Bovis
Lend Lease

Darling Walk

Public Domain

Construction Management Plan

DATE	REVISION	PURPOSE	APPROVED BY
02/06/09	A	Submission of Environmental Assessment	RE

CONTENTS

Definitions

"BLL" Bovis Lend Lease
"Subcontractor" A company contracted to Bovis Lend Lease
"DA" Development Application
"CM" Construction Manager

1.0 Site Establishment

1.1 Introduction

The Darling Walk site is located on Harbour Street in Darling Harbour between the Chinese Gardens and Imax.

The new development will incorporate 4 levels of basement parking, a ground level retail floor including a children's theatre and up to 8 storeys of A grade office space. The associated public domain area will be upgraded including a new Children's Playground.

The scope of works covered by this Construction Management Plan includes;

- Children's playground, Village green, Civic Connector & Pedestrian Boulevard
- Bathurst St footbridge works
- Harbour st works
- McDonalds drive through

1.2 Site Working Hours

Subject to Authority approval, works will be undertaken between the hours of 7.00am and 7.00pm Monday-Friday and between 7.00am and 5.00pm on Saturdays. No work will be undertaken on Sundays or public holidays.

1.3 Contact Details

Construction Manager – Richard Eaton Mobile No: 0408 252 679

1.4 Parking

No on-site parking will be available for tradesman or site personnel.

1.5 Security and Hoarding Management

The hoarding to the existing construction site will be extended to enclose the public domain footprint and be constructed from: Class A painted plywood hoarding 2.4 high with timber skirt and capping section. Refer hoarding plan Sk02

Architectural and structural details of the hoardings will be in accordance with the relevant SHFA policy to ensure there is no obstruction to sightlines. Graphics to be applied to future detail and subject to SHFA detail. The hoardings shall be regularly cleaned and maintained to a premium standard.

Structural certification will be prepared and signed by a suitably qualified practicing structural engineer.

The use of ATF fencing will be required for short term work and transition areas between hoarding installation.

1.6 Site Sheds and Amenities

Lunch, change and ablution facilities will be provided for the use of all site personnel. It is proposed to locate the workforce accommodation in the North West sector of the site.

Additional workforce accommodation shall be located to the west of the new basement / building footprint to as the workforce numbers increase.

Once the basement becomes available ALL trades will be relocated on level B2 in knock up site accommodation.

1.7 Safety Information

BLL have a safety and environmental management system called "EH&S" (Environment, Health and Safety").

All employees required to work on site must first complete the BLL site induction.

In addition, the Subcontractor must induct their employees into their safe work procedures and submit to BLL a copy of the induction register.

An EH&S meeting and site inspection will be held weekly to deal with issues which may arise on site.

The EH&S Meeting will be attended by BLL employee representatives and sub-contractor employee representatives, and chaired by a representative of BLL.

BLL will also periodically conduct its own internal safety audits. The audit team will consist of:

BLL Safety Manager
Site Safety Officer
Subcontractor Representative

An EH&S information board will be erected and a copy of the BLL EH&S policy will prominently be displayed on the board

A Subcontractor's start on site will be conditional on the submission and approval of an Environmental Health and Safety plan. The plan must be submitted one week prior to their start date to allow sufficient time for BLL review

1.8 First Aid Facilities

BLL will ensure First Aid Facilities as specified by OH&S legislative requirements are provided. In accordance with Workcover requirements a first aid shed will be established on site once the workforce numbers exceed 50. This will occur during the latter stages of bulk excavation.

Subcontractors are to provide a First Aid Officer for their company works.

A nominated first aider will be on site whenever work is being carried out. This will be either a BLL or Subcontractor representative.

1.9 Approved plans to be on-site

In accordance with the conditions of consent, BLL will maintain a copy of the approved and certified plans, specifications and documents incorporating conditions of approval and certification on site at all times.

1.10 Dilapidation Survey

A dilapidation survey will be undertaken for adjacent structures and services infrastructure. Copies of the report will be submitted to the Private Certifying Authority prior to any work commencing on site.

1.11 Site Notice

In accordance with the conditions of consent, BLL will display, at the boundaries of the site, BLL's, PCA details.

1.12 Temporary Power

Construction power is to be provided as a extension of the North building temporary power supply, subject to available capacity.

1.13 Neighbours

BLL have established a forum for neighbours and stakeholders to discuss issues, project progress and special activities.

- Meetings will be held on a regular basis for as long as required.

Other information and registers will be available for the stakeholders such as site contact details and feedback registers.

2.0 Construction Methodology

The Public Domain has been broken down into the following areas for this Construction Management plan. They are:

2.1 Children's playground, Terraced Community Green, Civic Connector & Pedestrian Boulevard

2.2 Bathurst St footbridge works

2.3 Harbour st works

2.4 McDonalds drive through

2.1 Children's Playground, Terraced Community green, Civic connector & Pedestrian Boulevard

The Children's playground works can be broken up into the following stages;

Stage 1 – Site Clearing works

Stage 2 – Excavation works

Stage 3 – Construction & landscaping

Site Clearing Works

Prior to the commencement of any site clearing works a number of key activities are required to be carried out to satisfy authority requirements, ensure safety and continuity of the works. They are as follows:

- Permit Application to SHFA for the erection of hoardings.
- Erection of hoardings around the site including way finding signage.
- Fix notices for site contact details, hours of work and safety signage.
- Identify and protect services that are to remain.
- Protect trees that are to remain in accordance with arborist's report.

The Site clearing works will consist of the removal and storage of all paving this will stacked on pallets and removed to storage, items such as bins and bench seating will be salvaged by SHFA.

All services in the area of the children's playground will be decommissioned and isolated. Any live services running through the area will be identified and protected from any construction works.

The overhead shade structures will then be dismantled by the use of large excavator with grab attachment that will bring the structures to the ground for them to be cut into manageable sizes and removed to a recycling facility.

The hard landscaping will then be removed using excavator with grab and hammer attachments loaded onto trucks and removed from site.

Excavation (Cut & Fill)

Following the completion of site clearing works the public domain area will be cut and filled to the new levels. This will be done by 30 t excavators and drum rollers to obtain the new compacted levels.

Other important excavation activities which will be undertaken as part of the works are as follows:

- Dust Control by using hoses, water trucks
- Tarpaulins over truck trailers and bogies to ensure containment of material during transit.
- All material removed from site is to be sorted and disposed of in accordance with the Waste Minimisation and Management Act of 1995
- Street sweeping of Harbour St when required to control any dust and/ or debris
- Traffic Management for trucks entering & leaving the site

- Establishment of sedimentation and environmental controls to the site and surrounding stormwater systems.

Construction & Landscaping

The construction will commence with the installation of in ground services and footings to the various structures throughout the children's playground. The works will then progress to the stairs, ramps and channels.

The overhead shade structures and Kiosks will be constructed at this time along with paving and cladding finishes to hardstand and water play areas including installation of large play equipment.

Soft Landscaping will be installed commencing with large trees to the laying of turf to remaining areas.

Terraced Community Green

The Terraced Community Green works consist of the Construction of a 300 000 litre water tank and associated pump rooms. This will be a below ground tank and sit below the Village green landscaped area. All excavated material will remain on site and be used to backfill the existing pond base around the tank and bring the Village green area up to its landscaping levels.

Civic Connector

The Civic Connector works will consist of the construction of planter boxes, stairs and a central water feature. Electrical and hydraulic services will be installed and waterproofing to the area to prevent ingress of water to the car park below. Paving will then be installed to the area followed by landscaping and loose furniture

Pedestrian Boulevard

The pedestrian boulevard works will consist of the construction of planter boxes, stairs. Electrical and hydraulic services will be installed and waterproofing to the area to prevent ingress of water to the car park below. Paving will then be installed to the area followed by landscaping.

Male Toilet Reinstatement (Liverpool St)

The Male toilets located under the Liverpool St footbridge will be reinstated to this area. The works will proceed with the construction of perimeter brick wall and windows, in-ground services and ground slab. This will be followed by services first fix, tiling and partitions and joinery, services fit-off and architectural finishes.

2.2 Bathurst St Footbridge

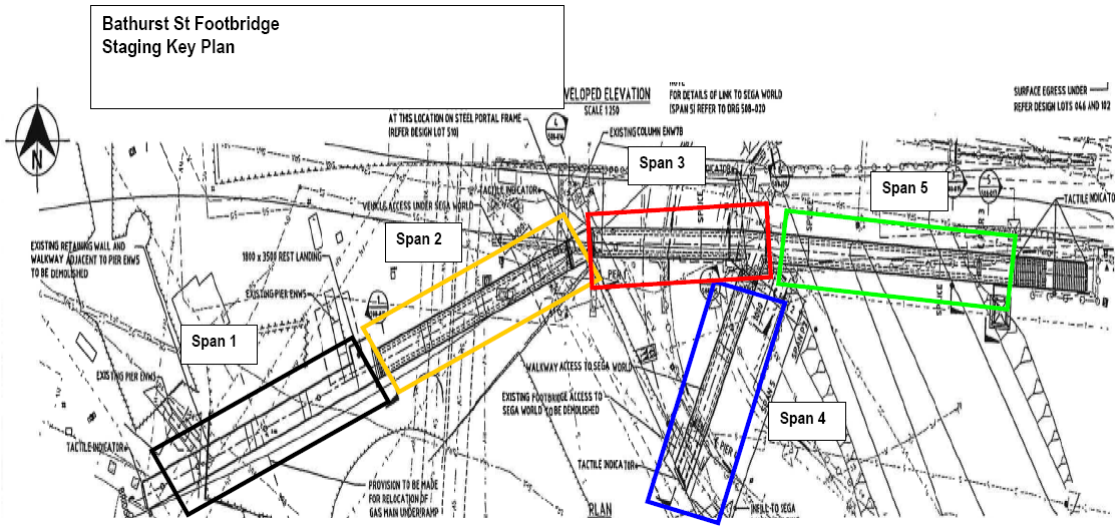
The Bathurst Street Footbridge Works can be broken up into the following stages:

Stage 1 - Early Works

Stage 2 – Bridge Removal Works

Stage 3 - Installation of the New Bridge Spans

Stage 4 - Cladding of the existing and new spans of the footbridge



Stage 1 – Early Works

The Scope of the early works is as follows;

- Adjustment of the existing hoarding to the North Eastern corner of the site (under the existing bridge). A Hoarding Permit outlining the changes will need to be submitted and approved by SHFA prior to the commencement of these works. The adjusted hoarding will carry all necessary signage both safety and for the direction of pedestrians external to the site. Refer to Hoarding and Pedestrian plan Sk02 and Halcrow MWT Main works Traffic Management plan.

- Construction of a mass concrete support to the rear of span 4. The mass concrete not only acts as a 'permanent support' for the final design but also acts as a temporary support for the bridge during construction and removal of adjacent spans

- Construction of a B Class Hoarding over the CCT, this will allow works to continue overhead for the removal of Spans 1, 2 and 3.

  The Construction of a 10kPa working deck over the Western entrance to the Cross City tunnel. This deck will provide a working platform to complete the removal of span 2. The deck itself will need to span the width of the entrance to the cross city tunnel. The deck will be supported on the two concrete walls either side of the tunnel entrance. It has been confirmed by Connell Wagner (the designers of the CCT) that these walls will carry the loads. The working deck can be constructed with a mobile crane within the site. All works will need to occur during the maintenance hours of the tunnel (when the tunnel is closed). These works will need to be co-ordinated with the relevant authorities. The working deck will be installed in sections with workers positioned either side of the tunnel entrance behind the concrete walls which are 1m high.

Stage 2 – Bridge removal Works.

The Demolition Works can be broken up into the following areas;

1. Removal of Span 1

   The removal of span 1 will conducted wholly within the site boundaries. This will be done by removing and releasing connections at either end of the span and use of large crane to remove and lower the span to the ground, at this point it will cut into more manageable sizes and removed from site by truck.

2. Removal of Span 2

   The removal of span 2 will be a repeat of the span 1 operation.

3. Removal of Span 3

   The removal of span 3 will be a repeat of the span 1 and 2 operations.

Stage 3: Installation of New Bridge Spans

Installation of the 'new' footbridge includes the supply, fabrication and installation of a new span of the footbridge between the end of Span P2 (previously spliced with Span 2) and the new concrete structure of the Northern Building.

The 'new' bridge section will be connected to the existing steel girder and sit on bearing pads on the new concrete support which forms part of the Northern Building. Modification works to the existing structural steel girder will be carried out off the 10kPa working deck installed during the demolition / removal process of Span 2.

The new section of the bridge will be lifted in from the confines of the site.

Stage 4: Cladding of Footbridge

The cladding works to the bridge will be carried out as follows;

1. Structural Steel Supports will be progressively installed to the underside of the existing bridge over Harbour Street. These works will need to occur in stages and all works will occur at night with the aid of road closures. Once all Structural Steel Framing has been installed the canopy will undergo the same process. The canopy will be installed in stages from the western side of Harbour Street to the eastern side of Harbour Street.

2. Traffic Management Plans have been completed for each of the progressive stages of works. A final Traffic Management Plan will need to be submitted to the RTA as part of a Road Closure permit prior to the commencement of works. The Traffic Management Plan will allow new modules of bridge framing and cladding to be lifted into place via mobile cranes whilst keeping a safe distance to traffic flow along Harbour Street.

3. Following the completion of the cladding works to the footbridge over Harbour Street, cladding works will then be completed to the 'new' section of the footbridge once it has been installed. The new section of the bridge lies within the confines of the site hence there is no authority approvals required for these works.

2.3 Harbour St Roadwork's

The Harbour street roadworks will be broken into several stages to minimise the impacts on harbour St Traffic flow

The construction process for each section will be as follows.

- Demolition of existing path inside line of existing hoarding
- Excavation to new slip lane and kerb levels.
- Installation of new services and adjustment of existing pit levels.
- Construct new kerb line and base course
- Remove existing hoarding and install temporary fencing to secure the site.
- Obtain a lane closure to Harbour St and demolish existing kerb line and reinstate base course. Upon completion of base, install new asphalt to meet existing and into new slip lane / driveway. These works will take place over nights/ weekends subject to RTA approval of lane closures. In between each shift, water filled barriers will be installed to the kerb line to prevent vehicles coming into the site.
- This process will be repeated along Harbour St, and site vehicle access will be coordinated along Harbour St as the works progress.
- As areas are completed temporary fencing will be installed to the new kerb line along with water filled barriers to allow paving works to be completed behind the kerb.

2.4 Mc Donalds Drive Through

The McDonalds drive through works will commence once the temporary office has been removed, the area will be cleared of all existing bitumen and graded to new levels, in ground services will be reconfigured to suit the new turning bay and parking bays. Kerb and gutter, asphalt and landscaping will complete this area

3.0 NOISE AND VIBRATION MANAGEMENT

A construction Noise and Vibration Plan has been developed in consultation with Acoustic Logic Consultancy Pty Ltd this plan has been confirmed by Wilkinson Murray Covering letter (Refer appendix 02) as being applicable to the public domain works.

The plan will be used to manage impacts from demolition, excavation and construction activities on the adjoining properties and structures.

4.0 TRAFFIC & PEDESTRIAN MANAGEMENT PLAN

- A Traffic and Pedestrian Management Plan has been developed in conjunction with Halcrow MWT Pty Ltd and is attached in appendix 01

4.1 Loading and Unloading

- All materials / spoil shall be loaded within the site.
- All deliveries will be coordinated with BLL prior to arrival on site
- All loads are to be covered, securely fastened and reliably stacked on vehicles
- All hazardous materials to be transported and stored as per codes and regulations
- Only trade construction vehicles will be allowed on site

4.2 Ingress and egress of vehicles to the site

- Construction traffic shall utilise the Harbour St entry and the Day St / Harbour St intersection to exit the site.
- All construction traffic is to be coordinated with BLL prior to arrival on site.

4.3 Traffic management methods

- All vehicles are to be directed by the traffic controller to the nominated work areas
- All vehicles prior to leaving site will be checked for cleanliness and washed down if required
- Construction vehicles are not permitted on site without approval from BLL
- All excavation material shall be covered prior to leaving site
- Transportation of hazardous materials will be carried out in accordance with Authority Requirements, Demolisher's Safety Plan and BLL Safety Requirements
- The maintenance and cleaning of vehicles and construction plant will not be carried out in areas from where oil or washing may be discharged into a watercourse, street gutter or stormwater drainage system. Waste arising from such activities will be collected and disposed of off-site in a manner approved by the EPA
- Fuelling of vehicles, earthmoving plants and mobile equipment will not be carried out without an operator or driver being in attendance at all times
- To restrict traffic and noise impacts, trucks transporting materials from the site will be confined to the main road system and avoid local roads as far as is practicable

4.5 Pedestrian Management methods

- Way finding signage will be provided on the Hoardings to direct pedestrians onto the Liverpool footbridges.
- All pedestrians have the right of way.
- Pedestrian thoroughfares around exterior of site to be maintained and clearly marked.
- All visitors will report to the BLL site office to sign visitor register (Appendix 1).
- All visitors must sign out on leaving the site.
- All visitors must be suitably attired to enter the site e.g.; proper footwear, hardhat, high visibility vest, glasses, etc.
- An inducted person must accompany all visitors to the site.
- No private car parking will be available within the site. Visitors will be advised to park in the surrounding public car parks.
- The construction area will be suitably segregated from the public and adjoining pedestrian areas.
- Access to, from and around the workface is to be via defined access routes detailed in the induction process

5.0 WASTE MANAGEMENT

All materials removed from the site will be disposed of at an approved waste disposal facility in accordance with the requirements of the relevant legislation, codes, standards and guidelines.

As detailed below in the BLL Waste Management Plan, any existing concrete of suitable volume will be taken to a concrete recycling works.

Refer Appendix 4, BLL waste management plan

6.0 STORMWATER , EROSION AND SEDIMENT CONTROL

The stormwater, soil erosion and sediment control measures will be installed to the perimeter hoarding of the construction site to ensure all runoff is collected on site, this will be inspected daily and cleaned as required to ensure controls are maintained. Refer Hyder Sediment and Erosion control plan and details CD442002. Appendix 03.

These measures will include:-

Construction of designated truck entry/exit points. The truck entry/exit points will be managed by a gate controller.

The site will be fenced with 2400mm high plywood A Class hoarding with chainwire/shadecloth gates constructed in accordance with authority requirements to control dust and prevent the public from entering the site.

All existing on-site stormwater drainage pits will be cleaned of rubbish and silt. All drainage grates shall then be covered with suitable geotextile fabric securely fixed in position.

On going dust suppression will be by use of a water spray.

7.0 FLORA MANAGEMENT

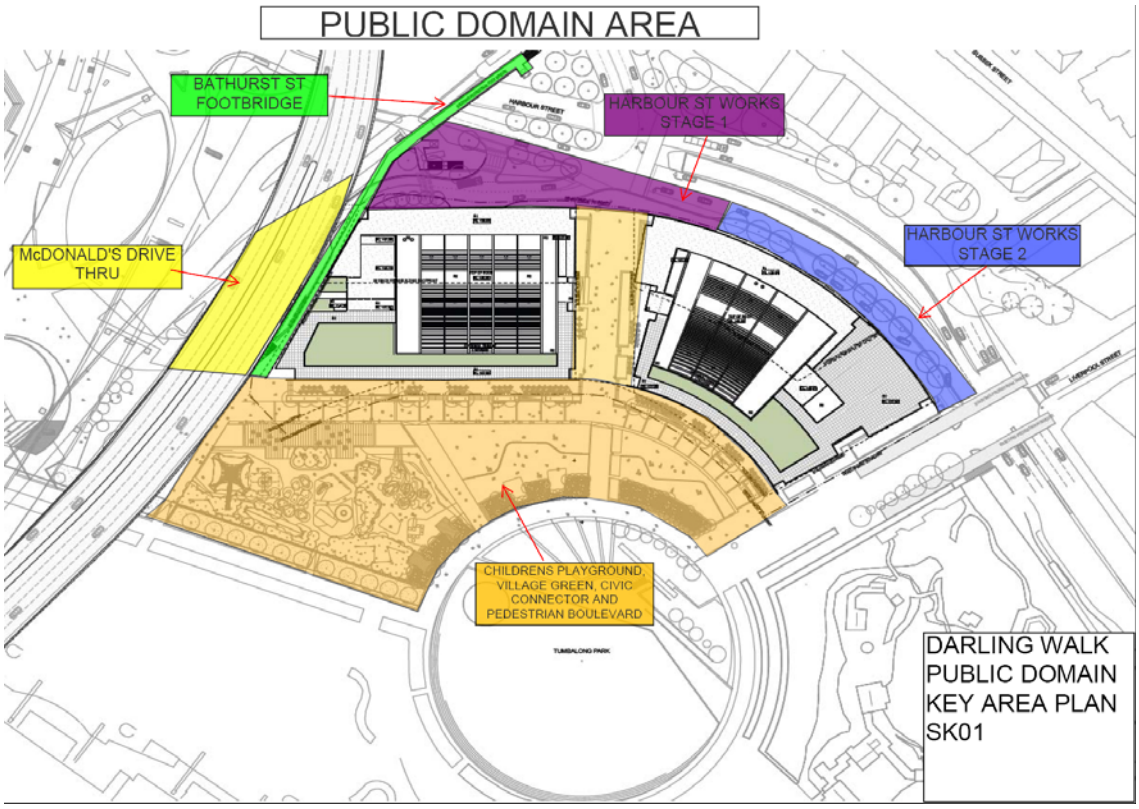
In accordance with planning requirements, BLL will comply with the following requirements:

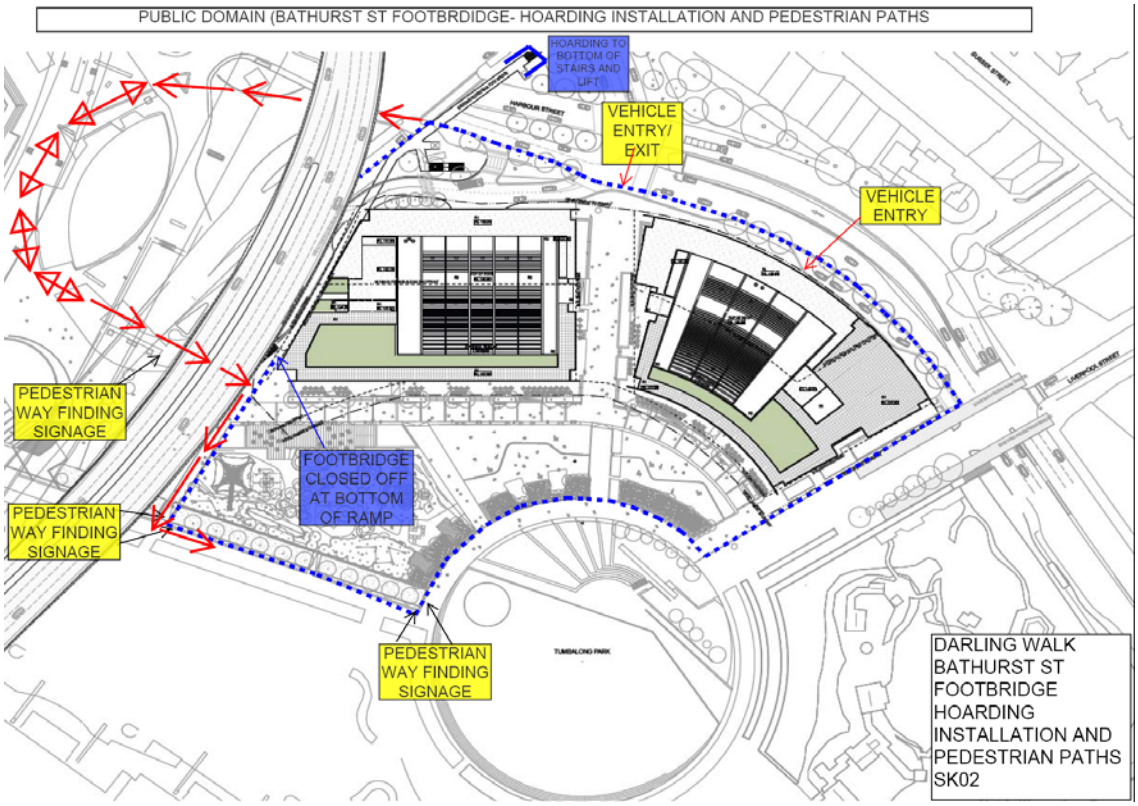
Protection of Trees – On-site Trees

All trees on the site that are not approved for removal are to be suitably protected by way of chain wire fencing segregating the trees from the construction works.

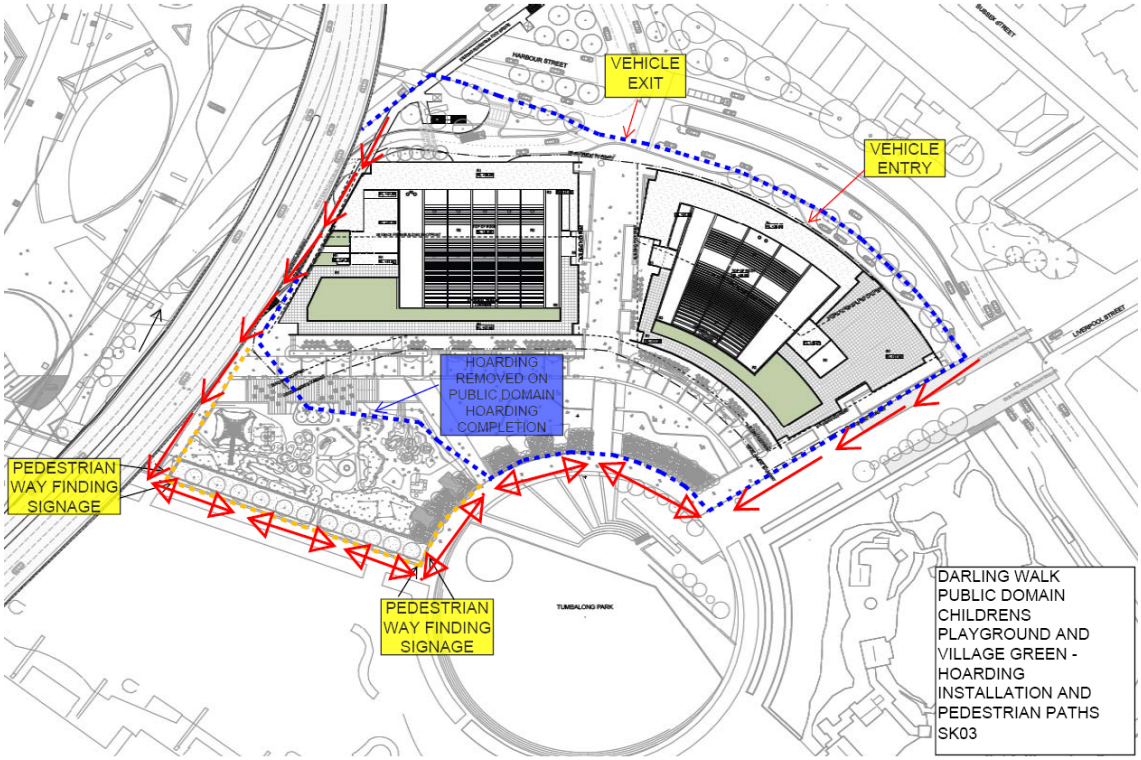
Staging Drawings

Darling Walk Public Domain Key area plan	SK01
Darling Walk Public Domain Footbridge hoarding & pedestrian paths plan	SK02
Darling Walk Public Domain Children's play ground & Village green hoarding and pedestrian paths plan	SK03
Darling Walk Public Domain Harbour st works Stage 1	SK04
Darling Walk Public Domain Harbour St works Stage 2	SK05

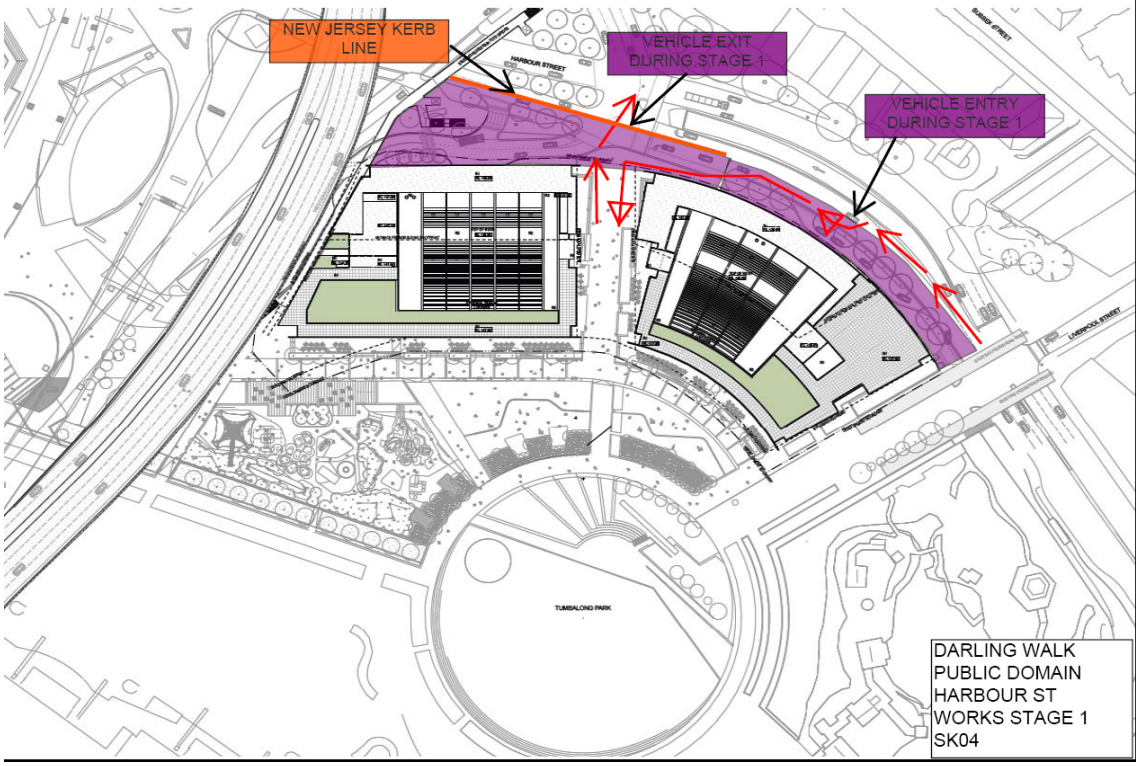

PUBLIC DOMAIN AREA
BATHURST ST FOOTBRIDGE
HARBOUR ST WORKS STAGE 1
HARBOUR ST WORKS STAGE 2
McDONALD'S DRIVE THRU
CHILDRENS PLAYGROUND, VILLAGE GREEN, CIVIC CONNECTOR AND PEDESTRIAN BOULEVARD
DARLING WALK PUBLIC DOMAIN KEY AREA PLAN SK01


PUBLIC DOMAIN (BATHURST ST FOOTBRDIDGE- HOARDING INSTALLATION AND PEDESTRIAN PATHS
HOARDING TO BOTTOM OF STAIRS AND LIFT
VEHICLE ENTRY/ EXIT
VEHICLE ENTRY
PEDESTRIAN WAY FINDING SIGNAGE
FOOTBRIDGE CLOSED OFF AT BOTTOM OF RAMP
PEDESTRIAN WAY FINDING SIGNAGE
PEDESTRIAN WAY FINDING SIGNAGE
DARLING WALK BATHURST ST FOOTBRIDGE HOARDING INSTALLATION AND PEDESTRIAN PATHS SK02

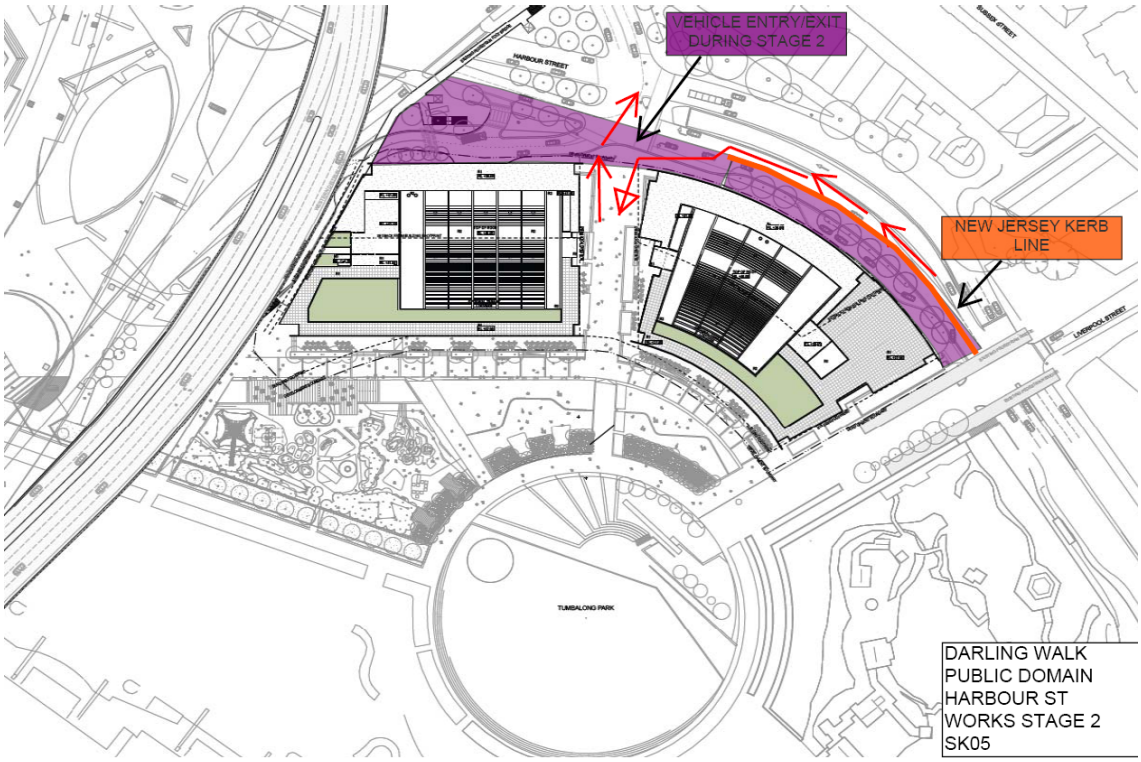
PUBLIC DOMAIN (CHILDRENS PLAYGROUND AND VILLAGE GREEN) -HOARDING INSTALLATION AND PEDESTRIAN PATHS



PUBLIC DOMAIN (HARBOUR ST WORKS) STAGE 1



PUBLIC DOMAIN (HARBOUR ST WORKS) STAGE 2



Appendix

Appendix 1

Halcrow MWT Pedestrian and Traffic Management Plan

Darling Walk Redevelopment

Revised Main Works Traffic Management Plan

25 June 2009

Prepared for

Bovis Lend Lease

Halcrow MWT

Darling Walk Redevelopment
Traffic Management Plan - Updated Report

Prepared for
Bovis Lend Lease

This report has been issued and amended as follows:

Rev	Description	Date	Prepared by	Approved by
1	Draft for internal review	15/06/09	KIA	JR
2	Draft for client review	19/06/09	KIA	JR
3	Revised Draft for client review	24/06/09	KIA	PK

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Contents

1 Introduction

Construction Traffic Management Plans for demolition of the Sega World Building and for for the construction of a new building and basement excavation were prepared by Masson Wilson Twiney, on behalf of Bovis Lend Lease Pty Ltd, in March 2008 and July 2008 respectively. It is now required to update the main works traffic management plan to include Public Domain Works, including the Harbour Street works, children's playground, McDonald's drive-through and Bathurst Street Footbridge works.

The new building consists of 4 levels of basement parking, a ground level retail floor including a children's theatre and up to 8 storeys of office space in two towers. The associated public domain area will be upgraded, including a new children's playground, Bathurst Street footbridge works, Harbour Street works and McDonalds drive-through.

This report forms a component of the Project Application for the proposed development. The report covers traffic management plans for the construction of the main building and associated external works. This includes bulk excavation works, structural works, materials handling, façade and associated civil works.

The establishment plans for the bulk excavation works, the main works and public domain works are provided in **Appendix A**.

The report is based on the description of the construction works provided by Bovis Lend Lease and on a visit to the site to obtain information on the site and existing traffic and pedestrian situations. This report includes an overview of the proposed construction works with respect to traffic and describes the potential impacts on the surrounding road network. The location of the site relative to surrounding road network is shown in **Figure 1**.

Traffic control plans for specific requirements of the proposed works are provided in **Figures 2- 6**. This document also indicates the Standard RTA Traffic Control Plans (TCP) on which the traffic management plan is based. The standard TCPs and the symbols used in the plan are provided in **Appendix B,** while the general notes pertaining to the standard layouts is contained in **Appendix C**. The routes of trucks exiting the site during bulk excavation works are shown in **Appendix D**. The routes of entering trucks are described in Section 4.2.

RTA Guidelines[1] specifies that Traffic Management Plans must be prepared by a person in possession of a current "Select/Modify Traffic Plans qualification or higher with name and certificate attached. The relevant certificates are provided in **Appendix E.**

[1] Road Occupancy Manual – RTA (2007)

As part of the construction of the new building it is necessary to carry out the diversion of a stormwater culvert that presently crosses the site onto a route around the site and then join an upstream section of the existing culvert in James Street cul-de-sac. The traffic management plan prepared for this work is provided in **Appendix F**.

In the approved traffic management plans, it was proposed that the marshalling area for trucks be in Hickson Road. However, during the course of the construction works it was found that due to the use of Hickson Road by other developments, the remaining truck waiting area in Hickson Road was not adequate for the Darling Walk project. A traffic management plan prepared for the relocation of the trucks marshalling area to Darling Drive is provided in **Appendix G**.

The remaining part of this report is set out as follows:

Chapter **2** - documents the existing traffic conditions.
Chapter **3** - describes the works and construction phases.
Chapter **4** - indicates the vehicular access and pedestrian requirements
Chapter **5** - discusses the traffic control plans for the proposed works
Chapter **6** - describes impacts of the proposed works, including issues such as hours of operation, pedestrians, public transport and emergency vehicles.

Finally it is noted that the construction works will necessitate the diversion of a stormwater culvert that presently crosses the site onto a route around the site. This will be the subject of a separate construction management plan.

2 Background Situation

2.1 Site Location

The Darling Walk site is located on the western fringe of the Sydney CBD area. Being a sub precinct of the Darling Harbour, it is also located in close proximity to the Exhibition and Convention Centres, the IMAX Theatre and the Chinese Garden. The site has direct frontage to Harbour Street, a four-lane arterial road, which connects to the Western Distributor/Bradfield Highway as well as the Cross City Tunnel Motorway.

The site location is shown in **Figure 1**.

2.2 Existing Road Network

An appreciation of the existing traffic conditions can be gained by examining the road network, traffic volumes and the operation of intersections. These aspects are discussed below.

1. **Harbour Street** – is an arterial road running north-south along the frontage of the site. It has generally 2 traffic lanes in each direction. Access to the Cross City Tunnel is available in the middle of the road for northbound traffic to the south of Day Street. Vehicular accesses to the site are available from Harbour Street. Wide footpaths exist on either side of the road. Footbridges also exist across Harbour Street near the northern and southern boundaries of the Sega World. Signalised pedestrian crossings also exist across Harbour Street at the intersections of Day Street and Bathurst Street. The street carries up to 1,200 vehicles per hour in each direction during the morning and evening peak hours.
2. **Day Street** – is a short road connecting Harbour Street to Bathurst Street with a triangular open space between the three streets. A signalized pedestrian crossing exists across its intersection with Bathurst Street, leading pedestrians from Bathurst Street to the Bathurst Street footbridge over Harbour Street.
3. **Bathurst Street** – in the vicinity of the site is a one-way street providing access from the Western Distributor to the southern part of the Sydney CBD.
4. **Liverpool Street** – provides a one-way westbound link between the southern part of the CBD and the Darling Harbour entertainment area. A footbridge exists from the northern and southern footpath of the street across Harbour Street, providing direct pedestrian access to Darling Harbour.

3 Construction Program

3.1 Description of the works

The construction program involves the following items of works:

- Piling
- Site Sheds construction
- Bulk Excavation
- Scaffolding
- Plant Deliveries & Pick up
- Structural Works, construction of new site access
- Civil Works
- Services
- Roof installation
- Façade construction
- Fit-outs and Finishes
- Public Domain Works in Harbour Street
- External Works
- Construction Waste Collection
- Material Deliveries
- Tower Cranes
- Mobile Cranes

The main construction works was scheduled to start in November 2008 and to continue for a period of 29 months, from November 2008 to Mar 2011. However some of the public domain works will continue to be carried out until June 2011. It should be noted that during the demolition of the site, it is proposed to install Class A-hoardings around the site. These hoardings will remain throughout the construction works and all construction activities, including bulk excavation will take place within the site. The bus parking areas in Darling Drive will be used for truck marshalling during all stages of main works from bulk excavation works to public domain works.

The pedestrian crossings at the intersections of Bathurst Street/Day Street and Harbour Street/Bathurst Street/Western Distributor Off-Ramp will be maintained during the works. The pedestrian crossings at the intersection of Harbour Street/Day Street and the signalised crossings across the site access on the western side of Harbour Street will be closed due to installation of hoardings on the footpath thereby closing pedestrian access to the footpath. Pedestrian way-finding signage plans shown in Figures 4 and 4(b) will assist pedestrians to find alternative routes.

These preliminary and continuing construction enabling elements are covered in the separate demolition traffic management plan.

3.2 Staging of the works

Note that the RTA guidelines define work as short and long-term work. The relevant TCP should be used with reference to the type of work as defined below:

- **Long-term work** – work requiring traffic control and taking longer than one work shift and where some form of traffic control must remain when the site is left unattended and may need to operate both day and night;

- **Short-term work** – work requiring traffic control during work taking less than or equal to one work shift and where traffic control is not required when the work is complete and where road conditions are returned to normal when the work ends.

Applicability of long or short-term plans is specified in **Chapter 5** below.

A brief description of each aspect of the construction works, truck generation and the scheduled timing of works, is outlined below. It should be noted that some of these works have already been completed as this is an updated report of an approved traffic management plan.

Item 1 – Piling Phase This involves installation of cast in-situ concrete piles in the site. The works, including loading and unloading will take place within the site and no lane closure will be needed.

4 piling rigs will be delivered in November 2008 and then picked up in February 2009. 700 piles will be installed and around 560 trucks will visit the site to deliver concretes and other materials associated with the piling works during the 4 months of piling works.

Item 2 – Construction of Site Sheds. This involves construction of temporary sheds or containers for the contractors' staff. The sheds and containers will be erected in December 2008 and removed from site when work is completed in March 2011. It is estimated that 60 trucks will deliver the containers and the sheds progressively from December 2008 and another 60 trucks will remove the materials at the end of the works.

Item 3 – Bulk Excavation

Bulk excavation works will be carried out over 8 months, between December 2008 and July 2009. 10 major items of plants will be delivered at the beginning of the works and then picked up by trucks at the end of the work in July 2009. Around 110,000m^3 of material will be taken out by trucks. Around 7,400 trucks (dog & trailers) will remove the materials for disposal.

Item 4 – Scaffolding

Scaffold will commence to be erected in September 2009 to facilitate building construction. The scaffolds will be dismantled progressively from September 2010. 30 trucks will deliver the materials and 30 trucks will remove the materials after dismantling.

Item 5 – Plant Deliveries and Pick Up

100 trucks will deliver construction plant from July 2009 to the end of the works as needed. The plant will be removed progressively by 100 trucks until the end of the works in December 2011. All loading and unloading will take place within the site.

Item 6 – Structural Works

This includes major concrete works and reinforcement for the structural elements of the building. Around 35,000m^3 of fresh concrete will be delivered by 7,000 trucks over a period of 8 months, between July 2009 and February 2010. The following numbers of trucks will visit the site over a period of 8 months between July 2009 and February 2010:

- 7,000 trucks to deliver 35,000m^3 of fresh concrete
- 200 concrete pumps
- 400 trucks to deliver around 8,000 tonnes of reinforcement bars
- 60 trucks for post-tensioning materials

Item 7: Civil Works

This involves construction of roads and driveways associated with the development. The work will be carried out over 12 months, between February 2010 and December 2011. 200 trucks (dogs and trailers) will deliver roadbase materials and 60 trucks will deliver bitumen. This includes reconstruction of Harbour Street/Day Street intersection.

Item 8: Services

These works include installation of hydraulic, mechanical, electrical, fire and other services. All installation will be carried out within the site. The installation of services will be carried out over 16 months, from November 2009 to February 2011. The following number of trucks will make deliveries during installation of services:

- Hydraulic – 200 trucks (50 large and 150 small trucks)
- Mechanical – 250 trucks (100 large and 150 small trucks)
- Electrical – 350 trucks (100 large and 250 small trucks)
- Fire – 100 trucks (50 large and 50 small trucks)
- Other services – 100 trucks

Item 9: Tower Cranes

Two tower cranes will be erected within the site in April 2009 and dismantled in September

2010. 20 trucks will deliver the crane components in April 2009 and 20 trucks will pick up the components in September 2010.

Item 10: Mobile Cranes

It is estimated that up to 100 mobile cranes will visit the site between December 2009 and 2011.

Item 11: Façade

300 trucks will make deliveries to the site during façade installation between February and September 2010.

Item 12: Roof Installation

Construction of roof will be carried out in 6 months between March and August 2010. 100 trucks will deliver structural steel and 50 trucks will deliver roof sheet and insulation.

Item 13: Fit-outs and Finishes

Installation of fit-outs and finishes will be carried out over 12 months between April 2010 and March 2011. Around 300 trucks will deliver materials over 12 months as follows:

- Ceiling Grid & Tiles – 25 trucks
- Blockwork – 30 trucks
- Linings/Wall finishes – 80 trucks
- Metalwork/balustrades – 120 trucks
- Floor finishes – 40 trucks

Item 14: External Works

This involves installation of landscaping, playground equipment and furniture. The works will be carried out over 7 months, between September 2010 and March 2011. 120 trucks will deliver materials for hard landscaping, playground equipment and furniture and also soft landscaping.

Item 15: Waste Collection

This involves collection of construction waste for disposal at landfill or other sites. Around 1400 skip bins will be collected by trucks during the main construction works between August 2009 and March 2011.

Item 16: Sundry Deliveries

It is estimated that various miscellaneous deliveries will be made during the construction of the buildings between August 2009 and March 2011. It is estimated that up to 500 trucks will make deliveries during this time.

Item 17: Public Domain Works

The public domain works associated with the Darling Walk project includes the following:

- Children's playground, Village Green, Civic Connector & Pedestrian Boulevarde;
- Bathurst Footbridge Works;
- Harbour Street works;
- McDonalds Drive-through works.

The existing A-Class hoarding will be extended to the public domain works area such that majority of the public domain works will be carried out within the enclosed area. During the works, Bathurst Street footbridge will be closed, however pedestrians will still have access to the Tumbalong Park via the IMAX Theatre. Pedestrian way-finding signs will be installed to direct pedestrians to access Darling Harbour via the IMAX theatre. Access for trucks during the public domain works will be entry via gate 2 and exit via gate 5 as shown in the construction establishment plan in Appendix A.

It is estimated that around 100 trucks will visit the site between February 2010 and June 2011 when these works are being carried out.

A brief description of each of the public domain works is provided below:

Children's Playground, Community Green, Civic Connector & Pedestrian Boulevard – This would be carried out in three stages as follows:

Stage 1 – Site Clearing Works: This involves removal and storage of all paving. Items such as bins and bench seating will be salvaged by SHFA. The existing overhead shade structure and hard landscaping will be removed by excavators.

Stage 2 – Excavation: The area will be cut and filled to the new levels and any contaminants

will be remediated.

Stage 3 – Construction and Landscaping: This involves installation of in-ground services and footings, overhead structures, Kiosks and soft landscaping. A 300,000 litre water tank and associated pump rooms will be installed as part of the Village Community Green works. Planter boxes, stairs, a central water feature and paving will also be constructed as part of the and pedestrian boulevarde and civic connector

Bathurst Street Footbridge works – This would be carried out in 4 stages including early works, bridge removal works, new bridge spans and cladding of the existing and new spans of the footbridge. A separate traffic management plan that includes detailed description of works was previously prepared by Halcrow MWT for these works[2].

Harbour Street Roadworks - The work will carried out in stages to minimise the impacts on Harbour Street. The processes involved:

- Demolition of existing footpath
- Excavation of new slip lane and kerb levels
- Installation of new services and adjustment of existing pit levels
- Construction of new kerb and base course
- Removal of existing hoarding along the completed kerbline and installation of temporary fencing to secure the site
- Installation of water-filled barricade along the new kerbline and installation of new paving
- Demolition of existing kerbline and reinstatement of basecourse and asphalt on the new slip lane. This work requires closure of the kerbside lane and will therefore be carried out in the nights and weekends when traffic volumes are lower. After each shift, water-filled barricades will be installed along the kerbline to prevent vehicles in Harbour Street from coming into the site.

McDonalds Drive-Through: This involves removal of existing bitumen, reconfiguration of in-ground services to suit the new turning bay and parking bays. Kerb and gutter, asphalt and landscaping will also be completed.

[2] Darling Walk – Pedestrian Bridge Canopy Works Traffic Management Plan – Halcrow MWT (2009)

4 Vehicle and Pedestrian Requirements

4.1 Vehicle Types

Construction vehicles likely to be generated by the proposed construction activities include:

- Articulated vehicles for delivery of machinery and tower cranes;
- Heavy and medium rigid trucks for construction material removals;
- Mobile cranes and concrete pumps;
- Staff cars and delivery vans.

As discussed in Section 3, all construction vehicles will be able to park on-site while carrying out loading and unloading. There will be no parking of staff cars in the site. Some staff will come by public transport as the site is located within walking distance of major public transport facilities, including train stations, monorail stations and STA bus stops. The workers who require parking for their cars will be able to park in the public pay parking stations available in the vicinity of the site.

4.2 Construction Vehicle Access

All construction vehicles will enter and exit the site via Harbour Street. 4 gates are proposed for entering and/or exiting the site. The gates shown in the establishment plans in Appendix A are:

- Gate 1: located just north of Liverpool Street, for exiting the site for exiting the site after completion of structure.
- Gate 2: located about 50m north of Liverpool Street for entering the site.
- Gate 4: Existing signalised exit driveway at the intersection of Harbour Street/Day Street
- Gate 5: Existing entry Driveway to Macdonald Restaurant. This gate will be reworked during construction phase.

All heavy vehicles 12.5m in length or longer will not be allowed to exit the site between the hours of 5:30pm and 7:00pm. Heavy vehicles on-site at 5:30pm shall remain on-site and leave as soon as possible after 7:00pm. No heavy vehicles (vehicles over 12.5m) will enter the site after 5:30pm.

It is proposed that the marshalling area for trucks be in Hickson Road, subject to consultation with the Roads and Traffic Authority (RTA) and Sydney Harbour Foreshore Authority (SHFA) as to details.

The route of trucks will be as follows:

- Entry – From Hickson Road southbound to Sussex Street, turn right into Liverpool Street, right into Harbour Street, and left into the site via any of the three gates (Gate 2, Gate 4 and Gate 5) shown in Appendix A. During bulk excavation, the routes of trucks to the site from the trucks marshalling area in Darling Drive are shown in Appendix G. It should be noted that signage at Gate 4 at the signalised intersection of Day Street/Harbour Street will be modified to permit entry of construction vehicles. New signage will be "No Entry" and "Construction Vehicles Excepted".
- Exit – Trucks will exit from either the existing signalised driveway at the intersection of Day Street and Harbour Street or the proposed Gate 3 during main works. Routes of exiting trucks would be as follows depending on the destination:
    - North: turn left to travel north via the Harbour Bridge
    - West: travel straight in Day Street and Bathurst Street to access Western Distributor via Kent Street and Druitt Street, or turn right into Harbour Street, Goulburn Street and right into George Street.
    - South: Right into Harbour Street, left into Goulburn Street, right into George Street, Regent Street, Cleveland Street and then South Dowling Street.

The proposed entry and exit routes provide shortest distances to the arterial roads and avoid the use of local roads by trucks.

Alternative marshalling areas for trucks, especially during the bulk excavation are the Coach parking areas in Darling Drive. The routes of trucks to and from Darling Drive trucks marshalling area are as follows:

Entry Routes to Marshalling Area

- From South – Via various routes, then Wyndham Street, Cleveland Street, Abercrombie Street, Wattle Street, Bridge Street and Darling Drive
- From North – via Harbour Bridge, Western Distributor, Harbour Street, Pier Street and Darling Drive
- From West – via Anzac Bridge, Pyrmont Road and Darling Drive
- From East – via Cleveland Street, Abercrombie Street, Wattle Street, Bridge Street, Pier Street and Darling Drive

Exit Route from Marshalling Area to Site

- **Route 1**: - Darling Drive, right onto Ultimo Road, left onto Harris Street, right onto Thomas Street, right onto Wattle Street, right onto Fig Street, right onto Harris Street, left onto William Henry Street, Pier Street, left into Harbour Street and left into site.
- **Alternative Route (Route 2)**: - Darling Drive, right into Ultimo Road, left into Harris Street, left into George Street, left into Goulburn Street, right into Harbour Street, and left into site.

Plans showing the entry and exit routes from the Darling Drive trucks marshalling area are provided in Appendix G.

4.3 Construction Traffic Flow

The numbers of trucks visiting the site during each item of works are outlined in Section 3.2. These have been separated into months and maximum number of trucks expected to visit the site during a peak hour has been calculated during each month. A summary of number of trucks expected to visit the site during each month of the construction works is provided in Table 4.2.

In calculating the maximum hourly truck volumes, it was assumed that there are 20 working days in a month and deliveries will take place during 6 hours per day. This results in conservatively higher volume than what is likely to occur. The project application actually seeks approval for construction works over 6 days per week (Monday to Saturday) and hours of work will be 7:00am - 7:00pm, Monday to Friday, and 7:00am – 5:00pm on Saturday. There will be no work on Sundays and public holidays.

Around 20,500 trucks will visit the site during the 29 months of construction works. The maximum number of trucks visiting the site per hour varies from 2 during some months to the highest number 21.

As outlined in Section 2, Harbour Street currently carries around 1,200 vehicles per hour in each direction during the morning and evening peak hours. These include some vehicles travelling to the Sega World complex that have been eliminated after demolition of the site. The volume of trucks visiting the site is considered minimal compared to the existing volume of traffic in Harbour Street.

The estimated maximum truck generation of 21 trucks per hour would have minimal impact on traffic operation in Harbour Street. Therefore the traffic impact of the construction activities will be low.

Furthermore Intersection analysis to assess the existing performance of the signalised intersections of Harbour Street with Liverpool Street and Day Street was recently undertaken

as part of the traffic planning for the Darling Walk Redevelopment. Results of the analysis are presented in Table 4.1.

Table 4.1 – Intersection Operations in Harbour Street

	Morning Peak		Evening Peak	
	Level of Service	**Average Delay per vehicle**	**Level of Service**	**Average Delay per vehicle**
Harbour St-Day St	B	25.1 seconds	B	24.4 seconds
Harbour St-Liverpool St	A	14.0 seconds	B	22.8 seconds

Note LOS A is the highest potential spare capacity, LOS F = Over capacity, poor operation.

Both intersections were found to operate satisfactorily under existing traffic conditions at level of service B or better in both peak periods. As stated in Section 2, Harbour Street currently carries around 1,200 vehicles per hour in each direction. Additional 21 trucks per hour less the existing traffic generation of the Sega World Building will result in insignificant changes to the operations of these intersections.

Table 4.2: Construction Truck Volumes

	Total	NUMBER OF TRUCKS PER MONTH																												
	Number	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb
	of Trucks	2008	2008	2009	2009	2009	2009	2009	2009	2009	2009	2009	2009	2009	2009	2010	2010	2010	2010	2010	2010	2010	2010	2010	2010	2010	2010	2011	2011
Total Number of Trucks	**20499**																												
Piling	564	282	282																										
Site Sheds Construction	120		60																										
Bulk Excavation	7420		935	925	925	925	925	925	925	935																			
Scaffolding	60											30												30					
Plant Deliveries & Pickup	200									10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
Structural Works (Concrete & Reinforcement)	7845									981	981	981	981	981	981	981	981												
Civil Works	260																20	20	20	20	20	20	20	20	20	20	20	20	20
Services	1000													63	63	63	63	63	63	63	63	63	63	63	63	63	63	63	63
Tower Cranes erect & dismant	40						20																						20
Mobile Craness	100														7	7	7	7	7	7	7	7	7	7	7	7	7	7	7
Façade	300																38	38	38	38	38	38	38	38					
Roof Installation	175																	22	22	22	22	22	22						
Fitouts & Finishes	295																		25	25	25	25	25	25	25	25	25	25	25
External Works	120																							17	17	17	17	17	17
Waste Collection	1400										70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70
Sundry Deliveries	500		18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18
Public Domain Works	100																5	5	5	5	5	5	5	5	5	5	5	5	5
TOTAL TRUCKS PER MONTH		**282**	**1295**	**943**	**943**	**943**	**963**	**943**	**943**	**1944**	**1079**	**1109**	**1079**	**1142**	**1148**	**1149**	**1206**	**247**	**271**	**272**	**272**	**272**	**272**	**302**	**235**	**235**	**235**	**235**	**255**
TRUCKS PER DAY (Assume 20 working days)		**18**	**84**	**61**	**61**	**61**	**63**	**61**	**61**	**126**	**70**	**72**	**70**	**74**	**75**	**75**	**78**	**16**	**18**	**18**	**18**	**18**	**18**	**20**	**15**	**15**	**15**	**15**	**17**
MAX TRUCKS PER HOUR (Assuming 6 hours of delivery per day)		**3**	**14**	**10**	**10**	**10**	**10**	**10**	**10**	**21**	**12**	**12**	**12**	**12**	**12**	**12**	**13**	**3**	**3**	**3**	**3**	**3**	**3**	**3**	**3**	**3**	**3**	**3**	**3**

4.4 Pedestrian Access

As the Sega World constitutes an entertainment precinct, pedestrians currently walk on every side of the building as follows:

- Eastern side: Before the commencement of works, pedestrians walk on the wide footpath along the Harbour Street frontage of the site. Pedestrians also cross Harbour Street from this footpath to the opposite side of the road, via the signalised intersections with Day Street and Bathurst Street.

- The leg of the pedestrian crossing in Day Street/Harbour Street intersection is proposed to remain closed during the construction works as the class A hoardings will remain on the footpath, closing access to pedestrians who presently walk to and through the site.

- Western Side: Pedestrians walk in the public domain area between the Sega World building and the pond and also between the pond and Tumbalong Park. Although hoarding will be installed in the western frontage of the site, access will be maintained for pedestrians on the eastern side of Tumbalong Park and along the eastern side of the children's playground.

- Northern side: Pedestrians walk from Bathurst Street across the footbridge into the Sega World building and along the western side of the building. This pedestrian footbridge will remain open for the majority of the time except during construction of public domain works in Harbour Street towards the end of the works. Pedestrian way finding signs will be installed to direct pedestrians crossing at the at-grade pedestrian crossing to access Tumbalong Park via the IMAX Theatre.

- Southern side: Pedestrians walk from Liverpool Street across the Liverpool Street footbridges to the public domain area west of the site. Access for pedestrians will continue to be available via the Liverpool Street footbridges.

A Pedestrian Way-finding Signage Plan that will be implemented during the main construction works is shown in Figure 4a. During the Public Domain Works, a modified Pedestrian Way-finding signage plan that includes temporary closure of the Bathurst Street footbridge will be implemented. The modified Pedestrian Way-finding signage plan for the Public Domain Works is shown in Figure 4b.

5 Traffic Control Plans

The Standard RTA Traffic Control Plans applicable to the construction work are discussed in the following sub-sections. The recommended Standard Traffic Control Plans are provided in **Appendix A**.

5.1 Construction of Temporary Site Accesses (Gates 2 and 3)

During the main works-civil phase, an existing unsignalised access to the site from Harbour Street will be closed off. New gates (Gates 2 and 3) will be constructed south of the access.

The closure of the existing gate will be carried out within the site, and traffic in Harbour Street will not be affected. Also plant and equipment for constructing the new entry will for the most part be located within the site and majority of the works will be carried out inside the site. However, because the footpath and the kerb in Harbour Street will be removed to construct the driveway, the kerbside lane in Harbour Street will be affected. It will be necessary to close off the kerbside lane such that the work area will be separated from the traffic in Harbour Street.

The work will be carried out at night and completed in one night. Standard **RTA TCP No 92** for short-term lane closure on a divided 4-lane road will be implemented to provide guidance for traffic in Harbour Street during construction of Gate 2.

As this work will be carried out at night, it is essential that flashing arrow signs be included in the signs and devices installed. Also, signs for nightworks should replace the standard signs.

As workers will be standing on the road close to the edge of the adjacent traffic lane, the speed limit should be reduced to 40km/h in the work area and for at least 100m on the approaches to the work area. Therefore 'Roadwork Speed Limit' (R4-212) signs will be installed. Authorisation of the use of the 'Roadwork Speed Limit' (R4-212) sign shall be obtained through RTA's Traffic Management Centre. The nearest Police Station needs to be notified by the Sydney Harbour Foreshore Authority in writing of the Authority's intention to implement a roadwork speed limit 7 days prior to works commencing.

The traffic control plan shown in **Figure 2** will be implemented.

The works for Gate 3 requires similar traffic control plan except that the length of road closed will be longer. The traffic control plan for construction of Gate 3 is shown in **Figure 3**.

5.2 Bulk Excavation and Main Construction Works

The Class A-hoardings that will be installed around the site during demolition works will remain throughout the construction works and all construction activities, including bulk excavation will take place within the site.

Closure of any road or lane will not be required, however as heavy vehicles will visit the site to make deliveries it will be necessary to warn other drivers. The estimated number of trucks visiting the site per day varies from 11 to 102 trucks per day (See **Table 2**).

It will be necessary to provide advanced warning signage of truck movements to other drivers in Harbour Street. As Harbour Street is a divided road, only northbound drivers need to be notified. The signs should also be installed in Liverpool Street on the approach to the intersection of Harbour Street. The appropriate warning signs include **TRUCKS** (W5-22) and **TRUCKS TURNING** (W5-205).

The following standard RTA TCPs should be implemented for this work:

- Standard RTA **TCP No 195** shows warning signs and devices on the approach to an access road for trucks.

The traffic control plan for the site, based on TCP 195 is provided in **Figure 5**.

5.3 Public Domain Works

Majority of the works in the public domain will be carried out behind the existing Class A hoardings in Harbour Street. Demolition of existing kerbline and reinstatement of the basecourse and asphalt requires closure of the kerbside lane.

The work will be carried out in several stages and at nights or weekends to minimise traffic impact. The traffic control plan showing signs and devices that will be installed during these works is shown in **Figure 6**.

6 Impacts of the Proposed Works

An assessment of the traffic impacts of the construction works has been undertaken in accordance with the RTA Guidelines for preparing a traffic management plan. The Construction Traffic Management Plan will require approval by the Sydney Harbour Foreshore Authority. Any road occupancies or temporary speed zone will also require approval by the RTA. The assessment of the Traffic Management Plan is provided below

A. Description or detailed plan of the proposed measures.

The approved hours of works are 7:00am – 7:00pm, Monday- Friday, and 7:00am-5:00pm on Saturdays. The main works are scheduled to be completed over a period of 29 months from November 2008 to March 2011. The public domain works will continue until June 2011.

The construction program involves the following works:

- Piling
- Site Sheds construction
- Bulk Excavation
- Scaffolding
- Plant Deliveries & Pick up
- Installation and Dismantling of Tower Cranes
- Structural Works, construction of new site access
- Civil Works
- Installation of Services
- Roof installation
- Façade construction
- Fit-outs and Finishes
- Public Domain Works
- Construction Waste Collection
- Material Deliveries
- Marshalling of trucks will be in the coach parking areas in Darling Drive in consultation with the Sydney Harbour Foreshore Authority.

Around 20,500 trucks will visit the site during the construction works. The maximum number of trucks visiting the site per hour varies from 2 during some months to the highest number 17. Trucks will enter Harbour Street from Liverpool Street and turn left into the site via any of the gates. Trucks will exit the site and travel north via the Harbour Bridge or via Day Street. All heavy vehicles 12.5m in length or longer will not be allowed to exit the site between the hours of 5:30am and 7:00pm.

The Class-A Hoardings installed during demolition of the site will remain in place during construction works. Therefore all works, including loading and unloading will take place within the site. Two additional gates will be constructed from Harbour Street, and appropriate traffic control plans have been developed for these works.

Standard RTA Traffic Control Plans (as required) are recommended in accordance with AS1742.3 and RTA Guidelines. The traffic control plans will be implemented to inform the public and minimise impact of the works.

The footpath on the western side of Harbour Street will be closed to pedestrians during the works. Bathurst Street footbridge will also be closed during the public domain works. Pedestrian way-finding signage plan shown in Figures 4a and 4b will be implemented to inform pedestrians of alternative route.

B. Identification and assessment of impact of proposed measures.

During the construction works, the number of construction trucks expected to visit the site varies from around 10 trucks per day to 130 trucks per day depending on the items of works being carried out. The impact of the construction trucks on traffic operations at the signalised intersections of Harbour Street/Liverpool Street and Harbour Street/Day Street will be minimal as the existing traffic visiting Sega World Building will be eliminated after and the construction traffic arriving and departing in any one hour will be low in the context of traffic already travelling through the area.

Implementation of standard RTA Traffic Control Plans will ensure that adequate warnings and guidance are available to other road users, thus minimising the impact.

On Harbour Street, it is proposed to continue the closure of the footpath on the western side that is proposed to be implemented during the demolition phase for the duration of the construction works. Pedestrians will use the footpath on the eastern side of Harbour Street to access the footbridges at the northern and southern boundaries of the site.

The signalised pedestrian crossing across Harbour Street at its intersection with Day Street will also be closed. Alternative pedestrian crossing facilities exist at the intersection of Harbour Street/Bathurst Street and also at the Liverpool Street and Bathurst Street footbridges. During the public domain works in Harbour Street, Bathurst footbridge will be closed to pedestrians. Pedestrian Way-finding Signage Plans will be implemented to assist pedestrians, especially visitors, in locating alternative pedestrian facilities. In addition there will be no generation of public pedestrian movements by facilities on the site and public movement through the site by pedestrians will not be possible during construction. Pedestrian

movements on Harbour Street that would otherwise have occurred on Harbour Street along the frontage of the site would be low.

Therefore the impact on pedestrians will be low.

C. Measures to ameliorate the impact of re-assigned traffic

The construction will not require re-assignment of traffic onto roads that it does not presently use. Trucks warning signage will be installed in Liverpool Street and Harbour Street on the approaches to the site to warn other drivers to anticipate trucks turning in and out of the site.

It is proposed to carry out the very limited works affecting Harbour Street at night when traffic volumes are lower to reduce impact of lane closure on traffic conditions in Harbour Street. Advanced warning signs will be installed in Harbour Street on the approaches from Liverpool and Bathurst Streets to inform drivers of a closed lane.

Pedestrian way-finding signage plan will be implemented to assist pedestrians to locate alternative pedestrian facilities in and across Harbour Street.

D. Assessment of Public Transport service affected

There will be no re-direction of public transport traffic during the project.

E. Details of provision made for emergency vehicles, heavy vehicles, cyclists and Pedestrians.

No change to access for emergency vehicles is proposed. Heavy vehicles will continue to have access along and from Harbour Street, including during lane closures at night.

There is no designated cycle route in Harbour Street. Cyclists will therefore not be affected by the proposed works.

Pedestrian way-finding signage plans, shown in Figures 4a and 4b**,** will be implemented to direct pedestrians to alternative pedestrian crossing facilities.

F. Assessment of effect on existing and future developments with transport implications in the vicinity of proposed measures.

The proposed measures will be temporary and the effect on any existing development will be negligible. Future developments will not be affected by the works.

G. Assessment of effect of proposed measures on traffic movements in adjoining Council areas.

The works will have no effect on adjoining Council areas.

H. Public consultation process

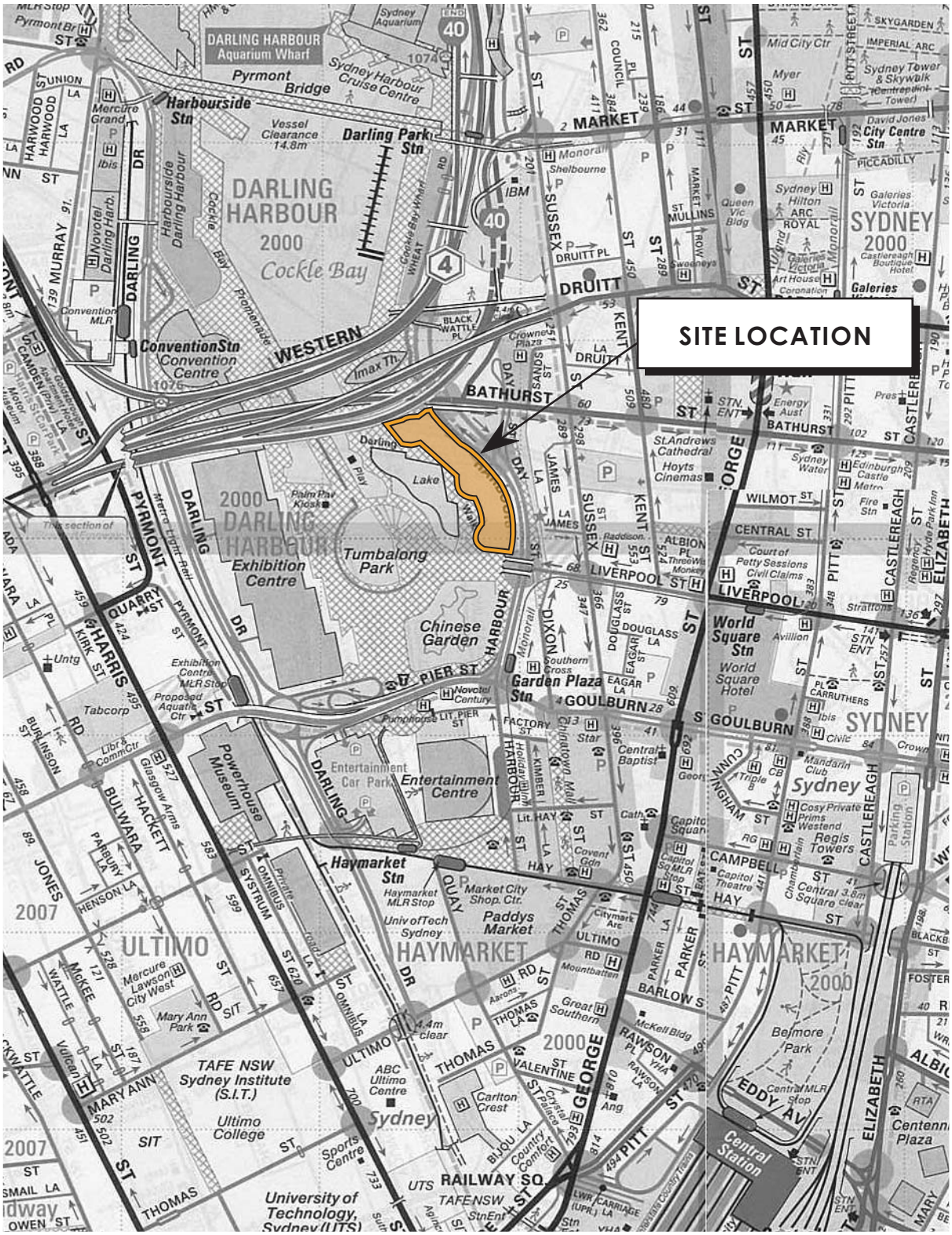
Public consultation will be undertaken in accordance with the conditions of consent. RTA and SHFA will be consulted on the use of Hickson Road for marshalling of trucks. In addition, SHFA will be consulted regarding installation of Hoardings on the western side of the site. Any other parties suggested for consultation by SHFA will be spoken to directly.

The name and telephone number of the Construction Manager are as follows:

Name:	Richard Eaton
Contact (Mobile No):	0408 252 679

SITE LOCATION

DARLING WALK



MASSON | WILSON | TWINEY

TRAFFIC AND TRANSPORT CONSULTANTS

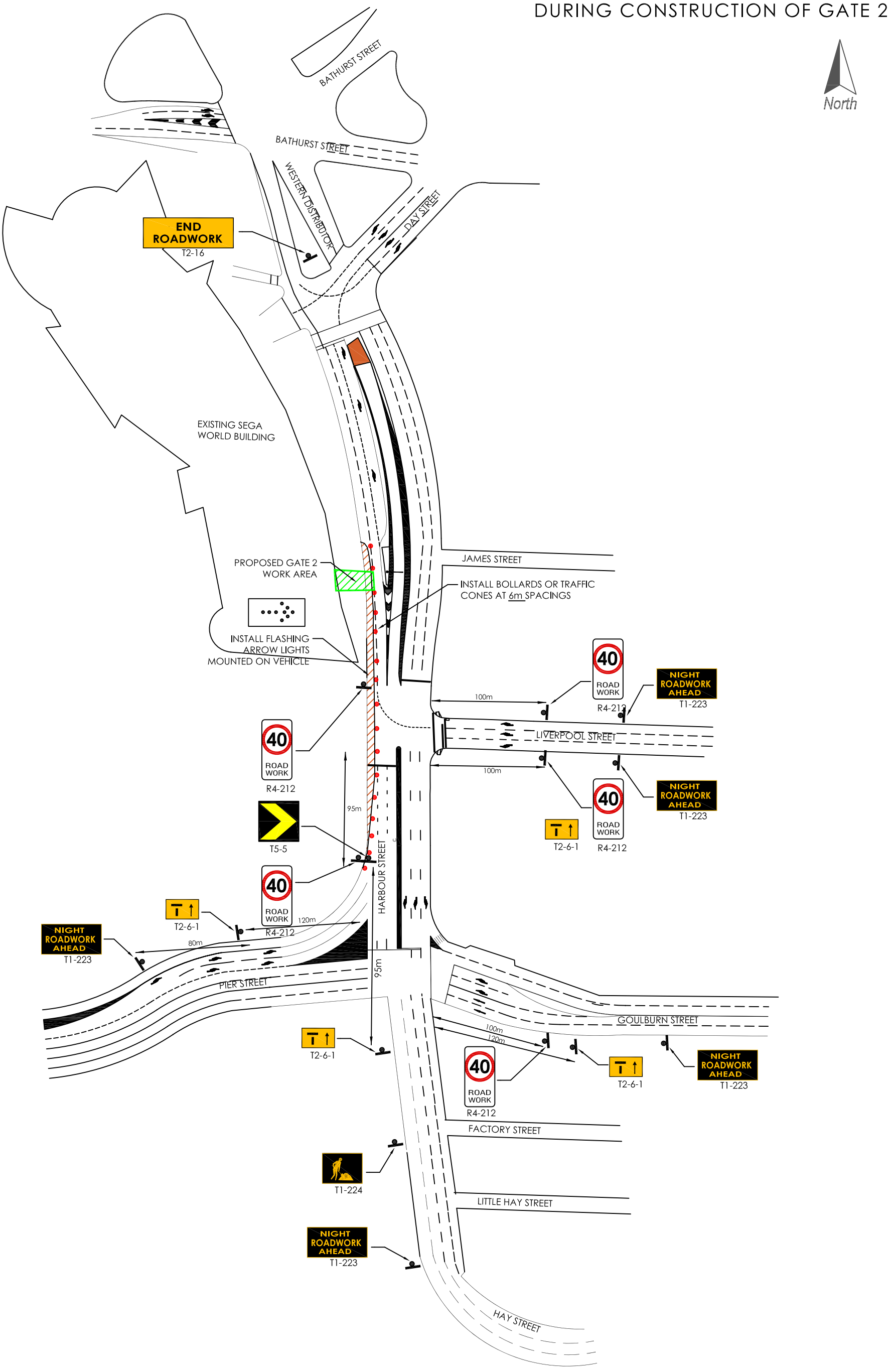
Figure 1

Filename: 073372di01.ai

Date: 2 April 2008

DARLING WALK

TRAFFIC CONTROL PLAN FOR CLOSURE OF KERBSIDE LANE IN HARBOUR STREET DURING CONSTRUCTION OF GATE 2



Scale: N.T.S.

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Filename: 073372da30_GATE-2_TMP

Figure 2

Date: 04.April.2008