subcontractors / suppliers with capability to carry out the works. The suitability of subcontractors and suppliers (new and existing) will be assessed against:

- Their company profile, expertise and previous history;
- Internal recommendations of capability and reputation;
- Location and proximity to the project site;
- Their commercial and financial viability;
- Their compliance to regulatory / legislative requirements;
- Western Australian industry participation;
- Compliance with requirements to issue a full, fair and reasonable opportunity on the supply requirements for the project;
- New and retained apprentices and trainees;
- Construction methodology;
- Proposed personnel;
- Project resourcing;
- Adherence to ADCO management plans;
- Quality management;
- Ability to meet project timeframes;
- Cost of money for payment terms;
- Occupational health and safety; and
- Risk profile.

ADCO's HSE standards are required to be adopted and maintained throughout the life of the project. Prior to work on site, subcontractors require a briefing to ensure that all work health and safety precautions are in place and to review:

- How compliance with the Safety Management System will be achieved including site specific requirements.
- How they intend to comply with ADCO's systems.
- Documentation outlining their safe methods of work.
- Establishing performance monitoring, supervision and incident reporting protocols, and procedures.

ADCO and Subcontractors procuring plant, equipment and items to be used throughout project delivery are to review and inspect all items to ensure that no additional hazards / risks are unknowingly introduced on the project.

When materials are supplied to the Project, the project team member responsible for the procurement is to ensure all work health and safety information has been included and is distributed to the workers identified as needing to understand the requirements.

Products and Materials

Products and materials are subject to verification by the Site Manager at the time of purchase and/or at delivery to ensure conformance to contract requirements.

Goods delivered to the site, may be subject to a receiving inspection by ADCO or the subcontractor representative who takes delivery. Should it be required within the Inspection and Test Plan (ITP), evidence of review and acceptance (i.e. manufacturing certificates, standards verification, origin of supply, etc.) will be held in the project site

office for the duration of the project. At project completion, such documentation will be collated with “As Built” documentation or archived.

The Site Manager will be responsible for reviewing any Inspection and Test documentation required from and/or generated by the subcontractor in verification that their products and materials meet the requirements of the contract. Subcontractors must ensure goods are stored in designated areas and in accordance with the manufacturer’s requirements.

Non-conforming products will be labelled and segregated from conforming products and will be subject to the Non-conformance management process.

11.1.2 Subcontractor Management

Safe Work Method Statements

Prior to the commencement of ALL work activities including High Risk Works (as defined in the OSH legislative requirements) must provide Safe Work Method Statements (SWMS) to ADCO for review and acceptance.

The review and acceptance process is managed by the Site Manager and HSE Advisor. The Safe Work Method Statement Review Record form details the minimum requirements that must be detailed within SWMS documentation.

SWMS classified as High Risk under legislative requirements will reviewed utilising the Safe Work Method Statement Review Record – High Risk. Work activities that are not ‘High Risk’ as defined by legislation will be reviewed utilising the Safe Work Method Statement Review Record – ‘Low Risk’. Documents such as Procedures or Instructions are acceptable for Low Risk work activities.

- A description of the work activity.
- Details of Plant or substances to be used to complete the work activity.
- Risks and controls measures for the work activity.
- Environmental mitigation strategies for the work activity.
- Emergency management procedures for high risk activities.
- Details of who is responsible for managing the work activity and the controls.
- Evidence that workers have been consulted in the production of the SWMS and provided instruction and training.

Works cannot commence until SWMS documentation has been accepted for use.

Plant and Equipment

Subcontractors are required to maintain Inspection and Test Records and Plant Registers for all plant and equipment procured by them (or under their control) to meet legislative or standard requirements. A competent person is to maintain documented daily inspections (or as per manufacturers’ requirements) of the plant.

Copies of all plant documentation will be maintained on the online HSE Management System – HammerTech. The Equipment Register will provide prompts when plant and equipment is scheduled service or inspection.

Monitoring

The monitoring of subcontractor site activity compliance to accepted SWMS will be:

- Managed by the Site Manager and HSE Advisor through regular visual inspections.
- Documented on the Weekly Site Inspection Form.

Non Compliance

Where a non-compliance (to accepted work methods) is observed, the Site Manager or HSE Advisor will do any/all of the following:

- Stop the work activity.
- Cancel / suspended any active ATW Permit.
- Issue a non-compliance notice through Aconex or online HSE Management System.
- Issue a verbal instruction.
- Non-compliances will be listed in the Register – Non-Compliance or through Aconex.

Where a worker does not comply with a risk or behaviour control requirement, disciplinary action through the ADCO non-conformance system will be initiated. Dependent on the severity of the non-compliance, workers are subject to a tiered warning system and may receive up to 3 warnings for engaging in the same non-compliant activity.

Written warnings in the form of an Improvement Notice are issued to a company, when an individual of that company has engaged in a non-compliant activity.

ADCO reserves the right to deny a person access to site - irrespective of the number of warnings required / issued - if the non-compliance could / has resulted in a dangerous occurrence. This determination will be made in consultation with Construction Manager, Project Manager, Site Manager and HSE Manager.

Non-conformances identified through visual inspections, site inspections or task observations are documented within Register – Non- Conformances and is accessible to the ADCO project team.

Archiving

Subcontractor supplied documentation will be archived by ADCO for a period no less than seven (7) years after project completion. Duration of archiving may be extended if the Safe Work Method Statement is applicable to an incident or in relation to use of hazardous substances etc.

11.3 SYSTEMS OF WORK

11.3.1 Waste management

Waste sources

Identified sources of waste generated from project delivery include:

- Metal.
- Concrete / sand.
- Wood.
- Plasterboard.
- Excavated Material (if soil has been classified as contaminated)
- Organic.
- Glass
- Plastic
- Paper and cardboard
- Polystyrene

Waste Management

A form of waste minimisation, recycling and reuse program is established and promoted throughout the project period. Where waste minimisation is a requirement of project compliance (e.g. green star), waste strategies are included in the site induction program.

Waste categories on the project will consist of solid waste, liquid waste, food waste and contaminated waste (if applicable). Waste management of the project will consist of single

stream or co-mingled bins to collect waste material. All waste (excluding hazardous waste) will be transported to an offsite facility for disposal. The project will manage waste by:

- Designating waste storage areas.
- Recycling waste products wherever possible.
- Waste storage areas will be located in accessible areas for both vehicles and personnel to allow for easy access for collection and transport.
- Waste bins will be maintained in good condition to prevent leaks and spills.
- Defective containers will not be used for waste storage or transport.
- Hazardous waste (e.g. asbestos) will be contained and separated from other waste categories. Hazardous waste will be disposed of at an approved waste disposal facility and evidence of disposal i.e. waste disposal dockets obtained.
- Establishment of a designated concrete wash out area. Where practicable excess concrete will be recycled onsite for use e.g. access and egress routes or stabilise fill material.
- If applicable – Material contaminated by spills i.e. fuel, oil, lubricants etc. will be stored in sealed containers and disposed of at an approved facility.
- Actively encouraging Contractors and Suppliers to use non-toxic or recycled products and recycled packaging.
- Encouraging Contractors and Suppliers to reduce the amount of packaging materials brought on to site.
- Ensuring that all persons working on our projects are made aware of their responsibility for achieving a green working environment.
- Any contaminated soil on the project will be classified prior to removal and transport directly to an approved disposal facility.

Food Waste

- Food waste will be managed to prevent birds and vermin accessing the waste.
- Lidded food waste bins will be located in the site amenities areas i.e. offices / lunchrooms.
- Designated food waste bins will be emptied on a daily basis.
- Food waste bins are to be kept covered
- Food waste will be contained in bags which will be secured / tied when emptied
- Work areas are to be kept free of rubbish and other debris at all times.
- No food waste to be deposited directly into external construction waste skips.
- Active rodent control established on the site i.e. baits around site perimeter.

Housekeeping

The Site Manager will ensure that Site Amenities i.e. crib rooms and toilet blocks are maintained in a clean and tidy condition at all times. All waste bins shall be covered and sealed and all organic waste shall be removed from site on a regular basis.

Each Subcontractor must maintain a clean and tidy workspace. If after a formal warning, any Subcontractor who does not maintain their workspace in a clean and tidy manner and properly dispose of its waste, the Project Manager will arrange for the workspace to be cleaned and waste segregated to be properly disposed of with the associated costs back-charged to the non-compliant Subcontractor.

The Project Manager will ensure that an adequate number of waste bins have been provided and are located as close to areas of work as practicable for the material to be removed from the site by the subcontractor's waste removal contractor. All bins shall be covered by lids where available to prevent material from being dislodged during transport of storage.

Trucks and vehicles delivering goods, materials, plant, equipment, etc. must so far as practicable not traverse mud, dirt, stones or other materials to external areas of the site so as not to cause injury, nuisance or damage to the surrounding environment. Should surrounding roads, footpaths, watercourse and verges be soiled with dust, sand, grit, litter, debris, mud and the like caused by site activities, the Project Manager will undertake to have them cleaned immediately.

The site must be maintained in a clean and tidy condition at all times. A formal housekeeping inspection will be completed on a weekly basis by the project team utilising the Weekly Site Inspection form.

Waste Removal and Disposal

Removal and recycling of waste will be provided by a licenced waste removalist. Trucks removing material from site will have the loads securely covered to prevent spillage. Drivers are required to ensure that no materials are tracked onto the road.

Should surrounding roads, footpaths and verges be soiled with dust, sand, grit, litter, debris, mud and the like caused by site activities, the Project Manager will undertake to have them cleaned immediately e.g. road sweeper.

The transport of all materials from the site will comply with the requirements of the EPA, Local Councils, Road Transport Authorities (RTA) and other relevant authorities. Waste removed from site will be disposed of at an appropriately licenced waste disposal facility. On a monthly basis a Waste Management Report will be provided to ADCO which will detail quantities of waste that are recycled, reused or go to landfill.

11.3.2 Substance Management

Substance Use

ADCO will have appropriate measures in place to use and store hazardous substances / dangerous goods to prevent accidental or intentional release to the natural environment leading to environmental harm, including impacts to air and water. The following management protocols will be implemented and monitored for implementation on a daily basis:

- Maintaining a limit of 250 litres of each substance on site at any one time. Note: Any requirement to use or store more than this quantity, requires an ATW Permit issued.
- Subcontractors providing a site-specific SWMS detailing the work activities, risks and control measures. (No work will proceed until ADCO Constructions has accepted the SWMS).
- Current SDS for each substance will be available for reference. SDSs are to be Australian and issued within the previous 5 years. SDS information will be located in the Site Office.
- Current Register for such substances as used on the site. (The Register detailing the nature, quantity and location of all hazardous material must be maintained and regularly updated).
- Ensuring that the substances and their containers are correctly labelled and contained.
- Erection of appropriate warning/emergency panel signage to warn of the location of the substance.
- Ensuring that the substances are safe from use or access by other parties.

- Completing regular inspections of vehicles, containers, bunding and equipment to check for any leaks or spills.
- Providing appropriate fire suppression equipment.
- Providing details for ensuring that at the completion of the works, all residual stocks of substances are guaranteed to be removed from the construction area.

Substance Storage

Substances must be stored in accordance with Procedures - Substance Management. To ensure the protection of human health and the environment the following is to be implemented:

- Storing the substances in a manner which complies with the Code (and with AS 1940, AS 4332 and any other applicable legislation or standards)
- Storage units are only to be used outdoors.
- Storage units are not to be located where they could hinder escape from a building in the event of a fire or other emergency;
- Storage units are to be separated from boundaries and other buildings and infrastructure by the distances required by the relevant Australian Standard.
- Storage units must be adequately secured against high wind conditions.
- Storage units are to be positioned, or otherwise protected (e.g. with bollards) so that they are protected from vehicle impact.
- If two or more storage units are positioned together, they can only be treated as individual stores if they are separated by the distance required by the relevant Australian Standards.
- If two or more storage units are positioned together, they must not be positioned so that there is any restriction of ventilation through any of the installed vents.
- The area around storage units is to be kept clear of combustible materials (e.g. timber pallets), vegetation and refuse for a distance of at least 3 metres.
- Storage units are to be located at least 3 metres away from heat sources. Refer also to separation distance requirements outlined above.
- Storage units for flammable and oxidizing materials are to be kept away from ignition sources. This includes electrical installations (such as power-points, light-switches and light-fittings), traffic routes, carparks, and work areas where ignition sources may be present (e.g. areas where welding or grinding may take place).
- For gas cylinders in storage units, separate incompatible gas cylinders by at least 3 metres.
- Bunds to be of sufficient size and capacity to accommodate substances stored in the event of a spill.
- “DANGER” signage to be placed in visible positions to warn of dangers (flammable substances).
- Fire suppression equipment to be located with the substances.
- Incompatible goods are not to be stored in the same cabinet. Specific information for individual products can be found on the product Safety Data Sheet (SDS).

Spill management

Substances (chemicals and / or hydrocarbons) that leak into environment can lead to environmental and/or human harm. Equipment failure, poor operation or accidents can all give rise to the potential spills. Any spillage has the ability to impact soil, water, flora or fauna in an adverse manner.

To mitigate and control any unplanned event or spill, emergency spill kits will be strategically placed around the project and clearly defined on the Emergency Plan. Any

spill, irrespective of size, must be reported to the ADCO project team who will investigate and implement appropriate risk treatments.

In the event of hydrocarbon contamination as a result of project activities, the affected area will be contained and cleaned up.

11.3.3 Dust Management

General

ADCO will prevent any nuisance occurring through the discharge of dust, dirt, water, fumes and the like on to persons or property. Strategies to be implemented to prevent dust generation and potential nuisance includes but is not limited to:

- Restrict vehicle movements to designated routes.
- Apply water sprays to earthwork and demolition locations as required during periods of dry weather, strong winds or dust generating activities.
- Use shade cloth around work areas where practicable.
- In the event that excavated materials will be stockpiled, onsite stockpile management practices will be carried out. These include water sprays and locating stockpiles away from public and residential properties as much is reasonably practicable.
- Minimise dust generating construction activities during periods of high winds or adverse weather.
- Cease relevant construction activities should they be found to be generating excessive dust until effective control measures are implemented.
- As required, implement regular sweeping (including road sweeping) and cleaning activities.
- Monitor and manage the incidence of dust deposition from construction activities and construction vehicles.
- Daily and Weekly visual monitoring of dust and dust management controls will be carried out by the Site team..
- Ensure that subcontract personnel adopt work methods to include dust minimisation practices.
- Implement corrective action in response to diminished air quality as a consequence of construction activities or vehicles.
- Restrict construction traffic to designated / sign posted traffic routes.
- No burning off will occur on the site.
- Site amenities areas will have nil dust generating activities that will require additional dust management strategies in place.

Monitoring and recording

Where dust management controls are identified as being inadequate ADCO will investigate and identify the root cause and cease the dust generation activity until suitable controls have been implemented.

11.3.4 Construction Noise and Vibration Management

Management

ADCO will comply with AS/NZS 2436 Guide to Noise Control on Construction, Maintenance and Demolition Sites. Works will be carried out during the approved working hours only and all noise generated through plant will be assessed through the plant mobilisation and induction process.

To ensure that plant and equipment used throughout construction is the quietest reasonably available ADCO will:

- Ensure that Plant is inspected at first entry to site and then at regular intervals. Refer to Procedure: Operating Plant (mobile plant).
- Where practicable, position Plant / equipment (e.g. start-up, parking, refuelling, generators) away from noise-sensitive areas.
- Where practicable, avoid simultaneous operation of noisy Plant /or equipment.
- Ensure that Plant / equipment is serviced as per the manufacturer's instruction and maintained in good working order.
- Ensure that Plant / equipment is switched off when not in use.
- Where practicable, select alternative Plant or equipment to complete the activity.

The ADCO Project team will ensure compliance to noise and vibration management controls through:

- Communicate noise generating activities with key stakeholders.
- Carrying out works within approved Construction Hours.
- Regular inspections (documented in the Weekly Site Inspection) and completion of corrective actions where required.
- Inclusion of noise and vibration awareness and control requirements through consultative forums.
- The use of the daily Pre-Start Meeting to discuss awareness, control compliance and requirements.
- Ensuring, so far as is practicable, that personnel involved in or working near noise generating activities on the construction site, wear PPE applicable to the activity.
- Ensuring, that signage advising of the hazard/s are posted in visible locations around the work activity area.
- Where construction activities may result in noise / vibration impacts Facility, notification will be provided to the affected parties.
- The location of the works within the site will be considered and appropriate and suitable equipment will be selected based on the proximity to adjacent properties.

Monitoring and recording

Should a complaint be received regarding noise / vibration ADCO will investigate and identify the root cause and cease the noise / vibration generating activity. In the event that Noise / Vibration monitoring is deemed necessary monitoring will be carried out by a suitably qualified person.

11.3.5 Stockpile Management

Management

To prevent contamination of nearby watercourses and potential dust emissions which degrade air quality, ADCO will implement the following control measures:

- Stockpiles will be located as far away from residential buildings as is practical.
- Topsoil stockpiles to be located on flat areas, clear of drainage lines and at significant distance away from waterways, roads, and slopes of greater than 10%.
- Stockpiles to be located at least 3 metres from tree drip lines.
- Stockpiled materials not to be placed inside vegetation protection areas or within 5 metres of retained trees.
- Stockpiled materials not to be placed within 5 metres of waterways or stormwater inlets.
- Clean topsoil and friable subsoil to be stockpiled separately and re-spread in areas to be revegetated
- Weed infested topsoil to be stockpiled separately and removed from site or re-spread in a manner which mitigates the spread or re-introduction of weeds.

- Install bunding/silt fencing around stockpiles to prevent against water runoff.
- Dampen stockpiles by means of water sprays to management dust emissions.
- Where practicable, vegetate stockpiles to improve soil stability.
- In the event that stockpiles are to remain for extended periods of time (>12 months) hydro mulch or similar may be required to ensure stabilisation.
- Limit the height and volume of stockpiles so that control measures can be implemented.
- Stockpiles and control measures to be monitored regularly and immediately rectified as required.

11.3.6 Sediment Control and Onsite Water Management

Management

Surface water management will be considered into the staging of the construction works program. Regular inspections of stormwater and surface water controls will be undertaken, and issue identification and corrective actions recorded on the online HSE Management System.

The risk of erosion and sedimentation is a direct consequence of exposure of soil to rainfall and stormwater runoff. Sedimentation involves the deposition of eroded material into surrounding areas.

To control the risk of erosion or sediment impacting on the natural environment, ADCO will:

- Install erosion and sediment control devices to mitigate and manage the impact of excess soils on nearby roads, surface water quality, air quality, fauna and flora.
- Erosion and sedimentation controls to be monitored on a weekly basis or immediately following a rainfall event.
- Ensure that the handling and placement of excavated material is in accordance with WMS, Client instructions, EPA requirements etc.
- Complete daily inspections of stockpiles, excavated areas and control methods for erosion and sediment management.
- Residue to be disposed of in an appropriate manner.
- All drainage inlets near or within the site must be protected against silt infiltration and soil run off with the use of silt traps, sandbags and/or geo-fabric protection.
- ADCO Constructions will ensure that all drains and gutters leading to the storm water system within the Site have sediment control measures installed to prevent sediment entering into the drainage system and waterways.

Entering Site

- Identify vulnerable locations on site and install control devices as far as practicable to halt or alter course of water.
- Inspections prior to a major weather event.

Exiting Site

- Identify vulnerable drains, low points and stormwater runoff points.
- Install control devices (i.e. silt fencing, bunding, diversion devices, sandbags, etc).
- Daily inspections and maintenance of control

11.3.7 Materials Storage

General

Construction material required to carry out project works will be stored within designated storage areas within the site compound. The capacity of bunds and containment areas will be maintained at all times. Where necessary bunds will be pumped out after rain events, water tested and disposed of appropriately.

Prior to any delivery of materials, mobile plant or tools, subcontractors to consult with ADCO Site Management on the following:

- Permissible items permitted on site including DG/Hazardous Substances.
- Storage areas for trades / materials / substances / Plant.
- Permits or pre- entry inspections including documentation (e.g. Safety Data Sheets, Validation Certificates etc.) required for Plant, tools or substances.
- Hazardous substances and flammable goods to be stored in an approved lockable storage cage. Subcontractors to provide their own lockable cages.
- Pre- delivery inspections to ensure that materials are in accordance with SHE requirements.
- Use of bunds and containment areas.
- Items found not to be conforming are to be secured and removed from site.
- Capacity of bunds and containment areas will be maintained. Where necessary bunds will be pumped out after rain events and disposed of appropriately.

11.3.8 Foreign Object Damage

Site Compound

To manage the potential of Foreign Object Damage (FOD) within the site compound, ADCO will:

- Area to be contained within perimeter fencing.
- Appropriate storage containers based on the nature of the product being stored will be provided and located in a designated area.
- Containers must be closed except for when personnel are accessing or working within the container.
- Items within containers must be secured.
- Waste must be placed into supplied receptacles fitted with lids.
- Waste lids are to be closed at all times.
- Material or equipment stored external to site sheds or containers must not have any fittings, fixtures or wrapping which could come loose and cause a hazard.

Work Areas

To manage the potential of Foreign Object Damage (FOD) within project work areas, ADCO will:

- Material or equipment transported to the work area must be secured to ensure that no fittings, fixtures or wrapping could come loose and cause a hazard during transportation
- Work areas are to be maintained with a high standard of housekeeping at all times and must be free of loose material, packaging, debris etc. at the close of each shift.

11.3.9 Plant Movements

General

To ensure that no fuel, lubricant, mud, dirt, stones or other materials is spilled, or other materials is spilled or deposited onto roads or footpaths resulting in damage, loss, injury or nuisance ADCO will:

- Install control measures (i.e. water spraying, rumble grids, road sweepers) which limit the opportunity for dust, noise or spillage to occur.
- Limit site speed Limits.
- Loads to be covered prior to leaving the site.
- Daily inspections of control measures to be conducted and immediately rectified as required.
- Work activity requirements to be included in the Site Induction.

Traffic Management / Movement	/ Comply with any approved Traffic Management Plan for external site traffic management. / Where practicable, co-ordinate deliveries and site activities with out of peak traffic hours. / Monitor traffic flows and implement corrective actions in response to traffic impacts as a consequence of construction activities. / Daily inspections of control measures to be conducted and immediately rectified as required. / Work activity requirements to be included in the Site Induction. / If required under planning, inform local community about the timing and scale of construction traffic impacts.
Roads and Footpaths	/ Protect footpaths, kerbs and roads from damage through (e.g.) use of metal plates, restriction of heavy vehicles, prohibition for storing equipment or material on roads and footpaths etc. / Daily inspections of control measures to be conducted and immediately rectified as required. / Work activity requirements to be included in the Site Induction. / Should surrounding roads, footpaths, watercourse and verges be soiled with dust, sand, grit, litter, debris, mud and the like caused by site activities, the Project Manager will undertake to have them cleaned immediately.

11.3.10 Refuelling

Management

The following management protocols will be implemented:

/ There will be limited storage of fuels onsite.
/ Refuelling is to occur in designated refuelling areas with preference for refuelling to be carried out by mobile fuel vehicles / trailers.
/ Fuels, oils and chemicals are to be stored in accordance with the relevant Standards and all appropriate measures taken to ensure that environmental performance is being fulfilled
/ Regular inspections of vehicles, containers and equipment to be completed to check for any leaks or spills.
/ Ensure that appropriate storage facilities and fire suppression, spill management is used.
/ Ensure that containers are correctly labelled and that minimal quantities are stored on site.
/ Where possible, request substitution of substance with less harmful substances.
/ Major servicing of machinery to be completed off site.
/ Hoses to be fitted with a stop valve
/ Spill response kit to be readily available during refuelling activities.

11.3.11 Heat

Management

Throughout project delivery ADCO will ensure that workers are aware and have the required controls to mitigate the risk associated with long periods of heat and direct sunlight impacting on workers. Controls include but are not limited to:

/ Enforcing frequent breaks including weekly toolbox talks.
/ Use of SPF 50 sunblock and reapplication at frequent periods.
/ Site PPE Standards.
/ Increase fluid intake & additional water bubblers located throughout site.

- Scheduling most strenuous works to occur at cooler times of the day.
- Substituting physical activities to machine where applicable to reduce physical demands.
- Measure daily temperature and humidity and display on site notice boards.

11.3.12 Light

Management

Prior to works commencing onsite ADCO will identify sensitive areas that may be impacted by lighting. This includes stakeholder operations, surrounding residents and fauna. Lighting plants will be sited so as not to shine towards residential properties.

11.3.13 Flora and Fauna

Management

ADCO will not remove, damage or destroy, or cause to be removed, any trees or shrubs at the Site without written approval of the Client / Superintendent. Prior to works commencing onsite ADCO will identify flora and fauna that may be impacted by construction activities. Flora and fauna management controls will be communicated to project personnel through the following consultative forums:

- Subcontractor procurement meetings
- Project Specific Site Induction
- Daily debrief meetings
- Toolbox Meetings
- Site Notice boards and alerts.

ADCO will monitor compliance to fauna management through performance evaluation activities.

11.3.14 Dewatering

Management

In the event that dewatering is required a dewatering management plan will be provided specific for the dewatering scope. ADCO will liaise closely with key stakeholders and obtain all required regulatory approvals required for the dewatering works. Dewatering works will not commence until all approvals have been obtained.

11.3.15 Seasonal Weather

Management

In the event of an extreme weather event (such as a storm, heavy rainfall, high winds), ADCO will review the control measures identified within the EMP to ensure there is no environmental disturbance as a result of the weather event.

11.3.16 Cultural Heritage

Management

Where heritage management is a requirement of project compliance, work activities are completed with due consideration and protection. Cultural Heritage Management requirements will be included in the site induction and discussed through project consultative forums.

Unexpected Find

An ‘unexpected heritage find’ is “any unanticipated archaeological discovery that has not been identified during a previous assessment or is not covered by an existing permit under relevant legislation”.

The range of potential archaeological discoveries can include but are not limited to:

- Aboriginal stone artefacts, shell middens, burial sites, engraved rock art, scarred trees.

- Remains of infrastructure including buildings, footings, old kerbing and pavement, former road surfaces, timber and stone culverts, bridge footings and retaining walls.
- Artefact scatters including clustering of broken and complete bottles, glass, ceramics, animal bones and clay pipes.

When a “find” is identified in a work area:

1. All work in the find area must be stopped and the find must be reported to the Site Manager.
2. The Site Manager must establish a ‘no-go zone’ for at least 10 metres around the find. (e.g. fencing, solid barricades) where practical. No interference, including works, ground disturbance is allowed in the zone.
3. The Site Manager must notify the Project Manager.
4. The Project Manager to contact a heritage Adviser and arrange for the Adviser to assess the find.
5. Subject to assessment, work may recommence at a set distance from the item. Existing protective barriers may need to be adjusted.
6. To recommence work in the find area, the Project Manager must obtain written clearance from the Adviser including any additional project/heritage approvals/determinations.
7. Where required, the Project Manager / State HSE Manager will be required to update the Project Risk Register to reflect the find and any additional conditions / controls.
8. The Site Manager or HSE Advisor will be required to incorporate any changes to the site induction.

12 INCIDENT MANAGEMENT

The management of incidents will occur in accordance with *Procedure – Incident Management*.

Reporting

The reporting of all incidents from work activities within and outside the work boundary is mandatory on ADCO project sites. Incidents to be reported includes:

- Injuries regardless of severity
- Near Miss Events
- Environmental
- General incidents e.g. property, equipment and service damage.

Workers are advised at the site induction that all incidents irrespective of type or severity must be reported to the Site Manager or HSE Advisor immediately upon occurrence.

In accordance with contract requirements, ADCO will notify nominated representatives of incidents within agreed time frames.

Investigation

Examples of environmental incidents include, but are not limited to the following events:

- Unauthorised disturbance of vegetation;
- Hydrocarbon or chemical spill;
- Uncontrolled discharges into water bodies, creeks, stormwater drains etc;
- Breach of licence or permit conditions; and
- Unauthorised impacts to protected areas.

Incidents must be investigated by the Site Manager and HSE Advisor. The investigation is intended to:

- Collate information / documentation associated with the incident.
- Identify Contributing Factors and Root Causes
- Identify job system and behavioural factors leading to the incident.
- Identify non-conformances leading to the incident.
- Identify corrective and preventative action to mitigate recurrence of the incident.

The extent to which additional positions (e.g. Project Manager, HSE Manager, Construction Manager or Head of Risk and Compliance) are involved in the investigation of an incident is dependent on the severity and complexity of the incident.

Corrective actions and preventative actions are noted in Incident Investigation reports and implemented according to the ADCO risk management time frame. Incident reports are completed within 7 days of occurrence. Incident reports are closed out within 28 days of occurrence.

Monitoring	The Project Manager, Site Manager and HSE Advisor are responsible for ensuring that actions (corrective / preventative) arising out of an incident investigation are implemented and monitored for compliance.
Notification to Regulator	Where an incident is notifiable under the WHS legislation of the state in which it occurred, notification to the regulator will be made by any of the following positions: HSE Manager, Construction Manager, State Manager or Head of Risk and Compliance.
Retaining Records	All injury records and investigation findings will be retained within the online HSE management system - HammerTech.

12.1 COMPLAINT MANAGEMENT

Complaints can be raised for issues such as, noise, dust, light, pollution, perceived environmental management issued and breaches of regulatory approvals. A person may register a complaint with ADCO directly through verbal or consultative forums. Information relating to complaints is documented on the *Complaints Form*. Complaints are registered on the Register - Project Complaints. Complaints must:

- Be immediately reviewed and Investigated by the Project Manager, Site Manager and/or HSE Advisor.
- Be actioned within 48 hours by the Project Manager, Site Manager and/or HSE Advisor. Actions to be noted on the form. This includes a response (email or verbal) to the person generating the complaint.

In general, the below recommended actions should be followed:

- Respond to the complainant in an objective, polite and courteous manner.
- Engage with the complainant to correctly understand the complaint.
- Seek clarification and confirm the issues, relevant information, and outcomes sought (i.e. summarise the main points).
- Clarify the application of any relevant legislation, policies or procedures.
- Resolve the complaint and acknowledge the complainant.
- If the complaint cannot be resolved within a reasonable time frame, advise the complainant about the complaints process and indicative response.
- Take reasonable action to prevent similar complaints in the future

13 EMERGENCY MANAGEMENT

Refer to project Health and Safety Management Plan - Emergency Management which details the emergency management control required in the event of an environmental emergency.

14 MONITORING AND CONTINUAL IMPROVEMENT

Progress against project targets is monitored by the project team (Project Manager, Site Manager, HSE Advisor) through:

- Regular daily visual inspections of work activities.
- Completion of the Weekly Site Inspection report.
- Close out of identified actions for non-conformances.
- Internal / External Audits and Inspections.

Confirmation of achievement of project targets is reviewed through:

- Project Control Reports
- Project audits.
- Other internal or external audits (e.g. client, FSC).
- HammerTech reporting.
- A reduction in incident and non-conformances across the project, State and nationally.

In the event that project targets are not being achieved by the project team, the Construction Manager and State HSE Manager will implement change to ensure project targets are met.

14.1 AUDITS

Project audits completed by the HSE Manager or nominated person are a formal a review of project compliance against select criteria of the HSE Management System. Projects are required to be audited against both national (internal procedures) and project criteria (site specific).

The level of compliance to the requirements of the HSE System is determined by the audit score achieved. Any corrective action (e.g. non-conformances) identified in the audit, must be addressed by the site team within a maximum of seven working days of receipt of the audit report. Corrective actions and supporting evidence must be attached to the Audit Report within the online HSE Management System.

Audits are to occur in accordance with the project Audit Schedule which will detail the applicable audits to be carried out on the project.

14.1.1 Audit Schedule

Audit / Inspection Type	Frequency / Tine Frame	Participants
Internal HSE Audit	Twice throughout project delivery.	HSE Manager or nominated person (lead) / Construction Manager / Project Manager / HSE Advisor/ Site Manager
Third party system compliance audit i.e. Federal Safety Commission, BSi	As advised	Head of Risk and Compliance / HSE Manager / Construction Manager / Project Manager / HSE Advisor/ Site Manager

External HSE Audit	As requested by client & as agreed with ADCO	Client's external auditor

14.2 COMPLIANCE ACTIVITIES

14.2.1 Inspections

Performance monitoring will occur in accordance with *Procedure – Performance Management* which details ADCO's approach to monitoring work conditions and behaviour. ADCO will carry out daily and weekly workplace inspections to review and confirm compliance to approved work practices and controls.

Regular daily visual inspections of work activities and work areas will be completed by the Site Manager, HSE Advisor and Health and Safety Representative (if applicable). Formal inspections will be completed by the Project Manager, Site Manager, HSE Advisor using the *Weekly Site Inspection* form.

The inspection is required to reflect the level of compliance to:

- High Risk Work Activities
- Subcontractor Compliance
- General site conditions.

Inspections completed will be prioritised based on the level of risk and all records of inspections will be retained within HammerTech. "Issues" will be recorded for compliant and non-compliant observations within HammerTech. "Issues" identify the observation description, actions required to rectify, subcontractor responsible and time frame for implementation.

14.2.2 Monitoring – Environmental Compliance Obligations

On-site inspections and monitoring will be carried out to ensure environmental controls achieve their objectives and to facilitate modification where necessary. The table below details the projects inspection and monitoring requirements to ensure environmental compliance obligations are achieved.

Aspect	Compliance Obligation	Responsibility	Frequency
Dust	Monitoring for visible dust Depositional and Directional dust gauges	HSE Advisor / Site Manager	Daily – visual As required
Noise	Monitoring of Sound Pressure Levels	Project Manager	As requested to monitor the impacts of work activities
Vibration	Monitoring of vibration levels.	Project Manager	As requested to monitor the impacts of work activities
Waste Management	Use of waste bins– inspect contents	HSE Advisor / Site Manager	Weekly
Waste Management - Recycling	Waste disposal – documentation provided by waste removalist detailing quantities and percentage waste recycled / diverted from landfill.	Senior CA	Monthly

Aspect	Compliance Obligation	Responsibility	Frequency
Tree Protection Zone No-Go zones	Ensure areas are protected e.g. fenced and sign posted Ensure works are located outside fenced off areas Inspect protection for breaches. Inspect irrigation (if appliable)	HSE Advisor / Site Manager	Weekly
Hazardous Substances and Dangerous Goods	Review the storage of Hazardous Substances and Dangerous Goods. / Presence and detail of Safety Data Sheets (SDS) / Suitability and effectiveness of storage and bunding / Location of spill kits	HSE Advisor / Site Manager	Weekly
Sediment Control and Onsite Water Management	Monitoring to ensure sediment laden water is managed properly and not discharged offsite.	HSE Advisor / Site Manager	Daily – visual
Sediment Control and Onsite Water Management	Establishment of erosion and sediment control devices.	HSE Advisor / Site Manager	Weekly / Following a rainfall event
Weeds	Monitor weed infestations to ensure noxious weed infestations found within the area are controlled.	HSE Advisor / Site Manager	Weekly
Onsite water Management	Monitoring of water prior to discharge offsite	HSE Advisor / Site Manager	As required
Testing of excavated soil	Suspected contaminated soil from where excavated or prior to reuse at a different location onsite.	Project Manager	As required

Note: As applicable Environmental monitoring may involve collecting and interpreting data to provide quantification of the effectiveness of the Environmental Management System. All equipment used for environmental monitoring will be calibrated as per manufacturer's requirements. Where laboratory testing is required, a NATA accredited laboratory will be used. Certificates, checklists and records of the calibration, NATA accredited and installation checklists are maintained to verify compliance with these requirements.

14.3 ENVIRONMENTAL PERFORMANCE MEASUREMENT

The Management System objectives are to assist ADCO in:

- Achieving and maintaining compliance with the requirements ISO 9001, AS 4801 and ISO 14001 in each State in which ADCO operates;
- Maintaining a practical, proactive and efficient management system to support quality, safety and environmental management strategies on each project;

- Planning design and construction activities to minimise or eliminate quality, environmental and safety related risks;
- Promoting a proactive attitude towards work practices required to support the strategic vision;
- Supporting all persons involved with our business towards alignment with ADCO's strategies and to meet their accountabilities and responsibilities;
- Ensuring that all works undertaken and products, materials and equipment provided are fit for purpose and safe for use;
- Ensuring that non-conformances, defects and other issues and impacts are reported, corrected, analysed and corrective action implemented; and
- Providing a framework for continual improvement in its business activities.

These objectives are targeted and measured through the following performance indicators:

- Proactive reporting, investigation and closure of incidents and non-conformances;
- Quality processes implemented and managed on all projects, supported by staff training;
- Nil regulatory notices (i.e. improvements, infringements, prohibitions);
- Auditing achieving a Gold/Silver rating compliance on > 85% of projects;
- Nil incidents that adversely impact on the environment;
- Other targets set in annual and 3 year business plans and strategies for Horizon 1, 2 and 3.

14.4 PROJECT ENVIRONMENTAL OBJECTIVES AND TARGETS

The below Environmental Objectives and Targets will be set and implemented for the project and reviewed periodically in line with the management plan review. Objectives will be achieved through:

- Compliance with the requirements of this Health and Safety Management Plan
- Implementation of controls identified within the Project Risk Register
- All controls are implemented before commencing work to ensure all known risks are eliminated or controlled

14.4.1 Lead Indicators

Lead Indicator	Measurement	Validation	Target
Leadership Commitment	Environmental Management Plan - Environmental responsibilities described within Organisational Roles and Responsibilities	Approved Environmental Management Plan. Management Plan signed by ADCO project team.	Environmental Management Plan approved by all necessary parties within agreed timeframe Environmental Management Plan periodically reviewed, amended and re-issued as per agreed review frequency. 100% of Project team signed onto Management Plan.
Compliance with all standards, plans and audit schedules	Development of Audit Schedule	Audit schedule Audit Reports	100% audits executed as per Audit Schedule

Lead Indicator	Measurement	Validation	Target
	Audits conducted as per schedule	Audit actions Non-conformance register	100% of audit Reports completed within agreed timeframes 100% of actions associated with non-conformances closed out within agreed time
Communication and Consultation	Daily Pre-Work briefings Toolbox Meetings HSE Committee Meetings	Attendance registers Meeting minutes Training support material	Daily Pre start meeting Toolbox Meetings at nominated frequency

14..4.2 Lag Indicators

Lag Indicator	Measurement	Validation	Target
Dust complaints lodged by stakeholders	Response time and time frame for implementation of correction actions.	Complaints received and actioned within Complaint form.	Immediately reviewed and Investigated Be actioned within 48 hours
Noise complaints lodged by stakeholders	Response time and time frame for implementation of correction actions.	Complaints received and actioned within Complaint form.	Immediately reviewed and Investigated Be actioned within 48 hours
Vibration complaints lodged by stakeholders	Response time and time frame for implementation of correction actions.	Complaints received and actioned within Complaint form.	Immediately reviewed and Investigated Be actioned within 48 hours
Lighting complaints lodged by stakeholders	Number of lighting complaints received	Complaints received and captured within Complaint form.	Immediately reviewed and Investigated Be actioned within 48 hours
Contamination of marine, groundwater and surface water systems	Number of Environmental Incidents	Incident data reported in Environmental reports.	Zero
Spills greater than 100 Litres	Number of Environmental Incidents	Incident data reported in Environmental reports.	Zero

Lag Indicator	Measurement	Validation	Target
Spills which require an emergency response	Number of Environmental Incidents	Incident data reported in Environmental reports.	Zero
Injury or death of any fauna caused by vehicles or excavations	Number of Environmental Incidents	Incident data reported in Environmental reports.	Zero
Disturbance of vegetation outside the construction area due to construction activities	Number of Environmental Incidents	Incident data reported in Environmental reports.	Zero
Off-site traffic leaving formed roads or approved tracks	Number of Environmental Incidents	Incident data reported in Environmental reports.	Zero
Invasive species introduced into construction area	Number of Environmental Incidents	Incident data reported in Environmental reports.	Zero
Reportable Environmental Incidents	Number of Environmental Incidents	Incident data reported in Environmental reports.	Zero
Major Environmental Incidents	Number of Environmental Incidents	Incident data reported in Environmental reports.	Zero
Environmental Near Misses	Number of Environmental Incidents	Incident data reported in Environmental reports.	Zero
Cultural heritage Incident	Number of Environmental Incidents	Incident data reported in Environmental reports.	Zero
Minor Environmental Incidents (<25)	Number of Environmental Incidents	Incident data reported in Environmental reports.	<2
Minor spills controlled, contained and cleaned up within 24 hours	Number of Environmental Incidents	Incident data reported in Environmental reports.	100%
Hazardous materials managed and disposed of appropriately	Weekly Site Inspection Issue identification	Minimum one per week.	100%

14.5 CORRECTION AND CORRECTIVE ACTION

Activities on the project that may result in actions includes but is not limited to:

- Audits (Internal, External).
- Daily Inspections.
- Weekly Site Inspections.
- High Risk Work Activity Inspections.
- Subcontractor compliance monitoring inspections / task observations.

- General site observations.
- Hazard identifications / Issue Notification Form
- Incident investigations.
- Risk Assessments.
- Alerts / Notices

Actions identified from observations are to be entered into HammerTech and tracked until they are closed out within the timeframe noted. Upon identification or notification, the HSE Advisor or Site Manager must review and assess the risk and develop appropriate controls according to the principles of the hierarchy of controls.

Actions that arise from an incident or dangerous occurrence must be reviewed by the Project Manager, Construction Manager and State HSE Manager and reviewed for effectiveness through site monitoring activities. Actions, including amendments and updates, to the Management System and Management System Documentation must be authorised by the Head of Risk and Compliance, the HSE Leadership Group or the Quality Leadership Group.

Actions that arise from an external audit by will be entered into HammerTech for tracking and close out.

The assessment of results obtained through monitoring activities, non-conformances, correcting poor performance, investigating the reasons for poor performance and addressing the potential likelihood of future poor performance will be conducted in accordance with *Procedure – Performance Management*.

Where a worker does not comply with a risk or behaviour control requirement, disciplinary action through the ADCO non-conformance system will be initiated. Dependent on the severity of the non-compliance, workers are subject to a tiered warning system and may receive up to 3 warnings for engaging in the same non-compliant activity. Written warnings in the form of an Improvement Notice are issued to a company, when an individual of that company has engaged in a non-compliant activity. ADCO reserves the right to deny a person access to site - irrespective of the number of warnings required / issued - if the non-compliance could / has resulted in a dangerous occurrence. This determination will be made in consultation with Construction Manager, Project Manager, Site Manager and HSE Manager.

14.6 MEASURING, RECORDING, MONITORING AND REPORTING

ADCO utilises a range of tools, systems and forums to measure, monitor, implement, report, and respond on its performance, objectives, targets and impacts. These include, without limitation:

Tools / Systems

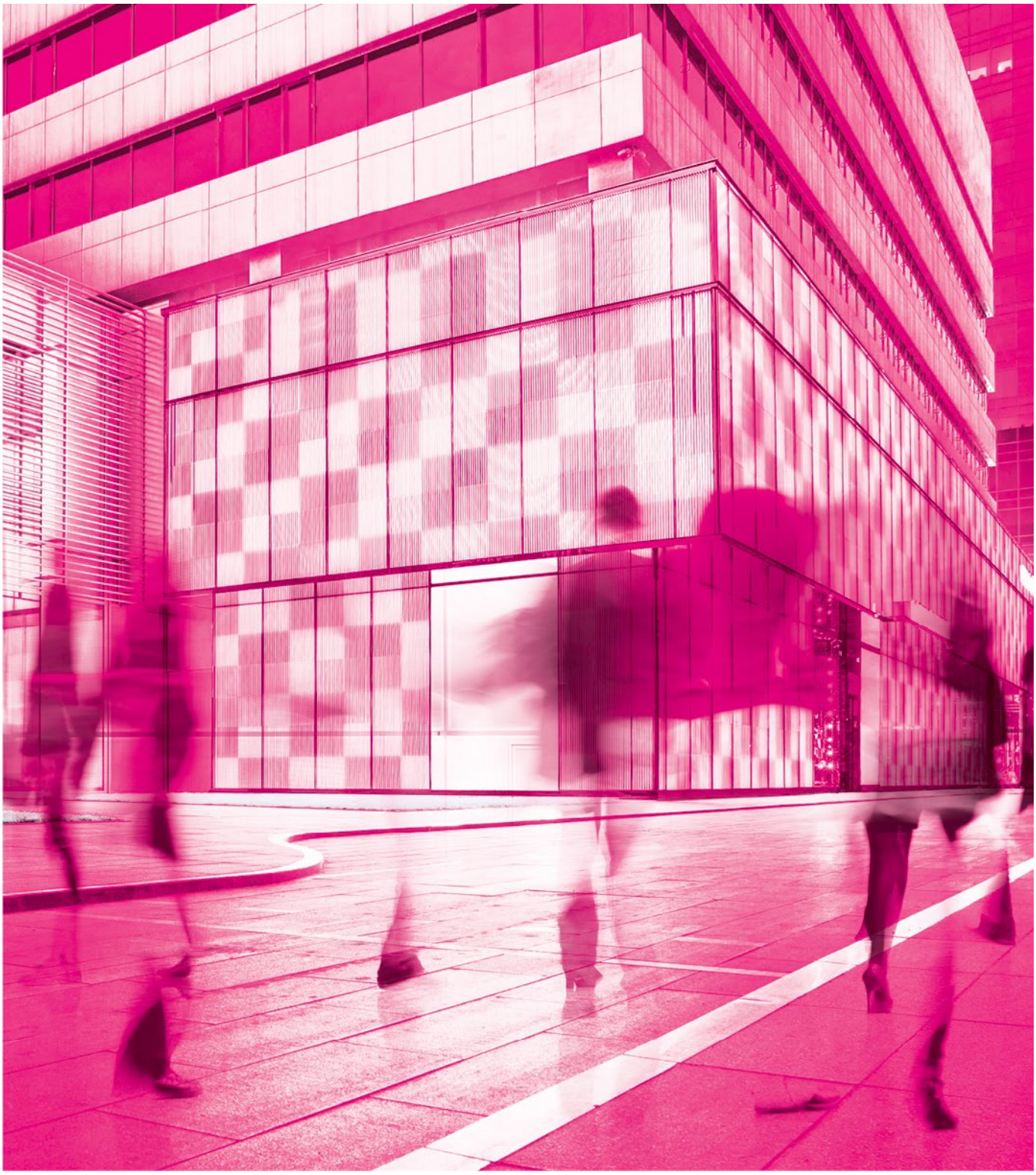
- Hammertech, Aconex, Dropbox, Power BI and CRM

Meetings, Forums and Reports

- Strategic Plans (Horizon 1, 2 and 3 Reports)
- Board Meetings
- State Management Meetings
- Leadership Forum
- HSE Leadership Group
- Quality Leadership Group
- Construction and Commercial Manager Forums
- Operational Assurance Reports
- Project Control Reports (project specific)
- PCG Reports (project specific)

ANNEXURE 06

NEXT SENSE_Construction Traffic and Pedestrian Management Plan



Construction Pedestrian and Traffic Management Sub-Plan

NextSense - Centre of Excellence

For ADCO Construction

17 March 2022

parking;
traffic;
civil design;
wayfinding;

ptc.

Document Control

NextSense - Centre of Excellence, Construction Traffic and Pedestrian Management Sub-Plan

Issue	Date	Issue Details	Author	Reviewed	For the attention of
1	21/02/2022	Draft	David Kui Jake Jansen	Dan Budai	Nick Tragoutsis
2	14/03/2022	Final	David Kui Jake Jansen	Dan Budai	Nick Tragoutsis
3	15/03/2022	Revised final	David Kui Jake Jansen	Dan Budai	Nick Tragoutsis
4	17/03/2022	Revised final	David Kui Jake Jansen	Dan Budai	Nick Tragoutsis

Contact

Dan Budai
+61 2 8920 0800
+61 450 524 500
dan.budai@ptcconsultants.co
SafeWork NSW Card No. TCT0016805 (PWZ)

Henry Li
+61 2 8920 0800
henry.li@ptcconsultants.co
SafeWork NSW Card No: TCT1020401 (PWZ)

ptc.
Suite 502, 1 James Place
North Sydney NSW 2060
info@ptcconsultants.co
t + 61 2 8920 0800
ptcconsultants.co

Contents

Appendices

List of Figures

List of Tables

1 Introduction

1.1 Background

ptc. has been engaged by ADCO Construction to prepare a Construction Pedestrian and Traffic and Management Sub-Plan (CPTMSP) report for the proposed NextSense Centre of Excellence at 131 Culloden Road, Marsfield.

The proposed development involves the construction of a new purpose-built 1-3 storey Centre of Excellence within the Macquarie University (MQU) campus, on the southeast corner of the intersection of Culloden Road and Gymnasium Road.

This report addresses potential impact related to the construction associated with development of the site and has been prepared to satisfy Condition C10 of the Development Consent Conditions for SSD-10451 as issued by the Department of Planning, Industry and Environment according to the construction process.

The location of the site is shown in Figure 1.

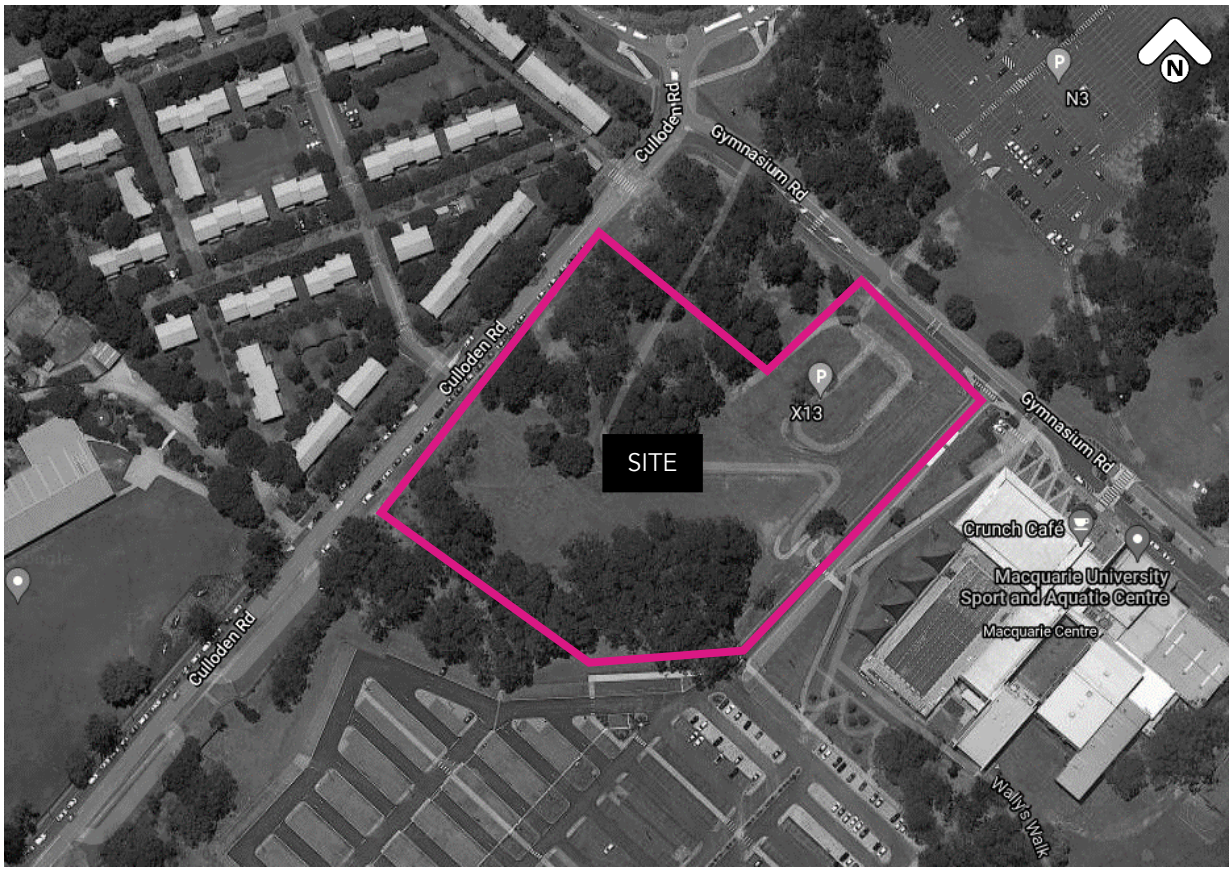


Figure 1.1: Site Location (Source: Google Maps)

1.2 Purpose of this Report

The CPTMSP addresses the potential construction activity associated with the construction of the development, including:

- Location of any proposed Work Zone, Site Boundary, and any site office, crane locations, material and waste storage area and other components as necessary;
- Haulage routes;
- Construction vehicle access arrangements;
- A heavy vehicle swept path assessment, demonstrating feasibility of any site access, in addition to haulage routes if required;
- Estimated construction hours;
- Estimated number of construction vehicle movements;
- Estimated construction program;
- Mitigation of 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;
- Development of a concept traffic management plan (TMP), outlining the construction access to the development and a description of likely traffic control measures required.

This report has been prepared to present the traffic and pedestrian management arrangements (including Traffic Guidance Schemes) associated with the construction of the NextSense Centre of Excellence.

1.2.1 Consultation

In March 2021 TfNSW and Council provided details of requirements for details to be included in the CPTMSP and these requirements were included in the draft issued for comment in 2021.

In compliance with the requirements of Transport for NSW (TfNSW), *Traffic control at work sites – Technical Manual, Issue No.6.0,* 14 September 2020 (TCAWS), following updates to the project, engagement of contractors etc, the CPTMSP was updated and issued to TfNSW again for comments and requirements. TfNSW did not have any further comments and Councils requested further analysis that has been included in this final version.

2 Background Information

2.1 Site Location

The proposed site is located at 131 Culloden Road, Marsfield and is identified partly as Lot 191 DP 1157041 and Lot 8 DP 1047085.

The aerial view of the subject site is shown in Figure 2.

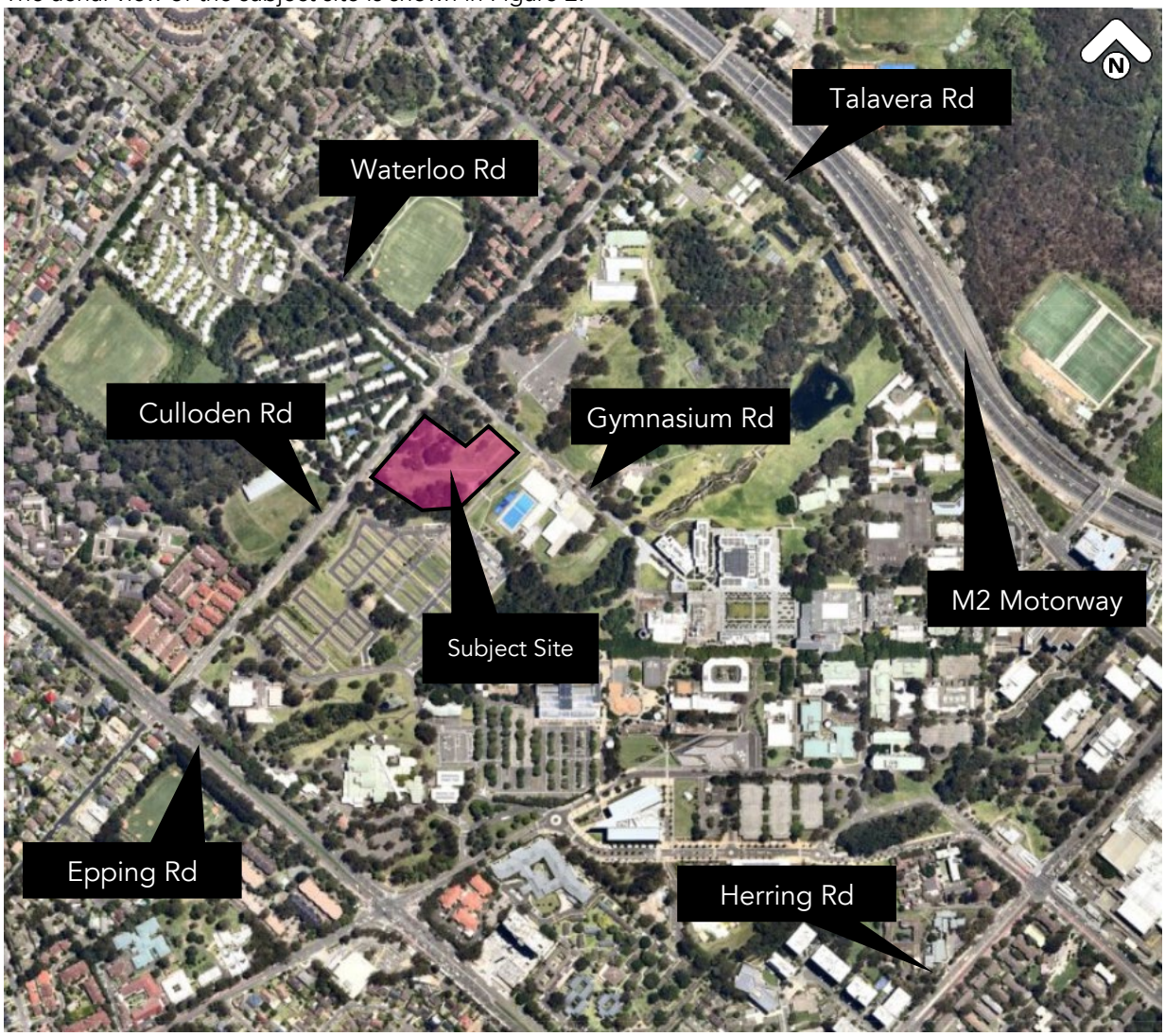


Figure 2.1: Aerial View of the Subject Site (Source: Near Map)

2.2 Surrounding Land Use

The proposed site is currently a SP2 (Special Purpose) zone, with the surrounds being predominantly B4 (Mixed Use) and R4 (High Density Residential) zones. There are large R2 (Low Density Residential) zones to the southwest of Epping Road with several RE1 (Public Recreation) and R3 (Medium Density Residential) zones.

The surrounding land use presented in Figure 2.2.

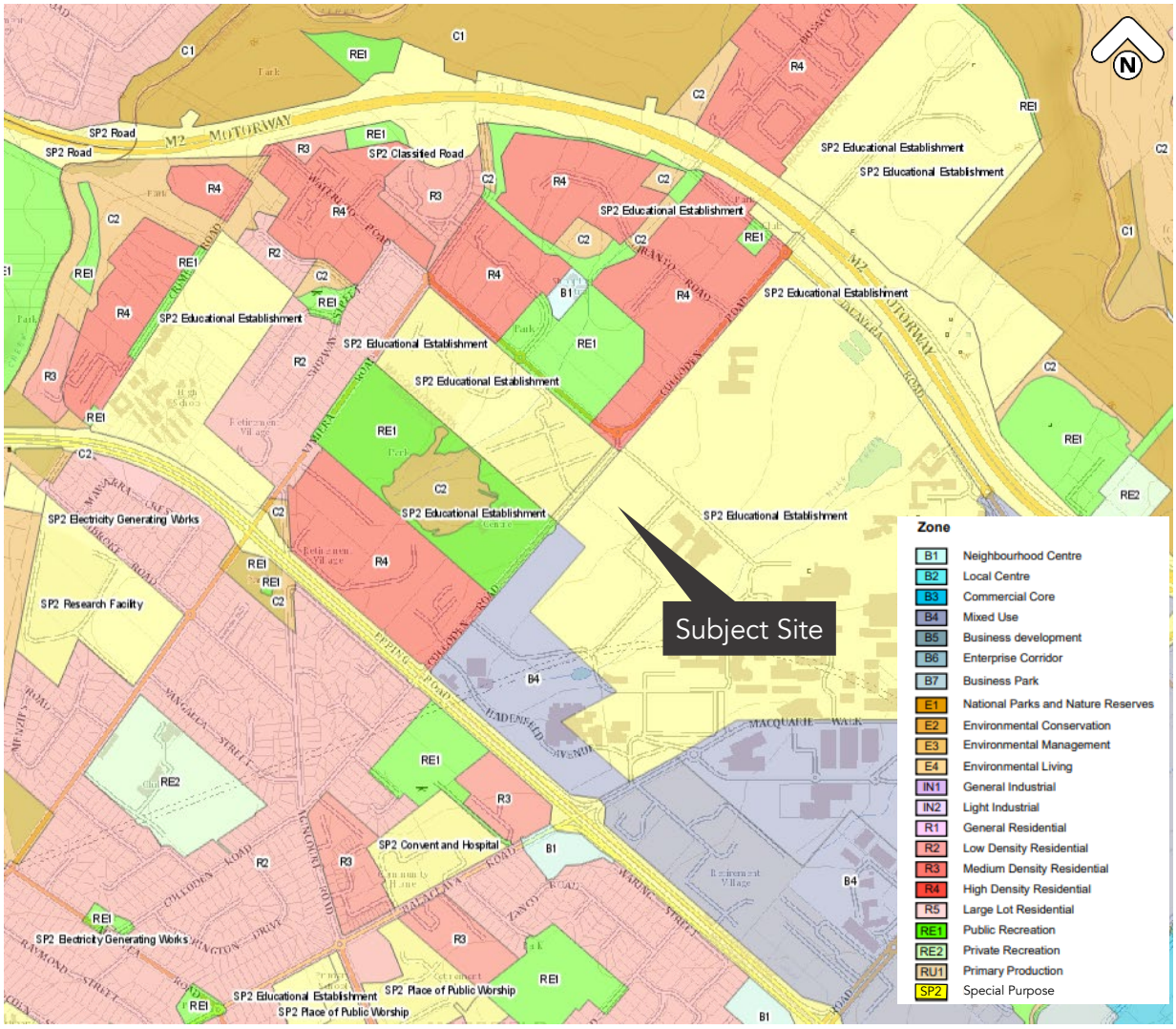


Figure 2.2: Local Land Use Map (Source: NSW Planning Viewer)

3 Development Proposal

The proposed development will include the following:

- A pre-school and school accommodation for up to 80 pre-school children and up to 120 school children in a single storey pavilion;
- Royal Institute for Deaf and Blind Children (RIDBC) building (up to 260 staff) of up to three storeys, including basement level:
    - Public areas for staff and visitors;
    - RIDBC Renwick Centre classrooms and a business hub;
    - Medical Facility for various clinical services; and
    - RIDBC Renwick Centre resource centre

Vehicle access to the site will be provided via:

- School porte-cochere: one ingress and one egress only via Culloden Road;
- Consulting porte-cochere: one ingress and one egress only via Gymnasium Road; and
- Basement car park and loading dock via West Precinct Road.

The site is currently vacant. An overview of the proposed development, with the proposed layout prepared by WMK Architecture, is shown in Figure 3.1 below.

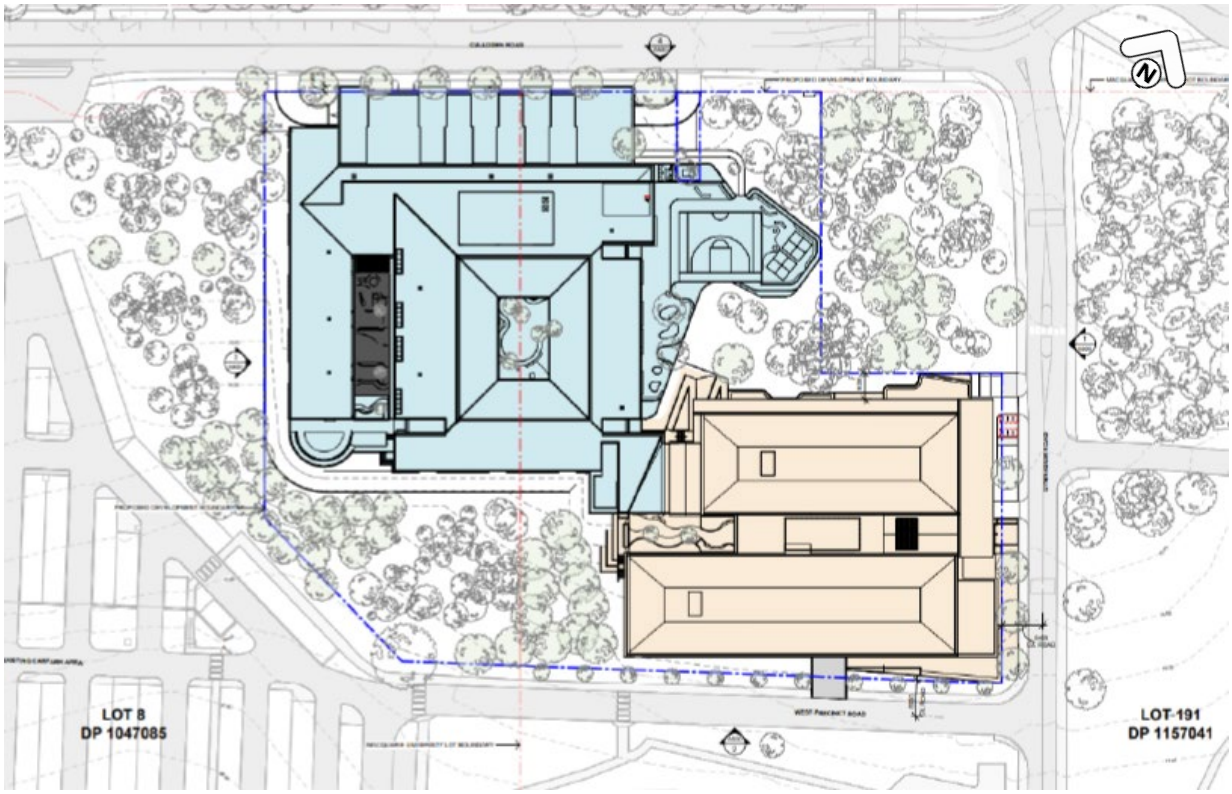


Figure 3.1: Proposed layout of the development

4 Existing Transport Facilities

4.1 Road Hierarchy

The subject site is primary serviced by state and local roads including M2 Motorway, Epping Road, Lane Cove Road, Herring Road, Talavera Road, Waterloo Road, Culloden Road and Gymnasium Road.

A summary of the State, Regional and Council managed local roads serving the site is presented in Figure 4.1 and the following tables.

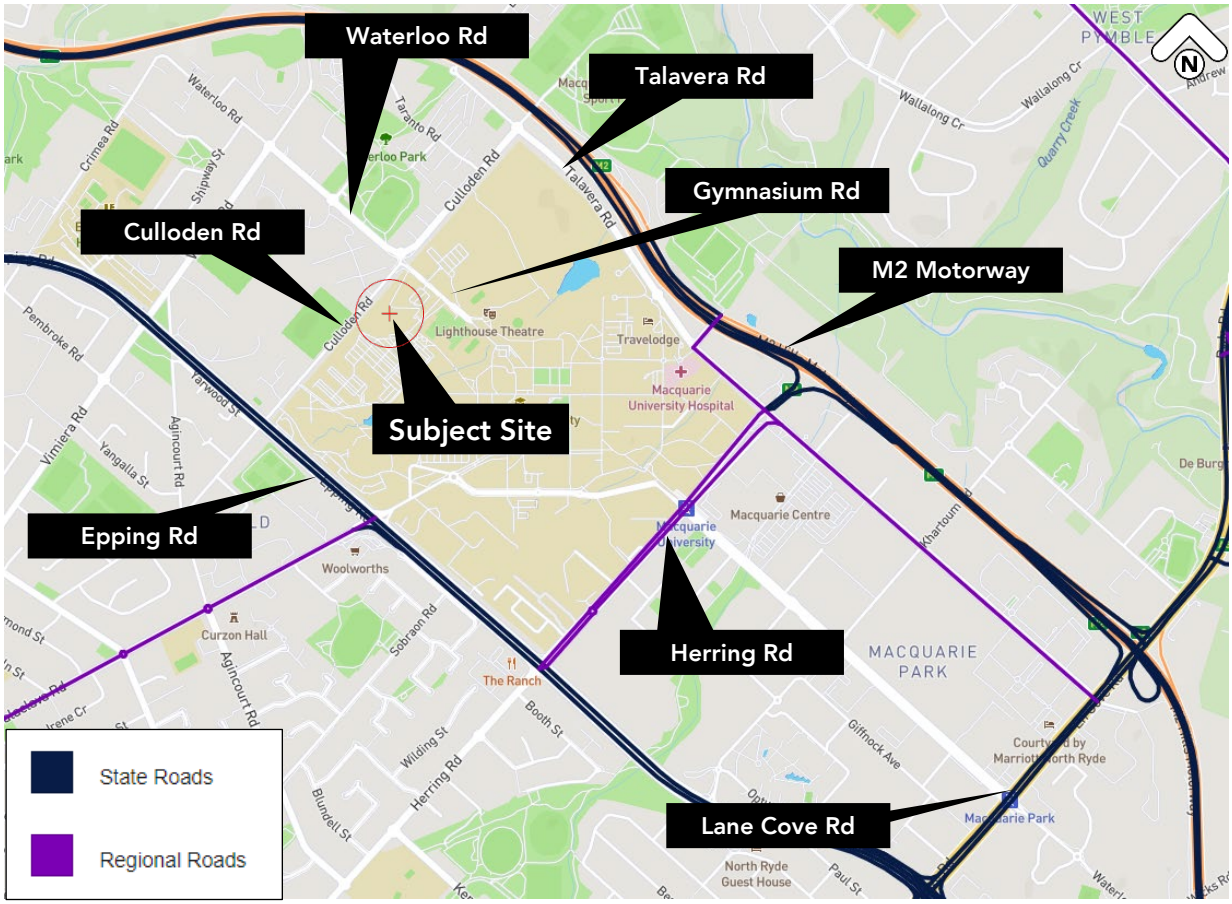


Figure 4.1: Surrounding Road Network (Source: RMS Road Hierarchy)

The NSW administrative road hierarchy comprises the following road classifications, which align with the generic road hierarchy as follows:

State Roads - Freeways and Primary Arterials (RMS managed)

Regional Roads - Secondary or Sub Arterials (Council managed, partly funded by the State)

Local Roads - Collector and Local Access Roads (Council managed)

Table 4.1: M2 Motorway

M2 Motorway	
Road Classification	State Road
Alignment	Northwest-Southeast
Number of Lanes	Typically 3 lanes in each direction.
Carriageway Type	Divided
Carriageway Width	Varies, typically 28m in each direction.
Speed Limit	100km/h
School Zone	No
Parking Controls	No parking
Forms Site Frontage	No

Figure 4.2: M2 Motorway – Southeastbound towards Culloden Road

Table 4.2: Epping Road

Epping Road	
Road Classification	State Road
Alignment	Northwest-Southeast
Number of Lanes	Varies, typically 2 lanes and 1 bus lane in each direction. Road widens to 3 lanes and 1 bus lane in the vicinity of the site
Carriageway Type	Divided
Carriageway Width	Varies, typically 23m in each direction.
Speed Limit	70km/h
School Zone	Yes
Parking Controls	Clearway 6am-7pm Mon-Fri, 9am-6pm Sat-Sun & Public Holidays; Bus zone
Forms Site Frontage	No

Figure 4.3: Epping Road – Southeastbound towards Culloden Road

Table 4.3: Lane Cove Road

Lane Cove Road	
Road Classification	State Road
Alignment	Northeast-Southwest
Number of Lanes	Varies, typically 3 lanes in each direction. Road widens to 5 lanes near the intersection of Epping Road/Lane Cove Road
Carriageway Type	Divided
Carriageway Width	Varies, typically 20m in each direction. Road widens to 33m near the intersection of Epping Road/Lane Cove Road
Speed Limit	70km/h
School Zone	No
Parking Controls	Clearway 6am-7pm Mon-Fri, 9am-6pm Sat-Sun & Public Holidays; Bus zone
Forms Site Frontage	No

Figure 4.4: Lane Cove Road – Northeastbound towards Epping Road

Table 4.4: Herring Road

Herring Road (Between Epping Road and Talavera Road)	
Road Classification	Regional Road
Alignment	Northeast – Southwest
Number of Lanes	Varies, typically 2-4 lanes in each direction
Carriageway Type	Divided
Carriageway Width	Varies, typically 22-24m
Speed Limit	50km/h
School Zone	No
Parking Controls	No parking; Bus zone
Forms Site Frontage	No

Figure 4.5: Herring Road – Southwestbound towards Epping Road

Table 4.5: Culloden Road

Culloden Road	
Road Classification	Local Road
Alignment	Northeast – Southwest
Number of Lanes	Typically 1 lane in each direction
Carriageway Type	Undivided
Carriageway Width	Typically 11m
Speed Limit	50km/h
School Zone	No
Parking Controls	Unrestricted; 2P; Bus zone
Forms Site Frontage	Yes

Figure 4.6: Culloden Road – Northeastbound towards Gymnasium Road

Table 4.6: Waterloo Road

Waterloo Road	
Road Classification	Local Road
Alignment	Northwest – Southeast
Number of Lanes	Typically 1 lane in each direction
Carriageway Type	Undivided
Carriageway Width	Typically 12m
Speed Limit	50km/h
School Zone	No
Parking Controls	Unrestricted; Bus zone
Forms Site Frontage	No

Figure 4.7: Waterloo Road– Southeastbound towards Culloden Road

Table 4.7: Talavera Road

Talavera Road	
Road Classification	Local Road / Regional Road
Alignment	Northwest – Southeast
Number of Lanes	Typically 1 lane in each direction
Carriageway Type	Undivided
Carriageway Width	Typically 10m
Speed Limit	50km/h
School Zone	No
Parking Controls	Unrestricted; 2P; Bus zone
Forms Site Frontage	No

Figure 4.8: Talavera Road – Northwestbound towards Culloden Road

Table 4.8: Gymnasium Road

Gymnasium Road	
Road Classification	Local Road
Alignment	Northwest – Southeast
Number of Lanes	1 lane in each direction
Carriageway Type	Undivided in the vicinity of the site
Carriageway Width	5.5m
Speed Limit	50km/h
School Zone	No
Parking Controls	No Parking
Forms Site Frontage	Yes

Figure 4.9: Gymnasium Road – Northwestbound towards Culloden Road

4.3 Public Transport

The locality of the site has been assessed in the context of available forms of public transport that may be utilised by prospective staff and visitors. When defining accessibility, the *NSW Planning Guidelines for Walking & Cycling (2004)* suggests that 400m-800m is a comfortable walking distance to access public transport and local amenities.

Figure 11 illustrates 400m and 800m catchments from the proposed site, together with the public transport options and network, which are available in the vicinity of the site. Details of public transport options available are outlined in the following sections.

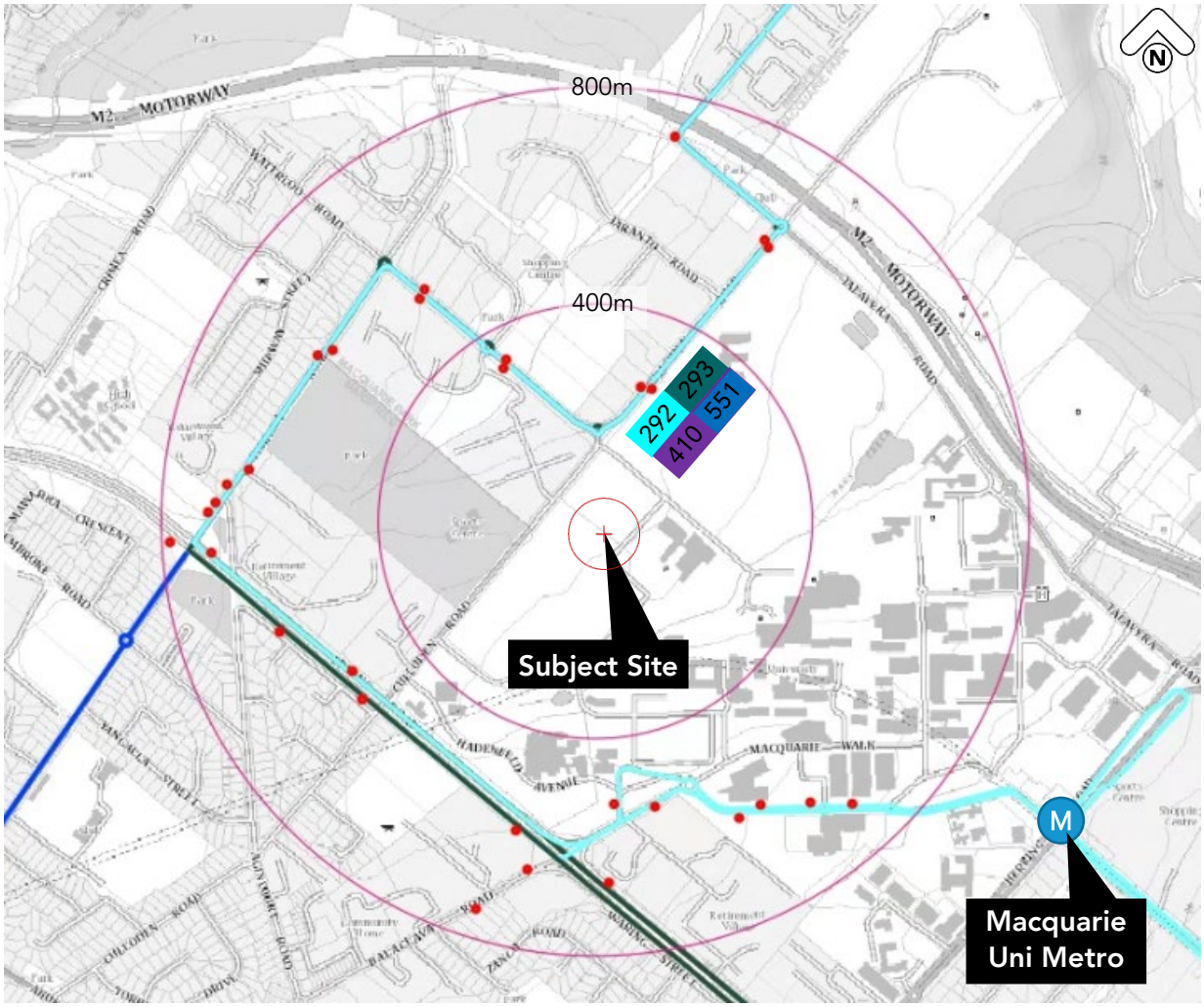


Figure 4.10: 400m and 800m radius of the subject site

4.3.1 Bus

As shown in Figure 11, there are four bus services within the 400m catchment. The closest existing bus stops are located within 400m catchment along Culloden Road and serviced by 292, 293, 410 and 551 bus service.

Bus services, including coverage, approximate operation times and frequency are presented in Table 9.

Table 4.9: Bus Service Summary (Source: Transport NSW)

Bus Route	Coverage	Approximate Frequency
292	Marsfield to City Erskine St via Macquarie Park	Mon-Fri: every 30min, between 5:03am and 11:09pm Sat: every 30min, between 6:55am and 12:16am Sun: every 30min, between 7:23am and 10:15pm
293	Marsfield to City Wynyard	Mon-Fri Only: every 5-10min, between 6:47am and 8:45pm
410	Macquarie Park to Hurstville	Mon-Fri: every 10-15min, between 6:08am and 12:34am Sat: every 20min, between 7:26am and 12:25am Sun: every 20min, between 7:28am and 12:27am
551	Busaco Rd to Eastwood	Mon-Fri Only: 3 services in the morning

Considering potential construction times, the above bus routes could provide relatively convenient services for workers. The development is well serviced by bus, with services every 10 to 30 minutes throughout the day on weekdays and every 20-30 minutes on weekends.

4.3.2 Metro

The subject site is located approximately 1.2km (15min walk) to the Macquarie University Metro Station. This metro station provides access to the Sydney Northwest line connecting the Chatswood Interchange to Tallawong Metro Station, providing frequent services (approx. every 4 minutes during weekday peak hours and every 10 minutes off-peak).

Sydney Metro will extend the currently operational Sydney Metro Northwest to its full length of Bankstown. The Sydney Metro network map is illustrated in Figure 4.11.

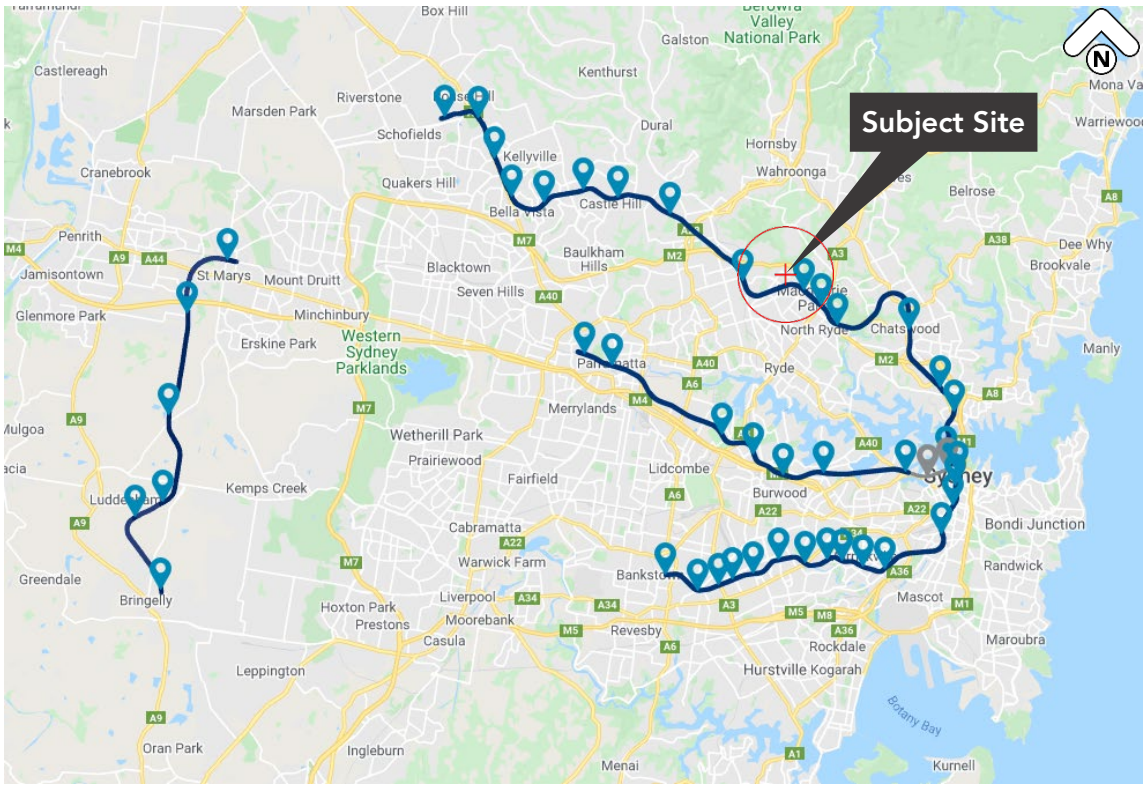


Figure 4.11: Sydney Metro Network Map

Metro Lines in the future:

- M – Tallawong to Bankstown (by 2024);
- M – Hunter Street to Westmead (by 2030);

4.4 Active Transport

The locality has been reviewed for features that would attract active transport trips (walking and cycling), with reference to the NSW Guidelines for Walking and Cycling (2004).

4.4.1 Cycling

A review of the local cycling infrastructure has been undertaken to determine the overall accessibility of the subject site by active transport. Figure 4.12 shows the local bicycle network surrounding the subject site. There are currently cycling infrastructures (e.g. shared off-road bike path, on-road bike lanes etc.) within the vicinity of the site, which makes cycling a reasonable option for the potential construction workers, other staff, students, residents, and visitors.

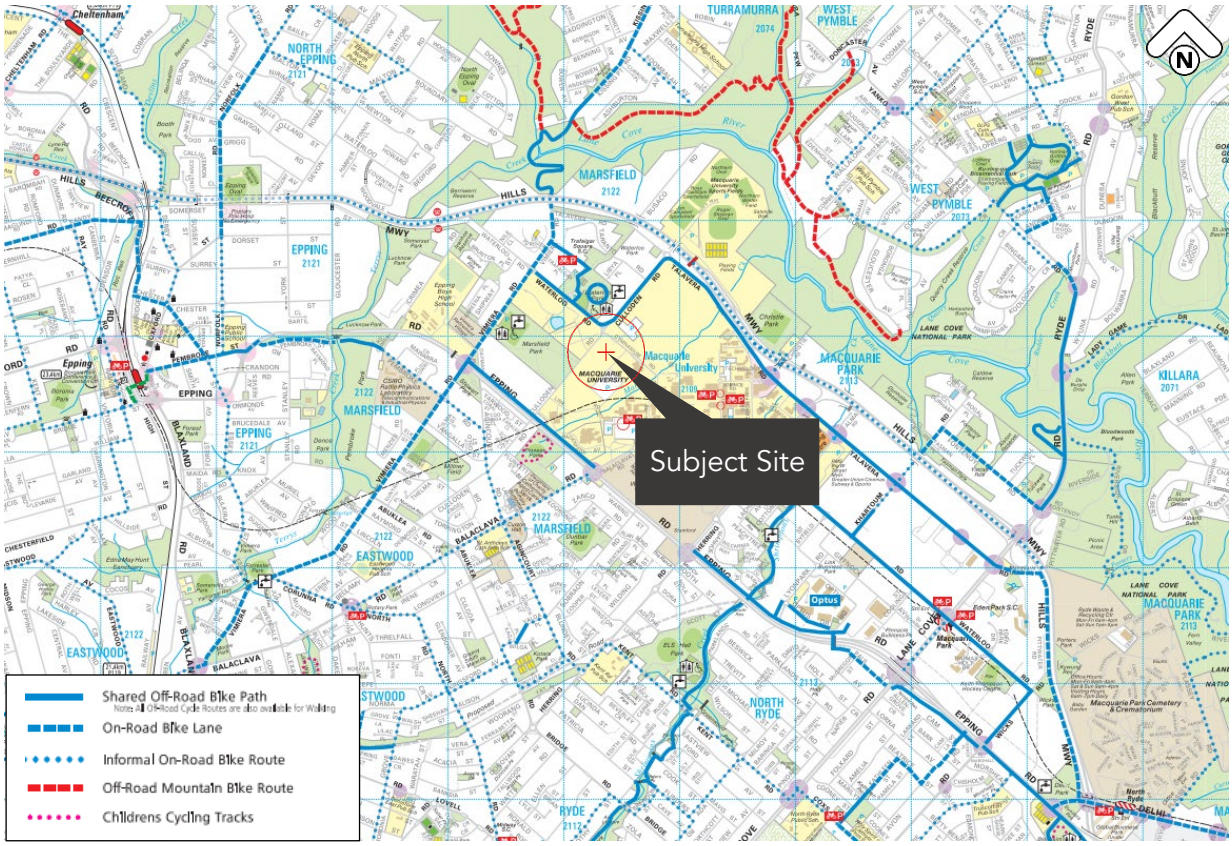


Figure 4.12: Existing Cycleways (City of Ryde Bike Map)

4.4.2 Walking

Walking is viable transport option for distances under one kilometre (approximately 15-20min) and is often quicker for short trips door to door. Walking is also the most space efficient mode of transport for short trips and presents the highest benefits. Co-benefits where walking replaces a motorised trip include improved health for the individual, reduced congestion on the road network and reduced noise and emission pollution.

Paved footpaths are available on both sides of Gymnasium Road and on the North-western side of Culloden Road. There are currently some pedestrian facilities (e.g. zebra crossings, refuge islands etc.) along Gymnasium Road, Culloden Road and Waterloo Road.

Therefore, pedestrian infrastructure could provide a reasonable level of amenities within the vicinity of the proposed site.

4.5 Off-street car park

Off-street parking facilities within the vicinity of the subject site are illustrated below:

- West 5 & 6 car park located to the southwest of the subject site (approx. 1,360 spaces); and
- North 3 Staff car park located on the north-eastern side of Gymnasium Road (approx. 300 spaces).

There are more than 4,500 parking spaces available on Macquarie University (North Ryde) campus for staff, students, visitors and contractors.

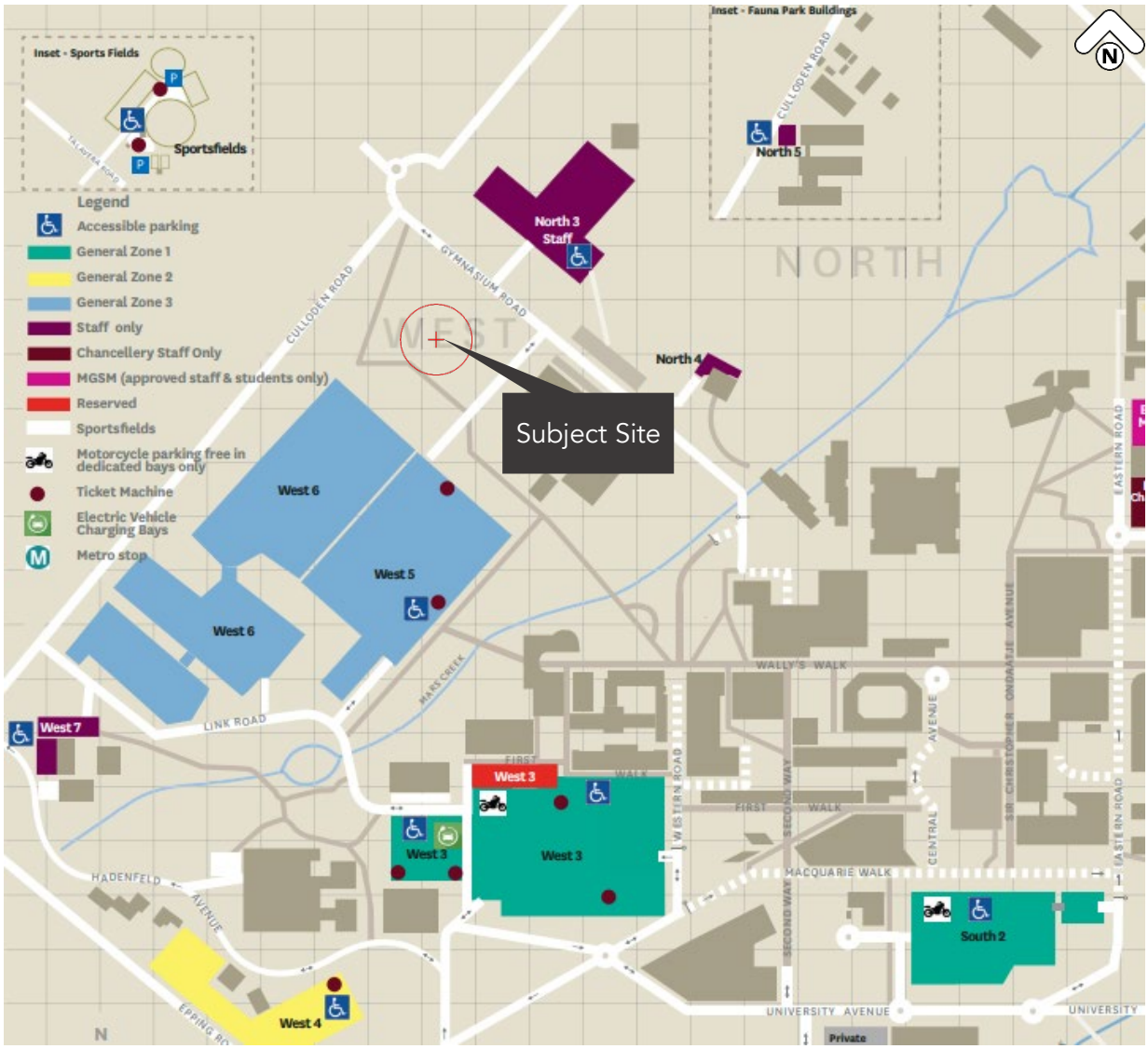


Figure 4.13: Car Parks near the Subject Site (Macquarie University Car Park Map)

5 Construction Traffic Management

5.1 Traffic Management Planning Process

Temporary Traffic Management (TTM) for the project has been planned in accordance with Transport for NSW (TfNSW), *Traffic control at work sites – Technical Manual, Issue No.6.0,* 14 September 2020 (TCAWS). The process is shown in Figure 5.1.

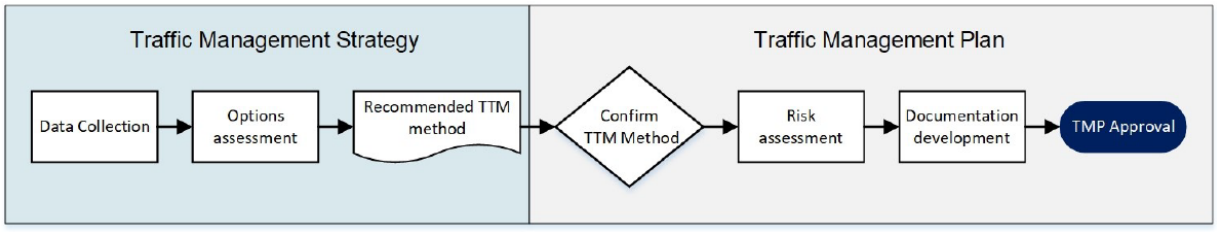


Figure 5.1: TTM process

An iterative process is being adopted in collaboration with relevant stakeholders to adopt the most appropriate traffic management approach and develop the associated documents for the work.

5.2 Traffic Management Strategy

A traffic management strategy has been chosen to support the appropriate allocation of time, funds and resources for the project, and allow for consultation in determining the safest and most efficient way for road users to interact with the work site.

The traffic management strategy included consistent engagement with authorities throughout the development and submission of the CPTMSP. The CPTMSP process included the initial data collection and options assessment to ensure the lowest net risk for all stakeholders were considered. The following have been considered in determining the TTM method:

Detour options

No road detours are necessary or proposed by the client and therefore, disproportionate amount of disruption to the road users will NOT be introduced. A pedestrian detour on the south-east of the site due to the closed footpath will be introduced.

Site location

The site of the works is primarily flat.

Work area

ADCO has advised that the area needed to safely perform the work does not require any road closure, except a potential one-off temporary closure during authorities work (Sydney Water, Jemena, Ausgrid etc). A Works Zone is required for stages 2 and 3 (construction) along Culloden Road which will involve the removal of additional on-street parking.

Vulnerable road users

Desire lines of pedestrians (students, staff, carers), cyclists, motorcyclists and users of scooters may impact on works or create undesired interaction between these road users and traffic.

Community facilities and needs

The footpath through the site from south-east to north-west will be closed as a result of site development.

5.3 Decision of TTM Method

After considering the factors in Section 5.2 and the recommendation of the client, the TTM method chosen is "Around (elimination)" as traffic can and will be completely separated from the work area. This method will provide the lowest overall net risk option

5.4 Objective

The traffic management plan associated with the construction activity aims to ensure the safety of all workers and road users within the vicinity of the construction site and following are the primary objectives:

- To minimise the impact of the construction vehicle traffic on the overall operation of the road network;
- To ensure continuous, safe, and efficient movement of traffic for both the general public and construction workers;
- Installation of appropriate advance warning signs to inform users of the changed traffic conditions;
- To provide a description of the construction vehicles and the volume of these construction vehicles accessing the construction site;
- To provide information regarding the changed access arrangement and also a description of the proposed external routes for vehicles including the construction vehicles accessing the site; and
- Establishment of a safe pedestrian environment in the vicinity of the site.

5.5 Hours of Work

All works associated with the project will be restricted to time periods stipulated by the Conditions of Consent. Hours of work are as follows:

- Monday to Friday 7:00am to 6:00pm;
- Saturday 8:00am to 4:00pm;
- Sunday, Public Holidays No works to be undertaken without prior approval.

Truck movements will be limited between 8:00am–9:30am and 4:30pm–6:00pm to minimise impacts on the road network during the major commuter peak times.

5.6 General Requirements

In accordance with Transport for NSW (TfNSW) requirements, all vehicles transporting loose materials will have to be entirely load covered and / or secured to prevent any large items, excess dust or dirt particles depositing onto the roadway during the travel to and from the site. All subcontractors must be inducted by the lead contractor to ensure that the procedures are met for all vehicles entering and exiting the construction site. The lead contractors will monitor the roads leading to and from the site and take all necessary steps rectify any road deposits caused by site vehicles.

Vehicles operating to, from and within the site shall do so in a manner which does not create unreasonable or unnecessary noise or vibration. No tracked vehicles will be permitted or required on any paved roads. Public roads and access points will not be obstructed by any materials, refuse skips or the like, under any circumstances. No construction vehicles are permitted to double park, or park on the public road. No building materials, work sheds, vehicles, machines or the like shall be allowed to remain in the road reserve area

without the written consent of the City of Ryde Council and provision will be made for all construction materials to be stored on site at all times.

Spoil shall be exported from site as progressively as the works occur. Spoil shall not be stockpiled and exported from the site in bulk.

The applicant / contractor is required to follow and abide by the specific standard requirements for construction management as set out by the Department of Planning, Industry and Environment in any consent issued for the project.

5.7 Construction Staging

The works will involve the following stages:

- Stage 1 (Early Works - Civil Works)
    - This stage consists of site clearing, tree removal, and excavation to prepare for the construction of the new purpose-built Centre of Excellence.
    - Preceding this stage will be the erection of A Class dust suppression systems on hoarding with 2 vehicle gates on Culloden Road and 1 pedestrian gate on the southwest of the site.
- Stage 2 (Structure, Façade and Fitout)
    - The construction phase will be the process of longest duration (approx. 12 months) with more intense on-site activity.
- Stage 3 (Public Domain Works)

The construction timeline is shown in Table 10

Table 5.1: Construction timeline

Construction Stage	Approx Duration	Dates
Stage 1	3 months	March 2022 – June 2022
Stage 2	11 months	June 2022 – May 2023
Stage 3	5 months	December 2022 – May 2023

5.8 Construction Vehicles

The construction will involve the use of various vehicle types in relation to construction tasks involved. A 19m Articulated Vehicle is the largest vehicle anticipated to be used throughout the various stages.

Types and number of vehicles that will require access to the site during different stages of the construction are shown in Table 11.

Table 5.2: Types and number of construction vehicles

Construction Stages	Truck Movements	Range of vehicles during stage	Largest Vehicle

Stage 1	8 trucks/day average 30 trucks/day peak	All vehicle types are possible and expected	Articulated Vehicles (AVs 19m)
Stage 2	10 trucks/day average 50 trucks/day peak (concrete pouring)	All vehicle types are possible and expected	Articulated Vehicles (AVs 19m)
Stage 3	8 trucks/day average 30 trucks/day peak	All vehicle types are possible and expected	Articulated Vehicles (AVs 19m)

Any oversized vehicle that is required to access the development site will be dealt with separately, with the submission of required permits to and subsequent approval by City of Ryde Council.

5.9 Construction Vehicle Routes and Swept Path Assessment

The site is in the suburb of Marsfield and the proposed construction vehicle routes have regard for the surrounding traffic arrangements in the vicinity of the site. No queuing or marshalling of trucks is permitted on any public road and all loading and unloading of materials will be undertaken within the site.

All vehicle routes to the site are constrained to existing public roads that have the physical geometry to accommodate the turning movements. For signage and controls requirements in these cases refer to Section 5.11. The vehicle routes as shown in Figure 5.2.

All vehicles will enter the site through the entry gates off Culloden Road. Vehicles will travel from the north (via M2 Motorway) and turn left into the site through the appropriate gate on Culloden Road.

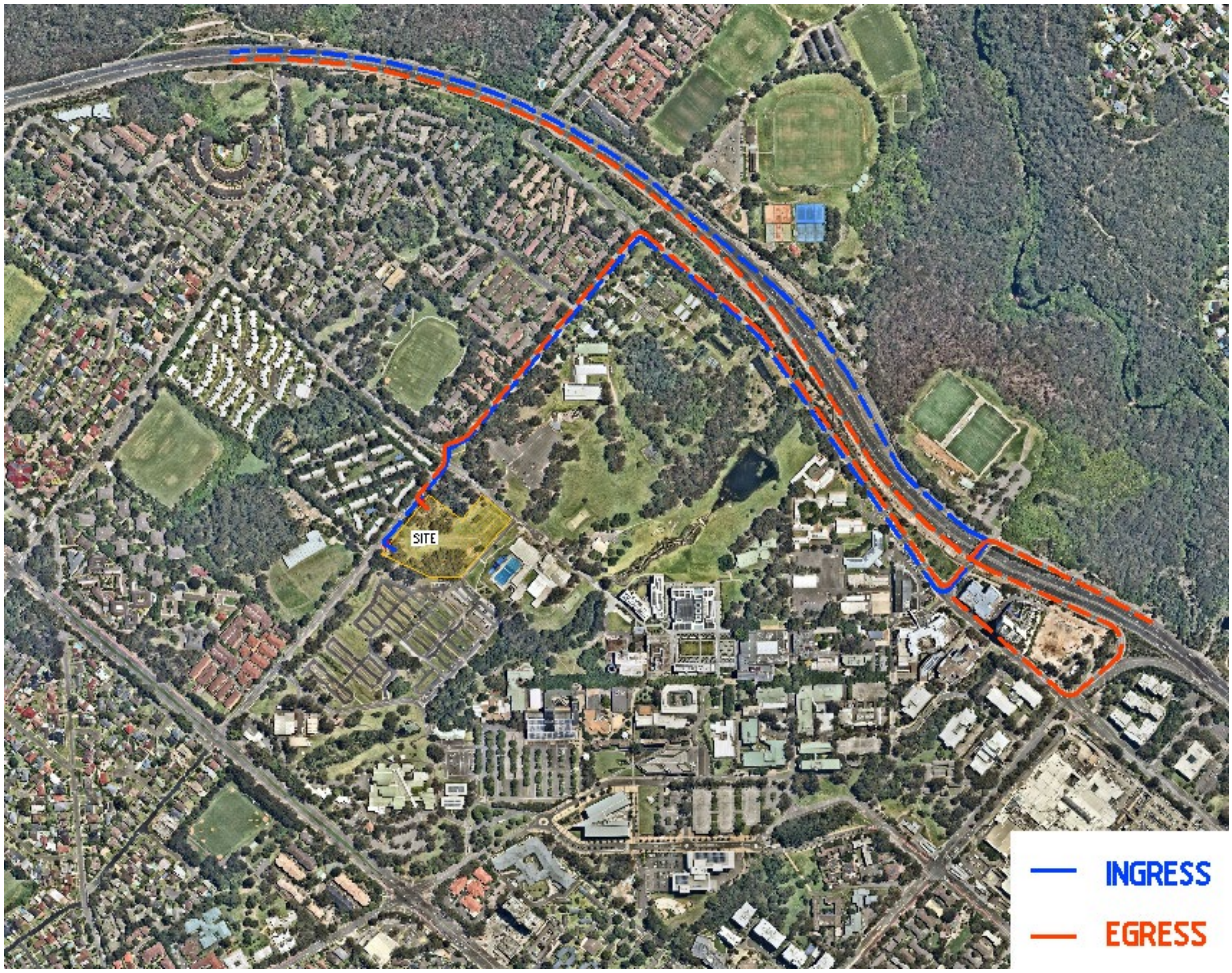


Figure 5.2: Construciton Vehicle Routes

5.9.1 Key Intersections

The key intersections for the proposed site are based on the construction vehicle routes. The key intersections in the vicinity of the site and their characteristics are listed below and shown in Figure 5.3.

1. Culloden Road / Gymnasium Road — 3 leg priority intersection
2. Waterloo Road / Culloden Road — 3 leg priority roundabout
3. Culloden Road / Talavera Road — 4 leg priority roundabout
4. Talavera Road / Christie Road — 3 leg signalised intersection
5. Christie Road / M2 Motorway Access Road — 4 leg signalised intersection

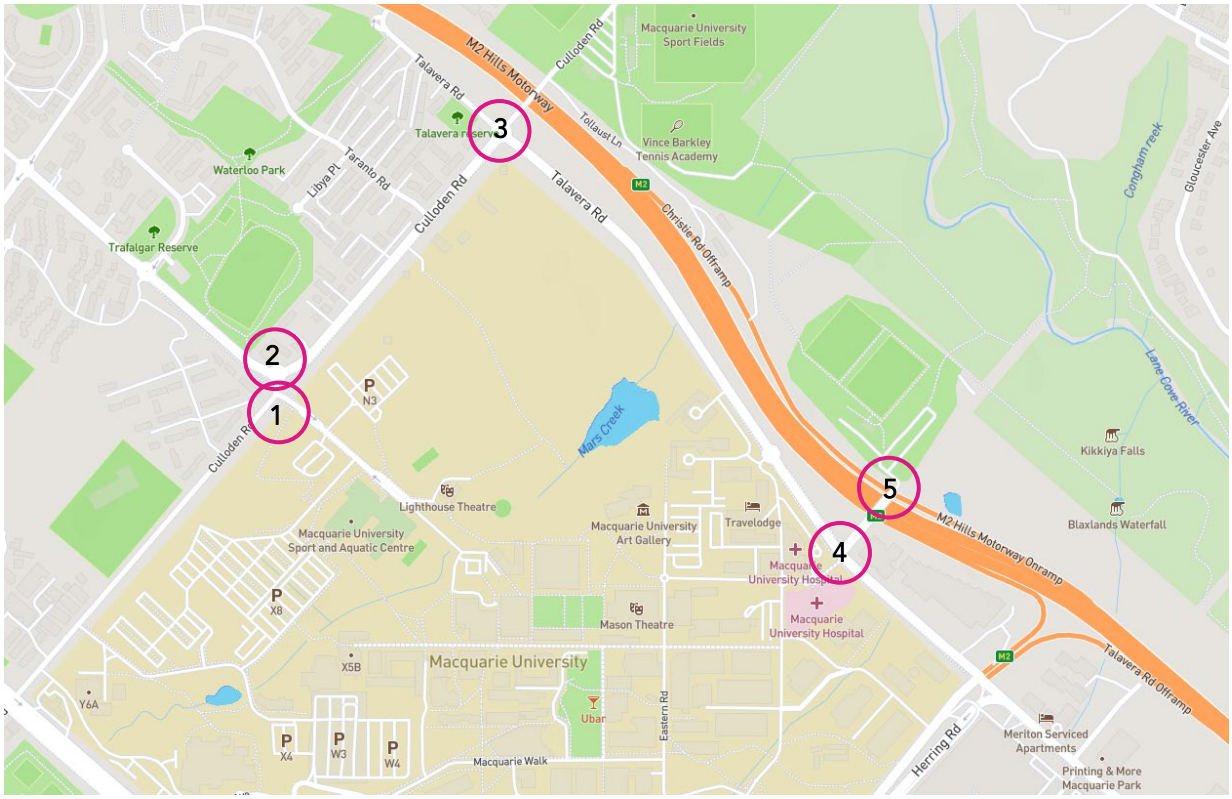


Figure 5.3: Key Intersections

5.9.2 Swept Path Assessment

As discussed in Section 5.8, the largest anticipated vehicle approaching the site will be an Articulated Vehicle (19m). The construction trucks are to enter and exit the site via Culloden Road. Two gates will be established for entering and exiting trucks. The gate and driveway need to be suitably wide to accommodate an AV (19m) and Truck and Dog (18.1m). A swept path assessment of an AV and Truck and Dog entering and exiting the site via the Culloden Road Gates is shown in Appendix A.

When entering and exiting the site the vehicles need to use the surrounding road network and intersections. For this reason, a swept path assessment has been undertaken to confirm that all required vehicle movements are possible. Appendix A details the truck routes and swept paths for access/egress to the site.

Any control measures are described in Appendix B.

5.10 Road Rules 2014 – NSW Legislation Regulation 28

The following has been extracted from the road rules which allows for the use of multi-lanes to perform a left turn manoeuvre for the proposed heavy vehicles.

A driver may approach and enter the intersection from the marked lane next to the left lane as well, or instead of, the left lane if:

(a) the driver's vehicle, together with any load or projection, is 7.5 metres long, or longer, and

(b) the vehicle displays a do not overtake turning vehicle sign, and

(c) any part of the vehicle is within 50 metres of the nearest point of the intersection, and

(d) it is not practicable for the driver to turn left from within the left lane, and

(e) the driver can safely occupy the next marked lane and can safely turn left at the intersection by occupying the next marked lane, or both lanes.

The construction vehicles that require the use of multi-lanes all exceed 7.5m in length and meets all other requirements stipulated in the regulation. Therefore, the swept path assessment has been undertaken utilising multi-lanes to perform turning manoeuvres when necessary.

5.11 Work Zone

A Loading Zone shall be in place along Culloden Road between the two site gates, throughout stages 2 and 3, in place of existing on-street parking.

5.12 Special Deliveries

Whilst not anticipated, any oversized vehicle that is required to travel to the site will be dealt with separately, with the submission of required permits to and subsequent approval by the City of Ryde Council prior to any delivery.

5.13 Parking

Construction workers will be directed not to park vehicles on-street and arrangements have been made with MQU to allocate parking spaces for construction staff. Additionally, construction staff will be encouraged to travel to the site via public transport or carpool to reduce vehicles accessing the site.

5.14 Work Site Security

Where necessary, construction fencing around the site will be erected to provide security to the work site and protection to the public. Prior to commencement of works the contractor will facilitate a Safety Workshop where any stakeholders shall be invited to identify site specific safety and security initiatives.

All access points are to be securely locked when construction activities are not in progress.

The site boundary shall consist of A-Class hoardings installed and maintained on all work fronts, to prevent unauthorised access. Site offices will be locked and alarmed when not in use and will be monitored by security cameras. A turnstile shall be in place at the site entry to control access.

All external lighting shall be in compliance with AS4282-2019 Control of the obtrusive effects of outdoor lighting.

Figure 5.4 shows the extent of hoardings and site access.

Figure 5.4 - Work Site Hoardings and Access Plan (Source: ADCO CMP)

5.15 Plant/Equipment Management

At the commencement of construction, plant and equipment, including construction hoarding/scaffolding material, site sheds, mobile cranes and machinery will be required to be delivered to the site. The delivery and removal of plant and equipment to and from the site will be undertaken from the on-site materials handling/loading area, via the use of machine floats.

The delivery and removal of plant and equipment that requires a wide or long load vehicle will be subject to a separate application/permit and separate prior approval from Council and other relevant authorities. To minimise traffic disruption during the delivery of the plant and equipment, it is proposed to undertake this work during periods of reduced traffic. All plant and equipment deliveries will be carried out in accordance with Council's requirements and the NSW Police regulations.

5.16 Spoil Management

Contaminated material will be checked, sorted and treated prior to the removal from the site. Contaminated material will be classified in accordance with the provisions of the Protection of the 'Environment Operations Act 1997 and the NSW DECC Waste Classification Guidelines, Part 1: Classifying Waste (April 2008)'.

All construction work involving the removal and disposal of asbestos cement will be undertaken by appropriately qualified contractors duly licensed with SafeWork NSW, holding either a Friable (Class A) or a Non-Friable (Class B) Asbestos Removal License whichever applies.

All vehicles leaving the site will be cleaned. The construction contractor will be responsible for locating a truck wash facility or other appropriate cleaning mechanism adjacent to the construction access driveways. Any run-off from the washing down of vehicles will be directed to the sediment control system to be located within the site.

The loading of spoil onto trucks will be carried out on-site in an approved and controlled manner. The management of the on-site materials handling/loading area and the movement of trucks on and off the site will be the responsibility of the contractor.

5.17 Staff Induction

All staff and subcontractors engaged on site will be required to undergo a site induction. The induction will include permitted access routes to and from the construction site for all vehicles, as well as standard environmental, OH&S, driver protocols and emergency procedures. Additionally, the lead contractor will discuss CPTMSP requirements regularly as a part of toolbox talks and advise workers of public transport and car-pooling opportunities.

5.18 Emergency Vehicle Access

The proposed traffic control arrangements do not propose closure of any local roads. Any emergency vehicles requiring access to the project site will do so via Culloden Road.

A detailed Emergency Management Plan will be further developed by the contractor prior to site establishment works.

5.19 Pedestrian Management

Pedestrian access to, from and around the site is to be always maintained. The entire site will be physically separated from pedestrians by A-Class hoarding. The access points to the site will be securely locked when the construction activities are not occurring. The hoarding will be fitted with appropriate public directional/wayfinding signage where required.

5.19.1 Footpath Closures and Detours

Any detours or closure of footpaths are to be suitably signposted with appropriate wayfinding for pedestrians. Details for the closure and pedestrian detour of the Culloden Road footpath along the site frontage and appropriate signage is detailed in Appendix B.

The detour requires pedestrians to cross a two way, two lane road (Culloden Road) that has a straight alignment and sufficient sight distances for safe pedestrian crossing. The crossing proposed in the detour complies with suitable design considerations found in Austroads Guide to Road Design Part 4 (Crossings and Intersections) including;

- Being of the shortest distance possible
- Being oriented perpendicular to the carriageway
- Having sight distances with a clear view of both vehicles and pedestrians, and not located immediately over a crest
- Having suitable access to either side of the crossing

As such the proposed pedestrian detour and crossing on Culloden Road does not introduce unacceptable safety risks for pedestrian users.

An additional pedestrian detour shown in Figure 5.5 are a result of the closure of a footpath that previously ran through the site. This detour travels safely through the MQU grounds, and as such does not introduce safety unacceptable safety risks for pedestrians. Additionally, this detour significantly reduces the need to use

the footpath through the Work Zone along Culloden Road from Stage 2 of construction/demolition and further enhances pedestrian safety as it minimises the need for construction vehicles to enter into the MQU site, potentially causing conflicts.

Figure 5.5 - Proposed Pedestrian Detours (Source: ADCO CMP)

5.20 Access to Adjoining Properties

Access to all adjoining properties will be maintained throughout the works. The adjacent landowners will be notified of works via letter box distribution and road signage to advised of anticipated truck movements in operation with access to adjoining properties being always maintained.

5.21 Traffic and Parking Impacts

Anticipated construction vehicle volumes are in the order of 50 vehicles per day, which are expected to be coordinated to occur outside of peak AM and PM hours where possible. As such, the impact on the local traffic network is expected to be minimised. The queuing and marshalling of trucks on public roads is not permitted, and the arrival of trucks shall be coordinated and organised to minimise the effects on the local road network.

There will be minimal impacts on the public transport network in the area given the truck routes largely follow major state and regional roads. Public transport services are not present in direct vicinity of the site on Culloden Road.

Impacts on pedestrians and cyclists will occur during stage 2, where it is advised that a detour for pedestrians and cyclists is in place to keep them clear of the site gates on the eastern side of Culloden Road.

5.21.1 Impacts to On-Street Parking

Culloden Road, directly along the site frontage, provides 34 parking spaces including both sides of the road. The provision of the two site gates on Culloden Road will result in the loss of 6 parking spaces on the eastern side of the road, which will continue throughout the duration of the project.

From Stage 2 works, the proposed Culloden Road loading zone / Works Zone will result in the loss of an additional 12 parking spaces. Given the number of spaces available along Culloden Road, the loss of 18 spaces is deemed to be of minimal impact.

Furthermore, given that prior to pre-construction activities and outside of COVID-19 lockdown restrictions the utilisation of on-street parking on Culloden Road was, on average, less than 100% and of the utilised spaces, up to 24% were P Platers and assumed to be students. Data regarding street parking utilisation directly in front of the site on Culloden Road is shown in Table 5.3 with the following assumptions:

- Data has been sampled from November and December 2021 to negate impacts of heath restrictions due to the COVID-19 lockdown restrictions, in addition to other dates.
- Data has been sampled from pre- COVID-19 dates.
- Vehicles with P plates are assumed to be students at the university,
- A blank cell indicates data (either street view or aerial photo) is unavailable for that month

Table 5.3: On-Street Parking Data

Date	Vacant Spaces	Student Vehicles	Total Utilisation	Student Utilisation
September 2019	4		88%	
October 2019	0		100%	
November 2019		3		9%
February 2020	3		91%	
October 2021	11		68%	
November 2021		8		24%
December 2021	10		71%	

The existing provision of approximately 1,360 off street parking bays in close proximity to the site negates the detrimental impacts of temporarily removing these on-street parking spaces. In total, MQU provides 4,800 off street parking spaces.

Consultation between ADCO and MQU has been undertaken to clarify that MQU are not opposed to the temporary removal of on-street spaces. Additionally, by providing a Works Zone along Culloden Road, construction vehicles are prevented from entering MQU, which greatly improves the safety of MQU users, particularly pedestrians and cyclists nearby the site. It is also noted, that MQU shall be providing additional parking spaces for workers onsite, therefore construction activities are expected to have minimal impact on the on-street parking facilities remaining.

Based on the data above, it is reasonable to expect that removal of these on-street spaces will not cause detrimental impact on the parking needs for MQU.

5.21.2 Alternatives and Mitigation

Parking on Culloden Road will be monitored in conjunction with the provision by MQU and if required, ADCO shall arrange for the provision of additional parking spaces elsewhere on the MQU campus.

5.22 Cumulative Effect of Adjacent Developments

Item (k) of Condition C10 requires that this CPTMSP take into consideration the combined construction activities of other development in the surrounding area by engaging and consulting with developers of major development works within a 250m radius of the subject site. As of the time of publishing, there are no construction sites (current or proposed) within a 250m radius of the subject site. However, should the Project Manager become aware of any throughout the duration of construction, it is expected that this CPTMSP will be updated accordingly.

These communications must be documented and submitted to Council. During the construction phase, liaison with adjacent developments will be undertaken to mitigate the cumulative effect of the concurrent works. This will include the coordination of truck movements to prevent the combined impact of construction activities.

5.23 Occupational Health and Safety

Any workers required to undertake works or traffic control within the public domain shall be suitably trained and will be covered by adequate and appropriate insurances. All traffic control personnel will be required to hold TfNSW accreditation in accordance with Section 8 of Traffic Control at Worksites.

The comprehensive Work Health & Safety Management Plan will be provided by the Builders and shall be constantly reviewed as the design and construction methodology progress.

5.24 Maintenance of Roads and Footpaths

The roads and footpaths along the route of travel will be always kept in a serviceable state. Damage arising because of the proposed truck movements will be repaired by the principal contractor at no cost to Council.

5.25 Method of Communicating Traffic Changes

TGSs in accordance with Australian Standards (AS 1742.3 – Traffic Control Devices for Works on Roads) and TCAWS manual will advise motorist of upcoming changes in the road network.

The contractor shall each morning, prior to work commencing, ensure all signage is erected in accordance with the TGS and clearly visible. Each evening, upon completion of work, the contractor is to ensure signage is either covered or removed as required. Sign size is to be size "A".

No deviation from the approved TGS shall be permitted, unless otherwise approved by Council and certified by an TfNSW accredited personnel.

The associated TGS road signage will inform drivers of works activities in the area including truck movements in operation.

Prior to commencement of works on site the contractor is to inform neighbouring properties of proposed works and provide site contact information by means of a letter box distribution.

5.26 Hazard and Risk Identification

All construction projects entail a set of risks—from a transport perspective—that may need to be mitigated. Some of these hazards and risks are related to:

- moving traffic
- queued traffic
- site vehicle access and egress points
- topographical constraints

This is appropriate for the construction of NextSense Centre of Excellence because of the following:

- The closeness of the Culloden / Waterloo and Culloden / Gymnasium intersections may result in extended queuing of vehicles which may impact on truck access to the site and delay schedules.
  Risk Matrix Reference: R1
- Access and egress from the site, particularly any reverse entry manoeuvres, may cause queuing of traffic or impede the path of pedestrians and road users.

  Risk Matrix Reference: R2
- Pedestrian detours during stage 2 works require pedestrians to cross Culloden Road, leading to a potential interaction between vulnerable pedestrians and road users.

  Risk Matrix Reference: R3

As there is no guarantee that the contractor responsible for implementing the TGSs are fully aligned with the intention of this traffic report, this remains a risk to be assessed. As such, a risk matrix has been prepared as shown in Table 12 using the following definitions:

Risk Rating

- Very High (VH)
- High (H)
- Medium (M)
- Low (L)

Consequence

- Insignificant: Illness, first aid or injury not requiring medical treatment. No lost time.
- Minor: Minor injury or illness requiring medical treatment. No lost time post medical treatment.
- Moderate: Minor injuries or illnesses resulting in lost time.
- Major: 1 to 10 serious injuries or illnesses resulting in lost time or potential permanent impairment\
- Severe: single fatality and/or 11 to 20 serious injuries or illnesses* resulting in lost time or potential permanent impairment.
- Catastrophic: multiple fatalities and/or more than 20 serious injuries or illnesses* resulting in lost time or potential permanent impairment.

Likelihood

- Almost certain: expected to occur multiple times (10 or more times) during any given year
- Very likely: expected to occur occasionally (1 to 10 times) during any given year.
- Likely: expected to occur once during any given year.
- Unlikely: expected to occur once every 1 to 10 years.
- Very unlikely: expected to occur once every 10 to 100 years.
- Almost unprecedented: not expected to occur in the next 100 years.

Table 5.4: Risk Matrix

	Consequence						
		Insignificant C6	Minor C5	Moderate C4	Major C3	Severe C2	Catastrophic C1
Likelihood	Almost certain L1						
	Very likely L2						
	Likely L3		R1, R2				
	Unlikely L4				R3		
	Very unlikely L5						
	Almost unprecedented L6						

Some recommended risk mitigation measures include:

- Council to monitor the implementation of the Traffic Guidance Schemes (TGSs). As necessary, the appropriate officer visiting the site shall have the authority to enforce compliance with illegal parking. This will also allow documentation of any form of illegal parking or parking contrary to this CPTMSP.
- The use of traffic controllers around the site entry gate to ensure pedestrian and traffic movements are not affected by the vehicles entering and exiting the site and to provide safety and guidance during pedestrian detours. Traffic Controllers are NOT to stop traffic on the public street(s) to allow trucks to enter or leave the site. They MUST wait until a suitable gap in traffic allows them to assist trucks to enter or exit the site. The Roads Act does not give any special treatment to trucks leaving a construction site - the vehicles already on the road have right-of-way.

5.27 Contact Details for On-Site Enquiries and Site Access

Nick Tragoutsis

Senior Project Manager

ntragoutsis@adcoconstruct.com.au

0447 510 803

5.28 Driver Code of Conduct

All drivers shall adhere to the Driver Code of Conduct, outlined in Appendix D.

6 Traffic Guidance Schemes

The Traffic Guidance Scheme (TGS) shown in Appendix B and outlines the proposed traffic management to inform road users of the changed traffic conditions in the vicinity of the works site. The TGS must be set out in accordance with Issue 6.0 of the Traffic control at work sites Technical Manual, November 2020 (TCAWS).

It has been demonstrated that drivers become complacent to roadwork signage when it is misused, left out or not appropriate for the works. This includes irrelevant roadwork signage left out during aftercare or the use of PREPARE TO STOP (T1-18) or traffic controller symbolic (T1-34) sign while the traffic control is not present. Not only does this affect the credibility of the work site, but it can also lessen the efficacy of the signs when next encountered by the drivers.

It is noted that any changes to the existing parking restrictions will require a minimum fourteen (14) days notification to adjoining property owners prior to the implementation of any temporary traffic control measures.

Any revisions or additional TGSs must be prepared by a SafeWork NSW qualified person upon engagement of the traffic management contractor and prior to commence of works on site.

6.1 TGS Verification

The TGS has been approved as being appropriate for use at the work site. Site confirmation must be undertaken via the completion of the TGS verification.

A TGS verification must be undertaken to confirm the selected or designed TGS is fit for purpose. A TGS verification must be completed in accordance with Section 8.1.2 TGS verification by an ITCP or SafeWork NSW qualified person. TGS verification must include an inspection of the work site where the TGS will be implemented.

6.2 TGS Approval

The SafeWork NSW qualified person who has designed or modified the relevant TGS has approved the TGS for use. Approval of the TGS includes:

- Review of the relevant TMP, risk assessment and associated TTM specific documentation;
- Design, redesign or modification of the TGS must be in accordance with the requirements of TCAWS;
- Confirmation that the TGS provides the relevant information for the ITCP person to safely implement on-site.

The one up manager of the SafeWork NSW qualified person has approved the TGS, including:

- Any non-standard or unaccepted signs or devices;
- Any departures from the requirements of TCAWS;
- If a manual traffic controller is proposed for use.

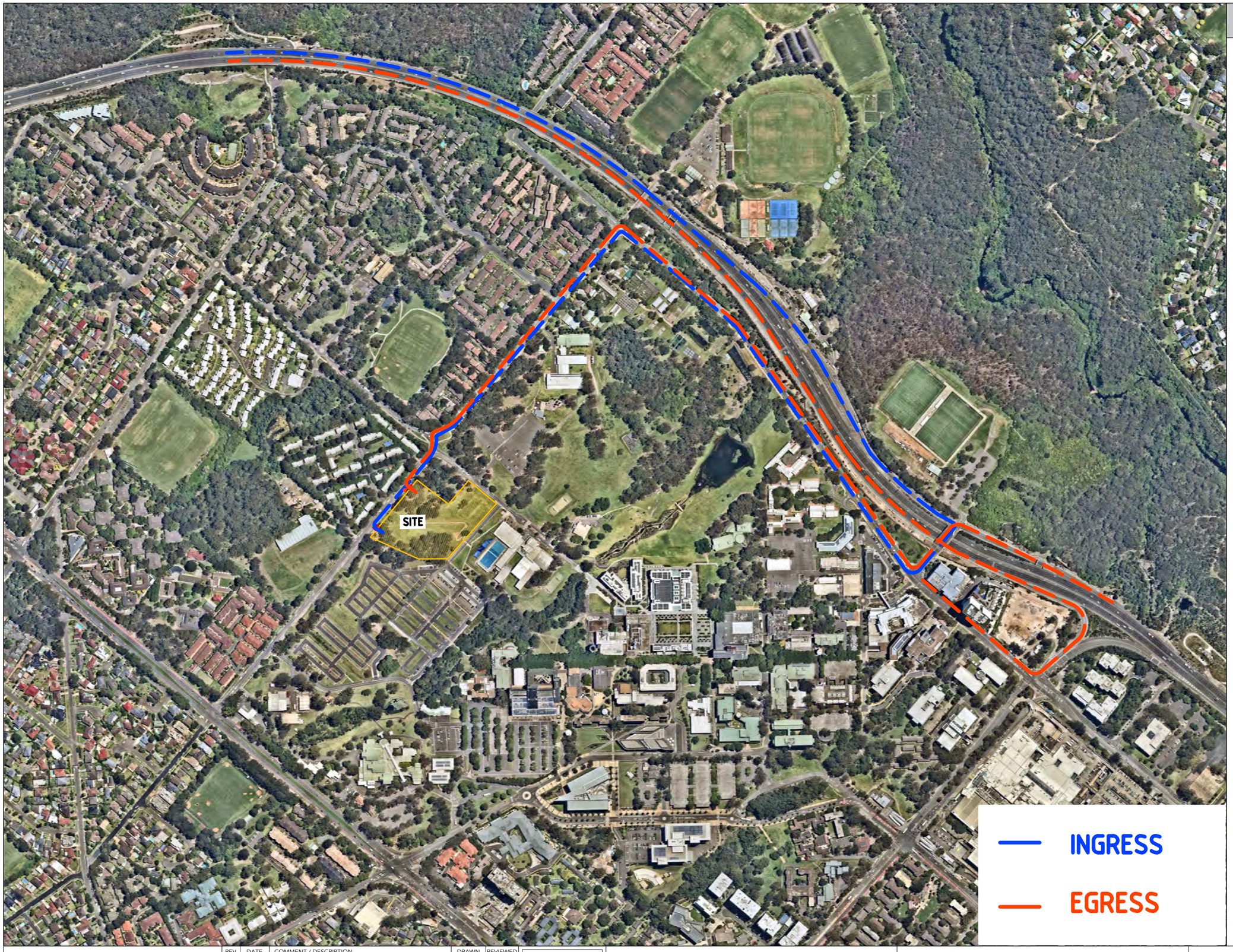
7 Summary

This CPTMSP has been prepared to outline the construction traffic measures to improve site safety to the public and workers during the construction process of NextSense Centre of Excellence in Marsfield.

With the measures described in the CPTMSP in place, the construction activity is anticipated to have minimal disruption to the daily activities within the vicinity of the site.

It is envisaged that this document will be reviewed during the construction phase and amended if required, due to changes in design, TfNSW, local council or any other authority requirements.

Appendix A Vehicle Swept Paths



comments | A3

Suite 502, 1 James Place
North Sydney NSW 2060

t +61 2 8920 0800

ptcconsultants.co

REV	DATE	COMMENT / DESCRIPTION	DRAWN	REVIEWED
P1	14/03/22	FOR INFORMATION	JAJ	

PROJECT
NEXTSENSE

DRAWING TITLE
TRUCK ROUTE TO / FROM SITE

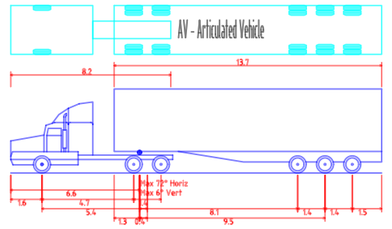
CLIENT	ADCO
DRAWING #	PTC-001
PROJECT #	22-0116
SCALE	NTS @ A3

PRELIMINARY

REV P1

comments

A3



AV – Articulated Vehicle	
Overall Length	19.000m
Overall Width	2.500m
Overall Body Height	4.301m
Min Body Ground Clearance	0.418m
Track Width	2.500m
Lock-to-lock time	6.00s
Curb to Curb Turning Radius	12.500m

The turning paths illustrated in this drawing have been prepared using the Autotrack vehicle modelling software in conjunction with AutoCAD. The vehicle model was prepared by Analytico Pty Ltd based upon vehicle data provided by Austroads. While this modelling represents a conservative assessment of the vehicles ability, it is not possible to account for all vehicle types/characteristics or driver ability.

Suite 502, 1 James Place
North Sydney NSW 2060

t +61 2 8920 0800

ptcconsultants.co

REV	DATE	COMMENT / DESCRIPTION	DRAWN	REVIEWED
P1	14/03/22	FOR INFORMATION	JAJ	

PROJECT
NEXTSENSE

DRAWING TITLE
STAGE 1 SITE ACCESS/EGRESS
ARTICULATED VEHICLE.
FORWARD ENTRY GATE 1, FORWARD EXIT GATE 2

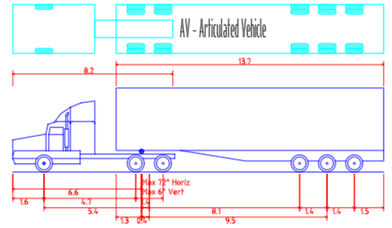
CLIENT	ADCO
DRAWING #	PTC-002
PROJECT #	22-0116
SCALE	1 : 500 @ A3

PRELIMINARY

REV P1

comments

A3



AV – Articulated Vehicle	
Overall Length	19.000m
Overall Width	2.500m
Overall Body Height	4.301m
Min Body Ground Clearance	0.418m
Track Width	2.500m
Lock-to-lock time	6.00s
Curb to Curb Turning Radius	12.500m

The turning paths illustrated in this drawing have been prepared using the Autotrack vehicle modelling software in conjunction with AutoCAD. The vehicle model was prepared by Analytico Pty Ltd based upon vehicle data provided by Austroads. While this modelling represents a conservative assessment of the vehicles ability, it is not possible to account for all vehicle types/characteristics or driver ability.

Suite 502, 1 James Place
North Sydney NSW 2060

t +61 2 8920 0800

ptcconsultants.co

REV	DATE	COMMENT / DESCRIPTION	DRAWN	REVIEWED
P1	14/03/22	FOR INFORMATION	JAJ	

PROJECT
NEXTSENSE

DRAWING TITLE
STAGE 1 ARTICULATED VEHICLE.
FORWARD ENTRY GATE 1, FORWARD EXIT GATE 2

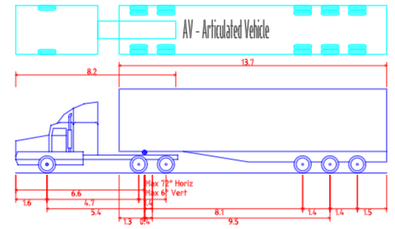
CLIENT	ADCO
DRAWING #	PTC-003
PROJECT #	22-0116
SCALE	1 : 100 @ A3

PRELIMINARY

REV P1

comments

A3



AV – Articulated Vehicle	
Overall Length	19.000m
Overall Width	2.500m
Overall Body Height	4.301m
Min Body Ground Clearance	0.418m
Track Width	2.500m
Lock-to-lock time	6.00s
Curb to Curb Turning Radius	12.500m

The turning paths illustrated in this drawing have been prepared using the Autotrack vehicle modelling software in conjunction with AutoCAD. The vehicle model was prepared by Analytico Pty Ltd based upon vehicle data provided by Austroads. While this modelling represents a conservative assessment of the vehicles ability, it is not possible to account for all vehicle types/characteristics or driver ability.

Suite 502, 1 James Place
North Sydney NSW 2060

t +61 2 8920 0800

ptcconsultants.co

REV	DATE	COMMENT / DESCRIPTION	DRAWN	REVIEWED
P1	14/03/22	FOR INFORMATION	JAJ	

PROJECT
NEXTSENSE

DRAWING TITLE
STAGE 2 ARTICULATED VEHICLE SITE ACCESS/EGRESS.
FORWARD ENTRY/EXIT GATE 1 WITH U-TURN.
REVERSE ENTRY GATE 2.

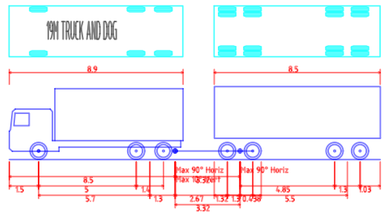
CLIENT	ADCO
DRAWING #	PTC-004
PROJECT #	22-0116
SCALE	1 : 100 @ A3

PRELIMINARY

REV P1

comments

A3



19M TRUCK AND DOG	
Overall Length	19.000m
Overall Width	2.600m
Overall Body Height	3.738m
Min Body Ground Clearance	0.427m
Track Width	2.500m
Lock-to-lock time	4.00s
Wall to Wall Turning Radius	12.000m

The turning paths illustrated in this drawing have been prepared using the Autotrack vehicle modelling software in conjunction with AutoCAD. The vehicle model was prepared by Analytico Pty Ltd based upon vehicle data provided by Austroads. While this modelling represents a conservative assessment of the vehicles ability, it is not possible to account for all vehicle types/characteristics or driver ability.

Suite 502, 1 James Place
North Sydney NSW 2060

t +61 2 8920 0800

ptcconsultants.co

REV	DATE	COMMENT / DESCRIPTION	DRAWN	REVIEWED
P1	14/03/22	FOR INFORMATION	JAJ	

PROJECT
NEXTSENSE

DRAWING TITLE
STAGE 1 SITE ACCESS/EGRESS TRUCK AND DOG.
FORWARD ENTRY GATE 1, FORWARD EXIT GATE 2

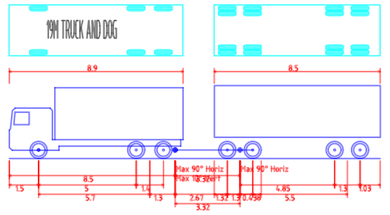
CLIENT	ADCO
DRAWING #	PTC-005
PROJECT #	22-0116
SCALE	1 : 500 @ A3

PRELIMINARY

REV P1

comments

A3



19M TRUCK AND DOG	
Overall Length	19.000m
Overall Width	2.600m
Overall Body Height	3.738m
Min Body Ground Clearance	0.427m
Track Width	2.500m
Lock-to-lock time	4.00s
Wall to Wall Turning Radius	12.000m

The turning paths illustrated in this drawing have been prepared using the Autotrack vehicle modelling software in conjunction with AutoCAD. The vehicle model was prepared by Analytico Pty Ltd based upon vehicle data provided by Austroads. While this modelling represents a conservative assessment of the vehicles ability, it is not possible to account for all vehicle types/characteristics or driver ability.

Suite 502, 1 James Place
North Sydney NSW 2060

t +61 2 8920 0800

ptcconsultants.co

REV	DATE	COMMENT / DESCRIPTION	DRAWN	REVIEWED
P1	14/03/22	FOR INFORMATION	JAJ	

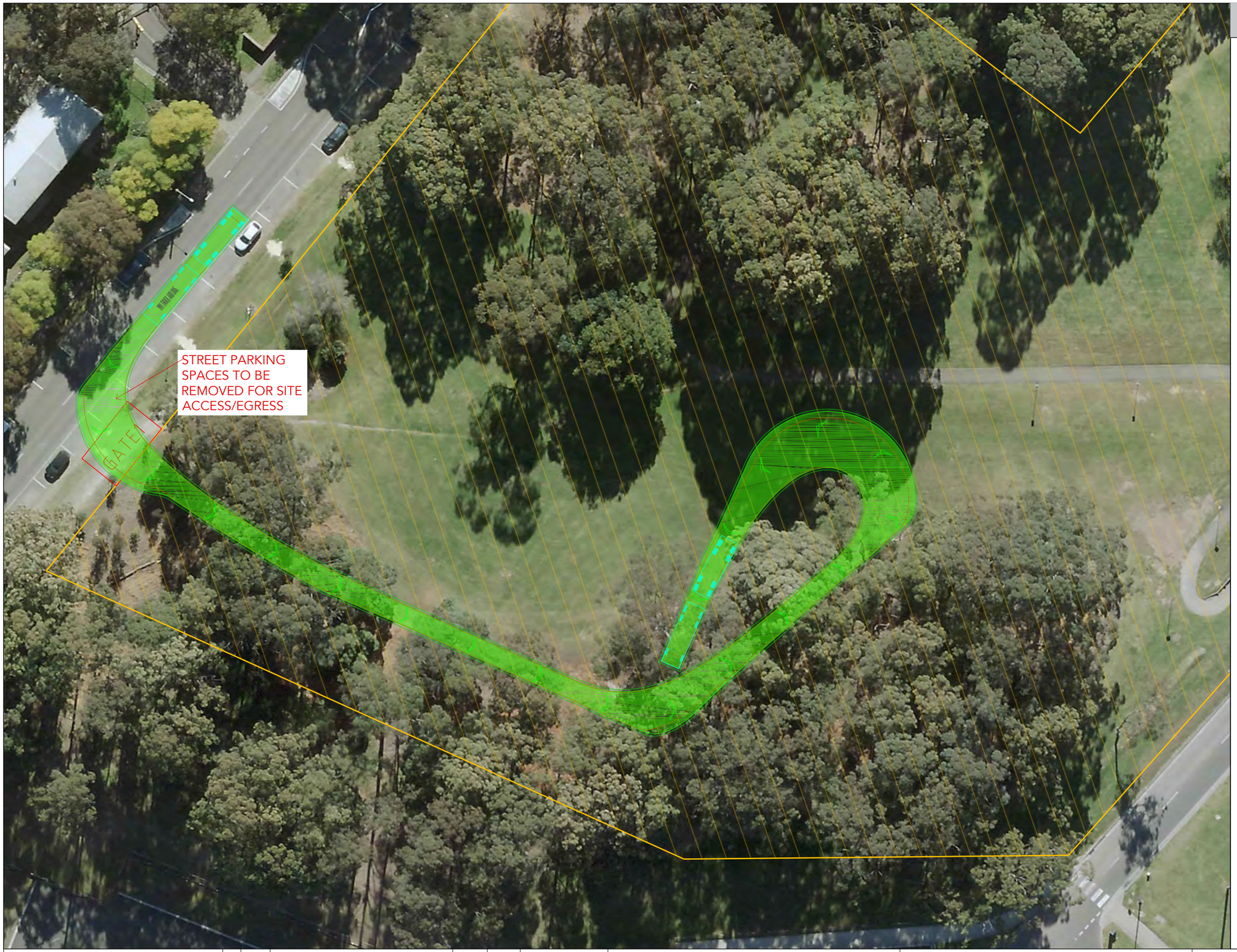
PROJECT
NEXTSENSE

DRAWING TITLE
STAGE 1 TRUCK AND DOG ON SITE
FORWARD ENTRY GATE 1, FORWARD
EXIT GATE 2

CLIENT	ADCO
DRAWING #	PTC-006
PROJECT #	22-0116
SCALE	1 : 500 @ A3

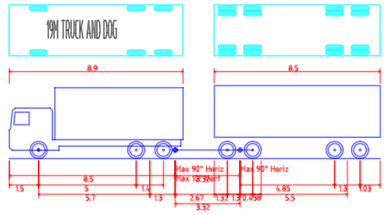
PRELIMINARY

REV P1



comments

A3



19M TRUCK AND DOG	
Overall Length	19.000m
Overall Width	2.600m
Overall Body Height	3.738m
Min Body Ground Clearance	0.427m
Track Width	2.500m
Lock-to-lock time	4.00s
Wall to Wall Turning Radius	12.000m

The turning paths illustrated in this drawing have been prepared using the Autotrack vehicle modelling software in conjunction with AutoCAD. The vehicle model was prepared by Analytico Pty Ltd based upon vehicle data provided by Austroads. While this modelling represents a conservative assessment of the vehicles ability, it is not possible to account for all vehicle types/characteristics or driver ability.

Suite 502, 1 James Place
North Sydney NSW 2060

t +61 2 8920 0800

ptcconsultants.co

REV	DATE	COMMENT / DESCRIPTION	DRAWN	REVIEWED
P1	14/03/22	FOR INFORMATION	JAJ	

PROJECT
NEXTSENSE

DRAWING TITLE
STAGE 2 TRUCK AND DOG ON SITE FORWARD ENTRY GATE 1, FORWARD EXIT GATE 1

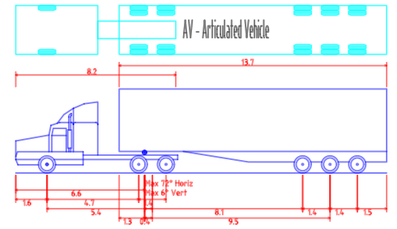
CLIENT	ADCO
DRAWING #	PTC-007
PROJECT #	22-0116
SCALE	1 : 500 @ A3

PRELIMINARY

REV P1

comments

A3



AV – Articulated Vehicle	
Overall Length	19.000m
Overall Width	2.500m
Overall Body Height	4.301m
Min Body Ground Clearance	0.418m
Track Width	2.500m
Lock-to-lock time	6.00s
Curb to Curb Turning Radius	12.500m

The turning paths illustrated in this drawing have been prepared using the Autotrack vehicle modelling software in conjunction with AutoCAD. The vehicle model was prepared by Analytico Pty Ltd based upon vehicle data provided by Austroads. While this modelling represents a conservative assessment of the vehicles ability, it is not possible to account for all vehicle types/characteristics or driver ability.

Suite 502, 1 James Place
North Sydney NSW 2060

t +61 2 8920 0800

ptcconsultants.co

REV	DATE	COMMENT / DESCRIPTION	DRAWN	REVIEWED
P1	14/03/22	FOR INFORMATION	JAJ	

PROJECT
NEXTSENSE

DRAWING TITLE
ARTICULATED VEHICLE ROUTE
CULLODEN ROAD

CLIENT	ADCO
DRAWING #	PTC-012
PROJECT #	22-0116
SCALE	1 : 400 @ A3

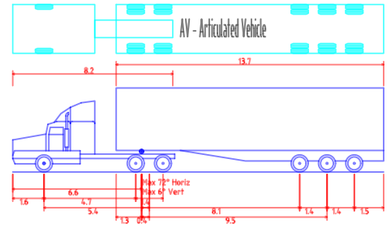
PRELIMINARY

REV P1

KERB AND MEDIAN
RESTRICT TRUCK (AV)
MOVEMENT.
CUT BACK KERB TO
FACILITATE MOVEMENT

comments

A3



AV – Articulated Vehicle	
Overall Length	19.000m
Overall Width	2.500m
Overall Body Height	4.301m
Min Body Ground Clearance	0.418m
Track Width	2.500m
Lock-to-lock time	6.00s
Curb to Curb Turning Radius	12.500m

The turning paths illustrated in this drawing have been prepared using the Autotrack vehicle modelling software in conjunction with AutoCAD. The vehicle model was prepared by Analytico Pty Ltd based upon vehicle data provided by Austroads. While this modelling represents a conservative assessment of the vehicles ability, it is not possible to account for all vehicle types/characteristics or driver ability.

Suite 502, 1 James Place
North Sydney NSW 2060

t +61 2 8920 0800

ptcconsultants.co

REV	DATE	COMMENT / DESCRIPTION	DRAWN	REVIEWED
P1	14/03/22	FOR INFORMATION	JAJ	

PROJECT
NEXTSENSE

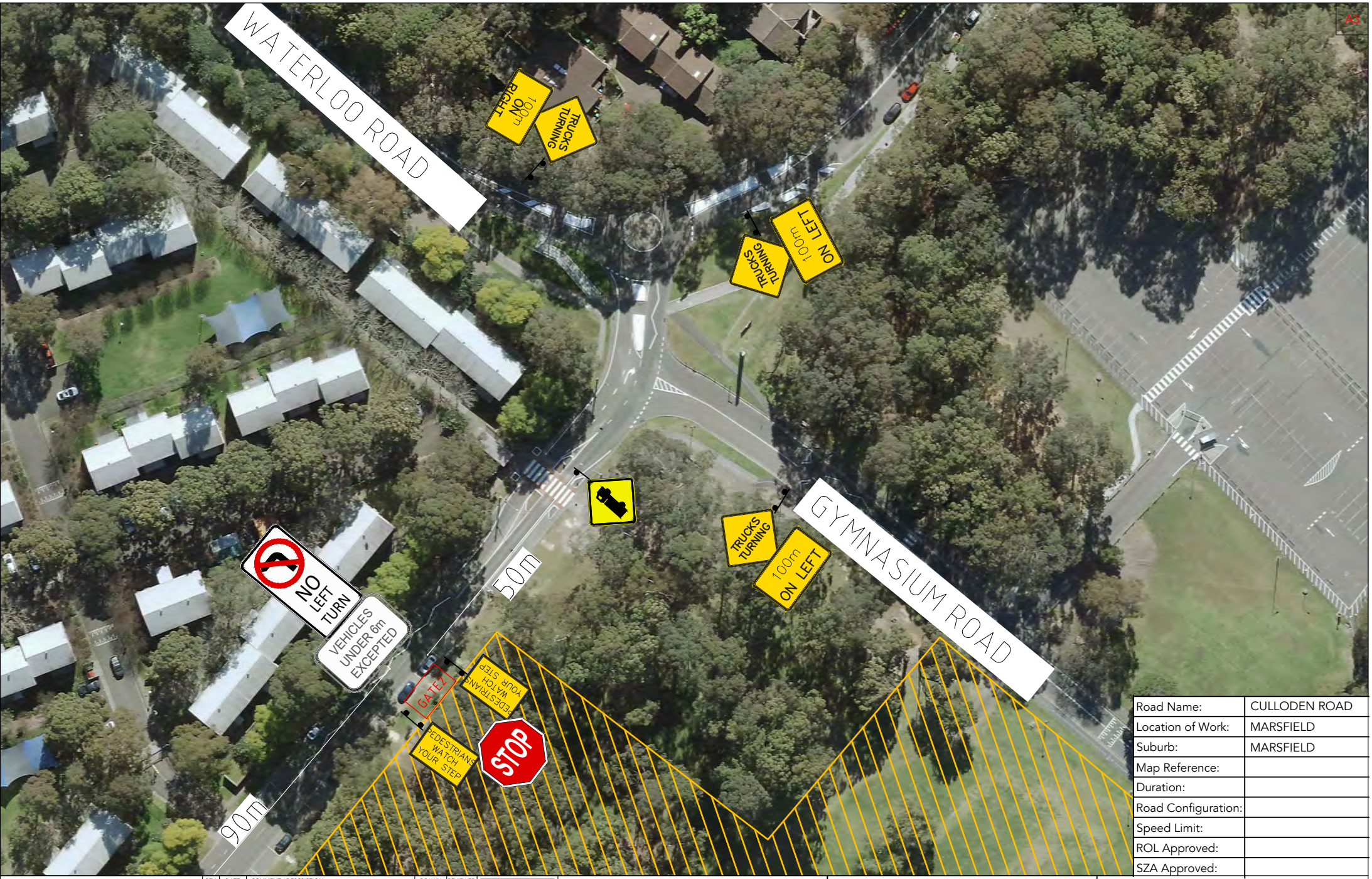
DRAWING TITLE
ARTICULATED VEHICLE ROUTE
CULLODEN ROAD / TALAVERA ROAD

CLIENT	ADCO
DRAWING #	PTC-013
PROJECT #	22-0116
SCALE	1 : 400 @ A3

PRELIMINARY

REV P1

Appendix B Traffic Guidance Scheme



Road Name:	CULLODEN ROAD
Location of Work:	MARSFIELD
Suburb:	MARSFIELD
Map Reference:	
Duration:	
Road Configuration:	
Speed Limit:	
ROL Approved:	
SZA Approved:	

Suite 502, 1 James Place
North Sydney NSW 2060

t +61 2 8920 0800

ptcconsultants.co

REV	DATE	COMMENT / DESCRIPTION	DRAWN	REVIEWED
P1	14/03/22	TRAFFIC GUIDANCE SCHEME	JAJ	

PROJECT
NEXTSENSE

DRAWING TITLE
STAGE 1 TRAFFIC GUIDANCE SCHEME

Designed by:	HL
Requested by:	
Approved by:	DB
Delegation:	

CLIENT	ADCO
DRAWING #	PTC-008
PROJECT #	22-0116
SCALE	1:1000 @ A3

PRELIMINARY

REV P1

Road Name:	CULLODEN ROAD
Location of Work:	MARSFIELD
Suburb:	MARSFIELD
Map Reference:	
Duration:	
Road Configuration:	
Speed Limit:	
ROL Approved:	
SZA Approved:	

Suite 502, 1 James Place
North Sydney NSW 2060

t +61 2 8920 0800

ptcconsultants.co

REV	DATE	COMMENT / DESCRIPTION	DRAWN	REVIEWED
P1	14/03/22	TRAFFIC GUIDANCE SCHEME	JAJ	

PROJECT
NEXTSENSE

DRAWING TITLE
STAGE 1 TRAFFIC GUIDANCE SCHEME

Designed by:	HL
Requested by:	
Approved by:	DB
Delegation:	

CLIENT	ADCO
DRAWING #	PTC-009
PROJECT #	22-0116
SCALE	1:1000 @ A3

PRELIMINARY

REV P1

Road Name:	CULLODEN ROAD
Location of Work:	MARSFIELD
Suburb:	MARSFIELD
Map Reference:	
Duration:	
Road Configuration:	
Speed Limit:	
ROL Approved:	
SZA Approved:	

Suite 502, 1 James Place
North Sydney NSW 2060

t +61 2 8920 0800

ptcconsultants.co

REV	DATE	COMMENT / DESCRIPTION	DRAWN	REVIEWED
P1	14/03/22	TRAFFIC GUIDANCE SCHEME	JAJ	

PROJECT
NEXTSENSE

DRAWING TITLE
STAGE 2 TRAFFIC GUIDANCE SCHEME

Designed by:	HL
Requested by:	
Approved by:	DB
Delegation:	

CLIENT	ADCO
DRAWING #	PTC-010
PROJECT #	22-0116
SCALE	1:1000 @ A3

PRELIMINARY

REV P1

Road Name:	CULLODEN ROAD
Location of Work:	MARSFIELD
Suburb:	MARSFIELD
Map Reference:	
Duration:	
Road Configuration:	
Speed Limit:	
ROL Approved:	
SZA Approved:	

Suite 502, 1 James Place
North Sydney NSW 2060

t +61 2 8920 0800

ptcconsultants.co

REV	DATE	COMMENT / DESCRIPTION	DRAWN	REVIEWED
P1	14/03/22	TRAFFIC GUIDANCE SCHEME	JAJ	

PROJECT
NEXTSENSE

DRAWING TITLE
STAGE 2 TRAFFIC GUIDANCE SCHEME

Designed by:	HL
Requested by:	
Approved by:	DB
Delegation:	

CLIENT	ADCO
DRAWING #	PTC-011
PROJECT #	22-0116
SCALE	1:1000 @ A3

PRELIMINARY

REV P1

Appendix C Macquarie University Works Zone Construction Licence

Macquarie University

and

Royal Institute for Deaf and Blind Children

Works Zone Construction Licence

Parties:

Macquarie University ABN 90 952 801 237 incorporated pursuant to the *Macquarie University Act 1989* (NSW) of Balaclava Road, Macquarie University NSW ("**University**")

Royal Institute for Deaf and Blind Children ABN 53 443 272 865 of 361-365 North Rocks Road, North Rocks, NSW 2151 ("**RIDBC**")

Recitals

1. The University owns the Land on which the RIDBC Building is to be situated.
2. The University has granted RIDBC rights under the AFL to construct the RIDCB Building on the Premises.
3. RIDBC wishes to use the Works Zone for the Infrastructure Works in association with the construction of the RIDC Building.
4. The Works Zone does not form part of the Premises.
5. Clause 8 of the AFL provides that RIDBC may carry out the Infrastructure Works on land outside the boundaries of the Premises if, amongst other things, the University grants an appropriate access licence to that land.
6. The University agrees to grant RIDBC a licence to use the Works Zone on the terms of this Licence.

Agreed terms

1. Interpretation

1.1 Definitions

In this Licence:

"AFL" means the Agreement for Lease dated 18 December 2020 signed by the University and RIDBC for the construction of improvements, including the RIDBC Building.

"Approval" means an approval, consent, permission or licence of any Authority which is necessary to carry out the Infrastructure Works including planning and development approvals.

"Business Day" means a day other than a Saturday, Sunday, bank or public holiday in NSW.

"Commencement Date" means the date this Licence is executed.

"Contractor" means any of the contractors engaged by the RIDBC to undertake the whole or part of the works for the RIDBC Building.

"Cost" includes any cost, charge, fee, expense or other expenditure of any nature (whether direct, indirect or consequential and whether accrued or paid), including where appropriate all legal fees.

"Date for Project Completion" has the same meaning as the term "Date for Project Completion" in the AFL.

"Dilapidation and Vegetation Report" means a report:

(a) in a form required by the University, acting reasonably;

(b) that complies with the requirements of the dilapidation report required under any Approval (if any);

(c) in written, drawn and photographic form; and

(d) that records and describes the existing physical condition (including any existing damage)

at the time the report is prepared, of the Works Zone and all trees and vegetation within the Works Zone and the land adjoining the Works Zone, including but not limited to all existing:

(i) roadways and paths;

(ii) structures and external areas (including walls, fences, gates, roads, kerbs, gutters, pavements and basements); and

(iii) services and other facilities.

"Infrastructure Works" has the same meaning as the term "Infrastructure Works" in the AFL.

"Land" means part of Lot 8 in Deposited Plan 1047085 and Lot 191 in Deposited Plan 1157041 as shown on the Plan.

"Permitted Use" means for the purpose of carrying out of the Infrastructure Works.

"Plan" means the plan dated 3 September 2021 prepared by WMK Architecture entitled "Site Plan – Scope Boundaries" being Drawing No. AR012 attached as Annexure 1 to this Licence.

"Practical Completion" has the same meaning as the term "Practical Completion" in the AFL.

"Premises" has the same means as the term "Premises" in the AFL.

"RIDBC Building" means the building known as the Centre of Excellence building to be constructed on the Land by the RIDBC.

"Term" means the period commencing on the Commencement Date and ending on Practical Completion.

"WHS Law" means the *Work Health and Safety Act 2011* (NSW) and the *Work Health and Safety Regulation 2011* (NSW), as amended or replaced from time to time.

"Works Zone" means that part of the Land, excluding the Premises, that is delineated by the brown dotted and dashed line marked "Scope of Works Boundary" and the areas marked as roads on the Plan (for the avoidance of any doubt the Works Zone does not include any areas marked as roads on the plan).

1.2 Construction

Unless expressed to the contrary, in this Licence:

(a) words in the singular include the plural and vice versa;

(b) any gender includes the other genders;

(c) if a word or phrase is defined its other grammatical forms have corresponding meanings;

(d) if any form of the word "include" is used, it is to be read as if followed by the words "without limitation";

(e) no rule of construction will apply to a clause to the disadvantage of a party merely because that party put forward the clause or would otherwise benefit from it;

(f) a reference to:

(i) a person includes the person's executors, administrators, successors, substitutes and permitted assigns;

(ii) an obligation includes a warranty or representation and a reference to a failure to comply with an obligation includes a breach of warranty or representation;

(iii) time is to local time in Sydney;

(iv) a group of persons includes all of them together, any two or more of them together and each of them separately;

(v) a clause or a schedule or an annexure means a clause or a schedule or an annexure of this Licence;

(vi) this Licence includes all schedules and annexures to it;

(vii) this Licence means the licence granted under this Licence and includes any renewal of it, holding over under it or any equitable licence evidenced by the terms of this Licence; and

(viii) a reference to RIDBC includes, unless the context requires otherwise, all Contractors, employees, agents, sub-contractors, clients, visitors (with or without invitation), licensees and invitees who may at any time be in the Woks Zone or the Land.

(g) if the date on or by which any amount is payable under this Licence is not a Business Day, the payment must be made on or by the next Business Day;

(h) where time is to be calculated by reference to a day or event, that day or the day of that event is excluded.

2. Grant

2.1 Licence

The University grants to RIDBC a licence to use the Works Zone for the Term, to the exclusion of all others except the University, on the terms and conditions set out in this Licence.

2.1 Term

This Licence starts on the Commencement Date and ends on Practical Completion.

2.2 Licence only

The rights given by this Licence are solely contractual and nothing in this Licence creates or gives to RIDBC any estate or interest in the land on which the Land is situated.

3. Works Zone Licence Fee

RIDBC must pay to the University the Works Zone Licence Fee of $1.00 per annum if demanded by the University.

4. Licence does not derogate from AFL

4.1 Terms to be included in Building Contract

The terms of this licence must be incorporated into the Building Contract.

4.2 No derogation

This Licence is intended to supplement the terms of the AFL and is the licence contemplated by clause 8.1(b) of the AFL in respect of the Infrastructure Works and nothing in this Licence derogates from, or in any way reduces, any obligations of the RIDBC or any right or entitlement of the University under the AFL (including, without limitation, all obligations and requirements in clause 8 of the AFL as well as all obligations to obtain any Approval, to pay any amounts and to indemnify the University).

5. Use

5.1 RIDBC's obligations

In exercising its rights under this Licence, RIDBC must:

(a) ensure that it does not access or occupy any parts of the Land other than the Works Zone;

(b) pay for the Cost of any services or utilities consumed by RIDBC during the Term.

(c) use its best endeavours to minimise any inconvenience to the University and or any occupant of the Land or adjoining land and ensure that no significant interruption or disturbance is caused to the activities of the University on the Land and adjoining land including the teaching and studies of the faculties and students, as a result of conducting the Infrastructure Works.

(d) access the Works Zone at its own risk;

(e) access the Works Zone predominantly off Culloden Road, noting access from time to time and in various stages of the Infrastructure Works may also need to be obtained off West Precinct Road and Gymnasium Road subject to the University's approval, acting reasonably, having regard to the safety and amenity of the users of the Land and adjoining land.

(f) ensure that before commencing the Infrastructure Works, appropriate safety measures including safety fencing, barriers and protective coverings are in place to prevent public access to the Works Zone;

(g) ensure that any hoarding, fencing or signage erected on the Works Zone during the Term is approved by the University;

(h) ensure the RIDBC's Contractors, employees and agents comply with all reasonable safety, security and other requirements of the University including any restrictions on the use of certain machinery, plant and equipment during sensitive periods such as exams and graduations at the University;

(i) ensure compliance with WHS Law;

(j) keep current and provide the University with evidence of public liability insurance covering access to and activities on the Works Zone as required by clause 9.9 of the AF;

(k) facilitate the University's access to the Works Zone for inspections at all reasonable times on prior notice; and

(l) indemnify the University in respect of any liability in connection with the Infrastructure Works as set out in clause 14 of the AFL.

5.2 Dilapidation and Vegetation Report

Prior to the Infrastructure Works commencing, RIDBC must carry out a Dilapidation and Vegetation Report, in consultation with the University in respect of the Works Zone and those parts of the adjoining land directed by the University acting reasonably and provide the University with a copy of that Dilapidation and Vegetation Report.

6. Dealings with licence and Works Zone

6.1 Assignment

(a) RIDBC must not assign this Licence without the consent of the University.

(b) RIDBC must make a written request for the University's consent to an assignment.

(c) On or prior to any assignment of this Licence RIDBC must procure and deliver to the University a covenant in favour of the University by the proposed licensee for the performance by the proposed licensee of RIDBC's covenants and obligations contained inthis Licence.

7. Revocation

When a default occurs

If RIDBC does not comply with the obligations set out in clauses 5.1 and 5.2 of this Licence or clause 8.1 of the AFL, the University may revoke this Licence immediately.

8. Communications

8.1 General

A notice, demand, certification, process, consent, request, waiver, agreement or other communication relating to this Licence must be in writing in English and may be given by an agent of the sender and is not effective unless it is in writing.

8.2 How to give a communication

In addition to any other lawful means, a communication may be given by being:

(a) personally delivered;

(b) left at the party's current address for communications; or

(c) emailed to relevant party.

8.3 Communications by email

If a communication is emailed, a delivery confirmation report received by the sender, which records the time that the email was delivered to the addressee's current email address is prima facie evidence of its receipt by the addressee, unless the sender receives a delivery failure notification, indicating that the email has not been delivered to the addressee.

8.4 After hours communications

If a communication is given:

(a) after 5.00 pm in the place of receipt; or

(b) on a day which is not a Business Day in the place of receipt, it is taken as having been given on the next Business Day.

9. Costs and stamp duty

9.1 Costs

Each party shall pay their own legal costs in relation to the preparation, negotiation, execution and completion of this Licence.

9.2 Stamp duty

(a) RIDBC as between the parties is liable for and must pay all stamp duly (including any fine or penalty except if it arises from default by any other party) on or relating to this Licence, any document executed under it or any dutiable transaction evidenced or effected by it.

(b) If a party other than RIDBC pays any stamp duly (including any fine or penalty) on or relating to this Licence, any document executed under it or any dutiable transaction evidenced or effected by it, RIDBC must pay that amount to the paying party on demand.

10. GST

10.1 Definitions

(a) In this Licence the expression "GST law" has the meaning given to that expression in the *A New Tax System (Goods and Services Tax) Act 1999 (Cth)*.

(b) In clause 13 expressions that are not defined in this Licence but which have a defined meaning in GST law have the same meaning in that clause.

10.2 Amounts exclude GST

Except as expressly stated otherwise in this Licence, all amounts payable or consideration to be provided under this Licence are exclusive of GST.

10.3 Responsibility for GST

(a) Despite any other provision of this Licence, if GST is imposed on any supply made by the

supplier under this Licence, the recipient must pay to the supplier an amount equalto the GST payable on the supply.

(b) The recipient must pay the amount under clause 10.3(a) at the same time that payment for the supply must be made under this Licence and must pay the amount in addition to all other amounts payable by the recipient under this Licence.

10.4 Reimbursement of expenses

If this Licence requires a party to reimburse any other party for any expense, loss or outgoing (“reimbursable expense") incurred by the other party, the amount that must be reimbursed by the first party will be the sum of:

(a) the amount of the reimbursable expense net of input tax credits (if any) to which the other party is entitled in respect of the reimbursable expense; and

(b) if the payment of the reimbursable expense is consideration for a taxable supply, any GST payable in respect of the reimbursable expense.

10.5 Tax invoice

If the supplier makes a taxable supply to the recipient under this Licence, the supplier must provide a tax invoice to the recipient at or before the time of the payment of the amount under clause 10.3(a).

10.6 Adjustments

If at any time an adjustment event arises in respect of any supply made by the supplier under this Licence, the supplier must provide the recipient with an adjustment note immediately upon becoming aware of the adjustment event. Where an adjustment event arises, a corresponding adjustment will be made between the supplier and the recipient in respect of any amount paid by the recipient to the supplier under clause 13.3(a} and a payment will be made by the recipient to the supplier or by the supplier to the recipient as the case requires.

11. Miscellaneous

11.1 Statements

A notice by the University stating any amount payable or determined or any other thing to be done or not done under this Licence is sufficient evidence of that fact unless manifestly wrong.

11.2 Caveats

RIDBC may not lodge a caveat on the title to the Land in respect of this Licence.

11.3 Exclusion of statutory provisions

(a) So far as it is possible to do so, the application of any moratorium or law affecting the operation of this Licence, or any rights of the University, is excluded.

(b) Any term of this Licence that does not comply with any applicable law must be read down so that it does comply. If that is not possible, the term must be severed from this Licence.

11.4 Independent of indemnities

(a) Each indemnity in AFL given in respect of the Infrastructure Works is a continuing obligation, separate and independent from the other obligations of a party and survives the termination, expiry or assignment of this Licence.

(b) It is not necessary for a party to incur expense or make a payment before enforcing any indemnity conferred by this Licence.

12. General

12.1 Amendment

This Licence may only be varied or replaced by a document executed by the parties.

12.2 Waiver and exercise of rights

(a) A single or partial exercise or waiver by a party of a right relating to this Licence doesnot prevent any other exercise of that right or the exercise of any other right.

(b) A party is not liable for any loss, cost or expense of any other party caused or contributed to by the waiver, exercise, attempted exercise, failure to exercise or delay in the exercise of a right.

12.3 Rights cumulative

Except as expressly stated otherwise in this Licence, the rights of a party under this Licence are cumulative and are in addition to any other rights of that party.

12.4 Further steps

Each party must promptly do whatever any other party reasonably requires of it to give effect to this Licence and to perform its obligations under it.

12.5 Governing law and jurisdiction

(a) This Licence is governed by and is to be construed in accordance with the laws applicable in NSW.

(b) Each party irrevocably and unconditionally submits lo the non-exclusive Jurisdiction of the courts of NSW and any courts which have jurisdiction to hear appeals from any of those courts and waives any right to object to any proceedings being brought in those courts.

12.6 Liability

An obligation of two or more persons binds them separately and together.

12.7 Counterparts

This Licence may consist of a number of counterparts and, if so, the counterparts taken together constitute one document.

12.8 Entire understanding

(a) This Licence contains the entire understanding between the parties as to the subject matter of this Licence.

(b) All previous negotiations, understandings, representations, warranties, memoranda or commitments concerning the subject matter of this Licence are merged in and superseded by this Licence and are of no effect. No party is liable to any other party in respect of those matters.

(c) No oral explanation or Information provided by any party to another:

(i) affects the meaning or interpretation of this Licence; or

(ii) constitutes any collateral agreement, warranty or understanding between any of the parties.

12.9 Relationship of parties

This Licence is not intended to create a partnership, Joint venture or agency relationship between the parties.

Appendix D Driver Code of Conduct

Safe Driving Policy for NextSense Centre of Excellence at 131 Culloden Road, Marsfield.

Objectives of the Drivers Code of conduct

- Minimise the impact of earthworks on the local and regional road network;
- Minimise conflict with other road users;
- Minimise road traffic noise; and
- Ensure truck drivers use specified heavy vehicles routes between the Site and the sub-regional road network.

Code of Conduct

- All vehicle operators accessing the site must:
- Take reasonable care for his or her own personal health and safety;
- Not adversely, by way of actions or otherwise, impact on the health and safety of other persons;
- Notify their employer if they are not fit for duty prior to commencing their shift;
- Obey all applicable road rules and laws at all times;
- In the event an emergency vehicle behind your vehicle, pull over and allow the emergency vehicle to pass immediately;
- Obey the applicable driving hours in accordance with legislation and take all reasonable steps to manage their fatigue and not drive with high levels of drowsiness;
- Obey all on-site signposted speed limits and comply with directions of traffic control supervisors in relation to movements in and around temporary or fixed work areas;
- Ensure all loads are safely contained / restrained, as necessary;
- Drive over devices – located at the site's access – to vibrate off and wash off any loose material attached to heavy vehicles;
- Operate their vehicles in a safe and professional manner, with consideration for all other road users;
- Hold a current Australian State or Territory issued driver's licence;
- Notify their employer or operator immediately should the status or conditions of their driver's license change in any way;
- Comply with other applicable workplace policies, including a zero tolerance of driving while under the influence of alcohol and/or illicit drugs;
- Not use mobile phones when driving a vehicle or operating equipment. If the use of a mobile device is required, the driver shall pull over in a safe and legal location prior to the use of any mobile device;
- Advise management of any situations of which you know, or think, may present a threat to workplace health and safety;

- Drive according to prevailing conditions (such as during inclement weather) and reduce speed, if necessary; and
- Have necessary identification documentation at hand and ready to present to security staff on entry and departure from the Site, as necessary, to avoid unnecessary delays to other vehicles.

Crash or Incident Procedure

- Stop your vehicle as close to it as possible to the scene, making sure you are not hindering traffic. Ensure your own safety first, then help any injured people and seek assistance immediately if required.
- Ensure the following information is noted:
  - Details of the other vehicles and registration numbers;
  - Names and addresses of the other vehicle drivers;
  - Names and addresses of witnesses; and
  - Insurers details.
- Give the following information to the involved parties:
  - Name;
  - Address; and
  - Company details
- If the damaged vehicle is not occupied, provide a note with your contact details for the owner to contact the company.
- Ensure that the police are contacted should the following circumstances occur:
  - If there is a disagreement over the cause of the crash;
  - If there are injuries; and / or
  - If you damage property other than your own.
- As soon as reasonably practical, report all incident details to your manager.