



One Carrington Street, Wynyard  
Construction Traffic  
Management Plan

transportation planning, design and delivery

# One Carrington Street, Wynyard

## Construction Traffic Management Plan

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# 1 Introduction

## 1.1 Background

It is understood that Sovereign Wynyard Centre Pty Ltd and its nominee, Brookfield, is proposing a redevelopment of "One Carrington Street", within Sydney CBD. Brookfield is working with Brookfield Multiplex as the intended principal contractor for the construction of One Carrington Street and has commissioned GTA Consultants to prepare a Construction Traffic Management Plan (CTMP) to examine the impacts of the construction works on the surrounding road network and to detail the proposed construction traffic and pedestrian measures.

The overall principles of traffic management during the construction activity include:

- provide an appropriate and convenient environment for pedestrians
- minimise the impact on pedestrian movements
- maintain appropriate capacity for pedestrians at all times on footpaths adjacent to the site and within the Wynyard pedestrian concourse
- maintain appropriate public transport access
- retain, as far as possible, existing kerb space for loading, buses and taxis
- minimise the loss of on-street parking and loading
- maintain access to/ from adjacent properties
- restrict construction vehicle movements to designated routes to/ from the site
- manage and control construction vehicle activity in the vicinity of the site
- provide a construction vehicle Works Zone in Margaret Street and Carrington Street along the site frontage with minimal impact on the adjacent road network
- manage vehicle use of the existing Loading Zone in Margaret Street
- construction activity to be carried out in accordance with City of Sydney's approved hours of works
- close the northern half of Wynyard Lane, during the entire construction period.

## 1.2 Purpose of this Report

This report addresses the requirements of Item 16d of the PAC approval (dated 3<sup>rd</sup> April 2012) and Item 15 of the Director General's Environment Assessment (dated 3 May 2013):

### **PAC Approval – Item 16c**

- *A detailed Construction Traffic Management Plan will be submitted as part of any future development on the site.*

### **Director General's Environment Assessment Requirements – Item 15**

- Address traffic management during construction including cumulative impact from surrounding development sites, including construction of the CBD light rail project, and details of vehicle routes, numbers of trucks, hours of operation, access arrangements, traffic control measures, crane locations and swing path of cranes.
- Address 24 hour pedestrian movements, bicycle and bus movements during demolition and construction.

The objectives of this report are:

- provide a detailed description of the project and construction activities

- examine and consider the proposal's likely impact on traffic during construction
- identify mitigating measures to address any traffic and transport impacts.

It is noted that this CTMP would be reviewed and updated accordingly by the appointed contractor, with consideration of the adopted construction methods and any revisions to the construction program.

The report has been prepared and checked by engineers who hold the RMS Select/ Modify Traffic Control Plans (Red Card) and Design and Inspect Traffic Control Plans (Orange Card) certification.

## 1.3 References

In preparing this report, reference has been made to the following:

- an inspection of the site and its surrounds
- Procedures for use in the Preparation of a Traffic Management Plan (TMP), Roads and Maritime Services (RMS), December 2001 (Version 2.0)
- RMS Traffic Control at Work Sites manual, June 2010
- Australian Standard/ New Zealand Standard AS1742.3-2009, Manual of Uniform Traffic Control Devices, Part 3: Traffic Control for Works on Roads
- other documents and data as referenced in this report.

## 2 Existing Conditions

### 2.1 Site Location

The subject site is located at 1 Carrington Street and has frontages on the eastern side of Carrington Street, western side of George Street, southern side of Margaret Street and the eastern and western sides of Wynyard Lane. The surrounding land use is dominated by commercial and retail properties, with Wynyard Railway Station located immediately west of the site (underground).

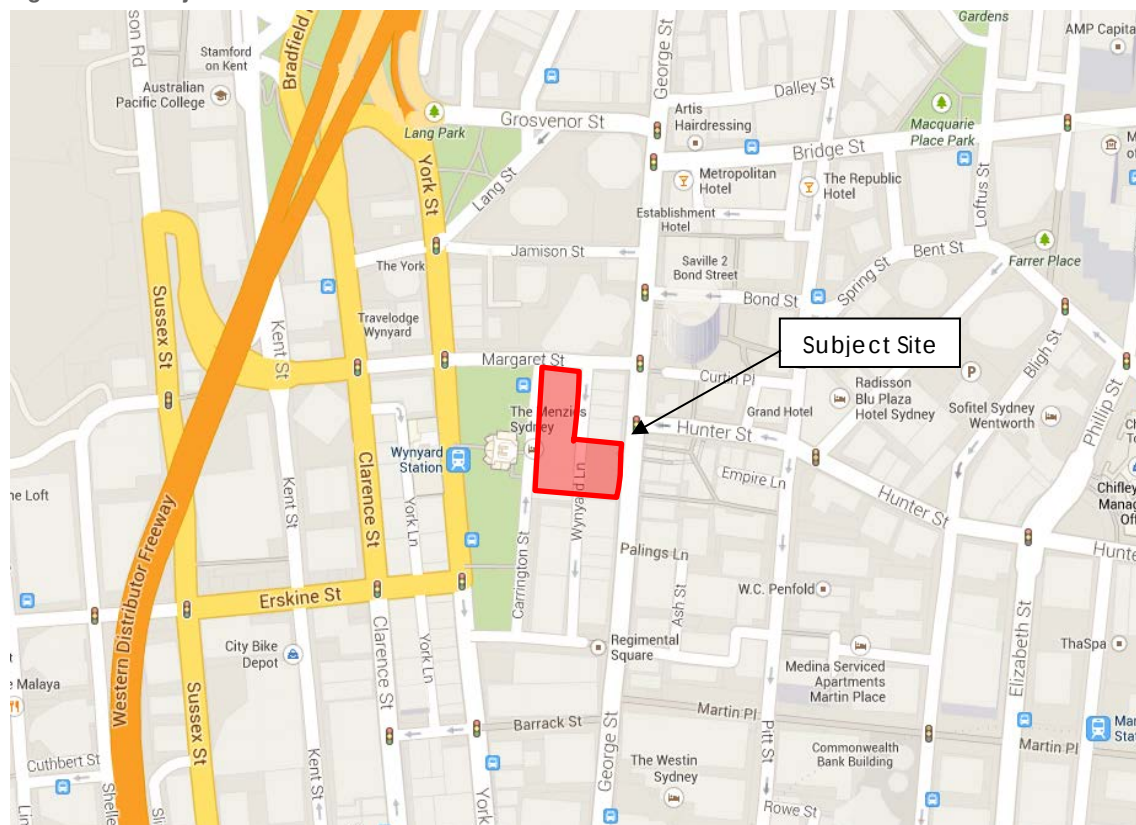
The site has a total site area of 11,124sqm and comprises the following properties:

- 301 George Street – 14 Level Commercial Building
- Menzies Hotel – 13 Level Hotel at 14 – 28 Carrington Street
- Shell House – 11 Level heritage building forming part of the Menzies hotel located at corner of Margaret and Carrington Street
- 285 George Street – 8 Level Heritage Building (formerly Beneficial House)
- Wynyard Lane – Bridge Link between 301 George Street and Menzies Hotel.

Service vehicles and waste disposal vehicles service the site from Loading Zones and loading docks located in Wynyard Lane, Margaret Street and Carrington Street.

The location of the subject site and its surrounding environs is shown in Figure 2.1.

**Figure 2.1: Subject Site and Its Environs**



Basemap Source: Google Maps

## 2.2 Road Network

### 2.2.1 Adjoining Roads

#### George Street

George Street provides a major north-south arterial traffic route through Sydney CBD. George Street connects Lower Fort Street at its northern end and to Railway Square at its southern end. George Street generally provides two traffic lanes in both directions and additional turning lanes upon approach to a number of signalised intersections along its length.

George Street has either bus stops or 'No Stopping' along its length and on each side of Wynyard Station. The 'No Stopping' controls are essential to the flow of traffic (particularly buses) along it.

#### York Street

York Street is a major arterial traffic route into Sydney CBD particularly for vehicles arriving from the north of Sydney across the Harbour Bridge. York Street is one-way in the southbound direction and generally provides four traffic lanes one of which operates as a bus lane.

As part of the Wynyard bus interchange, York Street accommodates a number of bus stops for inbound bus services to the city from the Harbour Bridge, northern beaches, Ryde and Chatswood.

#### Margaret Street

Margaret Street is an east-west major collector road and connects to George Street in the east and York Street to the west. It provides one traffic lane and one kerbside parking lane in both directions.

The intersections on both ends of Margaret Street (George Street to the east and York Street to the West), are signal controlled and provide pedestrian crossing facilities on each leg. The right turn from George Street to Margaret Street is prohibited.

The Margaret Street and Carrington Street intersection is also controlled by traffic signals with pedestrian crossing facilities provided.

#### Carrington Street

Carrington Street is a local road which connects Margaret Street at its northern end with Wynyard Street at its southern end. Carrington Street is one-way northbound. It provides two northbound traffic lanes and two kerbside parking lanes. It is traffic signal controlled at the Margaret Street intersection.

Carrington Street accommodates a number of bus stops on the western side. The bus stops provide access to bus services from the city to the northern beaches, Ryde and Chatswood. Carrington Street has a combination of parking controls including Taxi Stands, No Parking, 4 hour parking, Loading Zone, bus zone for layovers between 6am and 10am and bus zones between 3pm and 7pm Monday to Friday.

Carrington Street is shown in Figure 2.2.

#### Wynyard Lane

Wynyard Lane is a rear service lane which connects Margaret Street at its northern end with Wynyard Street at its southern end. Wynyard Lane operates one-way southbound and predominantly provides service vehicle access and vehicle access to the Wynyard public car

parking areas. It provides a kerb to kerb width of approximately 5 metres and provides no formal pedestrian facilities along it. A zebra crossing is provided mid-way along its length which connects the Wynyard Car Park with George Street through 301 George Street.

Wynyard Lane is shown in Figure 2.3.

## Wynyard Street

Wynyard Street provides an east-west local road function and provides a short section of two-way carriageway linking Wynyard Lane at its eastern extent to York Street at its western extent.

Figure 2.2: Carrington Street (Adjacent to Site)



Figure 2.3: Wynyard Lane (Adjacent to Site)



### 2.2.2 Surrounding Intersections

The following intersections currently exist in the vicinity of the site:

- Margaret Street/ Wynyard Lane (unsignalised)
- Margaret Street/ Carrington Street (signalised)
- Margaret Street/ George Street (signalised)
- Margaret Street/ York Street (signalised)
- Wynyard Street/ Wynyard Lane (unsignalised)
- Wynyard Street/ Carrington Street (unsignalised)
- Wynyard Street/ York Street (unsignalised).

## 2.3 Public Transport

Being located at a major CBD transport node, the site is well serviced by high frequency public transport, with Wynyard Railway Station and Wynyard Bus Interchange located within walking distance of the site.

The majority of buses travel along north south routes on George Street and York Street and east west routes on Margaret Street.

York Street and Carrington Street operate as the Wynyard bus terminus, at which routes originate and terminate. Other routes pass along York Street from the Harbour Bridge to / from the Queen Victoria Building terminus and Central Station.

Of particular relevance to the proposed development is the Wynyard bus terminus (Appendix A) which feeds significant pedestrian numbers to and from Wynyard Station. This has set-down / pick-up stops on the western side of Wynyard Park in York Street and the eastern side of Wynyard Park on Carrington Street. These two streets in combination with Margaret Street and Wynyard

Street, provide an anti-clockwise turnaround loop for buses. The other sides of York Street and Carrington Street provides standing area, in which buses can, if necessary, wait between the times of their arrival and departure without occupying an actual pick up stop.

The streets that form Wynyard bus terminus are very heavily used in both the AM and PM peak periods. During the AM peak period buses queue back from the Queen Victoria Building terminus along York Street and back across the Harbour Bridge. This appears to occur because of the lack of capacity in the southern section of York Street and at the Queen Victoria building terminus rather than due to operations in and around Wynyard terminus.

During the AM peak period, Carrington Street is relatively uncongested, with delays for buses exiting Carrington Street due to traffic queues in Margaret Street from Clarence Street and across York Street.

During the PM peak period bus activity is more intensive at the Wynyard terminus because buses take longer to pick up than they do to set down. While York Street flows much better at this time, Carrington Street becomes heavily congested with buses and because of greater numbers, delays in getting out of Margaret Street are higher.

## 2.4 Pedestrian Infrastructure

Wide footpaths are provided in combination with pedestrian crossing facilities at all signalised intersections in the area, with the exception of Wynyard Lane.

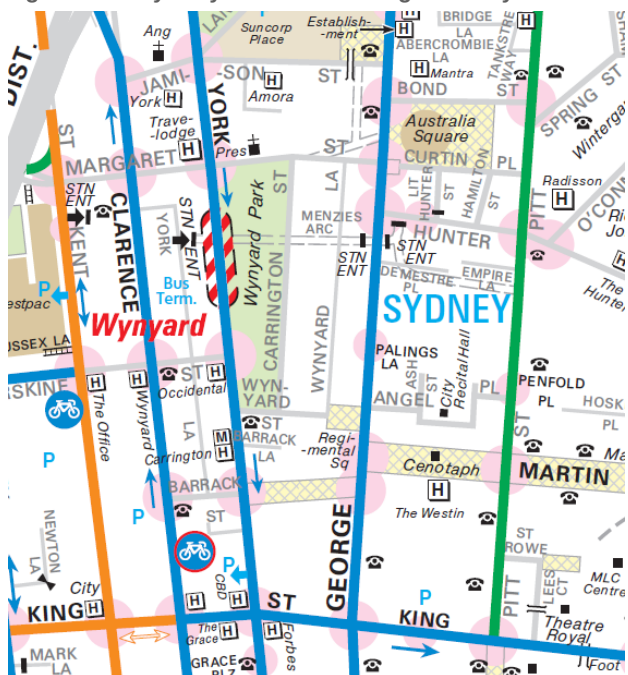
There are three concourse pedestrian routes across the site, generally connecting George Street with Wynyard Station via northern and southern ramps linking George Street directly with the station concourse. In addition, the Hunter Connection links Wynyard Station with Pitt Street beneath George Street.

## 2.5 Cyclist Infrastructure

In the vicinity of the site, cyclists can use the existing bus lanes on York Street, Clarence Street and George Street. There are no bicycle facilities in Carrington Street or Margaret Street.

The nearest designated cycle routes with heavy traffic are provided on York Street and George Street as shown in Figure 2.4.

Figure 2.4: Sydney Bike Plan – Designated Cycle Routes



Source: Sydney Bike Plan

## 2.6 Local Car Sharing Initiatives

Approximately 17 GoGet car share cars are provided within the Wynyard Lane public car park.

## 2.7 Car Parking

Wynyard Lane provides access to the Wynyard Lane car park, which is located on the basement level of the site. The car park utilises the redundant tram tunnels, with its egress located north-west of the site, on Cumberland Street in The Rocks. In addition, Wynyard Lane provides access to several private loading docks including a loading dock currently used for the Wynyard Coles Supermarket.

Traffic surveys conducted on Tuesday 19 October 2010 and shown in Table 2.1 indicate that up to 205 vehicles travel along Wynyard Lane during the AM peak hour and 80 vehicles during the PM peak. The traffic counts indicated that up to 60% of vehicle volumes during the AM peak, are typically generated by the Wynyard Lane car park. The remaining 40% is typically associated with loading activity and private vehicles generated from adjacent sites, noting that there are several private accesses located on Wynyard Lane.

**Table 2.1: Wynyard Lane Vehicle Volumes**

| Period          | Through Traffic (vehicles) | Car Park Entry Traffic (vehicles) | Total (vehicles) |
|-----------------|----------------------------|-----------------------------------|------------------|
| 6:30am – 9:30am | 171 (41%)                  | 242 (59%)                         | 413              |
| 8:00am – 9:00am | 78 (38%)                   | 127 (62%)                         | 205              |
| 3:30pm – 6:30pm | 129 (73%)                  | 47 (27%)                          | 176              |
| 3:30pm – 4:30pm | 54 (65%)                   | 26 (35%)                          | 80               |

## 2.8 Loading

As discussed, Wynyard Lane provides access to loading docks and private car parks for adjacent properties fronting George Street and Carrington Street. Examples of the current loading arrangements in Wynyard Lane are shown in Figure 2.5 and Figure 2.6.

**Figure 2.5: Wynyard Lane Property Access**

**Figure 2.6: Wynyard Lane Loading Zone**


Additional loading activity and refuse collection also occurs within Carrington Street, Margaret Street and Wynyard Street via several formal on-street Loading Zones. Loading Zone occupancy counts were conducted on Thursday 27 February and Saturday 1 March 2014 at surrounding loadings zones as shown in Figure 2.7. The key findings of the Loading Zone surveys are detailed below.

The Margaret Street Loading Zone (east of Wynyard Lane) and the Wynyard Lane Loading Zone (north of Wynyard Street) experiences high utilisation, particularly for small commercial vehicles on Weekdays, with vacancies experienced in Margaret Street on Saturday. It is noted that vehicles were often observed to remain on-site for periods greater than the legal 30minutes. In addition, informal loading activity was observed within Wynyard Lane, particularly on Saturday.

The Carrington Street Loading Zones generally experience vacancies on weekdays, with typical occupancy rates of up to 85% occurring around mid-day. On-site observations indicated that atypical filming activity occurred within Carrington Street for the duration of the Saturday survey, which resulted in an occupancy rate of 60%. Based on this, it is anticipated that the typical occupancy rate of this Loading Zone is typically lower than that observed.

The Wynyard Lane Loading Zones experienced 100% occupancy rates during the weekday midday period, with 60-80% capacity typically occurring for the remainder of the day. 40% occupancy was observed on Saturday. However, it is understood that this was also affected by the atypical filming activity. As such, Loading Zone occupancy at this location is anticipated to be generally lower than those observed during the surveys.

Figure 2.7: Loading Zone Occupancy Locations



Basemap Source: GTA Consultants

It is noted that additional Loading Zones, located in Wynyard Lane and Carrington Street were not included in the scope of the survey. On-site observations indicated that these Loading Zones are heavily utilised, particularly on weekdays. However, the majority of the loading activity at these locations, particularly during peak periods is typically associated with properties located within the One Carrington Street property boundary.

## 3 Overview of Construction Activities

This section of the report outlines the proposed construction methodology and details of the development.

### 3.1 Description of Construction Activities

The development proposal will involve:

- Demolition of the existing buildings which comprise the development site with the exception of Shell House and 285 George Street.
- Major works on pedestrian access approaches to Wynyard Station within the One Carrington Street site.
- New multi storey office building on land between Carrington Street and George Street.
- Conservation works to the former Shell House and 285 George Street and their internal refurbishment.
- Retail levels linking George Street and Carrington Street to the station concourse.
- Retention of the access to the existing Wynyard Lane car park and construction of tenant basement parking.
- The upgrade of the public domain surrounding the site.

### 3.2 Description, Staging and Access Arrangements

Construction works are anticipated to take up to 39 months, with construction activities split into 10 stages, as detailed in Table 3.1 and Figure 3.1.

The construction operations which would affect the surrounding transport network include:

- Overall construction works which would require the closure of Wynyard Lane between Margaret Street and the southern boundary of the site. Thus having an impact on loading and access arrangements for adjacent properties.
- Initial works for site establishment including the installation of fencing, hoardings, scaffolding, worker facilities etc. which would require temporary closures of adjacent footpath and travel lanes.
- Installation of tower cranes which would require temporary closures of adjacent footpath and travel lanes.
- Loading / unloading of trucks and mobile cranes in Carrington Street and Margaret Street in kerbside Works Zones.

The proposed mitigation measures are detailed throughout the remainder of this report.

Construction vehicles will primarily unload/ load within the work site and the Carrington Street and Margaret Street Works Zones. Access to the work site will be via Wynyard Lane and Carrington Street. However, Wynyard Lane arrangements will be altered for an estimated period of 9-11months, when the overhead infrastructure is demolished, within the site boundary. Based on this, the construction phases are separated into the following:

- Phase 1: entry via Margaret Street and exit via Wynyard Street
- Phase 2: entry and exit via Margaret Street (reverse into Wynyard Lane under traffic control).

The proposed access arrangements details are discussed in greater detail throughout this report.

**Table 3.1: Construction Staging**

| Stage | Phase                                     | Activities                                                                                                                                                                                                    | Access Arrangements |
|-------|-------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|
| 1     | Initial Establishment                     | <ul style="list-style-type: none"> <li>• site establishment</li> <li>• erect hoarding</li> <li>• tower crane erection</li> <li>• scaffolding for erection</li> </ul>                                          | Phase 1             |
| 2     | Tower Demolition                          | <ul style="list-style-type: none"> <li>• demolition (301 George St Tower)</li> <li>• demolition (Menzies Tower)</li> <li>• scaffold removal with demolition progress</li> </ul>                               | Phase 1             |
| 3     | Podium & Basement Demolition & Excavation | <ul style="list-style-type: none"> <li>• demolition (301 George St Tower)</li> <li>• demolition (Menzies Tower)</li> <li>• scaffold removal with demolition progress</li> </ul>                               | Phase 2             |
| 4     | Podium & Basement Construction            | <ul style="list-style-type: none"> <li>• pour footings</li> <li>• perimeter walls, columns and slabs up to mezzanine floor</li> <li>• façade installation</li> </ul>                                          | Phase 2             |
| 5     | Tower Construction                        | <ul style="list-style-type: none"> <li>• tower structure</li> <li>• tower curtain wall facade</li> </ul>                                                                                                      | Phase 1             |
| 6     | Fit out & Internal                        | <ul style="list-style-type: none"> <li>• tower services and fit out</li> <li>• plant room installation</li> </ul>                                                                                             | Phase 1             |
| 7     | Phasing                                   | <ul style="list-style-type: none"> <li>• phasing works including demolition, new structure, services and finishes</li> </ul>                                                                                  | Phase 1             |
| 8     | Public Domain                             | <ul style="list-style-type: none"> <li>• footpath paving &amp; associated works</li> </ul>                                                                                                                    | Phase 1             |
| 9     | Shell House                               | <ul style="list-style-type: none"> <li>• scaffolding in preparation for façade inspection/ demolition</li> <li>• demolition</li> <li>• scaffold with demolition progress</li> </ul>                           | Phase 1/ Phase 2    |
| 10    | 285 George Street                         | <ul style="list-style-type: none"> <li>• scaffolding in preparation for faced inspection</li> <li>• scaffold removal with demolition progress</li> <li>• internal structural, services and fit out</li> </ul> | Phase 1/ Phase 2    |

**Figure 3.1: Construction Staging, Timing and Access Arrangements**

| Access Arrangements                                | Month   |   |   |   |   |   |   |         |   |   |    |    |    |    |    |    |         |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------------------------------------------------|---------|---|---|---|---|---|---|---------|---|---|----|----|----|----|----|----|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|                                                    | Phase 1 |   |   |   |   |   |   | Phase 2 |   |   |    |    |    |    |    |    | Phase 1 |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| Tash                                               | 0       | 1 | 2 | 3 | 4 | 5 | 6 | 7       | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16      | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 |
| Stage 1: Initial Establishment                     |         |   |   |   |   |   |   |         |   |   |    |    |    |    |    |    |         |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| Stage 2: Tower Demolition                          |         |   |   |   |   |   |   |         |   |   |    |    |    |    |    |    |         |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| Stage 3: Podium & Basement Demolition & Excavation |         |   |   |   |   |   |   |         |   |   |    |    |    |    |    |    |         |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| Stage 4: Podium & Basement Construction            |         |   |   |   |   |   |   |         |   |   |    |    |    |    |    |    |         |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| Stage 5: Tower Construction                        |         |   |   |   |   |   |   |         |   |   |    |    |    |    |    |    |         |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| Stage 6: Fitout & Internal                         |         |   |   |   |   |   |   |         |   |   |    |    |    |    |    |    |         |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| Stage 7: Phasing                                   |         |   |   |   |   |   |   |         |   |   |    |    |    |    |    |    |         |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| Stage 8: Public Domain                             |         |   |   |   |   |   |   |         |   |   |    |    |    |    |    |    |         |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| Stage 9: Shell House                               |         |   |   |   |   |   |   |         |   |   |    |    |    |    |    |    |         |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| Stage 10: 285 George Street                        |         |   |   |   |   |   |   |         |   |   |    |    |    |    |    |    |         |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

### 3.3 Work Hours

Construction works will be carried out between the following hours:

- Monday to Friday 7:00am – 7:00pm
- Saturday 7:00am – 5:00pm
- Sunday no work.

The contractor will be responsible to instruct and control all sub-contractors regarding the hours of work. Any work outside the proposed construction hours will be subject to specific prior approval from the City of Sydney.

### 3.4 On-Street Works Zones

Construction activities will involve a high number of deliveries during the construction period. As discussed, on-site access is available via Wynyard Lane and Carrington Street. However, site constraints will restrict vehicle sizes within Wynyard Lane as shown in the swept path assessment in Appendix B. As such, Work Zones in Carrington Street and Margaret Street would be required to accommodate construction vehicles as shown in Figure 3.2 and discussed below. It is understood that forklifts would typically transport material between the Works Zones and the site under traffic control management to maintain pedestrian safety (subject to restricted registration requirements).

An application would be submitted to the City of Sydney for the implementation of all three Works Zones.

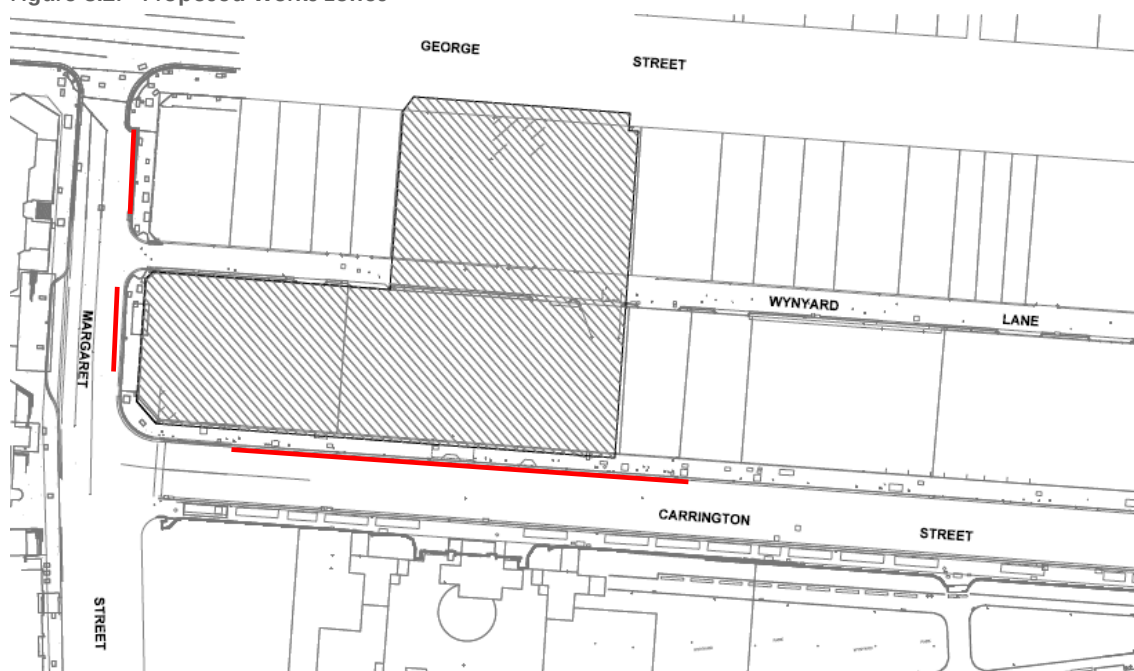
During the demolition works, cranes may lift demolition materials from the site onto trucks waiting in the Works Zone on Carrington Street. Temporary out-of peak road closures in Carrington Street may also be required during this period. However, a specific traffic control plan would be prepared, should this be required.

During the early stages, most vehicles would be accommodated within the site, large heavy vehicles may be required to use the proposed Works Zones, given the site constraints. The Carrington Street Works Zone would be used by vehicles of sizes up to articulated vehicles and truck and dogs. It is thought vehicles less than 12.5m in length would access the site from Carrington Street or Wynyard Lane.

During the construction phase, the Works Zones will be used for deliveries including scaffolding, formwork, reinforcement, concrete and concrete pumps. They will also be used for façade, services and finishes trades' deliveries.

During the later stages, the majority of loading, unloading and deliveries would take place using cranes, some loading will be carried out from within the on-street Works Zones. Smaller vehicles will continue to access the site from Carrington Street or Wynyard Lane.

Figure 3.2: Proposed Works zones



### 3.4.1 Margaret Street (east of Wynyard Lane)

The proposed Works Zone will replace an existing Loading Zone, which is heavily used, often for extended periods of time. It is also noted that this Loading Zone is typically used by unauthorised vehicles. As such, traffic controllers would manage entries and exits within this Works Zone to ensure that appropriate loading is maintained, particularly for the properties on the corner of George Street and Margaret Street.

This Works Zone would generally be reserved for works on Shell House and 285 George Street, with anticipated utilisation of 10-15 vehicles per day. As such, it is considered suitable that loading activity be maintained within this Works Zone, under strict traffic control and management.

It is anticipated that the largest vehicle expected to use this Works Zone would be a large rigid vehicle (LRV), with the following proposed hours of operation:

- Monday to Friday 6:00am - 7:00pm
- Saturday 6:00am - 5:00pm.

### 3.4.2 Margaret Street (west of Wynyard Lane)

The proposed Works Zone will be located within an existing traffic lane. However, it is understood that this area was previously sign posted as a Loading Zone. Given that Margaret Street forms a major east-west link across the City during the AM peak period, the Works Zone is proposed to be in operation during the following out-of-peak times:

- Monday to Friday 10:00am - 7:00pm
- Saturday 7:00am - 5:00pm.

Typically, this Works Zone would be used to enable vehicles entering and exiting Wynyard Lane, particularly when vehicles would be required to reverse into Wynyard Lane. However, it may also be used in combination with adjacent Works Zones and as an overflow area, for any trucks waiting to access the site or other Works Zones.

As such, it is anticipated that an LRV will be the largest vehicle to access this Works Zone.

### 3.4.3 Carrington Street

The proposed Works Zone will occupy the following existing parking restrictions:

- Loading Zone Ticket 6am – 7pm Mon – Fri, 3P Ticket, 7pm – 10pm Mon – Fri, 8am – 10pm Sat – Sun & Public Holidays
- No Parking – Coaches Excepted 15 Minute Limit
- No Parking – 6am – 7pm, Taxi Zone – Other Times
- Taxi Zone.

It is noted that the provision of the Works Zone on Carrington Street would not result in a loss of public parking. However, the Works Zone would require the day-time reduction, relocation or removal of the Taxi Zone located adjacent to the Menzies Hotel. Given that the Menzies Hotel would no longer be in operation during the construction period, the impact of removing the taxi rank would be minimal in relation to the hotel. Given that there is expected to be a reduction in vehicle and pedestrian access along George Street as a result of the CBD Light Rail construction, the demand on this Taxi Rank is expected to increase.

In consultation with the Taxi Council and Sydney City Council there are two options which could cater for the loss of taxi spaces. The options include the following:

1. Day-time reduction and relocation of the Taxi Rank to an alternate location in close vicinity to the site, including south of the existing taxi rank and/ or establish a supplementary rank on the south east side of Lang Street, north of the site. In addition, the existing Taxi Rank could be used outside of construction hours.
2. Increase the number of spaces at alternate taxi ranks near Martin Place, in York Street and Kent Street. As these spaces are located some distance from the existing rank, this option may be used in conjunction with the above options.

The proposed Works Zone would also displace a 'Coaches 15 minute limit' parking area. The Coaches area is predominantly used for the hotel and would not be required during the construction period. All other buses are accommodated in the adjacent Bus Zones located immediately south of the proposed Works Zone.

The proposed length of the Works Zone would also displace a Loading Zone. However, it is understood that this Loading Zone is predominantly used by the hotel.

A Works Zone application will detail further information relating to the proposed Works Zone, associated works and the impacts to the parking controls along the eastern side of Carrington Street. It is likely that additional consultation with City of Sydney and surrounding properties will be required to identify the best mitigation measures to be implemented.

Typically, the largest vehicle expected to use this Works Zone will be an articulated vehicle and/ or a truck and dog and it is proposed to be in operation during the following times:

- Monday to Friday 6:00am - 7:00pm
- Saturday 6:00am - 5:00pm.

## 3.5 Construction Vehicle Routes

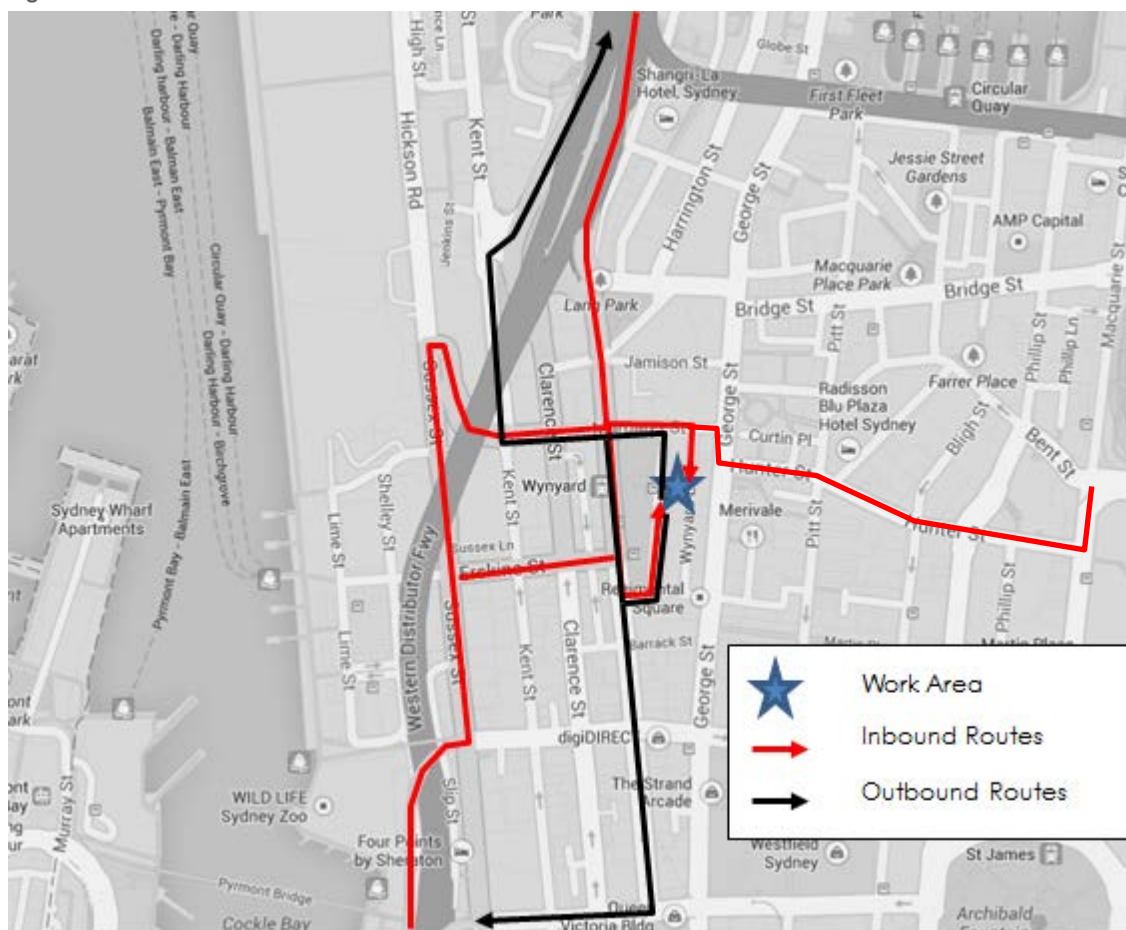
The construction vehicle routes to the work site will vary depending upon the progress of the development and its timing in relation to other surrounding construction projects including the CBD and SE Light Rail construction along George Street.

Construction vehicles will be required to approach the site via either York Street off the Harbour Bridge or via Margaret Street from the Eastern Distributor or the Western Distributor.

Trucks will depart via Margaret Street or Wynyard Street to York Street to access the Harbour Bridge, Western Distributor or Eastern Distributor.

As such, dedicated construction vehicle routes have been developed to provide the shortest distances to/ from the arterial road network as shown in Figure 3.3.

Figure 3.3: Construction Traffic Routes



Background source: Google Maps

All building contractors shall be notified of the truck routes and are required to adhere to the nominated routes when accessing the site. Construction vehicles are to coordinate with site management to ensure access to the work area or dedicated Works Zone is available.

The routes aim to restrict truck movements to the arterial network as much as practical to minimise the traffic impact on local streets.

Given the origin and destinations of construction vehicles is unknown and will vary depending on the construction activity, truck drivers will be instructed of their appropriate route beyond the scope of the designated routes. However, all routes will be restricted to the arterial road network, as much as practical.

The truck route plan and additional information based on trucks origin/ destination will be distributed to all truck drivers and the contractor will ensure all truck drivers use the approved routes.

## 3.6 Construction Vehicle Accesses

The Phase 1 access arrangements described in Table 3.1 enable vehicles to enter and exit the site in a forward direction. However, given the constraints at the southern end of Wynyard Lane, this manoeuvre is restricted to LRV's. The Phase 2 access arrangements require vehicles of sizes up to LRV's to reverse into Wynyard Lane under complete traffic control.

Further to the above, the following access are also available for construction vehicles:

- Works Zones in Margaret Street (up to LRV)
- Works Zones in Carrington Street (up to articulated vehicles)
- Site Access in Carrington Street (up to LRV).

It is noted that vehicles reversing into Wynyard Lane will be minimised as much as practical, with the installation of the Works Zones within Margaret Street assisting to minimise this activity. Swept path analysis of the proposed Wynyard Lane access arrangements are presented in Appendix B.

The proposed designated construction vehicle accesses are illustrated in Figure 3.4 and Figure 3.5 and are summarised below.

### 3.6.1 Phase One

The proposed Phase 1 access arrangements are illustrated in Figure 3.4 and are detailed below.

#### *Wynyard Lane Access - Enter Margaret Street – Exit Wynyard Street*

- Inbound from south and east – travel west on Hunter Street, north on George Street and west on Margaret Street and turn left into Wynyard Lane.
- Inbound from north and west - travel south on York Street, turn left into Margaret Street and then right into Wynyard Lane.
- Outbound to all directions – turn right into Wynyard Street, right into Carrington Street and left into Margaret Street.

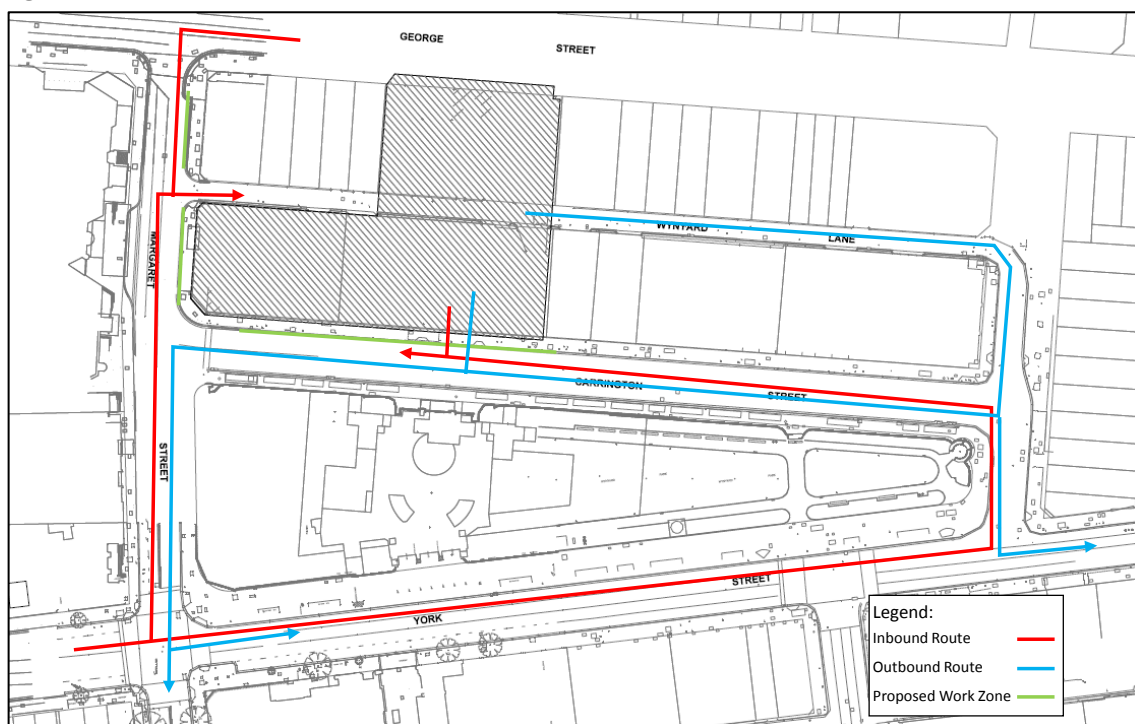
#### *Carrington Street Works Zone/ Site Access*

- Inbound from all directions – travel south on York Street, turn left into Wynyard Street, turn left into Carrington Street and pull into the Works Zone/ site.
- Outbound to all directions – pull into Carrington Street or turn right out of the site, turn left into Margaret Street.

#### *Margaret Street Works Zones*

- Inbound from all directions – travel west on Hunter Street, north on George Street and west on Margaret Street and pull into the Works Zone.
- Outbound to all directions – pull out of the Works Zone and turn left onto York Street.

Figure 3.4: Phase One Construction Access



### 3.6.2 Phase Two

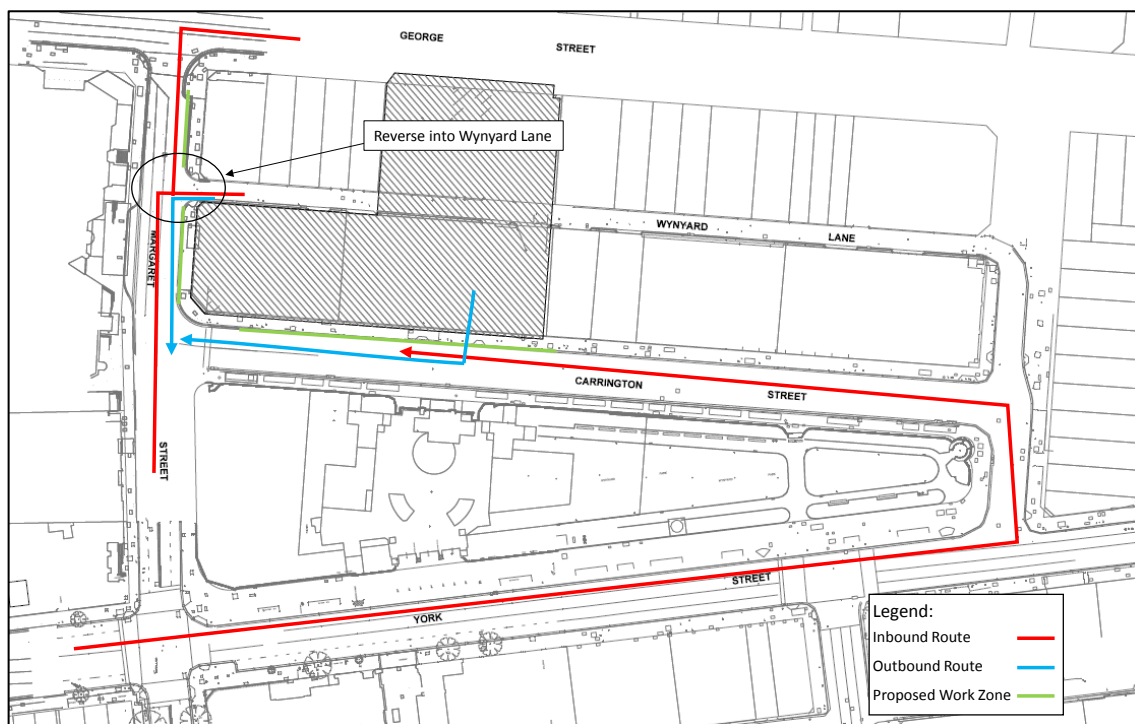
Once demolition has reached a point where Wynyard Lane will be severed within the site boundary, vehicles will be required to reverse into Wynyard Lane under traffic control. However, this vehicle manoeuvre will be restricted to vehicles of LRV or smaller, as discussed above.

The access arrangements for Wynyard Lane access will change as described below and shown in Figure 3.5. However, the route to and from the Carrington Street and Margaret Street site access and/ or Works Zones will remain as previously described.

#### *Wynyard Lane Access – Enter Margaret Street – Exit Margaret Street*

- Inbound from south and east – travel west on Hunter Street, north on George Street and west on Margaret Street and reverse into Wynyard Lane.
- Inbound from north and west - travel south on York Street, turn left into Margaret Street and reverse into Wynyard Lane.
- Outbound to all directions – turn left out of Wynyard Lane into Margaret Street and turn left into York Street.

Figure 3.5: Phase Two Construction Access



Signage and management measures, including traffic controllers, would be implemented for the proposed access arrangements have been detailed in the Traffic Control Plan (TCP) presented in Appendix D.

Traffic controllers will manage and control the movement of heavy vehicle ingress and egress into the work site and Works Zones. However, local traffic and pedestrians would have priority at all times. It is generally the role of the traffic controller to observe the traffic flow and provide assistance to trucks once there is a suitable gap in the traffic that enables them to enter/ exit with minimal impact on local traffic. However, additional traffic control measures would be implemented when vehicles would be required to reverse into Wynyard Lane.

### 3.7 Wynyard Lane Closure

Wynyard Lane is approximately 6m in width and consists of a southbound travel lane, Loading Zones (eastern side), and narrow footpaths on both sides as shown in Figure 3.6.

For the purpose of construction, material would be delivered to Wynyard Lane via Margaret Street. Occupation of the entire road width of Wynyard Lane would be required whilst material is being delivered and loaded/ unloaded from the construction vehicle.

The width of Wynyard Lane (5m – not including footpaths) is not sufficient to accommodate two adjacent LRV's. As discussed, it is proposed that the northern section of Wynyard Lane will be closed to general traffic to minimise traffic conflicts. Traffic control and signage would be used to close the lane for the protection of workers and to provide adequate warning to drivers. Pedestrians and service vehicles will generally, be prevented from using Wynyard Lane between Margaret Street and the southern boundary of the site, with the exception of pedestrian deliveries to the properties located on the corner of George Street and Margaret Street (if required).

Figure 3.6: Wynyard Lane (view south) – Road Cross Section



Background Source: Google Maps

During the early stages of construction, the northern section of Wynyard Lane would remain one way southbound, with construction vehicles only entering from Margaret Street and exiting onto Wynyard Street. Once Wynyard Lane is severed at the mid-point, construction vehicles will be required to reverse into Wynyard Lane and exit onto Margaret Street.

To avoid conflicts and expedite entry and exit movements at the northern end of Wynyard Lane, traffic controllers would regulate construction vehicle entries. In addition to this, signs would be erected to advise that access was only available to construction vehicles, as shown in Appendix D.

The southern section of Wynyard Lane would be converted from one way southbound to two-way to maintain access to the neighbouring properties during all phases of construction. However, the Loading Zones in Wynyard Lane would be removed, with loading activity likely to move to surrounding Loading Zones in Carrington Street and Wynyard Street. As such, access to Wynyard Lane would be restricted to vehicles that service sites with their own turn around facilities.

To avoid conflicts and expedite entry and exit movements at the southern end of Wynyard Lane, traffic controllers would regulate traffic and construction vehicle exits during business hours, as shown in Appendix D. All other vehicles would be required to use the Wynyard Street Loading Zone, which currently experiences low utilisation. Whilst Wynyard Lane would operate as a two way road, it is anticipated that it will be managed such that the southern section would carry only one vehicle at any one time during construction hours. Outside of the construction hours, two-way movement could remain, with adequate road width to accommodate two SRV's, as required for the purposes of local traffic, and maintaining existing traffic management measures.

Further consultation with property owners and managers would be required to develop a greater understanding of the loading requirements and assist further development of the management techniques.

In addition to this, signs would be erected advising that access was only available to building occupants and authorised vehicles i.e. 'local traffic only'.

### 3.8 Construction Traffic Vehicle Type

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

- i Tower crane components will be transported to the site by 19m articulated trucks and erected by a 200 tonne mobile Link-Belt crane.
- ii Flatbed trucks and a low loader for the transportation of heavy machinery. It is noted that the delivery of heavy machinery would occur at the commencement of works and would typically remain on site until its use is complete.
- iii Truck and dogs, semi-trailers and articulated vehicles for the transportation of demolished and excavated material from the site.
- iv LRV and medium rigid vehicles (MRV) trucks for the importation of concrete, construction material and other large deliveries.
- v Small rigid vehicles (SRV), vans and couriers for smaller deliveries.

## 4 Construction Traffic Assessment and Implications

This chapter details the Construction traffic estimates and associated implications for the proposed development of One Carrington Street.

### 4.1 Construction Traffic Details

#### 4.1.1 Site Establishment/ Scaffolding

Construction traffic generation would primarily be associated with the following construction activities:

- Delivery of crane components
- Transportation of scaffolding and tools using a mixture of SRV's, MRV's and LRV's
- Transportation of site sheds
- Traffic control vehicles
- Trade deliveries and services using vans and utilities.

Delivery of crane components would occur outside of peak hours to minimise disruption to traffic and pedestrians.

#### 4.1.2 Demolition/ Excavation

Given the site constraints, the proposed Carrington Street Works Zone and Wynyard Lane will be used by the majority of trucks (including articulated vehicles) during demolition and excavation works.

The volume of construction traffic generated by the demolition works would vary throughout the construction period depending upon the particular activities undertaken on-site at any one time.

Carrington Street is suitable for heavy vehicle use and provides connections with the Sydney Harbour Bridge and York Street. The number and frequency of trucks is estimated as relatively low and would not adversely impact on the proposed routes.

#### 4.1.3 Main Construction Works

Maximum construction traffic generation would primarily be associated with the following construction activities:

- Concrete pour trucks
- Minor earthworks
- Delivery of building materials using a mixture of small rigid to heavy rigid trucks
- Trade deliveries and services using vans and utilities.

A number of trucks would be accommodated within the site, with further trucks using the Works Zones as appropriate and managed by on-site personnel. It is anticipated that large concrete pours would occur every few weeks for a day at a time. Therefore peak vehicle volumes larger than 100 vehicles per day would be infrequent, with most concrete pours, generating up to 60 vehicles per day, for a period of 3-4 days/ week.

## 4.2 Traffic Control Company

The construction of One Carrington Street will require an RMS registered traffic control company to control the movements of construction vehicles accessing the site and the Works Zones on Carrington Street and Margaret Street.

Having consideration for the required traffic control, it is thought that up to 10 traffic controllers would be required on a daily basis.

## 4.3 Existing Traffic Generation

The existing office building, hotel and car park generate deliveries, passenger pick up and drop off (including taxis), traffic and parking movements generate a high level of traffic.

The Wynyard Lane public car park has around 400 car spaces which would typically overturn 0.2 trips per car space in the AM or PM peak hour. This would equate to 80 vehicles per hour albeit car trips rather than truck trips.

Thus the total construction vehicle trips is anticipated to be somewhat less than the traffic currently generated by the site.

## 4.4 Summary of Traffic Generation

It should be noted that not all of the different types of vehicles would visit the site on the same day.

The number of construction vehicles generated per day would vary during each stage of construction works, with a conservative estimate of potential vehicle volumes associated with each stage shown in Figure 4.1. However, these estimates assume that different construction activities within each stage will occur simultaneously. However, it is understood that other activities across the site will be minimised as much as practical, particularly during large concrete pours, to reduce the overall vehicle generation.

Based on this, the peak vehicle generation is likely to occur during concrete pours, with a cumulative peak daily vehicle generation in the order of 100 vehicles per day.

It is also worth noting that concrete pours, would occur across 3-4 days per week, for a period of approximately 15 months. The vehicle generation would be considerably lower for the remainder of the construction period, with up to 60 vehicles likely to be generated on a typical day and where there are no concrete pours.

The information used to develop an understanding of peak vehicle volumes has been included in Appendix D.

## Construction Traffic Assessment and Implications

**Figure 4.1: Maximum Daily Vehicle Generation**

| Access Arrangements                                | Maximum Daily Construction Vehicle Volumes |    |    |    |    |    |    |    |    |    |    |    |    |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |    |    |    |    |    |    |    | Vehicle Types                |                        |          |              |
|----------------------------------------------------|--------------------------------------------|----|----|----|----|----|----|----|----|----|----|----|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----|----|----|----|----|----|----|------------------------------|------------------------|----------|--------------|
|                                                    | Month                                      |    |    |    |    |    |    |    |    |    |    |    |    |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |    |    |    |    |    |    |    |                              |                        |          |              |
| Tash                                               | 0                                          | 1  | 2  | 3  | 4  | 5  | 6  | 7  | 8  | 9  | 10 | 11 | 12 | 13  | 14  | 15  | 16  | 17  | 18  | 19  | 20  | 21  | 22  | 23  | 24  | 25  | 26  | 27  | 28  | 29  | 30  | 31  | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39                           |                        |          |              |
| Stage 1: Initial Establishment                     |                                            | 25 | 25 | 25 |    |    |    |    |    |    |    |    |    |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |    |    |    |    |    |    |    | MRV, HRV, AV, Flat bed truck |                        |          |              |
| Stage 2: Tower Demolition                          |                                            |    | 30 | 30 | 30 | 30 | 30 | 30 |    |    |    |    |    |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |    |    |    |    |    |    |    | HRV, AV, Truck & Dog         |                        |          |              |
| Stage 3: Podium & Basement Demolition & Excavation |                                            |    |    |    |    |    |    |    | 15 | 15 | 15 | 15 | 15 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |    |    |    |    |    |    |    |                              | HRV, AV, Truck & Dog   |          |              |
| Stage 4: Podium & Basement Construction            |                                            |    |    |    |    |    |    |    |    |    |    |    |    | 110 | 110 | 110 | 110 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |    |    |    |    |    |    |    |                              | Majority MRV<br>HR, AV |          |              |
| Stage 5: Tower Construction                        |                                            |    |    |    |    |    |    |    |    |    |    |    |    |     |     |     |     | 110 | 110 | 110 | 110 | 110 | 110 | 110 | 110 | 110 | 110 | 110 | 110 | 110 | 110 | 110 |    |    |    |    |    |    |    |                              | Majority MRV<br>HR, AV |          |              |
| Stage 6: Fitout & Internal                         |                                            |    |    |    |    |    |    |    |    |    |    |    |    |     |     |     |     | 40  | 40  | 40  | 40  | 40  | 40  | 40  | 40  | 40  | 40  | 40  | 40  | 40  | 40  | 40  | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40                           | 40                     | MRV, HRV |              |
| Stage 7: Phasing                                   |                                            |    |    |    |    |    |    |    |    |    |    |    |    |     |     |     |     |     |     |     |     |     |     |     |     |     | 45  | 45  | 45  | 45  | 45  | 45  | 45 | 45 | 45 | 45 | 45 | 45 |    |                              |                        |          | MRV, HRV     |
| Stage 8: Public Domain                             |                                            |    |    |    |    |    |    |    |    |    |    |    |    |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     | 5   | 5   | 5   | 5   | 5  | 5  | 5  | 5  | 5  | 5  |    |                              |                        |          | HRV, AV      |
| Stage 9: Shell House                               |                                            |    | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15  | 15  | 15  | 15  | 15  | 15  | 15  | 15  | 15  | 15  | 15  | 15  | 15  | 15  | 15  | 15  |     |     |     |    |    |    |    |    |    |    |                              |                        |          | HRV, AV      |
| Stage 10: 285 George Street                        |                                            |    | 5  | 5  | 5  | 5  | 5  | 5  | 5  | 5  | 5  | 5  | 5  | 5   | 5   | 5   | 5   | 5   | 5   | 5   | 5   | 5   | 5   | 5   | 5   | 5   | 5   | 5   | 5   |     |     |     |    |    |    |    |    |    |    |                              |                        |          | HRV, AV, MRV |
| Total Vehicle Volumes                              | 0                                          | 25 | 75 | 75 | 50 | 50 | 50 | 50 | 35 | 35 | 35 | 35 | 35 | 130 | 130 | 130 | 130 | 170 | 170 | 170 | 170 | 170 | 170 | 170 | 170 | 170 | 215 | 215 | 220 | 200 | 200 | 90  | 90 | 90 | 90 | 90 | 90 | 45 | 40 | 40                           | 40                     | -        |              |

As previously mentioned, the proposed traffic generation during the construction of One Carrington Street will be less than the existing traffic generation of the subject site.

With concrete truck arrivals and departures spaced 5 minutes apart and reduced traffic in Carrington Street due to the cessation of normal activity in the Menzies Hotel, 301 George Street and in the station retail outlets, the effects of the construction traffic would be minimal, with mitigation measures implemented to further reduce the impact.

## 4.5 Pedestrians

Pedestrians would be affected when construction vehicles enter and exit the site from Wynyard Lane or Carrington Street construction site accesses. Other pedestrians which typically use Wynyard Lane will also be affected. To improve pedestrian safety, RMS accredited traffic controllers will be used to manage pedestrians while trucks enter and exit the site across the footpath. Flashing lights or electric gates would be installed when trucks are required to cross the Margaret Street and Wynyard Street footpaths.

Class 'B' hoarding would be erected along all frontages to the site for pedestrian protection. Pedestrian access along George Street, Carrington Street, Margaret Street and Wynyard Lane is to be maintained with minimal impact.

Should there be a need for trucks to occasionally reverse into the site off Wynyard Lane or Wynyard Street into the existing Loading Zone then pedestrian protection would be provided using traffic controllers to guide trucks and assist pedestrians whilst trucks crossed the footpath as shown in the TCP provided in Appendix C.

Throughout the construction period pedestrian access to Wynyard will be maintained. However access through the site will be managed under the following two scenarios:

- Pedestrian access through the site to/ from George Street/ Hunter Connection to Wynyard Station.
- Pedestrian Access around the site on the footpath network.

Wayfinding signage and pedestrian guidance signage will be provided to direct pedestrians around the staged work areas, as shown in the Pedestrian Management Plans provided in Appendix E.

It is noted that the width of footpaths around the site should be maintained as much as practical to reduce the impact on pedestrian amenity during the construction period.

On-site pedestrian observations indicated that the majority of pedestrians access the Wynyard Bus Terminal on Carrington Street by crossing Carrington Street at the southern end after having walked from George Street via Wynyard Street/ Regimental Square. As such, Class 'A' hoarding will be provided in Wynyard Street to concentrate the crossing behaviour at its intersection with Wynyard Lane. This would mitigate potential conflicts between pedestrians and construction vehicles at this location, with pedestrians controlled by traffic controllers where required.

## 4.6 Wynyard Lane Car Park

Given that Wynyard Lane will be closed, north of the southern site boundary, the Wynyard Lane car park will be closed to private vehicles for the duration of construction works. Signage will be installed on Margaret Street at Wynyard Lane to indicate this arrangement to drivers.

Although the car park will be closed to the public, it is proposed that the car park be accessible via Cumberland Street (existing exit), for smaller vehicles making deliveries to the construction site and deliveries for retail premises associated with the station (e.g. Coles). This will require strict traffic management procedures, given the constraints associated with the redundant tram tunnels, including:

- Small radius corner on entry via Cumberland Street
- Low clearance at a point approximately 100m from Cumberland Street
- Insufficient width for two-way movements within the tunnel, with no turn around facilities provided.

It is understood that the current car park has a height restriction of 1.95m. Based on this, most small commercial vehicles and forklifts are permitted to access the Wynyard Lane car park. Larger vehicles would be required to load/ unloading after either reversing into the Cumberland Street access or unloading on Cumberland Street adjacent to the tunnel entry/ exit. This would be similar to the manner that Woolworths at Town Hall is serviced. A traffic management solution would be adopted in the tunnel to ensure that only a single vehicle has access to the tram tunnels at any one time.

The specific access arrangements will be developed prior to commencement of construction and will require consultation with stakeholders.

As mentioned in Section 2.6, approximately 20 GoGet car share cars are provided within the Wynyard Lane public car park. These car spaces will need to be relocated during the entire construction period when the car park is closed.

## 4.7 Managed Deliveries

As previously mentioned, Wynyard Lane will be closed for the construction period, between Margaret Street and the southern boundary of the site. Service vehicles who currently park within the Loading Zone in Wynyard Lane would be required to be relocated to the existing Loading Zone in Margaret Street, with traffic controllers to manage safe pedestrian deliveries within Wynyard Lane.

Traffic surveys were undertaken to assess the level of occupancy of the surrounding Loading Zones on Margaret Street, Wynyard Street and Carrington Street, as discussed in Section 2.8. The results indicate that there would be adequate capacity to accommodate the displaced loading activity in Wynyard Lane and Carrington Street (near Margaret Street).

Further to the above, on-site observations indicated that vehicles often park illegally within the Loading Zone on Margaret Street, as shown in Figure 4.2.

Figure 4.2: Margaret Street Loading Zone



Based on the above, it is proposed that this Loading Zone be converted into a Works Zone for construction vehicle use. However, this Works Zone would be expected to have minimal utilisation and could accommodate the displaced service vehicles which currently utilise this Works Zone and the Works Zone on the northern end of Wynyard Lane. This arrangement would be under traffic control, therefore illuminating the observed illegal use by private vehicles.

In summary, it is expected that service vehicles who currently utilise the Loading Zone in the northern section of Wynyard Lane and on Margaret Street will park within the Loading Zone in Margaret Street. Service vehicles who currently park within the Loading Zone in the southern section of Wynyard Lane will be required to park within the existing Loading Zone in Wynyard Street.

## 4.8 Worker Parking

The works are expected to generate a maximum of 600-700 site personnel per day during the peak of the 39 month construction period. However, given the proximity of the site with regards to public transport, all workers will be encouraged to utilise the existing public transport network servicing the site. No parking for construction workers will be provided. As such, the traffic impact of construction staff is considered to be negligible.

## 4.9 Cyclists

As discussed in Section 2.5, cyclists can use the existing bus lanes on York Street, Clarence Street and George Street. Designated cycle routes with heavy traffic are provided on York Street and George Street. There are no bicycle facilities in Carrington Street or Margaret Street.

Few cyclists were observed on Carrington Street during our on-site inspections – Carrington Street does not represent a significant desire line – most cyclists travel on George Street, York Street or Margaret Street. CBD cyclists are used to travelling in an environment where there are numerous delivery trucks and are accustomed to buses undertaking turning manoeuvres to enter and exit Bus Stops such as in Carrington Street.

It should also be noted that construction vehicles entering and exiting the site accesses on Carrington Street and Wynyard Lane from Margaret Street/ Wynyard Street or the Works Zone on Carrington Street will not be crossing a designated cycle route or a route with a high volume of cyclists.

## 4.10 Buses

York Street and Carrington Street experiences congestion during the morning and afternoon peak periods.

As previously discussed, the reduction in traffic generated by the subject site during the construction period may reduce overall traffic volumes along Carrington Street, Margaret Street and York Street, particularly during peak hours. As such, the construction works are anticipated to have minimal impact on the road network, with limited impact on the public transport network.

Carrington Street busier period in relation to buses is during the afternoon peak period. The majority of construction activities / deliveries on a construction site are completed prior to 4:00pm, therefore the majority of construction vehicle movements would not coincide with the peak bus period on Carrington Street which is between 4:30pm and 5:30pm.

Carrington Street public transport services would not need to be detoured during the construction of One Carrington Street.

As discussed in Section 3.4.3, a proposed Works Zone would displace a 'Coaches 15 minute limit' parking area. The Coaches area is predominantly used for the hotel and would not be required during the construction period. All other buses are accommodated in the adjacent Bus Zones located immediately south of the proposed Works Zone.

A traffic controller at the Carrington Street site access will manage construction vehicles entering and exiting the site and the interaction with all vehicles, including buses, on Carrington Street.

## 4.11 CBD and SE Light Rail

The CBD and SE Light Rail has been agreed in principle by the NSW government and is currently in the EIS planning phase. Construction is anticipated to commence in late 2014.

The Light Rail is proposed to travel along George Street in the vicinity of the site, with the following implications:

- George Street is to be closed to traffic south of Hunter Street
- Hunter Street and Margaret Street including the section of George Street between would be developed as a major west to east traffic route.

The consequences of these changes are that westbound traffic flows on Margaret Street past Wynyard Lane would increase and there will be an increase in delay exiting from Carrington Street and Wynyard Lane onto Margaret Street.

Similarly, there will be an increase in westbound traffic queues on Margaret Street extending from York Street and Carrington Street.

## 4.12 Cumulative Impacts

As noted above, the construction of the CBD and SE Light Rail along George Street could overlap with the proposed construction works for One Carrington Street. Further to this, construction works

at Barangaroo and Wynyard Walk (to a lesser degree given that it's expected completion date is late 2015) could also occur simultaneously for majority of the proposed construction period.

As such, the contractor would be required to liaise with the appropriate authorities for these surrounding construction projects, to minimise the cumulative impact. Similarly, the contractors would be required to liaise with adjacent property owners throughout the construction process to identify any future construction projects proposed within the vicinity of the site.

The proposed construction vehicle routes detailed in Section 3.5 aim to reduce the cumulative traffic impacts, by enabling construction vehicles to arrive via all directions. Vehicle arrivals from the east, are anticipated to have minimal impact on Wynyard Walk and Barangaroo projects. However, these would need to be managed with respect to the CBD and SE Light Rail construction works along George Street.

## 4.13 Emergency Access

Access to the construction site by emergency vehicles would be available via the construction vehicle accesses.

In addition, access to neighbouring sites by emergency vehicles should not be affected by the works as their road and footpath frontage would be unaffected. However, any potential impacts on emergency access would be effectively managed throughout the works, with continual consultation with emergency services proposed.

It is also worth noting that existing fire boosters may be relocated following demolition works within the site. However, the feasibility of the proposed locations would be verified with the appropriate emergency departments before construction works commence.

## 5 Work and Driver Protocols

The following construction traffic management measures would be applied to all construction stages:

### Hours of Operation

- Work to be undertaken during approved construction hours.
- Any work outside of the approved hours shall only occur in accordance with the Conditions of Consent which permit work outside hours given certain conditions and separate approval.

### Vehicle Access

- Construction vehicles are to coordinate with site management to ensure access to the site/ Works Zone is available.
- Drivers must not double park or park in Carrington Street, Margaret Street and Wynyard Street or the Carrington Street Works Zone at any time.
- Vehicles using Wynyard Lane must do so at low speed.
- Drivers must obey the instructions of qualified personnel at driveway accesses.
- Use of the Works Zones in Carrington Street and Margaret Street must occur within the terms of the RMS road occupancy approval and the City of Sydney Works Zone approval (yet to be obtained).
- Use of the Works Zones in Carrington Street and Margaret Street must occur whilst traffic control is in place.
- Drivers are to be mindful of pedestrians and bicycles when entering and exiting Works Zones and site accesses.
- Access to the site via Wynyard Lane or Carrington Street must occur whilst traffic control is in place.

### Truck Routes

- Drivers must adhere to the nominated truck routes.
- Drivers must be mindful of pedestrian safety.
- Drivers should be aware of local speed limits.

### Loading and Unloading

- The loading and unloading may only occur within the site or from within the proposed Works Zones.
- No queuing or marshalling/ parking of trucks would occur in Wynyard Lane/ Carrington Street. However, this could occur in the Margaret Street Works Zones.
- Drivers must adhere to the access arrangements.

### Pedestrian Access

- Class 'B' hoarding would be erected along all frontages to the site for pedestrian protection.
- Class 'B' hoarding would be erected in Wynyard Street to control pedestrian movements to designated crossing points under traffic management to improve pedestrian safety between George Street and Wynyard Railway Station.
- Pedestrian access along Carrington Street and Margaret Street is to be maintained with minimal impact.

- Traffic controllers are to be used to assist with pedestrians and bicycles as required, however pedestrians have priority and traffic controllers are not permitted to stop pedestrians to allow trucks to exit/ enter the site.

#### Traffic Control

- Advisory road signage in accordance with AS 1742.3 Manual of uniform traffic control devices -Traffic control devices for works on roads and the RMS's Traffic Control at Worksites must be installed and maintained throughout the construction stages.
- Traffic controllers would be used to assist truck movements during the works however pedestrians and general traffic have priority.
- The peak truck movements would occur outside of peak hours, to minimise impact on local traffic.

## 6 Conclusion

This CTMP has been prepared to document the proposed construction activities and associated construction traffic management measures necessary to facilitate the construction of One Carrington Street, Sydney CBD.

Based on the finding of this CTMP, it is concluded that:

- i Carrington Street would accommodate a Works Zone for use primarily by articulated vehicles which are unable to manoeuvre within the site or access Wynyard Lane.
- ii Margaret Street would accommodate two Works Zones which would predominately accommodate LRV manoeuvres, to reduce the number of LRV vehicles required to access the site.
- iii The eastern Works Zone on Margaret Street would also accommodate loading activity associated with the adjacent properties.
- iv The western Works Zone on Margaret Street would be utilised outside of peak traffic periods only.
- v The provision of Works Zones on Carrington Street and Margaret Street would not result in any traffic capacity reductions and would be subject to City of Sydney approval.
- vi The peak daily construction vehicle trips would be somewhat less than the traffic currently generated by the site.
- vii Construction vehicle movements to and from the site can be satisfactorily accommodated by the surrounding road network with mitigation measures proposed to reduce any adverse impacts on the surrounding road network.
- viii Class 'B' hoarding would be erected along all frontages to the site for pedestrian protection. Pedestrian access along Carrington Street and Margaret Street is to be maintained with minimal impact.
- ix Wynyard Lane would be closed between Margaret Street and the southern boundary of the site, with two-way vehicle movements proposed in the southern section of Wynyard Lane.
- x Wynyard Lane (northern section) will be open to construction vehicles only.
- xi Service vehicles that currently utilise the Loading Zone in Wynyard Lane will be displaced to existing Loading Zones on Margaret Street or Wynyard Street.
- xii Traffic controllers would be used to assist truck movements during the works however pedestrians and general traffic have priority.
- xiii Traffic controllers would also be used to facilitate two-way vehicle movements in Wynyard Lane and safe pedestrian crossing activity in Wynyard Street.
- xiv A number of driver protocols would be established for drivers to ensure the safety for motorists, pedestrians and cyclists and amenity of residents.

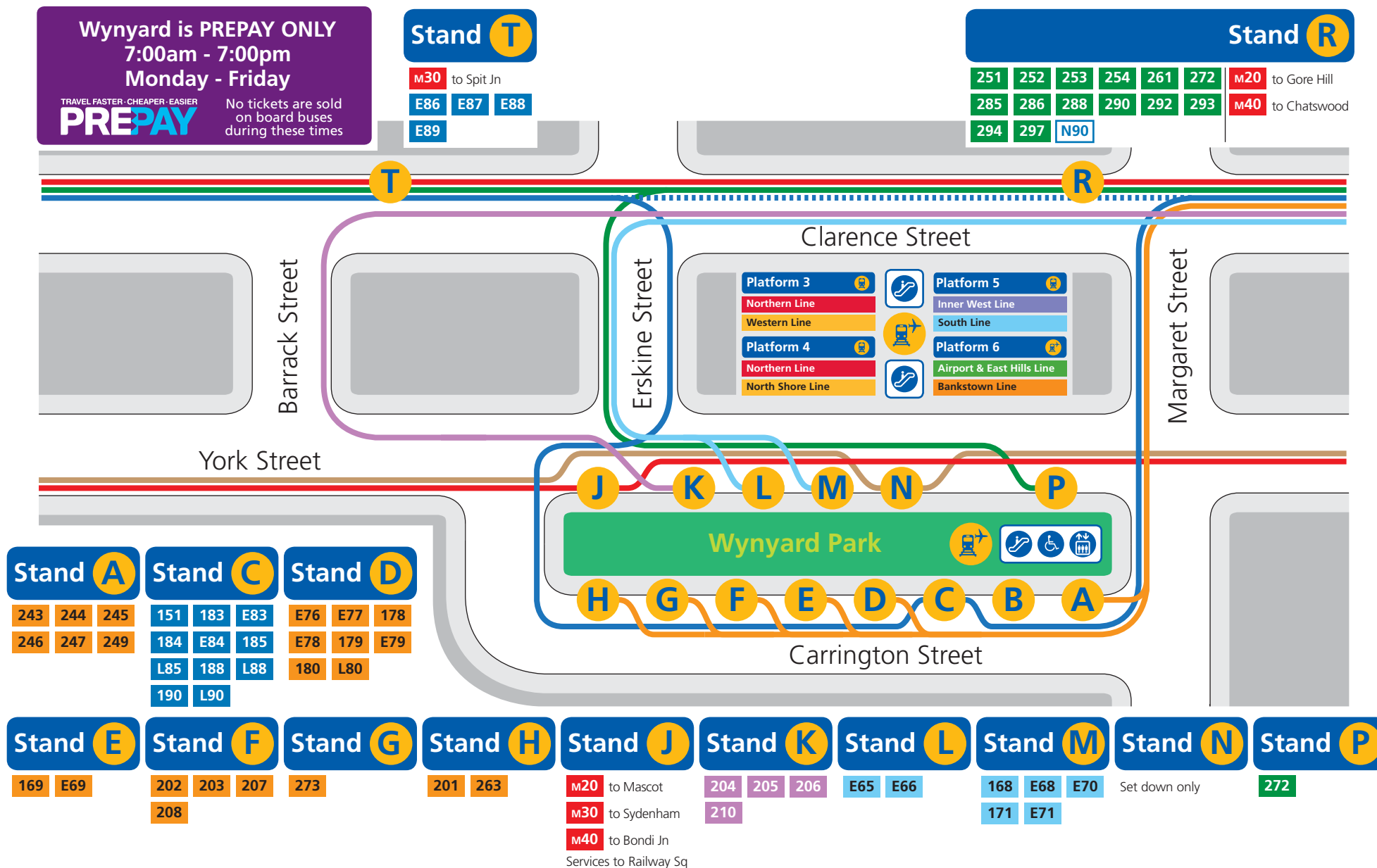
In summary, it is concluded that the proposed CTMP measures would adequately address potential implications associated with proposed construction activities.

## Appendix A

### Bus Terminus



### ► Departure Guide



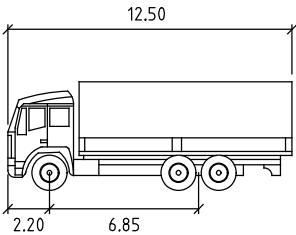
## Appendix B

### Swept Paths



**SWEPT PATH KEY**

- VEHICLE CENTRE LINE
- - VEHICLE TYRE PATH
- VEHICLE BODY PATH
- - 500mm CLEARANCE FROM VEHICLE BODY



SU TRUCK metres

|                   |        |
|-------------------|--------|
| Width             | : 2.50 |
| Track             | : 2.50 |
| Lock to Lock Time | : 6.0  |
| Steering Angle    | : 36.6 |

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PLOTTED BY : rebecca.fletcher

| AMENDMENTS |          |               |  | GENERAL NOTES                                                                                                                                                                                                                                                                                                                                                 |     |     |  |
|------------|----------|---------------|--|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|-----|--|
|            |          |               |  | <div>PRELIMINARY PLAN</div> <div>FOR DISCUSSION PURPOSES ONLY SUBJECT TO CHANGE WITHOUT NOTIFICATION</div> <div>WARNING</div> <div>BEWARE OF UNDERGROUND SERVICES</div> <div>THE LOCATION OF UNDERGROUND SERVICES ARE APPROXIMATE ONLY AND THEIR EXACT POSITION SHOULD BE PROVIDED ON SITE. NO GUARANTEE IS GIVEN THAT ALL EXISTING SERVICES ARE SHOWN.</div> |     |     |  |
|            |          |               |  |                                                                                                                                                                                                                                                                                                                                                               |     |     |  |
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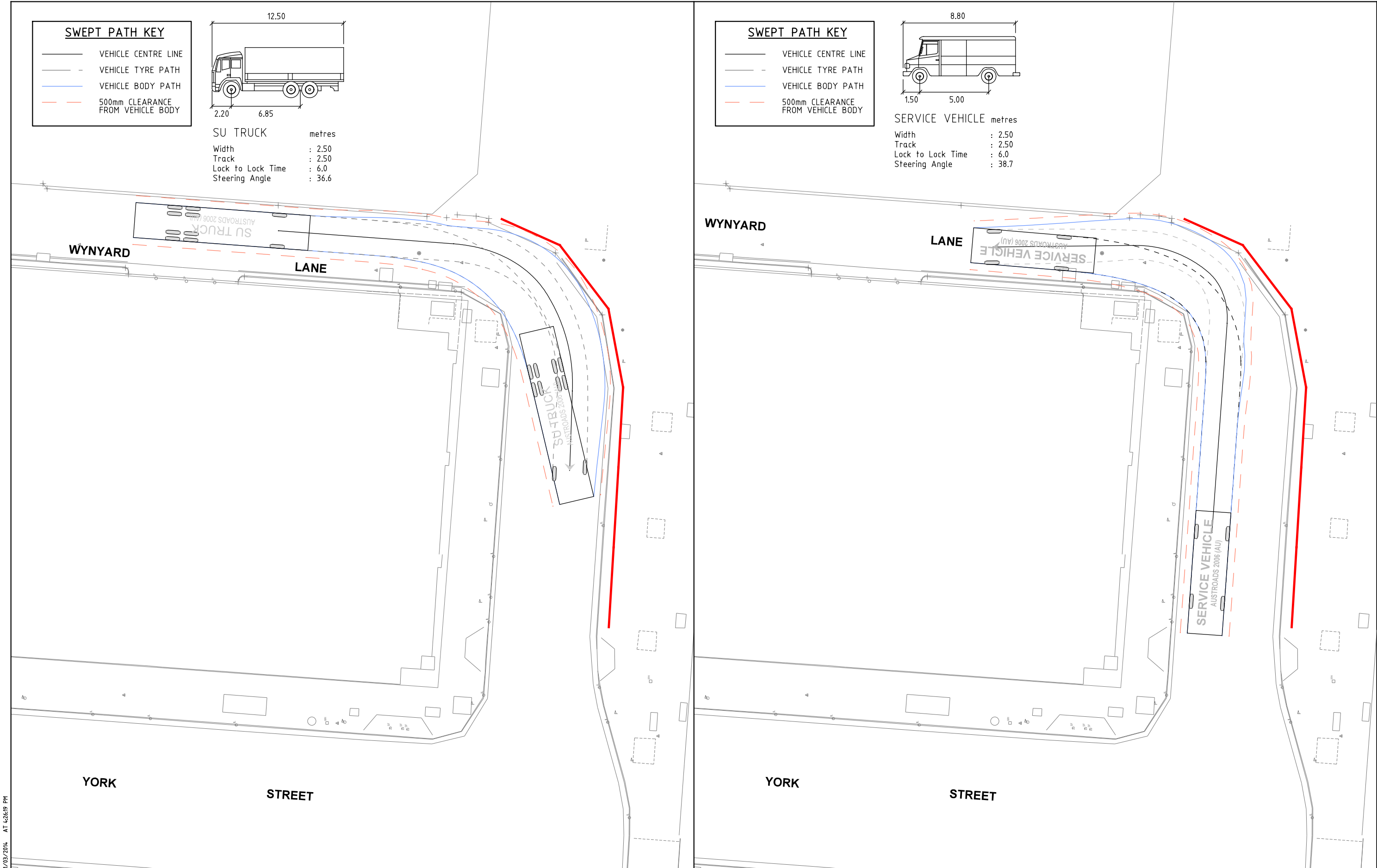
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|                                                                                                |                                  |                   |             |
|------------------------------------------------------------------------------------------------|----------------------------------|-------------------|-------------|
| CLIENT                                                                                         | BROOKFIELD MULTIPLEX AUSTRALASIA |                   |             |
| ONE CARRINGTON STREET<br>WYNYARD<br>WYNYARD LANE CLOSURE<br>SWEPT PATH ASSESSMENT<br>12.5m LRV |                                  |                   |             |
| SYDWAY REF.<br>26/J16                                                                          | DRAWING NO.<br>13S1213100-01-02  | SHEET<br>02 OF 05 | ISSUE<br>P1 |





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|-------|----------|---------------|-----|-----|-----|
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GENERAL NOTES

PRELIMINARY PLAN

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ONLY SUBJECT TO CHANGE  
WITHOUT NOTIFICATION

WARNING

BEWARE OF UNDERGROUND SERVICES  
THE LOCATION OF UNDERGROUND SERVICES ARE  
APPROXIMATE ONLY AND THEIR EXACT POSITION  
SHOULD BE PROVIDED ON SITE. NO GUARANTEE IS  
GIVEN THAT ALL EXISTING SERVICES ARE SHOWN.

DESIGNED

B.HUMPHREY-ROBINSON

DRAWN

B.LI

APPROVED BY

K.HOLLYOAK

SCALE

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CLIENT

BROOKFIELD MULTIPLEX AUSTRALASIA

ONE CARRINGTON STREET

WYNYARD

WYNYARD LANE CLOSURE

SWEPT PATH ASSESSMENT

12.5m LRV & 8.8m MRV

SYDWAY REF.

26/J16

DRAWING NO.

13S1213100-01-04

SHEET

04 OF 05

ISSUE

P1

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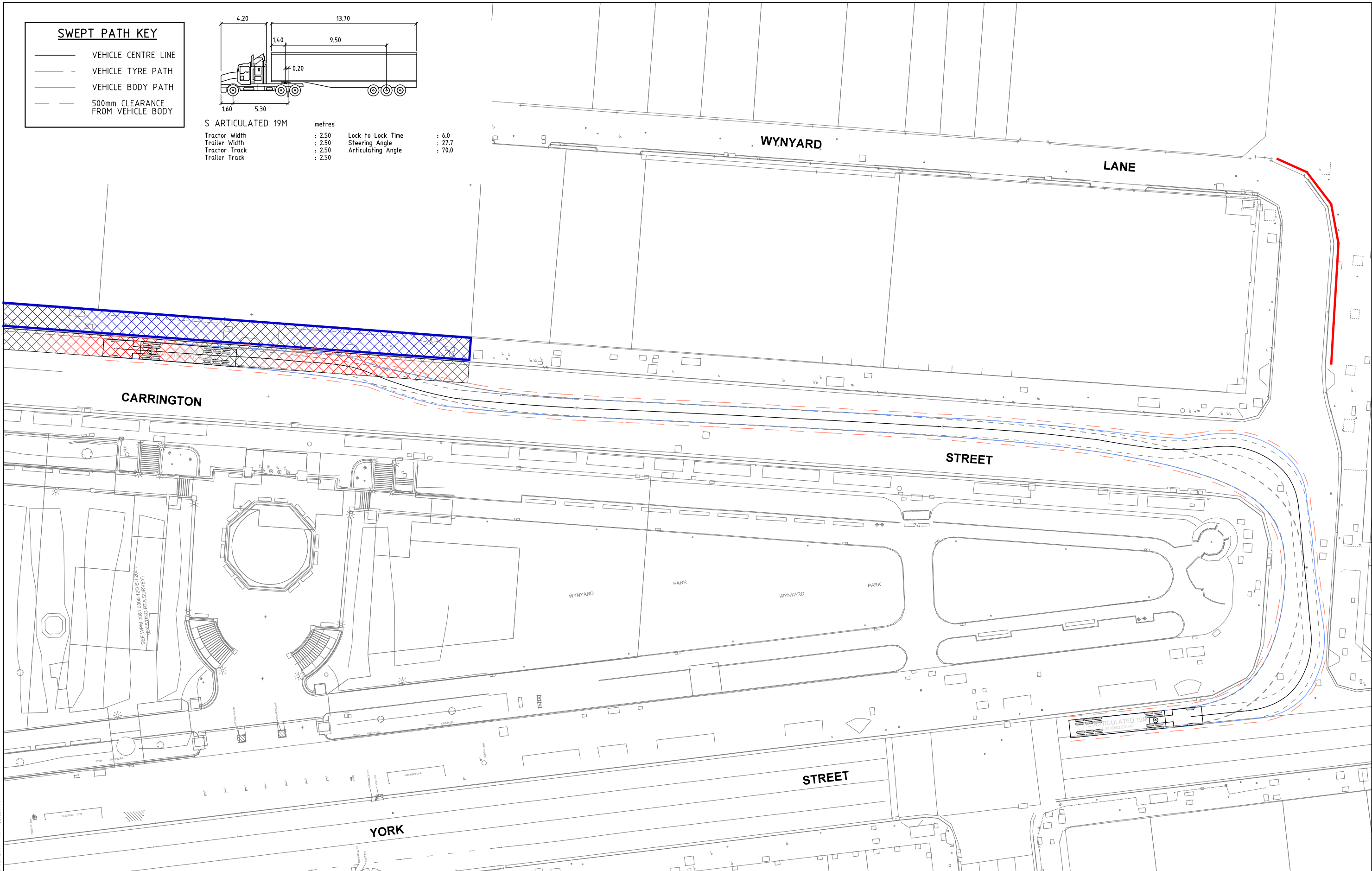
**SWEPT PATH KEY**

- VEHICLE CENTRE LINE
- - VEHICLE TYRE PATH
- VEHICLE BODY PATH
- - 500mm CLEARANCE FROM VEHICLE BODY

**S ARTICULATED 19M**

metres

|               |        |                    |        |
|---------------|--------|--------------------|--------|
| Tractor Width | : 2.50 | Lock to Lock Time  | : 6.0  |
| Trailer Width | : 2.50 | Steering Angle     | : 27.7 |
| Tractor Track | : 2.50 | Articulating Angle | : 70.0 |
| Trailer Track | : 2.50 |                    |        |



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| AMENDMENTS |          |               |  | GENERAL NOTES                                                                                                                                                                                                                                                                                                                                                      |      |      |  |
|------------|----------|---------------|--|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|------|--|
|            |          |               |  | <p><b>PRELIMINARY PLAN</b><br/>FOR DISCUSSION PURPOSES<br/>ONLY SUBJECT TO CHANGE<br/>WITHOUT NOTIFICATION</p> <p><b>WARNING</b><br/>BEWARE OF UNDERGROUND SERVICES<br/>THE LOCATION OF UNDERGROUND SERVICES ARE<br/>APPROXIMATE ONLY AND THEIR EXACT POSITION<br/>SHOULD BE PROVIDED ON SITE. NO GUARANTEE IS<br/>GIVEN THAT ALL EXISTING SERVICES ARE SHOWN.</p> |      |      |  |
|            |          |               |  |                                                                                                                                                                                                                                                                                                                                                                    |      |      |  |
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| P1         | 11.03.14 | INITIAL ISSUE |  | BLL                                                                                                                                                                                                                                                                                                                                                                | BHR  | K.H  |  |
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|                       |                                                                                                       |                   |             |
|-----------------------|-------------------------------------------------------------------------------------------------------|-------------------|-------------|
| CLIENT                | BROOKFIELD MULTIPLEX AUSTRALASIA                                                                      |                   |             |
|                       | ONE CARRINGTON STREET<br>WYNYARD<br>WYNYARD LANE CLOSURE<br>SWEPT PATH ASSESSMENT<br>19m SEMI-TRAILER |                   |             |
| SYDWAY REF.<br>26/J16 | DRAWING NO.<br>13S1213100-01-05                                                                       | SHEET<br>05 OF 05 | ISSUE<br>P1 |

## Appendix C

### Traffic Control Plan



## Appendix D

### Construction Traffic Management Planning

# One Carrington Street – Construction Traffic Management Planning

| Works                                                              | Activities                                                                                               | Access Arrangement                                                                                                                                                                               | Vehicles Used                                                                                                                                                                | Vehicle Quantity Anticipated                                                                                                                                                                         |
|--------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| General<br>(throughout)                                            | Activities throughout project duration                                                                   | <ul style="list-style-type: none"><li>Closure of Wynyard Lane to general traffic (north portion)</li></ul>                                                                                       | Traffic Control Vehicles/Minor works trucks                                                                                                                                  |                                                                                                                                                                                                      |
|                                                                    |                                                                                                          | <ul style="list-style-type: none"><li>Miscellaneous/small deliveries via Cumberland St</li></ul>                                                                                                 | Small Trucks, Vans (2m max height in tunnels)<br>Larger coordinated deliveries via forklift if required                                                                      |                                                                                                                                                                                                      |
| Initial Establishment Works<br><br>Months 0-3                      | <ul style="list-style-type: none"><li>Site Establishment (site accommodation etc)</li></ul>              | <ul style="list-style-type: none"><li>Wynyard Lane Car Park – Enter Via Existing Ramp – Exit Via Existing Ramp</li></ul>                                                                         | <ul style="list-style-type: none"><li>Medium Flat Bed Truck – materials delivery</li></ul>                                                                                   | <ul style="list-style-type: none"><li>Up to 6 trucks per day</li></ul>                                                                                                                               |
|                                                                    | <ul style="list-style-type: none"><li>Erect Hoardings</li></ul>                                          | <ul style="list-style-type: none"><li>On-street access to George St, Carrington St &amp; Margaret St (subject to permits)</li></ul>                                                              | <ul style="list-style-type: none"><li>HRV/AV</li><li>Mobile Crane</li></ul>                                                                                                  | <ul style="list-style-type: none"><li>Approx 3 trucks per night</li><li>Mobile Crane</li></ul>                                                                                                       |
|                                                                    | <ul style="list-style-type: none"><li>Tower Crane Erection (2 of)</li></ul>                              | <ul style="list-style-type: none"><li>Via Road Closures – Carrington &amp; Margaret St</li></ul>                                                                                                 | <ul style="list-style-type: none"><li>AVs (Oversized)</li><li>200T+ Mobile Crane</li></ul>                                                                                   | <ul style="list-style-type: none"><li>Up to 10 trucks per day typically over 2days</li><li>1 + Franna</li></ul>                                                                                      |
|                                                                    | <ul style="list-style-type: none"><li>Scaffolding in preparation for demolition</li></ul>                | <ul style="list-style-type: none"><li>Carrington St Loading Zone</li><li>Wynyard Lane – Enter via Margaret – Exit via Wynyard Street</li></ul>                                                   | <ul style="list-style-type: none"><li>HRV/AV</li></ul>                                                                                                                       | <ul style="list-style-type: none"><li>Up to 5 trucks per day</li></ul>                                                                                                                               |
| Tower Demolition Works<br><br>Months 1-7                           | <ul style="list-style-type: none"><li>Demolition (301 George St Tower)</li></ul>                         | <ul style="list-style-type: none"><li>Wynyard Lane – Enter via Margaret – Exit via Wynyard Street</li></ul>                                                                                      | <ul style="list-style-type: none"><li>Single &amp; Double Bogey</li><li>Waste Bin Trucks</li></ul>                                                                           | <ul style="list-style-type: none"><li>Up to 12 trucks per day</li><li>1-2 bins per day</li></ul>                                                                                                     |
|                                                                    | <ul style="list-style-type: none"><li>Demolition (Menzies Tower)</li></ul>                               | <ul style="list-style-type: none"><li>Carrington Street</li></ul>                                                                                                                                | <ul style="list-style-type: none"><li>Single &amp; Double Bogey</li><li>Waste Bin Trucks</li></ul>                                                                           | <ul style="list-style-type: none"><li>Up to 12 trucks per day</li><li>1-2 bins per day</li></ul>                                                                                                     |
|                                                                    | <ul style="list-style-type: none"><li>Scaffold removal with demolition progress</li></ul>                | <ul style="list-style-type: none"><li>Via above paths.</li></ul>                                                                                                                                 | <ul style="list-style-type: none"><li>HRV/AV</li></ul>                                                                                                                       | <ul style="list-style-type: none"><li>2-3 trucks per day</li></ul>                                                                                                                                   |
| Podium & Basement Demolition & Excavation Works<br><br>Months 7-12 | <ul style="list-style-type: none"><li>Demolition / Excavation</li></ul>                                  | <ul style="list-style-type: none"><li>Wynyard Lane (severed) – enter &amp; exit via Margaret</li><li>Carrington Street – using works zone</li></ul>                                              | <ul style="list-style-type: none"><li>Single &amp; Double Bogey</li><li>Waste Bin Trucks</li></ul>                                                                           | <ul style="list-style-type: none"><li>Up to 12 trucks per day</li><li>1-2 bins per day</li></ul>                                                                                                     |
|                                                                    | <ul style="list-style-type: none"><li>Scaffold removal with demolition progress</li></ul>                | <ul style="list-style-type: none"><li>As above</li></ul>                                                                                                                                         | <ul style="list-style-type: none"><li>HRV/AV</li></ul>                                                                                                                       | <ul style="list-style-type: none"><li>1-2 trucks per day</li></ul>                                                                                                                                   |
| Podium & Basement Construction Works<br><br>Months 12-16           | <ul style="list-style-type: none"><li>Pour Footings</li></ul>                                            | <ul style="list-style-type: none"><li>Wynyard Lane (severed) – enter &amp; exit via Margaret</li><li>Carrington Street – using works zone</li></ul>                                              | <ul style="list-style-type: none"><li>Reinforcing Trucks - HRV</li><li>Concrete Trucks (7.2m<sup>3</sup>)</li><li>Concrete Pump</li></ul>                                    | <ul style="list-style-type: none"><li>1-2 per day</li><li>2-3 per day</li><li>1 per day</li></ul>                                                                                                    |
|                                                                    | <ul style="list-style-type: none"><li>Perimeter Walls, Columns and Slabs up to Mezzanine Floor</li></ul> | <ul style="list-style-type: none"><li>As above</li></ul>                                                                                                                                         | <ul style="list-style-type: none"><li>Concrete Trucks (7.2m<sup>3</sup>)</li><li>HRV/AV reinforcing trucks</li><li>HRV/AV formwork trucks</li><li>Concrete Pump</li></ul>    | <ul style="list-style-type: none"><li>Up to 100 trucks per pour day (3-4 days/wk)</li><li>2-3 trucks per day (approx. 12t/truck)</li><li>2 trucks/day</li><li>1-2 per day (fixed position)</li></ul> |
|                                                                    | <ul style="list-style-type: none"><li>Façade Installation (Curtain wall &amp; Shopfront Type)</li></ul>  | <ul style="list-style-type: none"><li>Wynyard Lane (re-built for construction access only) – enter via Margaret – exit via Wynyard Street</li><li>Carrington Street – using works zone</li></ul> | <ul style="list-style-type: none"><li>AV's (Curtain Wall)</li><li>Limited HRV – shopfronts/stone</li></ul>                                                                   | <ul style="list-style-type: none"><li>1-2 per day</li><li>1-2 per day</li></ul>                                                                                                                      |
| Tower Construction Works<br><br>Months 16-30                       | <ul style="list-style-type: none"><li>Tower Structure (Walls, Columns &amp; Slabs)</li></ul>             | <ul style="list-style-type: none"><li>Wynyard Lane (re-built for construction access only) – enter via Margaret – exit via Wynyard Street</li><li>Carrington Street – using works zone</li></ul> | <ul style="list-style-type: none"><li>Concrete Trucks (7.2m<sup>3</sup>)</li><li>HRV/AV reinforcing/PT trucks</li><li>HRV/AV formwork trucks</li><li>Concrete Pump</li></ul> | <ul style="list-style-type: none"><li>Up to 100 trucks per pour day (3-4 days/wk)</li><li>2-3 trucks per day (approx. 12t/truck)</li><li>2 trucks/day</li><li>1-2 per day (fixed position)</li></ul> |
|                                                                    | <ul style="list-style-type: none"><li>Tower Curtain Wall Façade</li></ul>                                | <ul style="list-style-type: none"><li>Carrington Street – using works zone</li></ul>                                                                                                             | <ul style="list-style-type: none"><li>AV's (Curtain Wall)</li></ul>                                                                                                          | <ul style="list-style-type: none"><li>1-2 per day</li></ul>                                                                                                                                          |

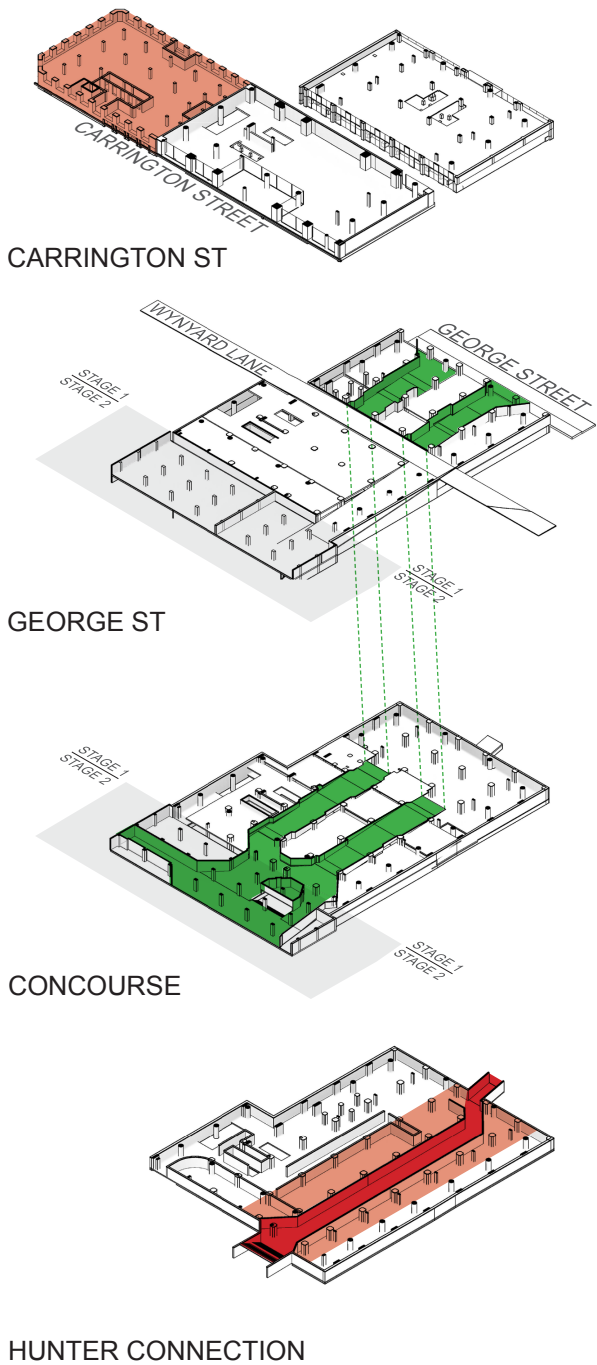
# One Carrington Street – Construction Traffic Management Planning

| Works                                                     | Activities                                                                                                                   | Access Arrangement                                                                                                                | Vehicles Used                                                                                                                         | Vehicle Quantity Anticipated                                                                                                                                                                          |
|-----------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Fitout &amp; Internal Works</b><br><b>Months 16-39</b> | <ul style="list-style-type: none"> <li>Tower Services and Fitout</li> </ul>                                                  | <ul style="list-style-type: none"> <li>Carrington Street</li> <li>Wynyard Lane – including new loading dock area</li> </ul>       | <ul style="list-style-type: none"> <li>HRV/MRV</li> </ul>                                                                             | <ul style="list-style-type: none"> <li>Up to 25 trucks per day</li> </ul>                                                                                                                             |
|                                                           | <ul style="list-style-type: none"> <li>Plantroom installation</li> </ul>                                                     | <ul style="list-style-type: none"> <li>Carrington Street – via works zone</li> </ul>                                              | <ul style="list-style-type: none"> <li>AVs</li> </ul>                                                                                 | <ul style="list-style-type: none"> <li>Up to 12 trucks per day</li> </ul>                                                                                                                             |
| <b>Phasing Works</b><br><b>Months 25-35</b>               | <ul style="list-style-type: none"> <li>Phasing works including demolition, new structure, services &amp; finishes</li> </ul> | <ul style="list-style-type: none"> <li>Carrington St Works Zone</li> <li>Wynyard Lane</li> </ul>                                  | <ul style="list-style-type: none"> <li>Single Bogey – demolition</li> <li>Concrete Trucks</li> <li>Other deliveries MRV/HV</li> </ul> | <ul style="list-style-type: none"> <li>3-5 trucks per day – demolition</li> <li>Approx. 30 trucks on pour days (1-2 days/wk)</li> <li>6-10 trucks for formwork, reinforcing, services etc.</li> </ul> |
| <b>Public Domain Works</b><br><b>Months 27-36</b>         | <ul style="list-style-type: none"> <li>Footpath Paving &amp; Associated works</li> </ul>                                     | <ul style="list-style-type: none"> <li>Local closures and works zones to George/Margaret/Carrington &amp; Wynyard Lane</li> </ul> | <ul style="list-style-type: none"> <li>Excavators for works</li> <li>Concrete Trucks</li> <li>Other deliveries MRV/HV</li> </ul>      | <ul style="list-style-type: none"> <li>3-4 trucks per day</li> </ul>                                                                                                                                  |
| <b>Shell House Works</b><br><b>Months 1-28</b>            | <ul style="list-style-type: none"> <li>Scaffolding in preparation for Façade Inspection/Demolition</li> </ul>                | <ul style="list-style-type: none"> <li>Carrington/Margaret Works Zones</li> </ul>                                                 | <ul style="list-style-type: none"> <li>HRV/AV</li> </ul>                                                                              | <ul style="list-style-type: none"> <li>Up to 5 trucks per day</li> </ul>                                                                                                                              |
|                                                           | <ul style="list-style-type: none"> <li>Demolition</li> </ul>                                                                 | <ul style="list-style-type: none"> <li>Carrington St Works Zone</li> <li>Wynyard Lane</li> </ul>                                  | <ul style="list-style-type: none"> <li>Single &amp; Double Bogey</li> <li>Waste Bin Trucks</li> </ul>                                 | <ul style="list-style-type: none"> <li>Up to 4 trucks per day</li> <li>1 bin per day</li> </ul>                                                                                                       |
|                                                           | <ul style="list-style-type: none"> <li>Scaffold removal with demolition progress</li> </ul>                                  | <ul style="list-style-type: none"> <li>Carrington St/Margaret St Works Zones</li> <li>Wynyard Lane</li> </ul>                     | <ul style="list-style-type: none"> <li>HRV/AV</li> </ul>                                                                              | <ul style="list-style-type: none"> <li>1-2 trucks per day</li> </ul>                                                                                                                                  |
| <b>285 George Street Works</b><br><b>Months 1-28</b>      | <ul style="list-style-type: none"> <li>Scaffolding in preparation for Façade Inspection</li> </ul>                           | <ul style="list-style-type: none"> <li>Carrington/Margaret Works Zones</li> <li>Wynyard Lane</li> </ul>                           | <ul style="list-style-type: none"> <li>HRV/AV</li> </ul>                                                                              | <ul style="list-style-type: none"> <li>2-3 trucks per day</li> </ul>                                                                                                                                  |
|                                                           | <ul style="list-style-type: none"> <li>Scaffold removal with demolition progress</li> </ul>                                  | <ul style="list-style-type: none"> <li>Carrington St/Margaret St Works Zones</li> <li>Wynyard Lane</li> </ul>                     | <ul style="list-style-type: none"> <li>HRV/AV</li> </ul>                                                                              | <ul style="list-style-type: none"> <li>1-2 trucks per day</li> </ul>                                                                                                                                  |
|                                                           | <ul style="list-style-type: none"> <li>Internal structural, services and fitout</li> </ul>                                   | <ul style="list-style-type: none"> <li>Carrington Street</li> <li>Wynyard Lane – including new loading dock area</li> </ul>       | <ul style="list-style-type: none"> <li>HRV/MRV</li> <li>Concrete Trucks</li> </ul>                                                    | <ul style="list-style-type: none"> <li>Included within above</li> <li>Included within above</li> </ul>                                                                                                |

## Appendix E

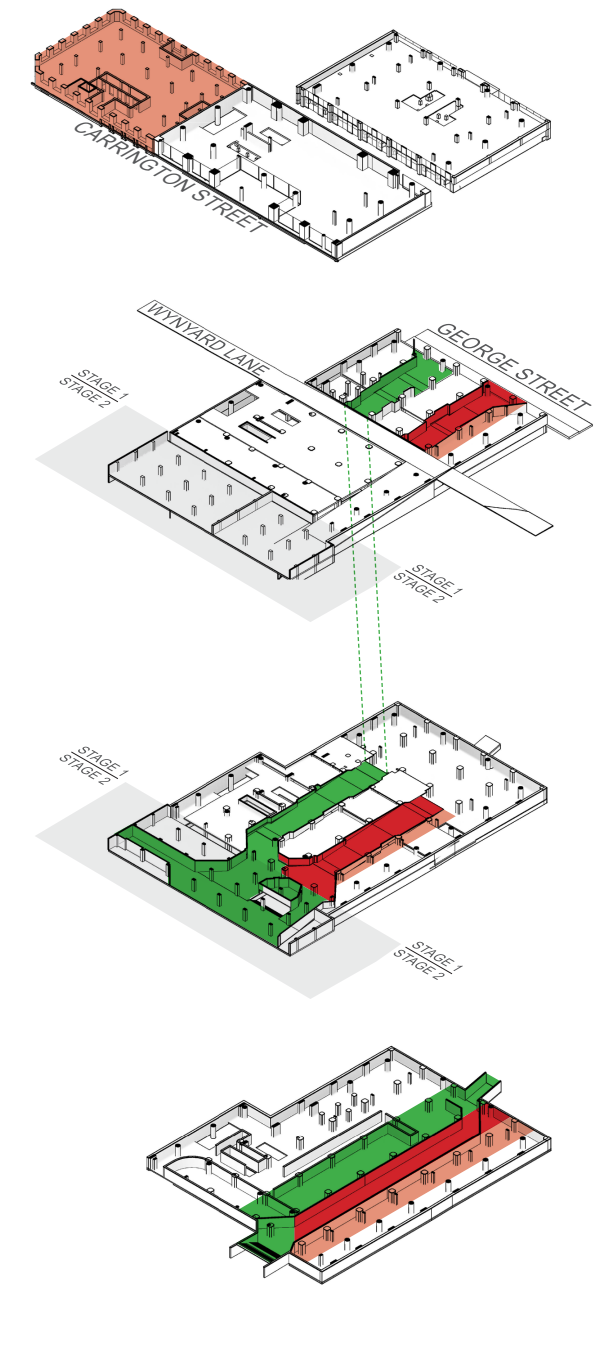
### Pedestrian Management Plans

PHASE 1  
MONTHS 0-4



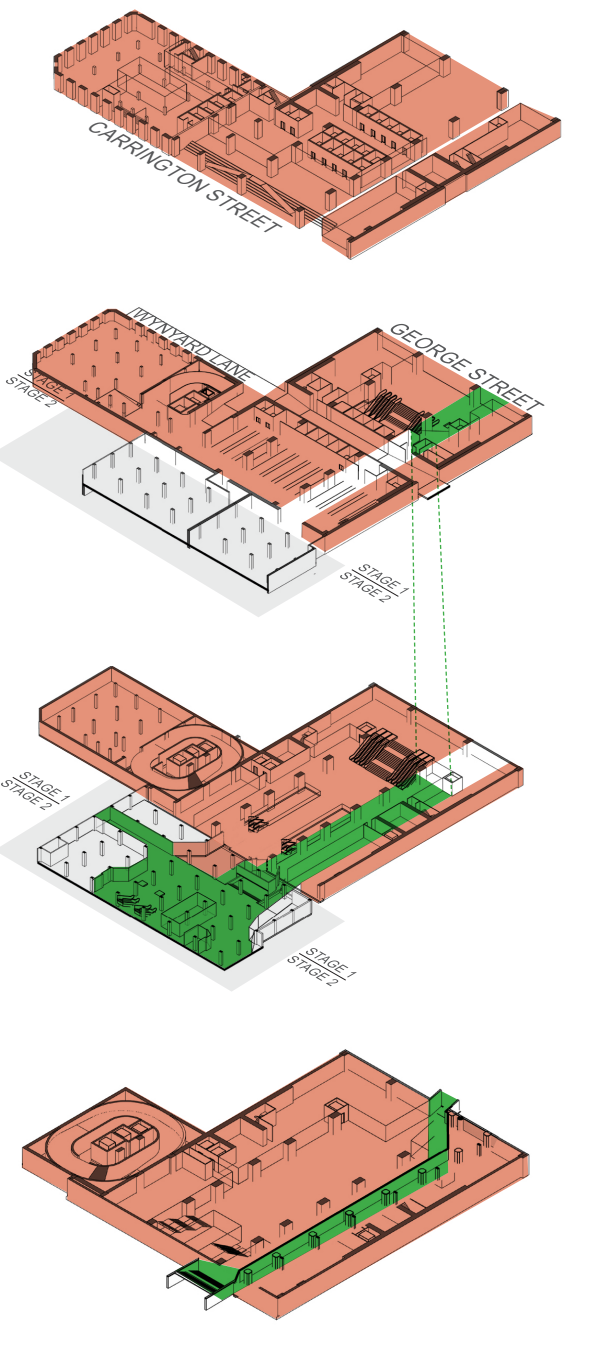
- Notes:**
- Demolition to tower levels of 301 George St, Menzies Hotel and partial Shell House occurring above
  - Full use of George Street Ramps
  - Hunter Connection closed for preparation works
  - Retail closed – services decommissioned
  - All Basement Areas including retail Stores & Railcorp Areas removed or relocated as appropriate
  - Establish Hoardings at shopfronts

PHASE 2  
MONTHS 4-8



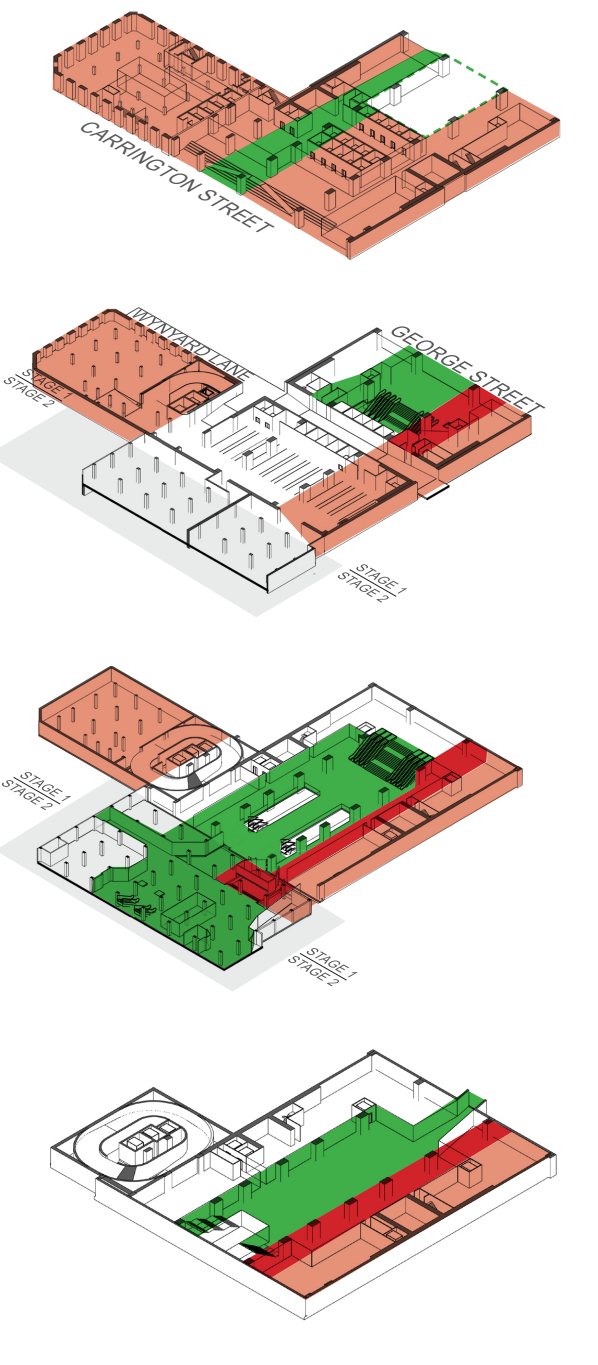
- Notes:**
- Demolition to tower levels of 301 George St, Menzies Hotel and partial Shell House occurring above
  - Close South Ramp to George Street
  - Open reconfigured path at Hunter Connection Undertake structural modifications to enable access path for Phase 3 to establish
  - Retain Structures as modified for South Ramp to George St Hunter Connection for pedestrian access.
  - Use of North Ramp to George St and interim Hunter Connection path for pedestrian access

PHASE 3  
MONTHS 8-21



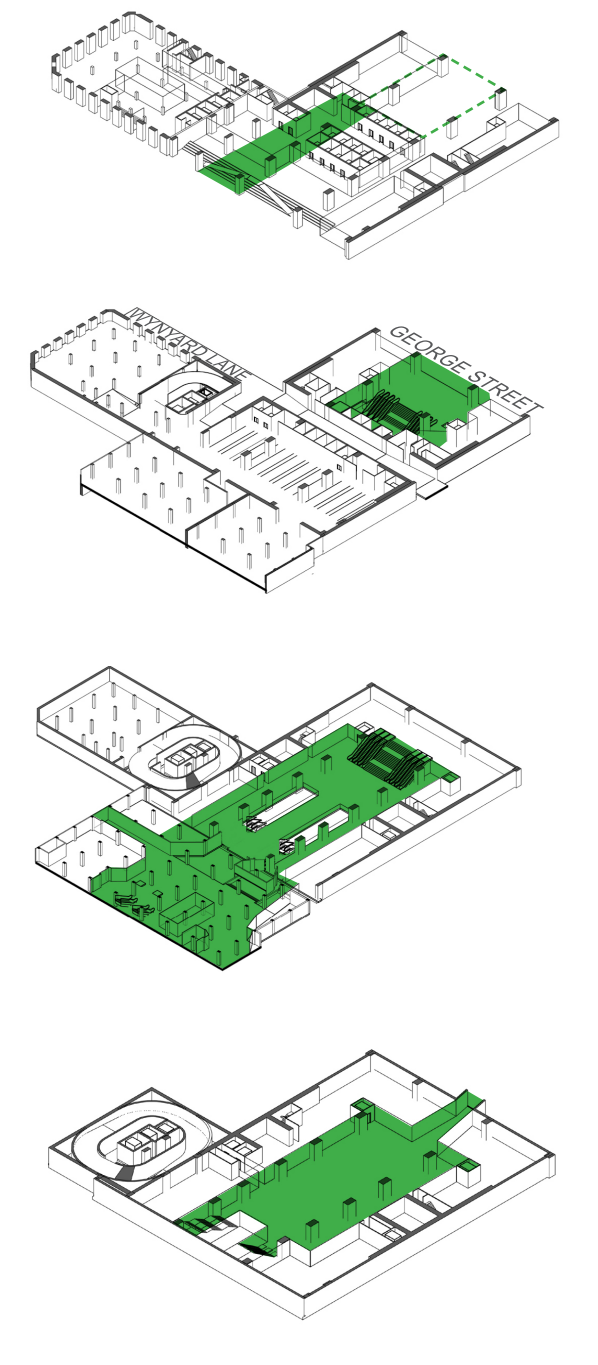
- Notes:**
- Redirect pedestrian access to modified South Ramp to George St and modified Hunter Connection
  - Demolish remaining structure of 301 George St and Menzies Hotel to basement
  - Construct new structure straddling the retained southern podium structures
  - Undertake preliminary fitout of new transit hall areas sufficient to enable patron use.

PHASE 4  
MONTHS 21-30



- Notes:**
- Redirect all pedestrian access onto the Northern components of the new structure Concourse Walk to George St and Hunter Connection
  - Demolish podium structure of 301 George St and Menzies Hotel used for pedestrian access in previous phase
  - Undertake iterative finishes and fitout of new Transit Hall Areas
  - Construct new structure where southern podium structures previously retained
  - Open through-site link connection between George & Carrington Streets

FINAL  
MONTHS 39+



- Notes:**
- Open all remaining connections including
  - Concourse Walk to George St
  - Hunter Connection South

LEGEND

- ACCESS AREAS
- CLOSED ACCESS PATHS
- WORKS AREAS

ONE CARRINGTON STREET, WYNYARD

Drawing Title

PROJECT PHASING & PUBLIC ACCESS DIAGRAM

Project No.

TBA

Drawing No.

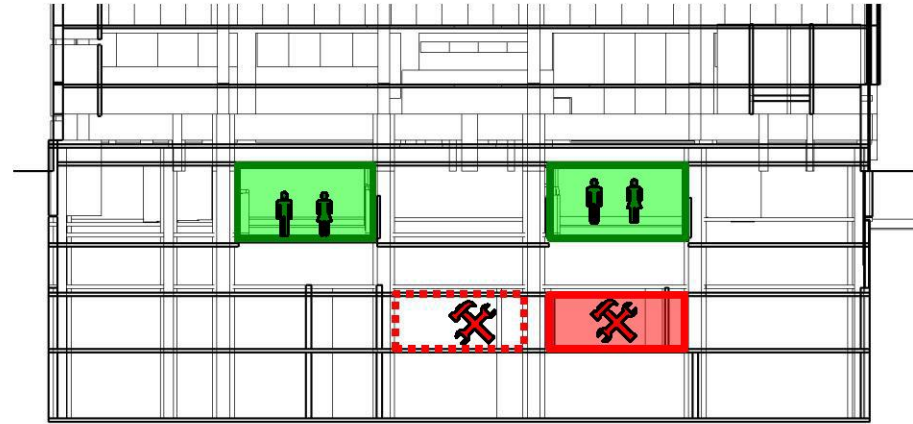
BMC-CMP-001 [Rev3]

Brookfield MULTIPLEX BM

Brookfield MULTIPLEX Constructions Pty Ltd  
Level 22, 135 King Street Sydney NSW 2000  
p: +61 2 9322 2200 f: + 61 9322 2001  
brookfieldmultiplex.com

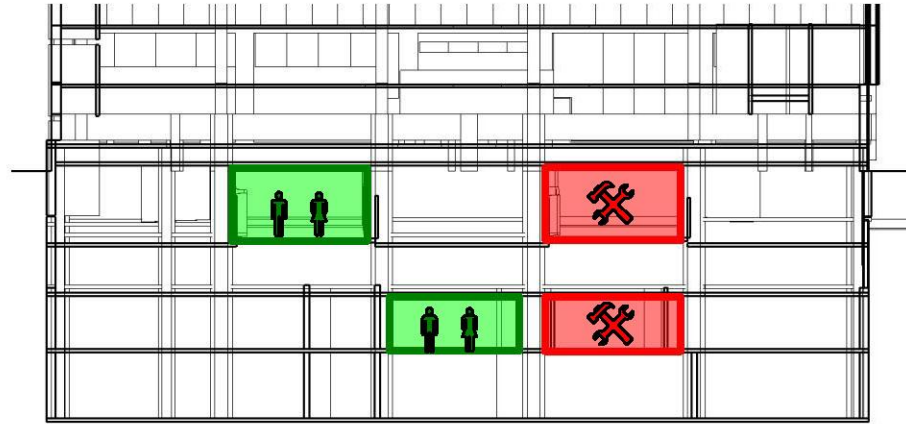
### PHASE 1:

Preliminary works to redirect Hunter Connection Route



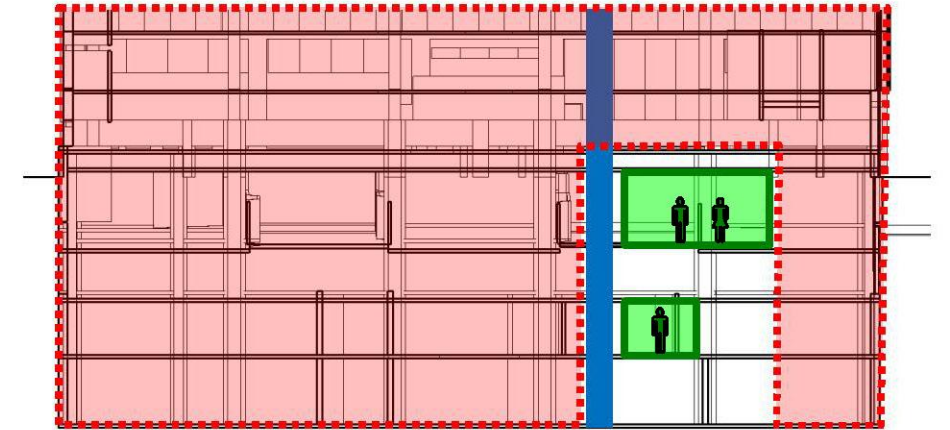
### PHASE 2:

Construction works to reconfigure Southern Access Routes



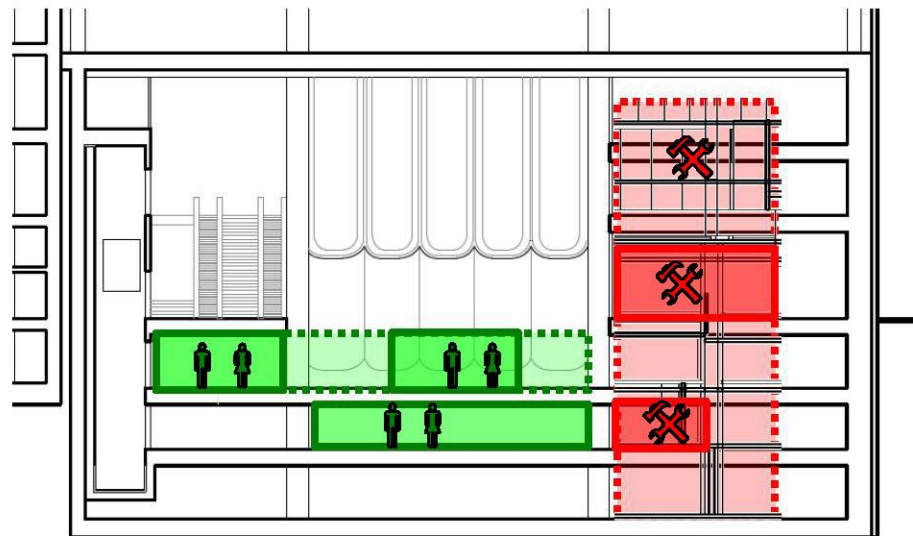
### PHASE 3:

Southern Access Routes Active – Undertake remaining demolition and construction activities



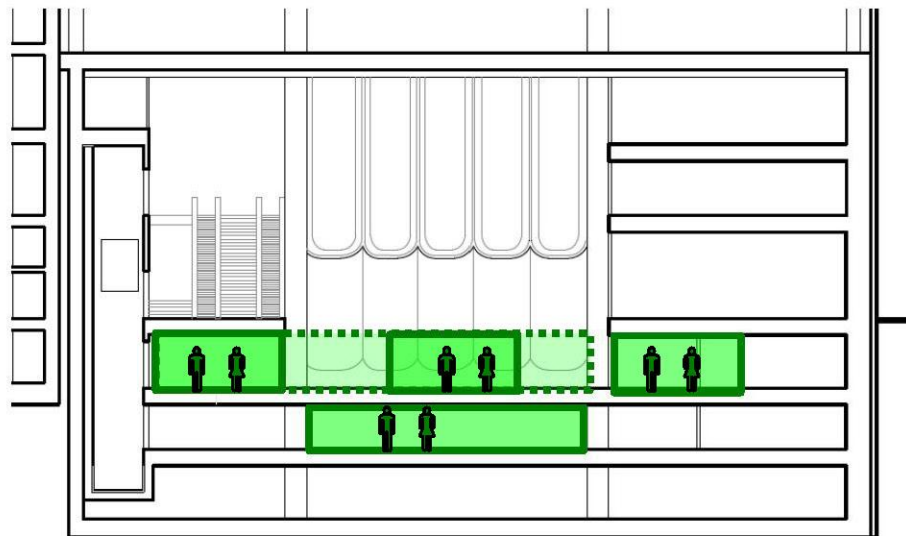
### PHASE 4:

Handover of new structure areas – demolish & rebuild retained



### FINAL CONFIGURATION:

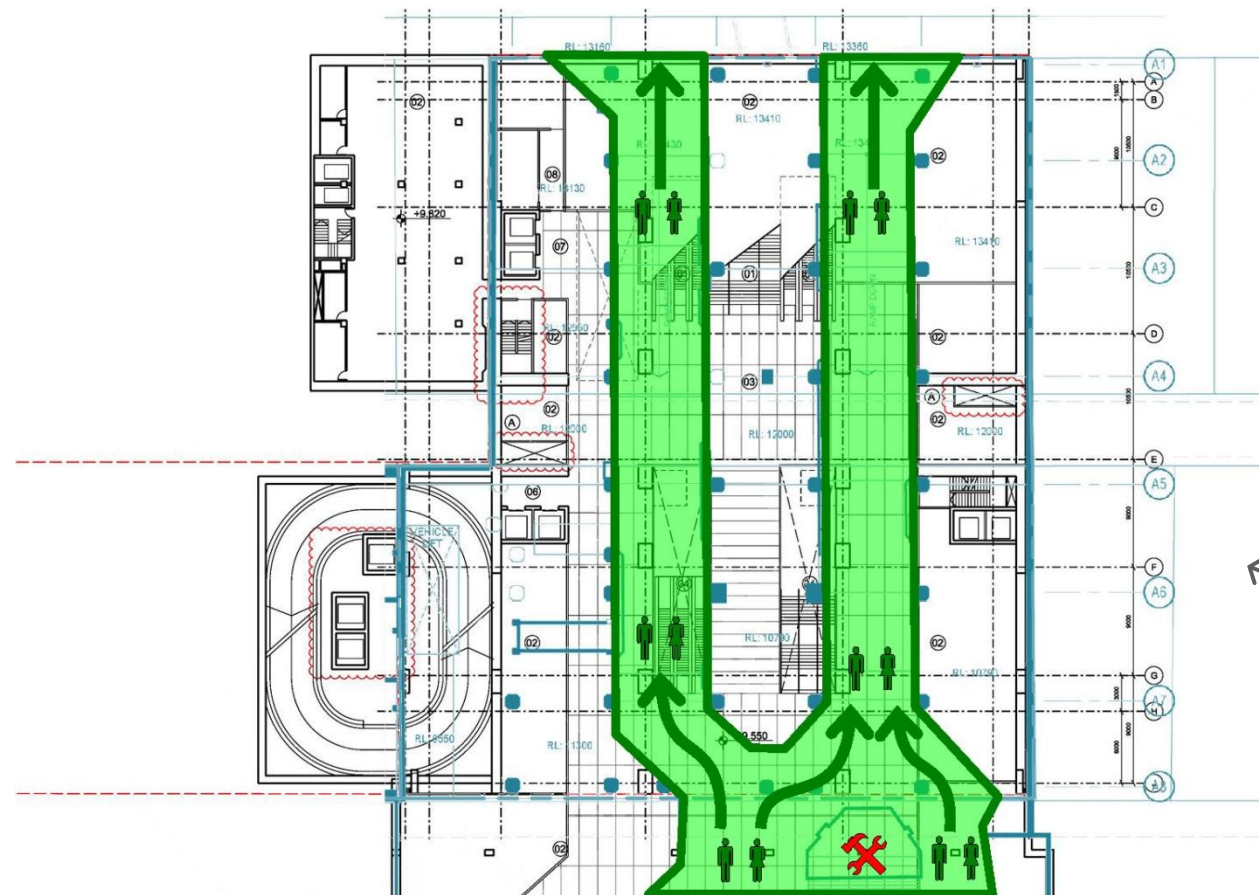
Handover of all areas with completed finishes & services



One Carrington Street  
Construction Phasing Plan  
24 February 2014

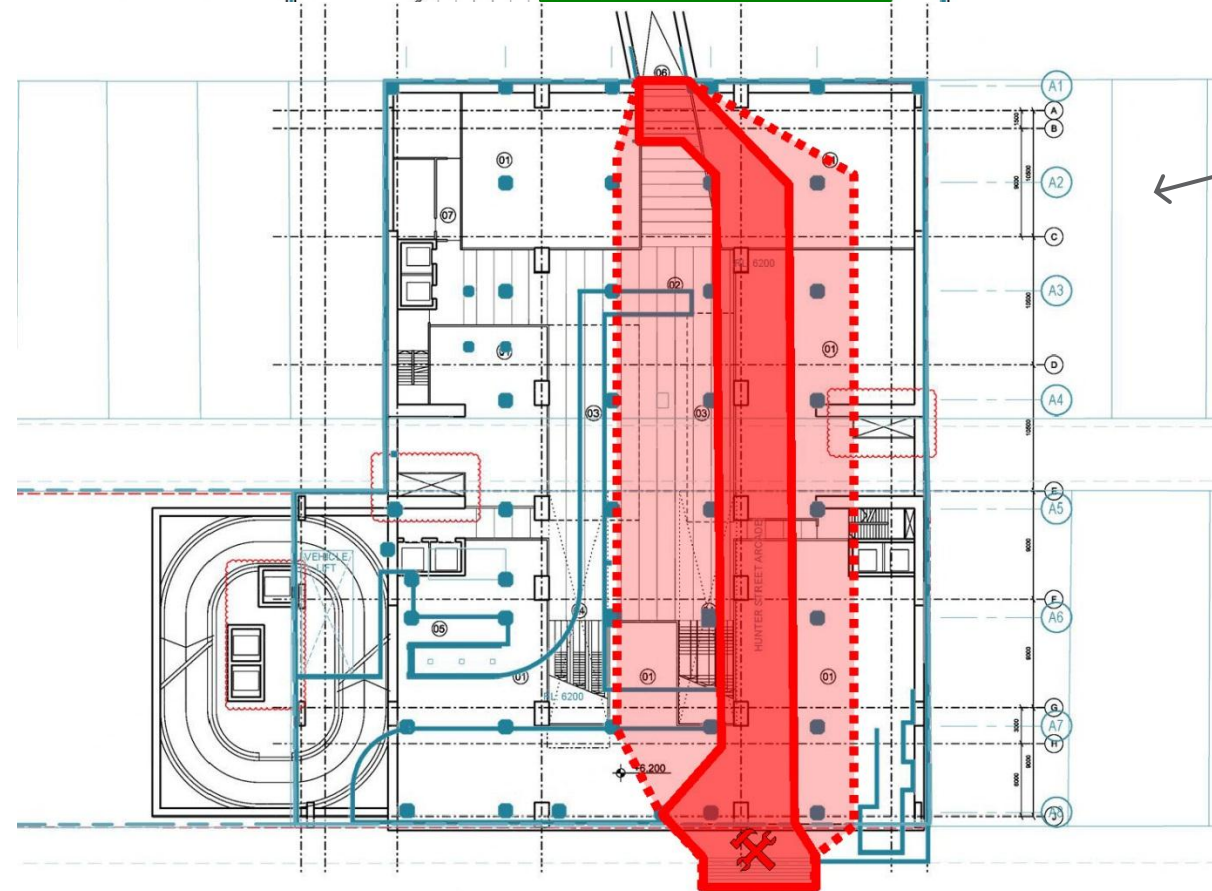
# PHASE 1

## MONTHS 0-4



### CONCOURSE

- North and South ramps utilised whilst Hunter closed for works underneath

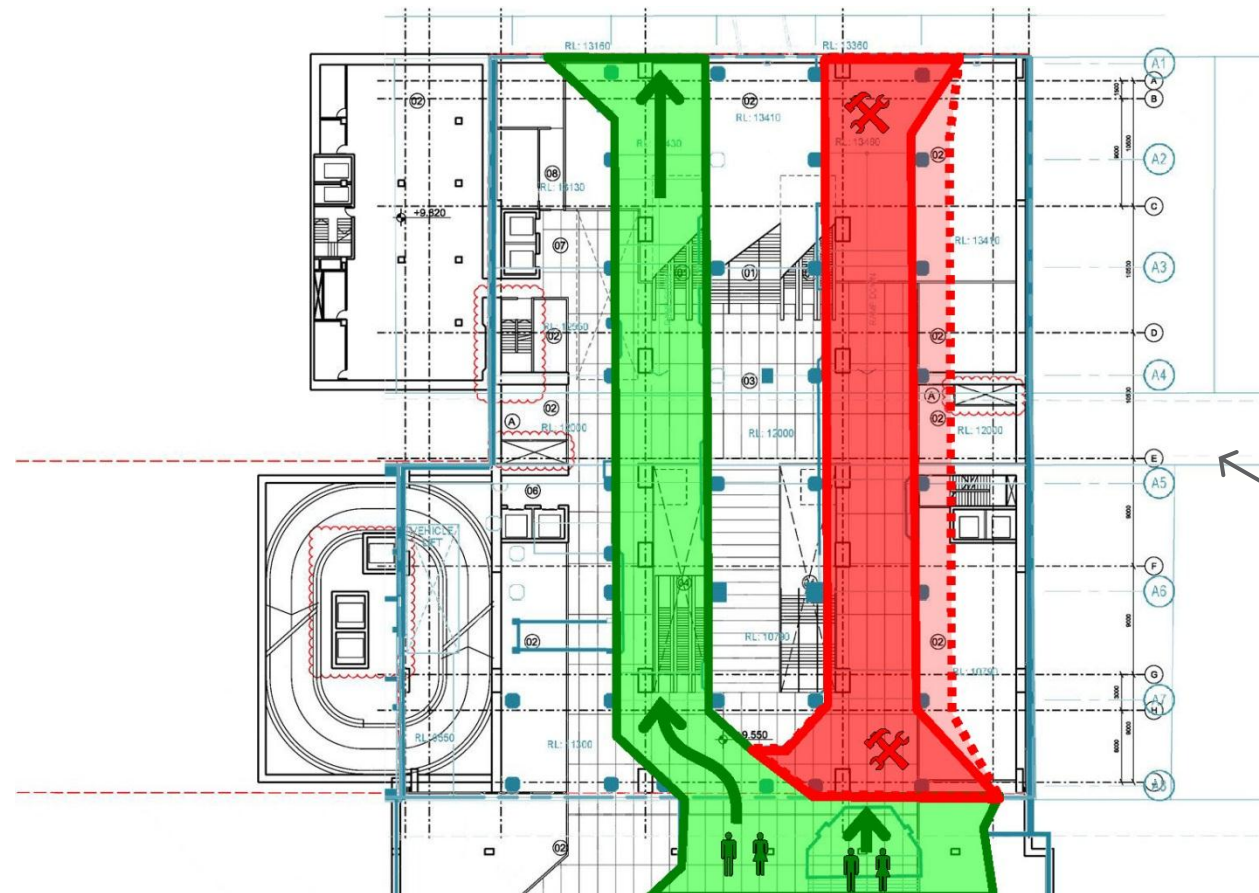


### HUNTER LEVEL

- Preliminary works to establish pedestrian path through central area currently used for retailers (core)

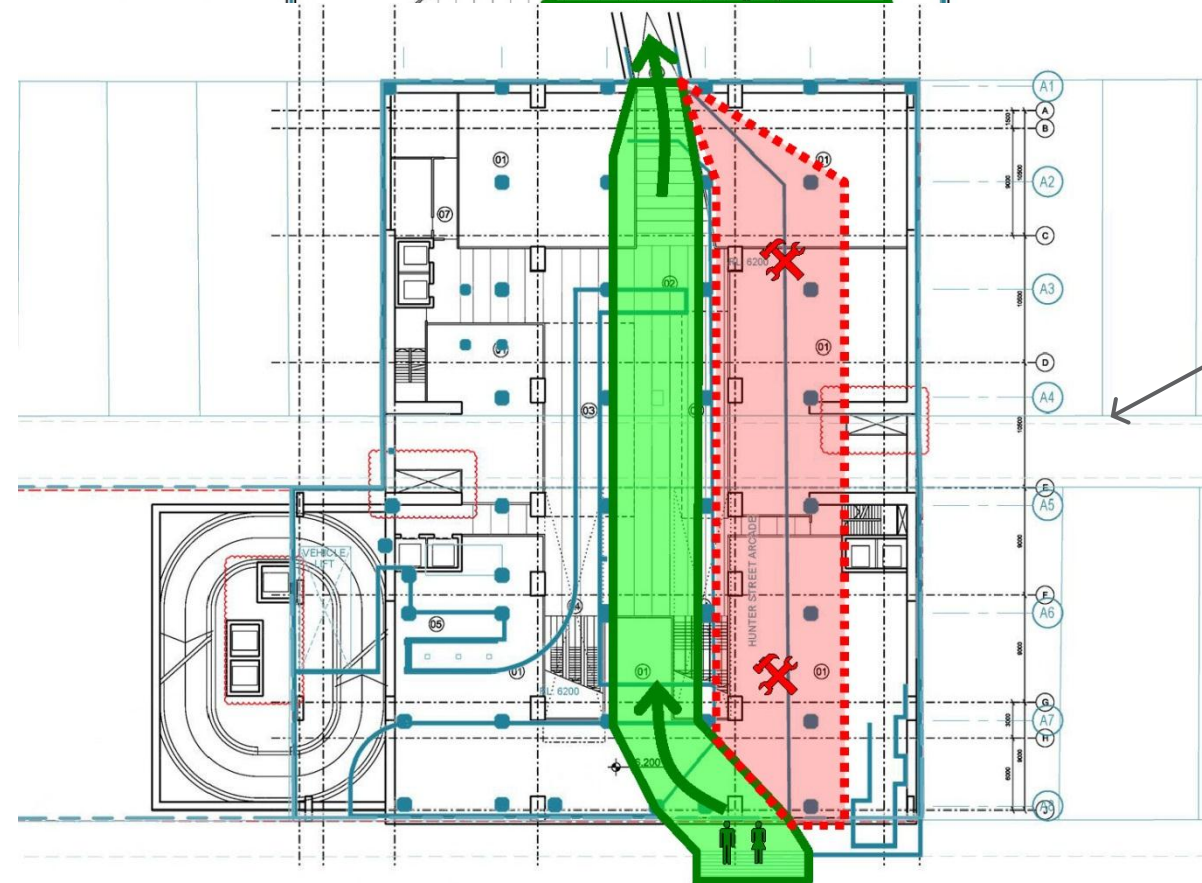
# PHASE 2

MONTHS 4-8



## CONCOURSE

- Structural works to amend the southern ramp to allow for installation of mega-columns and pedestrian access for Phase 3
- Modification of southern retail strip to provide appropriate access

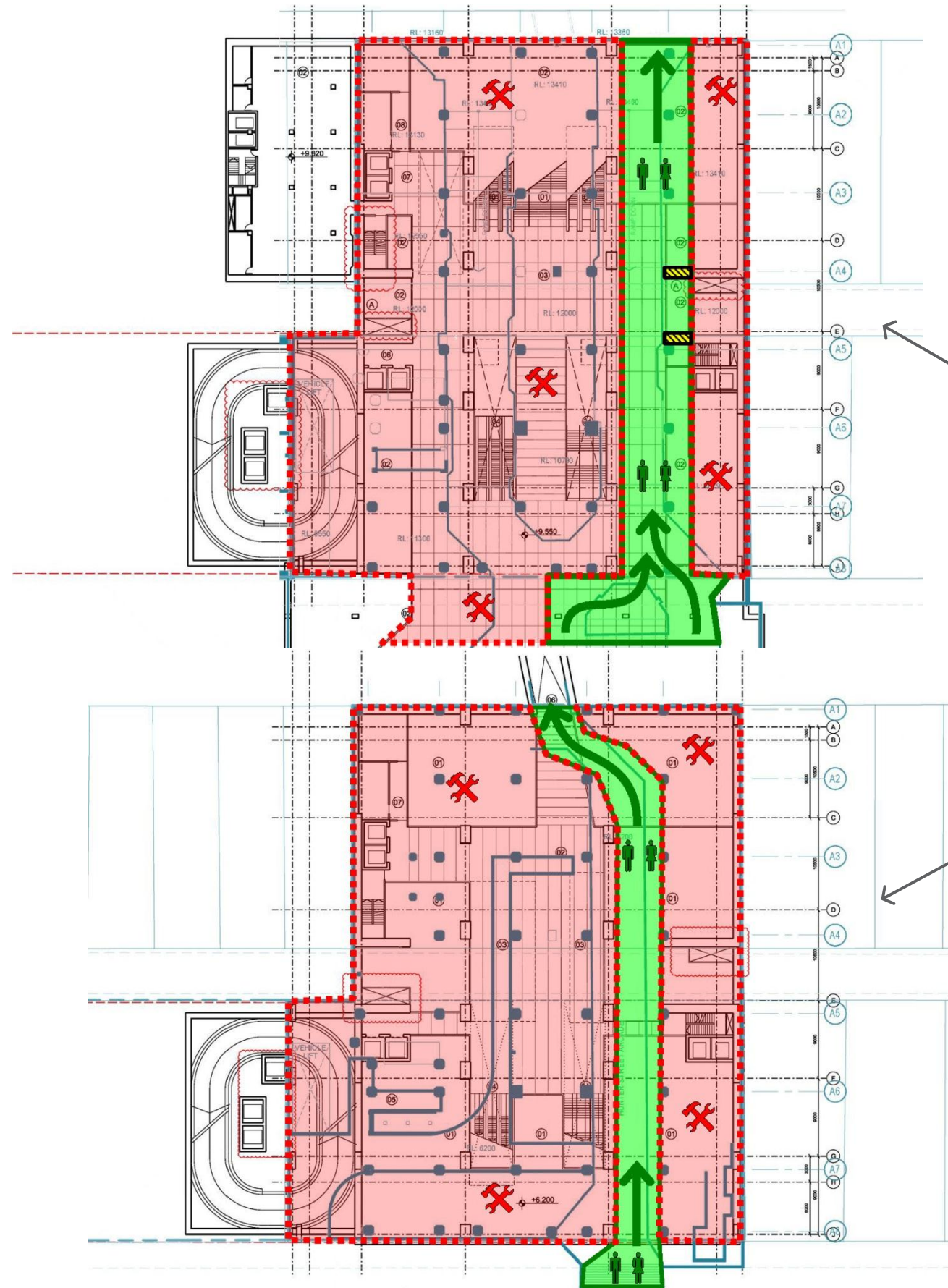


## HUNTER LEVEL

- Temporary Access path through former retail whilst structural works occur in adjacent zone in preparation for Phase 3

# PHASE 3

MONTHS 8-21



## CONCOURSE

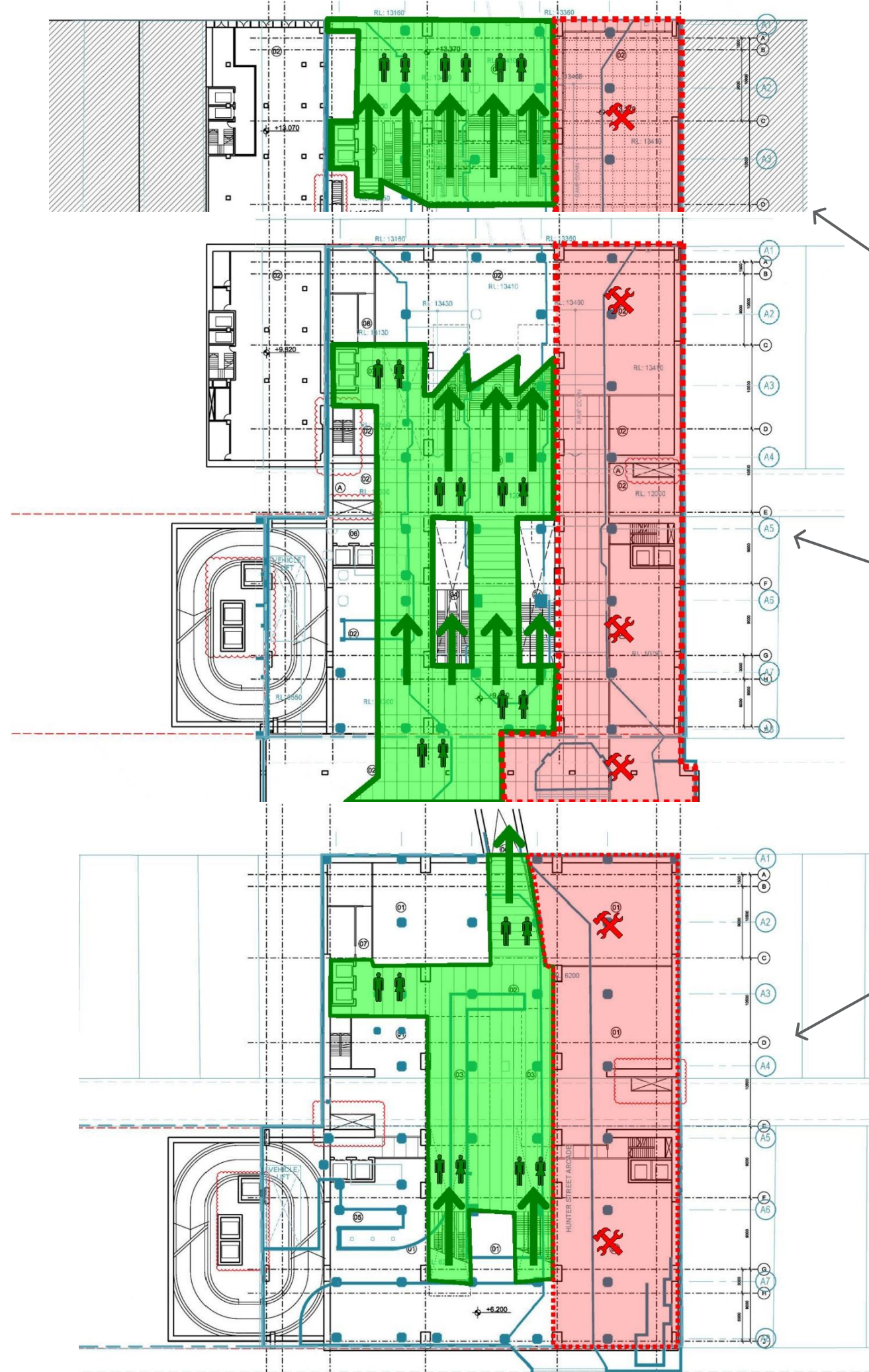
- Reconfigured South Ramp to George Street provides access and allows for the superstructure and southern boundary structure.

## HUNTER LEVEL

- Adjusted pedestrian access path provided near to the original position, avoiding new mega-column positions and further south than previously.
- Demolition and Construction occurs outside of protected area

# PHASE 4

## MONTHS 21-30



### ● GEORGE STREET

- New structure and services completed to sufficient level to provide access via new pathways, including new VT components
- Finishes and non-essential services undertaken through coordinated sub-staging. Overhead protection provided to allow for staged ceiling and claddings in George St portal.

### ● CONCOURSE

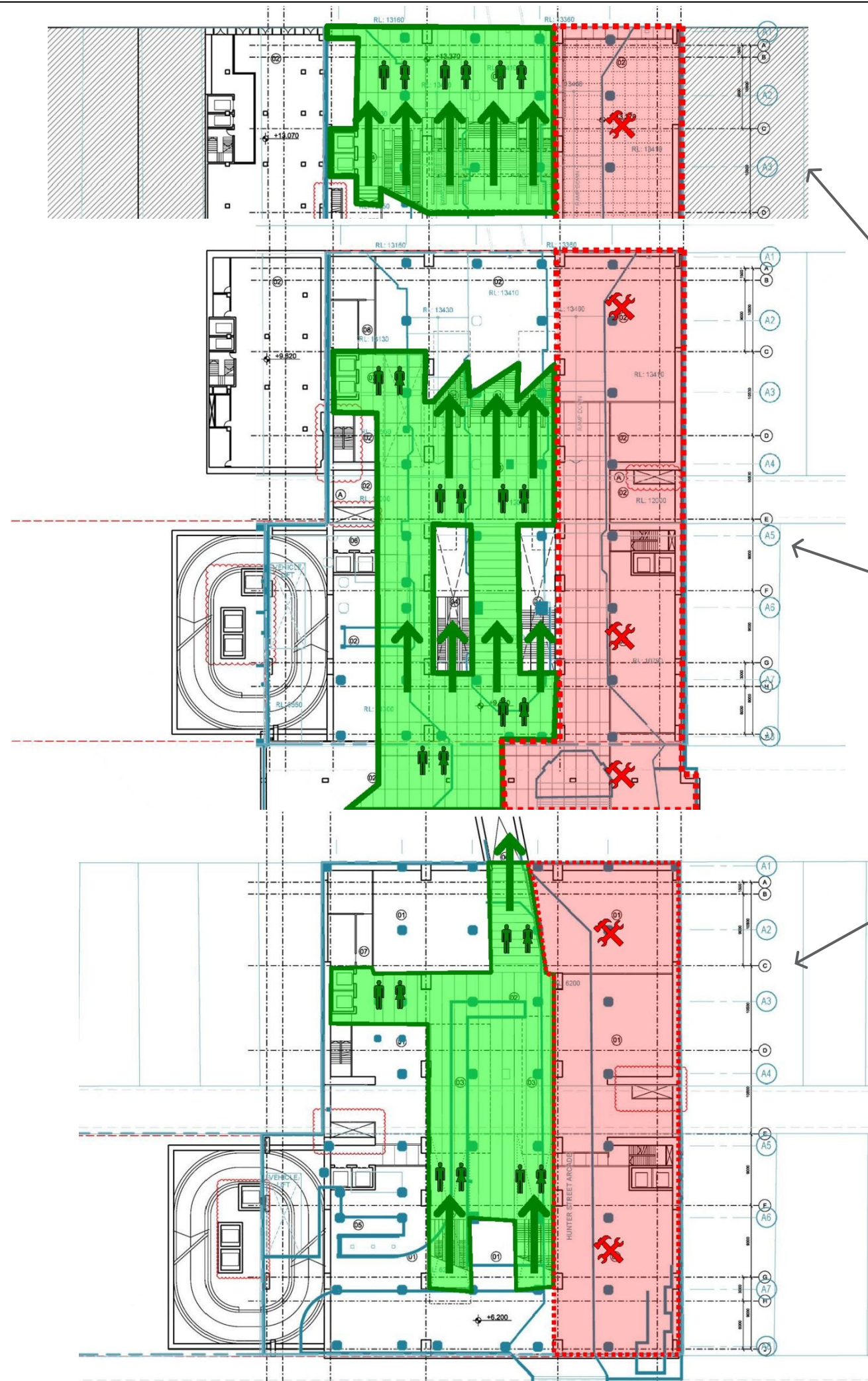
- New structure and services completed to sufficient level to provide access via new pathways, including new VT components
- Finishes and non-essential services undertaken through coordinated sub-staging.

### ● HUNTER LEVEL

- New structure and services completed to sufficient level to provide access via new pathways.
- Finishes and non-essential services undertaken through coordinated sub-staging.

# PHASE 5

MONTHS 39+



## • GEORGE STREET

- Full provision of completed areas

## • CONCOURSE

- Full provision of completed areas

## • HUNTER LEVEL

- Full provision of completed areas

**Brookfield  
MULTIPLEX**



**One Carrington Street  
Construction Phasing Plans  
28 February 2014**

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