

DPT & DPPT OPERATOR PTY LTD

PRINCIPLES OF CONSTRUCTION
TRAFFIC MANAGEMENT FOR
PROPOSED REVISED DEVELOPMENT
OF COCKLE BAY PARK,
DARLING HARBOUR

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(Revised 19 September 2017)

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I. INTRODUCTION

I.1 Colston Budd Rogers and Kafes Pty Ltd has been commissioned by DPT & DPPT Operator Pty Ltd to assist in developing the principles of construction traffic management for the proposed revised development of Cockle Bay Park, Darling Harbour. The construction process for the overall development will involve a series of construction traffic management plans, including Wheat Road diversion works, enabling & substructure works, demolition works, excavation works and main structure works, including landbridge works over the Western Distributor (requiring the night time closure of the Western Distributor).

I.2 Cockle Bay Park is located on the eastern side of Darling Harbour, as shown on Figure 1. Access to the site is available from Harbour Street via Wheat Road. Wheat Road passes through the site in a northerly direction and Harbour Street is located adjacent to the eastern boundary of the site. The proposed development will include up to 75,000m² of commercial area, some 14,000m² of retail area (including food, beverage and retail shops) and up to 15,000m² of publicly accessible open space. The proposed development will include:

- ❑ extension of the development over the northbound and southbound carriageways of the Western Distributor;
- ❑ closure of Wheat Road through the site with connections at the northern and southern ends of the site;
- ❑ part realignment of Wheat Road at the northern end of the site;
- ❑ provision of a new Harbour Street slip lane as part of the Wheat Road realignment works.

- I.3 At this stage the overall construction methodology, process and staging of the proposed development have not been determined. As outlined with RMS, a series of construction traffic management plans will be developed for the various stages of construction, including construction of the landbridge over the Western Distributor. These will be the subject of ongoing negotiations with the authorities. The construction methodology and the extension of the development over the Western Distributor will be carried out in a similar manner to the construction of the nearby Four Points Hotel development in Sussex Street.
- I.4 This report considers the traffic matters raised by RMS/TfNSW in their submissions (following review of the Stage I SSDA) on the 10 March and 23 March 2017 respectively, with regards to the construction of the proposed development in accordance with the amended concept proposal. It outlines the principles of construction traffic management. These principles will be refined and construction traffic management plans prepared for the development, in consultation with RMS, TfNSW and the City of Sydney.
- I.5 The following chapter set out the principle of construction traffic management for the initial enabling & substructure works associated with the proposed revised development, including modifications to Wheat Road and Harbour Street.

2. PRINCIPLES OF CONSTRUCTION TRAFFIC MANAGEMENT

- 2.1 The proposed revised development of Cockle Bay Park will include up to 75,000m² of commercial area, some 14,000m² of retail area (including food, beverage and retail shops) and up to 15,000m² of publicly accessible open space. The proposed development will include an extension of the development over the northbound and southbound carriageways of the Western Distributor and the diversion of Wheat Road through the site.
- 2.2 The construction process will involve a series of management plans forming the basis of the overall project management plan for construction. These plans will be prepared in consultation with RMS, TfNSW and City of Sydney, and will include Wheat Road diversion works, enabling & substructure works (including the construction of a temporary pedestrian bridge from Market Street/Sussex Street to Pymont Bridge), demolition works, excavation works and main structure works, including construction of a landbridge over the Western Distributor (requiring the night time closure of the Western Distributor).
- 2.3 These plans will be developed to satisfy the following traffic arrangements during the project:-
- cumulative impacts of multiple construction sites and other major construction projects in the area. Construction of the development is expected to commence after the completion of the IMAX Theatre (Ribbon) development;

- ❑ measures to manage traffic flow through and around the site during construction, including the diversion of Wheat Road traffic and the redistribution of traffic associated with the temporary night time closures of the Western Distributor during construction;
- ❑ provision of appropriate regulatory and directional signposting, line-marking and variable message signs, associated with the diversion of traffic during construction;
- ❑ identify mitigation measures to improve traffic conditions; and
- ❑ take into account both local and regional traffic impacts.

2.4 The principles of construction traffic management for the proposed development are set down through the following sections:-

- ❑ Wheat Road diversion works;
 - ❑ enabling & substructure works;
 - ❑ hours of work;
 - ❑ truck routes;
 - ❑ traffic diversions;
 - ❑ construction site entries;
 - ❑ construction vehicle management;
 - ❑ pedestrians;
 - ❑ consultation;
 - ❑ matters raised by the authorities; and
 - ❑ principles of construction traffic management.
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Wheat Road Diversion Works (Temporary and Permanent)

2.5 The Wheat Road diversion works will be staged with work being undertaken within the construction areas indicated on Figure 2. The section of Wheat Road adjacent to site will be reconfigured and will have the following configuration:

- ❑ Wheat Road will be closed through the site with connections at the northern and southern ends of the site;
- ❑ at the southern end of the site, the existing Cockle Bay connection of Wheat Road to Harbour Street will be modified to provide left out only to Harbour Street. This will facilitate egress from the site, the adjacent Ribbon development and the existing bus/coach set down pick up area (located at the southern end of the site);
- ❑ at the northern end of the site, the existing northern exit from Harbour Street to Wheat Road will be retained and a new Wheat Road diversion will be provided starting further south than the exiting exit. This section of Wheat Road will be one-way northbound with separate entry and exit connections to the subject site; and
- ❑ at the northern end of site, access to Wheat Road will be provided from the site. All vehicles accessing the site would do so from Harbour Street (although from the Wheat Road northern connection rather than the existing central connection). Vehicles exiting from the northern part of the site would depart via Wheat Road (north) as per the existing situation (through Shelly Street).

- 2.6 Currently the existing coach parking, set down/pick up area and car parking located on Wheat Road adjacent to the aquarium is accessed via the central connection of Wheat Road from Harbour Street, with vehicles having to pass through the site to access these areas. As noted above, the existing northern connection of Wheat Road from Harbour Street will be relocated to the south of Pyrmont Bridge. Thus access to the section of Wheat Road adjacent to the aquarium will be via the relocated northern connection. Existing coach parking, loading zones, set down/pick up areas and kerb side parking in the area north of Pyrmont Bridge will not be changed. Providing a new northern Harbour Street connection to the south will increase the available queuing area on Wheat Road and hence reduce the effects of congestion in Wheat Road (north of Pyrmont Bridge) that can lead to queuing back onto Harbour Street.
- 2.7 During construction and prior to the final alignment of the road, Wheat Road will be temporarily diverted around the construction activity at the northern end of the site, as shown on plans prepared by Aurecon Group. These arrangements are shown on Figure 3. This will allow continued access to existing bus/coach parking on Wheat Road, servicing for Helm Bar and the adjacent Aquarium, and continued access to King Street Wharf via Shelley Street. During construction the Wheat Road diverted traffic will be managed and controlled by qualified traffic controllers.
- 2.8 In addition work will be undertake at the southern end of the site, to reconfigure the existing Cockle Bay connection of Wheat Road to Harbour Street, to provide a left in and left out only to Harbour Street. This will facilitate egress from the construction site and the existing bus/coach set down pick up area (located at the southern end of the site). Following these works, Wheat Road through the site will be closed and traffic will be diverted onto Harbour Street past the site.
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- 2.9 Construction activity will then commence on site establishment, erection of construction fencing/hoardings, erection of site facilities and amenities, establishment of construction site compound and the establishment of an on-site materials handling area. This will be followed by the demolition of the existing buildings on the site.
- 2.10 Pedestrian facilities and connections around the site will be generally be maintained along the adjacent pedestrian promenade to the west of the site and to/from pedestrian connections to the east, linking to Market Street, Sussex Street and Druitt Street. The existing pedestrian bridge linking to Darling Harbour via Pyrmont Bridge, and the disused monorail station at the northern end of the site, will be demolished. This pedestrian connection over the Western Distributer linking to Market Street and Sussex Street will be replaced by a temporary pedestrian bridge located on the northern side of the existing structure. The temporary pedestrian bridge will have a similar capacity to the existing pedestrian bridge and will maintain pedestrian access from Market Street/Sussex Street to Darling Harbour, via Pyrmont Bridge.
- 2.11 The existing centrally located pedestrian bridge linking Darling Park to Cockle Bay Wharf will also be demolished. This pedestrian bridge will ultimately be replaced by the proposed landbridge over the Western Distributor. During construction however, and given that the entire site will be under construction, this pedestrian connection will not be maintained.
- 2.12 The existing pedestrian bridge over the Western Distributor at the southern end of the site, linking Darling Harbour to Druitt Street and Sussex Street, will be maintained throughout the construction period.
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- 2.13 Bus and coach parking facilities on Wheat Road to the north and south of the site will be maintained.

Enabling & Substructure Works

- 2.14 Subject to the approval by the authorities, work over the Western Distributor will be undertaken during the evening period and will require the temporary closure of part of the northbound and southbound carriageways of the Western Distributor. The closure of the Western Distributor will be staged so as to maintain access to/from the Harbour Bridge. This is similar to the construction methodology adopted for the construction of the nearby Four Points Hotel development.
- 2.15 The enabling & substructure works will include the following:-
- ❑ demolition of existing buildings on the site, including the demolition of the northern and central pedestrian bridges over the Western Distributor and the disused monorail station;
 - ❑ construction of a temporary pedestrian bridge at the northern end of the site linking Darling Harbour to Market Street and Sussex Street;
 - ❑ services diversion and augmentation works;
 - ❑ preparation of piling areas and removal of vegetation, barriers and establishment of an appropriate piling platform in the relevant areas; and

- ❑ drilling and construction of piles/supporting structure adjacent to the northbound and southbound carriageways of the Western Distributor to support the extension of the development over the road.

2.16 The construction of the development over the Western Distributor will involve the construction of a landbridge over the road. The construction traffic management plan for the enabling & substructure works, demolition, construction of the development and construction of the superstructure over the Western Distributor, will be prepared in consultation with TfNSW/RMS and City of Sydney.

2.17 Work adjacent to the Western Distributor, associated with the enabling & substructure works, will be undertaken during agreed working hours and may require the temporary part lane closure of either the northbound or southbound carriageways of the Western Distributor at various times.

Hours of Work

2.18 Work associated with the construction activity (not required to be carried out during lane/road closures) will be carried out between the following hours of construction, unless otherwise agreed with the relevant authority:-

- ❑ Monday to Friday - 7:00am to 7:00pm;
- ❑ Saturday - 7:00am to 6:00pm; and
- ❑ Sunday/public holidays - No work.

2.19 Work associated with the enabling & substructure works, including demolition work, adjacent to and directly above the Western Distributor (required to be carried out during lane/road closures), will be carried out outside of peak periods.

These works will typically be undertaken at night, with the agreed working hours approved by TfNSW/RMS, typically being Sunday to Friday during the hours 9.00pm to 5.00am. These construction hours will require approval by the City of Sydney's Construction Regulation team.

- 2.20 The site contractor will be responsible to instruct and control sub-contractors and suppliers regarding the hours of work. Any work outside the approved construction hours would be subject to prior approval from TfNSW/RMS and the City of Sydney's Construction Regulation team.
- 2.21 All work, including demolition and construction work should comply with the City of Sydney Code of Practice for Construction Hours/Noise 1992, RMS Construction Noise and Vibration Guidelines August 2016 and the Australian Standard AS2436.1981 Guide to Noise Control and Construction, Maintenance and Demolition Sites.
- 2.22 To facilitate an efficient program, the arrival and departure of trucks associated with construction works will be regulated and on-site works will be carefully managed and controlled by site personnel. Trucks will be called onto the site when required. Trucks will not be permitted to park on-street in Wheat Road, Harbour Street or within the surrounding CBD.

Truck Routes

- 2.23 During the Wheat Road diversion works and the initial enabling & substructure works associated with the proposed development, trucks transporting material to/from the site will be accommodated on-site. These areas will be managed and controlled by qualified traffic controllers.
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- 2.24 As shown on the construction staging and construction traffic methodology plans prepared by Multiplex, set out in Appendix A, access to the construction site associated with the initial enabling works and demolition activity will be provided to/from the southern site access. During the later stages of construction, associated with the construction of the podium structure and superstructure of the development, access to the construction site will be provided with entry from the southern site access and exit from the northern site access onto the Wheat Road diversion works.
- 2.25 During construction truck movements to and from the site will be restricted to designated truck routes and will be confined to the main road network in the vicinity of the site. Trucks at no time during construction will be permitted to park on-street within the surrounding CBD.
- 2.26 The proposed truck routes for the Wheat Road diversion works and the initial enabling & substructure works, as shown on Figures 4 and 5, include the following:-
- Approach routes
 - Western Distributor, Harbour Street and Wheat Road;
 - Eastern Distributor, Cross City Tunnel, Harbour Street and Wheat Road;

- Warringah Freeway, Harbour Bridge, Erskine Street, Sussex Street, Bathurst Street, Harbour Street and Wheat Road (excluding morning and afternoon peak bus periods);
- Departure routes
- Harbour Street, Western Distributor, Harbour Bridge and Warringah Freeway;
 - Harbour Street/Wheat Road, Shelley Street, Erskine Street, Clarence Street, Harbour Bridge and Warringah Freeway;
 - Harbour Street/Wheat Road, Shelley Street, Erskine Street, Sussex Street, Liverpool Street, Harbour Street, Cross City Tunnel and Eastern Distributor (excluding morning and afternoon peak bus periods);
 - Harbour Street/Wheat Road, Shelley Street, Erskine Street, Sussex Street, Western Distributor (excluding morning and afternoon peak bus periods).

2.27 The designated truck routes to and from the site are proposed to restrict construction traffic to the main road network through the area. In particular, these truck routes are proposed to prevent trucks accessing other roads within the CBD in the vicinity of the site. Truck drivers will be inducted and advised of the designated truck routes to and from the site.

Traffic Diversions

- 2.28 As previously discussed, work adjacent and above the Western Distributor will be undertaken at night during agreed working hours and will require the temporary closure of part of either the northbound and/or southbound carriageways of the Western Distributor at various times, associated with the construction of the landbridge. The closure of the Western Distributor, will be staged so as to maximise access to/from the Harbour Bridge.
- 2.29 During construction, when the full closure of either the northbound or southbound carriageways of the Western Distributor are required, traffic will be diverted along the following routes, as shown on Figure 6:-
- Northbound traffic diversion
 - Western Distributor northbound closed at the King Street off-ramp with northbound traffic diverted via King Street, Kent Street and Clarence Street;
 - Harbour Street northbound carriageway closed at Bathurst Street with northbound traffic diverted via Bathurst Street and Kent Street;
 - Southbound traffic diversion
 - Western Distributor southbound on-ramp closed at the Bradfield Highway (Harbour Bridge) with southbound traffic diverted via York Street and Market Street.
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Construction Site Entries

- 2.30 As previously discussed, Wheat Road will be closed through the site with connections at the northern and southern ends of the site. At the southern end of the site, the existing Cockle Bay connection of Wheat Road to Harbour Street will be modified to provide left out only to Harbour Street. This will facilitate egress from the site, the adjacent Ribbon development and the existing bus/coach set down pick up area (located at the southern end of the site). At the northern end of the site, the existing northern exit from Harbour Street to Wheat Road will be retained and a new Wheat Road diversion will be provided starting further south than the exiting exit. This section of Wheat Road will be one-way northbound with separate entry and exit connections to the subject site.
- 2.31 During construction, all construction vehicles accessing the site would do so from Harbour Street at the southern end of the site. Construction vehicles would exit from the northern part of the site onto the diverted Wheat Road.
- 2.32 All construction vehicles and material deliveries/handling, including concrete deliveries, will occur from the on-site construction compounds/material handling areas, located adjacent to the internal access road through the site. Construction vehicles will enter and exit the site in a forward direction. Appropriate sight lines will be provided at the construction access driveways.
- 2.33 The existing coach parking, set down/pick up area and car parking located on Wheat Road adjacent to the aquarium will be accessed from the diverted Wheat Road from Harbour Street. The existing coach parking, loading zones, set down/pick up areas and kerb side parking in the area north of Pyrmont Bridge will not be changed.
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- 2.34 The proposed construction access driveways at the northern and southern end of the site and the arrival and departure of trucks to and from the site will be managed and controlled by qualified traffic controllers. These personnel will manage the movement of construction vehicles to and from the site and pedestrian movements adjacent to the construction access driveways.
- 2.35 Truck drivers will be advised of the presence of the traffic controller, and that they must observe his or her direction at all times. All traffic controllers will be fully qualified with the relevant RMS Traffic Controllers qualifications.
- 2.36 All traffic controllers and work personnel will be required to wear high visibility fluorescent safety vests and Personnel Protective Equipment (PPE). Wet weather clothing will be made of fluorescent high visibility material.

Construction Vehicle Management

- 2.37 At the commencement of demolition, plant and equipment including dozers and hydraulic excavators, will be delivered to the site, and prior to the commencement of construction of the main structure of the proposed developments, two tower cranes will be delivered and erected on the site. Machine floats will be used to deliver the plant and equipment, and a mobile crane will be used to erect the two tower cranes. All plant and equipment deliveries will be carried out from the on-site construction compounds/material handling areas.
- 2.38 The movement of construction vehicles to/from the site and in particular trucks associated with the removal of demolition material will be managed by qualified traffic controllers. During demolition, material will be transported from the site by single rigid trucks, up to 12.5 metres in length. All trucks removing material
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from the site will be loaded to prescribed limits and covered. Loose material will be removed from all vehicles and/or machinery before permission to leave the site is granted. The site manager will be responsible for the cleaning of trucks on the site and ensuring that waste material is appropriately covered and checked prior to transport.

- 2.39 All material will be checked, sorted and treated prior to the removal from the site. Contaminated material will be classified in accordance with the provisions of the Protection of the 'Environment Operations Act 1997 and the NSW DECC Waste Classification Guidelines, Part 1: Classifying Waste (April 2008)'.
- 2.40 Construction safety fencing with full height scaffolding will be erected around the perimeter of the construction activity and safety screens on the buildings. The loading of material onto trucks will be carried out on-site in an approved and controlled manner by the use of dozers and excavators. The movement of trucks will be managed and controlled by qualified traffic controllers. The management and control of the on-site loading area and the movement of trucks on and off the site will be the responsibility of the site manager.

Pedestrians

- 2.41 Pedestrian routes adjacent to the site will be subject to some modification as a result of the construction activity in order to minimise conflict and maintain safe pedestrian conditions. No construction vehicles will be parked nor will material/equipment be stored on the public footpaths adjacent to the site. The existing pedestrian promenade on the western side of site will be maintained.

- 2.42 The existing northern pedestrian bridge over the Western Distributor and the disused monorail station will be demolished. This pedestrian connection over the Western Distributor will be replaced with a temporary pedestrian bridge at the northern end of the site. The temporary pedestrian bridge will have similar capacity to the existing pedestrian bridge and will maintain access from Market Street and Sussex Street to Darling Harbour, via Pyrmont Bridge.
- 2.43 The existing centrally located pedestrian bridge linking Darling Park to Cockle Bay Wharf will also be demolished. This pedestrian bridge will ultimately be replaced by the proposed landbridge over the Western Distributor. During construction however, and given that the entire site will be under construction, this pedestrian connection will not be maintained. Appropriate pedestrian safety signs will be erected informing pedestrians of the changed conditions during construction.
- 2.44 The existing pedestrian bridge over the Western Distributor at the southern end of the site, linking Darling Harbour to Druiitt Street and Sussex Street, will be maintained throughout the construction period.
- 2.45 Pedestrian activity adjacent to the construction site driveways will be protected with the provision of construction safety fencing, with scaffolding and overhead protection provided where required. Temporary moveable barriers may be used, if required, to manage pedestrian movements adjacent to the construction site access driveways.
- 2.46 Hoarding applications together with details and extent of the proposed construction areas will be submitted to and approved by TfNSW/RMS and the City of Sydney for the enclosure of public space.
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- 2.47 The construction safety fencing will allow for the continued use of footpaths by pedestrians during construction and will provide a safe and convenient environment for all users. The design, set-out and erection of the construction safety fencing around the construction site and at the northern and southern ends of the site, will be the responsibility of the site contractor and will be in accordance with the requirements of the City of Sydney's Construction Regulation team.
- 2.48 Pedestrian warning signs and construction safety signs/devices will be located adjacent to the temporary construction access driveways, in accordance with WorkCover requirements. The movement of trucks entering and exiting the site and the movement of pedestrians across the construction site access driveways when in use, will be managed and controlled by qualified traffic controller.

Consultation

- 2.49 In regards to community public consultation relating to the staging of construction and timeframes for the completion of each phase of development/construction process, the site contractor will undertake regular meetings and discussions with TfNSW/RMS, City of Sydney and various stakeholders.
- 2.50 A community consultation plan will be prepared in association of the overall project management plan and will be submitted to City of Sydney and Place Management NSW for approval. The plan will include 24 hour hotline, advertising strategies, website dedicated to the project's status and upcoming activities and other means of consultation.
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Matters Raised by Authorities

2.51 In a letter dated 23 March 2017, TfNSW have raised a number of traffic matters with regards to construction traffic management. These are set out below:

The Principles of Construction Traffic Management Report and Preliminary Construction Management Plan prepared for the proposed development identify that the construction process for the overall development will involve the development of a series of construction traffic management plans due to the development's multiple stages of construction. The documents identify various principles which are considered to have an impact to the CBD traffic network and pedestrian and cycle networks and are not supported by TfNSW. These include:

- *The demolition or partial closure of pedestrian bridges between Darling Harbour and the CBD, especially during events at Darling Harbour;*
- *The partial closure of the Western Distributor, Harbour Street and Wheat Road;*
- *The accommodation of trucks within designated work zones/temporary construction compounds adjacent to the construction activity;*
- *The installation of a temporary set of traffic signals at the intersection of Harbour Street/Blackwattle Place;*
- *The use of George Street for truck approach routes during and after the Sydney Light Rail construction; and*
- *The use of York, Erskine and Sussex Streets for truck approach routes during bus operation.*

It is noted that the proposal seeks concept approval for the construction of new buildings which would be proposed under a Stage 2 development application, however proposes the demolition of existing site structures as part of the subject development

application. TfNSW advises that several construction projects, including the Sydney Light Rail Project, Sydney Metro City and Southwest Project and the adjoining IMAX Theatre redevelopment are likely to occur at the same time as this development within the CBD. The cumulative increase in construction vehicle movements from these projects could have the potential to impact on general traffic and bus operations within the CBD, as well as the safety of pedestrians and cyclists particularly during commuter peak periods.

Recommendation

TfNSW requests that the applicant be conditioned to the following:

- *Prepare a Construction Pedestrian and Traffic Management Plan (CPTMP) in consultation with the CBD Coordination Office within TfNSW. The CPTMP needs to specify, but not be limited to, the following:*
 - *Location of the proposed work zone;*
 - *Location of the crane;*
 - *Haulage routes;*
 - *Construction vehicle access arrangements;*
 - *Details of temporary pedestrian access arrangements. The proposed temporary pedestrian access arrangements should be provided prior to the demolition of the pedestrian bridges. The proposed temporary pedestrian accesses should be able to cater for the current demand of the pedestrian bridges that are to be demolished;*
 - *Proposed construction hours;*
 - *Estimated number of construction vehicle movements;*
 - *Construction program;*
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- *Consultation strategy for liaison with surrounding stakeholders;*
 - *Any potential impacts to general traffic, cyclists, pedestrian and bus services within the vicinity of the site from construction vehicles during the construction of the proposed works;*
 - *Cumulative construction impacts of projects including Sydney Light Rail Project, Sydney Metro City and Southwest Project and IMAX Redevelopment Project. Existing CPTMP's for developments within or around the development site should be referenced in the CPTMP to ensure that coordination of work activities are managed to minimise impacts on the road network; and*
 - *Should any impacts be identified, the duration of the impacts and measures proposed to mitigate any associated general traffic, public transport, pedestrian and cyclist impacts should be clearly identified and included in the CPTMP.*
- *Submit a copy of the final plan to the Coordinator General, CBD Coordination Office for endorsement, prior to the issue of any construction certificate.*

2.52 Our responses to these matters are set out in the following section.

2.53 With respect to the first point raised by TfNSW, this matter has been addressed in paragraphs 2.41 to 2.48.

2.54 With respect to the second point, the initial enabling & substructure works associated with the proposed development will generally be carried out from within the Cockle Bay construction site. However, the Wheat Road diversion works and the construction of the southern access driveway onto Harbour Street may require partial lane closures of the Western Distributor and Harbour Street in

order to carry out these works. In order to minimise the impact on the operation of the surrounding road network, these works will be undertaken outside of peak periods.

- 2.55 In addition, following the completion of the initial enabling works & substructure works, work above the Western Distributor associated with the construction of the landbridge, will be undertaken at night during agreed working hours approved by TfNSW/RMS. These works will require the temporary closure of part of either the northbound and/or southbound carriageways of the Western Distributor at various times. The closure of the Western Distributor will be staged so as to maximise access to/from the Harbour Bridge.
- 2.56 With regards to the third point, this has been addressed in paragraphs 2.30 to 2.40. During the Wheat Road diversion works and the initial enabling & substructure works associated with the proposed development, all trucks will be accommodated on-site. These areas will be managed and controlled by qualified traffic controllers.
- 2.57 With regards to the fourth point, this has been addressed in paragraphs 2.28 to 2.33. The southern access onto Harbour Street will be modified to provide a left in and left out unsignalise intersection.
- 2.58 With regards to the fifth and sixth points, these have been addressed in paragraphs 2.21 to 2.25. Construction vehicles will not be permitted to use George Street. Truck drivers will be inducted and advised of the designated truck routes to and from the site.
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- 2.59 A detailed CPTMP will be prepared following approval of the proposed development and associated conditions of consent. The CPTMP will address the matters recommended by TfNSW.

Principles of Construction Traffic Management

- 2.60 Preliminary construction staging and construction traffic methodology plans prepared by Multiplex, are shown in Appendix A. Based on this construction staging, a series of construction traffic management plans will be developed for the various stages of construction, including construction of the development over the Western Distributor. These will be the subject of ongoing negotiations with the authorities.
- 2.61 Detailed information regarding documentation of work site operations details, signage, construction fencing/hoarding, overhead protection, safety barriers and line marking details, as required, will be provided in accordance with Australian Standards and the Roads and Maritime Services' Manual for Traffic Control at Work Sites. Traffic control at work sites will be undertaken with specific reference to WorkCover requirements and the company's own Occupational Health and Safety Manuals. Signage detail, traffic management and the control of pedestrians and cyclists in the vicinity of the site, and the control of construction vehicles to and from the site, will be the responsibility of the appointed builder.
- 2.62 The principles of construction traffic management as shown on Figure 7, have been prepared based on the preliminary construction staging and construction traffic management set out in Appendix A. The principles of construction traffic management have been prepared to support the Stage 1 development application for the proposed development.
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2.63 The City of Sydney Council's standard requirements for construction management plans are shown in Appendix B. In addition to these requirements, the overall principles for traffic management during the Wheat Road diversion works and the initial enabling & substructure works associated with the proposed development are:-

- ❑ Wheat Road will be closed through the site with connections at the northern and southern ends of the site to/from Harbour Street;
 - ❑ at the southern end of the site, the existing Cockle Bay connection of Wheat Road to Harbour Street will be modified to provide left out only to Harbour Street. This will facilitate egress from the site, the adjacent Ribbon development and the existing bus/coach set down pick up area (located at the southern end of the site);
 - ❑ at the northern end of the site, the existing northern exit from Harbour Street to Wheat Road will be retained and a new Wheat Road diversion will be provided starting further south than the exiting exit. This section of Wheat Road will be one-way northbound with separate entry and exit connections to the subject site. It will maintain access to existing bus/coach parking on Wheat Road, servicing for Helm Bar and adjacent Aquarium, and maintain access to King Street Wharf via Shelly Street;
 - ❑ it is expected that construction of the proposed development will commence after the completion of the adjacent Ribbon development;
 - ❑ minimise effects on pedestrian movements and amenity;
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- ❑ maintain appropriate capacity for pedestrians at all times along the pedestrian promenade and connections to/from Market Street, Sussex Street and Druitt Street;
 - ❑ maintain convenient access and circulation for buses, coaches, taxis and service vehicles;
 - ❑ provide appropriate safety fencing/hoardings around the site compound and adjacent to the construction activity;
 - ❑ manage and control construction traffic movements on the adjacent road network, including Harbour Street and Wheat Road, and vehicle movements to and from the site;
 - ❑ maintain traffic capacity at intersections and mid-block in the vicinity of the site;
 - ❑ construction work above the Western Distributor, associated with the construction of the landbridge, will be undertaken at night during agreed working hours. This work will require the temporary closure of part or all of the northbound and/or southbound carriageways of the Western Distributor adjacent to the construction activity;
 - ❑ the temporary lane closures of the Western Distributor will be subject to the preparation of an overall CPTMP, in consultation with the CBD Coordination Office within TfNSW, RMS and the City of Sydney;
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- ❑ manage and control traffic diversions around the construction activity associated with the temporary partial closure of the Western Distributor;
 - ❑ maintain access to properties adjacent to the site, including the Ribbon development (currently under construction), Helm Bar and adjacent Aquarium;
 - ❑ restrict construction vehicle activity to designated truck routes through the area;
 - ❑ construction access driveways to allow trucks to enter and exit the site in a forward direction;
 - ❑ maintain safety for workers;
 - ❑ the construction access driveways and the on-street traffic diversions to be managed and controlled by qualified traffic controllers;
 - ❑ construction hoardings/fencing and scaffolding to be erected around the construction site, with overhead protection provided where required;
 - ❑ construction vehicles to be accommodated on-site;
 - ❑ all trucks removing demolition material from the site to be loaded from the on-site construction compounds;
 - ❑ pedestrian movements adjacent to the site to be protected with the erection of construction hoardings and containment fencing/barriers;
-

- ❑ pedestrian movements across the construction access driveways to be managed and controlled by traffic controllers when the driveway is in use;
- ❑ construction activity to be carried out in accordance with approved hours of work;
- ❑ the preparation of the CPTMPs, signage detail, control of pedestrians and control and management of construction activity/vehicles in the vicinity of the site will be the responsibility of the appointed builder.

2.68 The principles of construction traffic management presented in this report will be used as the basis for the preparation of the CPTMPs for the various stages of construction and for ongoing negotiations with TfNSW/RMS and the City of Sydney.



Location Plan

Colston Budd Rogers & Kafes Pty Ltd

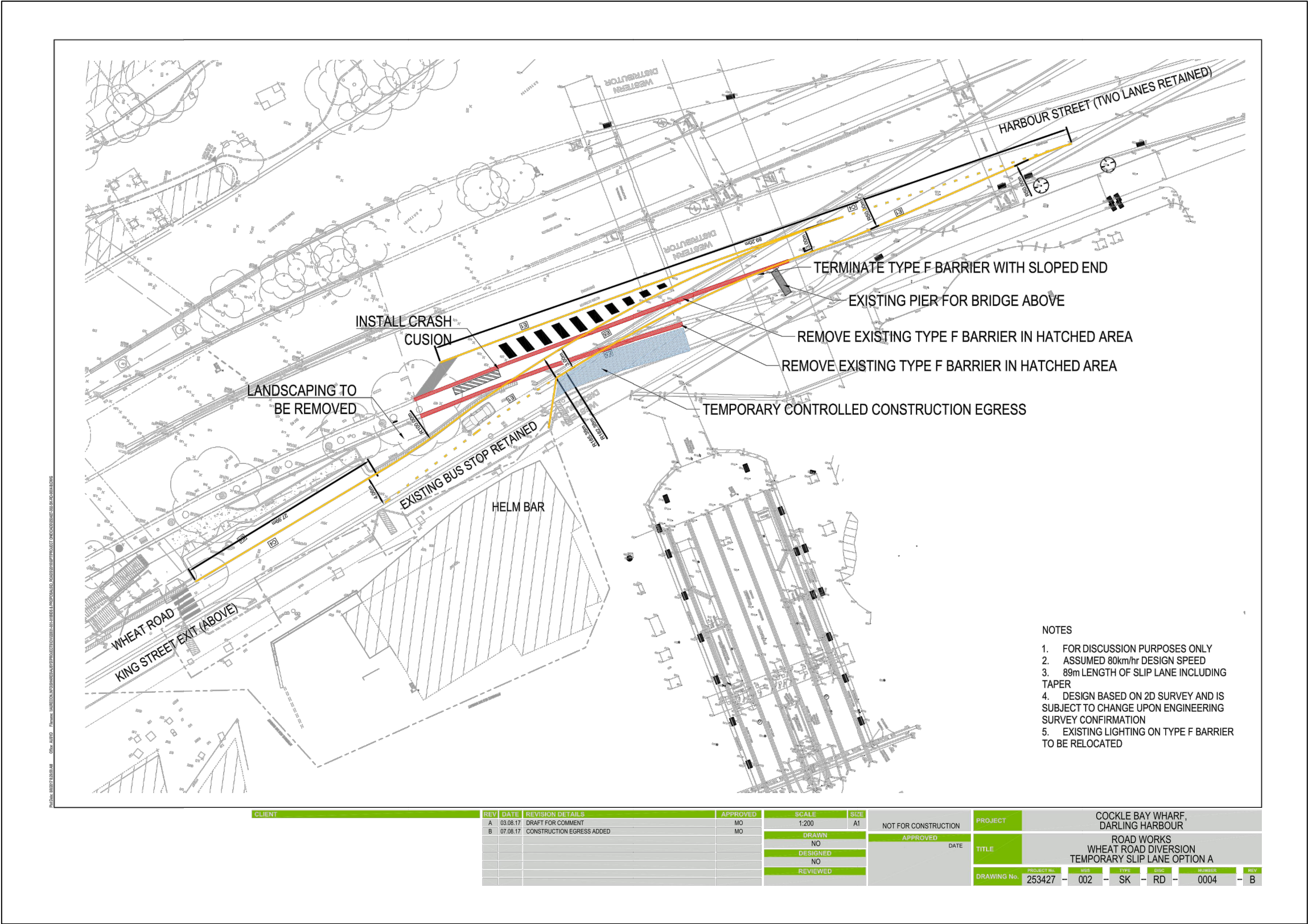
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14 August 2017

Figure 1

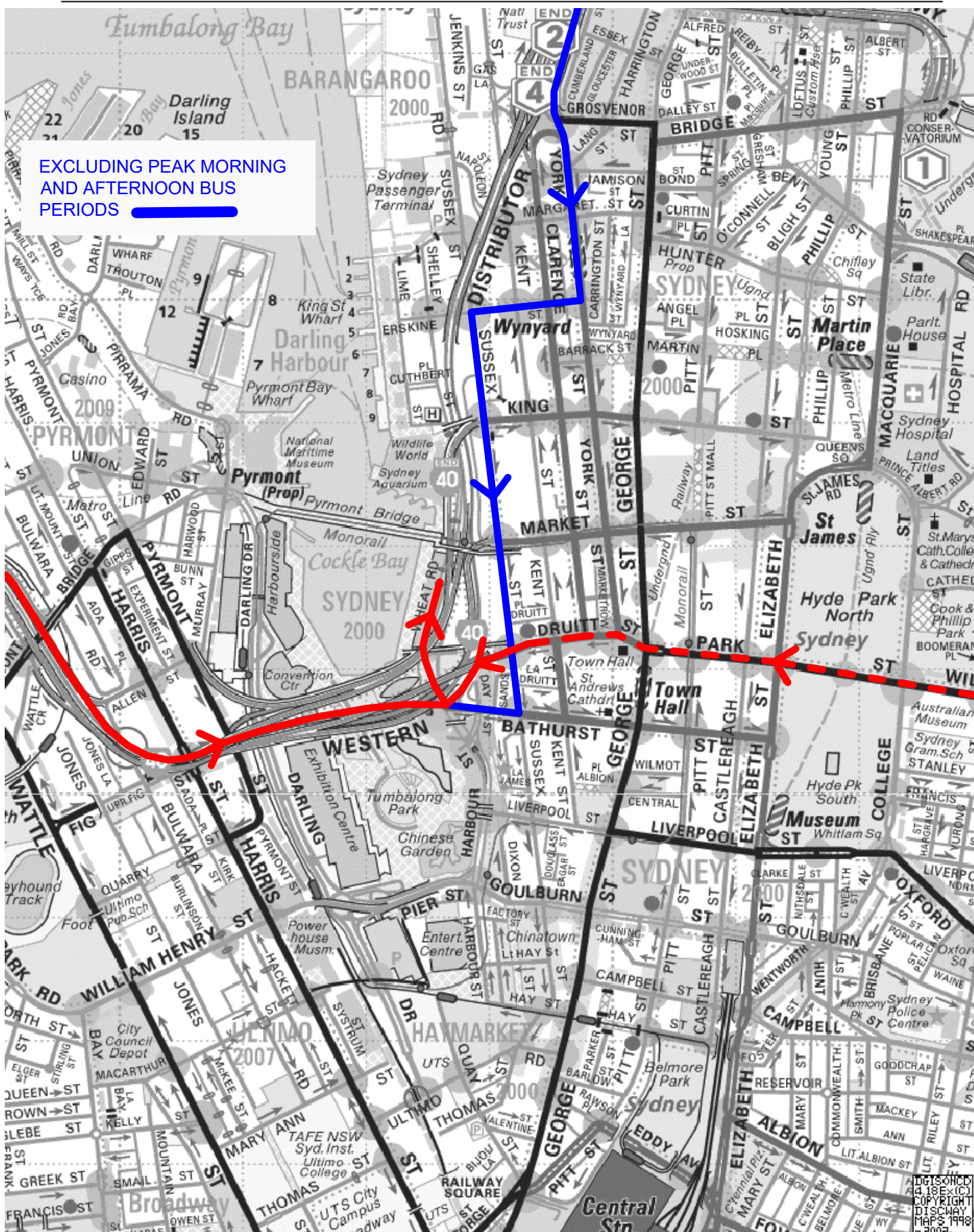


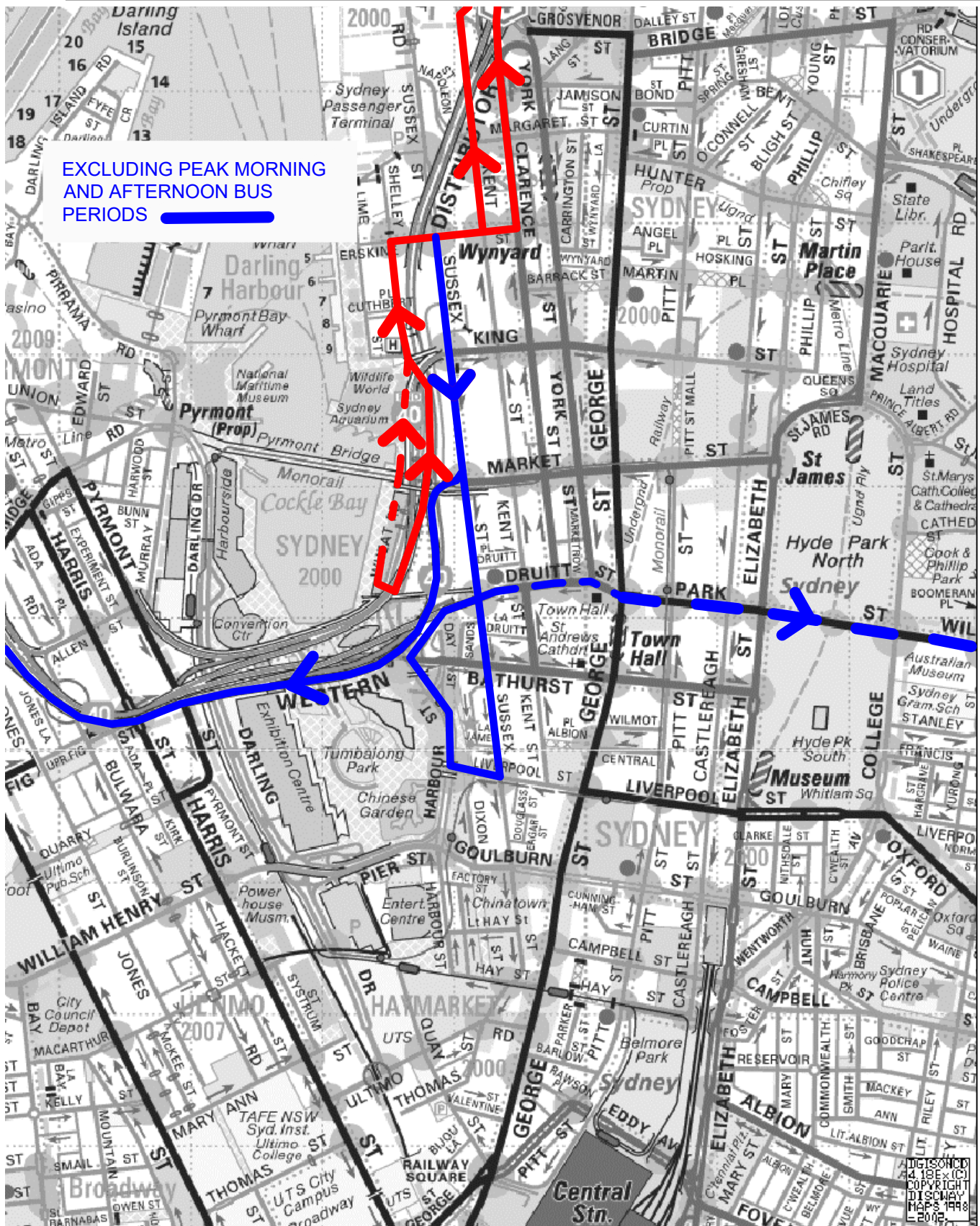
Cockle Bay Park Construction Areas



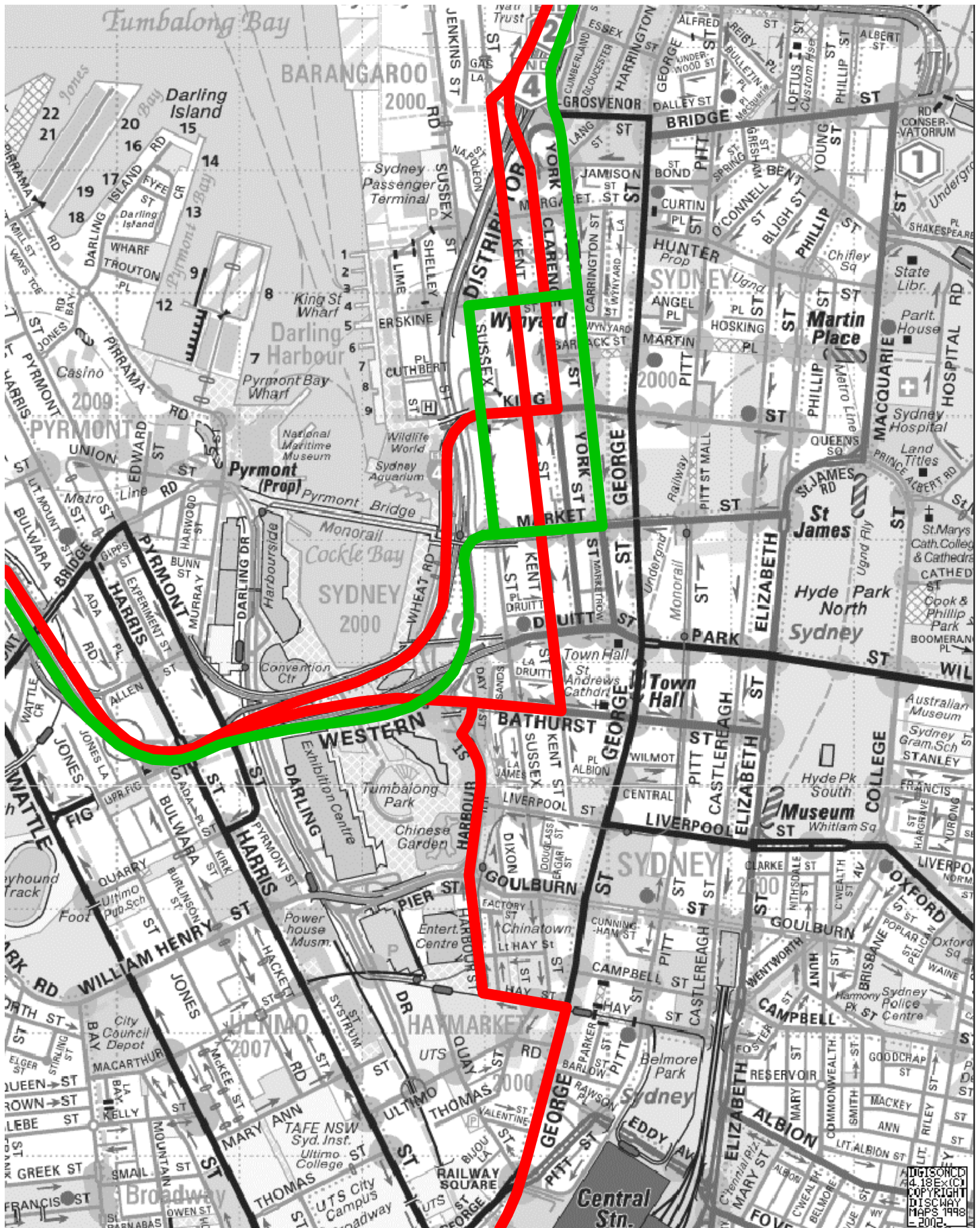
Wheat Road Temporary Diversion

Figure 3





Truck Routes - Departure Routes



Western Distributor northbound closed at king street off-ramp
and harbour street northbound closed at Bathurst Street

Western Distributor southbound on-ramp closed at Bradfield Highway

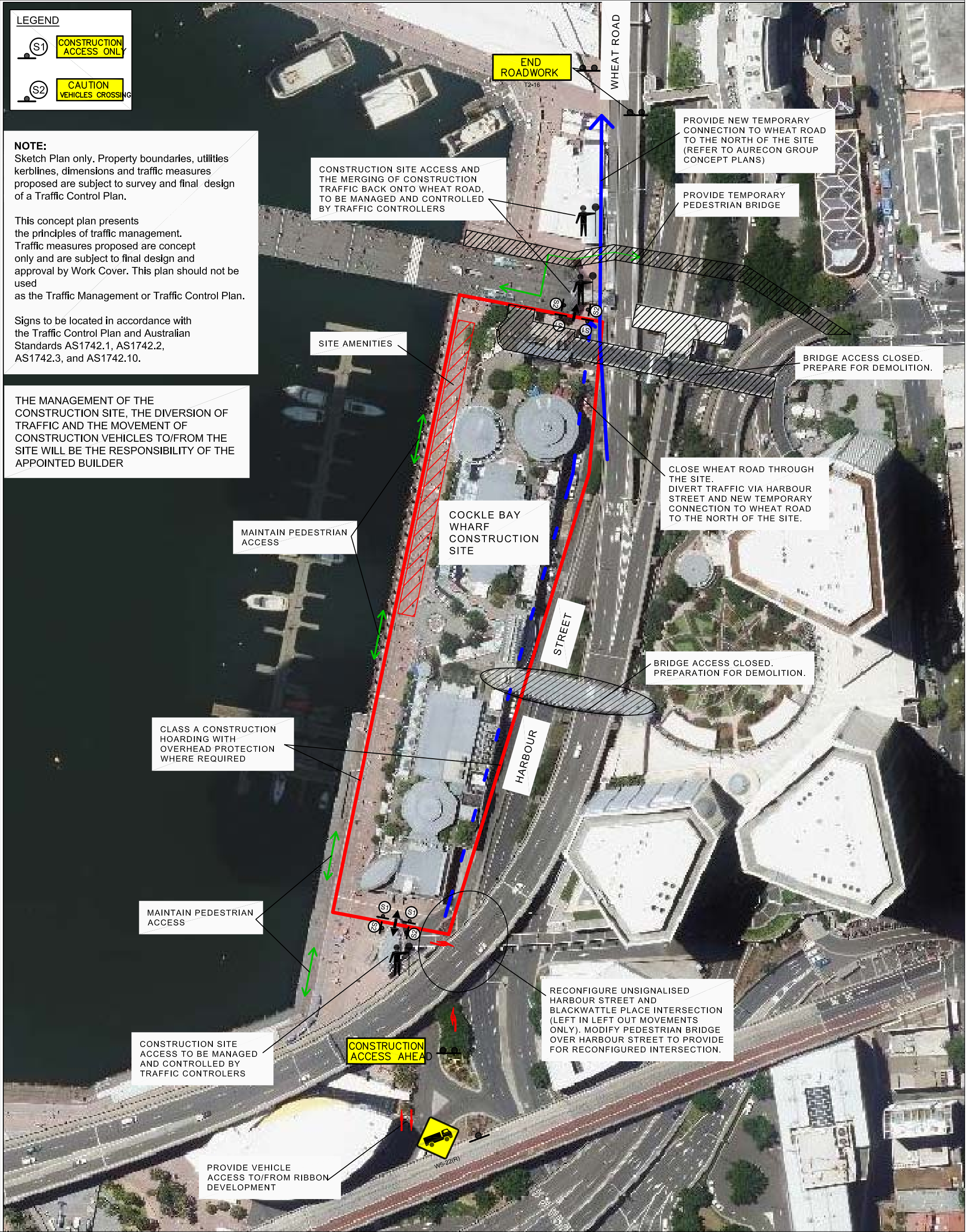
Traffic Diversions

Colston Budd Rogers & Kafes Pty Ltd

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14 August 2017

Figure 6



Principles of Construction Traffic Management
- Wheat Road Diversion Works
Figure 7

APPENDIX A

CONSTRUCTIO STAGING AND
CONSTRUCTION TRAFFIC METHODOLOGY PLANS



EARLY WORKS - TEMPORARY ROAD ADJUSTMENTS

DP4-CMP-SK01
CONSTRUCTION STAGING PLAN
EARLY WORKS

MULTIPLEX

Brookfield

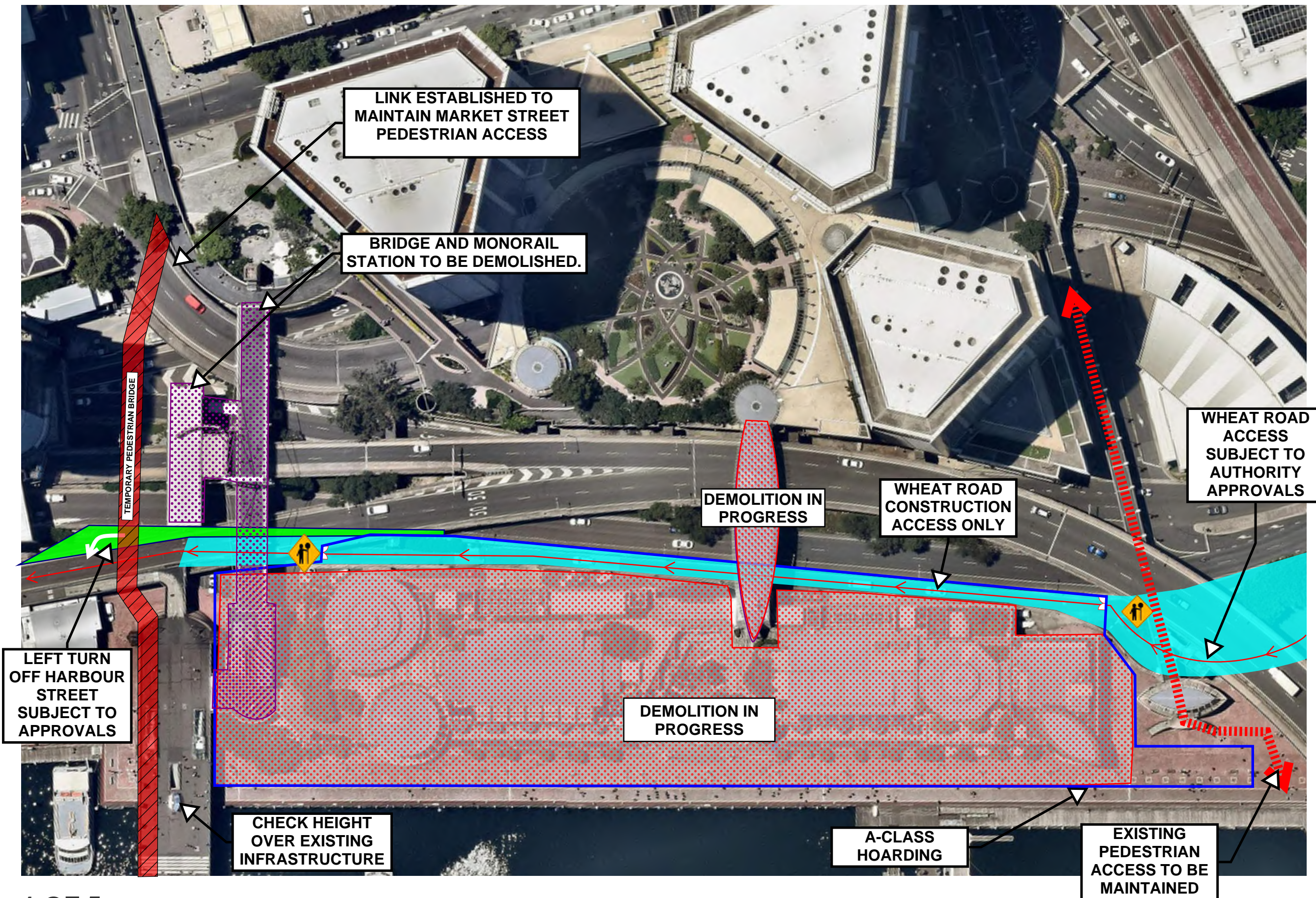
AMPCAPITAL

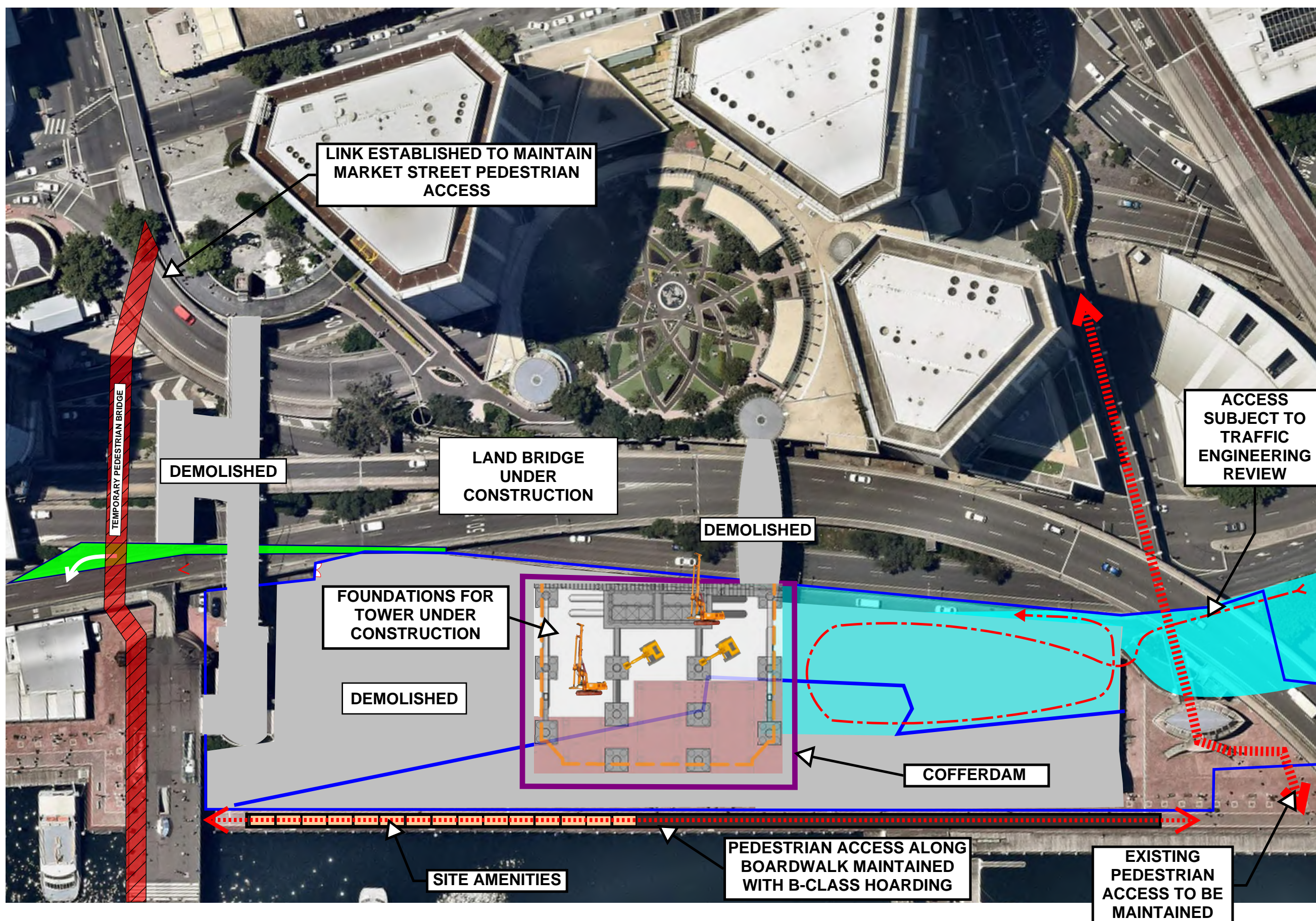
Project
Cockle Bay Park Project

Drawing
Construction Staging Plan
- Part 1

Drawing ID
DP4-CMP-SK01

Date
01/08/2017





MULTIPLEX

Brookfield

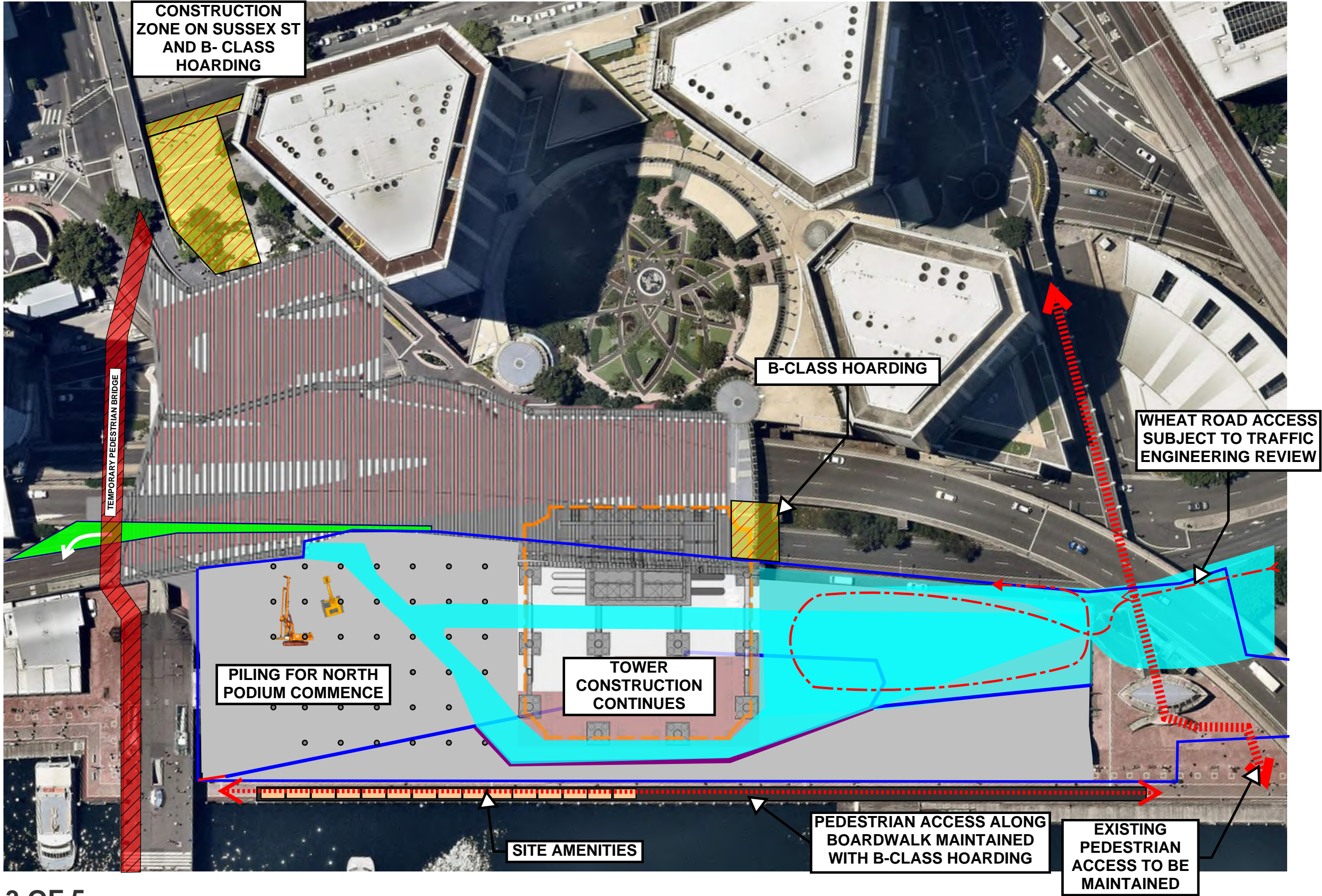
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Project
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Drawing
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- Part 2

Drawing ID
DP4-CMP-SK03

Date
01/08/2017



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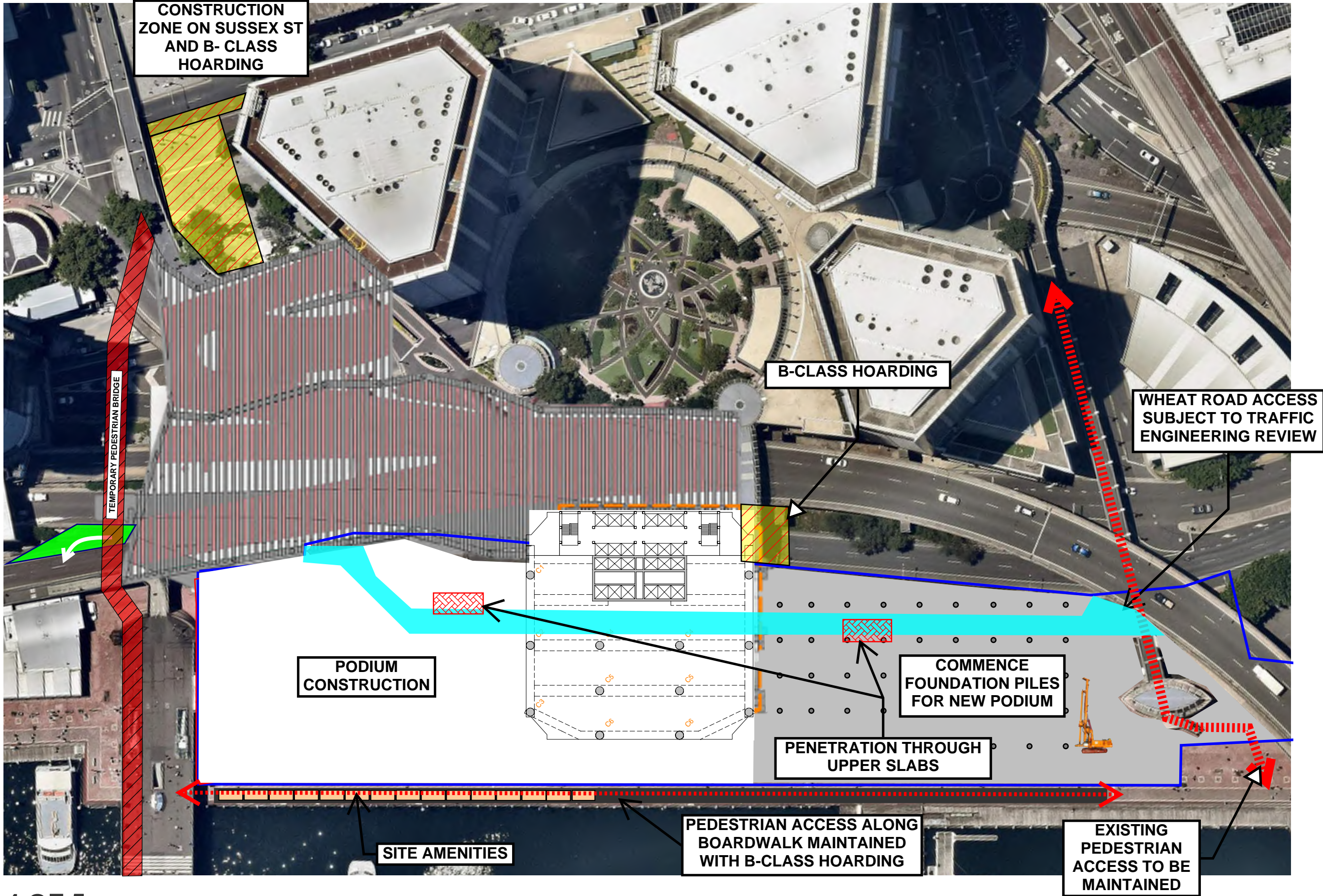
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Project
Cockle Bay Park Project

Drawing
Construction Staging Plan
- Part 3

Drawing ID
DP4-CMP-SK04

Date
01/08/2017



CONSTRUCTION
ZONE ON SUSSEX ST
AND B-CLASS
HOARDING

B-CLASS HOARDING

WHEAT ROAD ACCESS
SUBJECT TO TRAFFIC
ENGINEERING REVIEW

PODIUM
CONSTRUCTION

COMMENCE
FOUNDATION PILES
FOR NEW PODIUM

PENETRATION THROUGH
UPPER SLABS

SITE AMENITIES

PEDESTRIAN ACCESS ALONG
BOARDWALK MAINTAINED
WITH B-CLASS HOARDING

EXISTING
PEDESTRIAN
ACCESS TO BE
MAINTAINED

DP4-CMP-SK05
CONSTRUCTION STAGING PLAN
PART 4

MULTIPLEX

Brookfield

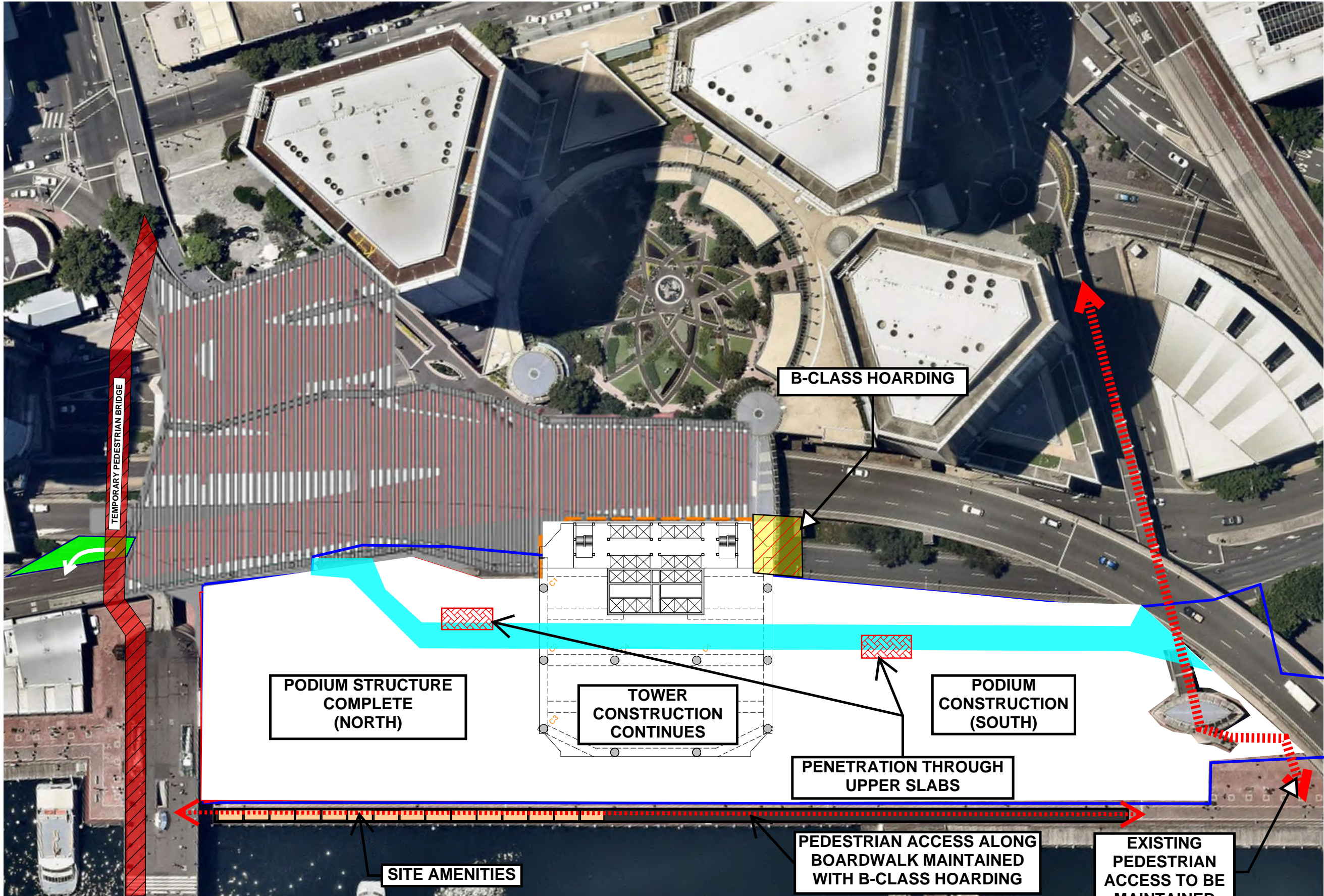
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Project
Cockle Bay Park Project

Drawing
Construction Staging Plan
- Part 4

Drawing ID
DP4-CMP-SK05

Date
01/08/2017



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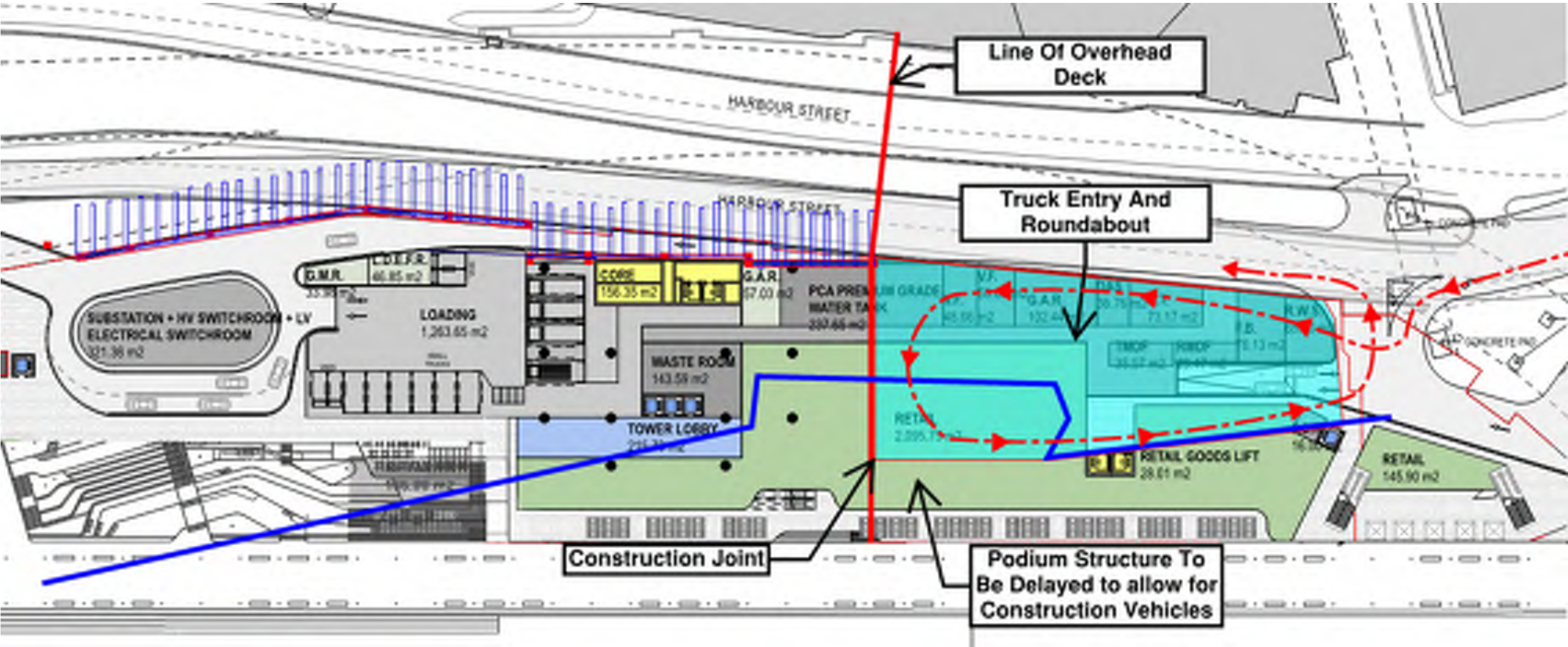
Project
Cockle Bay Park Project

Drawing
Construction Staging Plan
- Part 5

Drawing ID
DP4-CMP-SK06

Date
01/08/2017

Stage 1 Construction Traffic Methodology



DP4-CMP-SK07
STAGE 1 CONSTRUCTION
TRAFFIC METHODOLOGY

MULTIPLEX

Brookfield

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Project
Cockle Bay Park Project

Drawing
Stage 1 Construction
Traffic Methodology

Drawing ID
DP4-CMP-SK07

Date
01/8/2017

Stage 2 Construction Traffic Methodology

DP4-CMP-SK08
STAGE 2 CONSTRUCTION
TRAFFIC METHODOLOGY

MULTIPLEX

Brookfield

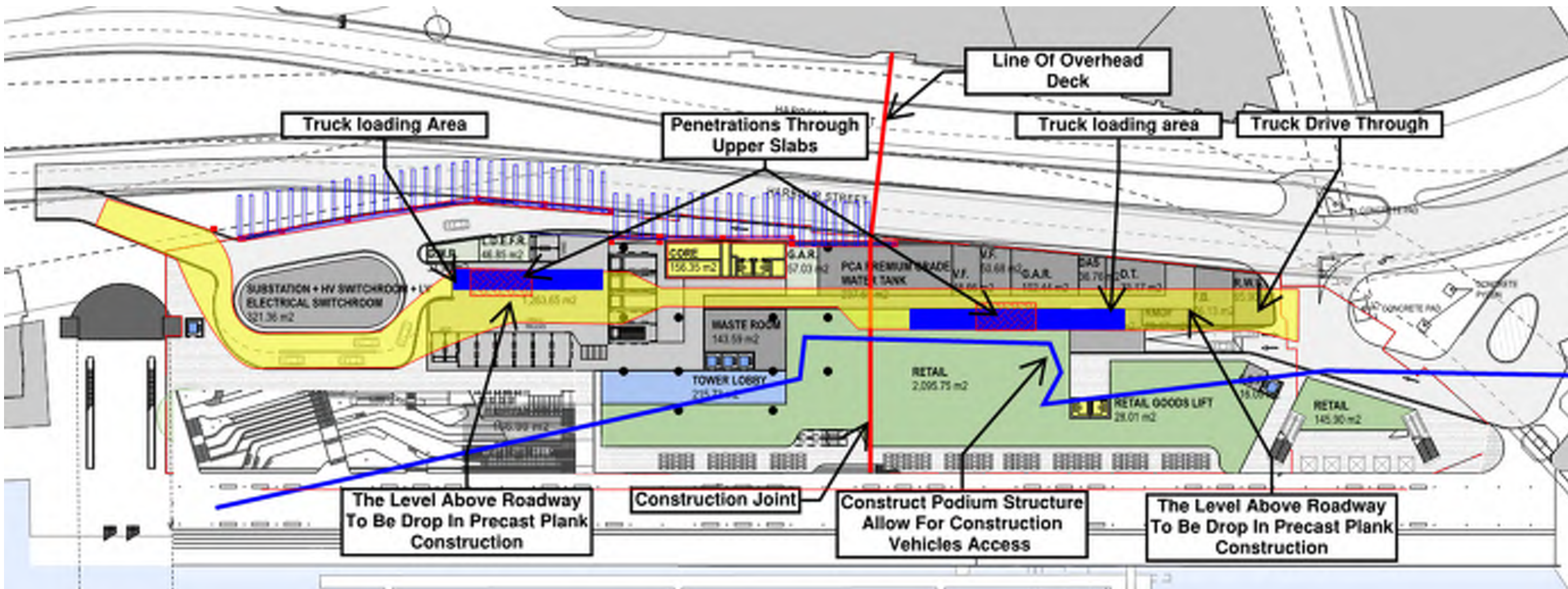
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Project
Cockle Bay Park Project

Drawing
Stage 2 Construction
Traffic Methodology

Drawing ID
DP4-CMP-SK08

Date
01/8/2017



APPENDIX B

THE CITY OF SYDNEY
STANDARD REQUIREMENTS FOR
CONSTRUCTION TRAFFIC PLANS

**The City of Sydney
Standard Requirements for Construction Traffic Management Plan**

The Applicant or contractor undertakes to follow and abide by the following requirements at all times during the demolition, excavation and construction works for the Cockle Bay Park Development

1. Details of routes to and from site and entry and exit points from site – site specific
2. Details of roads that may be excluded from use by construction traffic i.e. roads with load limits, quiet residential streets or access/turn restricted streets – site specific
3. The approved truck route plan shall form part of the contract and must be distributed to all truck drivers.
4. All vehicles must enter and exit the site in a forward direction (unless specific approval for a **one-off occasion** is obtained from the City's Construction Regulation Unit).
5. Trucks are not allowed to reverse into the site from the road (unless specific approval for a **one-off occasion** is obtained from the City's Construction Regulation Unit).
6. The Applicant must provide the City with details of the largest truck that will be used during the demolition, excavation and construction.

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

7. Oversize and over-mass vehicles are not allowed to travel on Local Roads (unless approval for a **one-off occasion** is obtained from the City's Traffic Operations Unit). Requests to use these vehicles must be submitted to the City 28 days prior to the vehicle's scheduled travel date. For more information please contact the National Heavy Vehicle Regulator (NHVR) on 1300 696 487 or www.nhvr.gov.au.
8. No queuing or marshalling of trucks is permitted on any public road.
9. Any temporary adjustment to Bus Stops or Traffic Signals will require the Applicant to obtain approval from the STA and RMS respectively prior to commencement of works.
10. All vehicles associated with the development shall be parked wholly within the site. All site staff related with the works are to park in a designated off-street area or be encouraged to use public transport and not park on the public road.
11. All loading and unloading must be within the development site or at an approved "Works Zone".

12. The Applicant must apply to the City's Traffic Works Co-ordinator to organise appropriate approvals for Work Zones and road closures.
13. The Applicant must apply to the City's Construction Regulations Unit to organise appropriate approvals for partial road closures.
14. The Applicant must apply to the Transport for NSW's Transport Management Centre for approval of any road works on State Roads or within 100m of Traffic Signals and receive an approved Road Occupancy Licence (ROL). A copy of the ROL must be provided to the City.
15. The Applicant must apply to the City's Construction Regulations Unit to organise appropriate approvals for temporary driveways, cranes and barricades etc.
16. The Applicant must comply with development consent for hours of construction.
17. All Traffic Control Plans associated with the CTMP must comply with the Australian Standards and Roads and Maritime Services (RMS) Traffic Control At Work Sites Guidelines.
18. Traffic Controllers are NOT to stop traffic on the public street(s) to allow trucks to enter or leave the site. They MUST wait until a suitable gap in traffic allows them to assist trucks to enter or exit the site. The Roads Act does not give any special treatment to trucks leaving a construction site – **the vehicles already on the road have right-of-way.**
19. Pedestrians may be held only for very short periods to ensure safety when trucks are leaving or entering BUT you must NOT stop pedestrians in anticipation i.e. **at all times the pedestrians have right-of-way on the footpath not the trucks.**
20. Physical barriers to control pedestrian or traffic movements need to be determined by the City's Construction Regulations Unit prior to commencement of work.
21. The Applicant must obtain a permit from the City's Construction Regulation Unit regarding the placing of any plant/equipment on public ways.
22. The Applicant must obtain a permit from the City's Building Approvals Unit to organise appropriate approvals for hoarding prior to commencement of works.
23. The CTMP is for the excavation, demolition and construction of building works, not for road works (if required) associated with the development. Any road works will require the Applicant or the contractor to separately seek approval from the City and/or RMS for consideration. Also WorkCover requires that Traffic Control Plans must comply with Australian Standards 1742.3 and must be prepared by a Certified Traffic Controller (under RMS regulations).
24. Please note that the provision of any information in this CTMP will not exempt the Applicant from correctly fulfilling all other conditions relevant to the development consent for the above site.