

# **WATERLOO METRO QUARTER OVER STATION DEVELOPMENT**

**Environmental Impact Statement**

**Appendix CC – Construction Environmental  
Management Plan**

**SSD-79307746 Central Precinct**

Detailed State Significant Development  
Development Application

Prepared for **WL Developer Pty Ltd**

30 September 2025

| Reference                   | Description                               |
|-----------------------------|---|
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## 2. Glossary & Abbreviations

| Reference      | Description  |
|----------------|--|
| ACHAR          | Aboriginal Cultural Heritage Assessment Report   |
| ADG            | Apartment Design Guide   |
| AHD            | Australian height datum  |
| AQIA           | Air Quality Impact Assessment  |
| BC Act         | Biodiversity Conservation Act 2016   |
| BCA            | Building Code of Australia   |
| BC Reg         | Biodiversity Conservation Regulation 2017  |
| BDAR           | Biodiversity Development Assessment Report   |
| CEEC           | critically endangered ecological community   |
| CIV            | Capital Investment Value   |
| CMP            | Construction Management Plan   |
| Concept DA     | A concept DA is a staged application often referred to as a 'Stage 1' DA. The subject application constitutes a detailed subsequent stage application to an approved concept DA (SSD 10441) lodged under section 4.22 of the EP&A Act. |
| Council        | City of Sydney Council   |
| CPTED          | Crime Prevention Through Environmental Design  |
| CSSI approval  | Critical State Significant Infrastructure approval   |
| CTMP           | Construction Traffic Management Plan   |
| DA             | Development Application  |
| DPHI           | Department of Planning, Housing and Infrastructure   |
| DRP            | Design Review Panel  |
| EP&A Act       | Environmental Planning and Assessment Act 1979   |
| EPA            | NSW Environment Protection Authority   |
| EPA Regulation | Environmental Planning and Assessment Regulation 2000  |
| EPBC Act       | Environment Protection and Biodiversity Conservation Act 1999  |
| ESD            | Ecologically Sustainable Design  |

| Reference           | Description  |
|---------------------|--|
| GANSW               | NSW Government Architect's Office  |
| GFA                 | Gross Floor Area   |
| HIA                 | Heritage Impact Assessment   |
| IAP                 | Interchange Access Plan  |
| LGA                 | Local Government Area  |
| NCC                 | National Construction Code   |
| OSD                 | over station development   |
| PIR                 | Preferred Infrastructure Report  |
| POM                 | Plan of Management   |
| PSI                 | Preliminary Site Investigation   |
| RMS                 | Roads and Maritime Services  |
| SEARs               | Secretary's Environmental Assessment Requirements  |
| SEPP                | State Environmental Planning Policy  |
| SEPP 55             | State Environmental Planning Policy No 55—Remediation of Land                                    |
| SEPP 65             | State Environmental Planning Policy No. 65 – Design Quality of Residential Apartment Development |
| SRD SEPP            | State Environmental Planning Policy (State and Regional Development) 2009                        |
| SREP Sydney Harbour | State Regional Environmental Plan (Sydney Harbour Catchment) 2005                                |
| SSD                 | State significant development  |
| SSDA                | State significant development application  |
| SLEP                | Sydney Local Environmental Plan 2012   |
| Transport for NSW   | Transport for New South Wales  |
| TIA                 | Traffic Impact Assessment  |
| The proposal        | The proposed development which is the subject of the detailed SSDA                               |
| The site            | The site which is the subject of the detailed SSDA   |
| VIA                 | Visual Impact Assessment   |

| <b>Reference</b> | <b>Description</b>           |
|------------------|------------------------------|
| WMQ              | Waterloo Metro Quarter       |
| WMP              | Waste Management Plan        |
| WSUD             | Water Sensitive Urban Design |

### **3. Executive Summary**

This report has been prepared by Mirvac Construction on behalf of WL Developer Pty Ltd (the applicant) to accompany a State Significant Development Application (SSDA) for the detailed Central Precinct SSD (SSD-79307746), located within the Waterloo Metro Quarter (WMQ) at 150 Cope Street, Waterloo. This SSD will replace the previous detailed approval applying to the Central precinct.

This report concludes that the proposed Central Precinct OSD is suitable and warrants approval subject to the implementation of the following mitigation measures.

- Maintain Site Establishment Strategy
- Maintain Traffic and Pedestrian Management Strategy
- Maintain Construction Staging Strategy
- Maintain Material Handling Strategy
- Maintain Waste Management Strategy
- Maintain Noise and Vibration Strategy
- Maintain Air Quality Strategy
- Maintain Programme Management Strategy
- Maintain Stakeholder Management Strategy

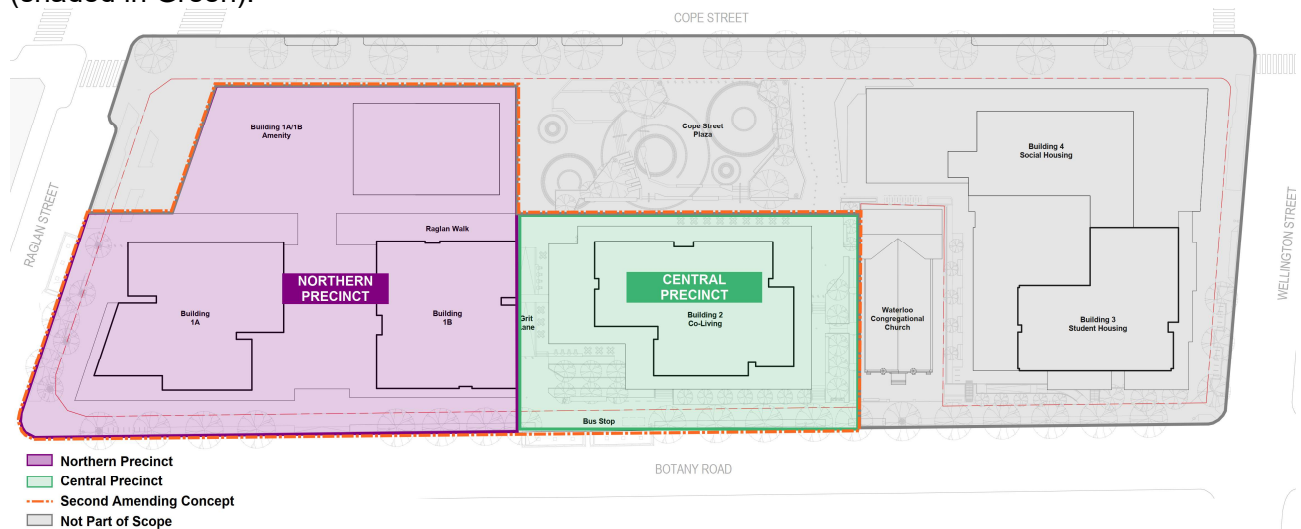
Following the implementation of the above mitigation measures, the remaining impacts are appropriate.

## 4. Introduction

This report has been prepared to accompany a State Significant Development Application (SSDA) for the detailed Central Precinct SSD (SSD-79307746), located within the Waterloo Metro Quarter (WMQ) at 150 Cope Street, Waterloo. This SSD will replace the previous detailed approval applying to the Central Precinct.

The Minister for Planning, or their delegate, is the consent authority for the SSDA and this application is lodged with the Department of Planning, Housing and Infrastructure (DPHI) for assessment.

The figure below indicates the land to which this DA applies in relation to the overall WMQ site (shaded in Green).



**Figure 1 Land to which Scoping Reports Apply**

This application seeks consent for the design, construction and operation of a 26 storey (including plant level) mixed use building within the Central Precinct (the site) of the WMQ site.

The proposal comprises a Co-living housing tower above a three storey podium containing retail and community facility in the form of a childcare centre. Specifically, the proposal comprises:

- Ground level retail tenancies and community facility, and childcare, co-living, and shared basement access lobbies
- Community centre in the form of a childcare centre at Level 1 and Level 2
- A Co-living housing tower from Levels 3 to 24 comprising:
  - Self-contained co-living accommodation rooms across 20 levels, with capacity for around 500 rooms
  - Indoor and outdoor communal amenity at Levels 3 and 24
  - Communal space also provided on each accommodation level;
- Ground level vehicular access from Church Square shared zone to the shared basement, delivery of a pedestrian thoroughfare through the site, landscaping and public domain works.
- Indicative building signage zones

This application is submitted for concurrent assessment with a SSDA to amend the Waterloo Metro Over Station Development (OSD) Amended Concept DA (reference SSD 10441) - referred to as the Second Amending Concept DA. The Second Amending Concept DA seeks consent to modify the existing amending concept approval as it relates to the Northern and Central Precincts, by amending the building envelopes to redistribute floor space to suit a new mix of land uses. This Central Precinct SSD will be consistent with the Amended Concept DA as amended.

Separately, a Detailed SSDA for the detailed design, construction and operation of the Northern Precinct (SSD-79307758) and a Section 4.55 Modification Application to modify the approved detailed Basement SSDA (SSD 10438), will be concurrently submitted with this application.

This report has been prepared in response to the requirements contained within the Secretary's Environmental Assessment Requirements (SEARs) dated 13 February 2025 and issued for the detailed SSDA. Specifically, this report has been prepared to respond to the SEARs requirements summarised below.

| <b>Item</b> | <b>Description of requirement</b>  | <b>Section reference (this report)</b> |
|-------------|--|--|
| <b>3</b>    | <p>Consistency with the Concept Approval</p> <p>The EIS shall:</p> <ul style="list-style-type: none"> <li>- Illustrate how the development integrates with the Waterloo Metro Station and surrounding public domain, including consideration in relation to any staging of the development.</li> </ul>   | 9. Construction Staging                |
| <b>13</b>   | <p>Noise and Vibration</p> <p>The EIS shall:</p> <p>Provide a noise and vibration assessment prepared in accordance with the relevant NSW Environment Protection Authority (EPA) guidelines. The assessment must detail construction and operational noise and vibration impacts on nearby sensitive receivers and structures and outline the proposed management and mitigation measures that would be implemented.</p> | 13. Noise & Vibration Management       |
| <b>18</b>   | <p>Waste Management</p> <p>The EIS shall:</p> <ul style="list-style-type: none"> <li>- Identify, quantify and classify the likely waste streams to be generated during construction and operation</li> <li>- Provide the measures to be implemented to manage, reuse, recycle and safely dispose of waste in accordance with any council waste management requirements</li> </ul>  | 12. Waste Management & Recycling       |

|           |  |              |
|-----------|--|--------------|
|           | Identify appropriately sited waste storage areas, collection access paths/roads, and appropriate servicing arrangements for the site                     |              |
| <b>22</b> | Construction, Operation and Staging<br>The EIS shall:<br>- Provide details of how construction and operation would be managed, and any impacts mitigated | All sections |

**Table 1: SEARs Requirements**

This report has also been prepared in response to the following conditions of consent issued for the Amending Concept SSDA (SSD 10441) for the OSD as summarised in the table below.

| <b>Item</b>        | <b>Description of requirement</b>   | <b>Section reference (this report)</b> |
|--------------------|---|--|
| <b>B18 (c,d,e)</b> | Future development applications shall provide analysis and assessment of the impacts of construction works and include:   |  |
|                    | c Noise and Vibration Impact Assessment   | 13. Noise & Vibration Management       |
|                    | d Construction Waste Management Plan  | 12. Waste Management & Recycling       |
|                    | e Air Quality Management Plan   | 14. Air Quality and Odour Management   |
| <b>B19</b>         | The plans above may be prepared as part of a Construction Environmental Management Plan prepared for implementation under the conditions of any consent for future development applications, having regard to the Construction Environmental Management Framework and Construction Noise and Vibration Strategy prepared for the Sydney Metro City and Southwest (CSSI 7400). | Captured within this report            |

**Table 2: Conditions of Concept Approval**

## 5. The Site

The site is located within the City of Sydney Local Government Area (LGA). The site is situated about 3.3 kilometres south of Sydney CBD and eight kilometres northeast of Sydney International Airport within the suburb of Waterloo.

The Waterloo Metro Quarter site comprises land to the west of Cope Street, east of Botany Road, south of Raglan Street and north of Wellington Street (refer to Figure 2). The heritage-listed Waterloo Congregational Church at 103–105 Botany Road is within this street block but does not form a part of the Waterloo Metro Quarter site boundaries.

The Waterloo Metro Quarter site is a rectangular shaped allotment with an overall site area of approximately 1.287 hectares.

The Waterloo Metro Quarter site comprises the following allotments and legal description at the date of this report. Following consolidation by Sydney Metro (the Principal) the land will be set out in deposited plan DP1257150.

- 1368 Raglan Street (Lot 4 DP 215751)
- 59 Botany Road (Lot 5 DP 215751)
- 65 Botany Road (Lot 1 DP 814205)
- 67 Botany Road (Lot 1 DP 228641)
- 124-128 Cope Street (Lot 2 DP 228641)
- 69-83 Botany Road (Lot 1, DP 1084919)
- 130-134 Cope Street (Lot 12 DP 399757)
- 136-144 Cope Street (Lots A-E DP 108312)
- 85 Botany Road (Lot 1 DP 27454)
- 87 Botany Road (Lot 2 DP 27454)
- 89-91 Botany Road (Lot 1 DP 996765)
- 93-101 Botany Road (Lot 1 DP 433969 and Lot 1 DP 738891)
- 119 Botany Road (Lot 1 DP 205942 and Lot 1 DP 436831)
- 156-160 Cope Street (Lot 31 DP 805384)
- 107-117A Botany Road (Lot 32 DP 805384 and Lot A DP 408116)
- 170-174 Cope Street (Lot 2 DP 205942).

The detailed SSSA applies to the Central Precinct (the site) of the Waterloo Metro Quarter site. The site has an area of approximately 2,460sqm. The subject site comprises the following allotments and legal description at the date of this report.

- 130–134 Cope Street (Lot 12 DP 399757) (Part)
- 136–144 Cope Street (Lots A-E DP 108312) (Part)
- 85 Botany Road (Lot 1 DP 27454)
- 87 Botany Road (Lot 2 DP 27454)
- 89–91 Botany Road (Lot 1 DP 996765)
- 93–101 Botany Road (Lot 1 DP 433969 and Lot 1 DP 738891) (Part).

The boundaries of the overall site are identified at Figure 2. The site is reasonably flat with a slight fall to the south.

The site is currently occupied by Sydney Metro on the eastern side with Waterloo station open and accessible to the public. The Southern Precinct is currently under construction, however, at the commencement of works, this will be occupied as student accommodation, and social and affordable housing. The site area for Central and Northern Precinct is currently an open excavation.



**Figure 2: Aerial Image of the Site**  
**Source: Urbis**

The area surrounding the site consists of commercial premises to the north, light industrial and mixed-use development to the south, residential development to the east and predominantly commercial and light industry uses to the west.

## **6. Background**

### **6.1 About Sydney Metro**

Sydney Metro is Australia’s biggest public transport project. Services started in May 2019 in the city’s North West with a train every four minutes in the peak. A new standalone railway, this 21st century network will revolutionise the way Sydney travels.

There are four core components:

#### **6.1.1.1 Sydney Metro Northwest**

This project is now complete and passenger services commenced in May 2019 between Rouse Hill and Chatswood, with a metro train every four minutes in the peak. The project was delivered on time and \$1 billion under budget.

#### **6.1.1.2 Sydney Metro City & Southwest**

Sydney Metro City & Southwest project includes a 30km metro line extending metro rail from the end of Metro Northwest at Chatswood, under Sydney Harbour, through new CBD stations and southwest to Bankstown. This project is now complete, and passenger services commenced in August 2024, with a metro train every four minutes in the peak.

#### **6.1.1.3 Sydney Metro West**

Sydney Metro West is a new underground railway connecting Greater Parramatta and the Sydney CBD. This once-in-a-century infrastructure investment will transform Sydney for generations to come, doubling rail capacity between these two areas, linking new communities to rail services and supporting employment growth and housing supply between the two CBDs.

The locations of seven proposed metro stations have been confirmed at Westmead, Parramatta, Sydney Olympic Park, North Strathfield, Burwood North, Five Dock and The Bays.

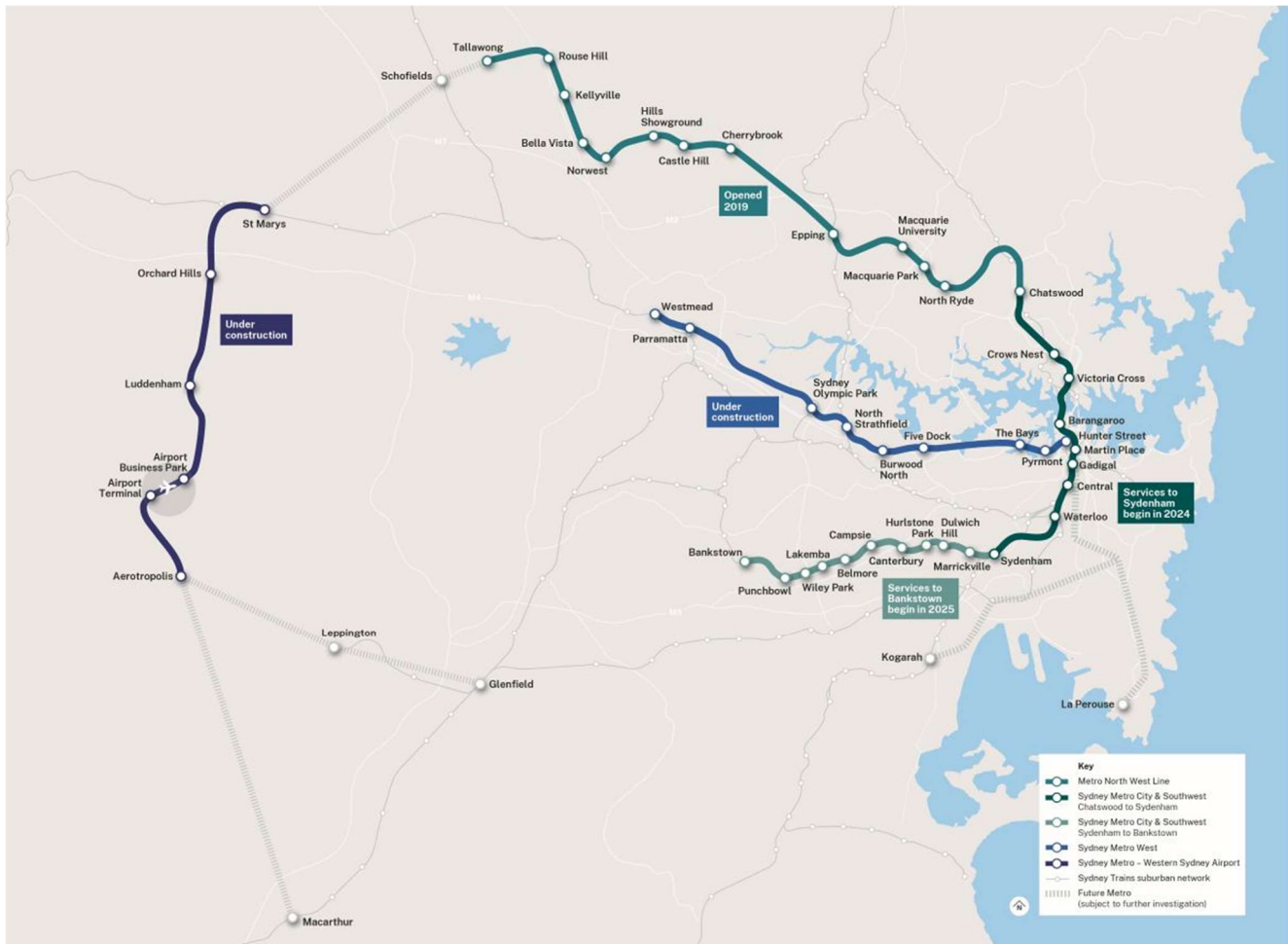
The NSW Government is assessing an optional station at Pyrmont and further planning is underway to determine the location of a new metro station in the Sydney CBD.

#### **6.1.1.4 Sydney Metro Greater West**

Metro rail will also service Greater Western Sydney and the new Western Sydney International (Nancy Bird Walton) Airport. The new railway line will become the transport spine for the Western Parkland City’s growth for generations to come, connecting communities and travellers with the rest of Sydney’s public transport system with a fast, safe and easy metro service.

The Australian and NSW governments are equal partners in the delivery of this new railway.

The Sydney Metro project is illustrated below.



**Figure 3: Sydney Metro Alignment Map**  
Source: Sydney Metro

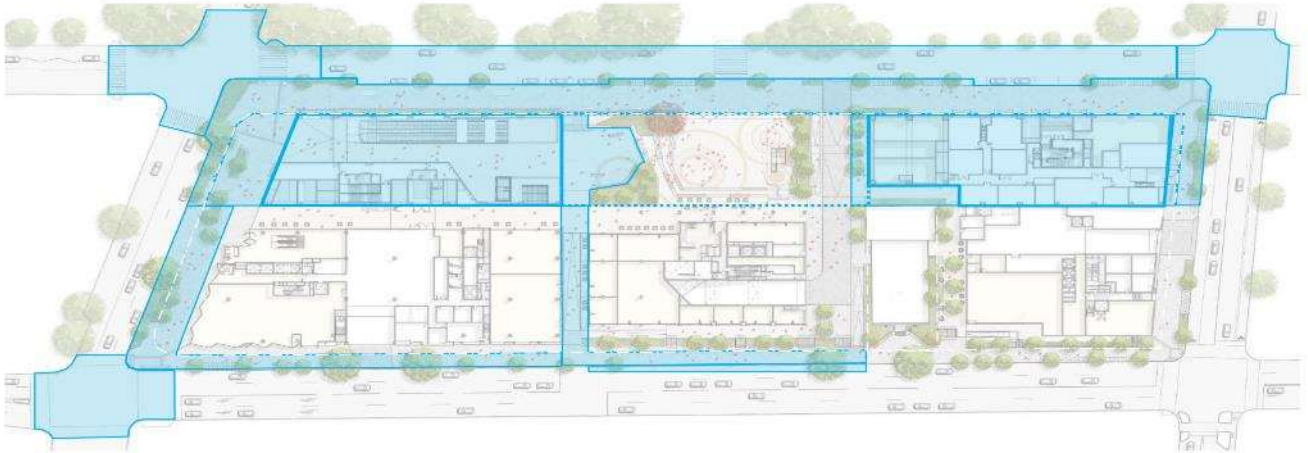
## 6.2 Sydney Metro CSSI Approval (SSI 7400)

On 9 January 2017, the Minister for Planning approved the Sydney Metro City & Southwest - Chatswood to Sydenham project as a critical State significant infrastructure (CSSI) project (reference SSI 7400) (CSSI approval). The terms of the CSSI approval includes all works required to construct the Sydney Metro Waterloo Station. The CSSI approval also includes the construction of below and above ground works within the metro station structure for appropriate integration with the OSD.

With regards to CSSI related works, any changes to the 'metro station box' envelope and public domain will be pursued in satisfaction of the CSSI conditions of approval and do not form part of the scope of the concept SSDA or detailed SSDA for the OSD.

Except to the extent described in the EIS or Preferred Infrastructure Report (PIR) submitted with the CSSI application, any OSD buildings and uses do not form part of the CSSI approval and will be subject to the relevant assessment pathway prescribed by the EP&A Act.

The delineation between the approved Sydney Metro works, generally described as within the two 'metro station boxes' and surrounding public domain works, and the OSD elements are illustrated in Figure 5.



**Figure 4: CSSI Approval Scope Of Works**  
**Source: WL Developer Pty Ltd**

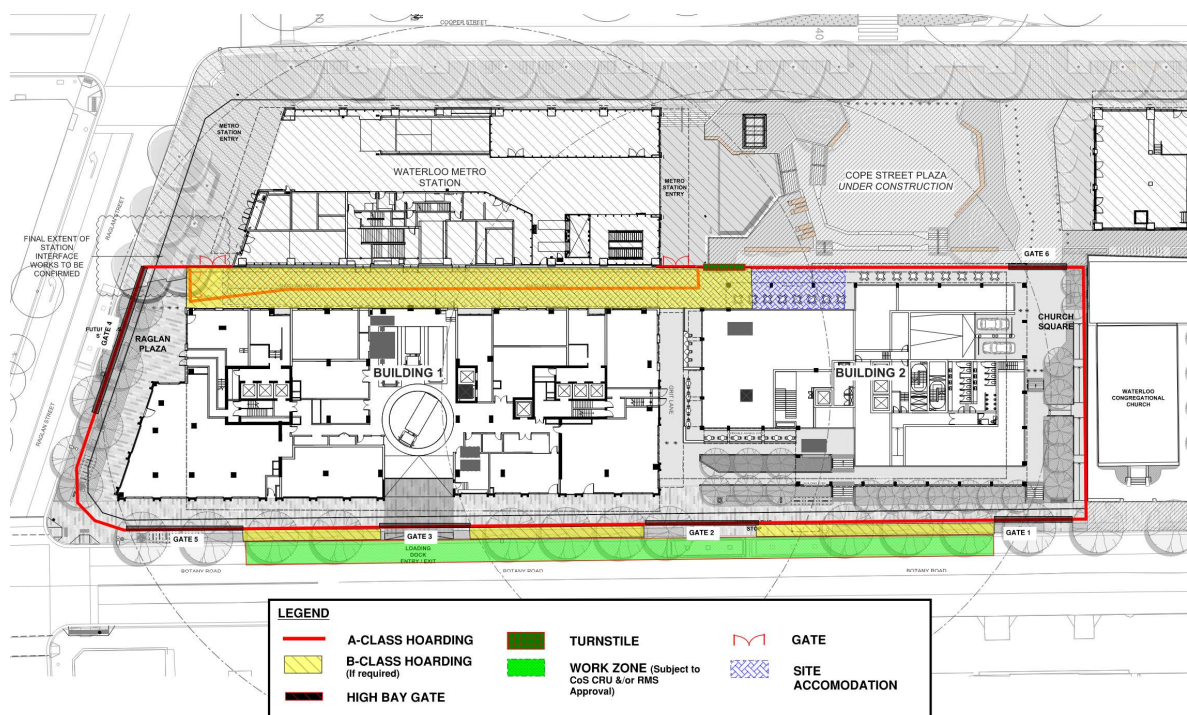
## 7. Site Establishment

### 7.1 Hoardings

Hoardings will be installed by Mirvac (**OSD Contractor**) following handover of the site by John Holland Pty Ltd.

The site will be surrounded by A-Class hoardings along the perimeter of the site. These hoardings will be erected along Raglan Street, Botany Road, Sydney Metro Waterloo Station, Cope Street Plaza, and Waterloo Congressional Church. The hoardings will be located both outside and within the boundary to accommodate construction requirements while maintaining safe access to the public. Refer to Figure 5.

All hoardings will be designed, installed, and maintained to ensure segregation of pedestrians, workforce and vehicles. If required, hoardings will be designed to provide overhead protection. Hoardings will remain on site until all buildings in the Northern and Central Precincts are handed over.



*Figure 5: Preliminary Site Establishment Plan*

### 7.2 Site Security & Gates

The site perimeter will be secured at all times with no unauthorised access permitted. Out of hours security patrols will be utilised strategically during the project. The focus will be on the

back end of the project, as the potential for theft and vandalism increases. Shutdown periods (Christmas and Easter) will also be monitored by external security services.

Construction worker access to the site will be strictly controlled through a secured gate system and individuals will require personalised identity swipe cards. This creates a live record of the workers on-site at any given time, which can be accessed in case of an emergency or during an evacuation.

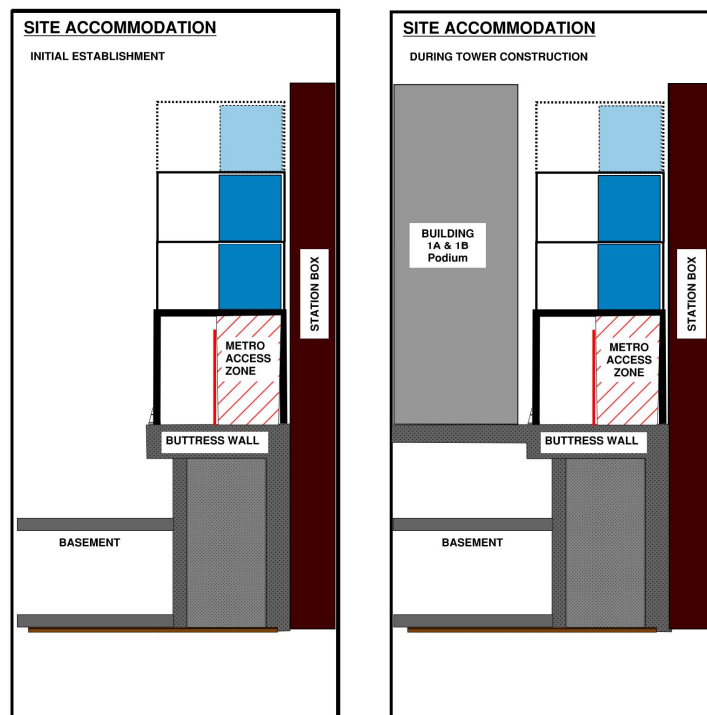
The site establishment and security will comply with access requirements to Waterloo Metro Station.

### 7.3 Project Office

The project office will be within one block of the site and will include accommodation for project management staff. The exact location of this office will be further explored closer to commencement on site and is dependent on available space and market conditions.

### 7.4 Workforce Accommodation

Accommodation and amenities for the construction workforce will be provided in stages. Initial site accommodation sheds will be erected on top of B-class hoarding above the buttress wall within the eastern boundary of the site. As shown in Figure 6, access will be maintained for Sydney Metro on Raglan Walk during this period where site accommodation is placed on a gantry. As the works are progressed accommodation will be relocated into the basement and lower floors of the building.



**Figure 6: Site Accommodation Interface with Sydney Metro**

## **7.5 Hours of Construction**

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

- Between 7am and 6pm, Monday to Fridays inclusive; and
- Between 7:30am and 3:30pm Saturdays.

Work / activities may be required to be undertaken outside of the above hours in some circumstances including but not limited to:

- If required by Police or an authority, including works by Sydney metro.
- Emergency situations to avoid loss of life, damage to property, or damage to the environment.
- Occasional concrete finishing works extending past 6pm, Monday to Fridays, and 3:30pm on Saturdays.
- Hoist and crane climbing, erection or dismantling, where work cannot be completed during standard construction hours. This includes works on Sundays if required.
- Road closures and night works if required to satisfy the requirements of utility providers regarding operation and integrity of the utility network
- Internal fit-out and services installations/commissioning behind a closed façade with suitable acoustic properties up to 24 hours a day (excluding Sundays or public holidays)

## **8. Traffic & Pedestrian Management**

Taking into consideration that the site is surrounded by local residents and a main arterial traffic route (Botany Road), managing the flow of materials and equipment in and out of the construction site while maintaining the continuity of the development will be critical in a successful delivery of the project.

Our planning will consider and successfully manage the maintenance of pedestrian and vehicular traffic flow to the surrounding buildings and roads. This will be detailed in overall Construction Traffic Management Plan (CTMP), including specific Traffic Control Plans detailing each management of pedestrian, vehicular construction and operational traffic at each stage of works. These plans will be updated as required throughout the delivery of the works. WL Developer has engaged ptc. to produce the CTMP for the Northern Precinct, provided in EIS Appendix S – Construction Traffic Management Plan.

### **8.1 Traffic Management**

Traffic Control will be provided at the various access, egress gates & work zones to manage all vehicle deliveries, loading/unloading and general access/security of the gates during construction work hours. This will allow for a coordinated movement of traffic around site minimizing impacts to the community.

### **8.2 Pedestrian Management**

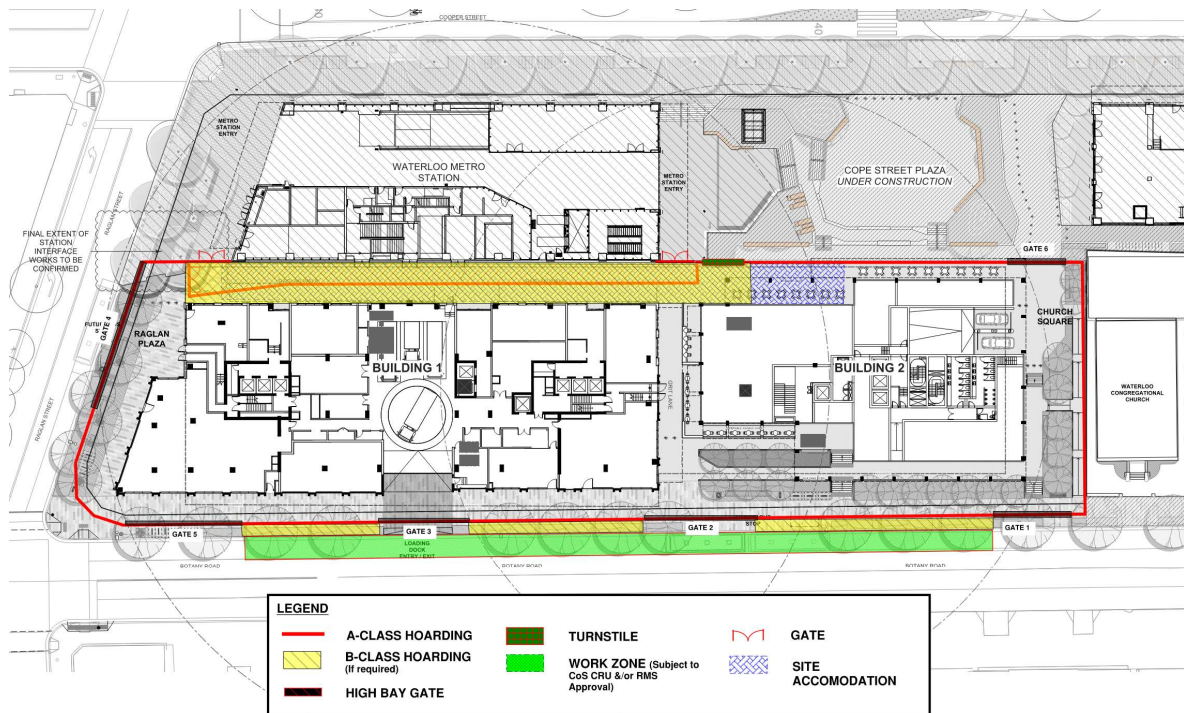
The OSD Contractor will ensure that nearby stakeholders, residents, commuters and visitors to the Waterloo area are suitably informed of any required footpath closures, and shall work with the City of Sydney Council to provide alternate travel paths, as required, throughout the delivery of the project.

Pedestrians will have safe and functional access, or be diverted as necessary, around the external perimeter of the site with overhead protection provided as required.

### **8.3 Work Zones**

Refer to Figure 7 below for proposed Work Zones for the Central Precinct works.

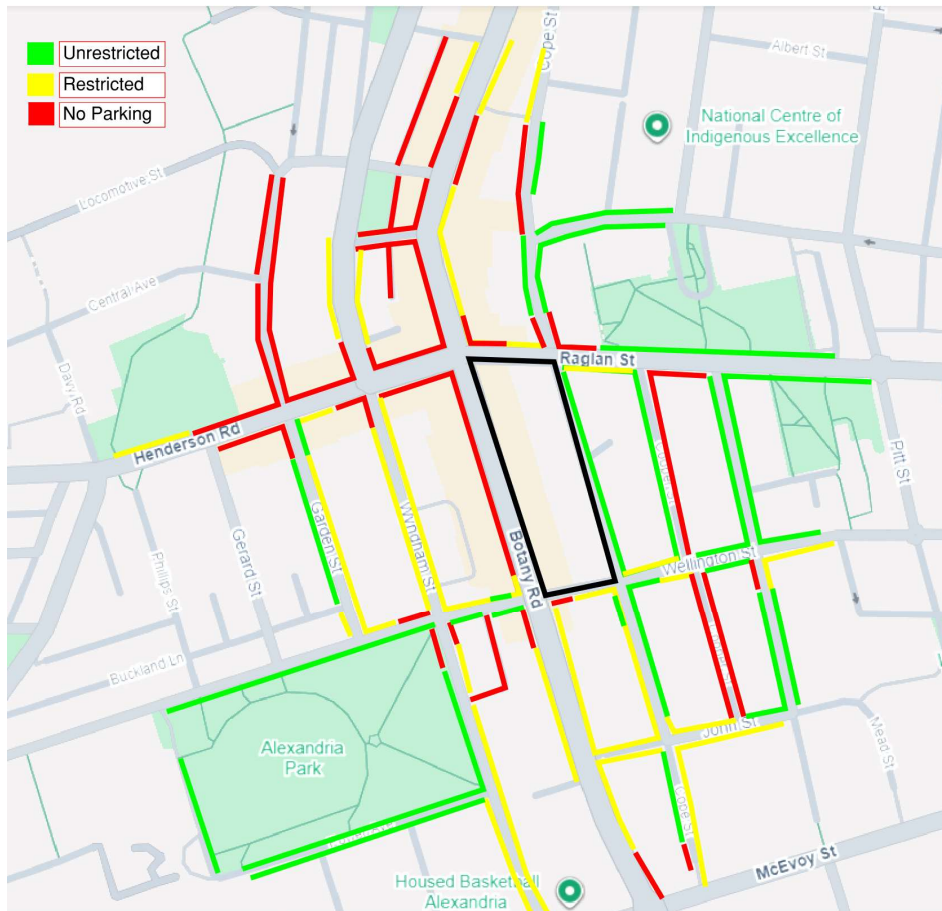
It is understood separate approval/s are required for these Work Zones from City of Sydney Council's Construction Regulation Unit (CRU) and/or the Roads & Maritime Services (RMS) (As applicable).



*Figure 7: Proposed Work Zone Locations*

## 8.4 Public Transport

Waterloo Metro Station is now operational, which provides a convenient public transport option to the site. The site is also in close proximity to the public transport network with approximately 10 bus stops within walking distance (200 meters) from site. Redfern Station is a mere 10 mins walk from the site, making public transport highly accessible for commute to and from the site. All staff, consultants and subcontractors will be encouraged to adopt a green travel plan or similar for the project to promote the use of public transport to and from site. There will be no onsite parking available. All personnel are advised to not park on street parking within the vicinity of the development site.



**Figure 8: Onstreet Vehicle Parking**

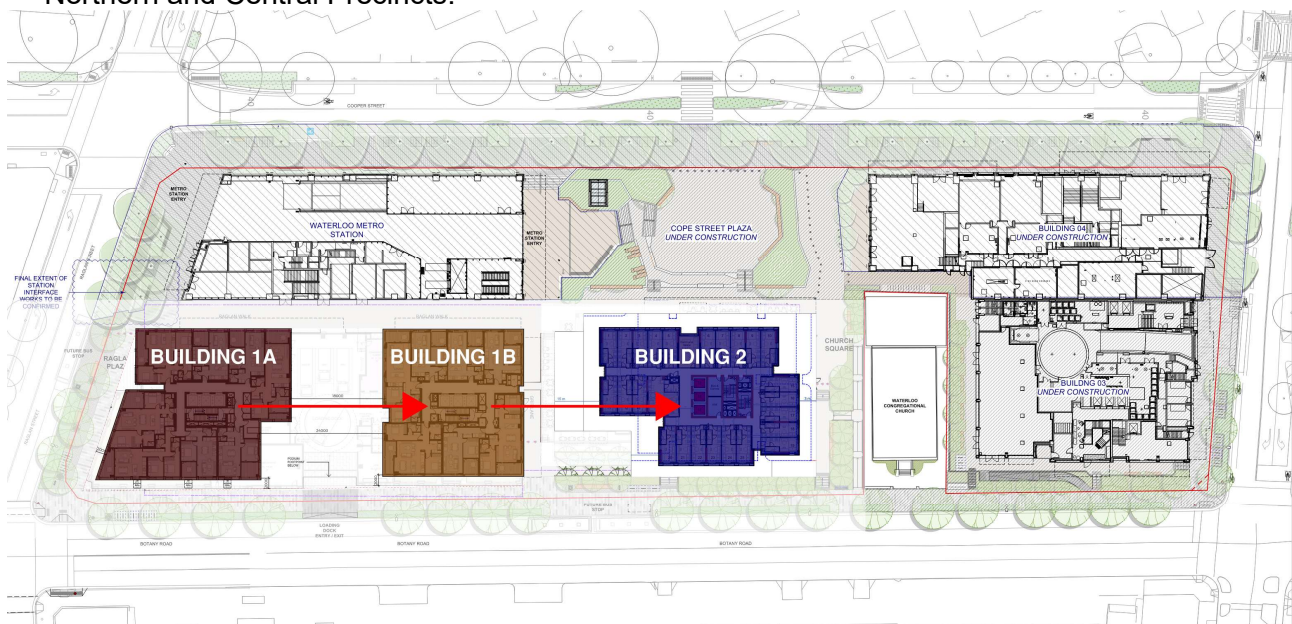
## 9. Construction Staging

The various construction stages of the Central Precinct can generally be summarised as per the below.

### 9.1 Structure

Building 2 will comprise of a conventional post-tensioned concrete structure including columns and horizontal post-tensioned concrete slabs.

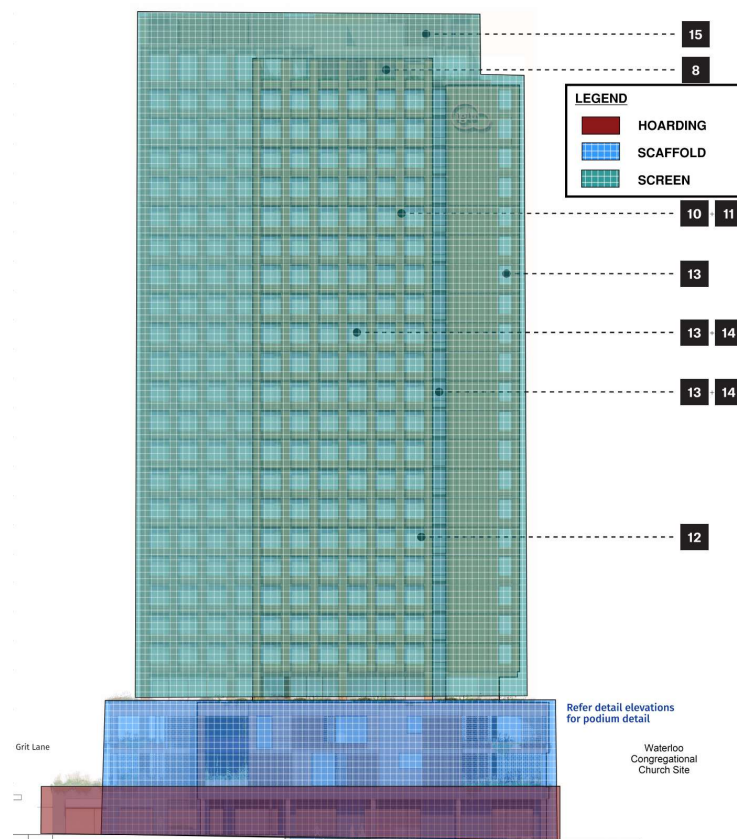
Works will commence with Building 1A in the Northern Precinct, and progress in a north to south direction to ensure concurrent completion of structure for all three buildings in the Northern and Central Precincts.



*Figure 9: Overall Construction Sequence*

### 9.2 Scaffold & Screens

A combination of scaffold and formwork/façade screens will be utilised to provide both a working platform and fall protection during construction of the building structure and façade. This is indicatively illustrated in the figure below.



**Figure 10: Indicative Perimeter Protection**

### 9.3 Facade

A conventional window wall type façade is proposed to the Central Precinct which will be installed behind/below the formwork/façade screens trailing the building structure construction.

### 9.4 Services & Finishes

The services & finishes to the Central Precinct will sequentially follow completion of the building façade.

### 9.5 Commissioning & Testing

A commissioning plan will be developed for commission and testing purposes by the OSD Contactor. This will detail the guidelines to be followed for commission of the building. It will typically involve individual systems testing and an overall integrated system testing.

### 9.6 External Works

Prior to obtaining Occupation Certificate the final external works such as landscaping and paving will be completed by the OSD Contractor. The extent of this applicable to the Central Precinct is illustrated below.



***Figure 11: Indicative Extent of External Works***

## 10. Temporary Works

The OSD Contractor has procedures around temporary works design, independent sign-off and verification. These are employed to ensure their efficient and effective operation and to maintain the safety of workers and the general public. In this instance, temporary works refers to all temporary load bearing structures including formwork, false work, precast, shoring and back propping as well as propriety elements including hoists, tower cranes and concrete placement booms. The approach to managing the design and sign-off of these construction elements is detailed below:

- The planning and use of temporary works must be risk assessed and conducted by competent persons with relevant experience and qualifications
- Temporary works (e.g. formwork, false work, precast, shoring, back propping, temporary structures etc.) must be identified, designed and independently verified by appropriately qualified persons
- The designer must provide certification of the temporary works design that as a minimum takes into account the intended use, load tolerances, lifting calculations, access/egress, installation, and dismantling
- The design of temporary works must be verified by an appropriately qualified and competent person who is independent of the designer
- Installation of temporary works in accordance with the design must be verified by an appropriately qualified and competent person prior to initial use and loading
- No changes to installed temporary works must be made without prior acceptance of the designer, and if considered necessary, further design certification and independent verification of the changes
- Temporary works must be regularly inspected by competent persons
- Temporary works must be physically protected and secured where there is a risk of collision, or damage through adverse weather conditions or adjacent work practices
- Dismantling and removal of temporary works must be planned, risk assessed and conducted by competent persons
- Temporary works of a proprietary nature (such as hoists, tower cranes, concrete placement booms etc.) must be planned and installed by competent persons in accordance with the manufacturer's instructions. Persons involved in the installation and dismantling process must be trained in the plant specific requirements of the manufacturer instructions

## 11. Material Handling

Efficient material handling is essential to the successful construction of the Central Precinct. There are several pieces of equipment that are critical to efficient material handling across the job, namely, tower cranes, hoists, concrete booms and loading platforms. The selected strategy and layout of this equipment is detailed further under the below subheadings.

### 11.1 Tower Cranes

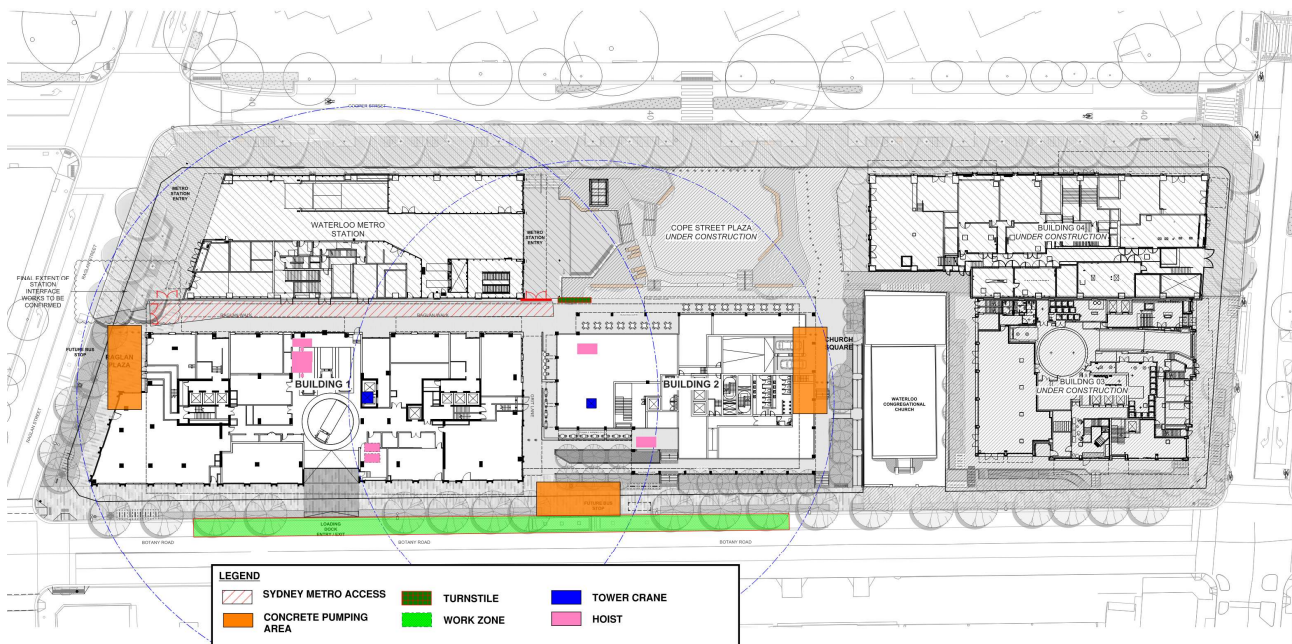
A total of Two (2) Tower Crane (TC1 and TC2) are proposed to be utilised to service both the Northern and Central Precincts, refer below for layout.

### 11.2 Hoists and Loading Platforms

Hoists as well as loading platforms will be used in combination with the tower cranes to ensure efficient delivery of material to the desired location. Refer below figure for location of hoists. Loading platforms will be positioned on the building façade at locations to be determined.

### 11.3 Concrete Pumping Zones and Placement Booms

Static concrete tower booms will be utilised in the Central Precinct to ensure efficient supply of concrete to the appropriate structural element. The use of static booms will reduce the need for mobile booms and therefore cut down on unnecessary people/plant interaction. The permanent feed location for the static boom will also assist with consistency in heavy vehicle movements around site.



**Figure 12: Preliminary Materials Handling Equipment Plan**

## **12. Waste Management & Recycling**

OSD Contractor will ensure that the project supply chain is responsible and accountable for maintaining a clean, clear and safe working environment. This will be documented in further detail in the Waste Management and Plan (**WMP**). Bins will be provided for work areas and will be regularly removed to a suitable skip bin location for collection and transport from the site to the waste recycle facility.

Bins will be moved using the man and materials hoists and also by tower cranes, dependant on where they are loaded from, and the waste material being removed from site. Crane lifted steel bins will be used to service the top floors where structure trades will be working, and large wheelie bins/or similar will service the lower levels where fit-out and service trades will be working. The site skips will be suitably located to ensure easy pick-up by the waste subcontractor.

Excess materials generated throughout construction will be separated at an approved waste management facility. Auditable records will be kept of quantities of all materials both recycled and disposed to landfill. Records will be monitored to ensure any applicable recycling targets can be achieved. This information will be collected and reported in compliance with the WMP over the duration of the project. It is intended to engage a licenced entity for the purpose of waste management and recycling.

The EPA waste hierarchy, which sets priorities for the efficient use of resources, will be implemented during construction to minimise unnecessary waste generation.

The waste hierarchy is:

- avoidance including action to reduce the amount of waste generated by households, industry and all levels of government
- resource recovery including re-use, recycling, reprocessing and energy recovery, consistent with the most efficient use of the recovered resources
- disposal including management of all disposal options in the most environmentally responsible manner.

To implement the waste hierarchy the following will be implemented, where practical and appropriate:

- Order materials in appropriate quantities and request minimal packaging;
- Give a high priority to using non-hazardous products where practical;
- Investigate packaging takeback schemes with suppliers during the procurement phase;

### **12.1 Waste types and classification**

Waste will be classified according to the EPA's Waste Classification Guidelines 2014, prior to disposal. Spoil excavated is expected to be classified as excavated natural material (ENM) or as identified in a remediation action plan prepared for the site.

### **13. Noise & Vibration Management**

Noise and vibration generated from construction activities occurring on site and its impact on site operations and workers will be managed to minimise adverse impact on neighbouring residents, businesses and associated building structures. Special consideration will be given to the neighbouring Waterloo Congregational Church and other occupied adjacent buildings.

All noise generating activities are proposed to occur during the approved site operating hours. Primary source of noise generated will be associated with vehicle movements, generators, heavy machinery, hand-held machinery and tools.

Any noise activities proposed outside the nominated site operating hours will require prior written consent from the nominated approval authority. Noise limits during the construction works will meet the maximum allowable noise contribution.

During construction, the OSD Contractor will utilise existing noise impact assessment data, where required, to determine noise sources and confirm ambient background levels or alternatively will conduct baseline noise monitoring prior to construction work commencing. OSD Contractor may engage an acoustic consultant to monitor construction noise level during its activities, routine inspections of plant and equipment will be conducted to ensure performance relative to compliance requirements.

When planning for construction work that includes vibration, all practical efforts to protect vibration sensitive buildings and the amenity of adjoining stakeholders (specifically the church) will be considered. A practical and economical combination of vibration control measures will be applied to manage vibration impacts such as:

- Substitution by an alternative process
- Restricting times when work is carried out
- Screening or enclosures
- Consultation with affected residents
- Utilisation of temporary supports where deemed necessary

Stantec (Australia) Pty Ltd have been engaged by WL Developer to produce the Acoustic and Vibration Impact Assessment for the Central Precinct, provided in the EIS. The EIS Appendix T – Noise and Vibration Impact Assessment and the conditions contained therein will be adhered to for the duration of the project.

## **14. Air Quality and Odour Management**

The sources of air emissions from the proposed construction works at the site are primarily associated with traffic movements as a result of deliveries to site, e.g. concrete trucks.

The generation of dust, air emissions or odours from the site can be a nuisance to adjacent land users, create unsafe working conditions on site and result in environmental degradation if not managed appropriately.

The minimisation of air borne pollution is a key component for the Construction Phase CEMP for the site. Air quality impacts shall be minimised or avoided by incorporation of appropriate dust suppression and air quality control measures at various stages of the project. Construction site layout and placement of plant would consider air quality impacts to nearby receivers, pedestrian, commercial receivers, public and road traffic.

## **15. Soil and Water Quality Management**

### **15.1 Stormwater runoff**

Water courses within the Project site catchment are heavily urbanised, with stormwater collected by developed stormwater networks. Environmental protection during construction will involve the installation, use and maintenance of a number of temporary erosion and sediment control measures as required in accordance with the following principles:

- Before undertaking excavation work implement all soil and water management controls required to minimise pollution of waters
- All erosion and sediment controls will be installed in accordance with NSW Blue Book Volumes 1 and 2D (Landcom, 2004 and DECC, 2008)
- Minimisation of soil erosion and mobilisation of sediment during rain events
- Use of suitable sediment retention structures and control measures to filter or retain mobilised sediment generated during rain events over surface disturbances
- Maximum sediment capture through effective positioning of temporary erosion and sediment control structures
- Regular inspection and maintenance of all erosion and sediment controls to ensure they are effective
- Ensure that any road, footpath, shared path or cycleway is at all times kept free of mud, dirt, dust, deleterious material, debris, obstructions and trip hazards
- Site exit controls may include wheel wash facilities. These measures would be put in place to mitigate the risk of any loss of fuels, lubricants, load or other substances
- Any spillage or build-up of such material or debris would be cleaned up as soon as practicable.

An erosion and sediment control plan will be developed for the site prior to the commencement of construction. This will be prepared in accordance with the NSW Blue Book requirements. All stormwater will be managed to prevent off site pollution.

### **15.2 Groundwater Seepage**

Groundwater seepage is not expected to occur as the Central Precinct is constructed above the Basement (SSDA 10438) and therefore above the groundwater table.

### **15.3 Soil**

Potential impacts to soil will be limited to areas of landscaping within the Central Precinct. Where soil pollution occurs as a result of spills or leaks, the impacted soil will be removed and disposed at an appropriately licenced facility. All known areas of contamination will be managed prior to commencement of the Central Precinct. Refer to the updated Remedial Action Plan and Preliminary Long-term Environmental Management Plan submitted as part of the Basement SSD-10438 Modification 2 for further details.

## 16. Cumulative Impacts

The cumulative assessment considers the concurrent construction of the Northern and Central Precincts. The CEMP that is further developed prior to the commencement of construction would address any further Cumulative Impacts as a result of other developments in proximity to the Central Precinct. An assessment of the potential cumulative impacts of the proposed development with regards to the adjacent Northern Precinct works is provided in Table 3.

*Table 3: Cumulative Impacts*

| <b>Aspect</b>              | <b>Impact</b>  | <b>Management Tools</b>   |
|----------------------------|--|---|
| <b>Noise and Vibration</b> | Disruption to the community from construction and additional traffic, including out of hours activities  | Implementation of noise and vibration management requirements are detailed further in the Noise and Vibration Plan.<br><br>Site inspections and monitoring to confirm noise and vibration levels are being met will be implemented by the construction manager, environmental officers and supervisor |
| <b>Traffic</b>             | Construction traffic generation is expected to have minimal impact to the surrounding road network operation – as detailed in the Traffic Impact Assessment in EIS Appendix R. | Implementation of traffic management requirements are detailed further in the CTMP  |
| <b>Air Quality</b>         | Dust generation is expected to be minimal due to the stage of work and limited ground disturbance  | Air quality will be managed in accordance with the requirements stipulated within this CEMP   |
| <b>Soil and Water</b>      | Minimal cumulative impacts are expected based on limited ground disturbance work at the site   | Soil and Water will be managed in accordance with the requirements stipulated within this CEMP  |
| <b>Odour</b>               | Minimal cumulative impacts are expected based on limited ground disturbance work at the site   | Odour will be managed in accordance with the requirements stipulated within this CEMP   |

## 17. Program Management

OSD Contractor has standardised processes and procedures to ensure that project planning and scheduling is consistent, transparent, efficient, and integrated across the delivery cycle of the project. This provides a greater level of certainty in delivery through robust benchmarked baseline programs, and ensures that project controls are accurate and up-to-date.

The project team will have regular planning meetings to track, plan and disseminate information regarding the upcoming or ongoing activities. After implementation of the program, a structured cycle of monitoring and review will be maintained. Progress updates with the client will also be done periodically. These updates will be done by the project team members in charge of the works-activities.

## 18. Stakeholder Management & Communications

A stakeholder management plan will be developed and community members/stakeholder will be engaged to address the implementation of project specific mitigation and management strategies in order to minimise the potential for negative impacts on the community in and around the construction site.

The WL Developer is committed to respecting and valuing all stakeholders and engaging positively with the community, government and non-government stakeholders.

In order to achieve this, we propose to implement the following strategies;

- Establish and maintain effective and open communication with community members, stakeholders' groups and the WLD project partners
- Be open and accessible to the community, stakeholders and customers
- Listen and respond to what the community and stakeholders have to say
- Provide timely, informative communications material that clearly explains the project works and any potential impacts
- Identify and address key risks, impacts and opportunities
- Ensure there are "no surprises" for stakeholders, the community and WLD partners
- Conduct ourselves professionally in all that we do
- Actively look for opportunities to incorporate the community and stakeholder suggestions in the design, construction and delivery phases of the project