

Meadowbank Education and Employment Precinct Schools Project Construction Management Plan for Project Management Services

SSD 18_9343

Prepared by Blue Visions Management Pty Ltd

For School Infrastructure NSW

Revision 1 – 11th October 2019



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1. INTRODUCTION

1.1. Overview

This Construction Management Plan for Project Management Services has been prepared by Blue Visions Management Pty Ltd on behalf of the NSW Department of Education (the Applicant). It accompanies an Environmental Impact Statement (EIS) in support of State Significant Development Application (SSD 18_9343) for the Meadowbank Education and Employment Precinct Schools Project (hereafter referred to as MEEPSP) at 2 Rhodes Street, Meadowbank (the site).

The MEEPSP will cater for 1,000 primary school students and 1,620 high school students. The proposal seeks consent for:

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

The purpose of this Construction Management Plan for Project Management Services is to define the Project Manager's and the Principal's Authorised Person's role in monitoring the Head Contractor's development and implementation of his own Site Construction Management Plan for the construction of the Works following the awarding of the Head Contract.

The Construction Management Plan for Project Management Services does not intend to direct the Head Contractor's planning, procedures and activities for constructing the Works, however, in the current absence of the Head Contractor's Construction Management Plan, this Plan discusses in generalised terms how the Head Contractor may elect to plan and implement his works.

While having some discretion in how he establishes and operates his site, the Head Contractor's overarching obligation will be to do so in accordance with the Contract, and with all relevant legislation, statutes, codes

of practice, with the instructions of statutory bodies and emergency services authorities, and in full compliance with all Conditions of Development Consent.

1.2. Response to SEARs

The Construction Management Plan for Project Management Services is not a requirement of the Secretary's Environmental Assessment Requirements (SEARs) for SSD 18_9343, however, it is provided in acknowledgement of the essential requirement for the development and implementation of measures for the management of:

- Work Health Safety and Environment;
- local traffic;
- pedestrian accessibility and safety;
- noise and vibration;
- waste management;
- construction phase hours of operation.

Table 1 – SEARs and Relevant Reference

SEARs Item	Report Reference
Section 12 – Noise and Vibration	Section 5.4 – Site Establishment & Excavation
Section 19 – Sediment Erosion and Dust Controls	Section 5.4 – Site Establishment & Excavation
Section 20 - Waste	Section 5.3 – Construction Waste
Section 21 – Construction Hours	Section 5.6 – Construction Phase Hours of Operation

2. PROJECT INFORMATION

2.1. Document Details

Project Name	Meadowbank Education and Employment Precinct Schools Project	
Document Title	Construction Management Plan for Project Management Services	
Document Location	This document is located in the blueVisions' document storage system on SharePoint / OneDrive and in the School Infrastructure NSW TReign database.	
Release	Revision:	1
	Date:	11 October 2019
Project Client:	The New South Wales Department of Education	School Infrastructure NSW
Client Representative:	Michael Kavanagh	Senior Project Director

2.2. Document Revision History

Version Number	Revision Date	Summary of Changes
A	15 October 2018	Initial draft
B	2 April 2019	Development of Draft
C	8 April 2019	For Planner Review
D	17 April 2019	For Client Review
E	2 May 2019	For SSDA Submission
F	20 May 2019	For Test of Adequacy Response
1	11 October 2019	For SSDA Submission

2.3. Background

Blue Visions Management Pty Ltd (blueVisions) has been engaged by SINSW to provide project management services for the planning, design, and construction delivery of the MEEPSP. This appointment establishes blueVisions role as the Project Manager, either as the Principal's Authorised Person for the GC21 Construction Contract, or in support of the Principal's appointee to that role, and as the functional manager of the Head Design Consultant and any other consultancies directly engaged by the Principal.

HC	Head Contractor
SINSW	School Infrastructure New South Wales
blueVisions bV	Blue Visions Management Pty Ltd
CMP	Construction Management Plan
CMP/PM	Construction Management Plan for Project Management Services
CR	Change Request
CRL	Change Request Log
CTMP	Construction Traffic Management Plan
DoE Department	The NSW Department of Education
Dwgs	Drawings
HC	Head Contractor
HDC	Head Design Consultant
HSE	Health Safety and Environment
IR	Industrial Relations
LCA	Local Certifying Authority
PAP	Principal's Authorised Person
PCM	Project Coordination Meeting
PM	Project Manager
PRG	Project Reference Group
QS	Quantity Surveyor
RFQ	Request for Quote
SINSW	School Infrastructure NSW
TSG	Technical Stakeholder Group
WBS	Work Breakdown Structure

3. Construction Management Plan for Project Management Services

3.1. Purpose

The purpose of this Construction Management Plan for Project Management Services is to define the Project Manager's and the Principal's Authorised Person's role in monitoring the Head Contractor's development and implementation of his own Site Construction Management Plan for the construction of the Works following the awarding of the Head Contract.

The Construction Management Plan for Project Management Services does not intend to direct the Head Contractor's planning, procedures and activities for constructing the Works, however, in the current absence of the Head Contractor's Construction Management Plan, this Plan discusses in generalised terms how the Head Contractor may elect to plan and implement his works.

While having some discretion in how he establishes and operates his site, the Head Contractor's overarching obligation will be to do so in accordance with the Contract, and with all relevant legislation, statutes, codes of practice, with the instructions of statutory bodies and emergency services authorities, and in full compliance with all Conditions of Development Consent.

Subject to the Conditions of Consent, this Construction Management Plan for Project Management Services proposed construction hours in conformance with Section 4.6, Subsection a, of the City of Ryde Development Control Plan (2014).

The main construction works are to be delivered over a program of approximately 23 months duration with the awarding of the Head Contract and commencement on site being contingent on consent to the State Significant Development Application (SSDA).

4. Traffic Management

4.1. Response to SEARs

In response to Section 7 – Transport and Accessibility of the SEARs, the Principal's consultant GTA Consultants has prepared a Transport and Accessibility Impact Assessment, and a preliminary Construction Traffic and Pedestrian Management Plan, which addresses the following:

- Site access
- Requirements for works zones
- Anticipated heavy vehicle movements
- Heavy vehicle routes to and from the site
- Requirements for pedestrians and cyclists
- Overview of Construction Traffic Management Planning requirements.

Refer to the Transport and Accessibility Impact Assessment for further details.

4.2. Head Contractor's Obligations

A Construction Traffic Management Plan (CTMP) will to be prepared by the Head Contractor in response to Conditions of Development Consent, detailing strategies and methodologies for pedestrian and traffic management to be implemented during the main construction works.

5. Work, Health, Safety and Environmental (WHSE) Management

5.1. Work Health and Safety

The health, safety and welfare of all persons, both directly and indirectly involved with the Project, and the protection of the environment, are key Project objectives. Achievement of these objectives is supported by comprehensive planning and scheduling of work activities, training programs, competent management, and the development and implementation of corporate and workplace policies and procedures. A Project Work Health, Safety and Environmental Management Plan is an integral element of our overall Health, Safety, Environment and Quality Management System (HSEQ, and is independently audited to ensure conformance with AS/NZS 4801:2001. Project Management personnel shall be required to undertake relevant training and to exercise their roles in compliance with HSEQ obligations. They shall be responsible to: -

- Adhere to WHS legislative requirements, safe work practices, procedures, instructions and rules;
- Perform all duties with regard to their own and other's health and safety;
- Consider health and safety aspects in all projects undertaken; and
- Co-operate with management to facilitate health and safety responsibilities are fulfilled.

blueVisions' Project Team will monitor contractors, aiming for them to achieve and to maintain the highest levels of safety and environmental controls on the site through best practice and regular auditing and inspections. We will ensure that contractors and all persons working onsite, are aware of and comply with the SINSW's requirements relating to and in proximity of children and students. Site Safety and Environmental compliance will be the first agenda item for regularly programmed meetings the Contractor. Our Project Team will ensure that the Head Contractor's Contract with the Client requires submission of Work, Health, Safety and environmental Management Plans. This will be stipulated in the Contract Information section of the General Conditions of Contract. No work on site will be permitted to commence until all essential documents have been submitted and accepted.

The Contractor's Safety and Environmental performance will be the subject of routine reporting to the Client, typically in Monthly Reports, whereas any safety and / or environmental incident will result in urgent and specific reporting to the Client.

5.2. Site Induction

All Head Contractor site personnel, consultants and sub-contractors, will be required to be site inducted.

The induction will address site Work Health Safety and Environment protocols, including evidencing the inductee's General WHS Induction (White Card); site emergency protocols and procedures, including information regarding emergency evacuation and assembly area locations; specific requirements relating to the role, duties and responsibilities of the inductee, including evidencing any essential trade qualification and certifications; details of authorised access routes to and from the construction site for site personnel and any arrangements for vehicle access to site; and advice of site working days and hours of work.

5.3. Construction Waste

A Waste Management Plan will be prepared and submitted by the Head Contractor as a sub plan to the Project WHSE Management Plan. The purpose of this plan is to respond to the Conditions of Development Consent, in addition to ensuring that Project generated waste is managed in compliance with both statutory obligations and Project objectives for the reduction of environmental impacts.

5.3.1 Scope

The Waste Management Plan will detail measures for the management of solid and liquid waste generated during the construction phase. It will define measures to minimise waste generation, and to monitor and mitigate the impacts of construction activities.

5.3.2 Objective

The objectives of the Waste Management Plan will be based on the hierarchy of avoidance/reduction, reuse, recycle, treatment and/or disposal, and should focus on achievement of reuse and/or recycling a minimum of 80% of all waste material generated on the construction site, thus achieving up to 80% reduction in waste going to landfill.

Key focuses for waste reduction and minimisation on a construction site are demolition materials, construction material waste, excavated spoil, washout, domestic waste, and general litter.

Project objectives include:

- Minimising impacts from waste generation.
- Maximising beneficial re-use of excavated materials, thereby minimising off-site re-use or disposal of waste to landfill.
- Ensuring that all Project personnel are aware of the importance of sound waste management practices and the actions they can take to facilitate achievement of this objective.
- Monitoring the management and disposal of site generated waste to ensure compliance with relevant legislation, conditions and guidelines.
- Minimising the contamination of recyclable waste materials.
- Monitoring and analysing waste to enable identification of opportunities for waste reduction through recycling / reuse, and the potential for cost savings.
- Liaising with contractors to identify areas for where they can reduce water and reuse materials in their respective trades;

5.3.3 Site Control Measures and Waste Management Actions



- The Head Contractor will be required to consult with and engage a waste management contractor in the early stage of the Project to ensure appropriate planning and implementation of an effective waste management strategy.
- Waste materials generated on site are to be managed to maximise recycling and, as a consequence, to reduce the volume of waste transported to landfill.
- The use of building materials that are fully recycled and/or include recycled material in their production will be maximised where practicable. Materials selected must be fit for purpose.
- Waste is to be disposed of lawfully. All documentation pertaining to the disposal of construction related waste is to be provided to the PM/PAP and retained in the site records for verification purposes.
- During excavation, the transporting and offsite disposal of fill / spoil materials will be strictly in accordance with authority requirements.
- Diligence will be exercised during site investigations to identify any pre-existing hazardous materials upon the site, with any such discoveries managed in accordance with statutory requirements.
- Concrete waste upon the site is to be removed as a priority, or otherwise contained pending removal to prevent contamination of adjacent portions of the site and watercourses. Ideally, the Contractor will make effort to negotiate an agreement with concrete suppliers for washout operations to be performed off-site at the concrete batching plant.
- Prevent discharges of paint waste and/ or wet trade washout upon the site, unless in an appropriately prepared and bunded zone, to prevent impact on adjacent areas and watercourses.
- Ensure appropriate separation, segregation and storage of all waste generated on site in advance of it being removed for off-site disposal.
- Do not permit an accumulation of general solid or other construction waste upon the site and be vigilant to the potential for any stockpiled waste materials awaiting off-site disposal giving rise to contamination beyond the boundaries of the site.
- Ensure appropriate diligence in the handling and transportation for off-site disposal of all waste generated on the Project site.
- Indicative Key Waste Streams are detailed in the Table below:

Control Measure	Timing	Methodology	Responsibility	Monitoring and Reporting	Performance Measure
Waste Identification and Planning					
Undertake in-situ sampling and testing of spoil to determine waste classification.	Prior to works commencing	A sampling grid is to be established following consultation with a specialised environmental consultant.	Contractor	Report to be supplied by specialised environmental consultant.	Waste classifications and quantities (m3) to be confirmed with various options to be made available to the Project Team.

Control Measure	Timing	Methodology	Responsibility	Monitoring and Reporting	Performance Measure
Identify any excavated material suitable to be reused on site.	Prior to works commencing	Subject to necessity, and assessment of suitability through waste classification, any excavated materials may be re-used on the site, as an alternative to off-site disposal.	Contractor	Monthly	Options for either re-use or off-site disposal of excavated soil materials will be assessed at the design stage of the Project. Targets tracked for performance
General waste categories to be identified for the implementation of a collection bin system. Project waste types to be identified and quantified.	Prior to works commencing	This could be in the form of source separation with dedicated bins for various waste streams. Separation bins to be nominated (e.g. colour coded, or signage used) for the various recyclable materials, and non-recyclable waste materials.	Contractor	Monthly	The contractor will be responsible for placing their waste in the correct bins and will be held accountable for any rectification costs related to cross contamination of bins through inappropriate usage.
Hazardous building materials to be identified in Hazardous Materials Building Survey	Prior to demolition works commencing	Independent surveyor to prepare a Hazardous Materials Register	Contractor	To be reviewed by PM and incorporated into WMP.	Preparation of a functioning Hazardous Materials Register for building materials.
Wet Trade Washout processes and facilities to be assessed and if possible and practicable a dedicated facility established.	Prior to works commencing	Washout processes are to be minimised and water recycling for these activities are to be encouraged where possible	Contractor	Monthly	No uncontrolled discharges of washout material. Washout facilities should NOT be plumbed to any building services and will be of a stand-alone nature

Control Measure	Timing	Methodology	Responsibility	Monitoring and Reporting	Performance Measure
Major contractors and suppliers will be asked to submit details of their waste minimisation procedures.	Prior to works commencing	Practical measures associated with their works to prevent waste entering on site	Contractor	Periodically	Waste streams reduced through use of alternative recyclable products. Bulk handling and use of reusable and returnable containers will be encouraged
Packaging to be minimised and /or be suitable for reuse	At all times	All suppliers / contractors of building materials will be encouraged to identify packaging minimisation procedures	Contractor	Monthly	Waste targets to be tracked and reported monthly.
Waste Storage					
Segregation and storage of construction/ demolition and domestic waste prior to offsite disposal.	At all times	Waste contractor to address and follow legislative requirements.	Contractor	Weekly inspection of waste collection areas.	No cross contamination of wastes. No spillage or loss of waste from collection containers in storage areas
Appropriate storage of paints / associated products and waste streams generated from washout processes.	At all times	Site storage to be in a well-ventilated lockable container with perimeter bunding	Contractor	Weekly Maintenance Checks	No risk of damage to the site environment and/or off-site sensitive receptors. Checklist to be incorporated into Site Environmental Reporting.
Protocols are be established to ensure that chemical waste is stored appropriately prior to disposal off site.	At all times	Chemical waste is to be stored in sealed containers, in a dedicated secure and well-ventilated, bunded and covered area. The storage area will have 110% capacity of the stored chemical waste.	Contractor	Weekly inspection of waste collection areas.	Correct covers and containers for waste No spillages/loss of waste during storage.

Control Measure	Timing	Methodology	Responsibility	Monitoring and Reporting	Performance Measure
Preparation of a Waste Storage and Handling Plan.	Prior to works commencing	Details the designated storage locations for all bins or holding areas including water / washout and waste etc.	Contractor	Review of Plan prior works commencing.	Waste Storage Plan containing all relevant details.
Waste Disposal					
Excavated spoil and other waste classified as being unsuitable for reuse or recycling is to be transported to a licensed disposal facility in accordance with local waste management requirements.	At all times	Consultation with specialist environmental consultant and engagement of a licensed waste disposal contractor for removal of contaminants to a licensed disposal site.	Contractor	Monthly tracking of materials through inspection, analysis of Contractor progress payment claims and monitoring of waste classification reporting.	Reconciliation of tracking registers and waste dockets. All correspond to waste types/ volumes.
Hazardous waste requires isolation prior to disposal	At all times	In consultation with specialised environmental consultant, isolate the contaminated area from general access. Licensed waste contractor to remove and transport waste to a licensed disposal site.	Contractor	Site to be isolated to prevent unauthorized access. Consult with specialist environmental consultant regarding implementation of WHS measures prior to removal of contaminants. Secure a Clearance Certification prior to re-occupation of site.	Reconciliation of tracking registers and waste dockets. Testing demonstrates that there is no evidence of residual contamination following hazardous materials removal and site remediation.
Maintain all waste sampling and classification results.	At all times	As determined by the specialised environmental consultant	Contractor	Monthly tracking of materials through. This may be facilitated through the progress payment protocol.	Waste transfer dockets / receipts for the life of the Project.

Control Measure	Timing	Methodology	Responsibility	Monitoring and Reporting	Performance Measure
Transport and handling of demolition/ construction waste and domestic waste by licensed contractors.	At all times	Only approved contractor to be used. Appropriate SWMS for transportation of waste	Contractor	Random inspection of waste transport licenses and vehicles.	Correct covers and containers for waste transfer. No spillages/loss of waste during transport.
Demolition/ construction and domestic waste disposal to correct licensed waste receiving facilities.	At all times	Only approved waste receiving facilities to be used.	Contractor	Waste classification reports. Inspect as required.	Waste disposal docket correspond to waste types/ volumes.
Chemical wastes transported off-site may require waste tracking in accordance with the Waste Regulations.	At all times	In consultation with specialised environmental consultant. Appropriately licensed contractor to remove and transport waste to licensed landfill	Contractor	Random inspection of waste transport licenses and vehicles.	Correct covers and containers for waste transfer. No spillages/loss of waste during transport.
Paint waste (and other wet trade waste) to be disposed off-site by return to the manufacturer or to a licensed waste disposal facility.	Only when reuse/ recycling options not available.	Contractor to dispose to licensed landfill.	Contractor	As required	No waste is to be disposed of at unlicensed facilities. Copies of all tipping/disposal documentation to be supplied to the Project Manager and maintained with site records.
Appropriate disposal of all wastewater from site operations (i.e. paint washing) or temporary facilities (i.e. toilets).	At all times	Collection and disposal of wastewater by approved licensed contractor	Contractor	As required	Waste disposal docket correspond to waste types/ volumes.
Waste Recycling					
Demolition of any of the remaining components of the existing buildings will be conducted in a manner to maximise material recycling	Prior to works commencing	A demolition strategy will be developed, and further consideration given to sorting and segregating of waste for reuse and disposal.	Contractor	Monthly	Nomination of the waste streams for materials suitable for reuse, with implementation of such to be tracked against projected targets.

Control Measure	Timing	Methodology	Responsibility	Monitoring and Reporting	Performance Measure
Waste building or demolition materials (i.e. concrete, timber, steel, etc.) to be segregated and stored in separate site bins.	At all times	Appropriately designed waste storage areas with designated recycling bins.	Contractor	Weekly inspection	Clean waste bin area. No cross contamination of waste types.
Segregated waste building/demolition materials are appropriately recycled.	At all times	Approved waste recycling contractor to collect bins for recycling.	Contractor	Established collection schedule. Audit actual recycling volumes compared to waste recycling targets (%).	Evidenced by waste disposal for recycling documentation and by reporting to verify achievement of recycling targets.
Any fill imported onto the site is to have certified classification and clearance.	As required	Identification of material	Contractor	Clearance Certificate	Certification to be provided prior to introduction of materials to site.
Co-ordinate the use of raw materials – reuse or share plywood, noise hoarding, site fencing and formwork where possible to reduce waste.	Prior to works commencing	Ensure compliant to specification and fit for purpose.	Contractor	Tabled in Project meetings.	Quantified in Project reviews.
Excess concrete to be re-used elsewhere on-site where possible.	At all times.	Concrete contractor to address.	Contractor	Monitoring as required by SM	No excess concrete left on site.
Excess concrete to be stored on-site and collected by recycling contractor.	Only when reuse options not available.	Concrete contractor to address.	Contractor	Monitoring as required by SM. Waste recycling dockets.	No hardened spills/ pours left on site.
Use of other recycled material	At all Times	Suppliers will be encouraged to nominate products that include a recycled component.	Contractor	Monthly	Product selection will include a selection factor associated with recyclability and percent of recycled product.

Control Measure	Timing	Methodology	Responsibility	Monitoring and Reporting	Performance Measure
Waste Washout Facilities					
Concrete washout facility	Prior to Construction.	Dedicated area set up to facilitate this process. Appropriately designed washout facility & waste collection system.	Contractor	Monitoring as required by SM. Weekly inspection of facility and waste collection.	Off-site recycling of solids (slurry) Specifically design plant to enable recycling of water from solid wastes (slurry) which maximises water reuse and minimises solid waste generation. Washout area kept clean and drains/sumps operating.
Wet trades washout facility	Prior to Construction.	Dedicated area set up to facilitate this process. Appropriately designed washout facility & waste collection system.	Contractor	Monitoring as required by SM. Weekly inspection of facility and waste collection.	Off-site recycling of solids (Slurry) Specifically design plant to enable recycling of water from solid wastes (slurry) which maximises water reuse and minimises solid waste generation. Washout area kept clean and drains/sumps operating.
Spill containment at wash down facility.	At all times	Designed into washout area.	Contractor	Weekly inspections or as required.	No uncontrolled discharges from the facility.
Cleaning procedure for acrylic based paints to be established.	Prior to Construction / At all times	Detail required in contractors SWMS.	Contractor	Monthly	No risk of damage to the site environment and/or off-site sensitive receptors. Facility is regularly used. Water recycling figures to be reported to Project Manager.

Control Measure	Timing	Methodology	Responsibility	Monitoring and Reporting	Performance Measure
Cleaning Procedure for solvent based paints to be established	Prior to Construction / At all times.	Detail required in contractors SWMS.	Contractor	Monthly	No risk of damage to the site environment and/or off-site sensitive receptors. Facility is regularly used. Water recycling figures to be reported to Project Manager.
Waste Minimisation					
Minimise packaging and maximise use of recycled products by contractors.	At all times	Review contractor materials and packaging proposals	Contractor	Inspect material deliveries/ specifications.	Proven examples of minimal packaging and recycled materials.
Consider recycled materials in the design of concrete, road base, asphalt and other construction materials.	Prior to works commencing	Ensure compliant to specification and fit for purpose.	Contractor	Tabled in design meetings with appropriate acceptance sign off.	Material received with clearance certificates and fit for purpose.
Site Office and Amenities Generated Waste					
Recycling bins shall be provided within the site working area.	As required	Coordinated with existing operational facility	Contractor	Ensure waste is disposed in accordance with existing operations	Monthly WHSE Managers review
Site amenities shall be provided site as required	Prior to works commencing	Coordinated with workforce numbers	Contractor	Ensure waste is disposed in accordance with existing facilities requirements	All waste to be disposed of appropriately.

5.4. Site Establishment & Excavation

The Head Contractor will be responsible for determining site establishment & excavation methodology and sequencing of activities, in compliance with any milestones stipulated by the Principal in the Construction Contract, and in strict compliance with the Conditions of Development Consent.

The following approach to site establishment & excavation is indicative only and has been suggested, pending the engagement of the Head Contractor and his preparation of his Construction Management Plan.

- Trees shall be protected in accordance with arborists recommendations, with final methodology to be determined prior to implementation.
- Tree protection measures shall be implemented and completed during early works.
- Closure of the footpath along the entire frontage of the site to Rhodes Street. This zone would be used primarily for queuing of waiting trucks, to reduce congestion. A Works Zone Permit issued by Ryde Council will be necessary for this to occur.
- It would be appropriate for an A Class hoarding to be established on the Rhodes Street site perimeter. This might be a double height A class hoarding subject to final acoustic assessments and the recommendations of the Project's Noise and Vibration Management Plan.
- During excavation phase, an interim site compound could be established to accommodate workers whilst works are undertaken to permit the permanent site compound to be established.
- Noise and vibration monitoring should be established in accordance with recommendations of the Project's Noise and Vibration Management Plan.
- Dust control measures are expected to be implemented throughout the construction phase to ensure, wherever possible, the minimization of air borne contaminants and the maintenance of air quality in proximity of the site. The following dust control measures implemented on the Project:
 - Where excavating in rock strata, an excavator with a rotating "wet" rock saw might be employed to pre-cut the pad footings, lift bases and stair bases for the detailed excavation. Under these arrangements a fixed water feed would suppress air borne dust emanating from the face of the excavation.
 - An all-weather hardstand is expected to be provided for use as a loading, unloading, concrete pumping and construction staging areas. These areas would be routinely watered down to further minimise dust emissions.
 - Low vibration wet cutting and drilling could be utilised to reduce dust emissions.
 - Other methods of cutting or drilling should be performed behind debris screens.
 - Where feasible, vacuum attachments should be utilised on cutting, drilling and grinding tools to capture dust emissions.
 - Regular clean-ups, or "housekeeping", of work and staging areas must be undertaken.

5.5. Main Construction Works - Methodology

The Head Contractor will be responsible for determining construction methodology and sequencing of activities, in compliance with any milestones stipulated by the Principal in the Construction Contract, and in strict compliance with the Conditions of Development Consent.

The following approach to construction is indicative only and is suggested pending the engagement of the Head Contractor and his preparation of his Construction Management Plan.

The Site is bounded by the Rhodes Street to the North, the Sydney Trains rail corridor to the West, and the TAFE campus to the South & East.

The Contractor's considerations and objectives towards developing construction methodology may include:

- Acknowledging Safety as the first and foremost priority.
- The program for completion and delivery of the Project.
- The formalisation of site working hours, as will be formalized in the Head Contract, to be reflected in all sub contracts, to conform with the requirements of the Conditions of Development Consent.
- Minimising impacts to TAFE and disruption of its operations during demolition and construction works.
- Consideration for the relative proximity of Meadowbank Public School during demolition and construction works.
- Minimising impacts to the neighbouring businesses and residences during the works.
- The adjacency of works to the active Sydney Trains rail corridor.
- Protection of Sydney Water assets.
- Trees requiring protection in accordance with arborists recommendations.
- Communal Space for use as a material handling zone to be appropriately prepared and protected where restoration is required at completion.
- Determination of site access Gates from the public street.
- Determination of the optimal location of tower crane(s) and the fitting of a SIME Zoning System or similar to tower crane(s) to lock out slewing loads over the site boundary, to prevent collisions where multiple cranes are in use, and to restrict slewing across the adjacent TAFE air space.
- Establishment of at least two concrete pumping zones to connect concrete pumps onto a tower pump network, enabling two areas to be pumped concurrently, to the benefit of the delivery program.
- Closure of the footpath along the entire frontage of the site to Rhodes Street. This zone would be used primarily for queuing of waiting trucks, to reduce congestion. A Works Zone Permit issued by Ryde Council will be necessary for this to occur.
- Prevention of loading and unloading outside of site boundaries with cranes limited to prevent loading outside of the boundaries.
- Installation of a Class B overhead walkway for workers' access to site reducing WHS risk of people / plant interactions.
- Use of materials and formwork hoists in preference to traditional loading platforms, enabling continuous materials handling when cranes cannot operate in windy conditions.
- Luffing tower cranes could be used to avoid necessity for gaining air rights from neighbouring properties, and to accommodate larger jib lengths which provide better site coverage.
- Locating construction hoists, concrete pumps and the like away from the TAFE boundary.
- Scheduling works around TAFE exam periods to minimise impact to students.

5.6. Construction Phase Hours of Operation.

Subject to the Conditions of Consent, this Construction Management Plan for Project Management Services proposed construction hours in conformance with Section 4.6, Subsection a, of the City of Ryde Development Control Plan (2014), which requires:

- All demolition and/or construction and associated work is to be restricted to between the hours of 7 am and 7 pm Mondays to Fridays and between 8 am and 4 pm on Saturday. No work is to be carried out on Sunday or public holidays.

6. Project Quality Management System

The following tools and techniques will be utilised by the Project Manager to manage project quality outcomes: -

- Document reviews including review and sign-off of strategic Project documents including this Construction Management Plan for Project Management Services, and the Head Contractor's Construction Management Plan, and any other Project level documentation defined within this CMP;
- Project assurance – including annual and ad hoc reviews, as Project conditions change, of Project implementation against the Contractor's CMP. This function will be underpinned by Project Team PCG meetings and other Project reviews;
- Formal Client record keeping for the Project will be maintained in the Department of Education's TReign System. The PM will review and audit in accordance with relevant government policy, legislation and procedures;
- There is no prohibition on the implementation of Head Contractor / sub-contractor communications via a Project based system such as Aconex.
- Structured Project reporting – in accordance with the requirements of the Project Management Services engagement and the Head Contract.
- Use of Project management checklists for design, regulatory compliance and construction.

6.1. Quality Management Planning

Quality Planning relies on the following:

- Design Quality – reviewing the completed design progressively
- Quality Tender Documents (as required) prepared by consultants ensuring thorough checking is done for all the disciplines.
- Construction Quality:
 - Inspection and Audits – (as required to meet contract needs) review, update and maintain procedures and services.
 - Defects Management – The Head Contract requires defects free completion. The Head Contractor and sub-contractors may utilise whatever system they choose to track the identification and rectification of all defects prior to reaching defects free completion.
 - Commissioning and Management – The Contractor will be required to prepare a Project Commissioning and Hand Over Plan for review by the Project Manager and Client prior to implementation.

The Contractor must systematically manage its processes in accordance with the quality management systems, plans, standards and codes specified in the Contract, and must:

- Submit documentation in accordance with the Contract;
- Routinely review and update the Contractor's documents to ensure the Works are in conformance with the Contract;
- Control non-conforming services and/or products and undertake corrective and preventative action to conform with the Contract;
- Establish and maintain records of all activities related to the management of quality; and
- Provide access to the workplace, and to information, records and other relevant documentation, resources (including personnel), and all other things necessary to enable the Principal to monitor the Contractor's conformance with the Contract.

END