Construction Pedestrian & Traffic Management Plan

Sydney Opera House Renewal Stage 1

For Sydney Opera House

5 October 2018

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Sydney Opera House Renewal Stage 1, Construction Pedestrian & Traffic Management Plan

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1. Introduction

1.1 Project Summary

The Sydney Opera House (SOH) is undertaking a series of construction projects, as part of the Sydney Opera House Renewal Stage 1 project. **ptc.** has previously prepared a Construction Pedestrian and Traffic Management Plan (CPTMP) for the SOH, which SOH is currently working under for DA2 (SSD7665) works.

SOH has engaged **ptc.**, to prepare a revised Construction Pedestrian and Traffic Management Plan (CPTMP) to incorporate the works planned under the package of works known as 'DA3' in addition to DA2 works. This CPTMP will be submitted to the Department of Planning & Environment (DPE) as part of the application package.

The location of the subject site is presented in Figure 1.

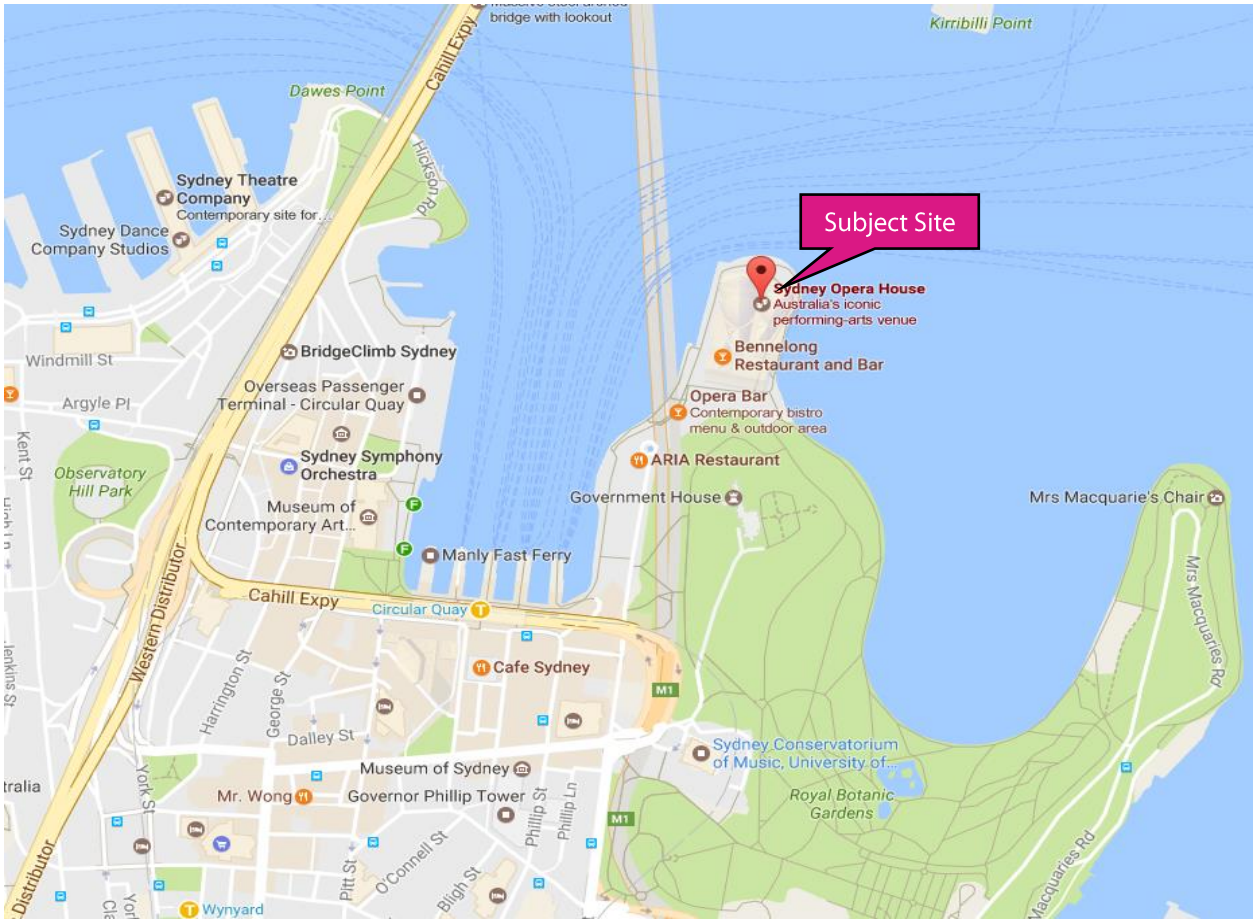


Figure 1 - Subject Site & Surrounding Road Network

1.2 Purpose of this Report

The purpose of this report is to forecast and identify potential impacts on traffic, pedestrians and cyclists in the surrounding road network as a result of the increased construction traffic and altered traffic conditions that will occur during the associated works.

This report has been prepared to in accordance with the RMS publication Traffic Control at Works Sites and the Australian Standard AS1742.3-Traffic Control Devices for Work Sites on Road. The City of Sydney's Guidelines for preparation of a CTMP were also referred to while preparing and developing the CPTMP.

This report has been prepared in conjunction to the following documents:

- Loading Dock Management Plan prepared by ptc.[1] in May 2017,
- Construction Pedestrian & Traffic Management Plan for DA2 prepared by ptc. in July 17, and
- Construction Management Plan for DA3 prepared by SOH in April 2018.

This report presents the following considerations relating to the construction traffic activity:

- Section 2 - A description of the project;
- Section 3 - A description of the road network servicing the development property;
- Section 4 - Management of construction traffic & existing road users; and
- Section 5 - Summary.

[1] formerly 'Parking & Traffic Consultants'

2. Proposal

The SOH Renewal Project involves various construction and upgrade works to the Sydney Opera House, which to date, have been allocated to four work packages, known as DA1, DA2, DA2a and DA3.

This revised CPTMP addresses the key traffic and pedestrian considerations for the following construction works:

- Safety, Accessibility and Venue Enhancement (SAVE) of the Joan Sutherland Theatre (JST), Entry Foyer Works (DA2 – SSD 7665 **approved**);
- Construction of a Function Centre & Ballet Rehearsal Room (DA2a – SSD 7881 **approved**); and
- DA3 Package of works (subject to approval), including:
    - Acoustic, technical and accessibility upgrades to the Concert Hall (CH); and
    - Dedicated facilities within the Opera House for creative learning, known as the Creative Learning Centre (CLC).

Details of the specific works, methodology, timing and more are provided in the Construction Management Plan submitted by SOH as part of this application.

The location of the DA3 work components are outlined in Figure 2.

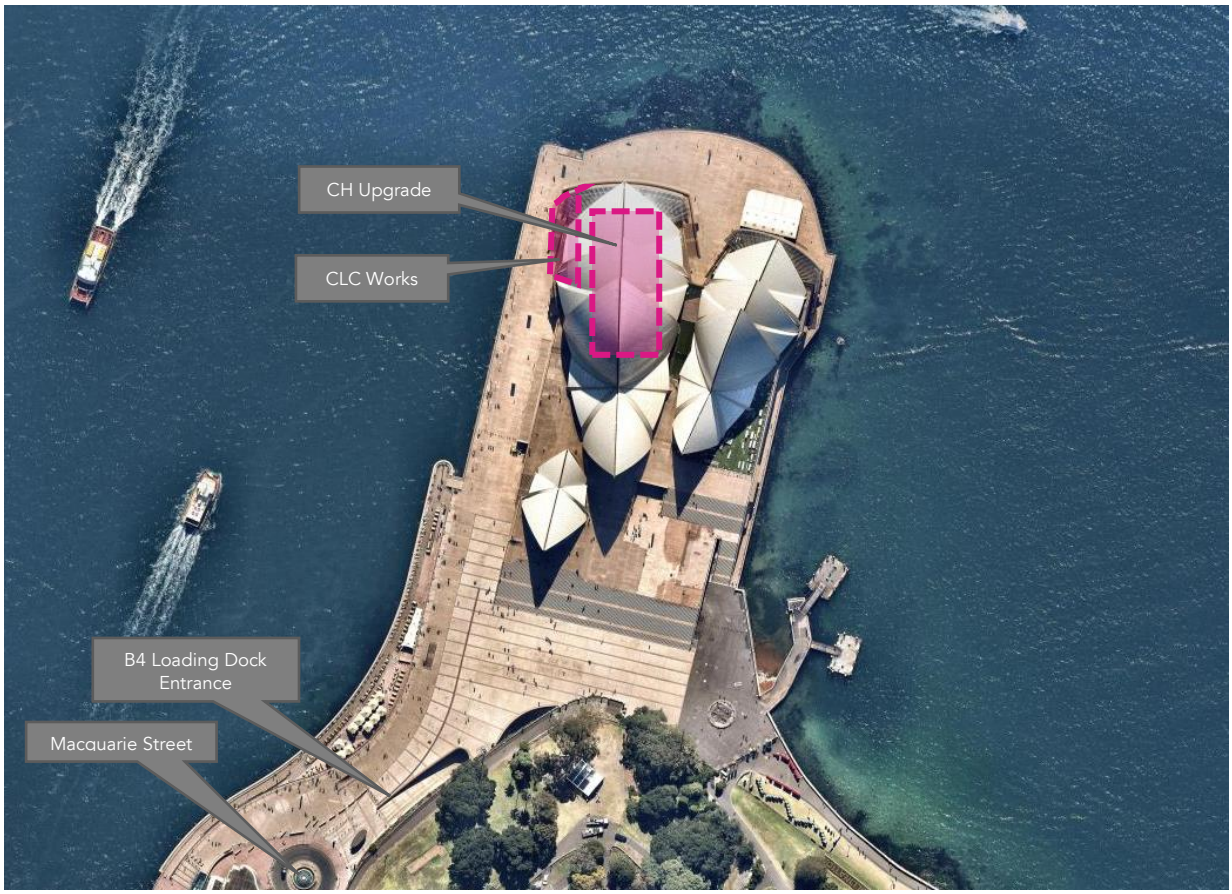


Figure 2 - Overview of Site and Works

3. Existing Transport Facilities

3.1 Road Hierarchy

The SOH is located at Bennelong Point, at the northernmost end of Macquarie Street. The surrounding road network consists of a number of classified state and regional roads in addition to various unclassified local roads. Being located on the outskirts of the Sydney CBD, the majority of these roads, regardless of classification, play a significant role in Sydney's transportation network. The surrounding road network is outlined in Figure 3 identifying classified roads.

Figure 3 - Road Hierarchy (Source: RMS Road Hierarchy Review)

The NSW administrative road hierarchy comprises the following road classifications, which align with the generic road hierarchy as follows:

State Roads - Freeways and primary arterials (RMS managed)

Regional Roads - Secondary or sub arterials (Council managed, part funded by the State)

Local Roads - Collector and local access roads (Council managed)

The road network serving the site includes:

Macquarie Street is a regional road aligned north-south, providing vehicular access to and from the SOH. The carriageway is undivided, and typically comprises one northbound lane and two southbound lanes, each with restricted parking lanes. Parking along the kerb-side lane in the southbound direction is provided as a dedicated coach set-down area. Being located in a high-pedestrian activity zone, a speed limit of 40km/h applies.

Figure 4 - Existing Road Network - Macquarie Street (Southbound)

Eastern Distributor Motorway (M1) is a state road aligned north-south which forms a major link of the Sydney Orbital Network, directly connecting the north-east and south-east regions of Sydney via the CBD. The carriageway is divided, and varies in the number of lanes over the length of the road. Typically, the road is comprised of 3 lanes in each direction. The road features variable speed limits with the default speed limit set as 80 km/h. Parking is not permitted.

Figure 5 - Existing Road Network - Eastern Distributor Motorway (M1) (Northbound)

Shakespeare Place: a one-way state road aligned east-west and runs alongside the Eastern Distributor Motorway on the south side of the Botanic Gardens. The carriageway is undivided and comprises three westbound lanes. A speed limit of 50km/h applies for the majority of the road, however, the western end of the road is located in a high pedestrian activity zone resulting in a reduced speed limit of 40km/h. Parking is not permitted.

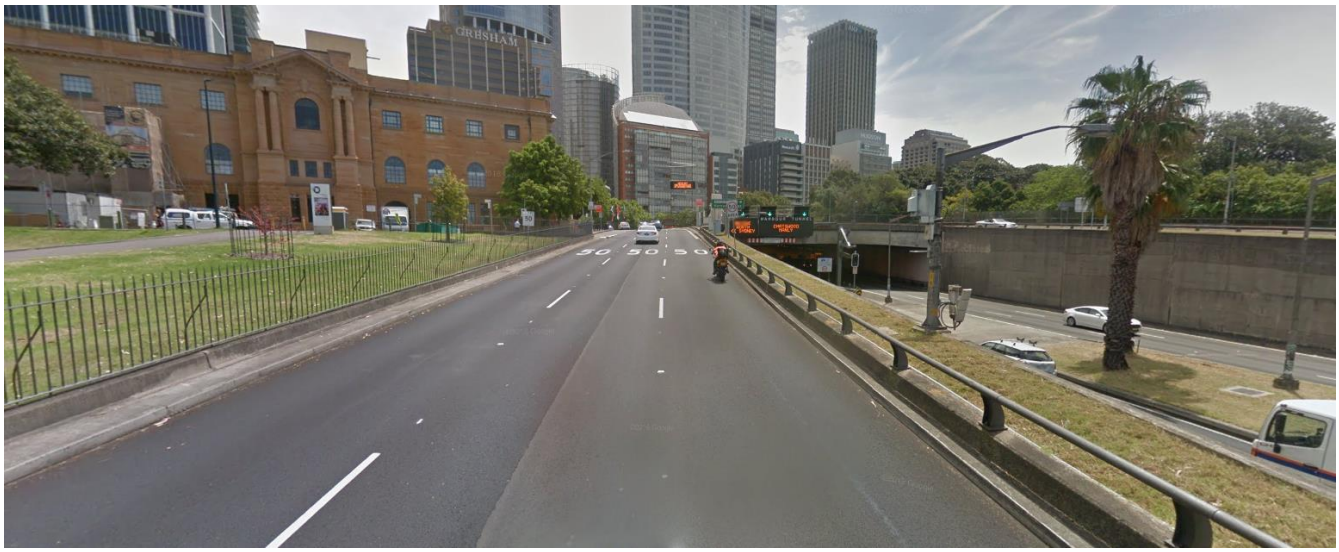


Figure 6 - Existing Road Network - Shakespeare Place (Westbound)

William Street: a state road aligned east-west. The carriageway is divided and is comprised of two lanes in each direction. The left lane in both directions are denoted as T2 transit lanes operational from 6am to 7pm Mon-Fri. There are also painted bicycle lanes in both directions spanning the street from the Eastern Distributor Motorway intersection to the College St intersection. 2-hour metered parking is available in multiple parallel parking bays offset on the side of the street. A speed limit of 50km/h applies.

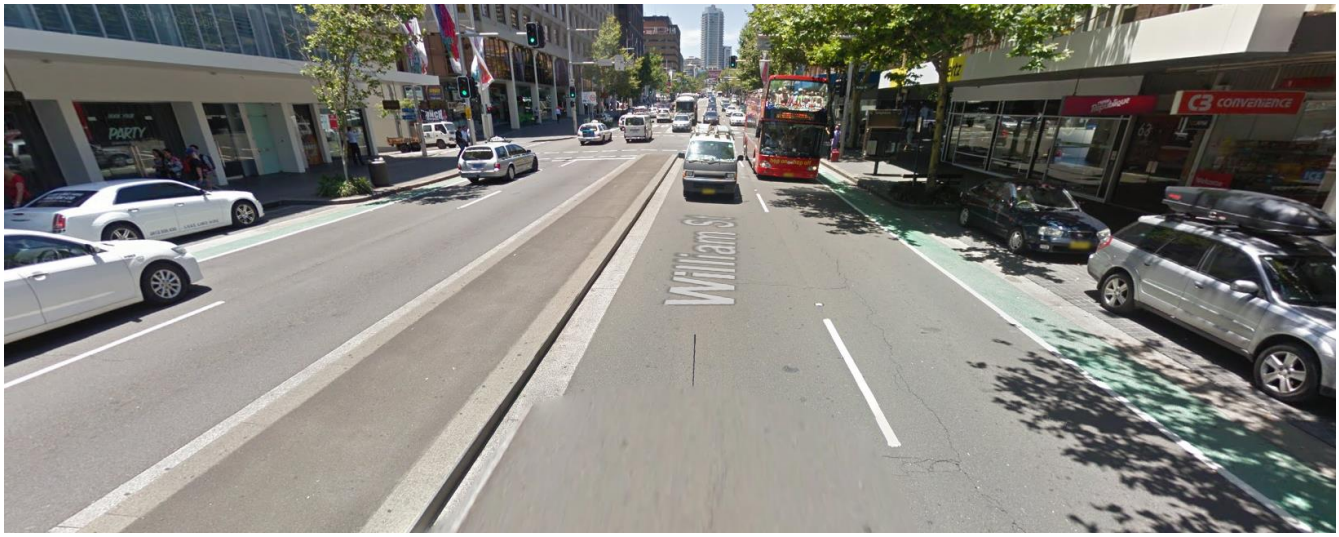


Figure 7 - Existing Road Network - William Street (Eastbound)

Cleveland Street: a state road aligned east-west is the major east-west connection between City Road and the Eastern Distributor. The undivided carriageway has 2 lanes in each direction. Clearways are in operation during peak hours from Mon-Fri. A speed limit of 50km/h applies with school zone speed limits of 40km/h applicable from the Pitt St intersection to the Buckingham St intersection.

Figure 8 - Existing Road Network - Cleveland Street (Eastbound)

College Street: a regional road adjacent to the eastern end of Hyde Park. The undivided carriageway is aligned north-south and is composed of 3 lanes in each direction. The road is located in a high-pedestrian activity zone, resulting in a speed limit of 40km/h. Along parts of the road heading southbound, the left lane transitions into parking lanes with 4P metered parking. The southern half of the road is situated in a school zone.

Figure 9 - Existing Road Network - College Street (Northbound)

Elizabeth Street: a regional road adjacent to the western side of Hyde Park. It is aligned north-south and extends all the way down towards Green Square. The undivided carriageway has 3 lanes in both directions with bus lanes present usually on either the left or middle lane. A speed limit of 40km/h applies in the northern portion of the road closer to the CBD and increases to 50km/h away from the city centre. There are small portions of the road where parking is permitted in the left lane and is available as 4P metered parking.

Figure 10 - Existing Road Network - Elizabeth Street (Southbound)

3.2 Public Transport

This section outlines public transport accessibility to the site, which may be utilised by construction staff over the project duration. Staff inductions will include information on the available travel options that staff may take to access the site.

The NSW Planning Guidelines for Walking and Cycling (2004) suggests that an 800m catchment radius is an acceptable, walkable distance if the development is within an area with public transport links.

There are multiple public transport options that fall within the walkable catchment for the Sydney Opera House as seen in Figure 11. These options include bus, train, and ferry services as well as an extensive cycle network. These services are discussed in further detail in the following sections.

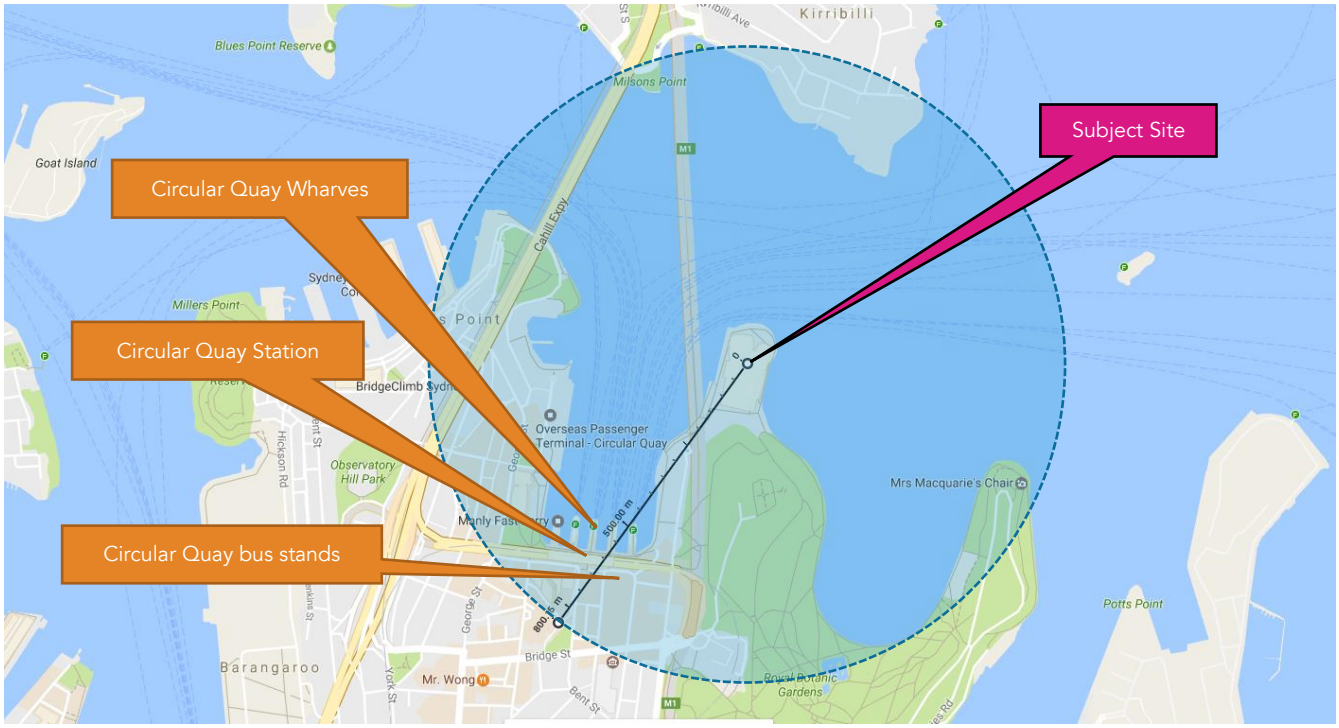


Figure 11 - 800m Site Catchment

3.2.1 Bus Services

An extensive range of bus services operate from Circular Quay at bus stands A to D. These bus stands are all located within the 800m walking catchment to the Sydney Opera House (see Figure 12). The Metrobus service M52 operates very frequently; every 10 min during peak and approximately every 20-30min off-peak daily. Other bus services also operate regularly and a brief summary is provided in Table 1.

Table 1 – Bus Services Summary

Routes	Description
M52	**Parramatta via Victoria Road, Top Ryde City, Town Hall station**
301, 302, 303	**Eastgardens, Sans Souci**
333-399 (see Figure 12)	**North Bondi, Coogee, Maroubra Beach, La Perouse, Little Bay, Maroubra Beach, South Maroubra**
374	**Coogee via Bream Street, Randwick, Moore Park and Surry Hills**
500-520 (see Figure 12)	**Ryde, Macquarie University, Eastwood, Parramatta**

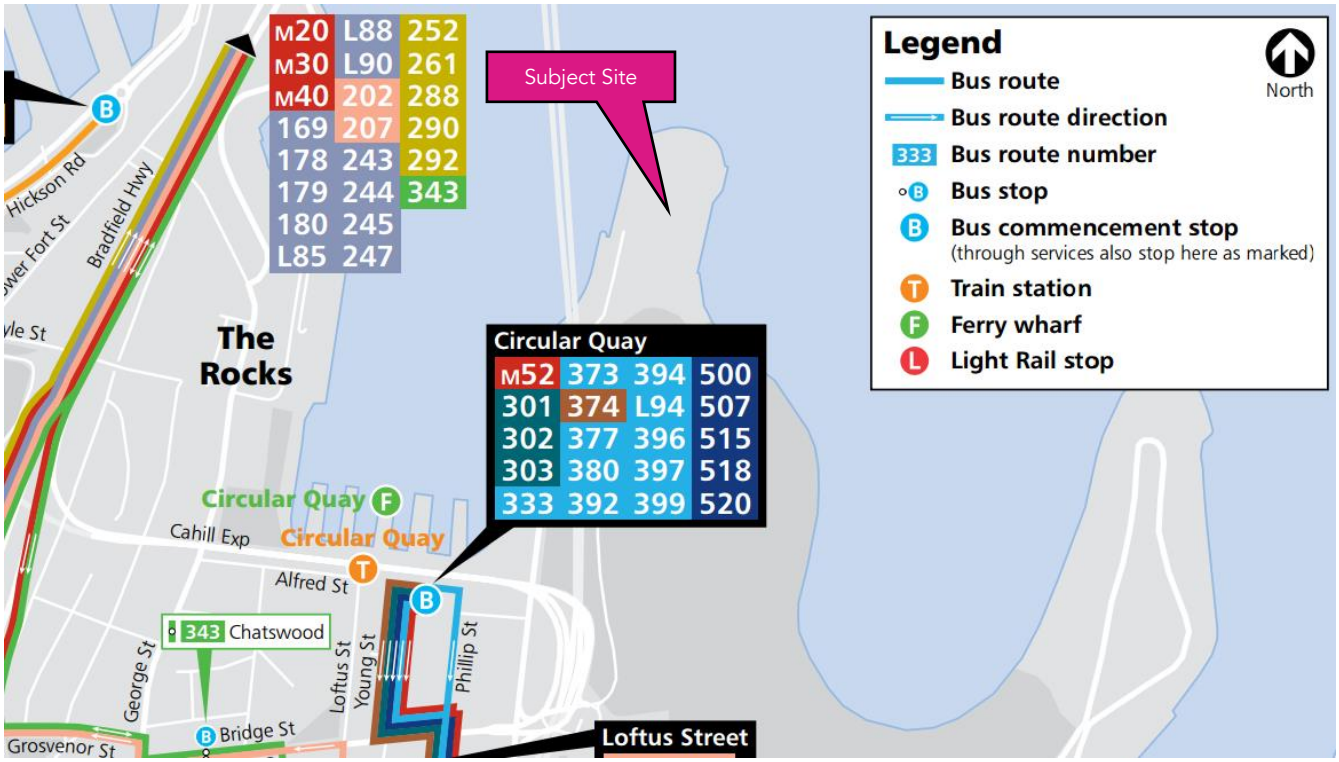


Figure 12 - Bus Service Map (source: Transport for NSW, 2016)

3.2.2 Train Services

Circular Quay Station is a 750m walk from the Sydney Opera House (Figure 13) and provides access to the wider Sydney Trains network. The station is located on the T2 Airport, Inner West & South Line and the T3 Bankstown Line.

Trains are very frequent and accessible with T3 trains operating every 6-9min during peak hours and 15-30mins off-peak, and T2 trains operating every 3-6min during peak hours and 9 mins off-peak.

In addition, Town Hall station is a 6 min train ride from Circular Quay and provides additional access to the T1 North Shore, Northern & Western Line and T4 Eastern Suburbs & Illawarra Line, providing even greater coverage of the Sydney Trains network.

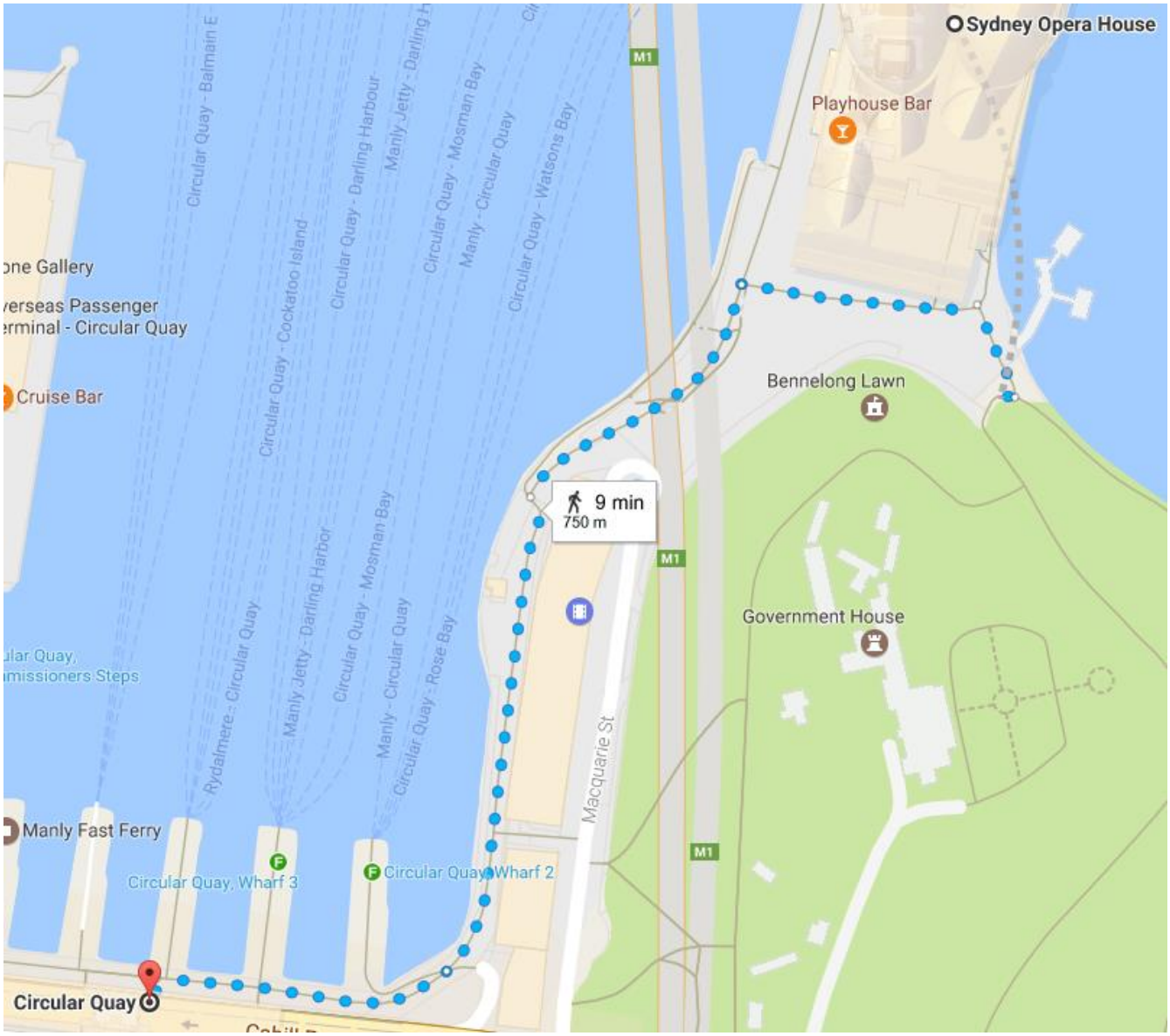


Figure 13 - Circular Quay Train Station walking distance

3.2.3 Ferry Services

All Sydney Ferry services operate to and from Circular Quay. Locations serviced by ferries include Manly, Taronga Zoo, Parramatta, Darling Harbour, Neutral Bay, Mosman Bay, and Watsons Bay. A map of the Sydney Ferry services is available in Figure 14.

Most ferry services arrive and depart every 30min with services becoming less frequent (every hour) on weekday evenings and on weekends.

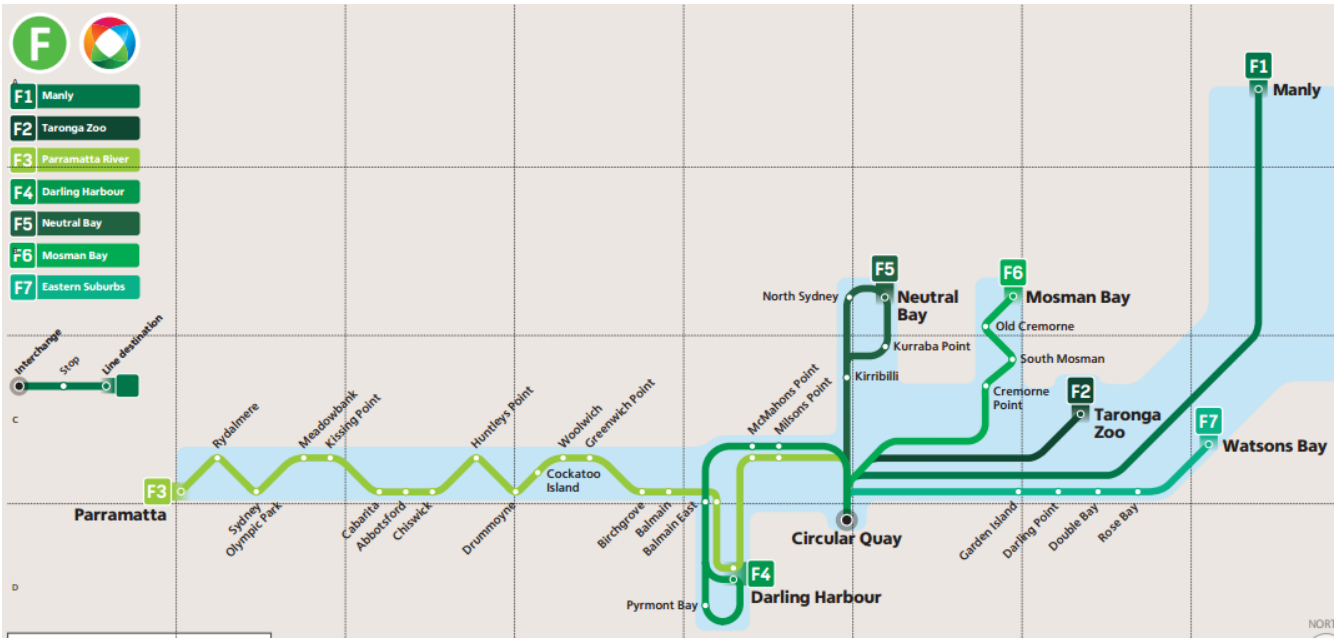


Figure 14 - Sydney Ferry Services Map (source: Transport for NSW, 2016)

3.3 Active Transport

There is an extensive network of cycleways near the SOH extending around the site and south to Circular Quay, providing access to the site for users using a combined train/bicycle mode of travel. There is also a dedicated cycleway along Sydney Harbour Bridge, providing an alternative for commuters travelling from northern suburbs.

The cycleways also continue south into and throughout the Royal Botanic Gardens which then link into a wider network servicing the greater CBD via cycleways and cycle lanes. Alternatively, there is also a bicycle friendly road which extends down Pitt Street, linking to the rest of the Sydney network. Figure 15 illustrates the cycle network around the site.

Similarly, pedestrian travel in the CBD and Bennelong Point area is strongly encouraged, with excellent footpath facilities, road crossings, lighting and signage provisions, and a focus on ambience, separating pathways as far as practicable from roads. Pathways regularly adjoin natural and built attractions, including the Harbour Bridge, Sydney Harbour, Sydney Opera House and the Botanic Gardens, amongst other features.

Figure 15 - Sydney Cycleways

4. Pedestrian & Traffic Management Plan

4.1 Objective

The pedestrian and traffic management plan associated with the construction activity of the SOH Renewal Project aims to ensure the safety of all workers and road users within the vicinity of the construction site, with the following primary objectives:

- To minimise the impact of the construction vehicle traffic on the overall operation of the road network;
- To ensure continuous, safe and efficient movement of traffic (vehicular and pedestrian) for both the general public and construction workers;
- Installation of appropriate advance warning signs to inform users of the changed traffic conditions;
- To provide a description of the construction vehicles and the volume of these construction vehicles accessing the construction site;
- To provide information regarding the changed access arrangement and also a description of the proposed external routes for construction vehicles accessing the site; and
- Establishment of a safe pedestrian environment in the vicinity of the site.

4.2 Hours of Work

The construction activities associated with this work shall be carried out within the hours approved by the relevant authorities.

Based on the approved conditions for the prior works packages of the Renewal project, these hours are anticipated as follows:

- Monday to Friday 7:00am to 6:00pm
- Saturdays 8:00am to 1:00pm
- Sundays or Public Holidays No works to be undertaken without prior approval

Works may be undertaken outside these hours where:

- The works are internal and undertaken within the wholly enclosed building; or
- The delivery and removal of vehicles, plant or materials is via the underground loading dock within the Subject Site (in which case it may be undertaken on a 24 hours a day, 7 days a week basis during the construction of the development); or
- The delivery and removal of vehicles, plant or materials (not via the underground loading dock under Condition C1(d)(ii)) is required outside these hours by the Police or other public authorities, or it is determined that it would be hazardous to the general public (i.e. tourists, patrons or events in the forecourt/Broadwalk), provided it is undertaken outside scheduled performance times at the Sydney Opera House (including not within 30 minutes before or after scheduled performances); or
- It is required in an emergency to avoid the loss of life, damage to property and/or to prevent environmental harm; or
- A variation is approved in advance in writing by the Secretary or his/her nominee.

Stakeholders must be informed of any works that are to be undertaken outside these hours.

4.3 Construction Site Layout

LOR have prepared a site layout to be established for DA3 works, outlined in Figure 16. In terms of construction vehicle access, all movements will approach SOH via Macquarie Street. A number of reserved work zones are proposed to receive vehicles:

- Western Crane Site along the Western Broadwalk;
- Northern Crane Site, located on the northern section of the public Broadwalk;
- Vehicular Concourse, under the monumental steps; and
- B4 Basement Loading Dock.

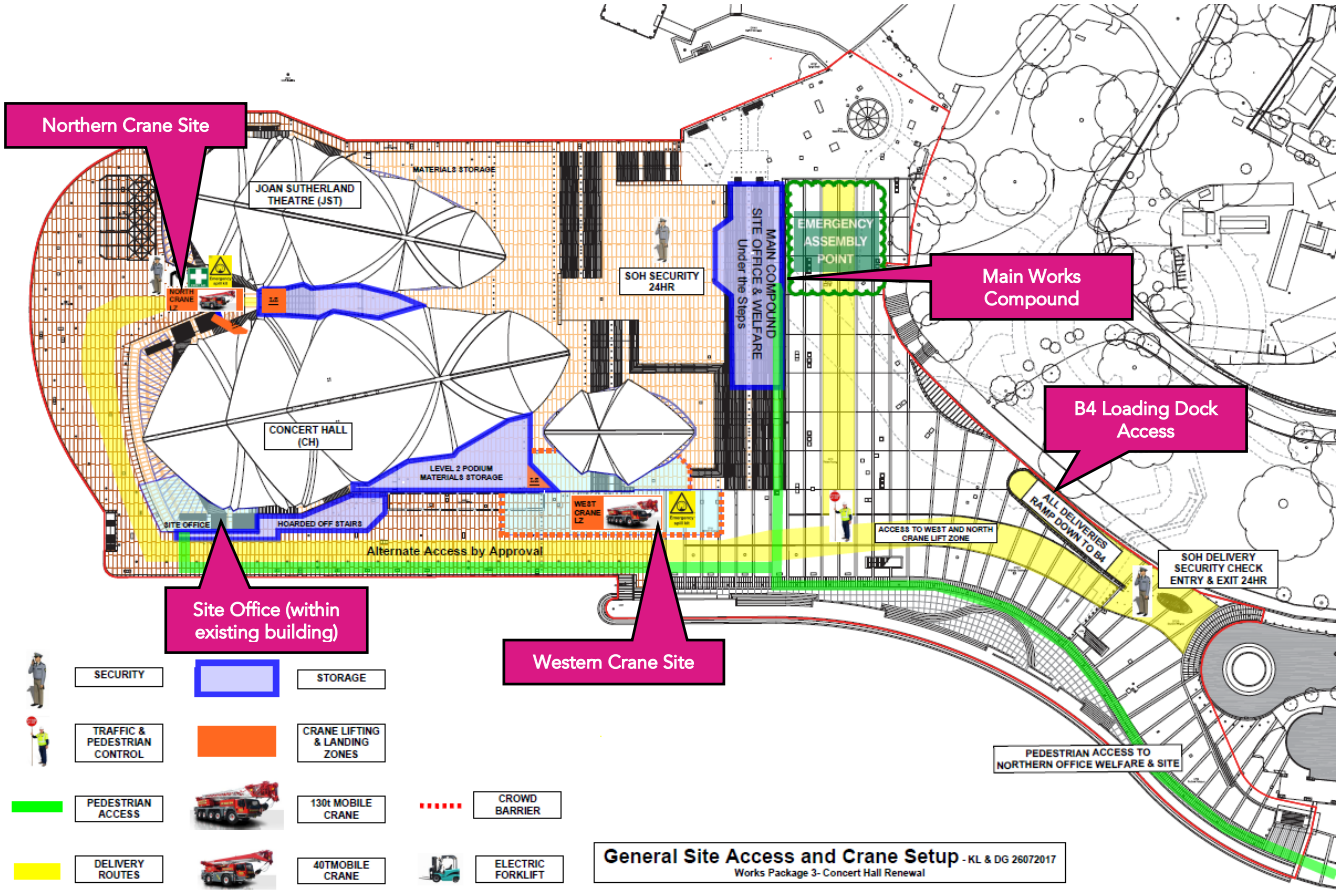


Figure 16 - Proposed DA3 Worksite Arrangements

4.3.1 Site Access Arrangements

All construction traffic shall enter and exit the site from Macquarie Street in a forward direction. Traffic Controllers and spotters shall be present to ensure safe coordination between entering/exiting construction traffic associated with this project and local traffic.

4.3.2 Loading Dock Access

The primary construction vehicle activity is anticipated to access the B4 Loading Dock, adopting the same arrangements and safety procedures as those currently in-place for SOH loading-unloading operations. A section of the loading area has been made available for sole-possession of the contractor for DA1 and DA2 works, and this arrangement is proposed to be maintained for the DA3 works. This is discussed in greater detail in Section 4.5.2.

4.3.3 Broadwalk & Forecourt Access

On occasion, construction vehicles will be required to access the crane sites, via the pedestrianised Broadwalk and Forecourt respectively, as shown in Figure 16.

The safety of the public is a paramount consideration in the movement of vehicles along the Broadwalk and forecourt areas. Sydney Opera House has extensive experience in managing such movements, and has safely carried out vehicle activities on the Broadwalk prior to the construction of Loading Dock B4, when deliveries were required around the northern end of the Opera House.

In relation to timing, construction vehicle access within the pedestrianised Broadwalk/forecourt will be limited to night works where practicable, in accordance with the work hour conditions stipulated in C1 (d) (ii), stated in Section 4.2.

In terms of the volume of truck movements specifically along the forecourt/Broadwalk, it is anticipated that no more than two trucks would arrive and depart in any single hour, amounting to four trips.

A number of measures will be undertaken to ensure the safety of pedestrians, outlined in Section 4.10.

4.4 Construction Activities & Program

The remaining construction activities to date are anticipated to occur between 2017 to 2022. A breakdown of the approximate time frames for the work packages are provided below:

Table 2 - Construction Activity Program

Stage	Scope of Works	Construction Period (approx.)
DA2 (SSD7665)	Works include: - the refurbishment of the entry foyer, and - the safety, accessibility and venue enhancement to the Joan Sutherland Theatre (JST SAVE).	Mid 2017 – 2019
DA 2a (SSD7881)	Construction of the new Function Centre to accommodate 190 seated and 500 standing patrons, and a ballet rehearsal room.	Mid 2017 – Early 2019
DA 3 (SSD8663) (subject)	1. CLC (Stage 1) 2. CH 3. CLC (Stage 2)	Commence post approval of DA3 Commence February 2020, 18-24-month duration Post CH Completion (est 2022)

4.4.1 General Construction Considerations

All construction activities shall be wholly contained within the approved construction compounds, including, but not limited to plant, vehicles, materials, waste, site offices and amenities.

Any hoardings and barriers shall not impact pedestrians, maintaining worksite security, whilst providing appropriate pedestrian thoroughfare. Providing safe pedestrian visibility near any crossing points will be a key criteria in the hoarding arrangements. Prior to any site establishment works, the hoarding arrangement will obtain approval from the relevant Certifying Authority. Upon completion of any stage, the dismantling of any hoardings or road-signage shall be done in accordance with RMS Traffic Control at Works Sites Manual.

4.4.2 Construction Workforce

The workforce will vary over the project lifespan, dependant on the requirements of each construction activity. The following figures have been provided to ptc.:

- Administration/Management Staff: 24;
- Construction Workforce (typical): 40; and
- Construction Workforce (peak): 200.

4.4.3 Work Shifts

Work shifts are primarily divided into a night shift and a day shift. This is outlined in the table extracted from the SOH Construction Management Plan in Table 3.

Table 3 - Work Shifts

Sydney Opera House Renewal Project																								
WORK DAY BREAKDOWN																								
HRS	23:30	00:30	01:30	02:30	03:30	04:30	05:30	06:30	07:30	08:30	09:30	10:30	11:30	12:30	13:30	14:30	15:30	16:30	17:30	18:30	19:30	20:30	21:30	22:30	23:30
SHIFT RESTRICTIONS	23:30 - 10:30 Noisier works which will otherwise be disruptive to Opera House operations but not audible outside of the building, major materials handling, dust & vibration											10:30 - 18:00 General construction/no major noise generating activities								18:00 - 23:30 Planning and quiet activities which are compatible with live performances occurring in other venues within the site					
MONDAY																				NO WORK					
TUESDAY																									
WEDNESDAY																									
THURSDAY																									
FRIDAY																									
SATURDAY																									
SUNDAY	NO WORK																								

4.5 Construction Traffic

4.5.1 Construction Vehicle Types

The proposed works are envisaged to be carried out using a mix of commercial vehicles, ranging from small to heavy rigid vehicles (SRV to HRV). It is understood that some vehicles exceeding 12.5 metres in length will be required, including, but not strictly limited to:

- Articulated Vehicles (19m long) for material deliveries;

- Cranes (40 tonne and a 130 tonne crane)

The proponent shall apply for a special permit from the City of Sydney (CoS) for the use of any vehicles exceeding 12.5m in length, as requested by the Sydney Coordination Office (SCO).

4.5.2 Loading Dock

Use of the B4 loading dock for construction activities is proposed to occur under the same arrangements in place for DA1 and DA2 works. This arrangement is described below.

The majority of deliveries (approximately 80-90%) will occur within the single basement loading dock which can be accessed via a ramp off Macquarie Street. The dock accommodates four loading bays, of which, Bay 1 has been allocated to the Contractor for the duration of works; this arrangement is outlined in Figure 17.

The contractor anticipates that the loading dock will only be required for vehicles up to 12.5m in length (HRV). In the event that a larger vehicle is required, this can be achieved with additional manoeuvres and management of the adjacent docks to be kept clear, as adopted in the SOH Loading Dock Management Plan (LDMP), and illustrated in the swept paths of Attachment 2.

As acknowledged in the previous section, any vehicles greater than 12.5m in length will require a permit from CoS.

In order to utilise the loading dock for deliveries, vehicles must be pre-booked prior to arrival using the existing SOH Vehicle Booking System 'Mobile Dock' to allow for the coordination of trucks within the site and to avoid any vehicle queuing on Macquarie Street. Moreover, a site office has been allocated within the loading dock to station a Logistics Manager/ Delivery Coordinator. This post shall communicate as necessary, to their counterparts who manage the construction vehicles at their respective origins and/or destinations.

No trucks may be queued or parked in the public road/streets in the CBD.

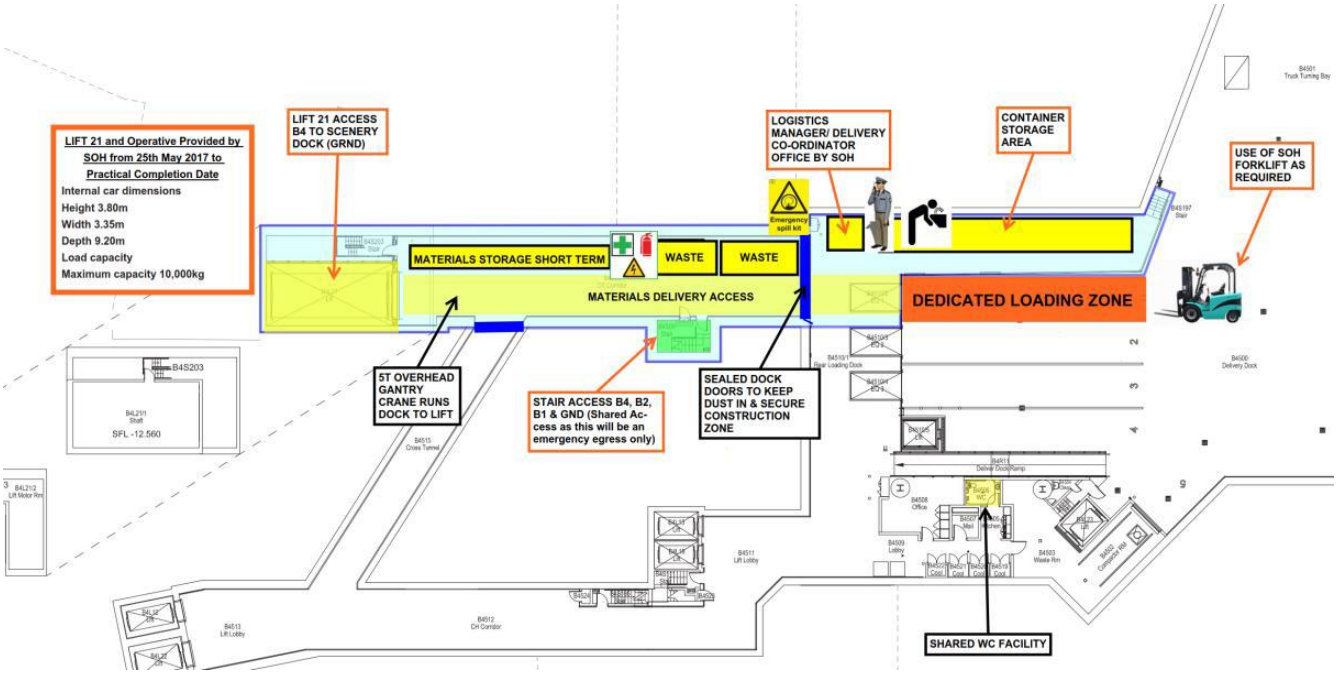


Figure 17 - Laing O'Rourke Loading Arrangement within B4 Loading Dock

4.5.3 Construction Traffic Activity

Based on traffic volume estimated provided by the SOH, the Sydney Opera House manages an average of 148 vehicle deliveries per day under regular operations (no construction activity). This traffic activity accounts for food deliveries to restaurants within the precinct, business operations for staff and resident businesses at the SOH, bump in and bump out activities for the performing arts venues as well as general building operation and maintenance.

During the construction works, the Concert Hall is anticipated to be closed for the following period ('dark' period):

- Concert Hall (capacity of 2700) – Closed from February 2020 with work expected to take 18 – 24 months.

During this period, traffic in the local road network is anticipated to be lower than average, despite construction traffic.

Notwithstanding, outside this closure period, the construction activity will result in increased traffic volumes on the local road network. The vehicle movements during these periods have been estimated with reference to knowledge provided by the SOH operations staff and Laing O'Rourke who were involved in providing construction planning and logistics advice in the early works stage.

The following considerations were made when estimating the construction traffic activity associated with the renewal works:

- Admin/management staff (24) assumed to all arrive during the standard day shift;
- Construction workforce assumed to be split evenly between day shift and night shift;
- Construction workforce is 40 on average, with a potential peak of 200 during critical stages of work;
- Assume 20% of workers drive to work, and park within proximate commercial car parks;
    - As a comparison, BTS Data indicates that 27% of staff in this area drive to work. During inductions, and upon engagement of sub-contractors, the contractor will encourage all employees and sub-contractors to seek alternative transport to the site where practicable. Workers will be made aware of the various public transport options that connect the site, as well as cycling routes, outlined in Section 3.2.

Based on the above information, the daily traffic generation associated with the construction works is estimated in Table 4. In summary, the maximum anticipated daily volume of heavy vehicle and light vehicle trips over a 24 hour period are 56 and 80 respectively. These volumes represent only the critical construction activity periods, with average daily volumes anticipated to be significantly lower. Regardless, these movements are proposed to be widely spread out over a 24 hour period, and consideration will be given towards the type of vehicles and their timing to ensure that disruption to the road network and the local residents and businesses is minimised.

Table 4 - Construction Traffic Movements

Hour	Work Period	Estimated Construction Trip[2] Generations	Peak Hourly Traffic[3]	Proportion of Daily Traffic
22:00 23:00 00:00 01:00 02:00 03:00 04:00 05:00 06:00	NIGHT WORKS 22:00-07:00 *(night shift)*	Construction Staff: **8** (avg) / **20** (max) trips in Heavy Vehicle Trips: **2-6** trips (in & out) *- Occurring throughout night works period (9 hours)* *- Typically limited to oversized/overmass vehicle deliveries to forecourt, including vehicles associated with concrete pumping works* Construction Staff: **8** (avg) / **20** (max) trips out	22 trips / hr	30%
07:00 08:00 09:00 10:00 11:00 12:00 13:00 14:00 15:00 16:00 17:00	STANDARD HOURS 07:00-18:00 *(day shift)*	Construction Staff: **13** (avg)/ **20** (max) trips in. Heavy Vehicle Trips: **10-40** trips (in & out) *- Occurring throughout standard works period (11 hours)* *- Typical construction traffic (deliveries, removals), primarily accessing the B4 loading dock.* Construction Staff: **13** (avg)/ **20** (max) trips out.	24 trips / hr	60%
18:00 19:00 20:00 21:00	EVENING WORKS 18:00-22:00 *(quiet period)*	Limited staff on-site (quiet works/planning period) Heavy Vehicle Trips: **2-10** trips (in & out) *- Occurring throughout evening works period (4 hours)* *- Typically, deliveries and removals* *- Typically occurring in B4 loading dock.*	3 trips / hr	10%
24 hr	**Daily Trip Range**	Heavy Vehicle Trips: **14** to **56** Staff Vehicle Trips: **42** - **80**	**-**	**100%**

[2] *A trip is defined as a single movement into* or *out of the site*

[3] *Taken as combined light and heavy vehicle trips, assuming staff arrive or leave within a single hour period, whilst heavy vehicle movements are distributed over the full shift period* . i.e. peak volume is only sustained during the one-hour staff arrival and departure periods respectively.

4.5.4 Works Zone

No Works Zones are proposed in relation to the renewal works.

4.5.5 Construction Vehicle Routes

The proposed construction vehicle routes are outlined in Figure 18. It is noted that for Northern, North-Western, Western and Southern suburbs of Sydney, the M1/Eastern distributor provides direct and convenient access to the site. For vehicles approaching from the inner-western suburbs, the Western Distributor offers the most direct link, exiting onto Bathurst Street.

If any articulated vehicles are used, the northbound departure route must make a slight detour, as the slip lane allowing the left turn from Macquarie Street onto the M1 is too narrow to accommodate such vehicles. This route is outlined in Figure 19. Proposed routes for any vehicles longer than 12.5m will be determined as part of a special permit application to CoS, if and when required.

These routes shall be communicated to construction staff during the induction process. As a general requirement however, all drivers and associated companies are responsible for adhering to the road rules and regulations.

The proponent recognises that that the CBD road network is often subject to changing conditions resulting from major organised events and construction works, and that these occurrences may at times impose restrictions to the works which may be carried out. In order to mitigate the impacts of such occurrences, the proponent, by way of the Delivery Coordinator, will monitor these events, by such means as:

- TfNSW provides an interactive map of Sydney's CBD, outlining current and future changes road conditions resulting from events or construction activities;
    - http://mysydneycbd.nsw.gov.au
- Maintaining updated schedules of cruise ships entering Sydney Harbour, resulting in higher-than-average pedestrian volumes.

If any external occurrences are anticipated to adversely impact construction traffic, the proponent shall liaise with SCO, to determine the appropriate course of action.

It is noted, that SOH has pre-existing monitoring systems in place to identify and manage major events within the CBD. This information shall be communicated with the contractors accordingly.

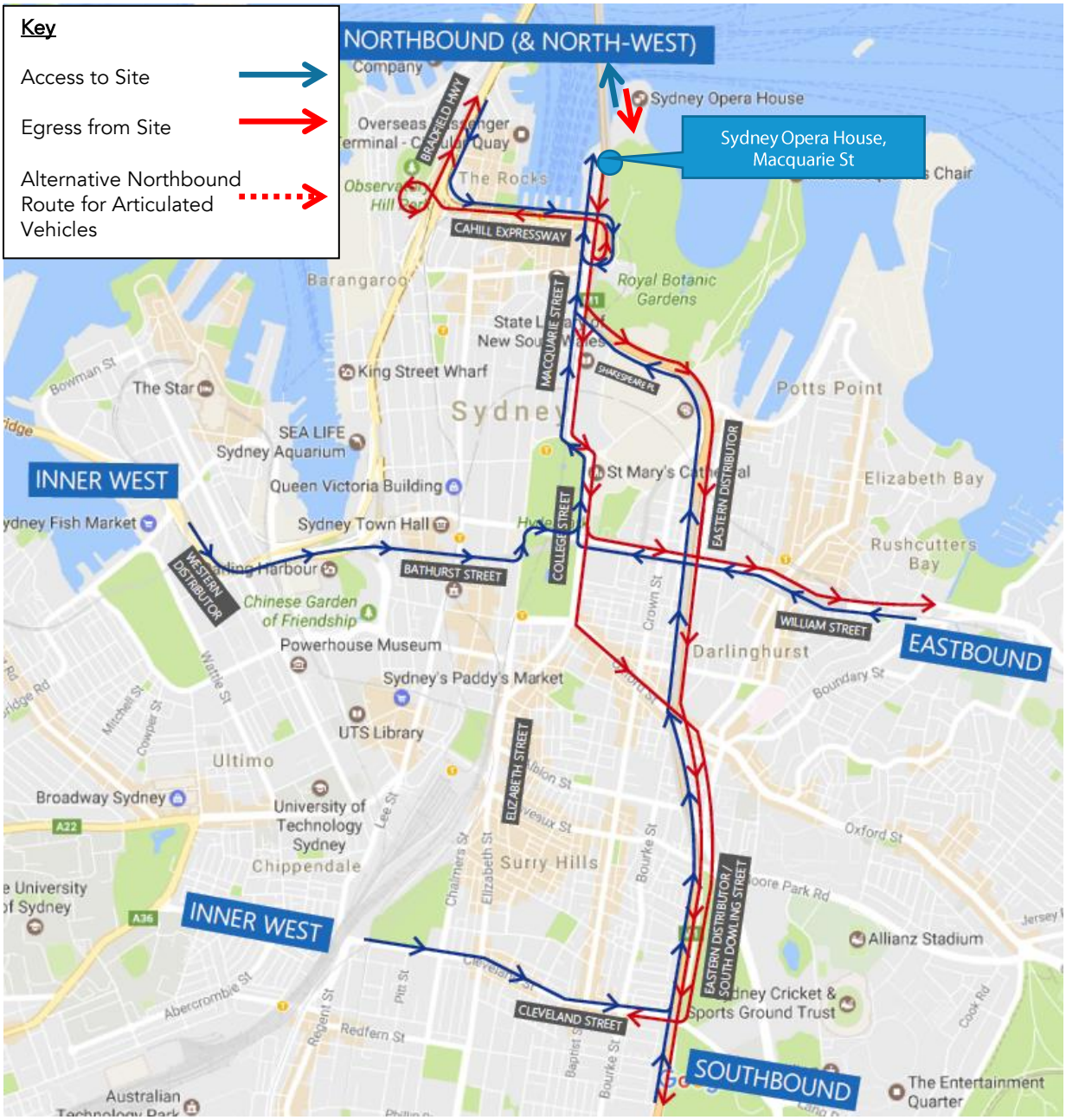


Figure 18 – Construction Vehicle Routes

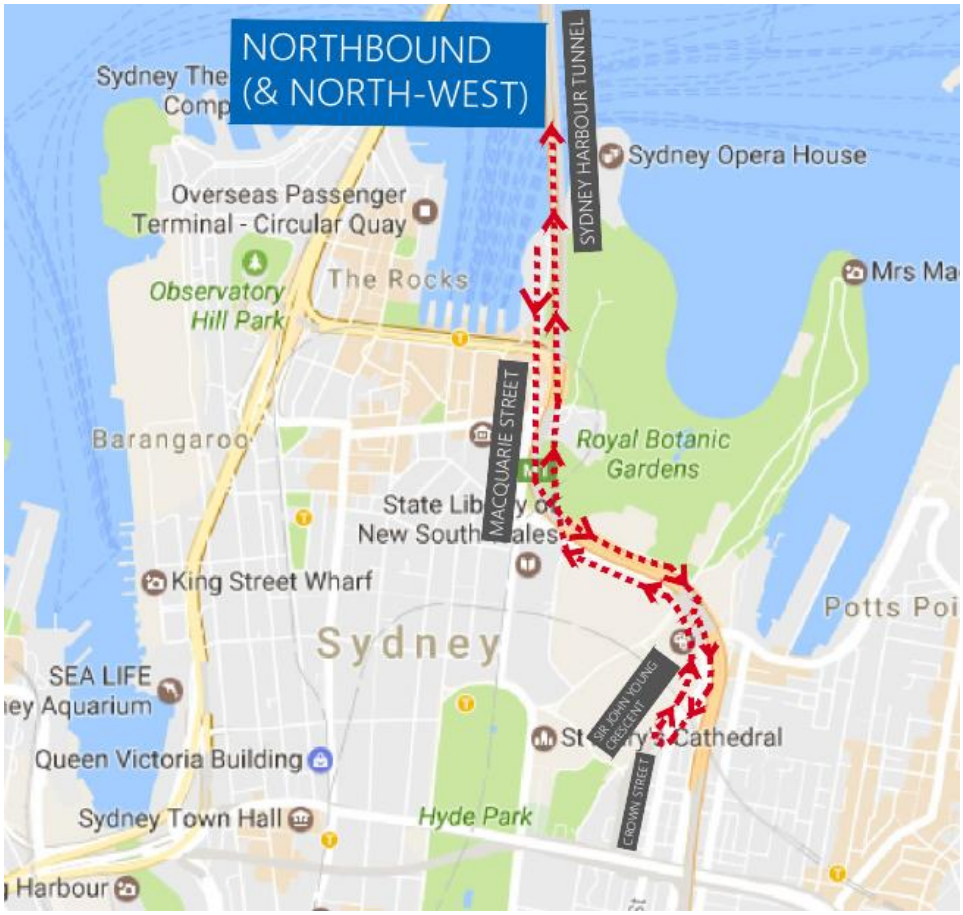


Figure 19 - Alternative Egress Route for Articulated Vehicles

4.5.6 Road Occupancies

No lane or road closures are proposed. In the event that works do require a lane or road closure, the proponent shall submit a Road Occupancy Licence (ROL) application to the Transport Management Centre (TMC) for approval, prior to carrying out the associated works. The proponent recognises that a minimum of 10 days is required for the assessment of an ROL, and will manage this accordingly.

4.6 Construction Impacts

It is considered that as a general case, the *hourly* construction traffic volumes of this project will be low and where practicable, they will avoid commuter peak periods. The construction traffic routes outlined in Section 4.5.5 have been adopted as they only require the use of state or regional roads, suitable for heavy vehicles, and are consequently not anticipated to create adverse impacts towards to local residents and businesses along local road networks. In light of such, the general day-to-day operation of the project is not anticipated to create any significant construction impacts to the traffic conditions on the CBD road network.

4.6.1 Key Stakeholders

- TfNSW - Sydney Coordination Office (SCO);
- Department of Planning & Environment (DPE);
- Sydney Opera House (Applicant)

- Roads & Maritime Services (RMS);
- City of Sydney (CoS);
- State Transit Authority (STA); and
- Residents & Businesses along Macquarie Street.

4.6.2 Sydney Coordination Office

This plan has been prepared in consultation with the Sydney Coordination Office (SCO), to ensure that the project is appropriately integrated into the current transport environment of Sydney's CBD. SCO have endorsed the plan.

4.6.3 Roads & Maritime Services (RMS)

A copy of this CTMP has been provided to RMS, who have raised no objections.

4.6.4 City of Sydney (CoS)

A copy of this CTMP has been provided to CoS, who have raised no objections.

As per CoS requirements, a copy of the City's 'Standard Requirements for Construction Traffic Management Plan' has attached to this report, in Attachment 3.

4.6.5 Local Residents and Businesses

The proponent shall consult with the businesses and residents in the immediate locality (500m radius), via mail drops, which will provide an overview of the works, anticipated operating hours, dates of construction activity and any anticipated impacts such as increased truck volumes on the road network, or acoustics impacts (if any). The information should also include reference to any approval documentation on public display, as well as the proponent (or their representative) contact details.

This information should be distributed 14 days prior to carrying out works, and updates should be provided with similar advance notice in the event that any major changes to construction activities are required.

4.6.6 State Transit Authority (STA)

STA shall be notified of the construction works, and will be provided with a contact to enable communications as necessary.

The relevant contact for bus network operations is Craig Dunn, who may be contacted via email at craig.dunn@tmc.transport.nsw.gov.au.

4.7 Cumulative Construction Impacts

A review of proximate developments has been undertaken to assess the potential cumulative construction traffic impacts resulting from the SOH works, with reference to their respective CPTMP's where available. Key developments identified within the vicinity of the subject site include:

- The Sydney Light Rail project managed by Acciona;
- The AMP Quay Quarter Sydney located at 33 Alfred Street;

- Opera Residences apartments located at 71-79 Macquarie Street, Sydney
- The Sandstone Project, Bridge St, Sydney
- Southern Toll Plaza Precinct upgrade works currently in progress along the southern approaches of the Sydney Harbour Bridge.

4.7.1 CBD & South East Light Rail Project

The CBD & South East Light Rail Project (CSELR) will extend from Circular Quay along George Street to Central Station, through Surry Hills to Moore Park, then to Randwick and Kingsford via Anzac Parade and Alison Road. Construction of the light rail and ancillary works have begun and are at various stages of completion across the extent of the line. The route map is presented in Figure 20.

The construction traffic associated with the SOH Renewal project typically avoids the light rail construction zones, as origin/destinations from the Western Suburbs, Southern Sydney, Northern Suburbs and North-western suburbs are able to access the site via the Eastern Distributor/M1 route. If any traffic is originating from the inner-west regions, this traffic may necessarily be routed via the light-rail compounds along George Street, at the Bathurst Street crossing, which is anticipated to remain open to public traffic. Where practicable the route shall be avoided. Notwithstanding, the inner west is not anticipated to form a major source of construction traffic for the project, and as such, the SOH project is not anticipated to create any cumulative construction impacts with the Light Rail Project.

For reference, the current CSLER alignment and construction schedule has been included in Attachment 1.

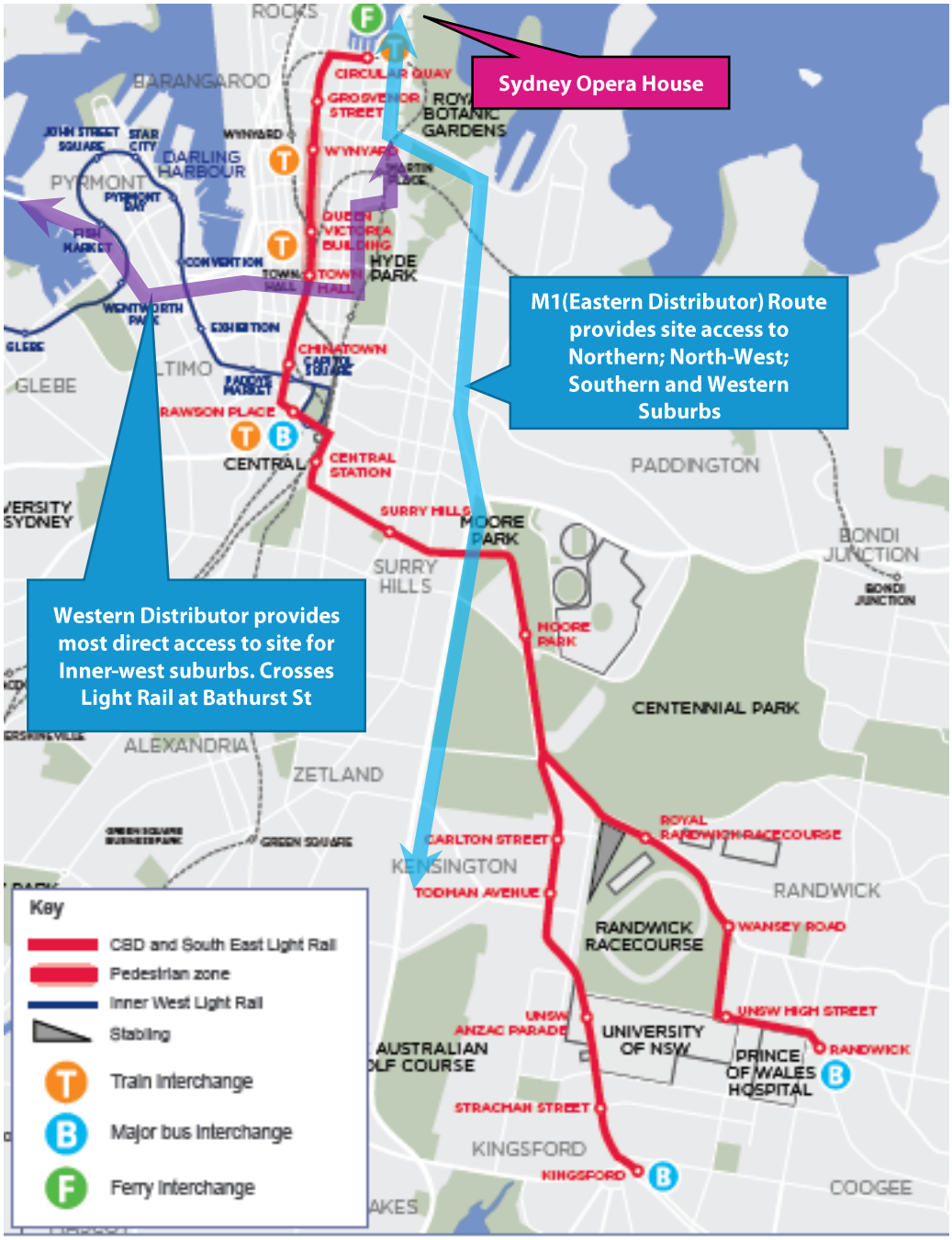


Figure 20 – Proposed CBD and South East Light Rail Route Map

4.7.2 Quay Quarter Sydney

The Quay Quarter Sydney development involves the renewal of the existing 27 storey AMP office building at 33 Alfred Street, Sydney. The building works involve refurbishment of the existing curtain wall façade system, restoring east and west facing walls to their original finish and the general service upgrades.

The project delivery programme included within the CTMP (prepared by Pier Property Corporation in April 2017) states that construction works will be undertaken between 15 January 2021 and 28 February 2023.

This delivery time frame coincides with the SOH Renewal Project from January 2021 to the project completion date in mid-2021, which results in an approximate overlap of six months.

According to the Quay Quarter CTMP, the estimated peak construction vehicle traffic volumes occur between April and December 2021 and range between 8-10 movements per hour, distributed along the routes outlined in Figure 21[4]. It is noted that these routes are partially shared with the SOH Renewal Project construction routes along Macquarie Street and the M1. It is noted that both projects require minimal to no use of local roads in order to access the respective sites. The CMP for Quay Quarter does indicate that temporary lane closures may be applied for under certain circumstances, such as the establishment of a tower crane. Wherever possible, such activities should be communicated between SOH project and the Quay Quarter project, in order to manage potential traffic disruptions.

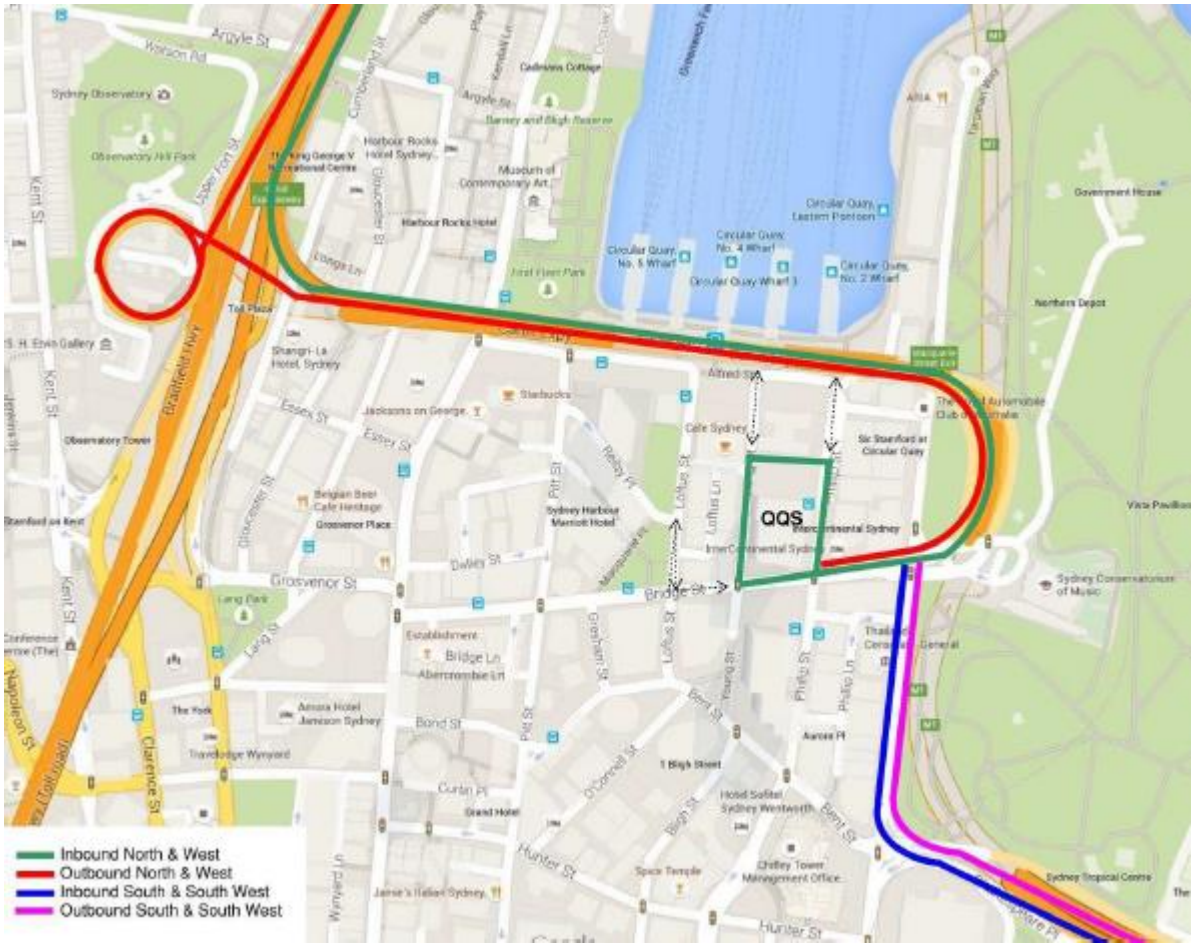


Figure 21 - Quay Quarter Construction Routes

4.7.3 Opera Residences Apartments

The Opera Residences project involves the bulk excavation and erection of a 20 storey mixed-use development, accommodating 109 residential/serviced apartments with associated communal areas, retail spaces and a six level basement car park providing 103 parking bays. The proposed works also include the establishment of a through-site link from East Circular Quay to Macquarie Street and a colonnade to East Circular Quay.

[4] Construction Management Plan, prepared by Pier Property Corporation 12 April 2017

The Notice of Determination issued by City of Sydney in March 2017 indicates that the construction works will occur over four key stages as follows:

- Stage 1 – Basement excavation
- Stage 2 – Basement structure to Circular Quay level
- Stage 3 – Above ground structure/new build (i.e. slabs, columns, cores, services, façade etc.)
- Stage 4 – Public Domain finishes (Colonnade and through-site link between Macquarie Street and East Circular Quay)

Wherever possible, the project managers of the Opera Residences development and the SOH Renewal Project will coordinate construction works to mitigate any potential impacts resulting from special traffic conditions, or higher-than-average traffic volumes.

It is noted that temporary access to the site is required via temporary driveways along Macquarie Street, to be controlled by traffic controllers. This access is only required during the early demolition phases, before being relocated to the existing access via Alfred Street.

No CPTMP for the Opera Residences was available for reference.

4.7.4 The Sandstone Project

The project description[5] states that the Sandstone Project involves

- *"the demolition of existing improvements and alterations to the Lands and Education Buildings to facilitate their adaptive reuse for the purposes of 'hotel or motel accommodation', with ancillary licensed food and drink premises and retail premises;*
- *excavation and construction of three basement levels below the Education Building and a subterranean link beneath Loftus Street between the two buildings;*
- *construction of three additional levels above the Education Building up to a height of RL 60.03;*
- *removal of existing pitched roof elements and construction of a replacement roof structure on the Lands Building up to a height of RL 35.50;"*

The location of the buildings is outlined in Figure 22.

No CPTMP is currently available on public display, however the Construction Management Plan (CMP) indicates a total construction duration of 2.5 to 3 years, and as such, is likely to overlap with works associated with the Sydney Opera House Renewal project.

The CMP does not indicate traffic volumes, timings, and other details, but indicates loading and unloading will be primarily undertaken via craning materials between the works site and proposed Works Zones along Loftus Street, Young Street and Gresham Street. Traffic control is also proposed on these roads. SOH should be advised of any full or partial road closures associated with the Sandstone Project, as any resulting congestion could potentially affect Macquarie Street. Notwithstanding, traffic associated with the SOH project is unlikely to result in any considerable cumulative impact with the Sandstone Project, as SOH traffic remains almost exclusively limited to State and Regional Roads, avoiding local roads which are more sensitive to impacts from construction vehicles.

[5] Application details from the NSW DPE Application Tracker

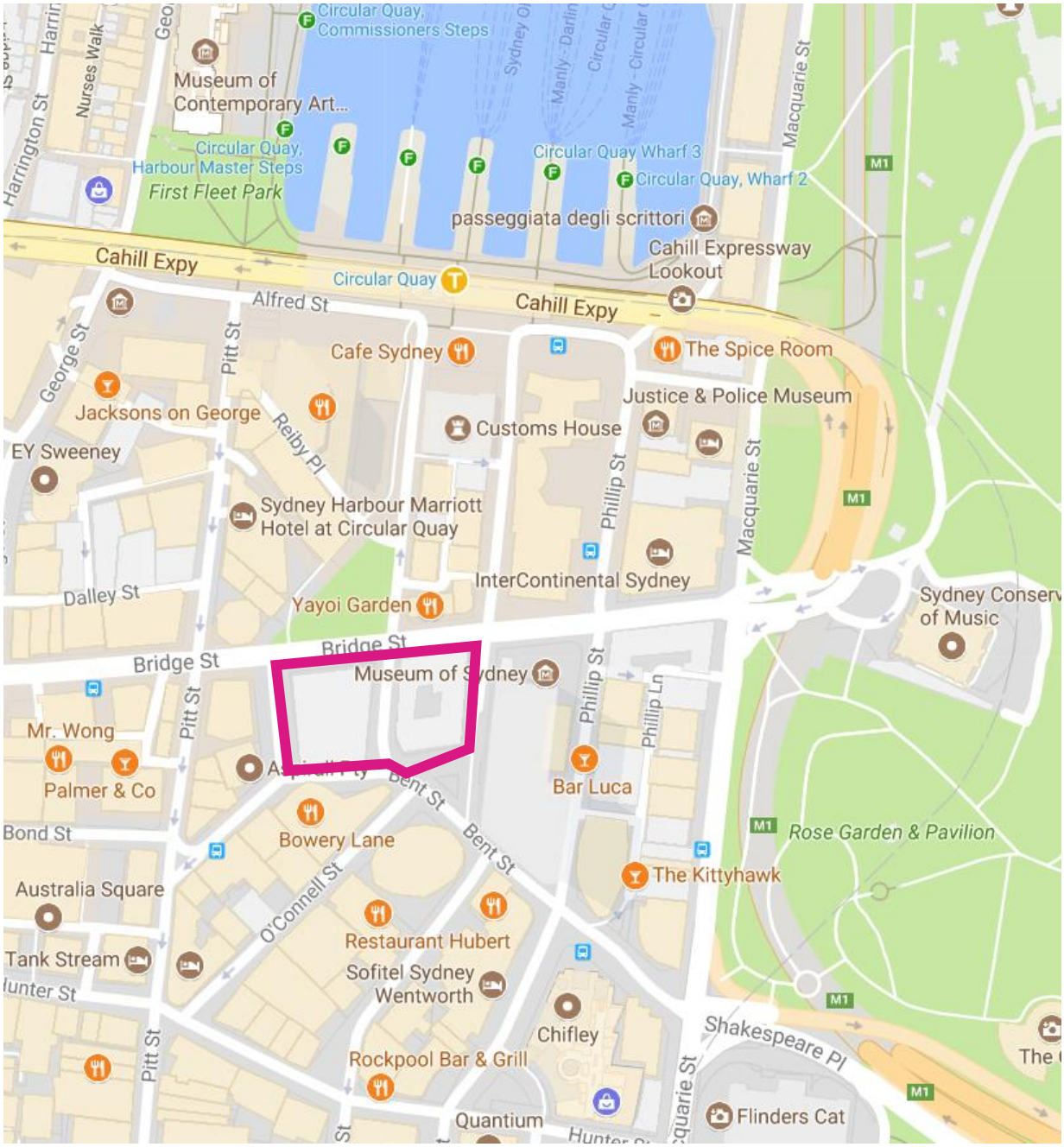


Figure 22 - The Sandstone Project Location (Lands and Education Buildings)

4.7.5 Sydney Harbour Bridge (Southern Toll Plaza Precinct Upgrade)

Construction works are currently underway to remove the toll booths from the southern approaches to the Sydney Harbour Bridge to simplify traffic movements to and from the Western Distributor and the northern Sydney CBD. The construction works are expected to be completed by early 2018. Until completion, there will be a minor road capacity reduction on the southern end of the Sydney Harbour Bridge, associated with site compounds.

These works may coincide with night construction traffic associated with the initial works associated with DA3, however, considering that background traffic will be considerably lower during these off-peak periods,

the anticipated volumes of construction traffic associated with the SOH are not anticipated to create adverse traffic conditions.

4.8 General Requirements

In accordance with Road and Maritime Services (RMS) requirements, all vehicles transporting loose materials will have the entire load covered and/or secured to prevent any large items, excess dust or dirt particles depositing onto the roadway during travel to and from the site. All subcontractors must be inducted by the lead contractor to ensure that the procedures are met for all vehicles entering and exiting the construction site. The lead contractors will monitor the roads leading to and from the site and take all necessary steps to rectify any road deposits caused by site vehicles.

Vehicles operating to, from and within the site shall do so in a manner, which does not create unreasonable or unnecessary noise or vibration. No tracked vehicles will be permitted or required on any paved roads without permission from the relevant authorities. Public roads and access points will not be obstructed by any materials, vehicles, refuse skips or the like without prior approval from the relevant authority.

4.9 Traffic Control Measures

No traffic control plans are required at this stage – in the event that an activity requires a TCP, it shall be developed in accordance with the Australian Standards and the RMS Traffic Control at Works Sites Guidelines.

Any traffic controllers engaged on-site shall be accredited by RMS, and act in accordance with RMS Conditions, including:

- No stopping of traffic on public streets; and
- No stopping of pedestrians in anticipation of truck movements. Pedestrians may only be held for short periods, for their safety, whilst a truck is entering or leaving the site.

No marshalling or queuing of trucks shall be permitted on the public road.

4.10 Pedestrian Management Plan

Pedestrian access shall be maintained along Macquarie Street and the entire SOH public Broadwalk perimeter. No footpath closures or redirections are required for pedestrians or cyclists in the public domain.

In regards to construction vehicles entering the pedestrianised forecourt and Broadwalk, it has been established that these movements will be limited to overnight, off-peak periods where practicable, and be low in volume. Notwithstanding to ensure the safety of the public, the following measures will be taken for every truck movement.

4.10.1 Vehicle Spotters

Three spotters shall be assigned as an escort for each truck movement across any pedestrianised areas, including the Broadwalk. One spotter will be required to walk in front of the vehicle and to one side, with another spotter to be positioned to the rear of the vehicle and to one side such that they are visible to the driver in their reversing mirrors. The third spotter shall supervise the movement, and provide additional assistance if and when required. These spotters will hold the relevant RMS traffic controller accreditation.

4.10.2 Driver Requirements

In general, the following rules also apply to all construction vehicles within the public domain:

- All movements shall be supervised by a vehicle spotter(s);
- No reverse manoeuvres shall be permitted, unless absolutely necessary;
- A 10km/h speed limit will be enforced;
- Hazard lights should be in use at all times, with headlights during inclement weather;
- Movements are to avoid peak pedestrian periods (i.e. beginning/end of shows);

4.10.3 Caution Signage

Temporary signage will be erected prior to any anticipated truck movements along the forecourt/Broadwalk, advising public of truck movements, and to exercise appropriate caution, as shown in Figure 23. This signage shall be located at the property access off Macquarie Street, where vehicles will leave the public road and enter the pedestrianised Broadwalk, as shown in Figure 24.

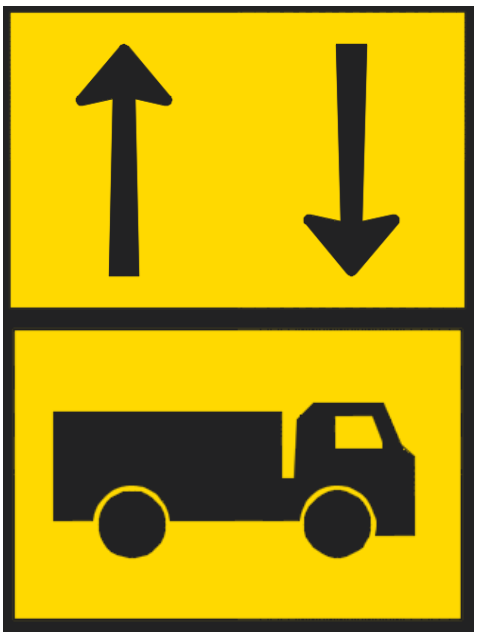


Figure 23 - Temporary Truck Caution Signage for Broadwalk and Forecourt

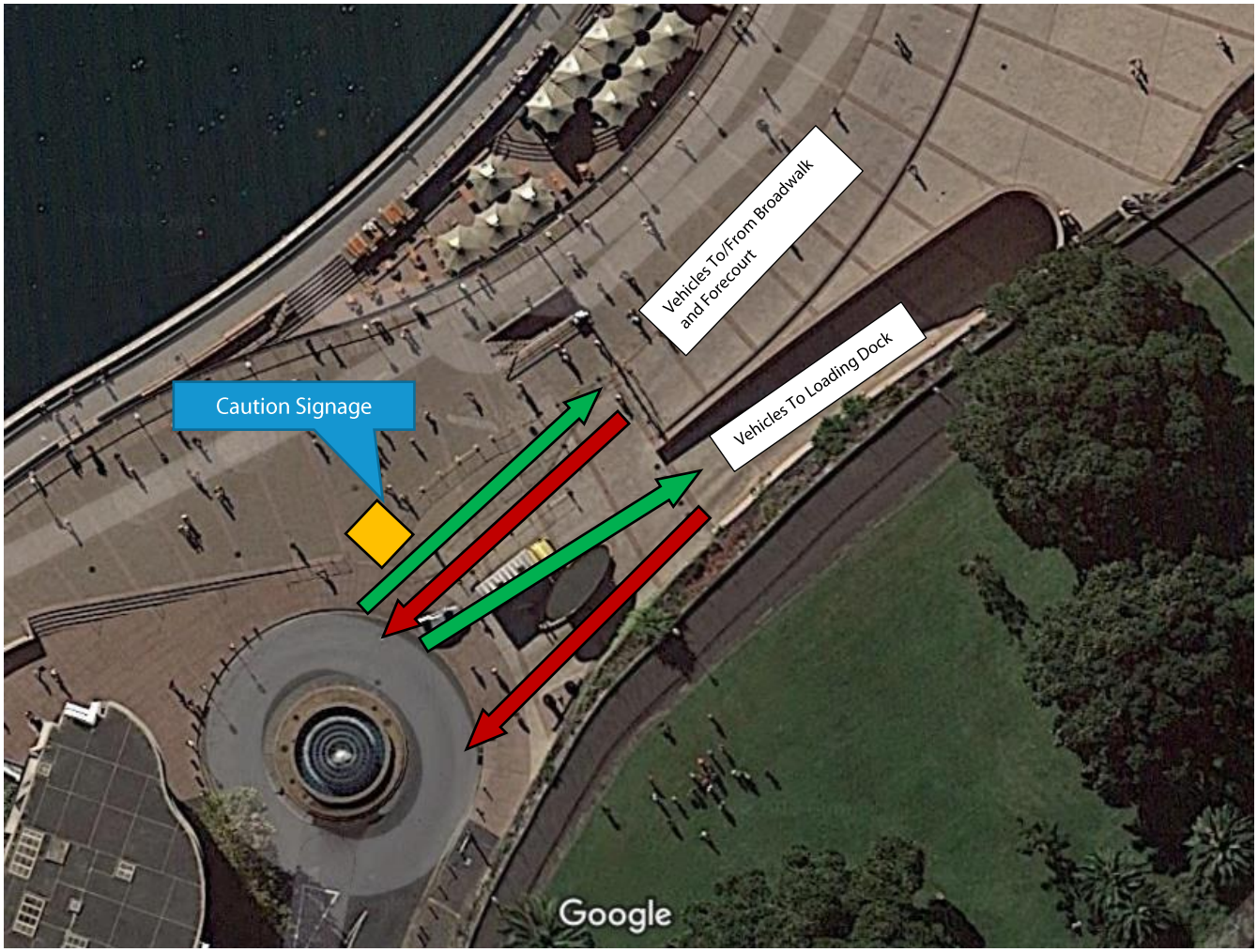


Figure 24 - Caution Signage Location (Macquarie Street Interface with Broadwalk)

4.10.4 Work Sites

Work sites will be established around the crane locations, as indicated previously in Figure 16. These sites shall be appropriately barricaded, separated and supervised whilst works are occurring, and work compounds, materials and equipment secured when not in use to prevent public access.

Pedestrian signage shall be erected on-site, to direct pedestrians around the works sites where required. If the site obstructs any paths (i.e. stairwells), this pedestrian signage will be erected prior to the obstruction to avoid creating no-through paths (noting that access around the entire perimeter of the SOH will be maintained for public).

← PEDESTRIANS PEDESTRIANS →	PEDESTRIANS (left arrow / right arrow)	t8-2	1200 x 300 mm

4.10.5 Crane Set-up

In the case of the cranes access and set-up, which are isolated events, any traffic control and associated arrangements shall be prepared by a suitably qualified crane specialist.

It is anticipated that the 130t crane located in the eastern crane site of the SOH, associated with DA1 and DA2 works, will be relocated to the western crane site for commencement of DA3 works.

4.11 Special Deliveries & Oversized Vehicles

Should a special delivery or oversized vehicle be required in any event, a permit application will be made by the contractor for approval of the relevant authority, prior to proceeding with the associated works.

4.12 Contractor Parking

Employees and sub-contractors will be encouraged to use public and active transport to access the site and not park on public roads. As part of the induction program, staff shall be made aware of the numerous public transport options and cycling opportunities (See Section 3), and encouraged to use such alternative means of transport and not park on the public roads. Where alternative modes of transport are onerous for certain staff, car-pooling is to be encouraged where practicable.

To support alternative travel, secure areas shall be made available within the work compounds for tradesmen and staff to store equipment, overnight, making light travel via alternative modes more viable.

4.13 Work Site Security

The works site shall be fully bounded with barriers and anti-gawk screening to prevent pedestrian access. When not in use, the site shall be appropriately secured.

4.14 Induction

All staff and subcontractors engaged on site will be required to undergo a site induction. The induction will include permitted access routes to and from the construction site for all vehicles, as well as standard environmental, OH&S, driver protocols and emergency procedures. Additionally, the lead contractor will discuss CPTMP requirements regularly as a part of toolbox talks and advise workers of public transport and car-pooling opportunities.

4.15 Emergency Vehicle Access

The proposed traffic arrangements do not involve the closure of any local roads. Any emergency vehicles requiring to access the project site will do so via Macquarie Street. The Central Passageway at the SOH will be the primary access point for emergency vehicles.

The proponent has advised NSW Fire Brigade and Police Rescue of the works and will continue to work with emergency services throughout the works.

The first point of contact is Dianna Gordon, Emergency Manager of Sydney Metropolitan Region:

- Phone: (02) 9265 4726
- Email: gord2dia@police.nsw.gov.au

4.16 Taxi Notification

It is encouraged to advise the NSW Taxi Council of the works, via their website contact page (https://www.nswtaxi.org.au/contact) or via their land line (02) 9332 1266. NSW Taxi are able to distribute any relevant information to taxi drivers to plan their trips accordingly.

4.17 Contact Details for On-Site Enquiries and Site Access

To date, a contractor has not been engaged for these works.

Upon engagement of a contractor, the proponent shall provide contact details of key site personnel to the Sydney Coordination Office, RMS and City of Sydney for their records.

4.18 Occupational Health and Safety

Any workers required to undertake works or traffic control within the public domain shall be suitably trained and will be covered by adequate and appropriate insurances. All traffic control personnel will be required to hold RMS accreditation in accordance with Section 8 of Traffic Control at Worksites.

5. Summary

This CPTMP has been prepared to outline the construction traffic measures to improve site safety to the public and workers and the construction process.

A review of the construction activity and available construction traffic routes has been undertaken, with consideration towards key stakeholders and key proximate developments of overlapping construction schedules. A particular emphasis was placed on the CSELR project, due to the high sensitivity it already imposes on the surrounding road network. It was noted that the construction traffic volumes generated by the development will predominantly occur in off-peak periods, and moreover, the routes will generally avoid the CSELR compounds as well as major STA bus hubs. As such, the cumulative construction impacts of the SOH Renewal Project with other developments under construction, are anticipated to be minor and within acceptable tolerances. Wherever possible, any major construction activities (crane deliveries, concrete pours) will be coordinated with the managers of nearby developments under construction.

It is envisaged that this document may require amendments as the project progresses, or as a result of any feedback from TfNSW or any other authority requirements. Any changes to the CPTMP however, shall be made in consultation with the SCO, and any other relevant authorities.

Attachment 1 - CSELR Construction Program

	CONSTRUCTION ZONE SCHEDULE	STARTS	ENDS
1	Circular Quay, east of George St	Jan 2017	Oct 2017
2	George St, from Alfred St to Grosvenor St	11 Mar 2016	Jan 2017
3	George St, between Bridge St and Margaret St	1 Apr 2016	Feb 2017
4	George St, between Hunter St and King St	1 Jul 2016	Jul 2017
5	George St, between King St and Market St	23 Oct 2015	Apr 2017
6	George St, between Market St and Park St	2 Dec 2015	May 2017
7	George St, between Park St and Bathurst St	15 Jul 2016	May 2017
8	George St, between Bathurst St and Liverpool St	15 Jul 2016	Mar 2017
9	George St, between Liverpool St and Goulburn St	14 Oct 2016	Apr 2017
10	George St, between Goulburn St and Hay St	14 Oct 2016	Jul 2017
11	George St, between Hay St and Rawson Pl	14 Oct 2016	Jul 2017
12	Rawson Pl, between George St and Pitt St	Mar 2017	Sep 2017
13	Eddy Ave, between Pitt St and Elizabeth St	May 2017	Nov 2017
14	Chalmers St, between Eddy Ave and Devonshire St	Apr 2017	Dec 2017
15	Devonshire St, between Chalmers St and Elizabeth St	Sep 2016	Feb 2017
16	Devonshire St, between Elizabeth St and Steel St	Nov 2016	Aug 2017

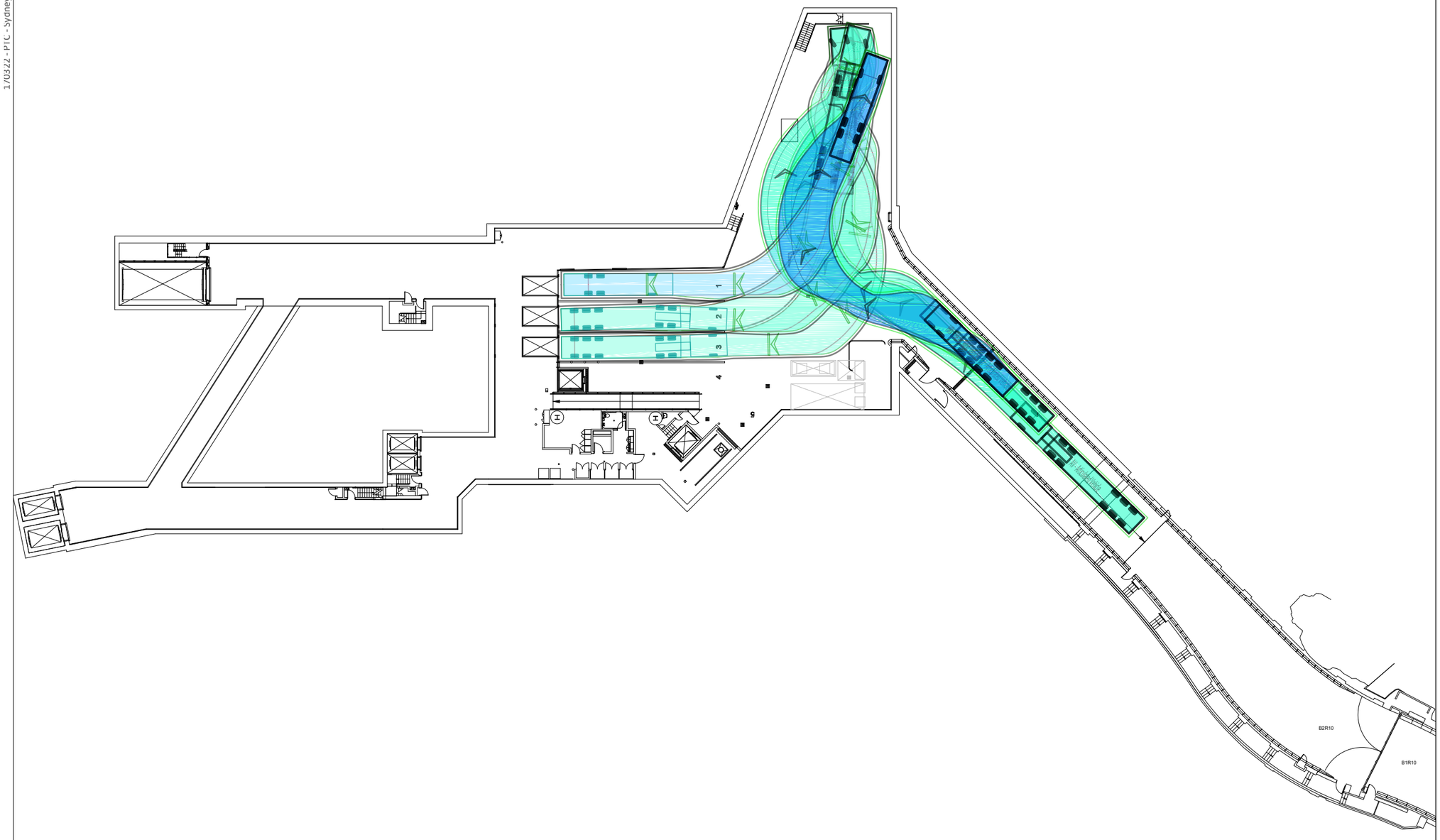
	CONSTRUCTION ZONE SCHEDULE	STARTS	ENDS
17	Devonshire St, between Steel St and Crown St	Sep 2016	Aug 2017
18	Devonshire St, between Crown St and Bourke St	Feb 2017	Oct 2017
19	Light Rail Corridor, between Bourke St and South Dowling St	Nov 2016	Jun 2017
20	Light Rail Corridor, between Eastern Distributor and Anzac Pde	1 Sep 2015	Sep 2017
21	Light Rail Corridor, between Anzac Pde and Lang Rd	Apr 2016	Dec 2017
22.1	Light Rail Corridor, between Lang Rd and Alison Rd	Aug 2016	Feb 2017
22.2	Anzac Pde, between Alison Rd and Lang Rd	Oct 2016	Jan 2017
23	Alison Rd, between Anzac Pde and Darley Rd	11 Feb 2016	Nov 2016
24	Alison Rd, between Darley Rd and Wansey Rd	12 Feb 2016	Dec 2016
25	Wansey Rd, between Alison Rd and High St	May 2016	Apr 2017
26	High St, between Wansey Rd and Avoca St	Nov 2016	Jul 2017
27	High Cross Park	Jan 2017	Mar 2017
28	Anzac Pde, between Dacey Ave and Todman Ave	Jan 2017	Dec 2017
29	Anzac Pde, between Todman Ave and High St	May 2016	Nov 2016
30	Anzac Pde, between High St and Rainbow St	Aug 2016	Sep 2017
31	Anzac Pde, south of Rainbow St	May 2017	Dec 2017

16 SEPTEMBER 2016

Dates may be subject to change during the course of construction

Attachment 2 - B4 Loading Dock Swept Path Assessment

1/0322 - PTC - Sydney Opera House - Swept Path Analysis - Copy.dwg



COMMENTS

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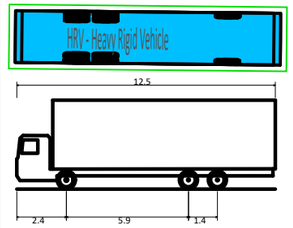
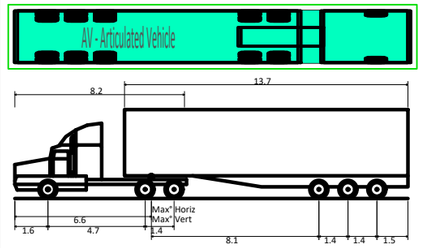
LEGEND



HRV - Heavy Rigid Vehicle	
Overall Length	12.500m
Overall Width	2.500m
Overall Body Height	4.300m
Min Body Ground Clearance	0.417m
Track Width	2.500m
Lock-to-lock time	6.00s
Curb to Curb Turning Radius	12.500m



AV - Articulated Vehicle	
Overall Length	19.000m
Overall Width	2.500m
Overall Body Height	4.301m
Min Body Ground Clearance	0.418m
Track Width	2.500m
Lock-to-lock time	6.00s
Curb to Curb Turning Radius	12.500m

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REV	DATE	COMMENT	DRAWN	REVIEWED
2	22/03/17	FOR INFORMATION	HL	KW
1	21/03/17	FOR INFORMATION	CS/HL	KW

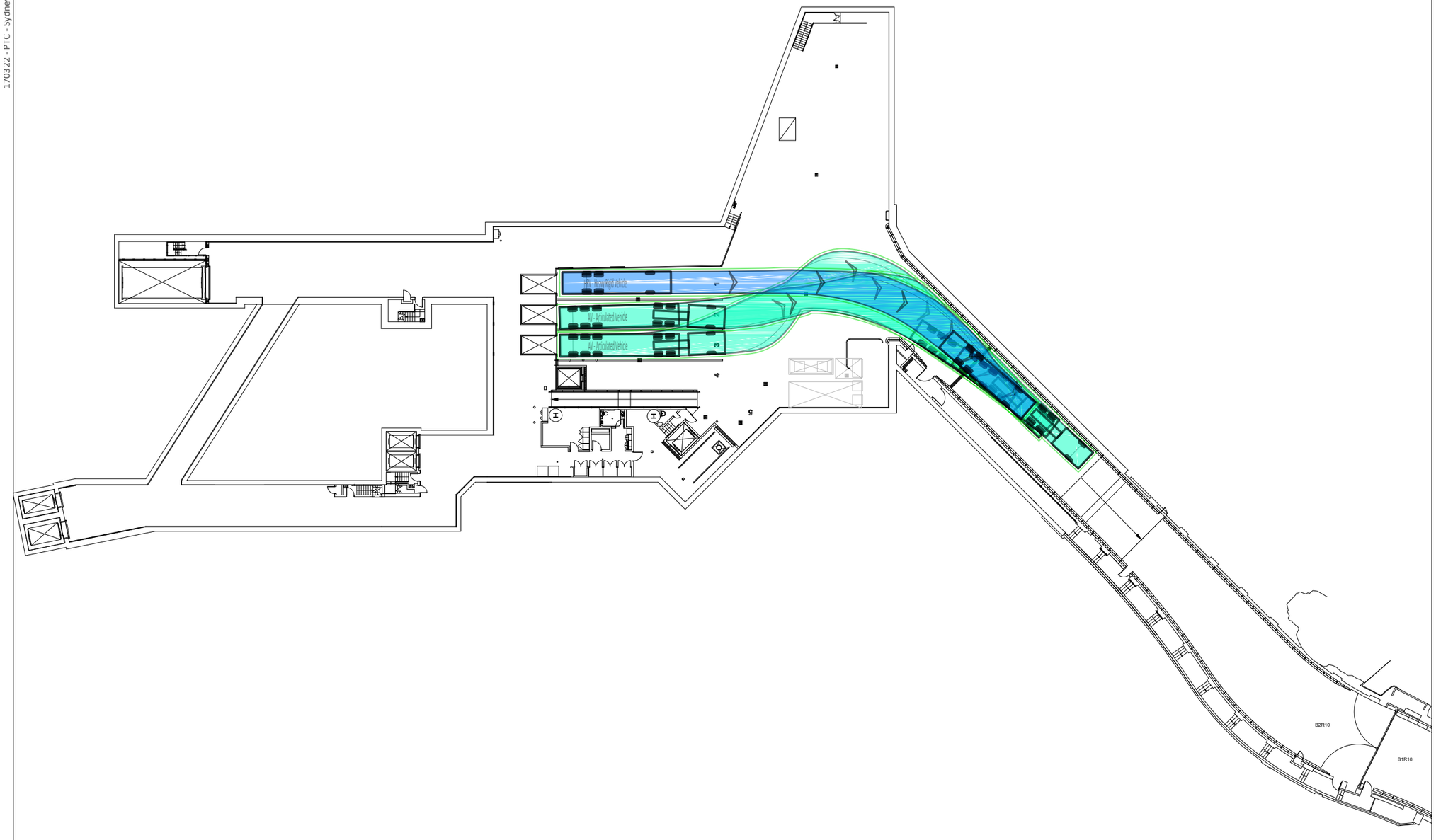
PROJECT:
SYDNEY OPERA HOUSE
LOADING DOCK MANAGEMENT PLAN

DRAWING TITLE:
SWEPT PATH ANALYSIS
12.5M HRV AND 19M AV
LOADING DOCK ENTRY PATHS

CLIENT: SYDNEY OPERA HOUSE
DRG. #: PTC-001
PROJECT #: T2-1967
SCALE: 1:500

REV: 2

1/0322 - PTC - Sydney Opera House - Swept Path Analysis - Copy.dwg



COMMENTS

A3

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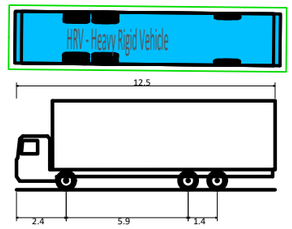
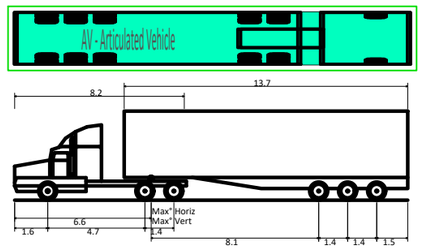


HRV - Heavy Rigid Vehicle	
Overall Length	12.500m
Overall Width	2.500m
Overall Body Height	4.300m
Min Body Ground Clearance	0.417m
Track Width	2.500m
Lock-to-lock time	6.00s
Curb to Curb Turning Radius	12.500m



AV - Articulated Vehicle	
Overall Length	19.000m
Overall Width	2.500m
Overall Body Height	4.301m
Min Body Ground Clearance	0.418m
Track Width	2.500m
Lock-to-lock time	6.00s
Curb to Curb Turning Radius	12.500m

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tel +612 8920 0800
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suite 102, 506 miller street,
cammeray nsw 2062

REV	DATE	COMMENT	DRAWN	REVIEWED
2	22/03/17	FOR INFORMATION	HL	KW
1	21/03/17	FOR INFORMATION	CS/HL	KW

PROJECT:
SYDNEY OPERA HOUSE
LOADING DOCK MANAGEMENT PLAN

DRAWING TITLE:
SWEPT PATH ANALYSIS
12.5M HRV AND 19M AV
LOADING DOCK EXIT PATHS

CLIENT:	SYDNEY OPERA HOUSE
DRG. #:	PTC-002
PROJECT #:	T2-1967
SCALE:	1:500

REV: 2

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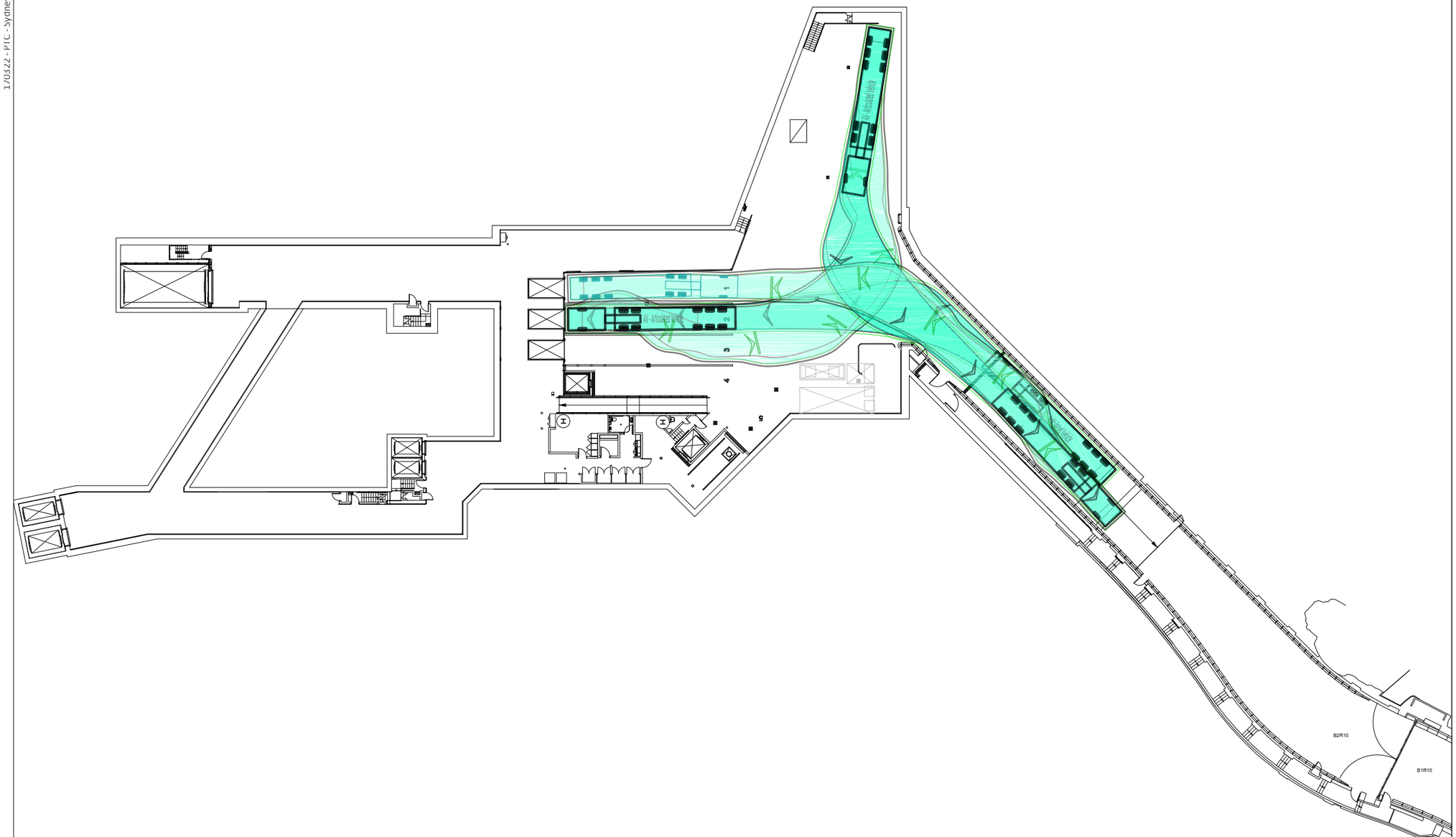

COMMENTS

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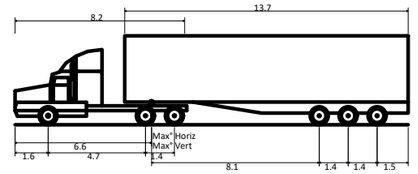

AV - Articulated Vehicle	
Overall Length	19.000m
Overall Width	2.500m
Overall Body Height	4.301m
Min Body Ground Clearance	0.418m
Track Width	2.500m
Lock-to-lock time	6.00s
Curb to Curb Turning Radius	12.500m

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REV	DATE	COMMENT	DRAWN	REVIEWED
2	22/03/17	FOR INFORMATION	HL	KW
1	21/03/17	FOR INFORMATION	CS/HL	KW

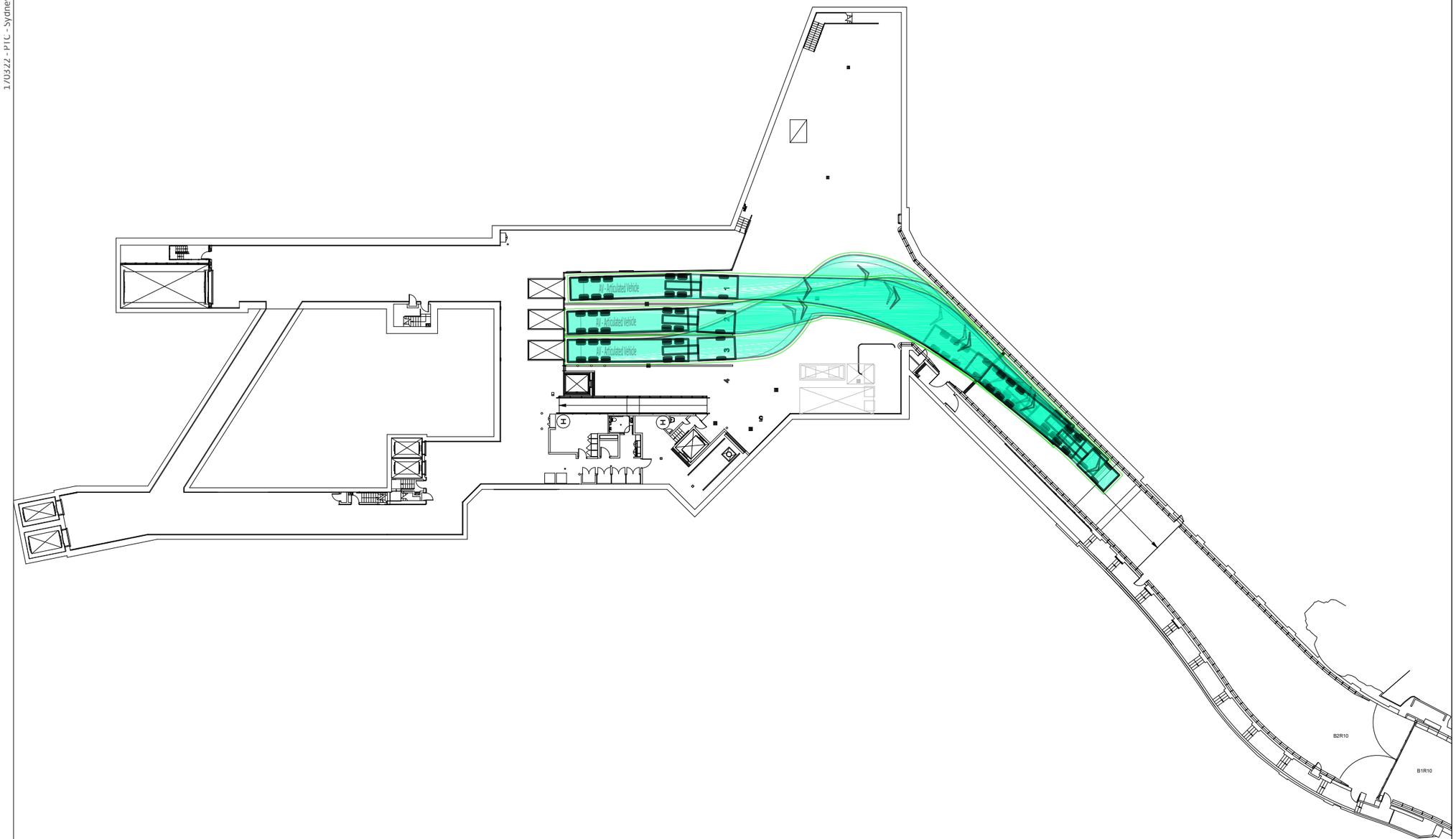
PROJECT:
SYDNEY OPERA HOUSE
LOADING DOCK MANAGEMENT PLAN

DRAWING TITLE:
SWEPT PATH ANALYSIS
LOADING DOCK
ENTRY PATHS - BAY 1

CLIENT: SYDNEY OPERA HOUSE
DRG. #: PTC-003
PROJECT #: T2-1967
SCALE: 1:500

REV: 2

1/0322 - PTC - Sydney Opera House - Swept Path Analysis - Copy.dwg



COMMENTS

A3

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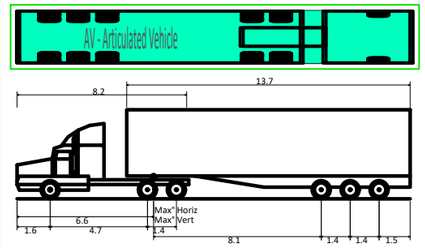

AV - Articulated Vehicle	
Overall Length	19.000m
Overall Width	2.500m
Overall Body Height	4.301m
Min Body Ground Clearance	0.418m
Track Width	2.500m
Lock-to-lock time	6.00s
Curb to Curb Turning Radius	12.500m

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REV	DATE	COMMENT	DRAWN	REVIEWED	REV	DATE	COMMENT	DRAWN	REVIEWED
2	22/03/17	FOR INFORMATION	HL	KW					
1	21/03/17	FOR INFORMATION	CS/HL	KW					

PROJECT:
SYDNEY OPERA HOUSE
LOADING DOCK MANAGEMENT PLAN

DRAWING TITLE:
SWEPT PATH ANALYSIS
19M ARTICULATED VEHICLE (AV)
LOADING DOCK EXIT PATHS

CLIENT:	SYDNEY OPERA HOUSE
DRG. #:	PTC-004
PROJECT #:	T2-1967
SCALE:	1:500

REV: 2

Attachment 3 - City of Sydney Standard Requirements for Construction Traffic Management Plan

APPENDIX A

The City of Sydney
Standard Requirements for Construction Traffic Management Plan

The Applicant or contractor undertakes to follow and abide by the following requirements at all times during the demolition, excavation and construction works at (Please Insert site address and DA No here)

1. Details of routes to and from site and entry and exit points from site – site specific

2. Details of roads that may be excluded from use by construction traffic i.e. roads with load limits, quiet residential streets or access/turn restricted streets – site specific

3. The approved truck route plan shall form part of the contract and must be distributed to all truck drivers.

4. All vehicles must enter and exit the site in a forward direction (unless specific approval for a **one-off occasion** is obtained from the City's Construction Regulation Unit).

5. Trucks are not allowed to reverse into the site from the road (unless specific approval for a **one-off occasion** is obtained from the City's Construction Regulation Unit).

6. The Applicant must provide the City with details of the largest truck that will be used during the demolition, excavation and construction.

   NOTE: No dog trailers or articulated vehicles (AV) to be used (unless specific approval for a **one-off occasion** is obtained from the City's Construction Regulation Unit).

7. Oversize and over-mass vehicles are not allowed to travel on Local Roads (unless approval for a **one-off occasion** is obtained from the City's Traffic Operations Unit). Requests to use these vehicles must be submitted to the City 28 days prior to the vehicle's scheduled travel date. For more information please contact the National Heavy Vehicle Regulator (NHVR) on 1300 696 487 or www.nhvr.gov.au.

8. No queuing or marshalling of trucks is permitted on any public road.

9. Any temporary adjustment to Bus Stops or Traffic Signals will require the Applicant to obtain approval from the STA and RMS respectively prior to commencement of works.

10. All vehicles associated with the development shall be parked wholly within the site. All site staff related with the works are to park in a designated off street area or be encouraged to use public transport and not park on the public road.

11. All loading and unloading must be within the development site or at an approved "Works Zone".

12. The Applicant must apply to the City's Traffic Works Co-ordinator to organise appropriate approvals for Work Zones and road closures.

13. The Applicant must apply to the City's Construction Regulations Unit to organise appropriate approvals for partial road closures.

14. The Applicant must apply to the Transport for NSW's Transport Management Centre for approval of any road works on State Roads or within 100m of Traffic Signals and receive an approved Road Occupancy Licence (ROL). A copy of the ROL must be provided to the City.

15. The Applicant must apply to the City's Construction Regulations Unit to organise appropriate approvals for temporary driveways, cranes and barricades etc.

16. The Applicant must comply with development consent for hours of construction.

17. All Traffic Control Plans associated with the CTMP must comply with the Australian Standards and Roads and Maritime Services (RMS) Traffic Control At Work Sites Guidelines.

18. Traffic Controllers are NOT to stop traffic on the public street(s) to allow trucks to enter or leave the site. They MUST wait until a suitable gap in traffic allows them to assist trucks to enter or exit the site. The Roads Act does not give any special treatment to trucks leaving a construction site - **the vehicles already on the road have right-of-way.**

19. Pedestrians may be held only for very short periods to ensure safety when trucks are leaving or entering BUT you must NOT stop pedestrians in anticipation i.e. **at all times the pedestrians have right-of-way on the footpath not the trucks**.

20. Physical barriers to control pedestrian or traffic movements need to be determined by the City's Construction Regulations Unit prior to commencement of work.

21. The Applicant must obtain a permit from the City's Construction Regulation Unit regarding the placing of any plant/equipment on public ways.

22. The Applicant must apply to the City's Building Approvals Unit to organise appropriate approvals for hoarding prior to commencement of works.

23. The CTMP is for the excavation, demolition and construction of building works, not for road works (if required) associated with the development. Any road works will require the Applicant or the contractor to separately seek approval from the City and/or RMS for consideration. Also WorkCover requires that Traffic Control Plans must comply with Australian Standards 1742.3 and must be prepared by a Certified Traffic Controller (under RMS regulations).

24. Please note that the provision of any information in this CTMP will not exempt the Applicant from correctly fulfilling all other conditions relevant to the development consent for the above site.