RICHARD CROOKES
CONSTRUCTIONS

CRANBROOK STAGE 2 REDEVELOPMENT PROJECT
5 VICTORIA AVENUE, BELLEVUE HILL

CONSTRUCTION ENVIRONMENTAL MANAGEMENT PLAN (CEMP)

17 June 2021

DOCUMENT INFORMATION

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CONTENTS

Appendices

1 INTRODUCTION

1.1 PROJECT OVERVIEW

The Cranbrook Stage 2 Redevelopment project comprises the following three main built components:

- A new academic and liberal arts building – termed the Centenary Building
- A new sub-surface car park for 124 car parking spaces
- A new sub-surface Aquatic and Fitness Centre

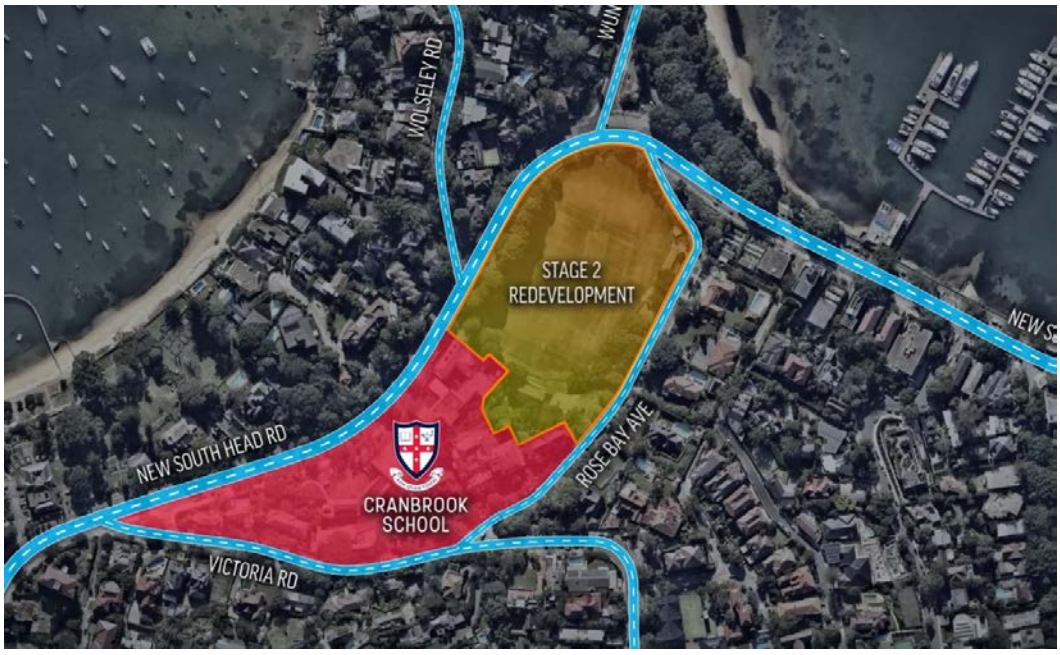
The surface of Hordern Oval will be re-turfed and will retain its original purpose and as an open space for sporting and play activities.

The proposed Centenary Building comprises multiple future-focussed teaching and learning spaces, a drama theatre, orchestral rehearsal room, a dining commons, an assembly hall that also functions as a two-court basketball facility with tiered seating for spectators, a chapel and open landscaped space.

Adjacent to the proposed carpark and also to be constructed beneath the playing surface of Hordern Oval, is the proposed new Aquatic and Fitness Centre. This facility is designed to accommodate a 50m swimming pool with a tiered seating viewing area, a learn-to-swim pool, a gymnasium, a multi-purpose sports hall and separate change room and toilet facilities for students and external community members.

The site contains two road frontages including New South Head Road to the North & West and Rose Bay Avenue to the East.

1.2 SITE LOCATION



1.3 HOURS OF WORK

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

a. between 7am and 6pm, Mondays to Fridays inclusive; and

b. between 8am and 1pm, Saturdays.

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

When demolition, excavation and constructions works are to be undertaken on school days, all vehicular movements associated with this work shall only be undertaken between the hours of 7am and 8am, 9:00am and 2:30pm and 4:00pm and 5:00pm in order to minimise disruption to the traffic network during school pick-up and drop-off periods.

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.

1.4 24 HOUR CONTACT DETAILS OF SITE MANAGER

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1.5 CEMP OBJECTIVES

This document is considered to be an operational CEMP which provides the framework necessary to implement the required management measures associated with the proposed excavation and construction works. Once implemented the objective of the management measures will be to ensure that the excavation of materials present at the site can be carried out without significant adverse impact on the environment or the health of the site workers and neighbouring residence. The management and monitoring aspects and Principal Contractor responsibilities covered in this CEMP include air quality, sediments, surface water, waste, site security, emergencies and the relevant sub-plans referenced within the appendices.

RCC notes that this CEMP will focus on mitigating and managing environmental and human health issues associated with the excavation works proposed at the site. The CEMP will provide task specific (i.e. operational hours, noise mitigation, traffic control, environmental management, erosion sediment control plan) measures for the proposed construction works.

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

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

- Promote environmental awareness amongst employees and contractors.

1.6 REPORTS RELIED UPON IN PREPARING THIS CEMP

The CEMP framework provided in this document has relied upon information provided in the following reports;

- Construction Traffic and Pedestrian Management Plan (PTC): Ref T2-2719 Issue 3
- Construction Noise & Vibration Management Plan (Acoustic Logic): Ref 20171292.2
- Construction Waste Management Plan
- Construction Soil & Water Management Plan (SCP Consulting) Ref: S191132_CSWMP
- Flood Emergency Response Plan (SCP Consulting) Ref: S191132
- Unexpected Finds Protocol for contamination & associated communications procedure
- Unexpected Finds Protocol for Aboriginal and non-aboriginal heritage and associated communications procedure
- Waste Classification (for materials to be removed) and validation (for materials to remain) (Douglas Partners) Ref: 84944.01.R.010.Rev0
- Ground Monitoring Results (Douglas Partners) Ref: 84944.02R.005.Rev1

2 ROLES AND RESPONSIBILITIES

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

2.1 PROJECT ORGANISATIONAL STRUCTURE

All personnel including the Consultants, Contractors, Subcontractors and all other personnel associated with undertaking excavation and construction works on the project at 5 Victoria Avenue, Bellevue Hill NSW 2023 ultimately report to the Principal Contractor.

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

2.2 PARTIES AND RESPONSIBILITIES

The parties involved with, and their responsibilities during, the environmental management of the works are provided in Table 1.

Table 1: Project Parties and Responsibilities

PARTY	RESPONSIBILITIES	REPORTS TO
THE PRINCIPAL CONTRACTOR **RICHARD CROOKES CONSTRUCTIONS**	• Ensure all works are implemented in accordance with the CEMP. • Promote awareness of appropriate environmental management and occupation health and safety (OHS) practices to the Project Manager. • Ensure the Project Manager is aware of the CEMP and site-specific issues. • Review risks and identify potential opportunities and issues with the project. • Monitor and inspect activities for compliance with relevant environmental requirements, including ensuring suitable management plans have been submitted and approved prior to undertaking works. • Ensure environmental incidents and non- compliances are reported promptly and investigated. • Undertake environmental audits on the project at a frequency deemed appropriate to the length of the project. • Periodically review the performance of the Principal Contractor Project Manager in meeting the objectives of the CEMP via regular audits. The audits will review the Principal Contractor Project Manager's activities to ensure that environmental hazards have the appropriate mitigation controls in place. Improvement requests and non-compliances will be monitored, and corrective action undertaken. • Maintain an environmental audit register to • record close out of any actions issued.	The Client Project Manager, EPM Projects
THE CLIENT PROJECT MANAGER	• The Client Project Manager is appointed by the Client	The Client,

PARTY	RESPONSIBILITIES	REPORTS TO
	• Cranbrook School as a primary contact overseeing the day to day operations at the Site. • Primary contact for all personnel in relation to site works and environmental management. • Review risks and identify potential opportunities and issues with the project. • Monitor and inspect activities for compliance with relevant environmental requirements, including ensuring suitable management plans have been submitted and approved prior to undertaking works. • Ensure environmental incidents and non- compliances are reported promptly and investigated.	Cranbrook School
ENVIRONMENTAL SPECIALIST / ENGINEER **ENVIRONMENTAL STRATEGIES**	• Comply with this CEMP. • Provide advice where required to the Principal Contractor in relation to environmental issues associated with the works, if requested. • Responsible for implementing this CEMP and all required environmental controls. • Undertake onsite and offsite air monitoring. • Conduct environmental incident investigations, if requested by the Project Manager. • Demonstrate an understanding and management of the potential environmental impacts associated with the project. • Review risks and identify potential opportunities and issues with the project. • Ensure all Subcontractors under their control are appropriately informed of the relevant components of environmental management documentation. • Report all environmental incidents, hazards, non-compliances and near misses to the Principal Contractor Project Manager immediately. • Implement corrective action responses to environmental incidents and non-compliances in consultation with the Project Manager. • Provide a validation report at the end of the project for review of the Site Auditor.	The Principal Contractor
SUB-CONTRACTORS	• Implement and comply with relevant components of this CEMP. • Report all environmental incidents, hazards, non-compliances and near misses to the Principal Contractor immediately. • Implement corrective action responses to environmental incidents and non-compliances as required by the Principal Contractor.	The Principal Contractor

3 IMPLEMENTATION OF CEMP

3.1 SITE INDUCTIONS AND TRAINING

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

3.2 CEMP INDUCTION

The CEMP awareness induction will cover:

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

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

3.3 TOOLBOX MEETINGS

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

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

3.4 PERSONAL PROTECTIVE EQUIPMENT

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

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

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

PPE requirements should be detailed in the Safe Work Method Statements (or similar) which will be provided to the Principal Contractor for review and endorsement. Additional PPE will be required to carry out some aspects of the construction process and the PPE outline above

should only be considered as the basic requirements. Additional PPE will be required if works are to be conducted in asbestos work environs.

3.5 RESPONSIBILITY AND REPORTING

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

The principal contractor will complete weekly safety and environmental walks, with the critical information included in the monthly report.

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

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

4 LEGISLATION

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

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

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

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

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

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

- SafeWork, NSW (1993). Code of Practice: Safe Work on Roofs, Part 1, Commercial and Industrial Buildings;
- SafeWork, NSW (1997). Code of Practice: Amenities for Construction Work;
- SafeWork, NSW (1997). Code of Practice: Cutting and Drilling of Concrete and Other Masonry Products;
- SafeWork, NSW (1992). Code of Practice: Electrical Practices for Construction Work;
- SafeWork NSW (July 2014): Code of Practice: Excavation Work;
- WorkCover NSW (March 2014): Managing asbestos in or on soil; and
- Other NSW EPA endorsed relevant guidelines.

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

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

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

5 OCCUPATIONAL HEALTH AND SAFETY

The following Health and Safety plan contains procedures and requirements that are to be implemented as a minimum during the site works.

The objectives of the health and safety plan are:

- To apply standard procedures that reduces risks resulting from the above works;
- To ensure all employees are provided with appropriate training, equipment and support to consistently perform their duties in a safe manner; and
- To have procedures to protect other site workers and the general public. These objectives will be achieved by:
- Assignment of responsibilities;
- An evaluation of hazards;
- Establishment of personal protection standards and mandatory safety practices and procedures; and
- Provision for contingencies that may arise while operations are being conducted at the site.

This health and safety plan does not provide safety information specific to construction and other demolition or excavation activities carried out by contractors, such as the safe operation, maintenance and inspection of plant, etc. Contractors will be required to prepare their own Safe Work Method Statements for their work activities. All parties working on the site shall comply with all applicable Work Health and Safety legislation, regulations, codes and guidelines.

5.1 RESPONSIBILITIES

Principal Contractor

RCC is responsible for ensuring that the work is carried out in accordance with the health and safety plan. This will include:

- Ensuring a copy of the health and safety plan and CEMP is available at the site during the excavation/construction activities;
- Confirming individuals are competent in performing assigned tasks;
- Liaison with the contractor representatives, as appropriate, regarding safety matters; and
- Investigation and reporting of incidents and accidents.

Every individual worker is responsible for conducting their allocated tasks in a safe manner and in accordance with their training and experience. They must give due consideration to the safety of all others in their proximity and cooperate in matters of health and safety. All workers must leave their work areas in such a condition that the location will not be hazardous to others at any time.

5.2 HAZARDS

The known or potential hazards associated with the work activities described are listed below:

- Potential chemical hazards;
- Physical hazards, including;

- Work in or near excavations;
- Operating machinery;
- Heat stress and UV exposure;
- Underground or overhead services;
- Manual handling; and
- Noise.

In the event of the discovery of any condition that would suggest the existence of a situation more hazardous than anticipated, or of any new hazard that could potentially cause serious harm to personnel or the environment, work will be suspended until the Project Manager has been notified and appropriate instructions have been provided to field personnel.

5.3 POTENTIAL CHEMICAL HAZARDS

The main potential chemical hazards associated with the excavation/construction works is petroleum hydrocarbons, PAHs, heavy metals, asbestos and soil gasses.

When working with identified contaminated materials in general, care needs to be taken to ensure that the contamination is not introduced to the worker via ingestion, inhalation or dermal contact. The personal protective equipment (PPE) and decontamination requirements outlined in Section 3.4 shall be followed to control the risks posed by chemical hazards at the site.

Potential hazards associated with working with asbestos or asbestos containing material (ACM) are addressed in detail in the Asbestos Management Plan (AMP) and should be read in conjunction to this document (refer to Appendix B).

5.4 PHYSICAL HAZARDS

Operating Machinery

Heavy plant and equipment operating in the vicinity of field personnel presents a risk of physical injury. Personnel should always be cognisant of their position in relation to operating machinery .

Never walk behind or to the side of any operating equipment without the operator's knowledge. Do not assume that the operator knows your position. Personnel should stay at least 2 m from the operational area of heavy equipment and should not stand directly below any load or piece of equipment (eg. excavators).

Working in or Near Excavations

All excavations shall be shored, sloped or otherwise constructed, so as to comply with SafeWork Authority safety regulation to minimise the potential for collapse.

Geotechnical advice, given to the slopes and treatment of batters, should be adhered to at all times.

Cuts and Abrasions

The manual work associated with the site works gives rise to the risk of cuts and abrasions to personnel working in the area. As well as the direct consequences of any cut or abrasion, such injuries can lead to the possibility of exposure to contaminants through the wound as well as diseases such as tetanus. To minimise the risk of direct or indirect injury, personnel will wear the personal protective equipment described.

Heat Stress and UV Exposure

Site personnel may experience heat stress due to a combination of elevated ambient temperatures and the concurrent use of personal protection equipment; this depends in part on the type of work and the time of year.

There are four main types of heat stress related problems:

- Heat Rash - caused by continuous exposure to heat and humid air and aggravated by chafing clothes. Decreased ability to tolerate heat, as well as being a nuisance.
- Heat Cramps - caused by profuse perspiration with inadequate fluid intake and chemical replacement. Signs: muscle spasms and pain in the extremities and abdomen.
- Heat Exhaustion – is caused by increased stress on various organs as they meet the increasing demand to cool the body. Signs: shallow breathing; pale, cool, moist skin; profuse sweating; dizziness, and lassitude
- Heat Stroke - result of overworked cooling system. Heat Stroke is the most severe form of heat stress. Body must be cooled immediately to prevent severe injury and/or death. Signs: red, hot, dry skin; no perspiration, nausea; dizziness and confusion; strong, rapid pulse and coma. Medical help must be obtained immediately.

In addition to the above, overexposure to UV radiation in sunlight can result in sunburn to exposed skin. The use of a high protection sunscreen (SPF15 or greater) on all exposed skin is recommended. Hats (including hard hats in specified areas) will also provide additional sun protection during the peak (i.e. 10:00 am to 3:00 PM) sun period. Sunglasses may be worn (where appropriate) to protect eyes from effects of UV exposure.

5.5 UNDERGROUND SERVICES

There is the potential for underground services (electricity, natural gas lines, water, telephone, sewer, and stormwater) to be present beneath the work area. The remediation contractor shall ensure that appropriate procedures will be taken to minimise the risk associated with excavation near services. This should include but not be limited to dial before you dig plan review, service provider notification and work clearance, service location by an approved contractor, manual excavation of test pits, adherence to safe excavation distances (for overhead and below ground services), spotting during excavation, assessment of structural considerations etc.

5.6 ABOVE GROUND ELECTRICAL HAZARDS

All electrical plant and equipment must comply with the requirements of Australian Standard AS 3000. Hand held portable tools shall comply with AS/NZS 3160 "hand-held portable electric tools" and shall be double insulated. A Residual Current Device (RCD) shall protect plug-in portable equipment, which is connected to a supply above Extra Low Voltage - 12-24 Volts (including equipment supplied from a generator or welding set). RCD protection shall be provided during the maintenance of portable electrical equipment. RCD protection shall be provided at all times, while the equipment is connected to a power supply above Extra Low Voltage, irrespective of whether power is switched ON or OFF. RCD's shall comply with AS 3190 and shall be type II units, rated to trip at or below 30 milliamps within 40 milliseconds.

No excavator may work within 2 m of overhead distribution power lines.

5.7 MANUAL HANDLING

When lifting or handling heavy objects, use correct lifting techniques, bending the knees not the back. If the item to be lifted is too heavy or awkward for one person to lift, seek assistance from other employees or use mechanical help.

5.8 NOISE

Long-term exposure to high levels of noise is unlikely. However, operating machinery may cause significant noise exposures for short periods. Earplugs, earmuffs or a combination of both shall be worn in any situation where noise levels make normal conversation difficult.

6 ENVIRONMENTAL MANAGEMENT

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

6.1 POTENTIAL ENVIRONMENTAL ISSUES

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

- Air emissions from contaminated soils and groundwater;
- Impact of noise and air emissions from plant, equipment and vehicles used in the project and associated transport of infrastructure;
- Potential impacts to terrestrial and aquatic ecology within close proximity to the work area and the surrounding areas;
- Disturbance to, and release of potentially contaminated soil and groundwater to the local environment; and
- Disruption to amenity of any residents and other land users in the vicinity of the site.

6.2 GENERAL STRUCTURE OF ENVIRONMENTAL MANAGEMENT

Individual management measures have been prepared to address the issues listed in Environmental Elements 1 to 9. The numbering order should not be considered as a ranking of priority of each element as each element will have some over laps in procedures and monitoring requirements. Each plan is comprised of a number of elements, each with an overall associated management policy, mechanisms of policy implementation, proposed monitoring programs and potential corrective actions as described in Table 3.

Table 3: Structure of CEMPs

EMP ELEMENT	DESCRIPTION OF CONTENT
ELEMENT	The environmental aspect of construction or operation requiring management consideration.
POTENTIAL IMPACTS	The potential impacts in relation to the environment.
MANAGEMENT ACTIONS	The procedures to be undertaken to avoid or minimise potential impacts
PERFORMANCE OBJECTIVES	The target or strategy to be achieved through the specific management actions.
PERFORMANCE INDICATOR	The criteria against which the implementation of the actions and the level of achievement of the performance objectives will be measured, as well as the success of the implementation of the policy.
MONITORING	The intended monitoring program and the process of measuring actual performance.
RESPONSIBILITY	The entity assigned responsibility for carrying out each action.

EMP ELEMENT	DESCRIPTION OF CONTENT
REPORTING	The process of documenting actual performance, or how well the policy has been achieved, including the format, timing and responsibility for reporting and auditing of the monitoring results.
CORRECTIVE ACTION	The action to be implemented and by whom in the case where a performance requirement is not met.

7 MANAGEMENT OF DUST & ODOUR: AIR QUALITY

7.1 SUMMARY OF POTENTIAL IMPACTS

Potential impacts to air quality resulting from the works include emissions from exposed soils, asbestos dust, groundwater, plant and equipment and dust generated during earthworks and land clearance and demolition work. Air monitoring has been implemented around site to ensure the air quality is not impacted upon.

Potential odour / vapour impacts may also occur as a result of the release of odours from impacted soils / groundwater / gases and exposure from unexpected finds, hydrocarbon hotspots and soil gas pathways within any uncontrolled fill.

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

Procedures

A summary of the minimum plan requirements is provided in Table 4.

Table 4: Summary of Air Quality Management Procedures

ELEMENT	AIR QUALITY
PERFORMANCE OBJECTIVES	The objective of this management measure is not to generate any odours or gasses and to adopt the necessary management strategy and PPE if presented with the occurrence to minimise the impacts of odours and/or vapours if encountered. Avoid or minimise the potential for odour and/or vapour emissions during the handling of exposed soils. Maintain plant and equipment such that exhaust emissions are minimised. Avoid or minimise disruption to amenity of residents and other land users in the vicinity of site works.
MANAGEMENT ACTIONS	Use of surfactant spray (onsite in close proximity of the earth works and at the site boundary/fences) is required for odour suppressant during works (this is up to the discretion of the Project Manager and the environmental consultant). Heavy equipment and vehicles will be appropriately maintained to minimise exhaust emissions. Appropriate methods of dust suppression will be implemented, such as ensuring earthworks materials remain moist to ensure dust is minimised during works. Evaluate weather conditions prior to works commencing and during any change in wind direction. Cease works if dust or odour generation is excessive. Covering of any stockpiles that are to remain for greater than two days (Waste reclassification or ENM stockpiles, ACM demolition stockpiles), or if weather forecasts predict strong winds; with plastic or Hessian material. All dust/odour control measures will be kept in good operating condition and be functional at all times, with regular maintenance. All loads are to be covered and appropriately fitted with tarpaulins to contain dust and/or odour during transport.

ELEMENT	AIR QUALITY
	A complaints register will be established and maintained to receive and address complaints from the community regarding the detection of nuisance odour during the works. Residents in the vicinity of the proposed works will be informed of potential dust/odour impacts prior to the commencement of works.
PERFORMANCE INDICATOR	No complaints from location residents, surrounding businesses or site personnel. Goal of nil complaints relating to dust quality issues. Vapour emissions (Chlorinated VOCs) are likely to occur however the number of complaints should be kept to a minimum. All complaints will be responded to within 2 business days No onsite observation of dust generation during excavation works by Project team. No visual evidence of exhaust smoke during idle of equipment. No visual evidence of tracked material on public roads. A reduction in the number of complaints received in relation to air quality each month.
MONITORING	Implementation of visual monitoring of dust, material tracking, truck tarping, water spray use, exhaust plumes and stockpile covering. If unexpected fines protocol detects contaminants a review of air born testing is to be undertaken.
RESPONSIBILITY	The Principal Contractor is responsible for ensuring that if a monitoring program is required to be implemented by appropriately trained/qualified staff. This program may be sub-contracted out to a specialist sub-consultant as required. The Principal Contractor is to ensure responsible personnel are suitably qualified.
REPORTING	Maintenance of records on site of visual, PID and Asbestos monitoring undertaken if required.
CORRECTIVE ACTION (AS REQUIRED)	If required replace or repair emission control devices. Provide equipment to enable wetting of exposed soils if required. Should excessive dust be generated during works will also cease, until weather conditions improve and/or additional dust suppression measures have been implemented. The use of PPE with appropriate filters, inside the works zone will be mandatory, in the event that PID readings exceed the limits set by the environmental consultant for the Site/area. The level set by the environmental consultant is exceeded the following action shall be undertaken: • Backfill any excavation or cover with plastic sheeting; • Temporarily cease works until levels drop; and • Increase the use of suppressant near the excavation. In the event that boundary monitoring exceeds the daily works shall be stopped immediately. The earthworks shall be quickly backfilled and the situation reassessed if odour / gasses are identified and deemed excessive by the environmental consultant, the application of odour suppressants should be used / increased and then works can recommence once suitably qualified environmental consultant has assessed ambient air quality to be satisfactory.

8 MANAGEMENT OF COMMUNITY CONSULTATION AND COMPLAINTS HANDLING

8.1 SUMMARY

Community consultation can be involving, meaningful, useful and effective if the following principles are used as a starting point for making consultation work:

- **Making it timely**: participation should not be so late in the process of an issue that it is tokenistic or merely confirms decisions already made. Give people enough time to express their views.
- **Making it inclusive**: Participation should be selected in a way that is not open to manipulation and should include a cross section of the participation.
- **Making it community focused**: Ask participants not what they personally want but what is appropriate in their role as a citizen.
- **Making it interactive**: avoid reducing questions to a simplistic response. Allow consideration of the big picture so people can readily become engaged.
- **Making it effective**: Although decision making can strive for consensus, complete agreement may not be the outcome. Be clear on how the decisions will be made so participants understand the impact of their involvement. Allow enough time for participants to become familiar with the project issues.
- **Making it Matter**: it is important that a strong likelihood that any recommendations that emerge from the consultative process will be accepted. If they are not, it is important that a public explanation is provided.

8.2 WAYS TO CONSULT

Different community stakeholder groups need different consultation methods at different stages of the project. Some of the processes that may be used are listed below.

CONSULTATION METHOD	INFORM	CONSULT	INVOLVE	COLLABORATE
Tools	Fact Sheet / flyers Website Project Open days Briefings 24 hrs. contact points Media Direct personal visits Project inductions	Public submissions Focus groups Public meetings Surveys	Community liaison groups Workshops Submissions Community projects / sponsorship Local suppliers preference policy	Advisory groups Decision making Consensus building

8.3 LETTERBOX DROPS AND PUBLIC NOTICES

Letter box drops or public notices will include at least the following:

- Why the works are required;
- When they are likely to occur;

- What mitigation measures are in place to minimise any community or environmental impacts;
- Who will be doing the work and a contact phone number for further information; and
- Emergency Contact number / community complaints line.

8.4 COMMUNICATION PROTOCOLS

The protocols for establishing and continuing community consultation for this project include:

- Communicating clearly;
- Ensuring information is structured around the same messages i.e. Consistency;
- Ensuring project staff are clear about main messages, so stakeholders receive consistent messages;
- Providing information promptly;
- Establishing timelines and lines of communication: for this project noting that a 2 day response time to deal with community concerns has been determined;
- Making the information accessible to all interested parties; and
- Being open to changes that may result from listening and incorporating innovations or concerns from the community into the project activities and methodologies.

8.5 IDENTIFICATION OF STAKEHOLDERS

Key stakeholders are generally identified as people who are adversely or positively impacted by our operations, those who have an interest in / influence on what we do.

Our project sites are required to identify their key stakeholders and consider their expectations and concerns during design (where achievable) and operational activities.

These projects key stakeholders are many and varied and may include:

- Client and Client PM;
- Facility end users and invested stakeholders (i.e. donors, students, parents, teachers & staff)
- Local community and organisations which represent local and indigenous communities
- Local Aboriginal Land Council and Aboriginal and Torres Strait Islander communities near project site;
- Adjacent or surrounding neighbours (property occupiers or owners) and local road users;
- Local community members and organisations which have an interest in the project;
- Local council, authorities and suppliers;
- Governments – local & state;
- The media;
- Industry associations and unions
- RCC project personnel as well as broader design and delivery team including consultants, subcontractors, and suppliers

- Within these groups, there are stakeholders that may be interested in specific issues or affected by a range of issues.

A balanced community engagement involves both a commitment from RCC and an expectation from the community, as summarised below.

	INFORM	CONSULT	INVOLVE	COLLABORATE
COMMUNITY EXPECTATION	To get balanced and objective information about aspects of the project that impact on us	To be asked our opinions and allow us to provide feedback to the company on the matters that concern us	To be involved in the decision making process and the exploration of alternatives regarding those issues that are of concern to us	To create a partnership with us whereby we have faith that our concerns and ideas are integrated into the decision making process
RCC OBLIGATION	We will keep the community well informed	We will listen and acknowledge community concerns and provide evidence that concerns are considered in decision making	We will work with the community to make sure concerns and issues are reflected in any alternatives developed. Provide feedback to the community on how their inputs has influenced outcomes	We will look to the community for advice and innovation in solving issues and concerns and incorporate their advice into the decision making process to the maximum extent possible.

8.6 COMPLAINTS HANDLING

Should any complaints occur immediate measures shall be undertaken to investigate the complaint, the cause of the issue and identify the required changes to work practices.

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

If a complaint is received, the complaint should be recorded. The complaint form should list:

- The name and address of the complainant (if provided);
- The time and date the complaint was received;
- The nature of the complaint and its particulars (including time & date);
- The name of the individual who received the complaint;
- Actions taken to investigate the complaint, and a summary of the results of the investigation

9 STORMWATER CONTROL & DISCHARGE: SURFACE WATER

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

In the event groundwater is intercepted during excavation works, a temporary water collection pit shall be excavated in the bottom of the excavation pit or graded surface. Water samples should be collected and tested for chemical of concern prior to discharge/disposal. The principal contractor should assess if the volume of expected groundwater requires relevant authority approval. Excavation pump out water (if any) shall be pumped from the excavation by a licensed contractor and disposed of off-site as "liquid waste" in accordance with NSW EPA (2014). The Principal Contractor will need to obtain the relevant approvals (from discharge authorities like Sydney Water etc.) should be obtained prior to the commencement of dewatering.

9.1 SUMMARY OF POTENTIAL IMPACTS

The following potential impacts from surface water may occur as part of the works program:

- Complaints from local residents;
- Breaches in Regulatory requirements;
- Increased turbidity and sediment concentrations due to accidental release;
- Increased sediment load on storm water drains and infrastructure;
- Ruts and gullies in soil surfaces;
- Unsuitable conditions for construction works;
- Safety and Health related issues; and
- Damage to local ecological receptors.

Any impacts would be expected to be temporary only in nature and generally localised to the area of adjoining active works, but may have longer term impacts to local ecological communities.

9.2 PROCEDURES

A summary of the minimum plan requirements is provided in Table 7.

Table 7: Summary of Water Quality Management Procedures

ELEMENT	WATER QUALITY
PERFORMANCE OBJECTIVES	Avoid or minimise the disturbance to, and release of potentially contaminated soil or sediment laden water to the surrounding environs. Prevent increased water flows causing erosion damage to drainage infrastructure and water ways. Prevent safety related incidents associated with wet or slippery work conditions.

ELEMENT	WATER QUALITY
MANAGEMENT ACTIONS	Assessment of weather during excavation operations and consideration of temporarily halting works until more favourable conditions are encountered. Install sediment control structures (i.e. silt fencing and/or hay bales) should be implemented in accordance with Managing Urban Storm water Soils and Construction (Landcom, 2004) prior to the commencement of works. This would include strategic placement of such structures down- gradient of temporary stockpiles and slopes to minimise sediment entrainment. These measures should also be placed on the up-slope side of any storm water collection channels. Control of drainage on the site by interception and redirection of clean storm water in a controlled manner. Collection of storm water on-site in trenches and sumps for appropriate management. Provide inlet protection to be provided for any potentially impacted locations. Site contractors will be required to observe any sediment control and/or storm water control measures to ensure that they are working at a satisfactory level. Provision of a Spill cleanup kit on all sites where bulk fuel is stored or is being transferred. Maintain a hardstand or lined and bunded area for the refueling and storage of equipment. Cease works if excessive surface water makes conditions unsuitable for construction works. Cease works if excessive surface water makes creates safety concerns.
PERFORMANCE INDICATOR	The prevention of increased storm water runoff is the best approach. Site contractors will be required to observe any increases in sediment loads and volumes in storm water drains when working close to surface drains and report any discharges beyond the site boundaries. Site contractors will be required to observe any sediment control and/or storm water control measures to ensure that they are working at a satisfactory level. Zero records of near miss or injury in relation to wet conditions
MONITORING	Regular observations will be made by the Site Contractors and the Project Manager and mitigation measures put into place if sediment loaded runoff is likely to occur or a rainfall event is predicted. Monitoring requirements from a pump-out-permit or other required license shall be adhered to at all times.
RESPONSIBILITY	The Project Manager is responsible for ensuring that each of the monitoring programs is implemented by appropriately trained/qualified staff. These programs may be sub-contracted out to a specialist sub- consultant as required.
REPORTING	Records of all corrective actions and known sediment releases will be kept. Records of Near Miss and Injuries will be kept. The Project Manager will immediately report to the Contract Administrator any incidents of water discharging off site.

10 MEASURES OF SEDIMENT CONTROL

10.1 SUMMARY OF POTENTIAL IMPACTS

Potential impacts from sediments resulting from the works include dust emissions (Refer to Element 1: Air Quality) and storm water (Refer to Element 3: Surface Water) generated during earthworks/land clearance and construction.

The following potential impacts from sediments may occur as part of the works program:

- Complaints from residents;
- Breaches in Regulatory requirements;
- Increased turbidity and sediment concentrations due to accidental release;
- Increased sediment load on storm water drains and infrastructure;
- Damage to local ecological receptors.

Any impacts would be expected to be temporary only in nature and generally localised to the area of adjoining active works and transport routes but may have longer term impacts to local ecological communities.

10.2 PROCEDURES

A summary of the minimum plan requirements is provide in Table 6.

Table 6: Summary of Sediment Management Procedures

ELEMENT	SEDIMENTS
PERFORMANCE OBJECTIVES	The objective will be to avoid an impact on water quality in surface water and drains which eventually discharge offsite by implementing prevention measures to control any sediment that is generated. Avoid or minimise soil migration and loss to surface waters and drains. Avoid or minimise pollution of creeks and waterways. Avoid or minimise increased sediment load on storm water drains and infrastructure.
MANAGEMENT ACTIONS	Prior to the start of the works a stormwater and sediment control plan should be prepared by the Principal Contractor. This Plan should be in accordance with Councils regulations. Site contractors will be required to observe any increases in sediment load in storm water drains when excavations are close to surface drains or waterways. Sediment control structures (i.e. silt fencing and/or hay bales) should be implemented in accordance with the Stormwater and Sediment Control Plan prior to the commencement of works. Evaluate weather conditions prior to works commencing and during any change in wind direction. Cease works if dust generation is excessive (by visual assessment). Covering of any stockpiles that are to remain for greater than two days, or if weather forecasts predict strong winds; with plastic or Hessian material. All sediment control measures will be kept in good operating condition and functional at all times, with regular maintenance.

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

11 ENVIRONMENTAL MANAGEMENT MEASURE ELEMENT: WASTE MANAGEMENT

Excess soils requiring offsite disposal will require additional assessment and should be stockpiled onsite prior to sampling and any additional assessment by a suitably qualified environmental consultant.

All excavated material removed from site will need to have appropriate Waste Tracking Certificates and no material is permitted to leave site prior to receiving a waste classification letter. Each truckload should be filled before leaving the site. A transportation form shall accompany each truckload and should be handed back to the Environmental Specialist upon return to the site. The waste docket should be attached to this transportation form.

Storm water and/or groundwater collected on-site in trenches and sumps will be subject to waste management if offsite disposal is to take place. Disposal via the storm water system may be undertaken subject to relevant authorities discharge license conditions.

Should excavations require dewatering, water samples will be collected by the Environmental Specialist and analysed prior to pump-out and offsite disposal. Waste liquid disposal dockets should be maintained onsite for inspection.

If during any site earthworks or excavation, asbestos, evidence of gross contamination or unknown type of material not previously detected is observed (Unexpected Finds), site works are to cease until the Project Manager has been notified and appropriate instructions have been provided to field personnel. Further works in such a location should be conducted under the supervision of a suitably qualified environmental consultant after a formal notification to the Site Auditor. All additional work would be documented and detailed in a validation report prepared by the Environmental Specialist and reviewed by the Site Auditor.

Other waste, excluding soils and groundwater, generated during the redevelopment works may include:

1. Domestic waste generated by site workers;
2. Asbestos contaminated waste to follow recommendations of UFP;
3. Concrete Slab;
4. Liquid waste; and
5. Inert building materials

Asbestos waste and decontamination disposal waste should be conducted as per consultant's advice and site auditors requirements.

Each outbound truck should be logged as clean prior to dispatch along with information pertaining to the amounts of loads and number of trucks leaving the site in addition to copies of all waste classifications certificates, waste tracking certificates, weigh bridge dockets, and any council approvals should be maintained onsite for inspection.

11.1 SUMMARY OF POTENTIAL IMPACTS

The following potential impacts from waste management may occur as part of the works program:

- Complaints from local residents;
- Breaches in Legislative/Regulatory requirements; and

- Damage to local ecological receptors.

Any impacts would be expected to be temporary only in nature and generally localised to the area of adjoining active works, but may have longer term impacts to local ecological communities.

11.2 PROCEDURES

A summary of the minimum plan requirements is provided in Table 8.

Table 8: Summary of Waste Management and Minimisation Procedures

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

ELEMENT	WASTE MANAGEMENT AND MINIMISATION QUALITY
CORRECTIVE ACTION (AS REQUIRED	Revision of the works strategy including relocation and alteration to the operating procedure if waste is shown to be entering the surrounding environment.

12 MEASURES TO PREVENT GROUNDWATER CONTAMINATION

The site history indicated that groundwater impacts at the site were not considered likely and, thus, a soil investigation only was undertaken, which is referenced in Appendix K. It was considered appropriate to investigate soil contamination only during the DSI, with the understanding that a groundwater investigation may need to be considered at a later stage, if significant visual / olfactory evidence of contamination was noted. No significant visual or olfactory evidence of contamination was noted and analytical results from soils sampling did not record any evidence of significant contamination, therefore a groundwater assessment was not undertaken and therefore not required to be a part of this CEMP.

13 EXTERNAL LIGHTING

As per Condition B1, external lighting to the proposed Cranbrook School complies with the AS4282-2019 – Control of the obtrusive effects of outdoor lighting. This is further substantiated with the design certificate prepared by Northrop Consulting Engineers which can be referenced in Appendix B.

14 MONITORING REQUIREMENTS

14.1 AUDITING AND RECORDS

The Client Project Manager will conduct regular audits of the Principal Contractors implementation of the CEMP. Audits will involve a review of all environmental documents, records and reports to ensure compliance with the requirements of the CEMP. If non-compliance is detected, the Principal Contractor will initiate to the satisfaction of the Client Project Manager the appropriate corrective action.

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

- Environmental management measures presented in Environmental Elements 1 to 7;
- Environmental management measures presented in the AMP;
- Adherence to reporting procedures;
- Complaint and incident management; and
- Legislative requirements.

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

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

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

15 ENVIRONMENTAL EMERGENCY

Specific and immediate responses to emergencies and environmental incidents will be determined by the Principal Contractor.

Table 13: Environmental Emergency Contacts

Pollution type or source	Organisation responsible	Telephone
Transport of dangerous goods	EPA	131 555
Chemical spills	Fire Brigade (HAZMAT) & EPA	000 or 131 555
Contaminated sites	EPA	131 555
Fertilisers, pesticides, herbicides	EPA	131 555
Radiation	EPA	131 555
Oil spillage in ports		
Garie Beach to the Victoria border	Port Kembla Port Corporation	02 4274 4571
Oil spillage in estuaries and inland waters	Fire Brigade	02 9319 7000 (Sydney) or 1800 422 281 (outside Sydney)
Other pollution of beaches, estuaries, tidal lakes, rivers, creeks, streams and lakes	Local councils EPA	See local phone book 131 555
Drinking water catchments		
Sydney and Wollongong	Sydney Water	132 090 (24 hours)
Elsewhere in NSW	Local councils	See local phone book
Other water pollution		
Storm water channels	Local councils Sydney Water EPA	See local phone book 132 090 (24 hours) 131 555
Sewer overflows	Sydney Water	132 090 (24 hours)
Fish kills	EPA	131 555

16 SECURITY AND PUBLIC SAFETY

16.1 RESTRICTION TO ACCESS

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

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

16.2 PEDESTRIAN AND TRAFFIC CONTROL

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

Signage shall also be erected to inform the public who to contact in case of any complains

17 REPORTING

Environmental Elements 1 to 8 of the Project include Performance Objectives to be applied to specific aspects of the works and Corrective Actions that may be adopted should non-conformances or environmental incidents occur.

17.1 NON-COMPLIANCE

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

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

17.2 ENVIRONMENTAL INCIDENT

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

17.3 REPORTING AND CORRECTIVE ACTIONS

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

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

Table 14 details the general procedures to be undertaken when non-compliances and environmental incidents occur.

Table 14: Corrective and Preventative Action Procedures

ELEMENT	MANAGEMENT
OBJECTIVE	To implement a system to identify, document, analyse and implement corrective and preventative actions for environmental non-conformance issues
MANAGEMENT ACTIONS	When a non-conformance or environmental incident occurs the Principal Contractor is to ensure corrective and preventive actions are implemented by: • Assigning personnel to undertake investigation as per 'Environmental Incident Investigation Report' Form or 'Non- Compliance Report' Form and designate lead investigator. • Maintain documentation of Investigation Report Forms and their corrective/preventive actions on site;

ELEMENT	MANAGEMENT
	• Report environmental non-conformances identified that cause or have the potential to cause a significant environmental impact immediately to the Principal Contractor's Project Manager. • Provide a summary of environmental non-conformances with the corrective and preventative actions which have been implemented to mitigate and/or prevent further recurrences. • Outstanding corrective actions to the Principal Contractor's Project Manager as requested. • Utilise corrective/preventative actions to revise and update CEMP and/or CEMP objectives, operational controls, and other aspects as required. • Review outstanding corrective action status.
RESPONSIBILITY	All Staff and Subcontractors are: • Responsible for informing their immediate manager of environmental non-conformances. • Responsible for undertaking corrective/preventative actions and • effectiveness determinations as assigned.
REPORTING	Maintenance of records of '*Environmental Incident Investigation Report'* Forms and '*Non-Compliance Report*' Forms completed for the duration of the project.

APPENDIX A - SITE LOCATION & PROPOSED DEVELOPMENT PLAN


WOLSELEY RD
STAGE 2
REDEVELOPMENT
NEW SOUTH HEAD RD
CRANBROOK
SCHOOL
ROSE BAY AVE
VICTORIA RD

APPENDIX B - EXTERNAL LIGHTING COMPLIANCE

NORTHROP

Level 11, 345 George Street, Sydney NSW 2000
T (02) 9241 4188 F (02) 9241 4324
E sydney@northrop.com.au ABN 81 094 433 100

2nd December 2019

Ref: SY170735-ESOC-2

Cranbrook School
ACN 000 007 723
5 Victoria Road
Bellevue Hill NSW 2023

Dear whom it may concern,

Re: Cranbrook Senior School Redevelopment - Electrical Services Statement of Design Intent

Subject Premises: 5 Victoria Road, Bellevue Hill NSW 2023
Development Application: SSD 17-8812

Pursuant to the provisions of Clause A2.2 of the National Construction Code 2016 Amendment 1 (Building Code of Australia), I hereby certify that the above design is in accordance with normal engineering practice and meets the requirements of the Building Code of Australia, relevant Australian Standards and relevant conditions of Developments Consent. In particular the design will be in accordance with the following:

Power Distribution

The power distribution, including incoming supply, protection, and cabling has been designed in accordance with the following documents:

- AS/NZS 3000:2018 – Wiring Rules
- AS/NZS 3008.1.1:2009 - Cables for alternating voltages up to and including 0.61 kV—Typical Australian installation conditions
- NSW Service And Installation Rules (current edition)

Emergency and Exit Lighting

A system of self-contained, single point emergency and exit lighting has been designed in accordance with the following documents:

- NCC 2016 Amdt 1 Section E, Clauses E4.2, E4.4, E4.5, E4.6, and E4.8
- AS 2293.1:2018 – Emergency escape lighting and exit signs for buildings

Energy Efficiency

Energy efficiency measures have been included in the design in accordance with the following documents:

- NCC 2016 Amdt 1 Section J, Clauses J6.2 and J6.3

Energy Monitoring

Facilities for energy monitoring have been included in the design in accordance with the following documents:

- NCC 2016 Amdt 1 Section J, Clause J8.3

Internal Lighting

Internal lighting has been designed in accordance with the following documents:

- NCC 2016 Amdt 1 Section F, Clause F4.4
- AS/NZS 1680.0:2009 – Interior Lighting – Safe Movement
- AS/NZS 1680.2.1:2008 – Interior Lighting – Specific Applications – Circulation

External Lighting

External lighting has been designed in accordance with the following documents:

- AS/NZS 1158.0:2005 (+ Amendment 2) – Lighting for Roads & Public Spaces (General)
- AS 4282:1997 – Control of the Obtrusive Effects of Outdoor Lighting

I am an appropriately qualified and competent person in this area and as such can certify that the design and performance of the design systems comply with the above and which are detailed on the following drawings.

Doc. No	Rev	Title
AF-E11-B11	B	BASEMENT 1 (POOL CONCOURSE) LIGHTING SHEET 1
AF-E11-B12	B	BASEMENT 1 (POOL CONCOURSE) LIGHTING SHEET 2
AF-E11-B13	B	BASEMENT 1 (POOL CONCOURSE) LIGHTING SHEET 3
AF-E11-B14	B	BASEMENT 1 (POOL CONCOURSE) LIGHTING SHEET 4
AF-E11-B21	C	BASEMENT 2 (POOL HALL) LIGHTING SHEET 1
AF-E11-B22	B	BASEMENT 2 (POOL HALL) LIGHTING SHEET 2
AF-E12-B11	C	BASEMENT 1 (POOL CONCOURSE) POWER & ICT SHEET 1
AF-E12-B12	C	BASEMENT 1 (POOL CONCOURSE) POWER & ICT SHEET 2
AF-E12-B13	C	BASEMENT 1 (POOL CONCOURSE) POWER & ICT SHEET 3
AF-E12-B14	B	BASEMENT 1 (POOL CONCOURSE) POWER & ICT SHEET 4
AF-E12-B21	C	BASEMENT 2 (POOL HALL) POWER & ICT SHEET 1
AF-E12-B22	C	BASEMENT 2 (POOL HALL) POWER & ICT SHEET 2
AF-E13-B11	B	BASEMENT 1 AUDIO VISUAL SHEET 1
AF-E13-B12	B	BASEMENT 1 AUDIO VISUAL SHEET 2
AF-E13-B21	B	BASEMENT 2 AUDIO VISUAL SHEET 1
AF-E13-B22	B	BASEMENT 2 AUDIO VISUAL SHEET 2
CB-E11-011	B	LEVEL 01 LIGHTING SHEET 1
CB-E11-012	B	LEVEL 01 LIGHTING SHEET 2

CB-E11-021	B	LEVEL 02 LIGHTING SHEET 1
CB-E11-022	B	LEVEL 02 LIGHTING SHEET 2
CB-E11-031	B	LEVEL 03 LIGHTING SHEET 1
CB-E11-032	B	LEVEL 03 LIGHTING SHEET 2
CB-E11-041	B	LEVEL 04 LIGHTING SHEET 1
CB-E11-042	B	LEVEL 04 LIGHTING SHEET 2
CB-E11-051	B	LEVEL 05 LIGHTING
CB-E12-011	C	LEVEL 01 POWER & ICT SHEET 1
CB-E12-012	C	LEVEL 01 POWER & ICT SHEET 2
CB-E12-021	C	LEVEL 02 POWER & ICT SHEET 1
CB-E12-022	C	LEVEL 02 POWER & ICT SHEET 2
CB-E12-031	D	LEVEL 03 POWER & ICT SHEET 1
CB-E12-032	C	LEVEL 03 POWER & ICT SHEET 2
CB-E12-033	B	LEVEL 03 KITCHEN POWER
CB-E12-041	D	LEVEL 04 POWER & ICT SHEET 1
CB-E12-042	C	LEVEL 04 POWER & ICT SHEET 2
CB-E12-051	C	LEVEL 05 POWER & ICT
CB-E13-011	B	LEVEL 01 AUDIO VISUAL SHEET 1
CB-E13-012	B	LEVEL 01 AUDIO VISUAL SHEET 2
CB-E13-021	B	LEVEL 02 AUDIO VISUAL SHEET 1
CB-E13-022	B	LEVEL 02 AUDIO VISUAL SHEET 2
CB-E13-031	B	LEVEL 03 AUDIO VISUAL SHEET 1
CB-E13-032	B	LEVEL 03 AUDIO VISUAL SHEET 2
CB-E13-041	B	LEVEL 04 AUDIO VISUAL SHEET 1
CB-E13-042	B	LEVEL 04 AUDIO VISUAL SHEET 2
CB-E12-051	B	LEVEL 05 AUDIO VISUAL
CR-E00-000	B	COVER SHEET, DRAWING LIST AND LEGEND
CR-E00-001	C	LEGEND & NOTES
CR-E00-002	C	LUMINAIRE SCHEDULE – AFC
CR-E00-003	C	LUMINAIRE SCHEDULE – CEN
CR-E00-100	B	AUDIO VISUAL LEGEND & NOTES
CR-E10-000	C	SITE PLAN - AFC
CR-E10-001	B	SITE PLAN - CENTENARY BUILDING
CR-E10-002	C	KISS AND DROP ROAD

CR-E20-001	B	TYPICAL DETAILS
CR-E30-001	B	MAIN SWITCHBOARD SINGLE LINE DIAGRAM
CR-E30-002	B	MAIN DISTRIBUTION BOARD SINGLE LINE DIAGRAM
CR-E30-003	B	DISTRIBUTION BOARD & TECHNICAL EARTH DIAGRAM
CR-E30-004	B	THEATRE, ASSEMBLY HALL, ORCHESTRA AND CHAPEL CABLE SCHEDULE
CR-E30-005	B	LIGHTING CONTROL SCHEMATIC
CR-E30-006	C	CUSTOM LIGHT FITTING DETAILS
CR-E31-001	B	COMMUNICATIONS SCHEMATICS 1
CR-E31-002	B	COMMUNICATIONS SCHEMATICS 2
CR-E31-003	B	COMMUNICATIONS SCHEMATICS 3
CR-E32-001	B	AUDIO VISUAL SCHEMATICS SHEET 1
CR-E32-002	B	AUDIO VISUAL SCHEMATICS SHEET 2
CR-E32-003	B	AUDIO VISUAL SCHEMATICS SHEET 3
CR-E32-004	B	AUDIO VISUAL SCHEMATICS SHEET 4
CR-E32-005	C	AUDIO VISUAL SCHEMATICS SHEET 5
CR-E32-006	B	AUDIO VISUAL SCHEMATICS SHEET 6
CR-E32-007	B	AUDIO VISUAL SCHEMATICS SHEET 7

I possess Indemnity Insurance to the satisfaction of the building owner or my principal.

Full Name of Designer:	Yogesh Maharaj
Qualifications:	BE (Elec) CPEng MIEAust NER RPEQ
Address of Designer:	Level 11, 345 George Street Sydney NSW 2000
Business Telephone No:	02 9241 4188
Name of Employer:	Northrop Consulting Engineers Pty Ltd

We confirm that in preparing the Electrical services documentation for this development, we have exercised due diligence and care, in accordance with standard practice. This Certificate however, does not relieve other parties from their responsibilities.

Yours faithfully,

Yogesh Maharaj
Principal | Sydney Building Services Section Manager
Northrop Consulting Engineers Pty Ltd

APPENDIX C - CONSTRUCTION TRAFFIC & PEDESTRIAN MANAGEMENT SUB-PLAN