Walsh Bay Arts Precinct

Environmental, Construction and Site Management Plan

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Revision C

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1. Introduction

This preliminary Environmental, Construction and Site Management Plan (ECSMP) has been prepared by Cadence Australia Pty Ltd on behalf of Infrastructure New South Wales (INSW) to accompany the Environmental Impact Statement (EIS), for the redevelopment and upgrade of the Walsh Bay Arts Precinct (WBAP), to fulfil the Secretary Environmental Assessment Requirements for the State significant redevelopment.

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

- Outline of major works
- Heritage consideration
- Public amenity, safety, and pedestrian management
- Materials handling
- Traffic management including public transport interfaces
- Environmental management including water and waste management
- Impact on adjoining and surrounding properties.
- Community consultation, notification and complaints handling

INSW are committed to engaging with the local community, the City of Sydney Council, Government Agencies and stakeholders as we plan and deliver the WBAP.

Whilst the construction scope is mainly internally and the construction methodology is encapsulated within the piers to mitigate impacts to the surrounding environment, the potential remains for possible temporary disruption to surrounding areas during the construction phase. However, INSW and their *Principal Contractor* will work closely with the City of Sydney Council, neighbours, existing tenants, occupants, stakeholders and transport authorities to create plans that will ensure minimal impact and disruption to the surrounding area.

Consultation will continue to be a key priority throughout the construction process to ensure the community and stakeholders receive regular updates and have the opportunity to provide feedback.

The final version of this Plan will ensure all construction is properly facilitated, integrated and coordinated thus guaranteeing the Project's objectives are met.

It is intended that further detailed ECSMP's and works plans, for each phase of the project, as outlined in this plan, will be prepared and relevant approvals secured prior to construction commencement.

1.1 Overview

This ECSMP has been prepared for the purposes of responding to the Secretary's Environmental Assessment Requirement for the WBAP Stage 2 development. This preliminary plan has been formulated from a conceptual design and may require changes to meet stakeholder requirements, as detailed design progresses.

The scope of this report provides a holistic approach that:

- Advises how the project management team will comply with the requirements of the contract relating to construction.
- Defines the project objectives and targets of particular relevance to the construction phase.
- Describes constraints specific to the construction phase and the project in general.
- Describes the process for the identification and control of risks specific to the construction phase.
- Details the proposed strategy for the construction phase, with particular regard to establishment resourcing, site organisation and construction controls.

2. Works Description

1.1 2.1 The Site and surrounds

The Walsh Bay Arts Precinct (WBAP) (the “site”) generally comprises Pier 2/3, Pier 4/5 and its shore sheds which make up Wharf 4/5, as well as the adjoining waterway. The site has a street frontage to Hickson Road. The site is shown in Figures 1 and 2. The site is part of the Walsh Bay area which is located adjacent to Sydney Harbour within the suburb of Dawes Point. The site is located within the City of Sydney Local Government Area.

Walsh Bay is strategically located to the north of Sydney’s CBD in the vicinity of major tourist destinations including the Sydney Harbour Bridge, the historic areas of Millers Point and The Rocks, Circular Quay and the Sydney Opera House. The Barangaroo redevelopment precinct is located immediately to the south-west.

Figure 1: Site Location (Source: Google Maps)

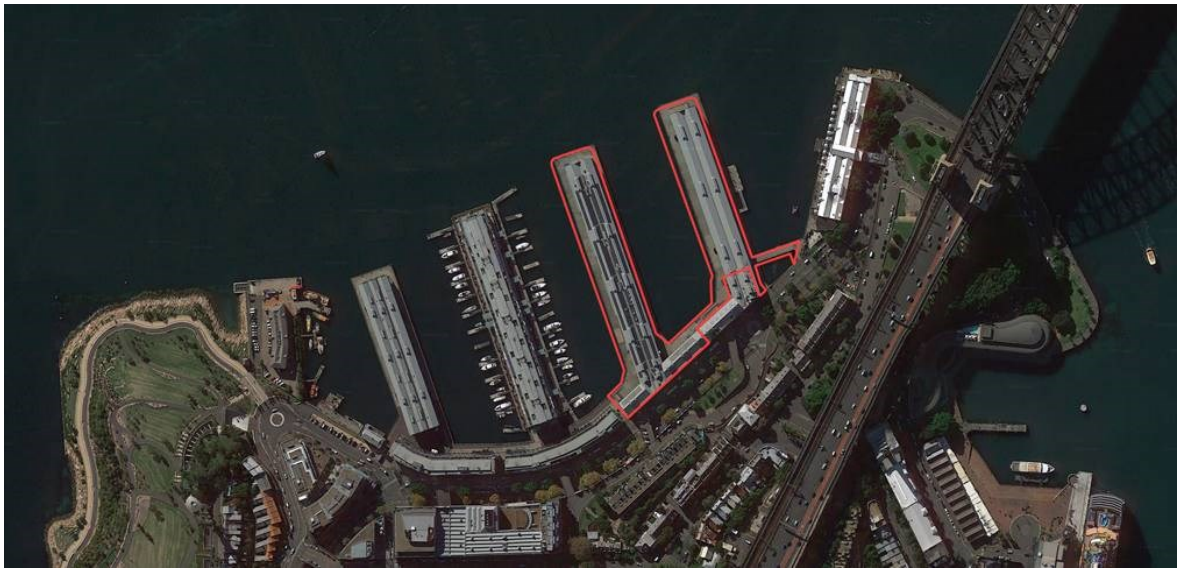

Figure 2: Aerial view (Source: www.nearmap.com)

Pier 2/3 is legally described as Lot 11 in DP 1138931 and Wharf 4/5 is legally described as Lot 65 in DP 1048377. The total area for these lots is 18,090sqm.

The land owner of the site is the Roads and Maritime Services (RMS). Both Pier 2/3 and Wharf 4/5 are occupied under various lease arrangements with Arts NSW, Department of Justice, primarily for arts and cultural uses.

The area of water that the project proposes to build over is also owned by RMS. Its land title description is Lot 12 in DP 1138931.

Walsh Bay comprises ten berths constructed between 1908 and 1922 for international and interstate shipping. These are collectively known as the Walsh Bay Wharves. The Walsh Bay Wharves Precinct is listed as an item on the State Heritage Register.

The Walsh Bay Wharves comprise the following:

- Pier One which contains the Sebel Pier One Sydney Hotel;
- Pier 2/3 the last remaining undeveloped pier (has previously received approval for cultural uses, temporary arts events and some commercial events);
- Wharf 4/5 which is occupied by the Sydney Theatre Company (STC), the Australian Theatre for Youth Program (ATYP), Sydney Dance Company (SDC), Bangarra Dance Theatre and the choirs comprising Gondwana, the Song Company and Sydney Philharmonia;
- Pier 6/7 which has been redeveloped for residential apartments and associated boat marina;
- Pier 8/9 which has been redeveloped for office uses; and,
- Shore sheds aligning Hickson Road which contain a range of commercial activities, including restaurants, bars, shops and offices.

1.2 2.4 The Project

The approved Stage 1 development application comprised:

- A new waterfront public square between Pier 2/3 and Wharf 4/5;
- A series of new stairs and balconies on Pier 2/3 and Wharf 4/5 and modification to the roof of Pier 2/3;
- The inclusion of new tenancy spaces in Pier 2/3 and Wharf 4/5 for arts and cultural activities; and,
- The use of the precinct for arts festivals, events and pop-ups and associated uses, including restaurants, cafes and bars.

The WBAP Stage 2 State Significant Development Application seeks consent for construction works for the above to realise the WBAP project, as well as the proposed external alterations and additions to all of Wharf 4/5. It also seeks consent for new commercial and event uses in the precinct. Key aspects of the proposed development are outlined below:

Early works

- Early construction works comprising infrastructure upgrades, demolition, hazmat removal and sub structure works.

Pier 2/3

- Internal alterations and reconfiguration to provide for the following:
  - Performance venues;
  - Rehearsal rooms, production workshops, back of house facilities and offices;
  - Function spaces, bars, cafes and foyer spaces extending onto external gantry platforms (balconies) providing breakout space for internal foyers and allowing views of outdoor performances;
  - Mezzanine spaces for offices and back of house facilities;
  - Upgrades to meet compliance with current BCA, DDA and fire codes;
  - New lifts and stairs;
  - Creation of new commercial tenancies and public toilets;
  - Removal of some storey posts and beams to facilitate internal reconfiguration and new uses; and
  - Retention of a large proportion of the ground floor in its existing 'raw' heritage state for events and festivals including Sydney Writers' Festival and Biennale including venue and commercial hire.
- External alterations and additions comprising:
  - New balconies and external stairs for fire egress;
  - New external lift for access;
  - Installation of glazing in existing cargo sliding door openings and other solid panels on the eastern, western and northern elevations to allow for views into and out of the building;
  - Roof penetrations within the central valley at the southern and northern end to accommodate new performance spaces and associated structural modifications including truss strengthening;
  - Installation of ESD elements, such as photovoltaic panels and seawater heat exchange systems; and
  - Raising of the external floor level on the eastern side by introducing a new raised deck and continuous set of stairs beyond the existing column line.

Wharf 4/5

- Internal alterations and reconfiguration to the Bangarra Dance Theatre (BDT) tenancy to provide for the following:
  - Upgrade of the main rehearsal and performance spaces;
  - Upgraded foyer and exhibition space along the eastern frontage;
  - Improved office space at mezzanine level including a new lift and stairs;

- Provision of a function space at ground level of the northern end of wharf with associated kitchen facilities; and
- New entrance and new glazing in bays of sliding cargo doors, opening up the foyer and main studio to the Pier 4 apron.

- Minor internal alterations and additions to the SDC tenancy comprising:
  - Reducing the existing workshop space to create a fifth dance studio; and
  - Upgrading office and reception areas.
- External alterations and additions to SDC tenancy comprising:
  - Raising of the timber wharf deck adjoining the SDC café and opening of the facade with new glazing to activate the waterfront square.
- Creation of new commercial tenancies and public toilets;
- External fabric alterations around the Sydney Theatre Company (STC) tenancy comprising:
  - Improved street entry at Hickson Road involving relocation of the stairs to allow for an improved landing and point of arrival to the STC;
  - New 'gantry' balconies, stairs and lifts mid-wharf and at the end of the wharf to provide for improved accessibility and compliance with fire engineering solutions;
  - Minor amendments to the existing façade to accommodate new entries and exits along the wharf;
  - Roof penetrations within the central valley at two locations to accommodate theatre and workshop spaces and associated structural modifications including truss strengthening; and
  - Reinstallation of existing photovoltaic panels where applicable.

Wharf 4/5 Shore Sheds

- Internal alterations to reconfigure the choir spaces, including provision of a mezzanine for choir administration;
- Creation of new commercial tenancies at ground and mezzanine levels; and
- Provision of office space at ground level.

Public Domain

- Construction of a new waterfront square comprising a deck on piled structure:
- Shaded informal performance space on piled structure; and
- Changes to existing levels and steps down to facilitate access between the existing apron and new waterfront square.

New Uses

- Use of the precinct for arts festivals, events and pop ups as well as a range of activating uses such as retail, restaurants, cafes and bars.

Refer to Architectural Drawings as prepared by Tokin Zulaikha Greer Architects

2.1 Site Management

INSW intends to appoint a Contractor (Contractor for the construction management of the WBAP project works. An indicative organisational and responsibilities chart is shown below.

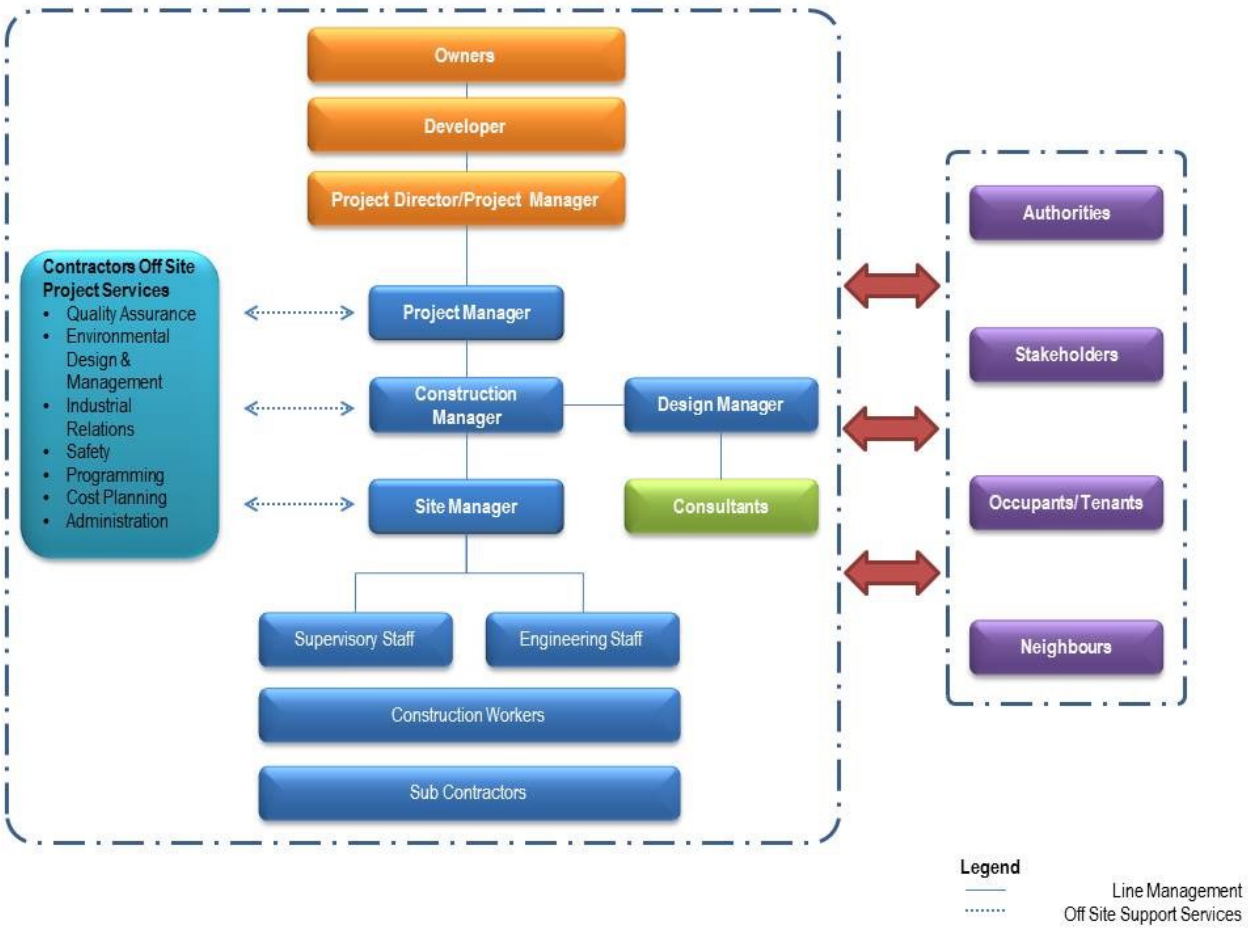

Figure 3: Organisational and Responsibility Chart

3. Physical Constraints of the Site

An understanding has been developed of the physical constraints that impact on the WBAP site. A summary of these physical constraints follows.

3.1 Transport and Accessibility

The WBAP site is located within close proximity to many transport modes including private vehicles (both land and seaside), ferries and buses.

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

The *Principal Contractor* will liaise with council & transport authorities throughout the period of construction and keep all stakeholders informed of any changes to existing conditions.

3.2 Heritage Context

The subject site includes Pier 2/3 and Wharf 4/5 and is part of the Walsh Bay Wharves precinct which is listed as an item on the State Heritage Register. A brief description of Pier 2/3 and Wharf 4/5 is below:

- Pier 2/3 is a Federation style, two level wharf structure built between 1912 and 1923. It consists of timber framed post and beam construction with regular grid layout, weatherboard cladding and double pitched roof (with central valley along its length) and roof lanterns. Concrete aprons wrap around the east, west and north sides. Externally the Pier is defined by its robust industrial character with regular bay doors, fenestrations, alternating solid and void unified by a single full length corrugated steel roof.

  It is Sydney's last wharf structure to remain in its original maritime use state with minimal subdivision and services. Much of the building does not have ongoing active uses, however it does contain some commercial uses.

- Wharf 4/5 was constructed in 1922 as a Federation style, two level wharf structure. Similar to Pier 2/3, it consists mainly of timber structure with regular grid layout, altered in the early 1980s to accommodate the Sydney Dance Company, Sydney Theatre Company, Bangara and Australian Theatre for Young People.

  Wharf 4/5 is recognised as a highly successful adaptive reuse of a redundant finger wharf and important heritage item. Its redevelopment 30 years ago was the subject of numerous architectural and design awards.

The design, procurement process, staging and methods of construction have been evolved with a sensitive attention to these constraints and these details are covered in section 5 of the ECSMP.

3.3 Adjoining and Neighbouring Properties

The WBAP is situated in the midst of a number of neighbouring properties of varying usages, predominantly surrounded by commercial and residential properties. This section highlights the adjoining properties which may be impacted during the construction period.

Refer to Adjoining and Neighbouring Properties Plan, Appendix 1.

Pier 1

This area contains a mixture of commercial (hotel accommodation) and restaurants, approximately 60 metres in distance from Pier 2/3.

Pier 2/3

This area contains Commercial Events/Arts Spaces on Ground Level and Level 1, with ATYP, Bell Shakespeare and the Australian Chamber Orchestra located on the upper levels.

Wharf 4/5

This area accommodates the Sydney Dance Company and Bangarra Dance Theatre on Ground Level and Level 1, and The Sydney Theatre Company on the upper levels. The Ground Level of the Shore Shed towards the East also accommodates 3 Choirs and ATYP.

Adjoining Pier 2/3 and Pier 4/5 is a commercial property owned by RMS

Wharf 6/7

Approximately 80 metres in distance from Piers 4/5 is a residential area consisting of 140 apartments on the pier, in addition to 45 apartments and ground level commercial properties on the shore shed.

Behind the site and along Hickson road is a mixture of commercial and residential properties. The residential properties are approximately 70 metres in distance from Pier 2/3, whilst the commercial properties are approximately 50m in distance from Pier 4/5.

4. Site Layout, Logistics and Materials Handling

The methodology has been driven by the objective to mitigate impacts to neighbours and existing tenants and this has been achieved by:

- Concentrating all materials handling within the piers and not external to the piers to avoid impact to neighbours
- Concentrating site shed and establishment within structure of the piers
- Using existing main entries and creating main construction access away from operating tenants and residents.

4.1 Materials Deliveries

The *Principal Contractor* will confirm the final details of the planned materials handling and materials delivery logistics.

This will include construction zones located on Hickson Road that will require the closure of parking at the kerb side and the parking alongside the central median between wharf 4 and half way between wharf 1 and 2 The adjacent harbour will also be utilised for deliveries and other options including mobile and static crane usage.

The majority of deliveries will enter the site via the pier 2 and 4 perimeter apron via Hickson road with the exception of oversized loads including trusses, and the construction of the new floating structure, which are likely to be delivered to site utilising a barge and barge based cranes via the harbour.

Figure 4 – Example of a Barge Crane

Materials deliveries to piers 4 and 5 will be via pier 4 from Hickson Road, smaller sized vehicles approved to access the existing pier will drive directly to the required destination. A through access is envisaged from pier 4 to pier 5 to limit traffic to the western side of pier 5.This may include the introduction of temporary ramps for access

Manitou fork lifts will be used to lift materials to the upper levels via loading platforms to be located on existing gantry openings as necessary.

4.2 Site Access

The establishment of designated access paths will provide for safe access for pedestrians adjacent to the work zones. Overhead protection will be provided for pedestrians accessing from pier 1 to pier 2. A Traffic Management Plan will be developed by the *Principal Contractor* for the safe coordination of construction vehicles and pedestrian traffic to areas affected by construction activity.

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

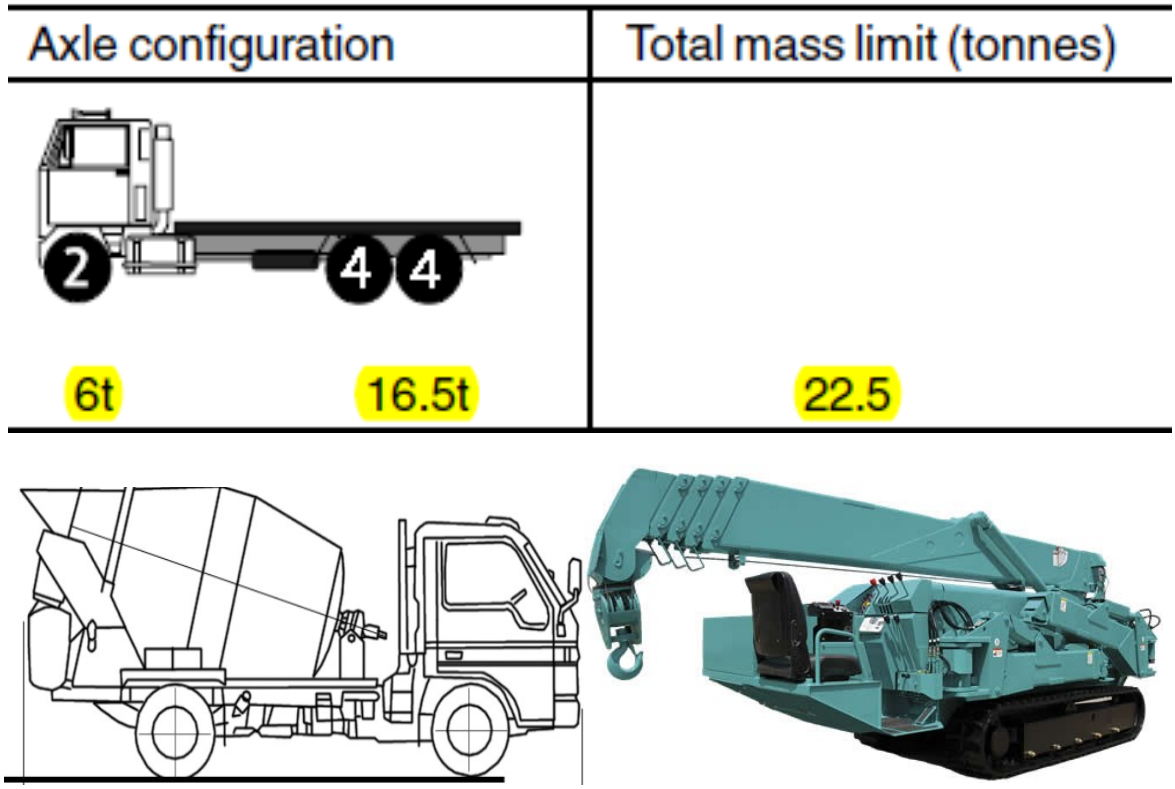

Figure 5 – Typical 12M Double Bogie Truck (top), Mini concrete truck approx. 2.5 M3 (left), Maeda Crane (right)

Refer to the Site Establishment Plan, Appendix 2.

4.3 Hoardings and Overhead Protection

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

Prior to the installation of hoardings onsite, the following will take place:

- Services, particularly essential services and life safety systems will be protected or relocated where necessary.

- Access provisions for emergency and routine maintenance will be facilitated by the *Principal Contractor* as necessary.
- The *Principal Contractor* will provide a plan that details the location and hoarding type at each location. An indicative layout is provided on the attached plan.
- Disruption and service shutdown procedures will be developed and agreed between the various stakeholders prior to commencement

Refer to the Site Establishment Plan, Appendix 2.

The types of hoardings and fences will include:

Hoardings

Hoardings will be erected to segregate the construction area from the public areas. The hoarding construction may include timber frame and plywood, or metal ATF type temporary fencing compliant with the relevant authorities.

Refer to the Site Establishment Plan, Appendix 2.

Internal Site Hoardings

Internal hoardings will be installed taking into consideration;

- Aesthetic suitability;
- Acoustic, vibration and dust nuisance;
- Operational requirements;
- Construction access for out of hours work;
- Customer and tenant access pathways;
- Existing structural capacities;
- Effect on surveillance;
- Compliance with BCA and fire engineering requirements;
- Temporary waterproofing from external and internal conditions.

Internal hoardings of various types will typically be used in:

- Public street frontages;
- Street level Construction Zones;
- Separation between trades on specific levels where required;
- Protection of Heritage fabric.

Refer to attached plan Appendix 2

Scaffold and Screens

Scaffolds will be erected to provide access to the faces of the buildings for demolition and refurbishment. Where access to the upper level is required to individual or isolated areas scissor and boom lifts may be used to complete the works.

4.4 Crane, Hoists and Loading Platforms

Man and materials hoists will be used to transport materials from the ground floor to the upper levels. The hoists will generally be located on the exterior of the building to pier 2. There is

likely to be 2 hoists located on the outside of pier 2 the hoists will service piers 2 and 3 due to the restricted access from Hickson Road at pier 3 adjacent to the café. A temporary ramp may be necessary to provide vehicular access through to pier 3 which is at a higher level.

Smaller deliveries will be directed around the perimeter of piers 2 and 3 from Hickson Road.

Manitou fork lift may also be used to transport materials from Hickson Road construction zone to the required destination. Form piers 2 and 3 this will be via pier 2 apron. Note the structural capacity of the pier apron structures will require certification for any loads that are not included in the engineer's approved schedule Use of existing lifts as man hoists will also be investigated particularly at the early stages of site establishment.

Where required, loading platforms will be temporarily positioned projecting from the existing structure to receive materials that will otherwise not fit inside the man and materials hoists. The site Manitou will hoist materials up to the loading platforms.

Figure 6 – Manitou (left), Loading Hoist (right).

Electric (quiet) Scissor lifts with working heights to 14M above ground level. These versatile machines can be used to access the façade works to the exterior of the piers and well as the internal high level services and ceilings. The scissor lift can work in unison with the small crawler crane noted above

Figure 7 – Scissor Lift

4.5 Site Accommodation

Site accommodation and facilities will be provided in accordance with the relevant legislation. The planned location for the site accommodation is the ground floor of pier 2 North West. Refer to the Site Establishment Plan, Appendix 2.. The final configuration will be determined by the *Principal Contractor* .

Construction personal access will generally be via pier 2 from Hickson Road.

4.6 Site Induction

The *Principal Contractor* will prepare a site specific induction for all employees working on the project Specific works inductions will be completed by individual trades contractors detailing the risks and corrective measures required to mitigate those risks. This induction will be a requirement under the Occupational Health & Safety Plan to be formulated for the project by the *Principal Contractor* and subsequent OHS plans developed by the individual sub-contractors. The site induction sessions will be held on a regular basis and where possible subcontractors will be requested to attend the week prior to the date they are due to start.

The site induction will include specific commentary on the Disruption Shutdown Application (DSA) and Permit to Work (PTW) processes. As well as house rules and emergency procedures relevant to the site

4.7 Site Security

The *Principal Contractor* will be responsible for the security of the site. This may include traffic marshals the control vehicular and pedestrian traffic. It may also include security access stations to the site. The final details and extent of site security will be developed further by the *Principal Contractor* .

5. Protection of Heritage Items and Surrounding Development

Construction works and general access will be directed away from areas of heritage significance as much as possible. Wherever required, heritage components will be protected with appropriate panelling, barriers and fencing. In general, heritage items that are to remain and/or be refurbished will be identified and protected. Details of the refurbishment will be developed in conjunction with trade experts, the Heritage Architect and the Conservation Management Plan.

Mitigation measures will be implemented as per the WBAP Heritage Impact Statement Assessment Report prepared by Tropman & Tropman Architects.

As the site is of State Heritage Significance, it is a legal requirement not to remove or damage any part of the building unless it is documented; this includes tagging and logging any removed materials. The *Principal Contractor* is to ensure that it complies with the Heritage Act 1977 whilst undertaking construction activities.

Site inductions and tool box talks will be held by the *Principal Contractor* to inform site personnel and visitors of the location of heritage items and the requirements for their protection. Work method statements will be developed specifically for works in close proximity to heritage items.

This document is to be read in conjunction with all heritage reports prepared for Phase 2 documentation. WBAP Heritage Impact Statement Assessment Report prepared by Tropman & Tropman Architects.

5.1 Dilapidation Survey

Prior to commencing work onsite, a full Pre-Construction Dilapidation Report will be completed by a Dilapidation Survey Consultant for adjoining buildings as highlighted in Attachment 2 and listed below. This detailed survey will encompass current structural, architectural, services and heritage conditions of the existing adjacent neighbouring properties, onsite heritage buildings, construction zones, infrastructure and roads. The dilapidation report will cover all areas where construction works are occurring and to which the construction certificate applies. These surveys will be issued to all adjoining neighbours and a post completion survey will also be compiled for comparison.

5.2 Adjoining and Adjacent Neighbours

Careful site management, which will minimise disruption and inconvenience to neighbouring buildings and their occupants, is of the highest importance. The *Principal Contractor* will liaise with the Community Liaison Officer to work with neighbours, understand their needs and requirements, and, where possible, adjust construction works methodologies accordingly. The adjoining properties and neighbours specifically identified for consultation are outlined in appendix 1.

As construction progresses, protection of neighbouring building may be required. The method of protection will vary and will be resolved with direct communication with each neighbour on an as needed basis.

Prior to commencement of works, the *Principal Contractor* will undertake a communication meeting with the stakeholders and surrounding tenants. This briefing will involve an outline of the construction sequence, together with an overview of the staging and timing of the works. This initial meeting will provide an opportunity for input from the stakeholders and tenant before finalising methodology.

To ensure ease of communication between all parties, a protocol will be established to:

- Define lines of communication and appoint a single point of contact for neighbours
- Times for site inspections within the leased premises
- Specific dates for regular communication meetings
- Clarify the escalation process
- Implement the Disruption Shutdown Application (DSA).

It is essential that the stakeholder team is aware of current and future activities within the premises and how these could impact on tenants and customers.

Points of contact between the *Principal Contractor*'s project team and stakeholders will be agreed for various scenarios, with stakeholders provided with 24 hour contact numbers.

Weekly and/or daily inspections of areas that interface with the tenant and customers will be organised so potential issues can be identified early and addressed.

Key personnel from the *Principal Contractor*'s project team will be available to attend stakeholder internal briefings if required to communicate details of the proposed works to their respective team members.

6.3.1 Services Interruptions

Prior to any services being disrupted or work being carried out within an active operational environment a Disruption Shutdown Application (DSA) will be made. This process will be implemented on the project to provide advance agreement for specific work activities to be carried out. DSA's will typically be made a number of weeks in advance of proposed work and in line with the agreed project notification durations. Depending on the risk profile of the proposed work, the agreed notification durations may be required months in advance.

The DSA process will be of particular value on the project in relation to the following elements:

- Works within a tenant area
- Works that may affect the services to a tenant area
- Activities in the general public realm
- Works that may affect local traffic flow
- Works within the basement carpark area
- Works that may exceed the agreed noise and vibration criteria
- Major services changeovers or shutdowns.
- The benefits to all parties of the DSA process include:
- Proposed works are planned in detail
- Stakeholders are briefed on the proposal
- Stakeholders are empowered and become active participants in the project
- Early dissemination of this information effectively to relevant team members
- Works are undertaken in a more controlled and diligent manner

6.3.2 Complaints Response

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

6.3.3 Emergency Contact

The initial point of contact for the Project for complaints will be the Project Manager and the Site Manager.

Project Manager: TBC

Site Manager: TBC

As other key personnel commence onsite, further names and contact numbers will be issued and displayed prominently on sign boards.

6. Public Amenity, Safety and Pedestrian Management

6.1 Hours of Work

General demolition and construction works will be undertaken within the hours permitted under the development approval. In some cases after-hours permits will be sought from the relevant authorities where special requirements exist, for example oversized deliveries.

6.2 Noise & Vibration Management

Particular care will need to be taken during the construction of each phase of the project to control noise and vibration. Work methodologies and plant selection for demolition and construction will be reviewed to determine the most practical and programme-effective solutions for these works. This active approach will mitigate the potential for human discomfort and noise and vibration disruptions to surrounding key stakeholders.

Noise and vibration transfer from the construction process could potentially have an impact upon adjacent building tenants, and since the work is all internal, to a lesser extent, the public and surrounding premises. Vibration could also potentially affect the heritage fabric of the pier structure. Prior to the commencement of any works onsite, a noise and vibration management plan will be developed by the *Principal Contractor* in consultation with expert consultants and the Stakeholders to develop strategies for the mitigation of noise and vibration generated by the works. These measures will comply with the requirements of the ARUP Noise and Vibration Report, including but not limited to:

- Appointing a named member of the site staff who will act as the Responsible Person with respect to noise and vibration;
- Ensuring that the Responsible Person keeps the precinct (and local community) advised on expected activities;
- Ensuring that the Responsible Person checks the conditions of the powered equipment used on site daily to ensure plant is properly maintained and that noise is kept as low as practicable;
- Managing and monitoring the noise and vibration logging equipment installed around the site. Ensuring that the Responsible Person controls the working hours on site to ensure that work is only done during the acceptable periods as defined in the Interim Construction Noise Guideline for NSW (7am to 6pm weekdays and 8am to 1pm on Saturdays. No work on Sundays);
- The impact of noise from construction activity on the precinct may be mitigated by working outside precinct opening hours, provided there are no significant adverse impacts on residential receivers nearby;
- Ensuring that noise levels are kept as low as is reasonably practicable and providing all “feasible and reasonable” noise mitigation methods following the procedures of the NSW Interim Construction Noise guideline, and reference to relevant standards including AS2436-2010 and BS5228-2009 Code of practice; and
- Maintaining appropriate records of complaints.

In order to help meet the noise and vibration requirements of the site, baseline testing will be carried out and existing operational levels identified. Early identification of baseline levels will enable subcontractor methodologies to be specifically tailored to ensure the benchmarks are not exceeded.

Vibration and noise generating activities will be coordinated and undertaken in consultation with the appropriate parties and carried out during the subsequent agreed periods.

Work practices that minimise noise and vibration will be used wherever possible. These include but are not limited to the following:

- Operation would be limited to occur within the approved hours, truck movements to be limited to daytime periods only;
- Vehicle movements to take place on the side of the Wharf building furthest from other neighbouring wharf residences where possible;
- Works to be completed internally, using the existing building envelope to dampen noise distribution, along with erection of temporary screens to encapsulate dust and noise;
- Site offices to be accommodated internally;
- Hand tools for façade works to be used where possible;
- Plant and equipment selection to reduce noise where possible, especially machinery required for concrete removal work;
- Location of major plant such as cranes away from noise and vibration sensitive areas where possible. Plant known to emit noise strongly in one direction would, where possible, be orientated so that noise is directed away from noise sensitive areas;
- Stationary and mobile equipment including offsite vehicles would be maintained regularly;
- Continuous training through inductions and on-going meetings would be provided for operators, labourers, subcontractors and supervisors, to keep minimal noise impacts on local residents and businesses top of mind;
- Notifications of particularly noisy works would be undertaken prior to any planned works commencing. This would include either personal or community meetings with adjoining properties owners and/or tenants;
- All complaints in relation to noise would be monitored and recorded; and
- An onsite person would be identified as the contact point in the event of noise complaints with contact details provided within the Construction Management Plan.

Please refer to WBAP SEARs - Noise Impact Assessment Report prepared by Arup.

6.2.1 Vibration Monitoring

Vibration monitoring during the construction will be undertaken if deemed appropriate and/or necessary by the Acoustic Consultant in order to monitor potential human discomfort and potential structural / heritage damage in and around the existing buildings.

Please refer to WBAP SEARs - Noise Impact Assessment Report prepared by Arup.

6.3 Public Safety

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

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

The various methods and extent of the public and tenant access protection has been considered. Key elements of protection access provided to comply with the City of Sydney Hoarding Policy guidelines are:

- Erection of an “A” class hoarding of standard plywood type construction
- Installation of overhead protection to areas when public are exposed to risk

6.4 Pedestrian Management

To allow for continuous public access, materials handling and management of pedestrian safety, some diversions from existing pedestrian routes will be required for large periods of the work. The installation of way finding signage and lighting will be professionally managed to ensure clear pedestrian understanding and preservation of safety and amenity.

7. Traffic Management

The *Principal Contractor* will develop a site specific Traffic Management Plan for the WBAP project works to ensure vehicle movements to, around and from the site do not affect traffic arterials within the vicinity of the project or pedestrian movements around it. The point for inclusion in the *Principal Contractor* 's traffic management plan are listed below. The *Principal Contractor* will manage traffic associated with the site to minimise the impact on the local area. The Traffic Management Plan will be incorporated in subcontractor agreements and the key points communicated to the workforce through the site induction procedures.

Traffic will generally be managed in the following way:

- Designated transport routes will be communicated to all personal, and enforced
- Designated peak hour and non-peak hour delivery vehicle waiting areas
- Strict scheduling of vehicle movement will occur to minimise off site waiting times
- On-site parking will not be provided, and site workers will utilise public transport and car sharing wherever possible.
- Vehicle movements will be compliant with the Consent and broader road-use regulations, particularly with regard to hours of work, materials loading and unloading, and over size deliveries and installation.
- Stakeholder feedback.
- Where possible deliveries will be marshalled directly to the site destination via the access points at pier 2 and pier 4 shown below

Refer to Appendix 2 for the Site Establishment and Access Plan.

Refer to the WBAP Construction Pedestrian and Traffic Management Plan as preferred by as prepared by GTA Consultants.

8.1 Site Access

Access to the Site will be available at various times via the existing street frontage access ways and construction zone to be created.

For access reasons, and to minimise traffic disruptions to the surrounding road network, deliveries will be carefully controlled. Larger materials and vehicles that are not able to access the pier aprons will be offloaded in the construction zones using fork lifts under traffic control conditions.

Oversized loads and long loads including trusses and major structural steel components will be delivered to site via the adjacent harbour utilising barges, tugs and barge cranes. Onsite traffic management will be finalised by the Contractor prior to the commencement of the works, as deemed appropriate. Ongoing liaison with the relevant authorities will occur throughout the delivery of the WBAP.

Refer to Appendix 2 for the Site Establishment and Access Plan.

8. Environmental Management

9.1 Occupational Health & Safety

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

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

9.2 Hazardous Materials

Consultant survey works have already been carried out to establish existing site conditions and to identify any remediation works that may be required. These survey works are to be confirmed by the Contractor to ensure all hazardous materials have been identified, including:

- Hazardous material (Hazmat) survey of the existing structures;
- Any additional requirements for soil classification, sampling and analysis works for the piing spoil; and
- Community liaison plan to be established and contact made with relevant authorities.

As hazardous materials have already been identified procedures and principles have been developed. These procedures and principles will be consistent for expected and unexpected hazardous materials. They are outlined below:

- Notification to the superintendent who will notify the client and project stakeholders;
- Isolate and restrict access to the areas as advised by the hygienist; and
- The site hygienist will be contacted to provide advice regarding the most appropriate action to be taken.
- Hazardous material will be capped and contained, or removed in accordance with site hygienist advise and superintendent's direction,

In consultation with the hygienist, the contractor will advise of the most appropriate method of dealing with the particular contaminant.

The following outlines the mitigation measures for a selection of potential hazardous materials to be identified on site:

- Asbestos – containing Materials (ACMs)
    - All asbestos-containing materials which are to remain in-situ should be labelled to warn of the dangers of disturbing these materials if not already labelled.
    - Periodic reassessment of all asbestos-containing materials that remain on-site should be scheduled, to monitor their deterioration.
    - An asbestos management plan should be developed for the site.
    - A Destructive Hazardous Materials Assessment should be carried out prior to any demolition or refurbishment works as per Australian Standard (AS) 2601:2001 *The demolition of structures*.
    - When demolition or refurbishment works are required in those areas where suspected asbestos – containing materials were identified, these materials

should be sampled and if they contain asbestos, licensed asbestos personnel should remove these materials prior to such works.

- Synthetic Mineral Fibre (SMF)
    - Confirmed SMF materials should be maintained in good condition and removed under controlled conditions prior to refurbishment works.
- Lead Containing Paint
    - If refurbishment works are likely to involve the disturbance of confirmed lead-containing paint, dust suppression techniques should be utilised and a Lead Paint Removal plan should be developed by a suitably experienced consultant.

Please refer to WBAP Hazardous Materials Assessment Wharf 2-3, 13A Hickson Road, The Rocks NSW by Preston Rowe Paterson NSW October 2011.

Please refer to WBAP Hazardous Materials Re-inspection Wharf 4-5, Hickson Road, Walsh Bay by Preston Rowe Paterson NSW September 2012.

9.3 Site Remediation and Hazardous Materials

Consultant survey works have already been carried out to establish existing site conditions and to identify any remediation works that may be required. As hazardous materials have already been identified procedures and principles have been developed. These procedures and principles will be consistent for expected and unexpected hazardous materials. They are outlined below:

- Notification to the superintendent who will notify the client and project stakeholders.
- Isolate and restrict access to the areas as advised by the hygienist
- The site hygienist will be contacted to provide advice regarding the most appropriate action to be taken

In consultation with the hygienist, the contractor will advise of the most appropriate method of dealing with the particular contaminant

9.4 Hazardous Substances

A hazardous materials register will be maintained on site by the *Principal Contractor*. This will include all chemical type materials and other materials that require specific handling and disposal procedures accompanied by a current Material Safety Data Sheet (MSDS). All hazardous substances will be registered, correctly stored, decanted, used and disposed in accordance with the MSDS and regulatory requirements. Employees will be trained in the Safe Work Method Statement (SWMS) based on the MSDS and provided with the appropriate Personal Protective Equipment.

Please refer to WBAP Hazardous Materials Assessment Wharf 2-3, 13A Hickson Road, The Rocks NSW by Preston Rowe Paterson NSW October 2011.

Please refer to WBAP Hazardous Materials Re-inspection Wharf 4-5, Hickson Road, Walsh Bay by Preston Rowe Paterson NSW September 2012.

9.5 Site Discharge

The existing stormwater provision to collect and divert stormwater to the council mains will be maintained at all times during construction. The existing surface pits and grated drains will be protected from any silt or construction debris entering the system. The protective measures may include filter fabric, hay bales and temporary diversion gutters and drains. During

placement of concrete the areas adjacent to the pumping equipment will be assessed for risk of concreting material entering the harbour. The risk mitigating measures may include local silt fences along the edge of the pier, temporary hay bales to catch any cement slurry runoff, temporary plastic sheeting to catch any concrete spills. . The contractor will have within its standard procedures, the requirement of spill kits for hazardous materials also including environmental audits that review the usage and storage of hazardous materials onsite.

9.5.1 Truck Wash Facilities

As the project consists of redevelopment of the existing premises, with trucks being confined within the construction zones and hardstand areas a truck wash facility will not be required onsite.

Construction zones will be kept clean at all times to ensure tyres of trucks and vehicles exit in the same condition that they have entered.

9.5.2 Silt Protection of the Marine Environment

During the construction of the new floating structure silt curtains will be positioned around the construction area confining any sediment generation to the immediate construction areas. Regular monitoring by the *Principal Contractor* will be required. The superintendent will conduct regular inspections of the construction areas.

Silt curtains should be installed prior to proposed works with at least a 5-15 m buffer to allow for the influence of tides, wind, waves and currents. Vessel movements in and out of the silt curtain should be minimised during the course of work; and Suspended sediments should be allowed to settle prior to removal of the curtain.

9.5.3 Water Quality Monitoring

Monitoring of water quality measures (primarily turbidity) could be considered to validate the effectiveness of the sediment control measures. Monitoring could include:

- Visual inspection of water turbidity and sediment plumes;
- Monitoring of metal contaminants that had been recorded in the sediments.

A suitable approach to monitoring water quality would include:

- Sampling of turbidity immediately inside and outside of the silt curtain; and
- Baseline monitoring of water quality in the immediate vicinity of Walsh Bay to provide data for comparison with that measured during construction.

Implementation of the above controls would be sufficient to reduce residual impacts to the marine environment due to the Project to acceptable levels.

9.6 Dust Control

Dust control and management will be the responsibility of the *Principal Contractor*. The contractor will be required to implement a management plans that addresses the generation of dust.

Dust control measures may include wetting down areas prior to and during demolition of masonry elements. Including concrete, brick and block walls vacuuming of dust and debris following completion of demolition and upon completion of construction activity.

9.7 Waste Management during Construction

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

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

In addition, all subcontractors are responsible for removing their own packaging and other re-usable items such as pallets from site. Adopting this policy:

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

Waste generation and management during excavation and construction phases will be the responsibility of the *Principal Contractor* and is to be handled in accordance with the approved Construction Waste Minimisation Plan, when developed, as it will relate to materials procurement, handling, storage, and use.

Waste generated during construction will be reused and recycled as a priority, and only disposed to landfill when unavoidable.

During construction, suitable areas on site will be allocated which provide adequate space and access for:

- Storage of building materials,
- Storage of construction waste,
- Sorting of construction waste, and
- Removal of construction waste for recycling, re-use or landfill.
- Interim storage of fill materials as required

Construction waste management will be performed to meet the following specific goals of the project sustainability requirements:

Implement a Construction Minimisation Plan (CWMP);

- Target 90% of demolition and construction to be reused or recycled in alignment with the NSW WARR Strategy.
- Retain waste reports (quarterly) to ensure targets are met.

Waste that is unable to be reused or recycled will be disposed of offsite at an EPA-approved waste management facility following classification.

Prior to transporting waste materials to offsite facilities, it will be verified that the transporter and facility is licensed to handle the material it is designated to carry.

Demolition and construction waste tracking sheets are to be completed by the *Principal Contractor*, as provided in the CoS Waste Guidelines 2014.

Please refer to WBAP SEARs – Waste Management Review by Arup.

Appendix 1 - Adjoining and Neighbouring Properties Plan

	Commercial (RMS)
	Bell
	Arts Events Space
	ACO
	ATYP
	Shore 4/5 Choirs
	Bangarra
	Sydney Dance Company
	Sydney Theatre Company
	Pier 6/7 Residential – 140 Apartments + operational piers (private)
	Shore 6/7 Residential – 45 Apartments + Ground Level Commercial
	Pier 1 –Hotel, Commercial
	Residential
	Commercial

Appendix 2 – Site Establishment & Access Plan

Site Establishment & Access – Ground Level