SYDNEY INTERNATIONAL CONVENTION, EXHIBITION AND ENTERTAINMENT PRECINCT (SICEEP)

The Haymarket

SOUTH WEST PLOT

CONSTRUCTION MANAGEMENT PLAN

Stage 2 State Significant Development Application (SSDA 5)

Revision C

3rd June 2013

DATE	REVISION	PURPOSE	REVIEWED
10/04/13	A	DA Submission DRAFT	SD, BB. CL
29/05/13	B	DA Submission	SD, CL
03/06/13	C	DA Submission (Post iNSW comments)	SD

CONTENTS

1.0 INTRODUCTION

This report supports a State Significant Development (SSD) Development Application (DA) submitted to the Minister for Planning and Infrastructure pursuant to Part 4 of the *Environmental Planning and Assessment Act 1979* (EP&A Act).

The Application (referred to as SSDA 5) follows the submission of a staged SSD DA (SSDA 2) submitted in March 2013 to the Department of Planning and Infrastructure that set out a Concept Proposal for a new mixed use residential neighbourhood at Darling Harbour known as 'The Haymarket'. The Haymarket forms part of the Sydney international convention, exhibition and entertainment precinct (SICEEP) Project, which will deliver Australia's global city with new world class convention, exhibition and entertainment facilities and support the NSW Government's goal to "make NSW number one again".

More specifically this subsequent DA seeks approval for mixed use development within the South West development plot of The Haymarket and associated public domain works. The DA has been prepared and structured to be consistent with the Concept Proposal DA.

2.0 OVERVIEW OF PROPOSED DEVELOPMENT

The proposal relates to a detailed ('Stage 2') DA for a mixed use residential development in the South West Plot of The Haymarket together with associated public domain works. The Haymarket Site is to be developed for a mix of residential and non-residential uses, including but not limited to residential buildings, commercial, retail, community and open space. The South West Plot is one of six development plots identified in the Concept Proposal DA.

Under the Concept Proposal DA, the South-West Plot will accommodate a mixed use podium and three residential buildings (SW1, SW2, and SW3) above and within the podium structure. More specifically, this SSD DA seeks approval for the following components of the development:

- Staged demolition of existing site improvements, including the existing Sydney Entertainment Centre (SEC), Entertainment car park, and part of the pedestrian footbridge connected to the Entertainment car park;
- Associated tree removal and planting;
- Construction and use of a five storey mixed use podium, including:
  - retail and IQ Hub floor space and residential lobbies on Ground Level;
  - above ground parking; and
  - residential apartments.
- Construction and use of three residential buildings above podium:
- Public domain improvements, including:
  - provision (part) of a new north-south pedestrian connection (known as the Boulevard) eventually linking Quay Street to Darling Harbour;
  - provision (part) of a new east-west pedestrian laneway (known as Dickson's Lane) linking Darling Drive to the Boulevard; and

  - upgrade of Hay Street (part) to provide for a pedestrian shareway;
  - modification of retained pedestrian footbridge and provision of lift and stair access to the Goods Line;.

- provision of vehicle access to the development from Hay Street;
- Landscaping works and communal facilities to the podium roof level; and
- Extension and augmentation of physical infrastructure / utilities as required.

3.0 BACKGROUND

On 21 March 2013 a critical step in realising the NSW Government's vision for the SICEEP Project was made, with the lodgement of the first two SSD DAs with the Department of Planning and Infrastructure. The key components of these proposals are outlined below.

Public Private Partnership SSD DA (SSD 12_5752)

The Public-Private Partnership (PPP) SSD DA (SSDA 1) includes the core facilities of the SICEEP Project, comprising the new, integrated and world-class convention, exhibition and entertainment facilities along with ancillary commercial premises and public domain upgrades.

The Haymarket Concept Proposal (SSD 13_5878)

The Haymarket Concept Proposal SSD DA (SSDA 2) establishes the vision and planning and development framework which will be the basis for the consent authority to assess detailed development proposals within the Haymarket Site.

More specifically the Stage 1 Concept Proposal seeks approval for the following key components and development parameters:

- Staged demolition of existing site improvements, including the existing Sydney Entertainment Centre (SEC), Entertainment Centre Car Park, and part of the pedestrian footbridge connected to the Entertainment car park and associated tree removal;
- A network of streets, lanes, open space areas and through-site links generally as shown on the Public Domain Concept Proposal, to facilitate reintegration of the site into the wider urban context and connection with the broader SICEEP Site;
- Street layouts;
- Development plot sizes, development plot separation, building envelopes (maximum height in RLs), building separation, building depths, building alignments and a benchmark for natural ventilation and solar provision for the precinct;
- Land uses across the site, including residential and non-residential uses;
- A maximum total gross floor area (GFA) across The Haymarket Site of 197,236m2 for the mixed use development (excluding ancillary above ground car parking), comprising of:

  - A maximum of 49,545m2 non-residential GFA; and
  - A maximum of 147,691m2 residential GFA;
- Above ground parking including public car parking;
- Residential car parking rates to be utilised in the subsequent detailed (Stage 2) Development Applications, being:
  - Zero (0) spaces per studio apartment;
  - Maximum one (1) space per two (2) one bedroom apartments;
  - Maximum one (1) space per one bedroom + study apartment, plus one (1) additional space per five (5) apartments;
  - Maximum one (1) space per two bedroom apartment, plus one (1) additional space per five (5) apartments; and
  - Maximum two (2) spaces per 3+ bedroom apartment.
- Design Guidelines to guide future development and the public domain; and
- A remediation strategy.

This report has been prepared to support a detailed Stage 2 SSD DA for mixed use development and associated public domain works within The Haymarket (SSDA 5), consistent with the Concept Proposal SSD DA.

4.0 SITE DESCRIPTION

The SICEEP Site is located within Darling Harbour. Darling Harbour is a 60 hectare waterfront precinct on the south-western edge of the Sydney Central Business District that provides a mix of functions including recreational, tourist, entertainment and business.

With an area of approximately 20 hectares, the SICEEP Site is generally bound by the Light Rail Line to the west, Harbourside shopping centre and Cockle Bay to the north, Darling Quarter, the Chinese Garden and Harbour Street to the east, and Hay Street to the south (refer to Figure 1).

The Haymarket Site is:

- located in the south of the SICEEP Site, within the northern portion of the suburb of Haymarket;
- bounded by the Powerhouse Museum to the west, the Pier Street overpass and Little Pier Street to the north, Harbour Street to the east, and Hay Street to the south; and
- irregular in shape and occupies an area of approximately 43,807m^2.

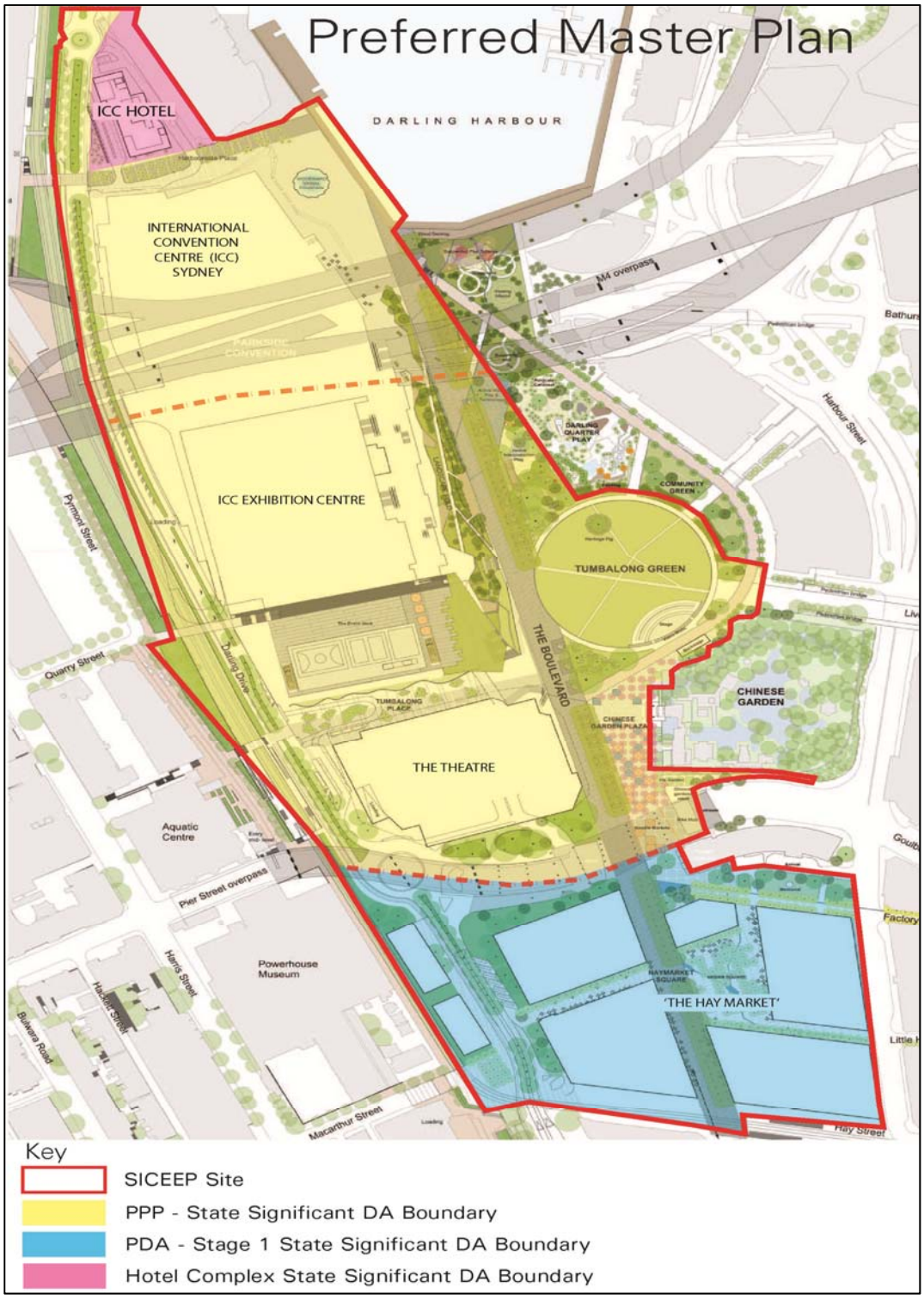


Figure 1 – Aerial Photograph of the SICEEP Site

The Concept Proposal DA provides for six (6) separate development plots across the Haymarket Site (refer to Figure 2):

1. North Plot;
2. North East Plot;
3. South East Plot;
4. South West Plot;
5. North West Plot; and
6. Western Plot (Darling Drive).

The Application Site area relates to the South West Plot and surrounds as detailed within the architectural and landscape plans submitted in support of the DA.

Figure 2 – Concept Proposal Development Plots

5.0 PLANNING APPROVALS STRATEGY

The SICEEP Project will result in the lodgement of numerous SSD DAs for the various components of the redevelopment project. SSD DAs have already been lodged for the PPP component of the SICEEP Project (comprising the convention centre, exhibition centre, entertainment facility and ancillary commercial premises and associated public domain upgrades), and the Stage 1 Concept Proposal for The Haymarket. Separate 'Stage 2' SSD DAs for the development of the North West Plot and the Western Plot (Darling Drive) and associated public domain works will be lodged concurrently with this application. Future applications will be lodged for the Hotel complex, and the remaining development plots of The Haymarket Site.

6.0 HAYMARKET STAGING STRATEGY

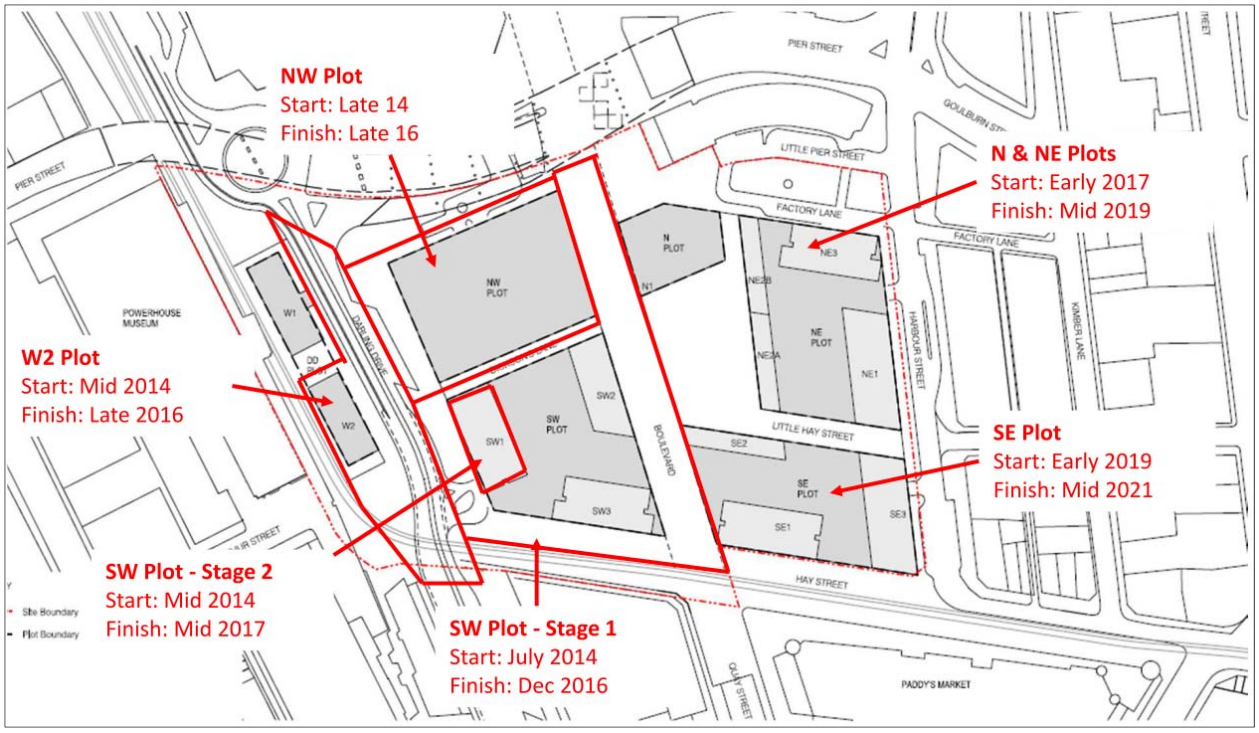


Figure 3 – Staging strategy for The Haymarket. Note: Dates are indicative only and are subject to change.

Indicative staging for The Haymarket;

1. Removal of existing Monorail and structures (done by others)
2. Macarthur Street Footbridge Works *(detailed in this CMP)*
3. Demolition of Entertainment Centre Car Park *(detailed in this CMP)*
4. Darling Drive Realignment *(detailed in SSDA 3 CMP)*
5. PPP / Theatre Road Works *(detailed in previously submitted PPP CMP)*
6. SW Plot Residential Towers *(detailed in this CMP)*
7. NW Plot Commercial Tower *(detailed in SSDA 4 CMP)*
8. N & NE Plot Residential Towers (CMP to submitted with future DA)
9. SE Plot Residential Towers (CMP to submitted with future DA)

7.0 PROJECT DESCRIPTION

This project is part of a greater 20 hectare master planned development known as the Sydney International, Exhibition and Entertainment Precinct (SICEEP). Within the South Precinct of SICCEP, the project will be known as "The Haymarket" and is located at the southern end of the CBD between Darling Harbour and Chinatown, refer Figure 4 below. The South West Plot (SWP) is the first stage with the master plan to be developed.

The South West Plot

The SWP will comprise the following:

- Approximately 50,000 m2 NUA of residential space / 542 no. of apartments, in a mix of Studio, 1, 2 and 3 bedroom apartments;
- 3 buildings (SW1, SW2 and SW3) up to 40 storeys atop a common podium, refer Figure 4a below;
- Approximately 1,400m2 of retail space on ground floor;
- Approximately 325m2 of commercial space (IQ Hub) on ground floor
- Above ground multi-level car park for 405 cars, storage for the residents
- Common loading dock servicing the retail and garbage collection
- Central courtyard on podium including hard and soft landscaping, swimming pool, and recreational (BBQ) facilities
- Landscaping and external works

The SWP project may be constructed in two (2) stages to allow for a staggered marketing release:

1. Stage 1 – SW2, 7 storeys, 24 apartments and SW3, 39 storeys, 334 apartments
2. Stage 2 – SW1, 24 storeys, 184 apartments

The site currently contains the existing Sydney Entertainment Centre and Carpark, bounded by the four street frontages of Hay St, Darling Drive, Dickson's Lane and The Boulevard.

Figure 4 – Indicative image of The Haymarket

Figure 4a –South West Plot Site Plan Showing position of three buildings SW1, SW2 and SW3

8.0 CONSTRUCTION PLANNING AND METHODOLOGY

Overall

Based on current building designs and the location of new buildings within the nominated boundaries the construction methodology has been assessed on:-

- Existing road works and traffic flow
- Limited space for deliveries and set down areas
- Structural elements creating the bulk of the structures.
- Tower cranes to conduct the majority of the materials handling
- Maintaining the public realm and public access to Darling Harbour
- Traffic alignments to Darling Drive.
- The introduction of the new PPP Boulevard
- The introduction of the new revised PPP road works (Theatre Rd)
- Sydney Entertainment Centre (SEC) loading dock
- Demolition of the existing SEC Car Park

The basic construction planning methodology for this project is for the buildings to be constructed with the following elements:-

- Piered suspended ground slab
- Off form concrete structure
- Precast and glazed façade system
- Suspended post tensioned slabs

The Redevelopment Construction Phase is committed to maintain minimal disruption to surrounding precincts, both on a commercial and public domain level. It is our intention to achieve this through a concurrent build with clear lines of safety and demarcation.

Hoardings will comply with all relevant regulations and will including lighting, signage, daily inspections and maintenance to uphold the appearance and maintain structural integrity. Lend Lease will use a suite of comprehensive communication channels and procedures to keep iNSW, all stakeholders, including the broader community and users of the Precinct informed of progress and awareness of construction activities and potential impacts. We are experienced in working on fully operational commercial and public domain sites. Lend Lease understand the focus for safety and clear way finding during the Construction Phase. Lend Lease also acknowledge that dust, noise and vibration needs to be kept to a minimum for the enjoyment of our neighbours, their patrons and other visitors to the Precinct. Whilst undertaking the smooth delivery of the SICEEP project Lend Lease will ensure that construction traffic is directed and managed appropriately including nominated access routes, lay over areas , nominated access/egress points and a specific Construction Traffic Management Plan to manage deliveries.

Prior to commencing on site Lend Lease will achieve our effective and efficient site management by applying proven systems and processes to the Development Phase

- Providing a developed security plan
- Providing an environmental work health and safety plan
- Providing a risk management plan
- Providing one point of contact for site management, our Senior Site Manager
- Using way finding and technology to communicate with the wider community

There will be several site establishment / hoarding relocations to suit the many stages of the PDA site. The following overlays below depict the different hoarding boundaries and thoroughfares.

Initial Enabling Works to the Site

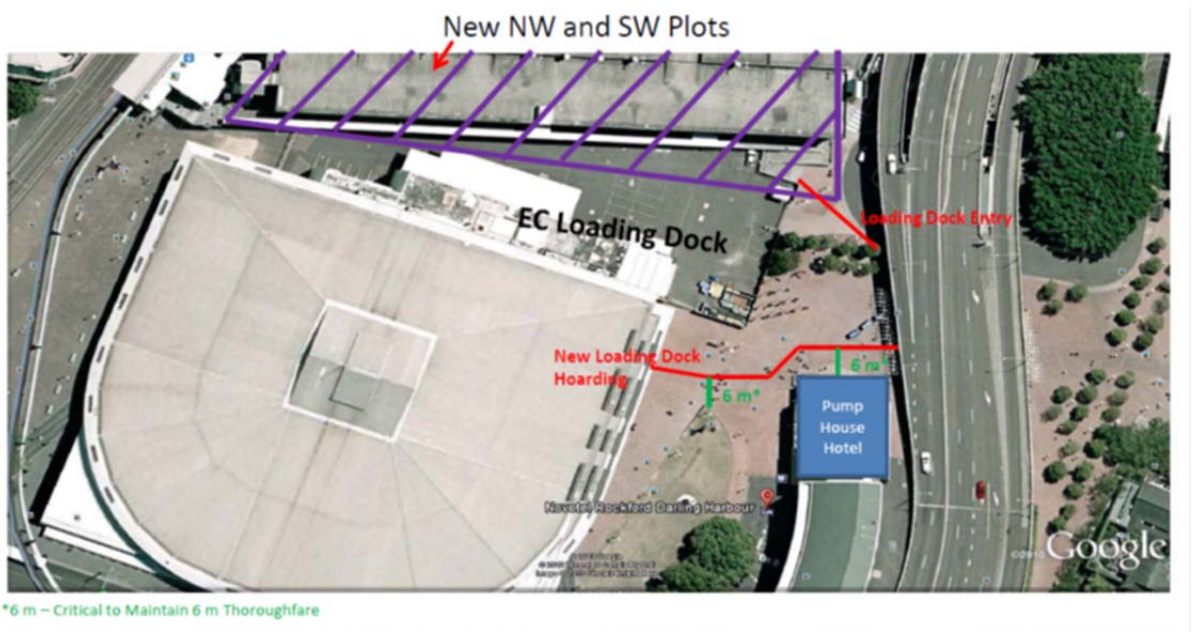


Figure 5 - Revised Sydney Entertainment Centre (SEC) Loading Dock

Pre-works: Sydney Entertainment Centre (SEC) Car Park Demolition

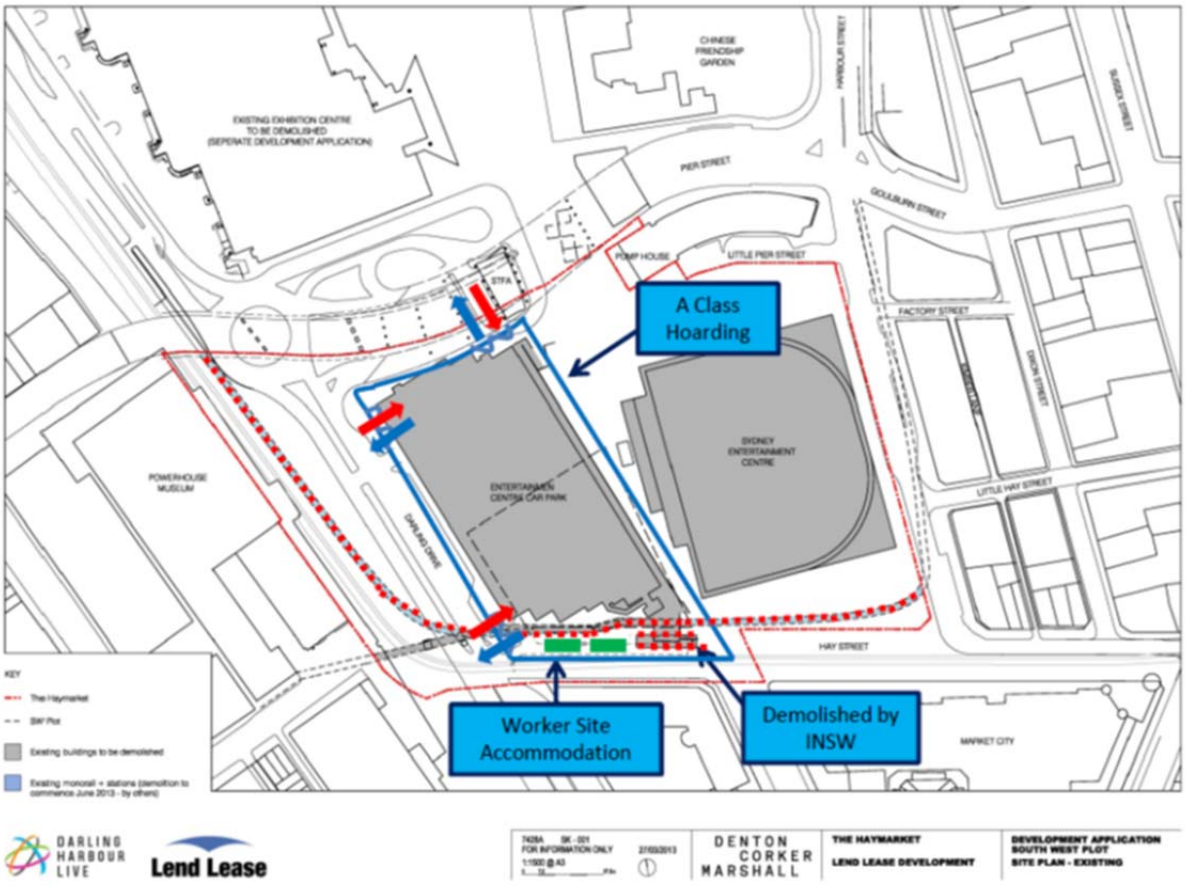


Figure 6 - Hoarding Plan and demolition vehicular access for the Sydney Entertainment Centre (SEC) Car Park (during demolition).

Pedestrian Access during Sydney Entertainment Centre (SEC) Car Park Demolition

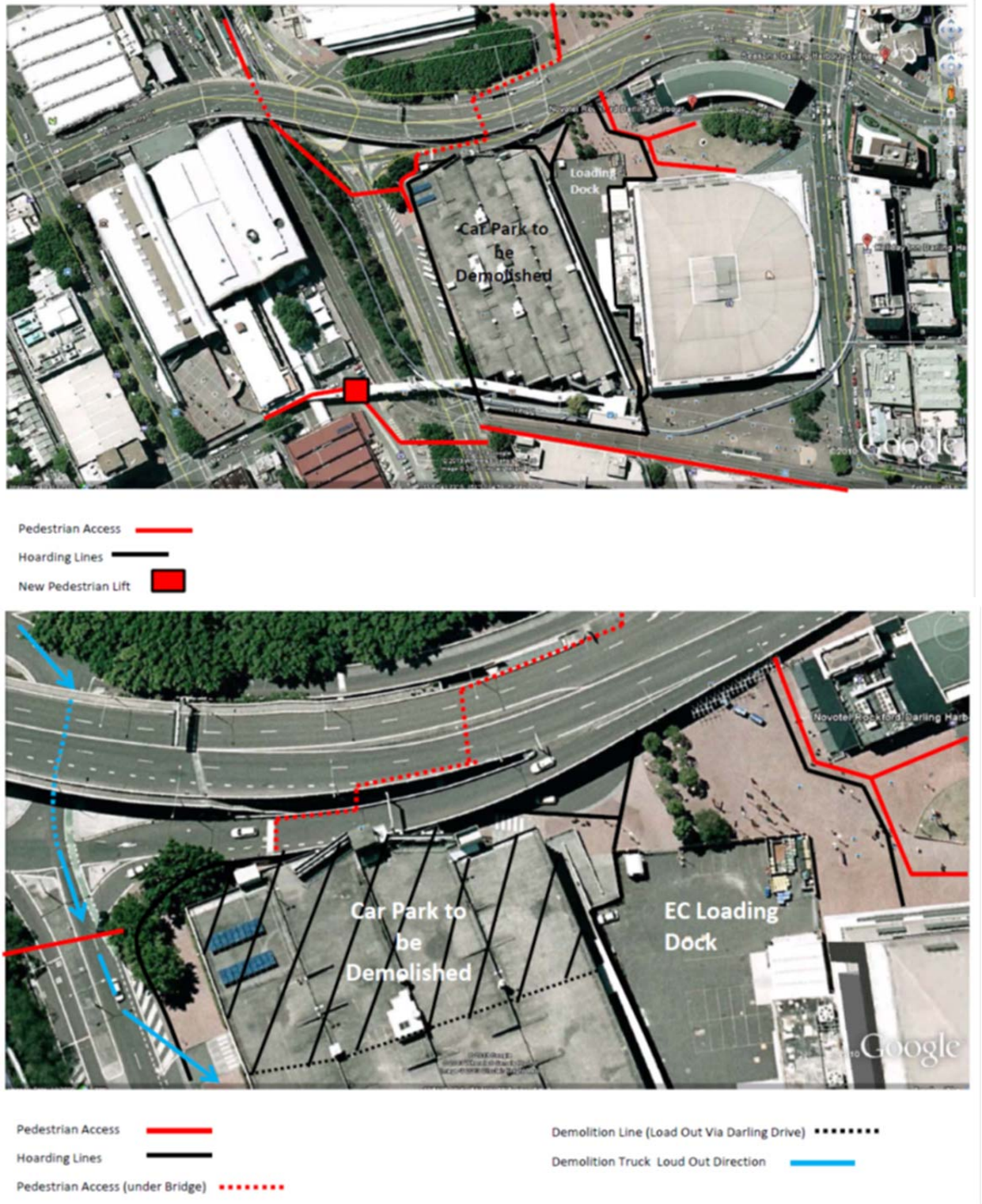


Figure 7 & 8 (above) - Pedestrian Access Plan during demolition for the Sydney Entertainment Centre (SEC) Car Park.

Pedestrian and Vehicular Access Plan during demolition for the Sydney Entertainment Centre (SEC) Car Park. \

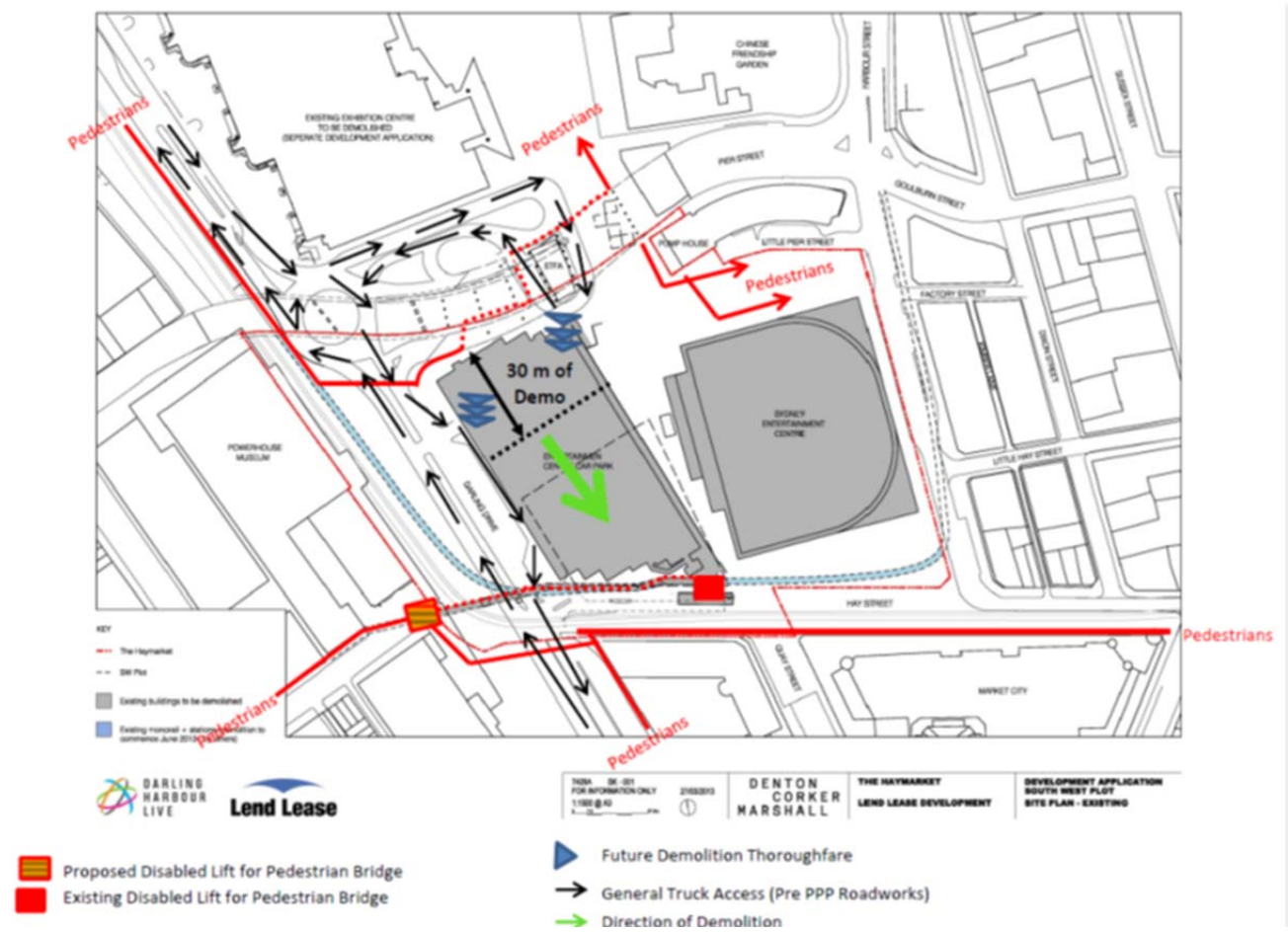


Figure 9 - Pedestrian and Vehicular Access Plan during demolition for the Sydney Entertainment Centre (SEC) Car Park.

Demolition

The currently methodology is to demolish the existing Sydney Entertainment Centre Carpark whilst the Sydney Entertainment Centre remains operational. Once the building has been removed, piling and structure from existing ground level will commence. A two stage approach will be undertaken as follows:

Stage 1 -Demolition of 95 % of the SEC Carpark Structure and its removal from site and involves the scaffold encapsulation of the north, east and south elevations of the Carpark structure. The Western elevation will be used for access and demolition staging with hoardings positioned far enough away from a publicly accessible area such that scaffolding will not be required. All work will be carried out by Class 1 licenced demolishers to the relevant AS and work cover codes. See Figure 6 and 9 for indicative hoarding layout.

Stage 2 -Demolition of the Macarthur Pedestrian Bridge and associated lift and stairs. This stage will commence once the Macarthur Pedestrian bridge lift shaft and stair works are complete to the western side of the light rail corridor and allows pedestrians to transfer to on grade level and traverse across Darling Drive to the greater Darling Harbour precinct.

Macarthur Street Pedestrian Bridge

The Macarthur Street pedestrian bridge access and Carpark lift shaft will be maintained throughout the demolition of the SEC Carpark, the Carpark structure will be separated from the lift core at the existing construction joint at this shaft, hoardings will be erected within the Carpark core structure to separate the public and the demolition activities.

The access over this bridge will remain until such time as the new lift shaft and stair works to the Western side of the rail corridor are completed and commissioned. After which the pedestrian bridge and lift core will be demolished.

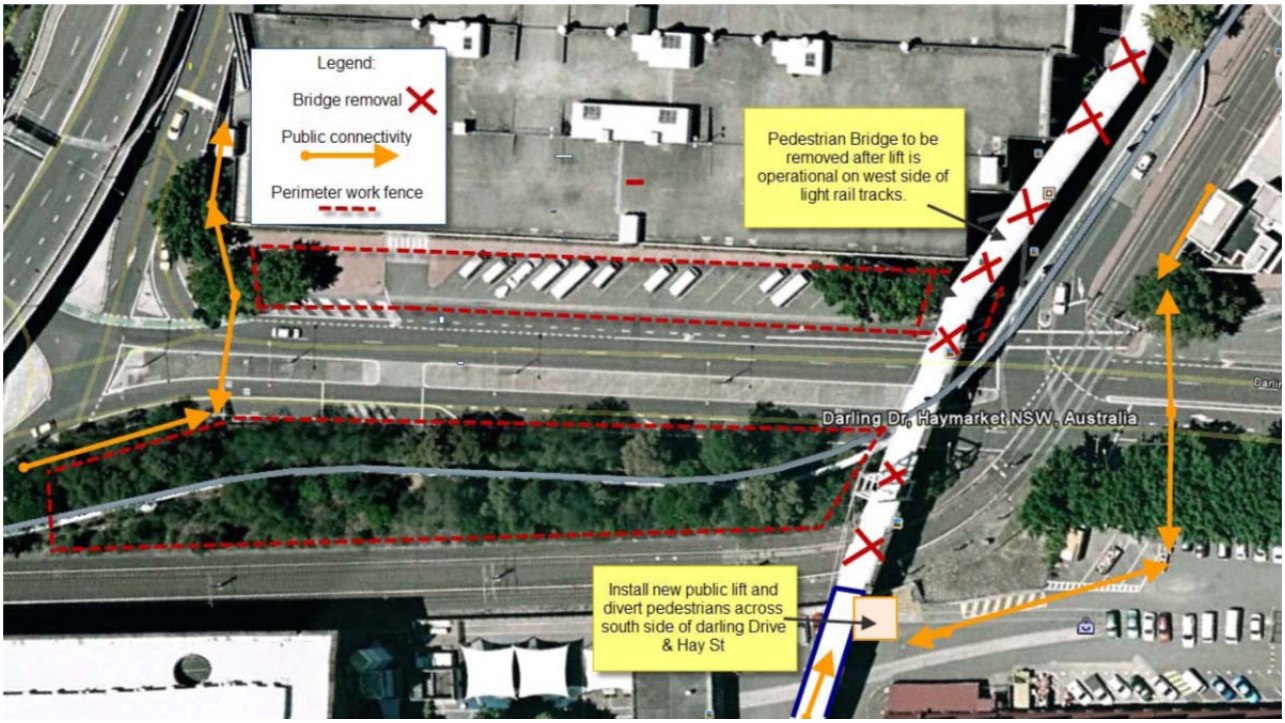


Figure 10 - Pedestrian Access Plan during the Macarthur Street Pedestrian Bridge Works

SW Plot Residential Towers

The SW residential site consists of a 5 level podium structure which provides the base for 3 residential buildings to a total height of 40 levels (SW3 High Rise), 25 Levels (SW1 Mid Rise) and 7 levels (SW2 low Rise).

The project will be delivered in two stages as follows:

Stage 1 – SW2 and SW3 (following demolition of the Carpark)

Stage 2 – SW1

Stage 1 will include the installation of all foundations and ground slab including those in the Stage 2 area.

Works will commence with piling to the lift cores, proceeding to the piles and the podium structure. A tower crane will then be established to erect the lift core jump form and podiums slabs will follow.

Once the structure is to podium level for Stage 1, a second tower crane and twin high speed Man & Materials hoists will be erected. The SW3 tower structure will progress to 40 storeys, followed by façade elements and internal fitout of each individual floor. Upon internal lifts being operational the Cranes and Hoists will be dismantled and the remaining façade completed.

The above sequence will be repeated for the SW1 tower (Stage 2).

The SW plot works will also include the construction of the boulevard in the public realm. This will commence upon demolition of the Sydney Entertainment Centre by mid-2016.

SICEEP PDA Hoarding Plan – SW Plot

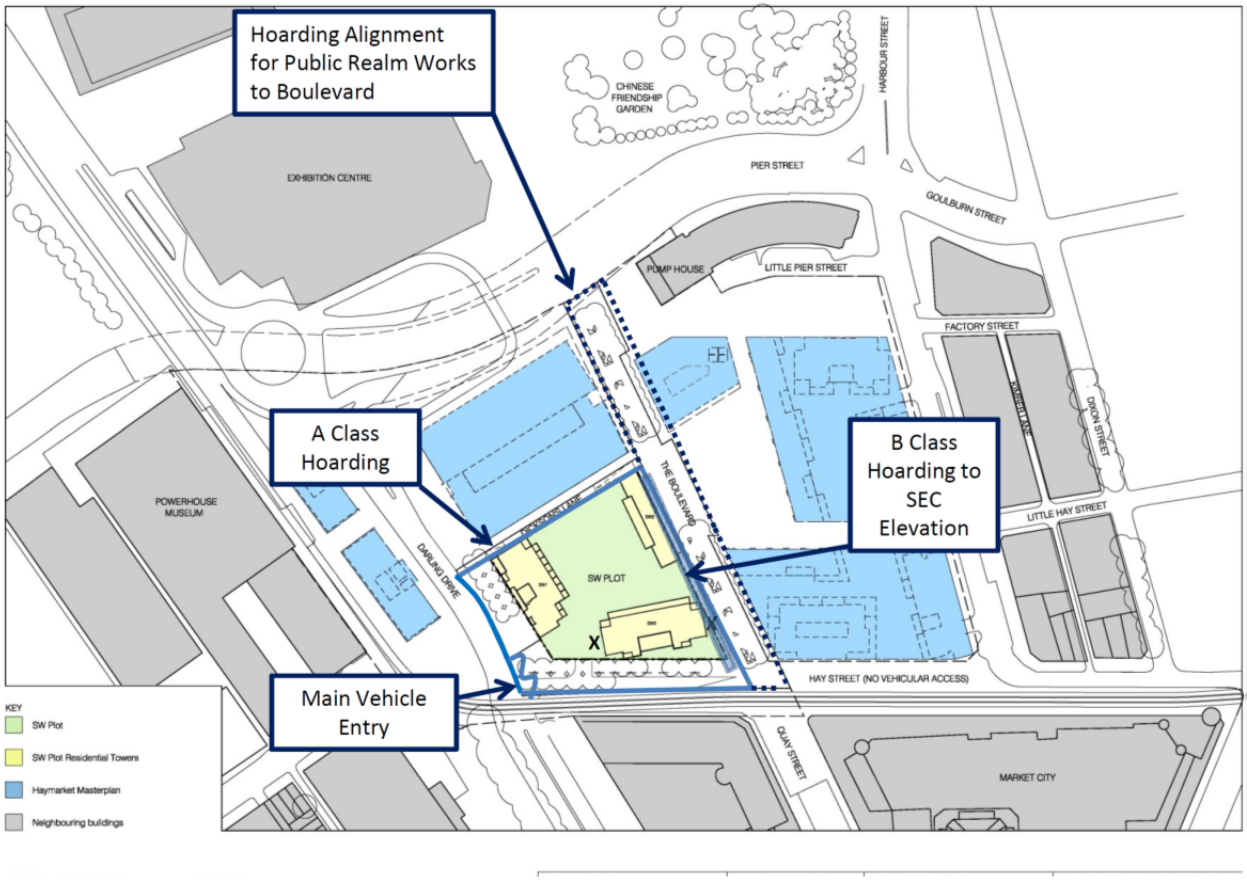


Figure 11 – Hoarding plan for SW Plot

9.0 PROJECT SITE ESTABLISHMENT

Site Establishment - Demolition

It is planned for the NW and SW Plots to be built concurrently. To enable this, the existing SEC Carpark will be demolished and perimeter hoardings, fences and signage will be erected to establish secure construction sites. During the establishment of this activity certain functions will be addressed to minimise the impact on the Precinct.

LLPM&C will ensure that upon initial onsite setup, the existing Carpark shall be locked, barricaded or hoarded closed, to prevent any unauthorised access. This stage also allows for Site worker Accommodation establishment, decommissioning and soft demolition to commence internally, reducing noise dust and vibration to a minimum. In adopting this process, it allows the demolition to commence internally whist perimeter scaffold is being constructed to the perimeter of the Carpark to ensure public protection during structural demolition.

The LLPMC Site Office will be located within the surrounding commercial building due to the restricted space available on site. The worker accommodation and amenities will be located within the site hoardings in the locations indicated.

Site Establishment – SW Plot Construction

On completion of the demolition of the SEC Carpark the demolition site will be divided into the 2 plots NW and SW.

The SW Plot establishment will consist of 3 cranes, 1 to residential Building SW1 (25 Levels) and 2 to residential Building SW3 (40 levels). Each of these towers will have a twin high speed Man & Materials hoist to the exterior façade.

Construction Worker accommodation will be established within the site hoardings and be double stacked portable site sheds located to the western elevation, see figure 12 Site establishment plan SW plot for indicative locations.

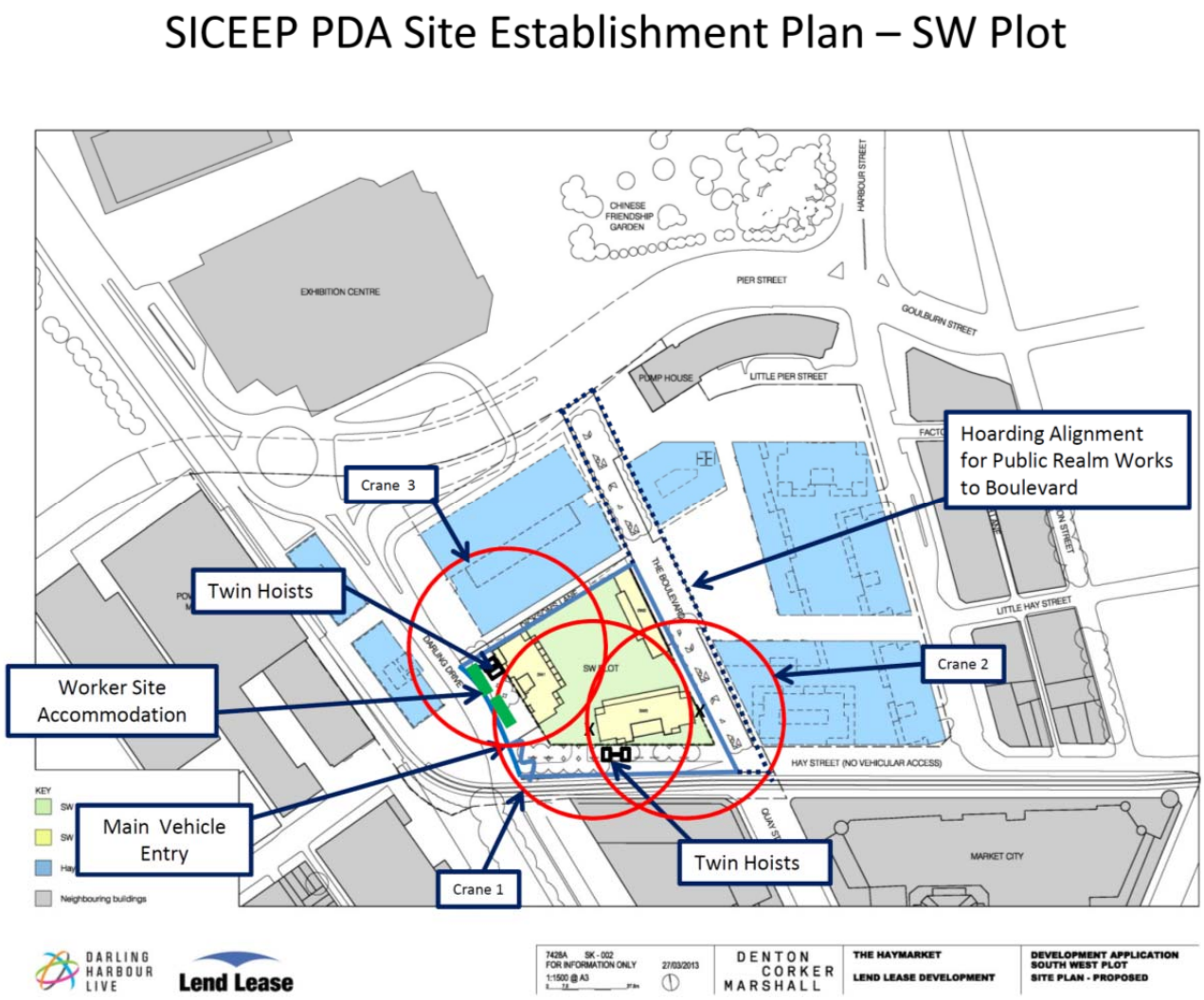


Figure 12 – SW Plot Site Establishment Plan

Hoardings

The current perimeter hoarding/fence locations shown are general locations to achieve and maintain public access, with further detailed locations to be accepted and agreed for construction safety requirements and allowing access to existing services for ongoing maintenance.

Due to the nature of the site and close proximity to general public, the main site Vehicle and pedestrian access shall be from Darling Drive and eastern side of the site. Based on current building design and programming and incorporating the locations of the new Developments, there will be a staged approach within the nominated Development Phase boundaries. These boundaries will be constructed using an easily relocatable form of construction hoarding, based on its ability to be mobilised and relocated with minimal disruption to construction and Precinct activities.

An A-Class hoarding structure of concrete jersey kerbs with ply panels is considered an efficient, safe and reliable method of delineating the Development construction zone and the public realm. These hoardings are easily moved using a forklift vehicle and can be done in a timeframe that encourages the flexibility of the site and what can and cannot be provided to the further precinct when and as required. This hoarding will often be required in areas of high construction and public vehicle activity and provides the required vehicle impact protection that will ensure site and public safety.

Pedestrian Movements

We have identified the current pedestrian paths as illustrated to be maintained during the development construction phases Demolition and Construction

Pedestrian movement diversions as detailed below shall be in place to ensure that the Public are diverted safely around the site. This allows, with minor diversions, for the same level of egress as is currently available. See figure 7-9 for our Pedestrian Management Plan during Demolition and Figure 13 for our Pedestrian Management Plan during Construction.

SICEEP PDA Pedestrian Management Plan – SW Plot Construction

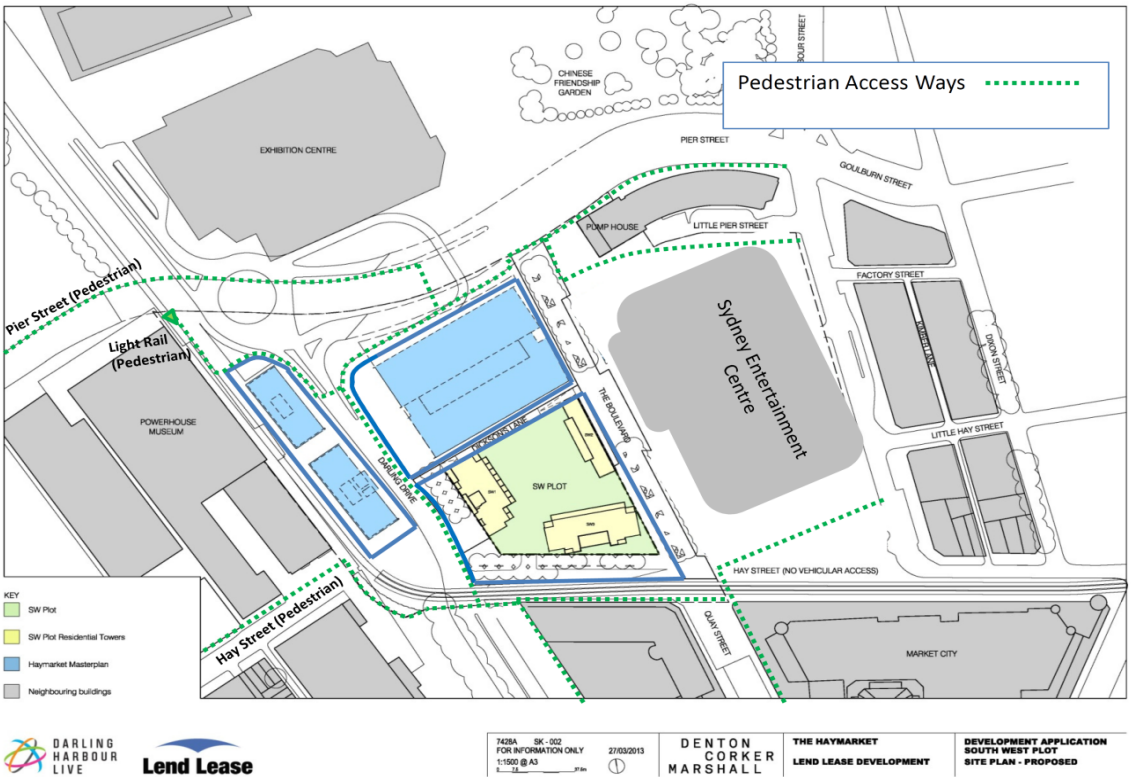


Figure 13 - Pedestrian Management Plan during Construction.

All vehicles accessing the site will conform to the “Traffic controls at work sites” manual, and Australian Standard 1742 – Traffic control, and only certified traffic controllers shall be used to direct vehicles outside of the construction boundaries. Traffic movements and vehicles to the site will access the sites from Darling Drive elevation.

All vehicles will use the entry and exit gates to the SW site as detailed on the attached layout below. These points shall be established initially and relocated during the works to ensure and maintain safe access and egress for vehicles and pedestrians.

These gates will be activated as the project progress through its various stages Demolition, Structure, Facade & Completion. As detailed these points are outside the pedestrian routes so that the risk to the public is minimised. The existing pedestrian footpath, along Darling Drive east side, shall be redirected into the existing public domain area, to the north and south of the development.

If a vehicle gate is to be a major access point, it shall be manned so that there is no unauthorised access. At all other times they will be locked and monitored. All vehicle movements will be controlled through a vehicle permit system and notification procedure.

Example Photos of Site Entry Gates

Traffic Movements

As the existing car park shall be closed during the development, current traffic routes will be reduced to through traffic only.

The primary construction heavy vehicle egress will be via the established Darling Drive network to the West of the development. This will involve vehicles accessing Darling Drive from the north using Pyrmont Bridge Road, Pyrmont and vehicles accessing Darling Drive from the south using Ultimo Road and Harris Street, Ultimo.

See below the wider precinct Traffic Management Plan Figure 14, and the Traffic Management plan for the SW Plot Figure 15

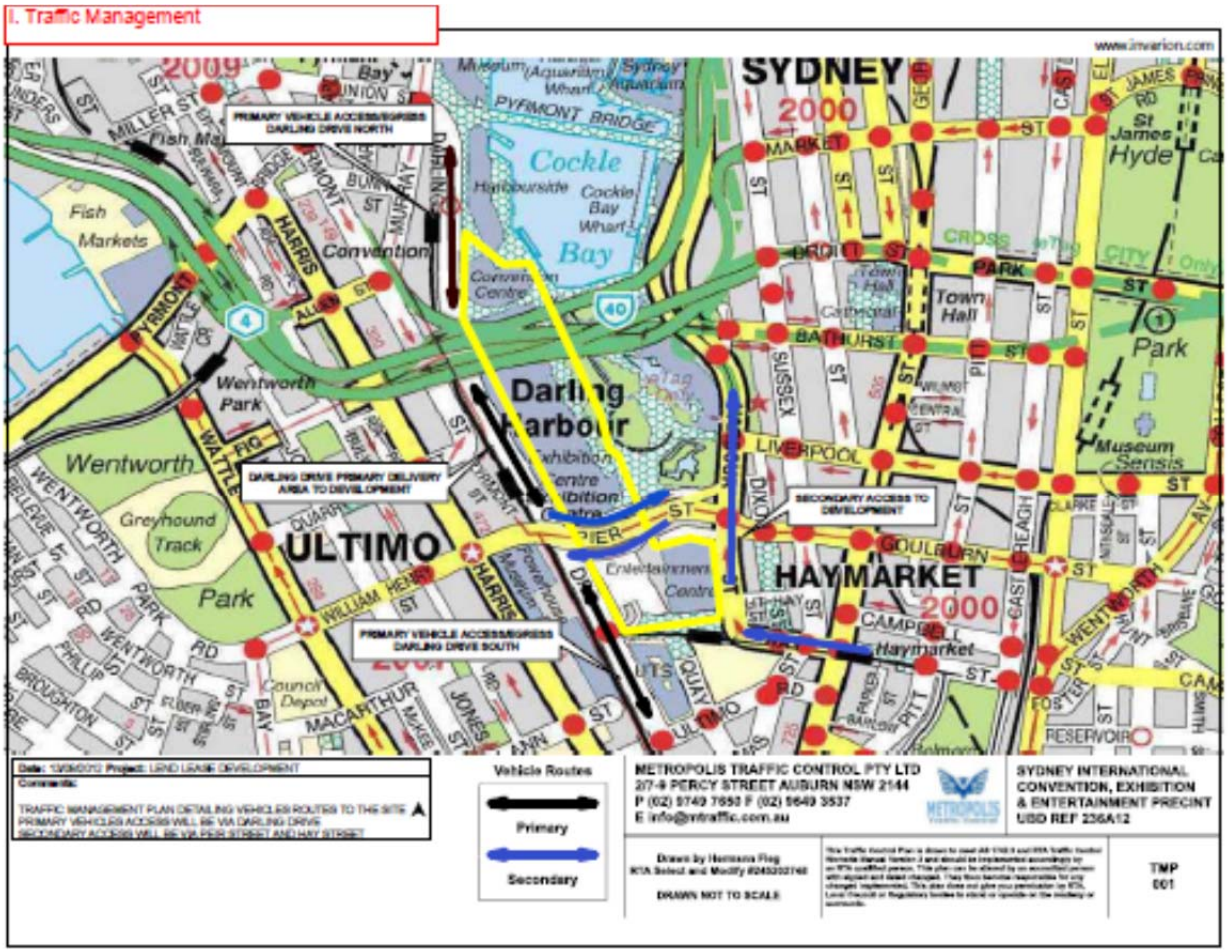


Figure 14 - Wider precinct Traffic Management Plan

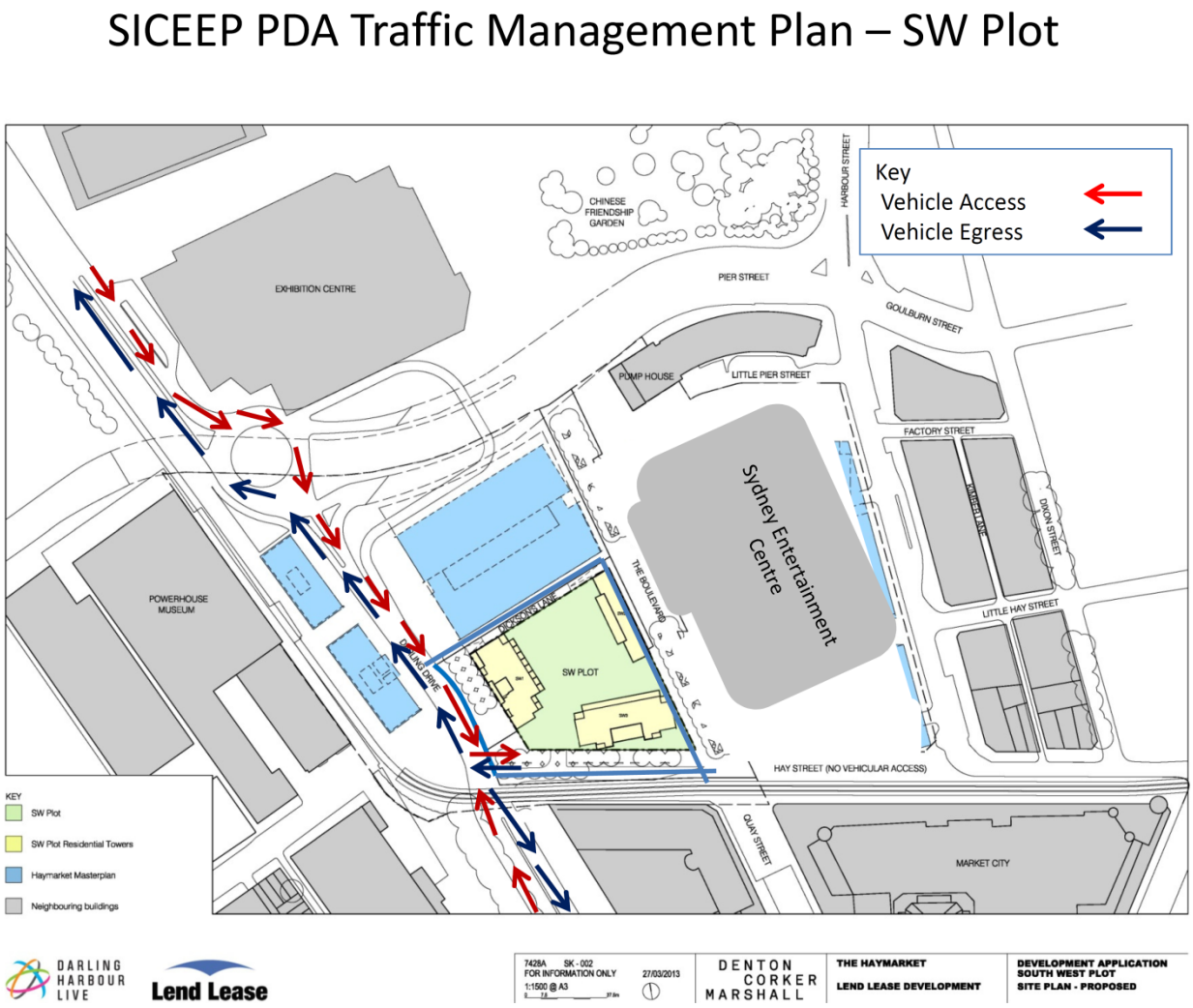


Figure 15 Traffic Management plan for the SW Plot

Following discussions with the Roads and Maritime Services [RMS] and due to the location of the development site, the above primary construction access is deemed to be the most practical. During the discussions with the RMS, various other routes were discussed and highlighted as secondary egress options.

The secondary construction light vehicle egress will be via the established road network systems to the east of the development, including the use of Hay Street, Harbour Street & Pier Street.

Construction traffic to and from the development site will be subject to constraints imposed by the current traffic network, impact of adjoining developments and public domain works. Advice received from the RMS was that increased traffic to Darling Drive and surrounding road network would be best suited to non peak hour times. As such we will ensure that our bulk deliveries will be coordinated as close as possible to these times.

Usually, the bulk of truck movements would occur during the excavation phase. Given that the development does not include a basement excavation, truck movements will be more evenly spread throughout the construction programme.

During the course of the development we anticipate vehicle movements for such trades as Demolition, Civil, Piling, Detail Excavation, Structure, Facade, Internal Finishes & Private and Public Domain works.

Based on the programme and volume of materials required for construction activities, it is estimated that existing vehicle volumes will increase by an average of 3 – 4 trucks per hour, for the duration of the development. In such instances as concrete pours, this volume will increase on the day, but shall be controlled (as our preferred supply plant is within 1km of the development) to alleviate any congestion to the surrounding traffic network.

The control of vehicle logistics to and from the site shall be managed as follows:

- Traffic Management Plan to form part of tender documents and ultimately part of the Subcontract &/or Supplier Agreements
- Traffic Management Plan will form part of the subcontractor inductions, both on site and in some instances held in the Subcontractor / Supplier place of business.
- Subcontractors / Suppliers will be required to submit a formal delivery booking request 5 business days prior to delivery. All bookings will be registered and controlled by the various manned gates.
- Predetermined routes and times shall be agreed as part of this process to ensure non congestion of traffic.
- Established holding areas for urgent & emergency vehicles within the development.

Due to the location of the development and close proximity to general public, the main entry and exit for materials handling shall be from the West, off Darling Dive, with established access roads with in the development perimeters to the East side of the new Exhibition/Entertainment buildings and West side of new Convention Centre.

The following solutions are intended to facilitate minimal on-site materials storage:

- Strategic location of construction zones to eliminate double handling of materials delivered to site;
- Controlled delivery of materials necessary to maintain programme;
- Nominated and controlled storage areas within the development site hoardings; and
- Prefabrication of materials off site will assist in minimizing storage requirements.

All loads on vehicles removing or delivering materials will be within Roads and Maritime Services Regulations including legal weight limits, only on approved roadways, with loads secured and covered. Vehicles that are frequent to site, such as concrete delivery vehicles, shall be inducted into the Traffic Management Plan to comply with their vehicle movements to and from the site.

Appropriate directional signage and traffic control will be provided to ensure vehicles enter and leave the site with minimal disturbance to other road users and so they are advised of any changes in road conditions.

Temporary road closures, single lane access and relocations during the construction period will be subject to coordination with the appropriate authorities. All traffic related issues and changes shall also be presented to stakeholders as part of the consultation process. These will, wherever and whenever possible, are carried out in non peak periods.

Onsite parking will not be allowed. We will encourage the use of the good public transport systems already in place for construction staff and workers. Public car parking stations are also available around the development. The locations of these will be conveyed through all subcontract documentation and site inductions. Timetables shall be provided for all public transport systems routes, especially the light rail and buses.

Realignment of Darling Drive

As part of the development, Darling Drive will be realigned to the East to allow for the establishment of the West Plot. It is proposed that these works take place during the demolition phase of the SEC Carpark and works complete before the construction phases of the NW and SW sites.

The programme of works to the realignment of Darling Drive shall be coordinated with relevant authorities, local stakeholders and contractors, to ensure a continuous and smooth transition of general vehicle movements. The procedures to conduct the realignment works shall incorporate controls to include pedestrian access and maintaining cycle ways to Darling Drive.

Services Infrastructure Protection and Access

The following services infrastructure has been identified on the site:

Sydney Water : Stormwater, Stormwater Culverts, sewer & water mains

Aus Grid : HV Electrical cables & pits

Telstra : Network Mains, Local Mains & associated pits

Agility : Gas mains

Full detail of the existing services infrastructure is contained within the Hyder Services Infrastructure Report and Combined Services Drawing Figure 15

Extensive site investigation to locate the existing services has been undertaken. Knowing the correct identification, location and depth of these services is the key component for protecting them.

Within or adjacent to demolition activities steel road plates will be used to cover at risk services pits prior to demolition occurring over . Machine operators demolishing the ground slab will be briefed on existing services prior to commencement of the activity in each zone. Rubble will not be allowed to accumulate on top of services pits during the course of the day and clear access must be left to the pit lids at the end of each shift.

The service authorities will be provided with the contact details of the LL Site and Construction Manager and an emergency access procedure shall be implemented to enable Service Providers safe access during normal working hours. The service providers will be invited to provide their own padlock to the main gate on Darling Drive so that it can be daisy changed with other padlocks, allowing them after hour's access to the site.

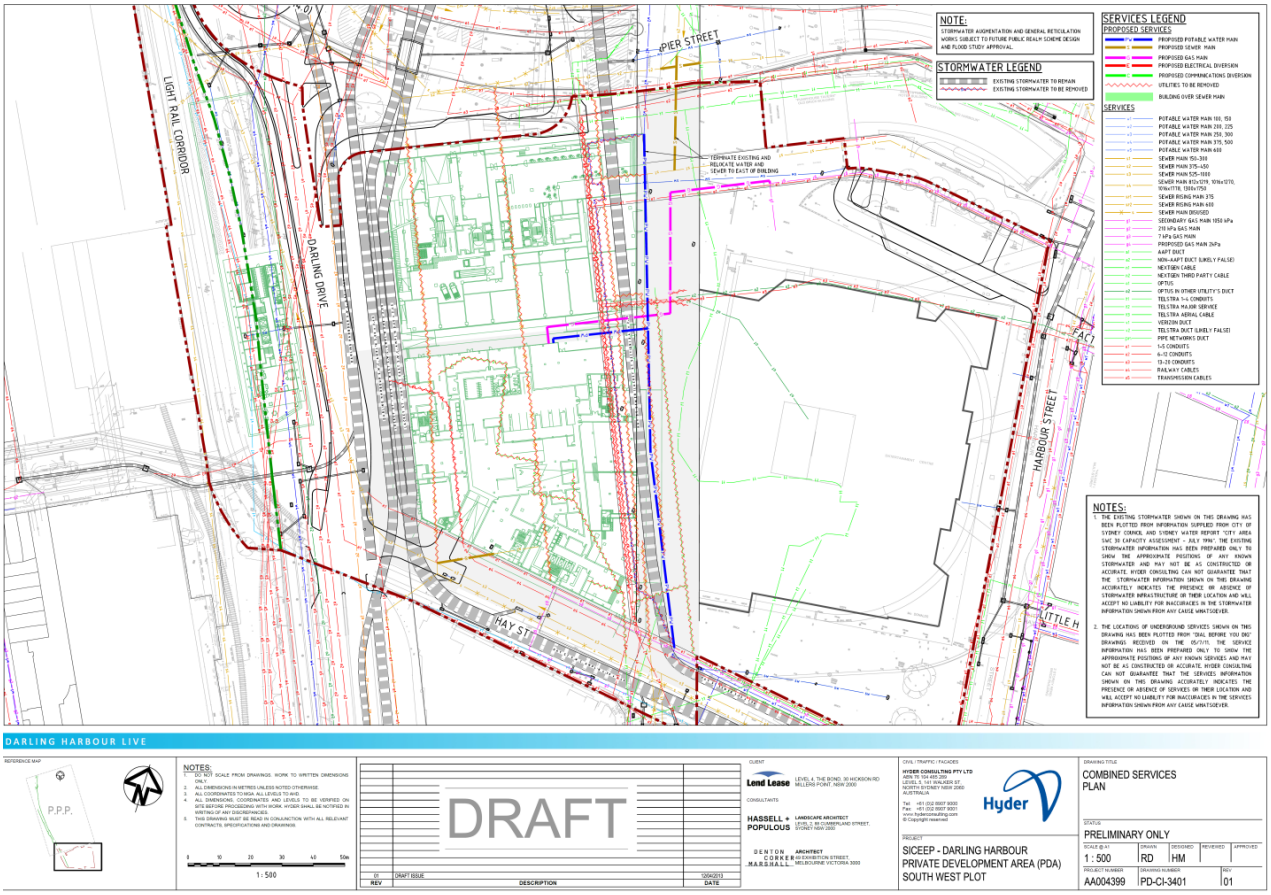


Figure 16 - Hyder Services Infrastructure Report and Combined Services Drawing

10.0 LEND LEASE APPROACH TO ENVIRONMENTAL AND SAFETY MANAGEMENT

The design and delivery phase of this project, presents many opportunities to contribute towards Lend Lease and construction industry benchmarks for Environmental, Health and Safety (EHS) management. This will be done by developing and implementing Occupational Health and Safety, and ecologically sustainable practices.

EHS management during construction is the responsibility of each and every member of the project construction team. Identification of potential EHS aspects and impacts is an ongoing activity. Potential impacts will be identified at both the design and construction phase via the project risk assessment and safe work practices procedures.

A Project EHS Plan will be maintained to the requirements of the Lend Lease Project Management & Construction Bluebook and the forms, guides, policy's, etc are to be obtained from the related information in Bluebook. Where the Lend Lease Project Management & Construction forms are required to be amended altered or developed these shall be undertaken in consultation with appropriate Senior Management (ie EHS Manager, Operations Manager, Executive Project Manager or Management System Manager).

10.1 Environmental Vision

- Lend Lease Project Management & Construction recognises how closely linked our business activities are to environmental issues, on a global, regional and local level and is committed to minimising our environmental impacts and to meeting the environmental challenges facing our industry.
- Lend Lease Project Management & Construction is eager to achieve this by investing in environmental technology in responsive building techniques and in environmentally sound business practices.
- Lend Lease Project Management & Construction aims to minimise any environmental effect by adherence with all applicable environmental legislation and requirements and by developing a comprehensive reporting and data collection ability, so that it can be analysis in an effort to provide continuous improvement of our performance.
- Lend Lease Project Management & Construction Australia's Environment Vision presents a basic approach of active environmental managed activities with the aim to enhance and protect the environment in which we interact.

10.2 Incident and Injury Free Vision

Lend Lease Project Management & Construction will operate Incident & Injury Free (IIF) and we are committed to realising this wherever we have a presence.

We will:

- Invest in what it takes to achieve this vision
- As employees be empowered to lead in making this vision real
- Proactively work with all stakeholders, including clients, designers, contractors and the workforce to make this vision a reality and be prepared to walk away rather than compromise our commitment to safety
- Own and act on our vision

- This requires a mindset intolerant of any injury regardless of frequency or severity

We believe:

- That working Incident & Injury Free is a choice and a basic human right
- The leaders in our industry will be those who succeed in the transformation to making an Incident & Injury Free industry a given

We recognise:

- That this vision is achievable if we are committed
- This commitment to Incident & Injury Free requires taking a personal stand, great courage and trust

10.3 Objectives

The Project Team has the following objectives with respect to Environmental Health & Safety (EHS):

- Identify and eliminate potential Class 1 and Class 2 incidents and occurrences;
- Maintain statutory compliance with respect to EHS;
- Conform to company EHS Management System, Standards, Instructions and EHS Business Plans;
- Provide, training, skilling, awareness and Best Practice to meet Legislative and Lend Lease Project Management & Construction requirement;
- Maintain accurate reporting and record keeping;
- Report, support and enhance Senior Management;
- Undertake Positive Performance activities with the Project Team, Subcontractors, Client, Site personnel and other interested parties i.e. audits, tool box and neighbourhood consultation, PCG, etc;
- Achieve the incident and injury free objectives for the project; and
- Ensure the effective management of environmental issues to reduce our impact on the natural environment.

The Environmental, Health and Safety Plan (EHSP) will demonstrate Lend Lease Project Management & Construction's understanding of EHS management and controls required for construction activities.
This EHS Plan is intended to ensure that any EHS commitments made and other requirements of the proposed development are identified and their incorporation in the works proposed is planned and implemented.
The EHS Plan is a working document to be updated as necessary and forms part of the contract documentation for the project. It is a commitment of Lend Lease Project Management & Construction that Best Practice EHS Management is adopted and implemented at the all projects.

10.4 Environment Health & Safety and Rehabilitation Policies

The Lend Lease Corporation Environment, Health and Safety Policy, and Rehabilitation Policy form the foundation for the EHS and Rehabilitation performance of each group company. The Policies represent the commitment of Lend Lease Project Management & Construction to meeting EHS and Rehabilitation objectives on a project specific basis to all project personnel.

The *Lend Lease Project Management & Construction Policies* are to be clearly displayed within the Site Office, be accessible by the project team (e.g. Project Notice board) and intent clearly communicated through the Project induction to persons working on site.

10.5 EHS Objectives

Objective

The Project team is to set project specific EHS Standards/Rules to meet the Region's legislative and regulatory requirements, Lend Lease Project Management & Construction *Means and Methods* and industry best practice to provide an incident and injury free environment.

Key Management Issue

- Tenderers are expected to meet the project EHS Rules and Lend Lease Project Management & Construction Means and Methods
- Site inductions will be conducted in accordance with EHS Rules and Lend Lease Project Management & Construction Means and Methods
- All personnel and visitors to the project will undertake their activities in accordance with the project EHS Rules and Lend Lease Project Management & Construction Means and Methods

Actions

- The projects Project Manager(PM), Construction Manager(CM) and Site Manager(SM) are responsible for developing project rules in accordance with Lend Lease Project Management & Construction Means and Methods
- The project CM will ensure tenderers are aware of project EHS Rules and Lend Lease Project Management & Construction Means and Methods;
- The project SM will ensure site inductions are in accordance with Lend Lease Project Management & Construction Means and Methods and Lend Lease Project Management & Construction Induction Guide
- The project SM will ensure personnel and visitors to the project will conduct their activities in accordance with Lend Lease Project Management & Construction EHS Means and Methods and project rules

- All visitors must report to the site office and enter their details in the *Site Visitor's Register* and advise the name of the person / organisation they wish to meet
- All visitors must be accompanied at all times by site inducted persons, who are also responsible for ensuring visitors complies with project rules and are signed out when leaving
- All vehicles entering the Project need to obtain and display the *Vehicle Entry Permit*

10.6 Roles and Responsibilities

Lend Lease Project Management & Construction is the Principal Contractor and as such is responsible for the overall management of the Project's Environment Health and Safety. All Lend Lease Project Management & Construction Subcontractors, Consultants and Visitors are responsible to comply with their EHS Management system, Lend Lease Project Management & Construction Means and Methods and Legislative requirements

The designated Lend Lease Project Management & Construction EHS person responsible for Site implementation, compliance and the weekly documented inspection of EHS and Means and Methods will be the *Construction Manager/Site Manager or their nominated delegate.*

Lend Lease Project Management & Construction Project staff are required to:

- lead by example;
- utilise the Project EHS Plan and treat it as a living document;
- encourage and support workers to work safely and with care for the environment;
- set priorities that reinforce safe and environmentally aware activities; and
- display ownership of areas under their control and assist project team members in overall EHS management.

Project Roles and Responsibilities for EHS will be detailed in the elements of the project EHS Plan.

11.0 CONSTRUCTION WASTE MANAGEMENT PLAN

Objectives:

The objectives of the Construction Waste Management Plan are based on the hierarchy of avoidance/reduce, re-use, recycle, treat and dispose as outlined in Lend Lease's National Waste Minimisation and Recycling Strategy.

To re-use and/or recycle a minimum of 80% of all Hard Waste Material, and Soft Waste Material generated on the construction site, thus achieving up to 80% reduction/avoidance in waste to landfill.

Best Practice will be adopted wherever possible, to achieve waste minimisation and reduction. Key areas that will be targeted in the Waste Management Plan are:

- To avoid, whenever possible, the generation of wastes
- Demolition Materials (including hazardous building materials i.e. asbestos)
- Construction Materials
- Excavated Fill Materials
- Domestic & Human Waste
- Wastewater
- Litter generation due to construction activities

In addition the project will:

- Liaise with Subcontractors to identify areas where they can reduce waste and reuse materials in their respective trades;
- Meet local, state and federal waste minimisation legislation and environmental standards;
- Prevent pollution and damage to the environment; and
- Protect the safety and health of our employees, site personnel and the public.

Key Management Issue:

The waste management strategy has been developed from best practice models.

Waste Materials generated on site are to be managed such that recycling is maximised and the volume of waste transported to landfill is minimised.

Construction waste minimisation requires early planning and establishment of "Waste minimisation Culture" by all participants in the Design, Construction and End User process. Waste minimisation is a key element in life cycle analysis, material selection and specification.

Materials selected must be fit for use. The use of building materials that are fully recycled and/or include recycled material in their production will be maximised where practicable.

All disposal documentation from construction processes should be supplied to Lend Lease Project Management & Construction and filed in the site records for verification purposes.

Site Controls:

Planning

A Waste Management Contractor will be involved in the early stage of the project to ensure effective planning for the waste management.

Major Subcontractors will be asked to submit prior to commencement on site waste minimisation details including as a minimum the following:

- Practical measures associated with their works to prevent waste entering on site;
- Waste streams resulting from their works which can be recycled and will be actively managed as part of their waste reduction plan; and
- Alternative products containing recycled material that could be utilised in their works, in place of more traditional materials, which conform and meet with the design specification.

All suppliers of building materials will be encouraged to nominate packaging minimisation and reuse initiatives, which have been implemented, as part of product supply to the project.

Bulk handling and reusable/returnable transport containers will be encouraged.

Site set up will include measures to prevent litter entering the stormwater drains and waterways feeding to the adjacent stormwater systems and Darling Harbour.

Waste Management will be addressed at any or all of the design coordination meetings.

A Waste storage and Handling Diagram will be prepared for the site showing details of the designated storage locations of bins, segregated waste, water / washout waste etc.

Pre-Construction Phase:

Demolition

Specialist subcontractors will be used to remove classified material identified in any Hazardous Materials Buildings Survey that is to be performed on-site prior to demolition works commencing. These materials will be removed separately first and disposed of in accordance with relevant Authority requirements. Once all this material is removed a qualified Occupational Hygienist will provide certification that all classified material has been removed.

Demolition of the remaining components of the existing buildings will be conducted in a manner to maximise material recycling.

A demolition strategy will be developed and further consideration of sorting and segregating waste for reuse and disposal will be defined as the project progress.

Construction Phase:

Excavated Fill Materials

Any fill materials identified as requiring excavation from within development footprints will, where suitable, be re-used on the site as part of the site engineering or landscape works.

In the event that excavated soils are deemed unsuitable for re-use on site, the excavated fill materials will require initial waste classification testing in accordance with relevant authorities. Depending on the outcome of the waste classification, a suitably licensed landfill will be chosen to receive and dispose of the soils. Appropriate waste documentation and permits will be maintained throughout this process.

Options for either re-use or off-site disposal of excavated soil materials will be assessed throughout the project and in accordance with the Remediation Action Plan and site auditors requirements.

Waste Materials Bin System

The demolition and construction waste management system to be adopted on site will be through the use of the separation bins for the various recyclable materials, and non-recyclable waste materials.

Signs will be located on each bin, indicating type of bin and what waste may be placed in that bin.

The Subcontractors will be responsible for the daily cleaning of their respective work areas and placing of their waste in the correct bins.

Additional bins will be provided where possible to further separate waste. Adequate number of litter bins will be made available within the construction site areas, including work and lunch areas. These bins must be regularly emptied.

The Subcontractors working on site will place all their waste in the correct bins on site.

If a particular bin is found to be “contaminated“ by waste material from a subcontractor that particular Subcontractor will be liable for the cost associated with tipping or sorting of waste.

Waste Water / Washout Areas

Washout processes and facilities for paint and/or finishing trades are to be minimised and water recycling for these activities are encouraged where possible.

Utilisation of Lend Lease Project Management & Construction guidelines/management plan for disposal of paint and associated wastes are to be implemented.

Finishing trades washout facilities will NOT be plumbed to any building services and will be of a stand-alone nature. The maintenance of these facilities should be the subcontractor’s responsibility and should comply with all appropriate Environmental Legislation and local authority guidelines.

Packaging

All suppliers of building materials will be encouraged to nominate packaging minimisation and reuse initiatives, which have been implemented, as part of product supply to the project. Bulk handling and reusable transport containers will be encouraged.

Recycled Materials

Suppliers will be encouraged to nominate products that include a recycled component and ability/opportunity for recycling of unused components in accordance with the specified 80% waste reduction target. Product selection will include a selection factor associated with recyclability and precent of recycled product.

Domestic & Human Waste

All domestic waste including litter will be managed via a similar bin system that will be provided in the vicinity of designated eating areas, change areas and amenities. Materials collected for recycling should include:

- Paper/Cardboard
- Food waste
- Aluminium Cans
- Drink containers: Glass & co-mingled
- General waste

Construction and demolition waste bins and domestic waste bins will be located in separate designated areas on the site to ensure appropriately safe storage and collection of waste. Waste areas will be clearly signposted and colour coordinated to define acceptable waste types suited for each bin and secured where required. The location of the waste bins and recycling areas will be marked on the site waste management plans.

All human waste and associated waste water will be collected via the provision of portable toilet and sanitary systems during the construction and demolition period. Where practicable, temporary connection will be made to the existing sewer service available on or adjacent the site. Where these facilities are too remote to prevent connection, a licensed waste contractor will be appointed to manage the waste collection and disposal in addition to general maintenance and cleaning of the toilets.

Training:

Communication and education material on the waste management system will be part of the Site Environmental Awareness Program that will be incorporated into the site induction program.

Additional third party training will be investigated when a waste contractor is nominated.

The responsibility to ensure that waste materials go into the correct bins will be with everyone on site.

Performance Measures:

- A Waste Management Contractor will be involved in the early stage of the project to ensure effective planning for the waste management.
- The Waste Management Contractor will coordinate waste recycling, recovery and disposal of all waste during all stages of the project.
- The waste system (bins / signage / training) is in place prior to any major waste generation works.
- All waste transportation and disposal documentation to be maintained on-site and signed as received or disposed by the appropriate contractor or waste receiving facility.
- Destination of all wastes to be approved by the receiving waste facility prior to the commencement of works.

Monitoring and Reporting:

The Waste Management Contractor will be responsible for providing monthly reports to the SM including the number and size of bins taken away, weight and volumes of waste taken away and recycled. This will include the final destination of materials for recycling.

The Waste Management Contractor will be responsible for providing dockets to the SM for the removal and appropriate disposal of scheduled waste from the project.

The SM will produce monthly reports and other statistic information as per Lend Lease Project Management & Construction EHS requirements.

The Lend Lease Project Management & Construction Project EHS Manager will formally audit the progress on waste management from the above monthly reports to ensure waste reduction targets are met and appropriate waste documentation maintained.

Correctives Actions:

Non-conformances are to be recorded by way of the System Defects.

The Subcontractor and Lend Lease Project Management & Construction SM/CM if applicable shall review and analyse the cause of detected non-conformance and develop a corrective action to prevent recurrence. Details of the non-conformance including any immediate corrective actions undertaken are to be recorded, reviewed and accepted by the CM.

It is the responsibility of the CM to immediately initiate corrective actions following approval. The non-conformance and corrective action must include details of the action proposed; desired performance target and action close out date. The system defects report should be signed, dated and filed.

All corrective and preventative action taken by the Subcontractor will be carried out by and at the cost of the Subcontractor.

If such corrective and preventative action leads to further non-conformance, any further action shall be subject to approval by the CM in consultation with the Project EHS Manager.

Waste Management Implementation Plan

Control	Timing	Methodology	Responsibility	Monitoring and Reporting	Performance Measure
Waste Identification					
1 A Waste storage and Handling Diagram will be prepared for the site showing details of the designated storage locations of Segregated waste, water / washout waste etc.	2 Prior to works commencing	3 In accordance with the Waste Management Plan.	4 CM/SM/Waste Contractor.	5 Review of Diagram prior works commencing .	6 Diagram Map prepared & containing all relevant details.
7 Hazardous building materials to be identified in Hazardous Materials Building Survey	8 Prior demolition works commencing	9 Independent surveyor to prepare a Hazardous Materials Register	10 CM	11 To be reviewed by PM and incorporated into WMP.	12 Preparation of a functioning HazMat Register for building materials.
13 Project waste types to be identified and quantified.	14 Prior to works commencing	Bins will be supplied for the nominated waste streams in accordance with the Waste Management Plan.	15 CM/ PM/Waste Contractor.	16 To be reviewed by PM and incorporated into Waste Management Plan.	17 List of relevant waste streams and volumes from construction & demolition.
Waste Disposal					
18 Remove all hazardous building materials off-site.	19 Prior demolition works	20 Licensed contractor to remove and transport waste to licensed landfill	21 SM/Demo Contractor.	22 Air quality monitoring daily. Clearance Survey by hygienist as required.	23 Non detect asbestos during ambient air monitoring. Landfill disposal dockets.

Control	Timing	Methodology	Responsibility	Monitoring and Reporting	Performance Measure
24 Segregation and storage construction/ demolition and domestic waste prior offsite disposal.	25 At all times	26 Waste contractor to address and follow legislative requirements .	27 SM	28 Weekly inspection of Waste Collection Areas.	29 No cross contamination of wastes. No spillage or loss of wastes from collection containers in storage compound. Waste Dockets.
30 Transport and handling of demolition/ construction waste and domestic waste by licensed contractors.	31 At all times	32 Only approved contractor to be used. Appropriate SWMS for transportation of waste	33 SM	34 Random inspection of waste transport licenses. Random inspection of waste transport vehicles.	35 Correct covers and containers for waste transfer. No spillages/loss of waste during transport.
Demolition/ construction and domestic waste disposal to correct licensed waste receiving facilities.	36 All times	37 Only approved waste receiving facilities to be used.	38 SM	39 Waste classification reports. Inspect as required.	40 Waste disposal dockets correspond to waste types/ volumes.
41 Disposal of excavated fill materials deemed for off-site disposal.	42 Prior construction	43 Waste soils (if any) classified in accordance with relevant authority Guidelines (e.g.: DEC, EPA etc). Licensed waste contractor and landfill used	44 SM	45 Waste classification reports. Inspect as required.	46 Waste disposal dockets correspond to waste types/ volumes.

Control	Timing	Methodology	Responsibility	Monitoring and Reporting	Performance Measure
47 Collection and storage of wastewater from site operations (i.e. paint washing) or temporary facilities (i.e. toilets).	48 At all times.	49 Design and installation of appropriate wastewater collection/storage system.	50 SM	51 Weekly inspection of bunds, drains and sumps.	52 No wastewater spills or uncontrolled discharges.
53 Appropriate disposal of all wastewater from site operations (i.e. paint washing) or temporary facilities (i.e. toilets).	54 At all times	55 Collection and disposal of wastewater by approved licensed contractor	56 SM	57 As required	58 Waste disposal dockets correspond to waste types/ volumes.
Recycling					
59 Waste building or demolition materials (i.e. concrete, timber, steel, etc) to be segregated and stored in separate site bins.	60 All times	61 Appropriately designed waste storage areas with designated recycling bins.	62 SM/Waste Contractor	63 Weekly inspection	64 Clean waste bin area. No cross contamination of waste types.
65 Segregated waste building/demolition materials are appropriately recycled.	66 All times	67 Approved waste recycling contractor to collect bins for recycling.	68 SM/Waste Contractor (Environment Manager if appropriate)	69 Established collection schedule. Audit actual recycling volumes compared to waste recycling targets (%).	70 Waste recycling dockets. Waste recycling targets are met.

Control	Timing	Methodology	Responsibility	Monitoring and Reporting	Performance Measure
Minimisation					
71 Excavated material to be reused or recycled where possible.	72 As required	73 Independent contractor to test soils for environ-mental/ geotechnical parameters.	74 CM/SM	75 Soil testing report to confirm suitability for re-uses. Review by Environment Manager.	76 No contaminated soils re-used on site.
77 Any fill imported onto the site is to consist of certified clean material only	78 As required	79 Indentation of material	80 CM/SM	81 Certificate of suitability.	82 Certificate provided prior to bring to site.
83 Minimise packaging and maximise use of recycled products by contractors.	84 At all times	85 Review contractor materials and packaging proposals	86 CM/SM	87 Inspect material deliveries/ specifica-tions.	88 Proven examples of minimal packaging and recycled materials.
Site Offices					
89 Recycling bins shall be provided with the site working area.	90 As required	91 Coordinated with existing operational facility	92 CM/SM	93 Ensure waste is disposed in accordance with existing operations	97 monthly EHS Managers review
98 Site amenities shall be provided on-site as required	99 Prior to works commencing	100 Coordi nated with site population numbers	101 CM/SM	102 Ensure waste is disposed in accordance with existing facilities require-ments	103 all waste disposed of appropriate

Legend

CM = Lend Lease Construction Manager

SM = Lend Lease Site Manage

12.0 STORMWATER & EROSION MANAGEMENT PLAN

Cross-references

The following Stormwater and Erosion Management Plan is in accordance and to be read in conjunction with the following Plans prepared by Hyder Consulting included with the SSDA5 planning submission:

- Site Preparation Plan
- Excavation Plan
- Sedimentation and Erosion Control Plan
- Civil Works and Stormwater Plan

Objectives

To avoid erosion, contamination and sedimentation occurring as a result of the construction or demolition activities associated with the redevelopment.

To control the quality of stormwater leaving the construction site such that no unacceptable impact occurs to adjoining natural watercourses or stormwater drains discharging into these water bodies.

Minimise disturbance to the hydrologic regime of the surrounding landscape and maximise opportunities for stormwater recycling on the site.

Key Management Issues

Construction and demolition activity on the project site involves removal of existing structures to ground level and excavation to facilitate the proposed development and services. In addition the site soils and the proximity to groundwater would suggest that dewatering of site excavations will be required.

The construction and demolition works have the potential to adversely impact ecosystems and water quality within adjacent surface water bodies via sediment loads and potential contaminants contained in runoff. Potential impacts to the site environment, including existing soils and groundwater also need to be considered as part of any stormwater and erosion management plan. Other physical impacts to be considered include the susceptibility of the site to potential flooding events.

The following activities are expected to be the key risk sources during construction:

- Site clearing, spoil and material stockpiling

The following management issues have been identified:

- Sediment laden water from the construction site may potentially flow into the stormwater system and/or adjacent surface water bodies (Environmental Class P2 Risk);
- Stormwater with excessively high or low pH values could run-off from the selected stockpiles stabilisation area (Environmental Class P3 Risk);
- Stormwater collected in excavations and requiring disposal (Environmental Class P3 Risk);
- Groundwater entering excavations and requiring disposal after dewatering (Environmental Class P1 Risk).
- Site cut off drains eroding and increasing site water sediment loads (Environmental Class P3 Risk);

- Vehicles leaving the construction site depositing dirt/mud on public roads after rain periods (Environmental Class P3 Risk);
- Removal of bulk material off site escaping from vehicles and polluting roadways (Environmental Class P3 Risk);
- Debris and litter collecting along roads and in catch drains and consequently could affect nearby water bodies quality (Environmental Class P2 Risk);
- Site contamination through the potential for an overflow of fuel/chemical storage containers and contamination from the equipment and plant repair area (Environmental Class P1 Risk); and
- Stormwater runoff coming into contact with potential contaminated soils may potentially flow into the stormwater inlets and natural water courses could be affected and consequently reduce water quality (Environmental Class P2 Risk);

Site Actions

The prevention of soil erosion by water and wind and by sediment pollution is key components of the Stormwater and Erosion Management Plan for the site.

An overall Stormwater & Erosion Control Plan will be prepared prior to site activity. This Plan shall be used as a basis to develop detailed controlled plans for each work areas, detailing collection points, temporary drainage flows, sediment controls and general stormwater overflow management.

Construction stage water quality impacts shall be minimised by incorporation of appropriate erosion and sediment control measures in the detailed design, specification and contract arrangements and quality assurance inspection during construction.

Adopt best practice environmental management strategies in accordance with the principles outlined in the Department for Infrastructure, Planning & Natural Resources document titled “Guidelines for Erosion & Sediment Control on Building Sites” and other key reference documents and legislation previously outlined.

Planning

- Locate all stockpiled soils away from surface waters, potential watercourses and flood prone areas.
- Limit land disturbance to the area needed, especially in the vicinity of existing stormwater drainage.
- Cease works if excess dust is being generated and resolves the problem prior to recommencing works.
- Restrict construction and demolition traffic to designated traffic routes that are well drained and all weather.
- Annual weather patterns to be taken into account when planning general site operations and in particular during planned excavations or land disturbance activities.
- Clearly identify, demarcate and fence off areas of vegetation or landscape on or near the boundaries of proposed excavation and demolition footprint to indicate these areas are not to be entered or disturbed.

Controls

- Divert up slope runoff around disturbed areas.
- Construct earth bunds and similar diversion drains to divert surface water runoff around the perimeter of the proposed demolition or construction areas. Where possible, seed all diversion channels to dissipate water velocity.
- Install temporary sediment and erosion controls to prevent the erosion of soil from disturbed construction areas and stockpiles. Measures may include filter barriers (straw bales or silt fence), temporary covering or revegetation with hydro-mulching and native seeding.
- Control access to construction areas by limiting entry and exit points. Ensure all approved access points shall be marked prior to the commencement of construction within that area.
- Reduce the erosive energy (concentrated flow and velocity) of water using measures such as temporary storage, dissipaters, level spreaders and drain grass planting's.
- Prevent deposition of sediment on the public road network due to truck / equipment movements to and from the site via a purpose built truck/wheel wash facilities at site exit point.
- Collection of stormwater into temporary detention basins (refer to de-watering procedure).
- Progressive landscaping and rehabilitation of disturbed areas.

Sediment Fences / Devices:

Sediment fences and devices will be used in areas where temporary sediment control is required. These relatively simple devices will dissipate stormwater velocity and collect moving solids.

Throughout the Construction period, temporary sediment fences and devices will need to be positioned where erosion is most severe.

Sediment fences will be placed downstream of stockpiles and disturbed areas. It is important that sediment is collected adjacent to these areas to prevent loss of material downstream.

Sediment devices will be placed in areas where energy dissipation is required. When constructed these systems are commonly known as check dams and are placed in areas where a major flow path exists. Straw bales filter coarse sediments but tend to be less effective with fine sediments. For this reason all Straw bales will be lined on the upstream side with a geotextile filter fabric where appropriate. Straw bales will be secured with three stakes and positioned so the bale twine does not degrade due to direct sunlight.

Rehabilitation

On completion of works decommission sediment traps constructed as part of the temporary works by removing all silt material from the base of the trap, removing the trap wall and filling the trap with compacted fill. The diversion drains will be graded to match surface levels.

Temporary silt traps or sediment control devices will not be removed for landscape or streetscape works, but shall only be removed following stabilisation of disturbed areas.

For rehabilitated areas, maintenance will continue until vegetation is well established.

Maintenance of Controls:

Perform routine maintenance inspections of the stormwater diversions and sediment and erosion controls, particularly after rainfall events or extremely windy conditions.

Where required, clean or repair diversion drains, storage basins, silt fences and other related control structures to ensure the continued effective operation of these over the duration of the construction and demolition period.

Stormwater Re-use:

Any stormwater entering the excavation or works areas will be collected and retained for re-use on-site for uses ranging from dust suppression on construction roads to landscape watering.

Controlled Discharges (Dewatering):

Lend Lease Project Management & Construction is committed to Stormwater Management during construction, and as such, operates without formal licences but in accordance with industry best practice for the management of stormwater and de-watering discharge.

All site waters during construction and landscaping shall be contained on site, and released only when suspended solids are less than 50mg/L (for storms less than 1 in 5 year time of concentration) in order to avoid pollutants entering the stormwater drainage system.

The collection of stormwater/ground water on a project could be discharged to the stormwater system if it meets certain criteria. This would involve an analysis of the quality of receiving waterways and the collected water within the project boundary. This analysis would need to be carried out by a NATA accredited laboratory and the results and final report supplied to Lend Lease Project Management & Construction.

The analysis would need to demonstrate that the collected water within the project boundary does not exceed the tested parameters and have no evidence of the following substances detected:

- nutrients, from fertilisers;
- herbicides and pesticides used in landscaping;
- acids from washing;
- building wastes and litter;
- paint and paint wastes; and
- oils, grease and fuel, from equipment operation and maintenance.

Note:

This initial analysis will be engaged by the Lend Lease Project Management & Construction site project team to an Environmental Consultant to prepare and interpreted the results for verification and acceptability before any pump-out work can commence.

An onsite treatment with discharge to stormwater system could be implemented providing that there is no chemical contamination (as listed above) and water quality during construction must comply with any specific requirements of the Local Planning Authority. In addition to the schedule of anolytes outlined below, the potential for

contamination of the retained waters should also be determined and if required, additional analysis performed to meet criteria.

- pH is between 8.5 and 6.5
- suspended solids is less than 50 mg/L,

> Note:
>
> This site treatment will be sub contracted to an appropriate contractor and the test results supplied to Lend Lease Project Management & Construction and filed in the site records for verification purposes.

Treatment options could include the use of a mobile specialist plant for this procedure and may prove more cost effective than a procedure of pumping out and/or on site storage of this water.

Ongoing water quality monitoring would be performed and the contractor engaged to do this work would provide a safe work method statement (SWMS) detailing the frequency of sampling and on site procedures to ensure discharge does not exceed the criteria.

Training

Communication and education material on the stormwater, erosion and sediment controls will be part of the Site Environmental Awareness Program that will be incorporated into the site induction program.

Performance Measures

- Control structures constructed and operational prior to earthworks commencing in the nominated area.
- All site cut-off drains unobstructed.
- All major site drains adequately stabilised.
- All controls maintained and functional.
- All stockpiled material adequately stabilised and protected.
- No de-watering stormwater/ground water discharge from the site in a 5 year ARI storm event have a suspended solid content of less than 50mg/L.
- Appropriate parameters for any contaminants of concern (if present) meet the relevant ANZECC (2000) criteria.
- No complaints concerning mud/organic debris on the surrounding public roads to the site.

Monitoring and Reporting

At least weekly, the Bulk Earthworks or Maintenance Subcontractor or nominated Stormwater/ Sediment Control contractors will inspect (and document) the site and, providing particular attention to the following matters:

- Perform daily visual inspection of stormwater diversions and sediment/ erosion control devices ensuring they are operating effectively and at full capacity.
- Maintain erosion and sediment control measures in a functioning condition until all earthwork activities are completed and the site is rehabilitated.

- Devise and implement appropriate remedial measures where any controls or devices are not functioning effectively or are inappropriate.
- Ensure rehabilitated lands have effectively reduced the erosion hazard and initiate upgrading or repair as appropriate.
- The SM will maintain records and comments on the condition of existing erosion and run-off controls (drains, silt fences, catch drains etc.) de-watering procedures and test results, and any site instruction issued to Subcontractors to undertake remedial works.
- Rainfall data will be filed on site by SM and discussed where reports of poor drainage areas occur.
- Water quality parameters meet relevant discharge limits for either re-use on-site or via a controlled discharge.
- All daily inspection reports, environmental incidents and controlled discharge records will be maintained and may be reviewed during any Environmental Audit performed on the site.

Corrective Actions

Non-conformances are to be recorded by way of the System Defects.

The Subcontractor (and EM/ CM/ SM if applicable) shall review and analyse the cause of detected non-conformance and develop a corrective action to prevent recurrence. Details of the non-conformance including any immediate corrective actions undertaken are to be recorded, reviewed and accepted by the CM.

It is the responsibility of the EM to immediately initiate corrective actions following approval. The non-conformance and corrective action must include details of the actions proposed, desired performance target and action close out date. The system defects report should be signed, dated and filed.

All corrective and preventative action taken by the Subcontractor will be carried out by the Subcontractor.

If such corrective and preventative action leads to further non-conformance, any further action shall be subject to approval by the CM in consultation with the EM.

Stormwater & Erosion Management Implementation Plan

Control	Timing	Methodology	Responsibility	Monitoring and Reporting	Performance Measure
Planning					
1 Prepare a Stormwater & Erosion Control Diagram outlining environmental safeguards.	2 Prior to works commencing	3 In accordance with the Stormwater & Erosion Management Plan.	4 CM/SM	5 Review of Diagram prior works commencing.	6 Diagram prepared & containing all relevant details.
7 Installation of Stormwater & Erosion environmental safeguards.	8 Prior to works commencing	9 In accordance with Stormwater & Erosion Management Plan & Civil Engineering consultant's documentation	10 CM/SM	11 Weekly inspection	12 Pre-construction check and daily there after.
Stormwater & Erosion Controls					
13 Silt stop filter fences to be located below disturbed areas and across all potential runoff sites.	14 Prior to works commencing	15 In accordance with the Stormwater & Erosion Management Plan and Civil Engineering consultant's documentation.	16 CM/SM	17 Daily visual inspection & Weekly documented inspection.	18 Pre-construction check. Silt collected at base of fence. No breach of fence line
19 Truck wheel wash/ shake facility to be installed near construction access.	20 Prior to construction commencing	21 Detailed work method statement to be prepared by sub-contractor.	22 CM/SM	23 Pre-construction check and daily /weekly maintenance inspections.	24 Pre-construction check. No mud/silt tracked onto roadways.

Control	Timing	Methodology	Responsibility	Monitoring and Reporting	Performance Measure
25 Stockpiles located away from watercourses, sensitive ecosystems or flood prone areas.	26 Prior to construc-tion comm.-encing	27 Contractor to perform in accordance with the Stormwater & Erosion Management Plan.	28 CM/SM	29 Pre-construction check and daily /weekly maintenance inspections.	30 Pre-construction check. No mud/silt migration into waterways, ecosystems or off-site.
31 Stockpiles left for > one month to be temporarily seeded using sterile crops.	32 1 month after stockpile place-ment	33 In accordance with the Stormwater & Erosion Management Plan.	34 SM/EM	35 Weekly monitoring.	36 No erosion from stockpiles.
37 Stormwater inlet sediment traps to be installed.	38 Prior to constructi on commen cing	39 In accordance with the Stormwater & Erosion Management Plan & Civil Engineering consultant's documentation	40 CM/SM	41 Weekly inspection	42 Sediment collected in traps.
43 All erosion controls to be maintained until potential for erosion and sedimentation passed.	44 At all times	45 In accordance with the Stormwater & Erosion Management Plan.	46 SM/ EM	47 Weekly inspection	48 Retaining all controls effective. No uncontrolled discharges of sediment off-site or into waterways
Stormwater & Runoff					
49 Site facilities to be of aggregate material.	50 Prior to construc-tion comm.-encing	51 In accordance with the Stormwater & Erosion Management Plan.	52 CM/SM	53 Pre-construction inspection	54 No sedimentation from site facilities.

Control	Timing	Methodology	Responsibility	Monitoring and Reporting	Performance Measure
55 Collected stormwater to meet reuse onsite or discharge requirements.	56 Ongoing	57 In accordance with the Stormwater & Erosion Management Plan and WMS to be prepared by sub-contractor.	58 EM	59 Daily inspection and NATA test results.	60 No discharge to exceed controlling Authority criteria.
61 Install sediment control devices upstream of existing stormwater pits.	62 Prior to construc-tion	63 In accordance with the Stormwater & Erosion Management Plan and Civil Engineering consultant's documentation .	64 CM/ SM	65 Monitor for siltation and sedimentation at downstream locations.	66 Effective sediment traps.
67 Stormwater pipes and pits should be well maintained and kept clear of debris and sediment.	68 Ongoing	69 In accordance with the SEMP.	70 SM/ EM	71 Daily/weekly inspection	72 Free flowing pipes capable of discharging maximum flows. Monitor for potential blockages.
Sediment Retention					
73 If required a Sedimentation basin size and construction to meet requirements of the publication mentioned in the Key legislation under key management issues.	74 Prior to construc-tion	75 In accordance with the publication mentioned in the Key legislation under key management issues	76 CM	77 Daily/weekly inspection	78 Effective basin that is easily cleaned and maintained. Monitor for sediment build-up and litter collection.

Control	Timing	Methodology	Responsibility	Monitoring and Reporting	Performance Measure
79 Within 24hrs of a 1in 5 year ARI storm event, inspect the sediment/detention basin and stormwater treatment devices and remove any build-up of debris.	80 As required by storm events	81 In accordance with the Stormwater & Erosion Management Plan.	82 EM	83 Daily/weekly inspection	84 Basin clear of storm debris
Rehabilitation					
85 Stabilisation works & landscaping of batters, open drain etc will be given high priority to ensure that bare ground is rehabilitated.	86 As required	87 In accordance with the Stormwater & Erosion Management Plan & Landscape scope of works	88 CM/ SM/ EM	89 Daily/weekly inspection Project planning and design meetings.	90 Appropriate stabilisation of works.

Legend

CM = Lend Lease Construction Manager
SM = Lend Lease Site Manager
EM = Environmental Manager

13.0 CONSTRUCTION NOISE & VIBRATION MANAGEMENT PLAN

Cross-references

The following Construction Noise & Vibration Management Plan is in accordance and to be read in conjunction with the Noise and Vibration Report prepared by Renzo Tonin & Associates included with the SSDA5 planning submission.

Objectives

To minimise the generation of noise and vibration from construction activities occurring on site and its impact on site operations and workers.

To minimise the generation of noise and vibration from construction activities occurring on site and its impact on the neighbouring residents, businesses and associated building structures.

Establish and maintain good relations with community and neighbouring sites.

Key Management Issues

Noise generated during the demolition and construction works, will be primarily associated with vehicle movements, generators, heavy machinery (eg: Excavators) and hand-held machinery and tools. Some additional vehicle noise may be generated by the thoroughfare of vehicles using transport corridors to and from the site.

As no blasting is proposed all the works will be conducted within the hours detailed by the condition of consent, potential noise impacts are predicted to be negligible and expected to pose a minor impact (if any) to the nearest residences to the west and north of the site. In view of this, the following management issues have been identified:

- Noise and vibration generated during construction and demolition works affecting nearby properties (Environmental Class P2 Risk).
- Vibration generated during construction and demolition works affecting site structures, including western distributor and light rail (Environmental Class P1 Risk).
- Establish and maintain good relations with community and neighbouring sites.

Site Actions – Noise

All construction and demolition activities have been planned to be performed in accordance with the proposed hours as outlined below:

- 7:00am to 7:00pm on Mondays to Fridays, inclusive;
- 8:00am to 5:00pm on Saturdays; and
- No work on Sundays or public holidays.

Any noisy activities proposed outside the hours detailed above will require prior written consent from the nominated approval authority and subject to conditions of consent.

Noise limits during the demolition and construction works are to meet the Maximum Allowable Noise Contribution as specified in the conditions of consent.

No construction works shall commence unless the Subcontractor has submitted a Work Method Statement which details the schedule of demolition / excavation equipment which describes the equipment types to be used, noise

levels these will generate, expected time and duration of use, and any measures required to ensure the noise levels are acceptable (such as screen mufflers).

The Major Subcontractors generating noise should consider engaging an acoustic consultant to monitor construction noise level during its identified noisy activities.

Ensure traffic access to and from the site will be via designated entry/exit points.

Fit and maintain appropriate mufflers on construction and earth-moving equipment as required.

Lend Lease Project Management & Construction will utilise existing Noise Impact Assessment data, where required, to determine noise sources and confirm ambient background levels or will conducting baseline noise monitoring prior to construction work commencing and may engage an acoustic consultant to monitor construction noise level during its activities.

Personnel safety measures shall be implemented wherever noise exceeds 85dB(A).

All typical plant and equipment used during the construction and demolition works will be within the maximum noise levels specified (at 7 metres) refer to Table 8.1.

TABLE 8.1: TYPICAL NOISE LEVELS

ITEM	TYPICAL PLANT OR EQUIPMENT	MAX NOISE LEVEL (at 7 metres)
Excavator	30T Hammer	97
Excavator	30T General Works	86
Front End Loader	Wheeled	90
Jack Hammers	With silencing bags	85
Air Track Drill	800 CFM Compressor	96
Piling	Rig for Bored Piles	93
Load/unload	Backhoe/Bobcat	88
Grader	Caterpillar 16	85
Compactor	Caterpillar 825	85
Compactor	Vibrating Plate	92
Vibratory Roller	10-12 Tonne	89
Water Cart	15T Truck/Sweeper	88
Truck and Dog	35 Tonne	96
Excavator	20T General Works	83
Rock Breaker	Hydraulic on Excavator	98
Truck	15-20T Flat tops	80

Crane	Truck Mounted	85
Compressor	600 CFM	75
Compressor	1500 CFM	80
Generator	Diesel	79
Spreader	Asphalt, concrete	70
Asphalt Truck	15T General	92
Asphalt Paver	15T General	89
Tip Truck	15T General	83
Tower Cranes	Diesel	98
Spraying Machine	15T General	75
Mechanical Broom	Various sizes	83
Forklift	2.5T – 16T	92
Concrete truck	Mobile	83
Concrete Pump	Static	84
Concrete Vibrators	Flexible	80
Drill	Air	85
Drill	Pneumatic	85
Welders	Mobile	85
Concrete Saw	Mobile	93
Concrete Leveller	Mobile	90
Cherry Picker	On Truck	80

Site Actions - Vibration

When planning for construction work, that will include vibration, all practical efforts to protect vibration sensitive buildings and the amenity of the occupiers of buildings shall be considered and apply a practical and economical combination of vibration control measures 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.

During leisure hours, vibration disturbance from construction operation must be kept to a minimum. The basis for this vibration management strategy will be to limit the times that certain vibration producing activities may be carried out. Generally, this will be accomplished by performing such work during weekdays, when the majority of residents are either not present or engaged in less vibration sensitive activities.

No construction or demolition works is permitted within a nominated vicinity of any heritage listed items or features of cultural significance. Any activities, potentially resulting in vibrations will be planned to avoid disturbance of these protected items, in particular feature monuments located on the site.

No blasting will be performed as part of the proposed construction works program.

All activities involving vibrating rollers will be performed in accordance with the safe working distances to buildings and structures as outlined in Table 8.2.

TABLE 8.2 GUIDELINES FOR RESTRICTION

Roller Class & Weight Range	Centrifugal Force Range	Example of Rollers	Distance from Building A	B	Remarks
Very Light Less than 1.25 tonnes	10-20kN	Coates 32RD tandem Davleco 32CR tandem	3m	--	Maintenance and patching rollers. Generally not restricted for normal
Light 1 to 2 tonnes	20-50kN	Coates 42RD tandem Pannell 54T drawn	5m	--	Generally not restricted for normal road use.
Medium 2 to 4 tonnes	50-100kN	Coates 66Tdrawn Davleco 66 drawn	6m	12m	
Medium-Heavy 4 to 6 tonnes	100-200kN	Coates 72Tdrawn Davleco 72 drawn Pacific V12 drawn Raypo Rascal 400	12m	24m	Not advised for city and suburban streets.
Heavy 7 to 11 tonnes	200-300kN	Coates 78Tdrawn Pacific V24D drawn Raypo Rascal 600	25m	50m	Restricted. Not advised built-up areas.
Very Heavy 12 tonnes and over	Over 300kN	Coates 96Tdrawn Pacific V36D drawn	25m	50m	Restricted to major construction areas away from structures and buildings.

A – to prevent damage to buildings

B- Values suggested to keep claims and complaints to an acceptably low level. For complaints to be stopped completely in residential areas, these values may need to be increased still further.

Training

Communication and education material on the noise and vibration controls and procedures will be part of the Site Environmental Awareness Program that will be incorporated into the site induction program.

Performance Measures

- Non exceednce of specified noise limits during monitoring event.
- No noise or vibration complaints received from adjoining operations or from the community.
- The maximum noise level (LA max), when measured at a distance of 7 metres from any item of plant or equipment and must not exceed the maximum noise level.
- Assessment of performance by number of complaints received from adjoining operations or from statutory Authorities.
- No warnings/notices received from statutory authorities for exceeding noise levels or work outside the approved work hours as set out in the conditions of consent.

Monitoring and Reporting

All subcontractors shall submit noise monitoring compliance certificate or monitoring results for all major plant and equipment on the project within one month of use on site demonstrating conformance with any operational licence.

Routine inspections of plant and equipment should include reference to acoustic performance. Subcontractors to provide details of acoustic performance of plant and equipment on site as part of these inspections. Any noise complaints or feedback from adjoining properties or from the operational facility on site are to be recorded, reported and monitored.

The SM may require the Subcontractor to carry out additional noise monitoring if a complaint regarding construction noise is received.

The SM in consultation with the EM will advise the monitoring location and the monitoring required will be manned monitoring.

Corrective Actions

Non-conformances are to be recorded by way of the System Defects.

The Subcontractor (and EM/ CM/ SM if applicable) shall review and analyse the cause of detected non-conformance and develop a corrective action to prevent recurrence. Details of the non-conformance including any immediate corrective actions undertaken are to be recorded, reviewed and accepted by the CM.

It is the responsibility of the EM to immediately initiate corrective actions following approval. The non-conformance and corrective action must include details of the action proposed, desired performance target and action close out date. The system defects report should be signed, dated and filed.

All corrective and preventative action taken by the Subcontractor will be carried out by and at the cost of the Subcontractor.

If such corrective and preventative action leads to further non-conformance, any further action shall be subject to approval by the CM in consultation with the EM.

Noise & Vibration Management Implementation Plan

Control	Timing	Methodology	Responsibility	Monitoring and Reporting	Performance Measure
Planning					
1 Prepare a Specific Noise and vibration report for construction.	2 Prior to works commenc-ing. Review prior following works stages.	3 Base provisions on construction Equipment and staging.	4 CM	5 Review of base provisions prior works commencing.	6 Report covers all key areas and site-specific consideration, which will include detailing the locations and type of equipment .
Working Hours					
7 No work shall occur outside permitted working hours, unless approved.	8 At all times	9 Hours and times as specified in conditions of consent.	10 CM	11 Continuous	12 No complaints from public or authorities.
13 Construction noise not to be exceeded next to neighbouring and residential premises.	14 At all times	15 Hours and acceptable noise levels as specified in conditions of consent.	16 CM	17 Continuous	18 No complaints from public or authorities.
19 Adjoining properties likely to be affected by noise to be notified.	20 Reasonable notice prior to works.	21 Provide written notice to residences as soon as practicable.	22 CM	23 Continuous	24 No complaints from public or authorities. Record of notifications.

Control	Timing	Methodology	Responsibility	Monitoring and Reporting	Performance Measure
Plant & Equipment					
25 Plant & Equipment Register kept detailing approved equipment, noise compliance certificates and relevant restrictions/ conditions of use	26 Prior construc-tion	27 Sub-contractor to submit Plant & Equipment Register.	28 SM	29 Included in sub-contractors work method statements. Sub-contractor audit	30 Records maintained.
31 Plant & Equipment to be operated in a proper and efficient manner.	32 At all times	33 Subcontrac-tor to submit SWMS prior to works.	34 SM	35 Continuous inspection of operators and activities.	36 All operators are licensed. No inappropriate use of plant or equipment.
37 Ensure traffic access is through designated entry/ exit points	38 Ongoing	39 Traffic Manage-ment Plan.	40 CM/SM	41 Continuous monitoring	No complaints from public or authorities.
42 Demolition to be conducted in accordance with AS 2601:1991	43 Prior to engage-ment	44 Detailed in subcontract or SWMS. Approved licensed contractor used	45 CM/ SM	46 At tender review.	47 Registration cited. SWMS provided.
Mitigation Measures					
48 Plant to be fitted with engine covers and residential class mufflers.	49 Prior construc-tion	50 Included into sub-contractors tenders.	51 SM	52 Pre-construction inspection. Included in routine environment Audit.	53 Compliance certificates provided. No complaints

Control	Timing	Methodology	Responsibility	Monitoring and Reporting	Performance Measure
54 PPE including ear muffs and plugs to be issued and worn where noise exceeds 85dB(A)	55 At all times	56 In accordance with the Noise & Vibration Management Plan	57 SM	58 Pre-construction inspection. Continuous inspection.	59 Register of use. Personnel using PPE.

Legend

CM = Lend Lease Construction Manager
SM = Lend Lease Site Manager
EM = Environmental Manager

14.0 AIR QUALITY MANAGEMENT PLAN

Objectives

Dust/Odours generating from construction activities from the site affecting adjoining properties or public access (Environmental Class P2 Risk).

Construction and demolition must not prejudice air quality.

Maintain the current levels of local air quality during construction activities.

To minimise the generation of dust on the project site.

To implement appropriate controls to suppress dust and other suspended particulates in accordance with the consent conditions and risk management requirements.

To minimise all potential odour issues relating to contaminated soil or groundwater.

Key Management Issues

Major sources of air emissions from the proposed demolition and construction works at the site are primarily associated with traffic movements, minor excavation /stockpiling and handling of soils on site and the demolition of some existing buildings and structures. In addition, the likely presence of existing soils/groundwater on the site may give rise to potential odour emissions as a result of minor excavation or soil disturbance.

The generation of dust, air emissions or odours from the site can be a major nuisance to adjacent land users, create unsafe working conditions on site and result in environmental degradation via the loss of topsoil and placement of dust onto sensitive ecosystems and adjacent water bodies. In view of this, the following management issues have been identified:

- Dust/Odours generating from construction activities from the site affecting adjoining properties or public access (Environmental Class P2 Risk).
- Dust generated on the construction site affecting site operations (Environmental Class P2 to P1 Risk).
- Odours emitted from any disturbed soils/ groundwater affecting site workers or site personnel (Environmental Class P2 Risk).

Site Controls

The minimisation of air-borne pollution is a key component for this environment management plan for the site. Construction and demolition phase air quality impacts shall be minimised or avoided by incorporation of appropriate air quality control measures.

Air Quality Monitoring Equipment Diagram will be prepared prior to site activity, detailing the locations and type of equipment e.g. dust gauges or dust loggers to be installed and monitored.

The installation and application of air quality controls during the construction phase shall be in accordance with the following principles:

Planning

- Ensure that all equipment used and all facilities erected on site are designed and operated to control the emission of smoke, dust, fumes and any other air impurity into the atmosphere.

- Spray earthworks, roads and other surfaces as necessary with water.
- Seal temporary haul roads where appropriate which will be in use for prolonged periods.

Construction & Demolition Phase

- Schedule the civil works program in a manner to minimise the length of time that excavations and stockpiles are left exposed.
- Provide adequate truck wash-down and wheel washing facilities on site to preventing tracking of muds/ sediment onto public roadways and generating dust.
- Transport routes and traffic areas shall be clearly defined by marker posts or other suitable barriers to prevent unnecessary vehicle movement onto other areas. These roads shall operate under defined speed limits.
- A water cart will be employed as required to dampen work areas and exposed soils to prevent the emission of excessive dust from the site.
- Trucks transporting material from the site shall be covered immediately after loading to prevent windblown dust emissions and spillages. The covering must be maintained until immediately before unloading the trucks.
- All access roads shall be surfaced in selected materials and where required, hard surfaced. Mud stone, clay stone and shale stone shall not be used.
- Subcontractors will maintain all construction equipment to ensure exhaust emissions comply with the relevant Air Regulations issued under State Legislation.
- All waste material will be removed from the site in a manner described in the Waste Management Plan.
- No cleared vegetation, demolition materials and other waste material shall not be burnt on the site.
- No excavation or similar works involving disturbance of large volumes of soil will be permitted during extremely windy conditions.
- Progressively revegetate and landscape disturbed areas to minimise long durations of soils exposed to weathering. Seed stockpiles with local grasses.
- Development and implementation of an Asbestos (& Hazardous Building Materials) Management Plan as part of the demolition phases.

Training

Communication and education material on the air quality and dust controls and procedures will be part of the Site Environmental Awareness Program that will be incorporated into the site induction program.

Performance Measurements

- Achieve air quality monitoring targets.
- No visible dust for more than 15 continuous minutes during construction activities.
- No odour or dust complaints received from adjoining operations, nearby residents or from statutory Authorities.

Monitoring and Reporting

The SM will perform air quality monitoring to determine of the acceptable air quality thresholds are being met for each of the nominated monitoring parameters. This information will be used to determine the effectives of existing air quality mitigation measures and provide for any remedial actions if required.

The Site Manager will visually monitor levels of dust deposition and air quality, the effectiveness of dust emission controls and the construction site and the impacts of any nuisance on adjoining properties.

The SM may require the Subcontractor to carry out additional Air monitoring if a complaint regarding Air Quality is received.

The SM in consultation with the EM will advise the monitoring location and the monitoring required will be manned monitoring.

Corrective Actions

Non-conformances are to be recorded by way of the System Defects.

The Subcontractor (and EM/ CM/ SM if applicable) shall review and analyse the cause of detected non-conformance and develop a corrective action to prevent recurrence. Details of the non-conformance including any immediate corrective actions undertaken are to be recorded, reviewed and accepted by the CM.

It is the responsibility of the CM to immediately initiate corrective actions following approval. The non-conformance and corrective action must include details of the actions proposed, desired performance target and action close out date. The system defects report should be signed, dated and filed.

All corrective and preventative action taken by the Subcontractor will be carried out by and at the cost of the Subcontractor.

If such corrective and preventative action leads to further non-conformance, any further action shall be subject to approval by the CM in consultation with the EM.

Air Quality Management Implementation Plan

Control	Timing	Methodology	Responsibility	Monitoring and Reporting	Performance Measure
Planning					
1 Prepare an Air Quality Management Plan, Detailing the controls to be implemented.	2 Prior to works commenc-ing. Review prior to work stages.	3 Base provisions on approved require-ments by nominated consultant.	4 CM	5 Review of plan prior works commencing.	6 Plan covers all key areas and site specific considerations to maintain and document controls.
7 Design, implement and maintain Air Quality Monitoring Program and Plan.	8 Prior to works commenc-ing	9 Based on Air Quality Manage-ment Plan and to be prepared by Environ-mental Consultant.	10 CM	11 Air Quality Monitoring Program/Plan to detail key parameters, methodology and guidance levels. Monitoring Plan to show monitoring locations.	12 Not to exceed target values for each parameter. Scheduled air monitoring performed correctly.
13 Areas to be disturbed will be limited in order to minimise surface with potential to generate dust.	14 Prior to works commenc-ing.	15 In accordanc e with Air Quality Manage-ment Plan.	16 SM	17 Weekly inspection or as required.	18 No visible dust. Acceptable dust monitoring levels.
Dust Controls					
19 Exposed surfaces and stockpiles to be kept moist by spraying with water or dust suppressant	Daily or as necessary when dry and windy weather conditions prevail.	20 In accordanc e with the Air Quality Manage-ment Plan.	21 SM	22 Daily inspection and monitor activities for dust generation.	23 No visible dust. No reported dust monitoring exceedances.

Control	Timing	Methodology	Responsibility	Monitoring and Reporting	Performance Measure
24 Exposed surfaces and stockpiles left for longer than 4 week to be stabilised by sealing, seeding or spraying with water or dust suppressant.	25 Four weeks from completion of activity	26 In accordance with the Air Quality Management Plan	27 SM	28 Daily inspection and monitor moisture content of exposed areas.	29 No visible dust. No reported dust monitoring exceedances.
30 Avoid soil disturbance works during periods of high wind or other extreme weather conditions.	31 At all times.	32 In accordance with Air Quality Management Plan.	33 SM	34 Monitoring of predicted meteorological conditions.	35 No works performed during high wind or rainfall events.
36 Immediate stabilisation works & landscaping batters of disturbed grounds undergoing rehabilitation.	37 As required	38 In accord-ance with the SEMP & landscap-ing works	39 CM/ SM	40 Daily/weekly inspection Project planning and design meetings.	41 Appropriate stabilisation of works. No areas left exposed for prolonged periods.
42 Truck wheel wash/shaker facility to be installed near access gate	43 Prior to construc-tion commenc-ing	44 Detailed work method statement to be prepared by sub-contractor 45	46 CM	47 Pre-construction inspection.	48 No dust generated by traffic on leaving site
49 Maintain clean traffic routes and 10km/hr speed limit within site and at site entrance/exist.	50 Ongoing	51 Appoint street sweeper and water kart.	52 SM	53 Weekly inspection of exterior roadways or immediately after rainfall events.	54 No complaints from public or authorities. No dust from exterior roads. No speeding vehicles.

Control	Timing	Methodology	Responsibility	Monitoring and Reporting	Performance Measure
55 All site internal roads to be sealed or constructed from gravel or non-dust generating materials.	56 Prior to construc-tion	57 In accordanc e with the Air Quality Manageme nt Plan	58 SM	59 Pre-construction inspection.	60 No breakdown of surface material. No loose material.
61 Trucks transporting loose material to and from the site to be covered.	62 At all times	63 In accordanc e with the Air Quality Manageme nt Plan.	64 SM	65 To be put into tenders for sub-contractors. Compulsory inspection at gate prior to entrance/exit to site.	66 No visible loose material from trucks. No community complaints.
Dust Quality Controls					
67 Minimise potentially contaminated dusts being generated from any contaminated site soils.	68 At all times	69 In accord-ance with Air Quality Manageme nt Plan.	70 SM	71 Dust Monitoring Plan to include parameters when contaminated soils encountered or disturbed.	72 No contaminants detected in dust monitoring samples.
Vapour & Emission Controls					
73 No vapours within work areas.	74 At all times	75 In accordanc e with Air Quality Manage-ment Plan.	76 CM/SM	77 Intensive air vapour monitoring (and personal air monitoring if required) during and after works by consultant.	78 No elevated vapours detected during works. No works performed whilst elevated vapours are detected in work areas.

Control	Timing	Methodology	Responsibility	Monitoring and Reporting	Performance Measure
79 Combustible waste material shall not be burnt on site	80 At all times	81 Covered in site induction.	82 SM	83 Continuous monitoring. To be put into tenders for sub-contractors.	84 No fires or incineration on site from construction works.
85 Plant and equipment to be fitted with standard pollution/noise control devices as a minimum.	86 Prior to construc-tion commen-cing	87 In accordanc e with the Air Quality Manageme nt Plan	88 SM	89 Routine inspection. To be put into tenders for sub-contractors.	90 Copies of compliance certificates to be supplied. No complaints from site or land users.

Legend

CM = Lend Lease Construction Manager
SM = Lend Lease Site Manager
EM = Environmental Manager

15.0 TRAFFIC & PARKING MANAGEMENT PLAN

Cross-references

Also refer to Section "8.0 Construction Planning and Methodology" and "9.0 Project Site Establishment" for specific details on our traffic management plan.

Construction Impact and Traffic Management for the SWP will be done in accordance the Transport & Traffic Impact Assessment Report prepared by Hyder Consulting included with the SSDA5 planning submission.

Objectives

To minimise any potential conflict associated with demolition and construction site traffic and nominated traffic routes over the duration of the proposed works and to prevent injury to persons from moving plant onsite.

Powered mobile plant is extremely hazardous when it is operated in situations where people or other vehicles are sharing the same area. Workers are particularly vulnerable in areas where mobile plant and machinery is operated and the operator's vision may be restricted and plant, which is apparently idle, may move with little warning.

To minimise any adverse environmental impacts related to fauna, flora, air emissions, water quality and soil contamination.
Maintain ecological integrity and surrounding resident's amenity.

Key Management Issues

The Construction Traffic Management Plan will nominate and set out access points, heavy vehicle routes to external roads, and controlled circulation within the site to reduce traffic congestion or vehicle conflict.

The location of the site and careful vehicle management will ensure that conflicts between construction and other operational facilities and community activities in the area, will be controlled.

Construction traffic is subject to constraints imposed by site conditions and public traffic movements.

The primary issues that affect the construction phases include:

- construction and demolition areas with site access and egress;
- interaction with existing operational facilities around the site;
- the controls of roadways;
- the timing and extent of material deliveries;
- traffic conflicts with both existing vehicles and other construction traffic;
- traffic congestion and conflicts on external roads; and
- signage and directions.

Use of specific measures to eliminate or control risks in work areas will be:

- Isolating vehicles and plant used in or around the site and work area from persons on the site or work area. This is to be co-ordinated daily with site foreman and subcontractors.
- Maintain a controlled permit system for vehicles at access gates.
- Use of fencing, barriers, temporary warning or control signs to secure the area where moving plant is used.
- Planning the direction that plant moves so the visibility of operators is not restricted.

- Using spotters to control traffic movement.
- Implementing safe working distances and exclusion zones.
- Reversing alarms on plant and flashing lights.
- Designated walkways to be established and maintained for areas where workers and plant interact.
- Establish notifications of public transport systems and local parking stations to site workers.

Vehicle Access

Access to the site is to be detailed in the Construction Traffic Plan and diagrams, taking into account the staging of construction and demolition works over the duration of the works, by establishing:

- Main Access Gates, with Controllers, signage and a controlled vehicle permit system in place. General entry for all vehicles and delivery's will be from Darling Drive at the western boundary of the project.
- All vehicles enter through advised gates in an forward direction speed limit 10 kmh
- Those directed onto site, will be located in nominated marked layover spaces and wait for unloading or loading.
- Deliveries will directed out of the way of other moving vehicles and wait instructions for delivery.
- If reversing is necessary the vehicle will be directed by a suitably trained person who will give direction and keep other persons from entering the area.
- After delivery, vehicles will leave site through gates, whenever possible, in a forward direction.
- General entry requirements to be included in the Site Induction with all regular vehicle delivery companies.
- General site access and egress and these routes and points clearly signposted
- restricted points of access during the construction and demolition phase.
- Maintain specific access corridors for each construction stage
- Reduce opportunities for vehicle –borne transfer of sediments off-site.

There will be no construction parking provided on site. Use of current public transport types shall be informed to all site personnel through tender interviews and site inductions.

Vehicle Site Entry

Entry gates onto the construction work will be manned to ensure that all vehicles comply with procedures and controls in place for entry and exit from the various gates located around the site. Personnel access and egress shall be through security controlled ID swipe card gates located to the eastern side of the site.

General requirements for all plant and vehicles while on site will be

- All vehicles entering the site will be maintained in a safe and serviceable condition (ie road registered or complying with Lend Lease Project Management & Construction plant requirements ie qualified person sign off and daily inspection). Operators of plant (including all moving plant ie EWP's) will hold appropriate WorkCover certificate of competency or where this is not required be appropriately trained, instructed and supervised into its safe operations.
- Prior to moving a vehicle on site the Supervisor responsible will assess (ie walk) the path of access to ensure it is suitable for entry of that vehicle.
- Those drivers delivering onsite will remain in their vehicle under the instruction of the Supervisor/Subcontractor unless brought in as an inducted person or visitor with the inducted subcontractor. Operators and drivers of plant are to be aware of anyone in the work area.

- All vehicles moving on site will move in a forward direction, if reversing a trained person with full view and knowledge of surrounding activity will guide the vehicle at all times. All plant is required to have a reversing beeper and a flashing light on top of vehicle.
- Repairs on machines need to be carried out by competent person. All mechanics working out on site with machines need to be inducted or sign visitors' book and be with inducted worker.
- All subcontractors moving vehicles on site will provide to Lend Lease Project Management & Construction a copy of their Vehicle Movement Plan (VMP) for review prior to locating on site. Examples will be:
    a. Concrete Deliveries. Prior to commencing, an induction shall be held at the nominated plant `s yard to deliver drivers with routes and gate locations. When ordering concrete, a gate location to enter site can be given and operators/drivers have upfront knowledge of location allowing traffic movement in and out of site. Concrete pours will have traffic controllers for location of trucks to pumps and associated area clearly defined with signage and barriers.
    b. Mobile Cranes. Prior to commencing, an induction shall be held at the nominated crane yard to deliver drivers with routes and gate locations. When ordering cranes, a gate location to enter site can be given and operators/drivers have upfront knowledge of location allowing traffic movement in and out of the site. Mobile Cranes will have exclusion zones for setup and documents for each crane is kept in Lend Lease Project Management & Construction site office, filed in EHS filing system. Area Foreman will review daily inspection prior to commencing on site.
- If a subcontractor requires bringing an item of plant on an irregular basis the Subcontractor in charge are required to complete a "Supply of Plant Permit", which has access rules and diagrams attached and return to Lend Lease Project Management & Construction the day before of plant arriving on site. The permit requires the attachment of the SWMS, Inductions and Plant and Equipment Inspection Report. All subcontractors are responsible to ensure those they bring on site meet all Lend Lease Project Management & Construction requirements for site entry.
- A review of the risk assessment and control measures associated with vehicle movement will be undertaken as a part of the subcontractor's weekly inspection (or more frequent were required) and where necessary the control measures will be upgraded. Weekly safety walk is to inspect all number gates for signage etc.
- Construction Site entry requirements to be included in the Company Specific Induction.

Signage

The CM will be responsible for providing the signage on site regarding traffic management and the updating and maintenance of the signs as required.

On-site signage, speed limits and speed reducers will be used to ensure drivers use appropriate routes through the site and to and from the site access points.

Training

All site personnel will be inducted into the construction traffic management system that will be operating for the site during the site induction and education program.

An ongoing site education update on changes to any traffic operations shall be reviewed and notified through meetings, correspondence and site notice boards.

Performance Measures

- Access provided prior to works commencing;
- Provision and maintenance of fencing and gates;
- No complaints received from adjoining operations, statutory authorities or local road users;
- Accurate recording and prompt resolution of public complaints (if any); and
- Regular checks of vehicle access and egress points for efficiency.

Monitoring and Reporting

The CM will report when required on the implementation of the Traffic & Parking Plan.

The plan will be periodically updated to include but not be limited to: -

- Access points in use and regular checking of access corridors and designated layover areas for congestion;
- location of access points;
- Variations to traffic management plans to suit various staging works around the site;
- identification of any safety or operational incidents and actions taken to address the conditions that caused the incidents;
- Monitoring complaints and corrective actions;
- Accurate recording and prompt resolution of public complaints; and
- Appropriate signage to internal and external roads and maintained to comply.

Corrective Actions

Non-conformances are to be recorded by way of the System Defects.
The Subcontractor (and EM/ CM/ SM if applicable) shall review and analyse the cause of detected non-conformance and develop a corrective action to prevent recurrence. Details of the non-conformance including any immediate corrective actions undertaken are to be recorded, reviewed and accepted by the CM.
It is the responsibility of the CM to immediately initiate corrective actions following approval. The non-conformance and corrective action must include details of the action proposed, desired performance target and action close out date. The system defects report should be signed, dated and filed.
All corrective and preventative action taken by the Subcontractor will be carried out by and at the cost of the Subcontractor.
If such corrective and preventative action leads to further non-conformance, any further action shall be subject to approval by the CM in consultation with the EM.

Traffic & Parking Management Implementation Plan

Control	Timing	Methodology	Responsibility	Monitoring and Reporting	Performance Measure
Planning					
1 Development of a Construction Traffic Circulation Diagram.	2 Prior to works commen-cing.	3 In accordance with the Traffic & Parking Management Plan and Transport and Traffic Impact Assessment.	4 CM	5 Pre-construction inspection.	6 Diagram covers all key areas of traffic circulation internal and external. It must clearly show traffic circulation routes, loading/ unloading areas and gates.
Construction & Demolition Operations					
7 Only site personnel and authorised visitors shall be permitted to enter the work areas.	8 At all times	9 In accordance with the Traffic & Parking Management Plan	10 CM	11 Monitor for unauthorised access.	12 No unauthorised access, parking or deliveries.
Material deliveries to be scheduled to minimise disruption to site operations and the local community.	13 Any times	14 In accordance with the Traffic & Parking Management Plan	15 CM	16 Ensure deliveries arrive at scheduled times.	17 No complaints received. No deliveries outside specified working hours.
18 All construction traffic for internal works shall access the site via the main site access points	19 At all times	20 In accordance with the Traffic & Parking Management Plan	21 CM	22 Monitor unauthorised access.	23 No unauthorised access.

Control	Timing	Methodology	Responsibility	Monitoring and Reporting	Performance Measure
Planning					
24 Truck movements to be restricted to specified routes.	25 At all times	26 In accordance with the Traffic & Parking Mgt Plan To be included in sub-contractor tenders.	27 CM	28 Specified routes detailed during site induction. Routes shown on traffic circulation map in TPMP.	29 No complaints from residents, regulatory authorities or site operations.
30 Delivery areas to be clearly marked.	31 Prior to commen-cing and on going.	32 In accordance with the TPMP.	33 CM	34 Monitoring designated areas for compliance.	35 No Deliveries within unauthorised areas. Site Gates clearly signposted.
36 Speed limit of 10km/h shall be adhered to at all times.	37 At all times	38 In accordance with the TPMP.	39 CM/ All personnel.	40 Monitor compliance.	41 No complaints from residents, regulatory authorities or site operations.
42 Vehicles departing the site shall be not release mud, dust or other matter onto public roadways.	43 At all times.	44 Wheel wash and shaking racks to remove mud. All loads covered by contractor.	45 EM	46 Monitor compliance.	47 No complaints from residents, regulatory authorities or site operations.

Legend

CM = Lend Lease Construction Manager
SM = Lend Lease Site Manager
EM = Environmental Manager

16.0 COMPLAINTS MANAGEMENT PLAN

The purpose of this section of the plan is to detail the communication protocols and procedures to be employed across all phases of the project. Lend Lease will work in collaboration with Infrastructure NSW to develop joint protocols for all consultation and engagement, ensuring that from Day One there is a consistent, coordinated and proactive approach to the management of complaints.

The proposed approaches and frameworks outlined in this section aim to assist in the early identification of both existing and emerging issues and the development of appropriate and agreed responses. It also provides clear background and direction for the management of stakeholders and the community over the three phases of the project. It is intended that these protocols will form the foundation for planning all activities that require stakeholder or community consultation, engagement or issue management.

It is anticipated that these projects protocols will evolve and be reviewed and agreed collaboratively by Infrastructure NSW and Darling Harbour Live.

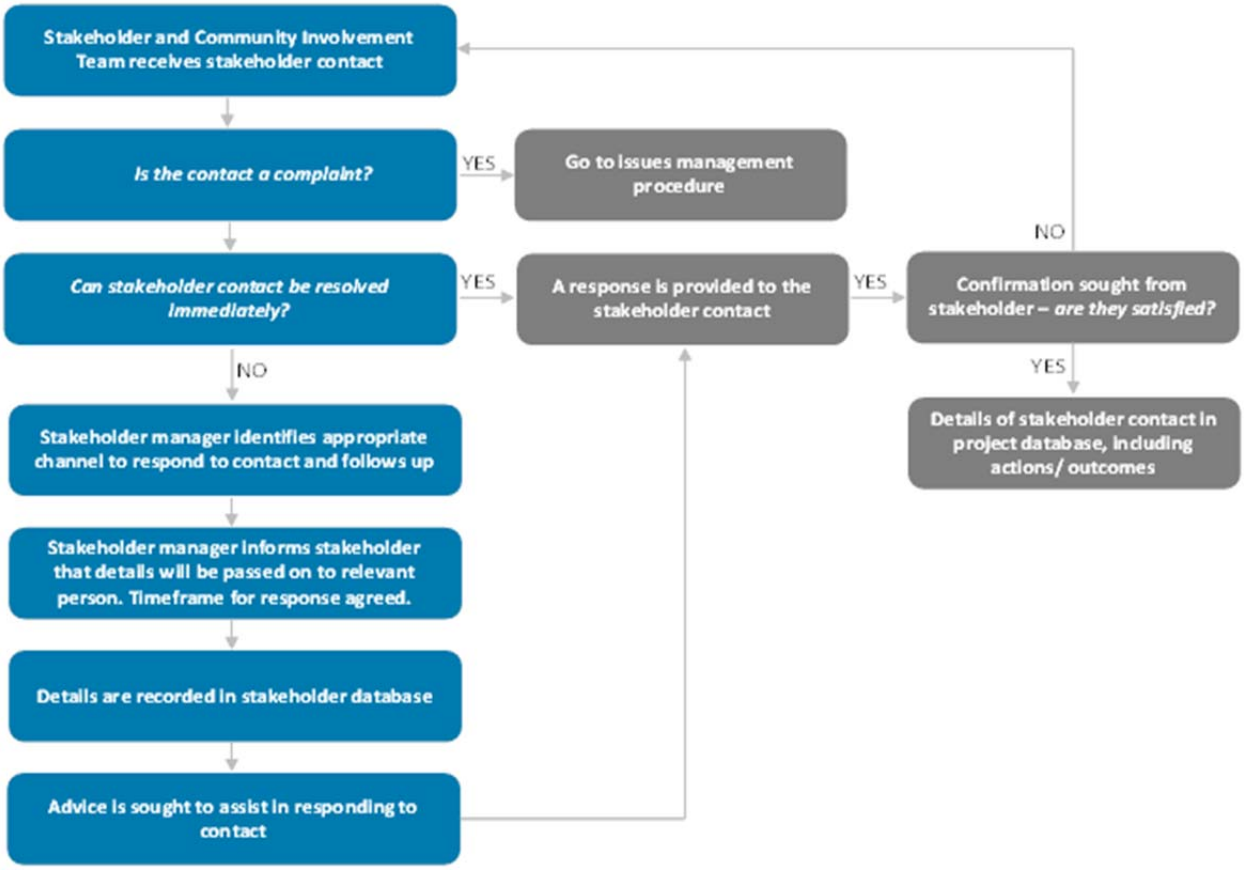
Complaints will be recorded on the community consultation database. The record will be filed and actioned and distributed as necessary to those involved in the contact. A stakeholder and community contact database will be maintained to track contacts and records.

The following information will be captured on the stakeholder and community contact database:

- Persons full name and contact details;
- Date and time of enquiry /complaint;
- Description of issues raised by the stakeholder;
- Nature of the contact (i.e. conciliatory, conflicted, hostile);
- Action required and timing, particularly if any commitments have been made around timeframes;
- Person responsible for the action.

The following figure represents the stakeholder contact procedure, and incorporates the communications infrastructure described above. It details the system to be followed when receiving a contact from an external stakeholder.

It is anticipated that these contacts will generally relate to individual residents or community groups, however there may be occurrences when they relate to other stakeholders or organisations



An issues (or complaint) can be defined as any communication received from a stakeholder or community member that expresses dissatisfaction with any aspect the project, its delivery or ongoing management. Management of issues is of critical importance for developing and maintaining meaningful relationships with stakeholders and community members throughout the life of the project.

The procedure will assist in identifying issues that may escalate (from low to medium or medium to high) and offer mitigation measures. Lend Lease recognise the need to be flexible in the classification of key issues to ensure the team, including Infrastructure NSW, respond appropriately to each issue as it arises. Similarly these classifications will be identified based upon both the complaint and the stakeholder member involved.

This procedure is supported by an issues classification matrix that identifies and defines three categories of issues as detailed as follows. All issues raised will be reported as part of the monthly project communications working group via the stakeholder and community issues report.

CLASSIFICATION	DESCRIPTION	ACTION

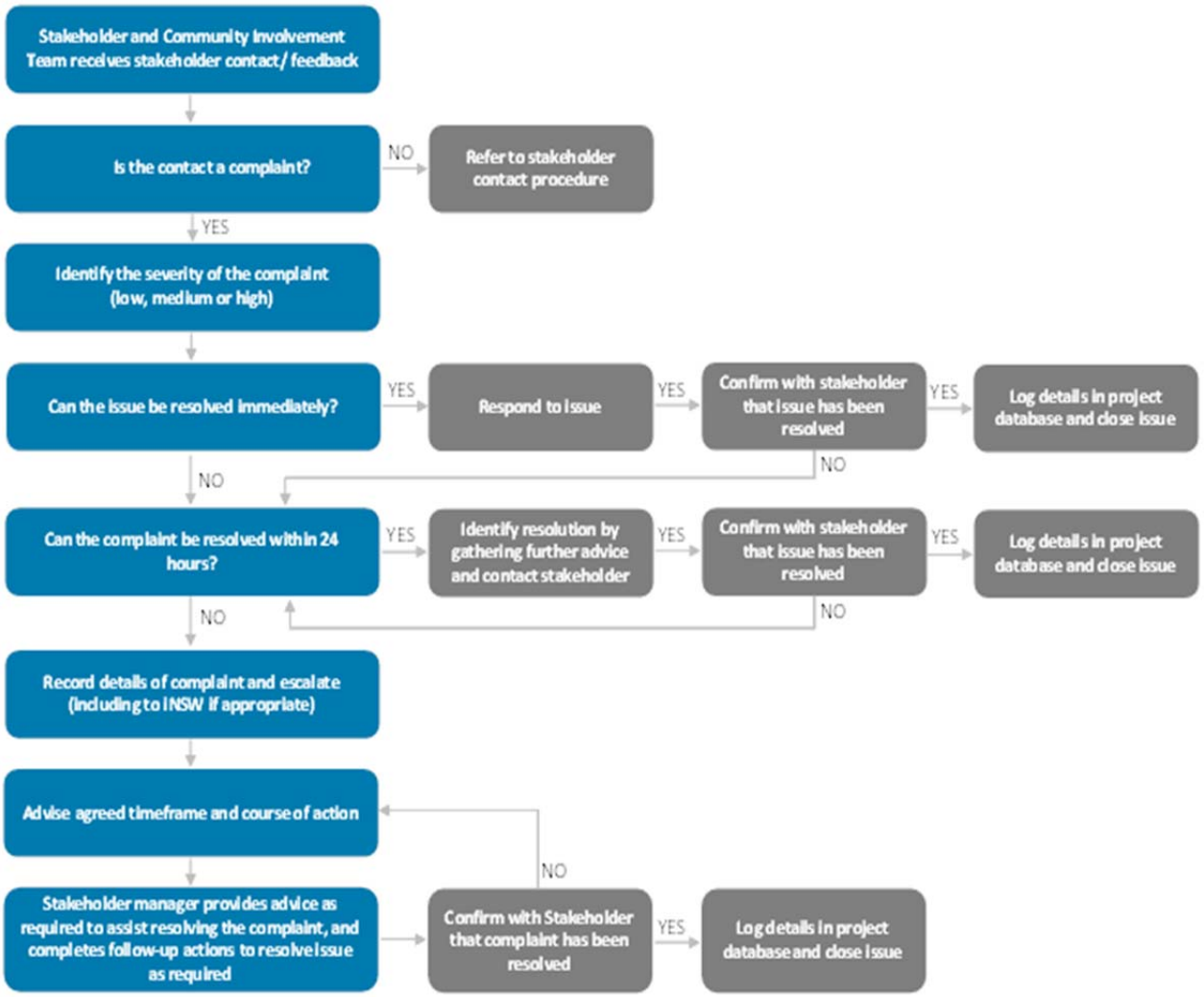
CLASSIFICATION	DESCRIPTION	ACTION
High (*issue cannot be resolved by the project team*)	Involves negative media coverage Involves political and/or government agencies Relates to safety or security	Immediate verbal report to the Lend Lease Project Director and Infrastructure NSW Project Director (followed by written advice).
48 Medium (*issue cannot be immediately resolved*)	Involves an individual or group expressing negative sentiments towards the project with the threat of further action. The stakeholder raising the issue is not satisfied with the response provided.	Issue an action to the relevant Lend Lease team member through consultation manager Follow up via email, to infrastructure NSW within 48 hours
49 Low (*issue can be responded to immediately*)	Involves an individual or group expressing negative sentiments towards the project. There is no threat of further action	Communities Team member responds appropriately.

Contact response targets have been defined as:

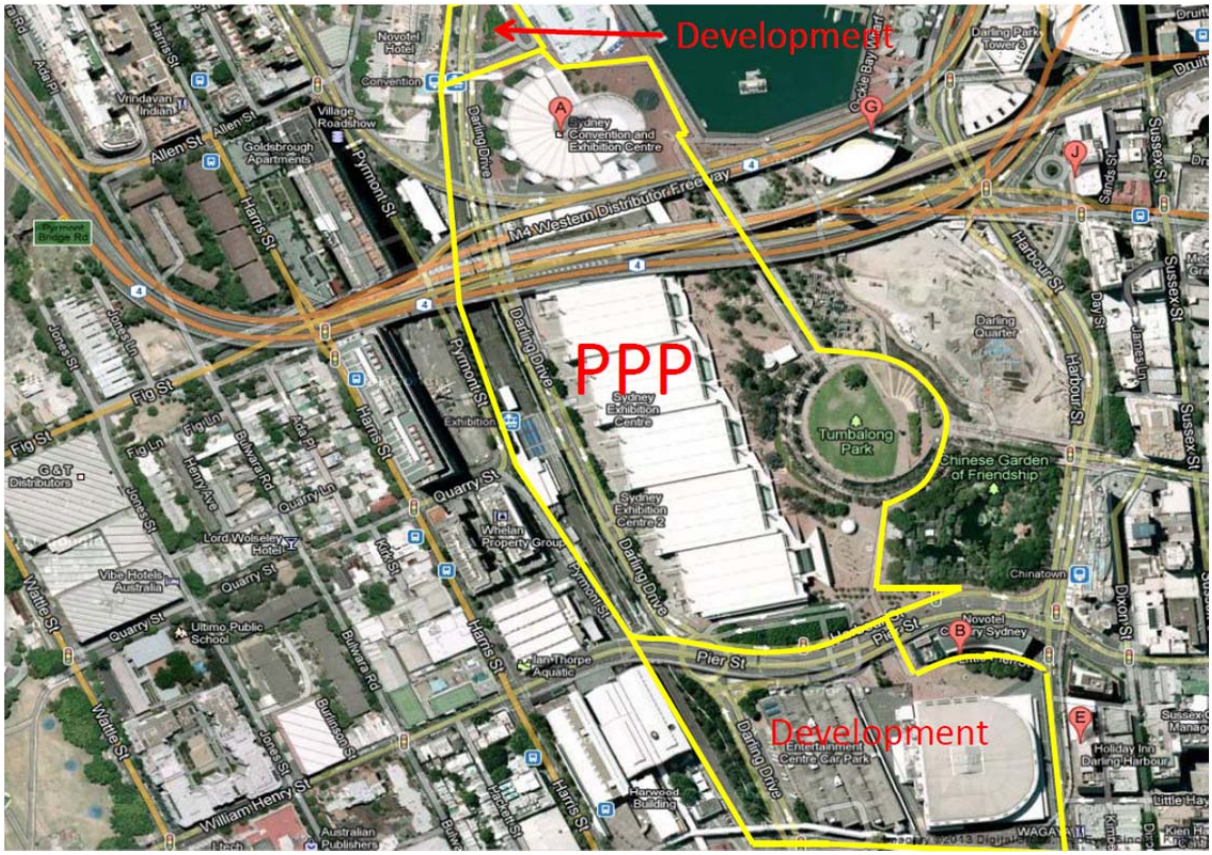
- Same day acknowledgement of stakeholder enquiries;
- 48-hour response target for all routine business and community inquiries, e.g. questions about project basics, timeframes or high-level milestones. This timeframe can be extended where more detailed information is required, provided the stakeholder is advised of the reason for delay;
- 72-hour response target for complex or policy-related inquiries, e.g. a detailed request from an events industry association or peak body.

These response targets are consistent with those specified in the *Infrastructure NSW Stakeholder and Community Involvement Strategy* to ensure consistency across all components of the SICEEP project for stakeholders and community members.

The following figure represents the issues management procedure that will be adhered to by the project team.


Stakeholder and Community Involvement Team receives stakeholder contact/ feedback
Is the contact a complaint?
NO
Refer to stakeholder contact procedure
YES
Identify the severity of the complaint (low, medium or high)
Can the issue be resolved immediately?
YES
Respond to issue
YES
Confirm with stakeholder that issue has been resolved
YES
Log details in project database and close issue
NO
NO
Can the complaint be resolved within 24 hours?
YES
Identify resolution by gathering further advice and contact stakeholder
YES
Confirm with stakeholder that issue has been resolved
YES
Log details in project database and close issue
NO
NO
Record details of complaint and escalate (including to iNSW if appropriate)
Advise agreed timeframe and course of action
NO
Stakeholder manager provides advice as required to assist resolving the complaint, and completes follow-up actions to resolve issue as required
Confirm with Stakeholder that complaint has been resolved
YES
Log details in project database and close issue

APPENDIX – A – SICEEP (PPP & PDA) PRECINCT BOUNDARY



APPENDIX – B – WHOLE OF PRECINCT AMENITIES