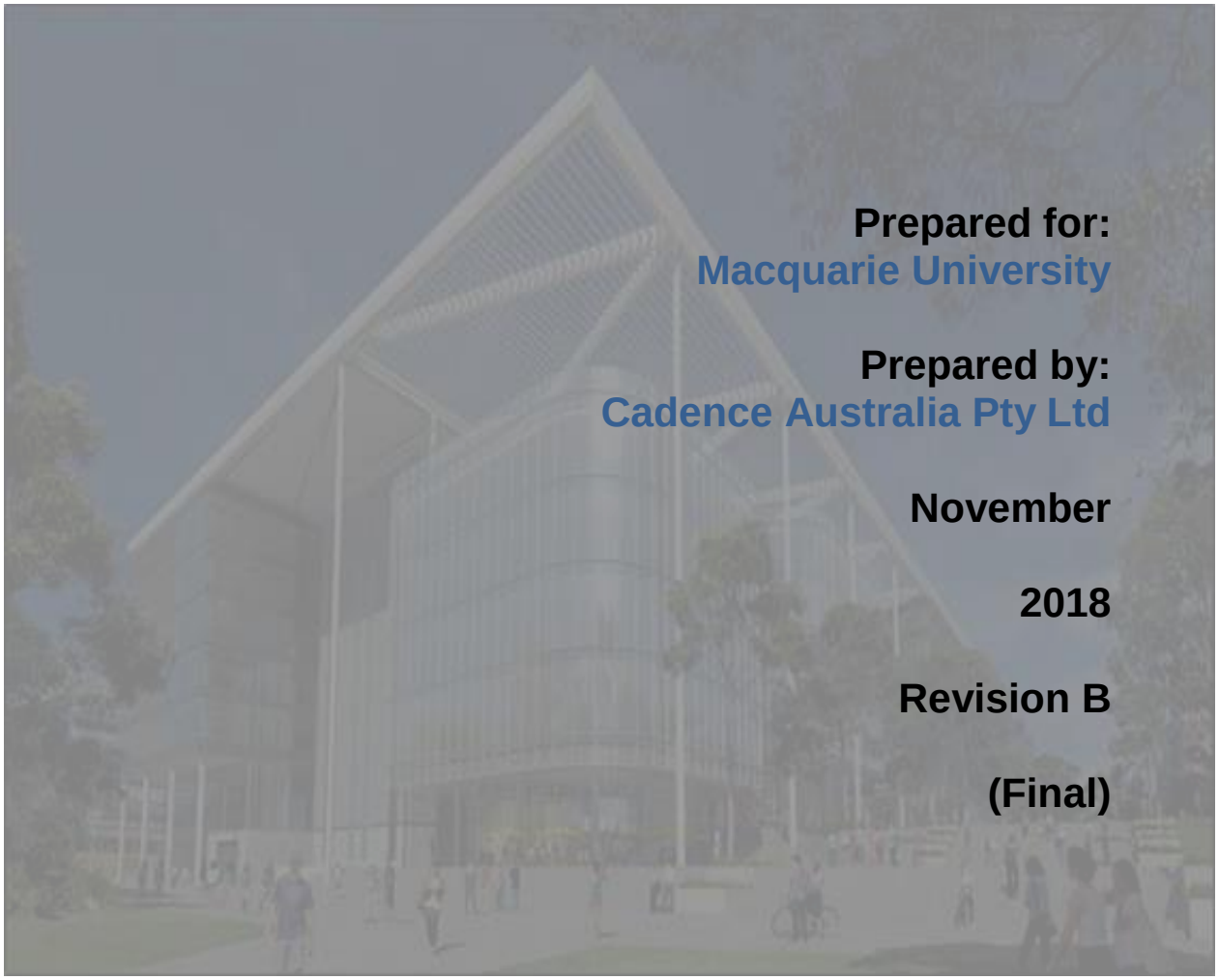
8 – 12 University Avenue, Macquarie University

CONSTRUCTION MANAGEMENT PLAN



Prepared for:
Macquarie University

Prepared by:
Cadence Australia Pty Ltd

November

2018

Revision B

(Final)

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1. Executive Summary

This preliminary Construction Management Plan (CMP) has been prepared by Cadence Australia on behalf of Macquarie University to accompany a Development Application (DA) submission for their development of the 8 – 12 University Avenue Project.

This CMP addresses work issues sufficiently for the City of Ryde DA assessment. The intention of this document is to communicate that this development has been well considered, and will be undertaken in a manner that seeks to minimise disturbance and impact on the surrounding environment. Items contained in this CMP include:

- Outline of major works
- Public amenity, safety, and pedestrian management
- Materials handling
- Traffic management including public transport interfaces
- Environmental management
- Impact on adjoining and surrounding properties.

1.1 Overview

This preliminary plan has been formulated from a conceptual design and may require changes to meet stakeholder requirements, as detailed design progresses.

The scope of this report provides a holistic approach that:

- Defines the project objectives and targets of the construction phase.
- Describes constraints specific to the construction phase and the project in general.
- Describes the process for the identification and control of risks specific to the construction phase.
- Details the proposed strategy for the construction phase, with particular regard to the of establishment resourcing, site organisation and construction controls.

2. Works Description

2.1 Overview of Works

The proposal if for a new commercial building of 49,445m2 GFA that provides A-grade office, laboratory and collaboration spaces.

2.2 Site Description

The site is located at 8 - 12 University Avenue, adjacent the recently completed Australian Hearing Hub, the Cochlear Building and the high-tech Macquarie University Library. The site has street frontages to University Avenue and Macquarie Drive and is within easy walking distance to Macquarie Shopping Centre, Macquarie University Train Station and the third busiest bus interchange in Sydney.

The construction of University buildings 8 and 12 are on sites E2 and E3 in the below image, Macquarie university will also develop sites E4 and E5 as public domain works, however this does not fall under this DA.

Figure 1 – *8 - 12 University Avenue depicted at 'Site E2" and "Site E3"*

2.3 Projects Description and Stages

In preparation for this development Macquarie University will demolish the on-grade car parking structures currently on the sites E2, E3 and E4. As discussed, the first stage will be subject to the Review of Environmental Factors (REF) and will prepare the site for the second stage “Main Works”.

Figure 2 – *Early Works site boundary*

The second stage Main Works will comprise of the construction of the basement car park, buildings 8 and 12, public connector (pedestrian link between buildings 8 and 12);

- Site establishment and protection of adjoining property where required
- Protection and temporary establishment of services and infrastructure as required
- Erection of perimeter fencing, hoarding, gantry, scaffolding and site accommodation
- Establishment of temporary access and pedestrian arrangements
- Remediation of contaminated fill material on and off-site
- Two A-Grade office buildings of approximately 49,445 m2 of Gross Floor Area including labs, collaborative spaces and areas for innovation
- Construction of a combined basement encompassing the whole of 8 -12 University Avenue to provide basement parking and access to the existing services tunnel
- Buildings ranging from six (6) to seven (7) stories accommodating a 5 Green Star Design and As-Built development rating and 5 NABERS
- A central pedestrian through-site link connecting the site to the broader University Campus
- Buildings will incorporate flexible floor plates, central atrium, lift lobby and amenities supported by a high-quality public domain

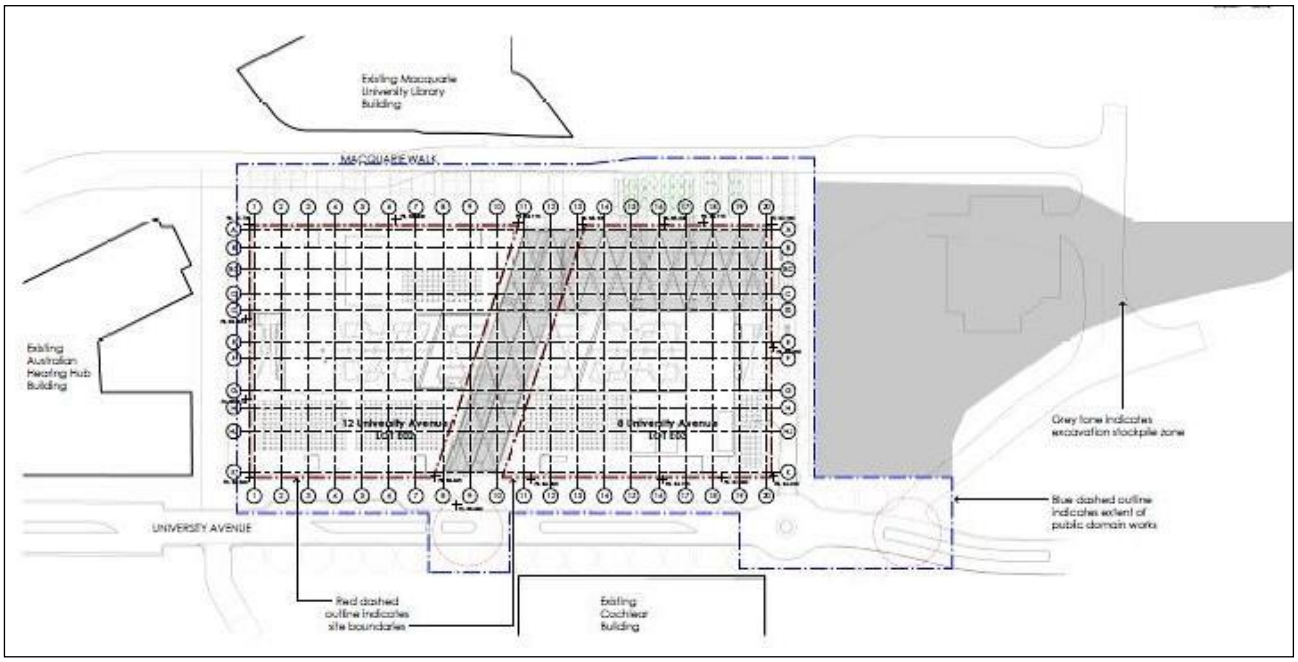

Figure 3 – *Main Works site boundary, 8 – 12 University Avenue*

3. Physical Constraints of the Site

An understanding has been developed of the physical constraints that impact on the 8 – 12 University Avenue site. A summary of these physical constraints follows.

3.1 Transport and Accessibility

The 8 – 12 University Avenue site is located within close proximity to many transport modes including buses, trains and the M2 motor way as shown in the State Transit Root Plan below.

Works on the 8 – 12 University Avenue project will be carefully coordinated to ensure there will be minimal affect to traffic arterials, other transport modes within the vicinity or pedestrian movements around the site.

3. 2 Neighbouring Properties

The neighbouring properties include:

- The Australian Hearing Hub
- Macquarie University Library
- Cochlear Building

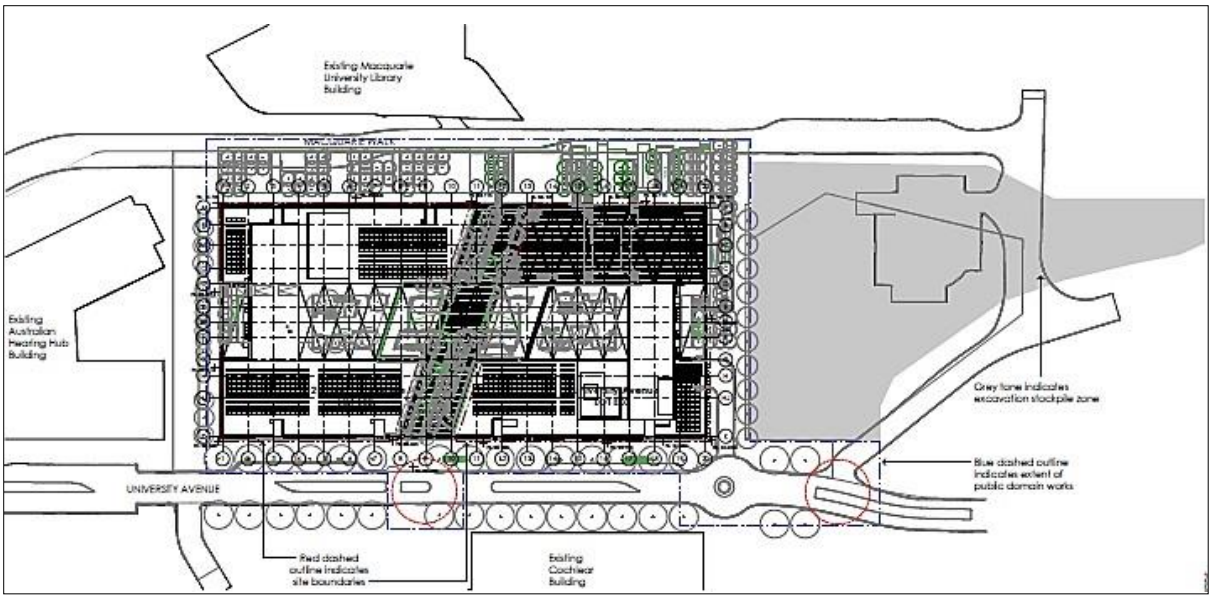

Figure 4 – *Neighbouring Properties*

It is also noted that University Creek runs South East of the development where a 40m mark has been plotted by LTS Lockley. The 40m mark establishes an area where the 8 – 12 University Avenue development shall not encroach due to environmental concerns.

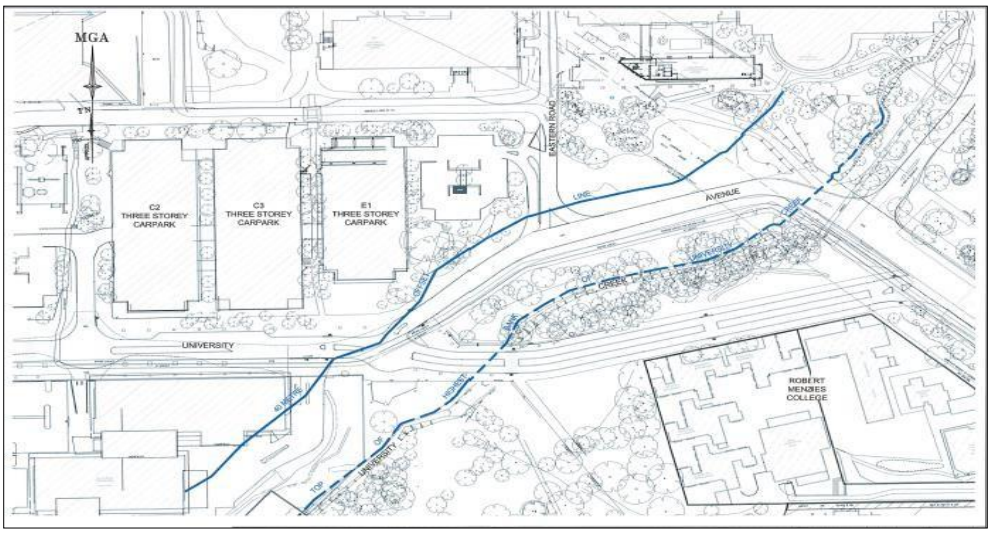

Figure 5 – *University Creek 40m mark*

4. Major Works Items

4.1 Excavation

Bulk excavation of approximately 86,000 m3 will be removed from the 8 – 12 University Avenue site. Of the 86,000 removed approximately 11,000 m3 is to be potentially retained and used as fill in the public domain works that will be carried out by Macquarie University to the east of the site. Two areas adjacent to the site have been provided by Macquarie University as stockpile zones.

In preparation for the excavation a geotechnical investigation was carried out by JK Geotechnics. The purpose of the investigation was to obtain geotechnical information on subsurface conditions as a basis for comments and recommendations on excavation conditions, hydrogeological conditions, retention options, lateral earth pressures, footings and on-grade floor slabs.

The geotechnical investigation comprised the drilling of 6 spiral auger and rotary diamond core drilled boreholes to below design bulk excavation level. Standpipe piezometers were installed in 3 of the boreholes to allow for ongoing groundwater level monitoring.

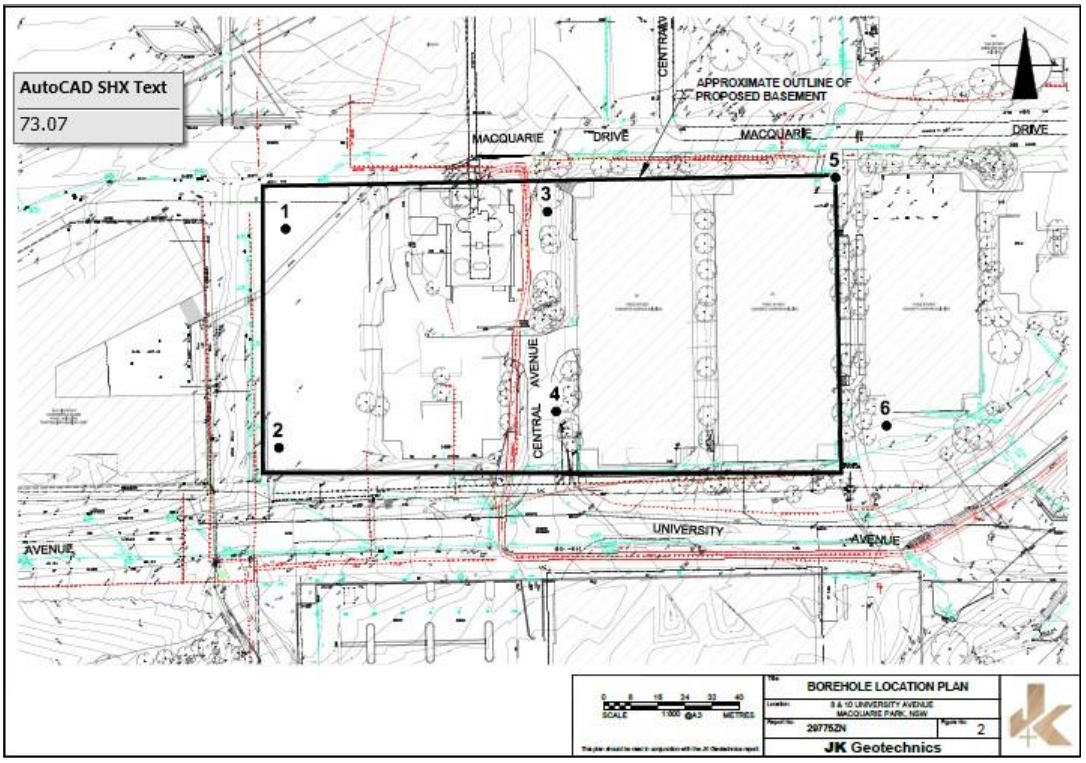

Figure 6 - *8 – 12 University Avenue Bore Hole Location*

The investigation disclosed a generalized subsurface profile comprising shallow fill over residual soils then sandstone, shale and laminate bedrock, with groundwater within the bedrock profile. Based on the encountered subsurface conditions, it is anticipated that conventional basement shoring, excavation and construction techniques, as adopted across Sydney, can be utilised on this project.

Based on the Pells et al (1998) system, the bedrock classifications in the table below apply to the bedrock encountered.

Borehole and surface RL (mAHD)	Depth (m) and RL (mAHD) of Rock Class			
	Class V	Class IV	Class III	Class II
1 70.6m	0.9 to 3.25 (69.7 to 67.35)	3.25 to 9.35 (67.35 to 61.25)	-	9.35 to 11.67 (61.25 to 58.93)
2 69.3m	-	1.2 to 6.0 (68.1 to 63.3)	-	6.0 to 11.67 (63.3 to 57.63)
3 69.5m	1.2 to 2.5 (68.3 to 67.0)	2.5 to 9.3 (67.0 to 60.2)	-	9.3 to 12.55 (60.2 to 56.95)
4 66.6m	1.6 to 2.2 (65.0 to 64.4)	2.2 to 6.5 (64.4 to 60.1)	-	6.5 to 9.8 (60.1 to 56.8)
5 63.2	1.5 to 1.9 (61.7 to 61.3)	1.9 to 3.4 (61.3 to 59.8)	-	3.4 to 8.56 (59.8 to 54.64)
6 62.0	2.2 to 3.0 (59.8 to 59.0)	3.0 to 5.4 (59.0 to 56.6)	-	5.4 to 9.44 (56.6 to 52.56)

Figure 7 - *Bore hole soil classifications*

Based on the investigation results, the proposed bulk excavation to a maximum estimated depth of about 8m will encounter the soil and bedrock profiles. The soil and Class V bedrock should be readily excavated using conventional earthworks equipment. Hard rock excavation conditions must be anticipated within the Class IV and better bedrock.

4.2 Structural

The structure of the building will be two buildings of 6 and 7 stories with 3 levels of below grade car parking.

The structures are foreseen to consist of conventional reinforced concrete elements, post tensioned concrete elements and conventionally reinforced vertical concrete columns and cores. System formwork will be used for some vertical elements such as lift and stair cores.

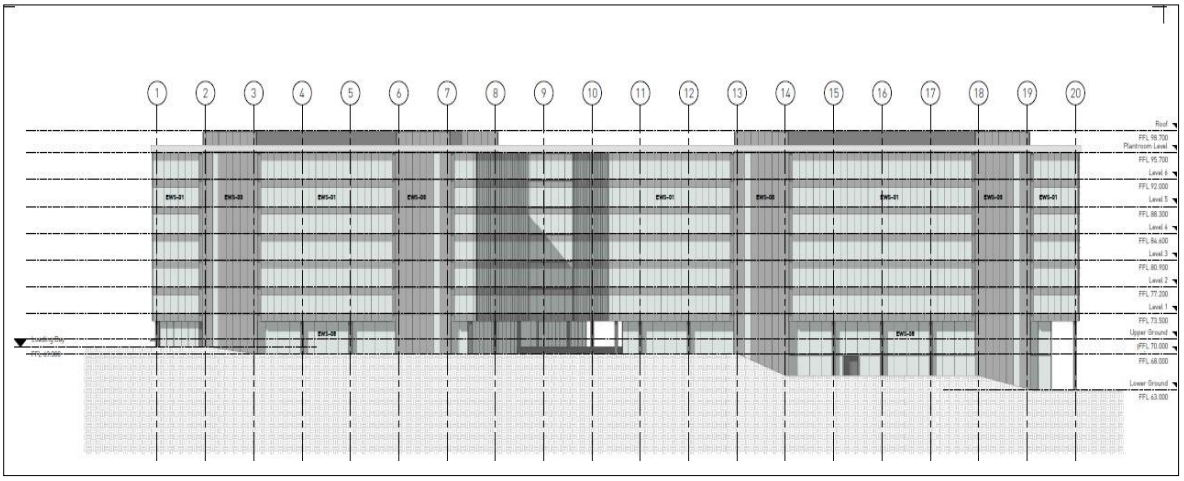

Figure 8 - *8 – 12 University Avenue South Elevation*

4.3 Façade

The façade will primarily be of a glazed design to meet all required Green Star and NABERS ratings.

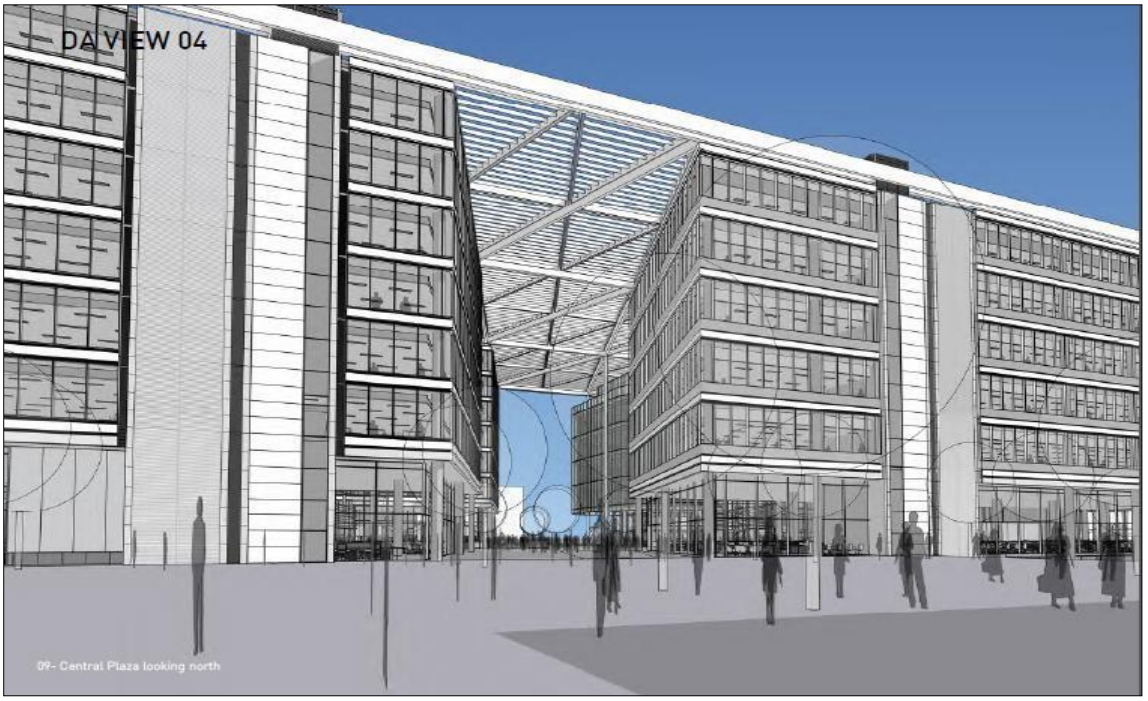

Figure 9 - *8 – 12 University Avenue South Elevation* through site link

4.4 Building Services

The floor plate of 8 University Avenue includes a series of collaboration spaces within the northern drums whereas the Southern wing comprises of laboratory space; 12 University Avenue will be a predominantly office building.

The scope of the fit out is to take the buildings to a base build level where an integrated fit out is not proposed as part of the scope.

The key design references are as follows:

Green Star Office Design Rating - Base Build achieves a 5-star Green Star Design and As-Built rating

NABERS Rating - Base Build achieves a 5 Star NABERS Energy rating of the Base Building within 18 months of the required occupancy of the Building being reached.

Property Council of Australia - Achieve Property Council of Australia A Grade services

Building Code of Australia - Comply with the requirements of Section J BCA 2017

To adequately meet these requirements the project will require the use of highly efficient air conditioning systems across all areas of the building.

The electrical services for Buildings 8 and 12 will be designed to ensure high energy efficiency, flexible operation and reduced maintenance costs will be achieved.

4.5 External & Public Domain Works

ASPECT Studios were engaged by Macquarie University to prepare a landscape and public domain design for the Development Application submission for the proposed mixed-use development at 8 - 12 University Avenue, Macquarie University.

The proposed scheme is to include a landscape zone in the form of a linear park to the north of 8 & 12 University Avenue. Levels and grading in internal spaces as well as surrounding the built form have been developed to achieve a more permeable interface between the landscape of the building and to create a more accessible ground plane for all users.

Figure 10 – *8 – 12 Landscape Plan*

5. Site Layout, Logistics and Materials Handling

5.1 Material Delivery

The Contractor will investigate all possible construction loading zone options with in the Macquarie University campus for the most suitable means of receiving deliveries and handling truck movements for the project.

The predominant means of delivering materials to the site will be via loading zones. It is foreseen that a loading zone can be set in site E4 where access will be provided on the western boundary of the site. These zones will act as the primary delivery point for the 8 – 12 University Avenue project and will act as a materials and waste removal point for the sites.

Due to the tight site boundaries and the bulk excavation footprint materials handling is expected to require two hoists set up to each corner of the northern boundary providing material delivery via a secondary loading zone on Macquarie Drive.

The Site Access Plan (Figure 14 below) advises a preliminary traffic flow scenario to the site which has been prepared in accordance with the traffic assessment prepared by Arup which describes the current and future transport environment surrounding the 8-12 University Avenue development.

It is expected that a vehicle access plan will be provided by the contractor but as a preliminary option it could be foreseen that traffic will enter the site from Macquarie Walk with one-way site traffic exiting on to University Avenue. A loading zone will be set on the E4 site to allow continual flow of construction traffic.

Establishment of work zones will be required and full pedestrian and traffic management will be implemented upon the establishment of the construction work zones. To ensure that there is sufficient public protection between the construction site and public roads, hoardings and barriers will be utilised.

Vehicles entering and exiting the construction zones will do so in a controlled and planned manner with minimal disruption to local vehicular and pedestrian traffic. To sustain this focus, the Contractor will manage construction, pedestrian and vehicular interactions on all public roads with traffic and pedestrian control. At all times the Contractor will be mindful of any work being undertaken by local authorities adjacent to and/or surrounding our site.

To effectively manage material handling and construction traffic the Contractor will be required to apply to council for the following:

5.2 Crane, Hoists and Loading Platforms

It is anticipated cranes will provide an efficient configuration for the site, with mobile cranes introduced to supplement cranage as required. The exact types and locations of the tower cranes are yet to be determined; however indicative layouts are shown on the preliminary Site Establishment Plans in **Attachment 03**.

Please refer to Site Establishment plan for indicative crane positions.

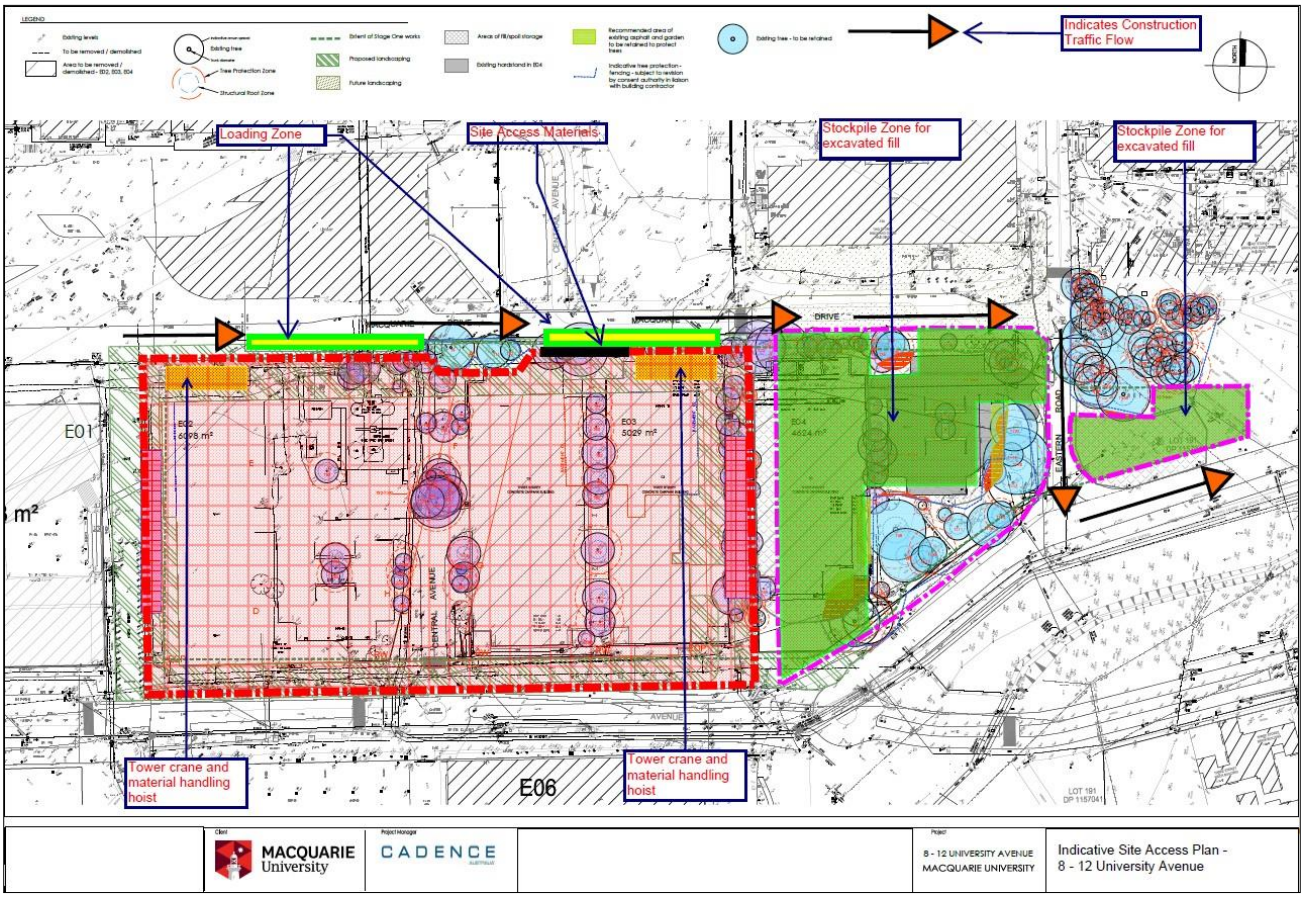

Figure 11 – *8 – 12 Indicative Site Access Plan*

5.3 Hoardings and Overhead Protection

Hoardings will be installed to establish a secure barrier between the construction site and the general public.

It is envisaged that a combination of A and B class hoarding will be required on the 8 – 12 University Avenue Project.

To effectively maintain pedestrian safety, consistent with the requirements of Australian Standards in hoarding the *Contractor* will be required to receive endorsement from Macquarie University regarding the placement of Hoardings.

It is expected that the hoarding to the site boundary surrounding the construction zone will be a Class B hoarding. Due to the large foot print of the excavation and the tight site parameters provided from the surrounding roads and buildings the site offices, amenities and ablutions will be provided off grade and atop the class B Hoarding as shown in the Site Establishment Plan.

To the West of the site, Macquarie University will be carrying out public domain works. It has be proposed that approximately 12,000m3 of fill removed from the 8 – 12 University site will be provided to this site for the public domain works. The fill will be stock piled on this site and will be protected by a site fencing and class A hoarding.

5.4 Site Induction

The Contractor will prepare and operate a specific site induction for all employees working on the project, and ensure that every individual on the project attends a site-specific induction before he or she is allowed to start work.

This induction will be a requirement under the Occupational Health & Safety Plan to be formulated for the project. The site induction sessions will be held on a regular basis and where possible subcontractors will be requested to attend the week prior to the date they are due to start.

5.5 Site Security

The Head Contractor will provide security services on the project.

6. Surrounding Developments

6.1 Dilapidation Survey

Prior to commencing work onsite, a full Pre-Construction Dilapidation Report will be completed by the Head Contractor for adjacent buildings as highlighted.

This detailed survey will encompass current structural, architectural, services and heritage conditions of the existing neighbouring properties, construction zones, infrastructure and roads.

These surveys will be issued to all adjoining neighbours and a post completion survey will also be compiled for comparison.

6.2 Complaints Response Process

The complaints response process for the Macquarie Avenue project will be outlined in the Communication Plan when it is developed. This Plan will describe the Contractor's approach and procedures for communication with internal and external stakeholders, necessary territory authorities, and the public.

6.3 Emergency Contact

The initial point of contact for the Project for complaints will be the Macquarie University Project Manager.

Project Manager: TBC

As other key personnel commence

7. Public Amenity, Safety and Pedestrian Management

7.1 Hours of Work

Construction hours will be in accordance with the EPA (7am to 6pm Monday to Friday and 8am to 1pm Saturday).

7.2 Acoustic & Vibration Management

Particular care will need to be taken during the excavation & construction phase of the project to control noise and vibration. Work methodologies and plant selection for excavation will be reviewed to determine the most practical and programme-effective solutions for these works.

Acoustic Logic Consultancy has been engaged by Macquarie University to undertake an assessment of noise and vibration likely to be associated with the proposed development at 8-12 University Avenue. For further information regarding acoustic and vibration management refer to the main works DA report commissioned by Acoustic Logic Consultancy.

Prior to the commencement of any works onsite, a noise and vibration management plan will be developed by the Contractor in consultation with expert consultants and the Stakeholders to develop strategies for the mitigation of noise and vibration generated by the works. These measures will comply with the requirements of the Acoustic Logic Acoustic and Vibration Report.

7.3 Public Safety

Works will be undertaken with public safety as a significant consideration. Class A and B type hoardings will generally be erected around the site perimeter and where construction is occurring over or adjacent to public thoroughfares.

General safety measures will be undertaken as standard practice such as adequate lighting, safety signage, provision of site security, flashing lights at vehicle cross overs, physical barriers between construction works areas, and public access areas.

7.4 Pedestrian Management

To allow for continuous public access, materials handling and management of pedestrian safety, some diversions from existing pedestrian routes will be required for large periods of the work.

A pedestrian walk way will be provided between the eastern site boundary and the area allocated by Macquarie University to potentially stockpile excavated material from the 8 – 12 University Avenue sites. This walk way will provide a thorough fair between the Macquarie Drive and University Avenue.

Loading zone will line the site boundary along Macquarie Drive giving access to material hoist and cranes; this will limit the availability of the footpaths to this side of the rod. It is envisaged that pedestrians will use the foot path adjacent to the Macquarie University Library though that period.

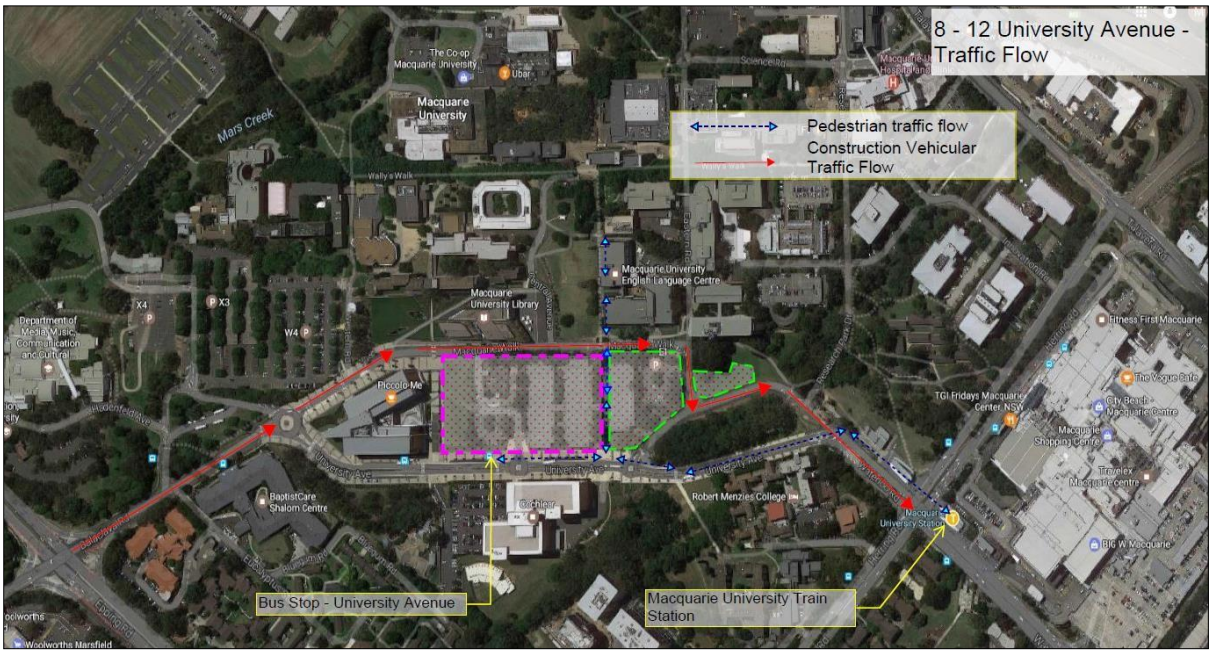

Figure 12 – *Pedestrian and construction traffic flow*

8. Traffic Management

The Head Contractor will prepare a detailed Traffic Management Plan prior to the issue of a Construction Certificate.

The Traffic Management Plan provided by the Contractor will be in accordance with the Traffic Assessment completed by Arup for the 8 – 12 University Project, and indicative traffic flow plan.

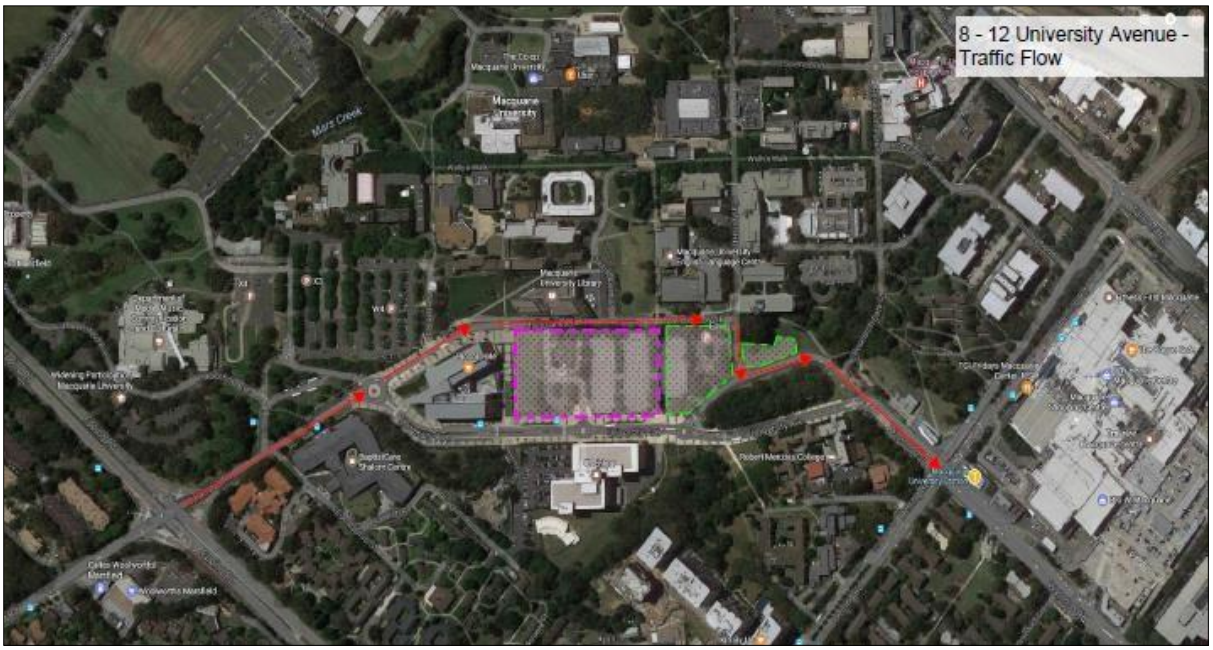

Figure 13 – *Construction Traffic Flow Plan*

8.1 Site Access

Site access will be provided adjacent to the loading zones on Macquarie Drive as per Figure 18, site access plan below.

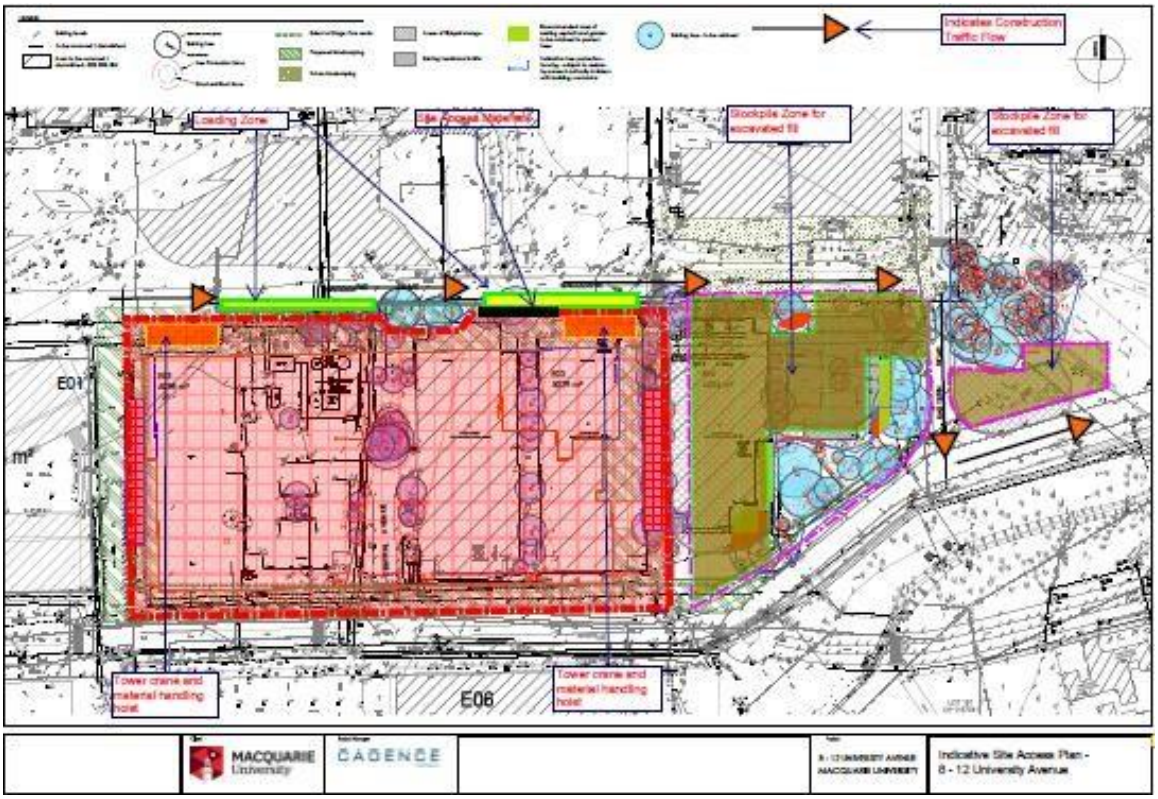

Figure 14 – *Site Access Plan*

Due to the tight boundaries the site will not provide onsite parking and the site access will be limited to site plant and construction pedestrian access.

Heavy and wide loaded deliveries will be coordinated with the relevant authorities and stakeholders for approval, so as to minimise traffic impact.

8.2 Street Closures

For works to be completed safely, some temporary street closures may be required. These closures will be well planned in advance, with approvals sought from relevant authorities. Activities that may require a street closure include tower crane erection and dismantling, and installation of major plant and structure.

Wherever possible these closures will be scheduled for non-peak times. A specific management plan will be established to ensure the best possible outcome.

9. Environmental Management

9.1 Occupational Health & Safety

The Contractor will be the nominated “Principal Contractor” as required under the OH&S Act. This role will require the careful and controlled management of worker and public safety. Detailed methodologies are yet to be developed, however typical approaches include job training, toolbox talks, and implementation of emergency management plans, safe work method statements, weekly OH & S meetings and audits to confirm compliance.

The Contractor will be required to report on OH&S on a regular basis.

9.2 Hazardous Materials

As part of the Stage 2 Contamination Investigation carried out by Environmental Investigation Services (EIS) 22 bore holes were tested at the 8 – 12 University Avenue site. Of the 22 tests only 1 bore hole tested positive to Asbestos.

Consultant survey works are required in order to establish existing site conditions and identify any remediation works that may be required.

This investigation would include:

- Any additional requirements for soil classification, sampling and analysis works
- Community liaison plan to be established and contact made with relevant authorities.

In the event that hazardous materials are uncovered once site works have commenced, the following procedures and principles will be followed; this would be consistent for expected and unexpected hazardous materials:

- Notification to client and project stakeholders
- The contractor to develop a remediation management plan
- Advise the client of the most cost and time efficient solutions whilst adhering to industry best practice standards
- Agree strategy and commence implementation.

9.3 Protection of Council Infrastructure

The protection of all council infrastructure including trees, overhead cables, and existing services will be managed to ensure that all infrastructure is maintained, and in the same condition at the completion of the project.

9.4 Site Discharge

Any discharges from the site will be strictly controlled to ensure hazardous materials and contaminants are contained to authority requirements and do not pollute the council storm water system. The contractor will have within its standard procedures, the requirement of spill kits for hazardous materials also including environmental audits that review the usage and storage of hazardous materials onsite.

9.5 Dewatering

Macquarie University and the Contractor are committed to the management of water discharge from the site throughout the duration of the project. To ensure effective management, a 'Water Quality Management Plan' as a sub-plan to the Environmental Management Plan will be implemented.

Key management strategies include:

- Objective – Avoid the release of contaminants to waterways / drainage systems
- Target – All water discharged complies with the Healthy Waters State Planning Policy
- Measure – Water Quality records confirming compliance with pre-discharge limits.

9.6 Truck and Plant Wash Facilities

As the project consists of redevelopment of the existing premises, with trucks and plant being confined within the construction zones rather than a new build work which requires vehicle movements within the site boundaries, a truck wash facility will be required onsite at the truck loading zones points. Construction zones will be kept clean at all times to ensure tyres of trucks and vehicles exit in the same condition that they have entered.

9.7 Dust Control

Dust control will be implemented in areas of all active excavation and construction. Dust control will also be implemented within the construction zone as determined by the Contractor, and as required for the health and safety of employees.

All works will be undertaken in accordance with a 'Construction Air Quality' sub-plan as part of the Environmental Management Plan. Dust control measures will be implemented as required, and in accordance with Protection of the New South Wales Environment Operations Act. Dust management will be most critical during the demolition and excavation phases of the project. All subcontractors involved with these works will be required to provide Environmental Work Method Statements that specifically address dust management.

9.8 Construction Waste

Waste generated in demolition, excavation and construction can be categorised into several main types (but not limited to):

- Soil
- Contaminated Soil
- Asbestos
- Concrete
- Fines
- Timber
- Clay products

Construction waste generated on a daily basis will be removed from site, by means such as wheelie bins and deposited in skips which will be placed strategically around the site. Where space permits the Contractor will also provide specifically labelled recycling bins for materials such as cardboard and plasterboard to maximise the amount of material recycled on site. Re-use and recycling of masonry materials such as asphalt, bricks and concrete will be done by the contractor where possible.

Additionally, all subcontractors will be responsible for removing their own packaging and other re-usable items such as pallets from site. Adopting this policy.

- Promotes recycling by subcontractors and suppliers
- Removes unnecessary packaging at the source rather than at site
- Reduces the amount of rubbish being sent to land fill.

Continually, monthly reports (to be included in monthly project report) detailing the overall percentage of rubbish being recycled will be provided by the waste disposal contractor. This information will enable the effectiveness of the implemented waste management strategies to be monitored and appropriate steps to be taken if necessary, to improve.

Furthermore, given the previous land uses of the site, the excavated material (approx. 86,000m3) could contain contaminants. In the preliminary testing of the soil the fill material was classified as general solid waste containing asbestos and the silty clay and sandstone/shale bedrock below may be classified as virgin excavated material. However, this will need to be confirmed with more detailed analysis closer to the commencement of demolition and excavation activities.

In the instance that it is deemed there is general solid waste containing asbestos on-site the material could be disposed at a NSW EPA landfill licensed to receive the waste. General solid waste can also be reused on site in accordance with the solutions provided in the Environmental Site Assessment. Virgin excavated material is considered suitable for re-use on site or alternatively at another site as fill material. The information included in the Environmental Site Assessment should be referred to when deciding whether the material is suitable for reuse at another site.

The City of Ryde and the City of Sydney Councils do not currently provide any waste generation rates for construction waste volumes. The Western Australia Local Government Association Construction Waste Management Guidelines (WALGA Guidelines), has been used to generate estimates of the quantity of waste as it is considered the most relevant and accurate Australian-based construction waste estimation tool.

The table below uses the WALGA Guidelines to inform the choice of element, dominant material and the waste as an approximate percentage of the total materials ordered.
The approximate volume of construction waste is an indicative volume based on a review of a building that is both a similar size and use.

It must be noted that at this early stage of the project, it is very difficult to estimate the exact volume of construction waste that may be generated. This information would be developed by the Construction Contractor and more detailed and accurate estimations may be included at a further project stage.

Element	Dominant Material	Approximate Volume of Construction Material	Waste as an approximate % of total materials ordered	Approximate volume of construction waste generated
Substructure	Concrete	3,726 m³	3-5%	112 - 186 m³
Columns	Concrete	2,381 m³	3-5%	71 - 119 m³
Upper Floors	Concrete	13,281 m³	3-5%	398 - 664 m³
Staircases	Concrete	398 m³	3-5%	12 - 20 m³
Roof	Concrete	2,719 m³	3-5%	82 - 136 m³
External walls, windows & doors	Glass	1,854 m³	2-5%	37 - 93 m³
Internal walls	Bricks/Blocks	5,760 m³	5-10%	288 - 576 m³
Internal doors	Glass	115 m³	2-5%	2 - 6 m³
Wall finishes	Plasterboard	1,809 m³	5-20%	90 - 362 m³
Services and landscaping	TBC	14,116 m³	2-20%	282 - 2823 m³
TOTAL		**46,159 m³**		**1374 - 4985 m³**

Figure 15 – *Construction Waste Generation*

9.9 Waste Management

It will be part of the Contractor's philosophy that a tidy site is a safe site, and this principle will be maintained throughout the construction duration. Rubbish bins / skips will be provided at strategic positions around the site, where all subcontractors will be required to clear their rubbish as it accumulates. These bins will be brought down the building in the construction hoists / builders lifts and loaded via forklift into the large skips for removal from site.

A specific Waste Minimisation Plan (WMP) will be developed in accordance with the Contractor's Environmental Management System to ensure optimum waste management initiatives are implemented.

The Contractor will develop a Waste Minimisation Plan that is included as a sub plan of the Environmental Management Plan for the University Avenue project. The aim of this plan is to work at best practice in minimising the amount of waste produced during the development and manage that waste in order to reduce the amount going to landfill.

The WMP will exceed regulatory requirements and meet compliance with Green Star benchmarks.

In setting such high standards and to achieve waste re-use and recycling onsite, the site-specific WMP will be implemented. The Contractor's project team will be trained in the WMP and the subcontractors informed on variations to the required changes from the industry 'business-as-usual' approach.

Subcontract trade packages will be prepared and tendered to ensure optimum recycling through Waste Management achieves the required Green Star targets.

10. Conclusion

This Construction Management Report (CMP) has been prepared for the proposed development of 8 – 12 University Avenue and in respect to the guidelines outlined in the consultant reports which make up the Development Application for this site.

Statement of Environmental Effects	Planning Pty Ltd
Site Survey	LTS Lockley
QS Report and Statement	WT Partnership
Architectural DA Drawings	KannFinch / Sissons
Landscape DA Drawings and Statement	Aspect Studios
Geotechnical Investigation	JK Geotechnics
Transport Assessment	Arup
BCA Assessment Report	BM+G
DA Stage Acoustic Assessment	Acoustic Logic
Electrical & Communications Service Report	Umow Lai
Mechanical Services Report	Umow Lai
Access Review	MGAC
Pedestrian Wind Environmental Statement	Windtech
Fire Engineering Brief	Wood & Grieve Engineers
Hydraulic & Fire Services Main Works Planning Report	Waterman AHW
ESD Report	Umow Lai
University Creek Storm water Management Plan	TTW
Civil Engineering Drawings	Enstruct
Flora and Fauna Investigation	Lesryk
Arborist Report	Arboreport
State transit Route	NSW Transport Authority
Indigenous Heritage Assessment	MDCA
Heritage Impact Statement	GBA Heritage
Stage 2 Environmental Site Assessment	EIS
Operational Waste Management Plan	Elephants Foot
Dangerous Goods Report	R T Benbow
Asbestos Management Plan	Pickford and Rhyder Consulting

This report indicatively outlines the construction methodology for the 8 – 12 University Development and will act as a guideline for the Head Contractor to develop a final and detailed CMP when engaged.

The head contractor will include, but not limited to, the following in this report:

- Construction Zone Location Plan
- Site Establishments Plan
- Site Amenities Plan
- Vehicle Access Plan
- Traffic and Pedestrian Plan
- Dilapidation Report
- Hoarding Plan

The Head Contractor will also be expected to set up communication protocols with Macquarie University and the adjacent properties in relation but not limited to –

- Noisy Works
- Vibration control
- Shut Down Applications
- Traffic and Pedestrian controls

The head contractor will be expected to manage all necessary applications required to complete the works.