Appendix B1

Traffic and Transport and Access Management Sub-Plan

M4-M5 Link Mainline Tunnels

December 2021

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33	23 March 2020	Draft not implemented
34	21 April 2020	Alternative access/egress from Hawthorn Canal
35	1 May 2020	PBR loop and access route from eastern disposal locations
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37	24 August 2020	Update to address Independent Audit recommendations and SPI access/ egress
38	1 February 2021	Update to include the Burrows Road and WMCC Ancillary Facilities
39	14 December 2021	Update following Hawthorne Canal grouting completion and to include parking at the Burrows Road Ancillary Facilities

Glossary / Abbreviations

Table 1: Table of common abbreviations used within this document

Abbreviation	Expanded text
SWTC	Scope of Technical Works & Technical Criteria
“MAY”	Means - Optional
“SHALL”	Means - Mandatory
“SHOULD”	Means - Recommended
“The Project”	M4-M5 Link Mainline Tunnels
AADT	Average annual daily traffic: A measurement of throughput – the total volume of traffic passing a roadside observation point over a year, divided by the number of days in the year. It is calculated from mechanically obtained axle counts.
AM Peak	Morning peak period in the CBD. The four-hour period between 6.00am and 10.00am was analysed and nominates the 120 minute period between 7.00am and 9.00am as the most critical.
AR	Acceleration Rate. For site gate geometry is 3km/h for each 1.0m of travel on flat sealed surfaces.
AS	Australian / New Zealand Standards
Austroads	The suite of Austroads design guides, in particular Part 3 – Geometric Design and Part 6 – Roadside Design, Safety and Barriers.
Capacity	The nominal maximum number of vehicles that can travel along a road in a given time.
CCTV	Closed Circuit Television system
CoA	Minister’s Conditions of Approval
CoR	Chain of Responsibility – pursuant to National Heavy Vehicle Regulator (NHVR)
CPAS	Construction Parking and Access Strategy
CSMT	Community & Stakeholder Management Team
CSSI	Critical State Significant Infrastructure
CWL	City West Link
Delay	is defined as the difference between a road user’s travel time over a section of road under normal conditions and when roadworks are in progress

Abbreviation	Expanded text
DR	Deceleration Rate. For site gate geometry is 1 km/h for each 1.0m of travel on flat sealed dry surfaces.
Duration of Delay	is defined as the total period of time during which the free flow of traffic is obstructed, restricted, closed, interfered with, slowed or stopped and includes the time taken to clear all stopped, slowed and queued traffic and return the traffic to free flow conditions
EIS	Environmental Impact Statement
Emergency	is defined as an unforeseen event that requires urgent action to protect life or property, or an occasion when emergency services take control of a portion of the road network;
Emergency Services	include the New South Wales Police Force, Fire & Rescue New South Wales (FRNSW), New South Wales Ambulance Service and State Emergency Services;
EP&A Act	Environmental Planning and Assessment Act 1979 (NSW)
Free Flow	Traffic flow conditions which typically exist on the relevant section of the road network outside of peak traffic flows and in the absence of other atypical traffic disruptions, prior to the commencement of any of the Contractor's Work.
IMP	Incident Management Pan
LILO	Left In, Left Out. LLE default site gate use.
LLE	Lendlease Engineering
Local Road	Any public road used by construction traffic for the works that are council controlled, which provide for local circulation and access
LoS	Level of Service. A measurement of throughput including speed, travel time, freedom to manoeuvre, traffic interruptions and comfort / convenience.
M4	Means M4 Motorway
M5	Means M5 Motorway
MMSD	Mutual Merging Sight Distance. The measurement of distance / time that a driver requires to safely observe, prepare or respond for merging traffic. Side indicators visible. 4.0 seconds of travel minimum.
Non-rigid barriers	Barriers, including approved water filled plastic barriers, wire rope barriers and metal guard rail which have lateral deflections of varying amounts when impacted by an out-of-control vehicle.
NSW	New South Wales
PBR	Pyrmont Bridge Road

Abbreviation	Expanded text
PM Peak	Afternoon peak period in the CBD. The four-hour period between 3.00pm and 7.00pm was analysed and nominates the 120-minute period 4.00pm to 6.00pm as the most critical.
PMP	Pedestrian Movement Plan
Rigid Safety Barrier	A physical barrier, separating traffic from work areas, which has little or no deflection when impacted by a vehicle. Concrete barriers such as Type F units are only considered to be a rigid barrier system if the section of interlocking barriers are fixed to the pavement.
RMS	Roads and Maritime Services
Road Occupancy	is defined as any part of the Contractor's Work, including maintenance of the existing road network, that will or is likely to delay, including obstruct, restrict, close, interfere with, slow or stop, the free flow of traffic on any lane or shoulder of the existing road network, the Temporary Works being used by existing road network traffic or any part of the Project Works opened to traffic. Road occupancies include, but are not limited to: shoulder occupancies and/or closures; lane occupancies and/or closures; any occupation of the Site by the Contractor's labour, sub-contractors, equipment or plant that requires a traffic control plan under the provisions of TfNSW D&C G10; and any other event that causes delays to the free traffic flows.
ROL	Road Occupancy Licence(s) A permit which allows the applicant to use or occupy a specified road space at approved times, provided that certain conditions are met.
RPA	Royal Prince Alfred Hospital
SCO	Sydney Coordination Office
SMC	Sydney Motorway Corporation
SZA	Speed Zone Authorisation
TCG	Traffic Coordination Group – Small group including lead traffic management personnel from the Project and approval representatives of the Client and Road Authority
TCP	Traffic Control Plan – A temporary arrangement of signs and devices installed to warn / guide / direct road users through or past a work site or temporary hazard.
TCR	Traffic Control Room – A temporary arrangement that provides CCTV visibility of compounds and roads adjacent worksites to monitor trucks and incidents.

Abbreviation	Expanded text
TCWS	TfNSW Traffic Control at Work Sites Manual
TfNSW	Transport for New South Wales
TMC	Transport Management Centre
TMP	Traffic Management Plan – A detailed document describing the long term temporary impact of works on a road or road network which require complex traffic management arrangements. This document identifies the risks present and deploys control strategies to minimise impact and presence of the works.
Traffic Delay	The difference between travel time with unimpeded conditions (i.e. prior to project placing any restrictions on the carriageway) and travel time after construction commences.
Traffic Delay Duration	The duration of a traffic delay is the total period of time during which the free flow of traffic is obstructed, restricted, closed, interfered with, slowed or stopped and includes the time taken to clear all stopped, slowed and queued traffic and return to free flow of traffic conditions.
Traffic Staging Drawings	Road design drawings showing traffic lane configurations to be provided for traffic passing through the Site during the various construction stages, including details of road alignment and geometry, intersection layouts, provision for buses and cyclists, work areas and pedestrian areas, drainage, signs and pavement markings, etc.
TTAMP	Construction Traffic, Transport and Access Management Sub -Plan (this document) The TTAMP establishes the framework for the management of traffic on the M4-M5 Link Mainline Tunnel works. The TTAMP details the road safety and traffic management principles, strategies and measures which must be applied to safely manage vehicular, cyclist and pedestrian traffic during construction.
TTLG	Traffic & Transport Liaison Group. Larger group of community and stakeholder representatives convened monthly by the Project Traffic Manager to review plans for upcoming works impacting the road network.
VMP	Vehicle Movement Plan A diagram showing the preferred travel paths for vehicles associated with a work site entering, leaving or crossing the through traffic stream. A VMP may be combined with or superimposed on a TCP.
VMS	Variable Message Sign

1 Introduction

1.1 Context

This Traffic and Transport and Access Management Sub-Plan (TTAMP or Plan) forms part of the Construction Environmental Management Plan (CEMP) for the M4-M5 Link Mainline Tunnel works (the Project).

This TTAMP has been prepared to address the requirements of the Minister's Conditions of Approval (CoA), the WestConnex M4-M5 Link Environmental Impact Statement (EIS) Chapter 08: Traffic and transport and Appendix H (Technical working paper: Traffic and transport), the revised environmental management measures (REMM) listed in the M4-M5 Link Mainline Tunnel Submissions and Preferred Infrastructure Report (SPIR), the WestConnex M4-M5 Link Mainline Tunnel Modification report (September 2018), the WestConnex M4-M5 Link Mainline Tunnel Modification Response to Submissions (November 2018) and all applicable guidance and legislation.

1.2 Project background

The M4-M5 Link EIS (AECOM 2017) assessed the impacts of construction and operation of the Project on traffic and transport, within Chapter 08 and Appendix H (Technical working paper: Traffic and transport).

Please refer to Section 1.3 of CEMP for Project Description.

1.3 Scope of the Sub-plan

The scope of this Plan is to describe how Acciona Samsung Bouygues Joint Venture (ASBJV) propose to manage project traffic impacts, traffic staging, vulnerable user groups and operation of the project traffic team including continuous improvement and auditing and reporting structure during construction of the project.

The parking management, worker transport, and site facilities vehicle movements are all considered as part of this sub-plan, and some information is included in the corresponding appendices.

A Construction Parking and Access Strategy (CPAS) has also been developed to provide greater detail on the project's parking strategy. As this plan provides information on site accesses, arrangements and vehicle movements as well as worksite staging and parking availability there is some overlap with the scope of the two documents, however this document will primarily concentrate on vehicle movements and parking at a high-level of assessment. The CPAS goes into greater detail on the Shuttle strategy, on & off-street parking changes, alternate means of accessing and egressing sites and some information on spoil truck management.

1.4 Environmental management systems overview

The environmental management system overview is described in Section 1.5 of the CEMP.

2 Purpose and objectives

2.1 Purpose

The purpose of this Plan is to describe how the ASBJV proposes to manage traffic, access, parking and pedestrians during construction of the project.

2.2 Objectives

The key objective of the TTAMP is to ensure that traffic and pedestrian impacts during construction are minimised and are within the scope permitted by the planning approval. This includes minimising delays, ensuring consideration is given to the needs of all road users and maintaining safety for both workers and the general public.

To achieve these objectives, ASBJV will undertake the following:

- Ensure appropriate controls and procedures are implemented during construction activities to address potential traffic impacts along the Project corridor and ensure safety of transport system customers is maintained. Also ensure impacts on network connectivity and efficiency of the transport system in the vicinity of the Project are minimised
- Ensure robust controls for safety and amenity of cyclists and pedestrians adjacent tunnelling sites and at vehicle interface points
- Ensure impacts on network capacity and the level of service are effectively managed
- Ensure access is maintained or impacts are managed for restricted access during construction
- Ensure appropriate measures are implemented to address the relevant CoA outlined in Table 3.1, and the safeguards detailed in the EIS
- Ensure appropriate measures are implemented to address the relevant REMMs outlined in Table 3.2
- Ensure appropriate measures are implemented to comply with all relevant legislation and other requirements as described in Section 3.1 and Section 3.4 of this Plan.

3 Environmental requirements

3.1 Relevant legislation and guidelines

3.1.1 Legislation and regulatory requirements

Identified regulatory requirements are:

- *Roads Act 1993*
- *Road Transport Act 2013*
- An approved and valid Road Occupancy Licence (ROL)
- An approved relevant Speed Zone Authorisation (SZA)
- Australian Road Rules.

Legislation relevant to traffic management also includes the *Environmental Planning and Assessment Act 1979* (EP&A Act), under which the project approval was granted. Relevant provisions of the EP&A Act are explained in the register of legal and other requirements included in Appendix A1 of the CEMP.

3.1.2 Guidelines

The main guidelines, specifications and policy documents relevant to this Plan include:

- AS1742.3: Manual of Uniform Traffic Control Devices – Part 3: Traffic Control for Works on Roads
- TfNSW QA Specification G10 – Traffic Management
- TfNSW QA Specification R141 – Pavement Markings
- TfNSW QA Specification R142 – RRPM's
- TfNSW QA Specification R143 – Sign Posting
- TfNSW Traffic Control at Worksites Manual (Version 5, 2018)
- TfNSW – Safety Barrier Acceptance
- TfNSW – VMS Guidelines
- TfNSW – Delineation manual
- TfNSW – Traffic Modelling Guidelines
- TfNSW – Technical Direction (TDT 2009/07) Speed Enforcement on Worksites
- AUSTROADS Guide to Traffic Management 2009 – Parts 1-13
- AUSTROADS Guide to Road Design 2009 – Parts 1-7
- AUSTROADS Guide to Road Safety 2009 _ Parts 1-9
- Transport Management Centre – Road Occupancy Manual.

3.2 Ministers Conditions of Approval

The CoA relevant to this Plan are listed in Table 2 below. A cross reference is also included to indicate where the condition is addressed in this Plan or other Project management documents.

Table 2: Conditions of Approval relevant to the TTAMP

CoA No.	Condition Requirements		Document reference	How addressed
C4	The following CEMP Sub-plans must be prepared in consultation with the relevant authorities identified for each CEMP Sub-plan and be consistent with the CEMP referred to in the EIS. Required CEMP Sub-plan Relevant authority(s) and council(s) to be consulted for each CEMP Sub-plan:		This Plan Section 3.4	This Traffic and Transport and Access Management Sub-plan has been prepared in accordance with this condition and describes how ASBJV propose to manage traffic and transport and access during construction of the Project.
	(a) Traffic and transport and access	Port Authority of NSW*, Sydney Coordination Office and relevant council(s) **Port Authority of NSW to be consulted when considering impacts on port land*		This Traffic and Transport and Access Management Sub-plan was developed in consultation with agencies identified in C4(a). This is detailed in Section 3.4 of this Sub-plan.
C5	The CEMP Sub-plans must state how:			

CoA No.	Condition Requirements	Document reference	How addressed
	(a) the environmental performance outcomes identified in the EIS and SPIR as modified by these conditions will be achieved;	Section 5 Section 6	This Sub-plan was prepared in accordance with the environmental performance outcomes identified in the EIS and SPIR and detailed evidenced in Section 2.2 of this Sub-plan. Traffic management and compliance to achieve these outcomes is detailed in Section 5 and Section 6 of this Sub-plan.
	(b) the mitigation measures identified in the EIS and SPIR as modified by these conditions will be implemented;	Section 5 Section 6	The implementation of traffic and transport and access management and mitigation measures identified in the EIS and SPIR are listed in Section 5 and Section 6 of this Sub-plan. Section 5 of this Sub-plan addresses traffic management measures ASBJV propose to implement during construction of the Project. Section 6 of this Sub-plan details compliance management measures ASBJV propose to implement during construction of the Project.
	(c) the relevant terms of this approval will be complied with; and	Section 3.2 Section 5 Section 6	Details regarding how ASBJV propose to comply with the relevant terms of approval are listed in this Table and Section 5 and Section 6 of this Sub-plan.

CoA No.	Condition Requirements	Document reference	How addressed
	(d) issues requiring management during construction (including cumulative impacts), as identified through ongoing environmental risk analysis, will be managed.	Section 4 Section 4.2 Section 5 Section 6 Environmental Risk Assessment Workshop (Section 3.2.1 of the CEMP)	Traffic and transport and access issues requiring management during construction of the Project have been identified through the EIS, SPIR and Environmental Risk Assessment Workshop. These issues including cumulative impacts have been detailed in Section 4 and Section 4.2 of this Sub-plan and Appendix A2 of the CEMP. Environmental risk analysis will be ongoing and regularly reviewed in accordance with Section 3.9 to Section 3.13 of the CEMP to ensure effective management of traffic and transport and access impacts. Mitigation and management measures for these issues are listed in Section 5 and Section 6 of this Sub-plan and Appendix A2 of the CEMP.
C6	The CEMP Sub-plans must be endorsed by the ER and then submitted to the Secretary for approval no later than one (1) month prior to the commencement of the construction activities to which they apply.	Refer to Section 2.2 of the CEMP	This Sub-plan has been endorsed by the ER.

CoA No.	Condition Requirements	Document reference	How addressed
E49	Spoil haulage vehicles associated with the construction of the CSSI are not permitted to use local roads within one (1) kilometre of construction works and construction ancillary facilities, unless approved by the Secretary.	Section 4.5	As detailed in Section 4.5 of this Sub-plan ASBJV proposes to avoid the use of local roads for spoil haulage within one kilometre of the Project construction works and construction ancillary facilities. Should the Project require access to any local road for regular Spoil Truck movements, ASBJV will undertake early and ongoing consultation and communication with local councils and affected property occupiers to identify the potential impacts of any proposed traffic management arrangements that affect access to local roads and adjoining properties. ASBJV will submit a proposal for the use of required the roads to the Secretary, including a traffic and pedestrian impact assessment as outlined in CoA E51.
E49A	Use of Route A as the primary route for spoil haulage from the Northcote Street construction ancillary facility is limited to the first two (2) months of spoil haulage commencing at the Northcote Street facility or once the G-Loop is operational, whichever is the sooner, unless an alternative time period is agreed to by the Planning Secretary. During this time period, spoil haulage vehicles are permitted to use Route A only between the hours of 7:00 am and 7:00 pm.	Section 4.7	Details of the circumstances under which the use of Route A is permitted are outlined in Section 4.7 of this plan.
E49B	Once the G-Loop is operational, use of Route A by spoil haulage vehicles is limited to the following circumstances:	Section 4.7	

CoA No.	Condition Requirements	Document reference	How addressed
	(a) during the hours of 7:00 am to 9:00 am and 4:00 pm to 6:00 pm Monday to Friday (excluding public holidays) and 8:00 am to 9:00 am and 4:00 pm to 6:00 pm on Saturdays;		Details of the circumstances under which the use of Route A is permitted are outlined in Section 4.7 of this plan.
	(b) during periods of maintenance and/or unserviceability of the G-Loop (such as repairs, signal failure, unauthorised standing of vehicles);		
	(c) in the event that there is an incident or maintenance works on the road network in the vicinity of the Northcote Street construction ancillary facility and the G-Loop that prevents spoil haulage vehicles from accessing or travelling on Route B;		
	(d) in the event that there is insufficient capacity for a spoil haulage vehicle to enter the Northcote Street construction ancillary facility and it must bypass the access gate; and		
	(e) in peak spoil generating period(s) of no greater than six months approved by the Planning Secretary.		
	Notwithstanding the above, the use of Route A is restricted to 7:00 am to 7:00 pm daily.		
E49C	The Proponent must submit to the Planning Secretary the following information when seeking the approval of the Planning Secretary under condition E49B(e):	Section 4.7	ASBJV commits to providing the Secretary with the required information within the timeframes specified.
	(a) the estimated dates and duration of the peak spoil generating period;		

CoA No.	Condition Requirements	Document reference	How addressed
	(b) the estimated hourly number of spoil haulage vehicle trips on Route A both during and outside the hours specified in condition E49B(a) each day during the peak spoil generating period;		
	(c) at least six months of data as specified in condition E49D(a) and (b); and		
	(d) analysis of the operational performance of the G-Loop, including the need to restrict the use of the G-Loop during the hours identified in condition E49B(a).		
E49D	Within four (4) months following the commencement of tunnelling at the Northcote Street construction ancillary facility, and at three (3) monthly intervals thereafter until the completion of tunnelling and backfilling from that site, the Proponent must submit to the Secretary data which details on an hourly basis:	Section 6.6.2	As detailed in Section 6.6.2, reporting will be undertaken to meet the requirements of E49D.
	(a) the total number of spoil haulage vehicle trips associated with tunnelling and backfilling at the Northcote Street construction ancillary facility (inbound and outbound); and		
	(b) the number of trips spoil haulage vehicles have made on Route A, and Wattle Street / Parramatta Road (instead of the M4 East Motorway tunnels) when exiting the G-Loop, including the dates and times of use as well as the reasons for use of these routes noting the criteria for use specified in condition E49B.		

CoA No.	Condition Requirements	Document reference	How addressed
Notes: For the purposes of conditions E49A and E49B: 1. *Spoil haulage vehicles includes vehicles removing spoil from the Northcote Street construction ancillary facility during tunnelling and delivering spoil to the site to backfill the construction access tunnel;* 2. *Route A from the Northcote Street construction ancillary facility is left turn onto Wattle Street, left turn on Ramsay Street, left turn on Fairlight Street, left turn on Great North Road; and* 3. *Route B from the Northcote Street construction ancillary facility is left turn onto Wattle Street, continue along Wattle Street/Dobroyd Parade and left turn into G-Loop, right-hand turn onto Dobroyd Parade from G-Loop, continue along Dobroyd Parade / Wattle Street into M4 East tunnel or onto Parramatta Road.*			

Please refer to Appendix A for all other CoA relevant to the development of this Plan.

3.3 Revised Environmental Management Measures

Refer to Appendix A for all REMMs relevant to the development of this Plan.

3.4 Consultation

This plan was provided to Inner West Council, City of Sydney Council, Sydney Coordination Office, and Port Authority of NSW in accordance with CoA C4(a). Refer to Section 2 of the CEMP for consultation requirements relating to the CEMP and all sub-plans.

Ongoing consultation with relevant councils and other stakeholders will be undertaken for the Project's impact on Construction Traffic and Parking Management. Regular updates will be provided through monthly meetings (or at a frequency agreed with key stakeholders) to ensure all upcoming changes and impacts are communicated at least one week in advance of the changes taking place.

Additional consultation with the above stakeholders will be triggered as a result of incident emergency response or special event planning.

4 Construction traffic impacts

This section outlines:

- The main construction work sites and activities
- Their potential impacts on highway and local traffic
- How ASBJV proposes to mitigate those impacts.

4.1 Construction traffic impacts on state and local roads

The following table represents traffic volumes based on the current spoil and delivery methodology, parking spaces, estimated utilisation of parking spaces, estimated workforce, mini bus movements and civil and material deliveries.

Table 3: Construction vehicle numbers

Location	Daily Vehicles (one way)		AM peak hour (7.30-8.30am)				PM peak hour (4.15-5.15pm)			
	Heavy	Light (& Shuttle Bus)	Heavy vehicles		Light Vehicles		Heavy vehicles		Light vehicles	
			Arrive	Depart	Arrive	Depart	Arrive	Depart	Arrive	Depart
Wattle Street civil and tunnel site	133	50	7	7	10	-	7	7	-	50
Haberfield civil site	10	20	2	2	10	-	2	2	-	10
Northcote Street civil and tunnel site	143	20	15	15	7	4	15	15	4	7
Parramatta Road West civil site	25	306	7	7	18	5	7	7	5	31
Parramatta Road East civil site	25	210	1	1	12	4	1	1	4	20
Pyrmont Bridge Road tunnel site	337	70	18	18	20	-	18	18	-	70
Campbell Road civil and tunnel site	325	300	30	30	10	10	30	30	10	10

4.2 Traffic generation from other major infrastructure projects

ASBJV commenced construction in late 2018. Construction activities will run concurrently with other major infrastructure projects in the region, namely:

- WestConnex New M5
- WestConnex M4 East
- WestConnex M4-M5 Link – Rozelle Interchange
- Sydney Metro.

This raises the potential for cumulative traffic impacts on the road network to and through the M4-M5 Link Mainline Tunnels Project. These impacts are summarised in the Table 4-2 below.

Table 4: Other infrastructure project impacts on M4-M5 Link Mainline Tunnel Works

Project	Time Frame	Potential Impact
WestConnex - New M5	Excavation of eastern and western portals for the new tunnel between mid-2016 and late 2019	Spoil material is removed from tunnelling sites at St Peters Interchange (Princes Highway), Arncliffe (M5 East Motorway) and Kingsgrove (M5 Motorway) to a number of approved sites within greater Sydney. Truck deliveries including concrete will frequent the compounds associated with the construction project until near the end of site demobilisation in late 2019.
M4-M5 Link Rozelle Interchange	The construction of the M4-M5 Link Rozelle Interchange section is expected to commence during 2019 with tunnelling and surface works, with project completion sometime in 2023	Spoil movements departing the project are anticipated to predominantly be concentrated around City West Link, Victoria Road and Parramatta Road. Deliveries and concrete truck movements will increase during tunnelling operations and general construction activities, including more significant surface works on Victoria Road and City West Link.
Sydney Metro City and Southwest	The construction of Sydney Metro upgrade currently underway, is not due for completion until 2024, with tunnel excavation being conducted through to approximately the end of 2020.	The project is expected to see spoil being transported out of the city, with accumulative truck impacts on some roads to the city's west, and inner west areas at the same time as the M4-M5 Link Mainline Tunnels' movements are being conducted, specifically around City West Link.

4.3 Key construction precincts

ASBJV will have a construction footprint which will require staged long-term traffic management controls in the following locations:

- Northcote Street
- Haberfield civil site

- Parramatta Road East & West
- Wattle Street
- Pyrmont Bridge Road
- Campbell Road.

More detailed information on the establishment and management of these sites is contained in the Site Establishment Management Plan, Construction Environmental Management Plan, and/or site-specific Traffic Management Plans which will be developed during project delivery.

4.3.1 Project office

ASBJV will use rented office space in Mascot as a Project Office with space allocated for parking. There will be approximately 80 parking spaces, half of which will be allocated to client representatives and stakeholders, the other will be reserved for senior ASBJV staff and visitors.

4.3.2 Campbell Road civil and tunnel site

Proposed changes to current alignment:	Nil
Tunnel Spoil Haulage Site?	Yes
LV movements	300
HV movements	325
Access / Egress operation:	Using the new signalised intersection on Campbell Road, from either Princes Highway or Burrows Road to access Campbell Road. ***No right turn will be available from Princes Highway into Campbell Road until M8 works are complete;*** Stage 1 (refer **Error! Reference source not found.**) ◦ Access to Stage 1 area will be provided directly from Campbell Road. ◦ From mid-2020, access to Stage 1 area will be provided from Euston Road ramps ◦ From mid-2020, access to SPI will be provided from Albert Street • All traffic approaching this site from south-western Sydney will take a route using the M5 Motorway and the Princes Highway to this new intersection; ◦ From mid-2020 an option for egress will include entry into the M8 tunnel from Campbell / Euston intersection, to travel west. • On occasion it may be required for oversized vehicles to utilise access or egress locations in reverse to that intended (i.e. utilise an access location for egress or vice versa) for safety or operational reasons. Where this is required, appropriate traffic control measures will be implemented to facilitate the movement.
Truck Queueing / Storage Capacity	• Internal truck storage (normal operation) ~200m (6 Truck & Dogs);

	◦ Under emergency condition this could be doubled to approx. 400m but would require doubling back to be loaded once issue resolved.
Staff and Parking Capacity	• On site parking is provided for staff attending site • Additional parking is provided at offsite locations for subcontractors and other staff • Refer to the Construction Parking Access Strategy (CPAS) for more detailed numbers • Refer to **Figure 1** below.

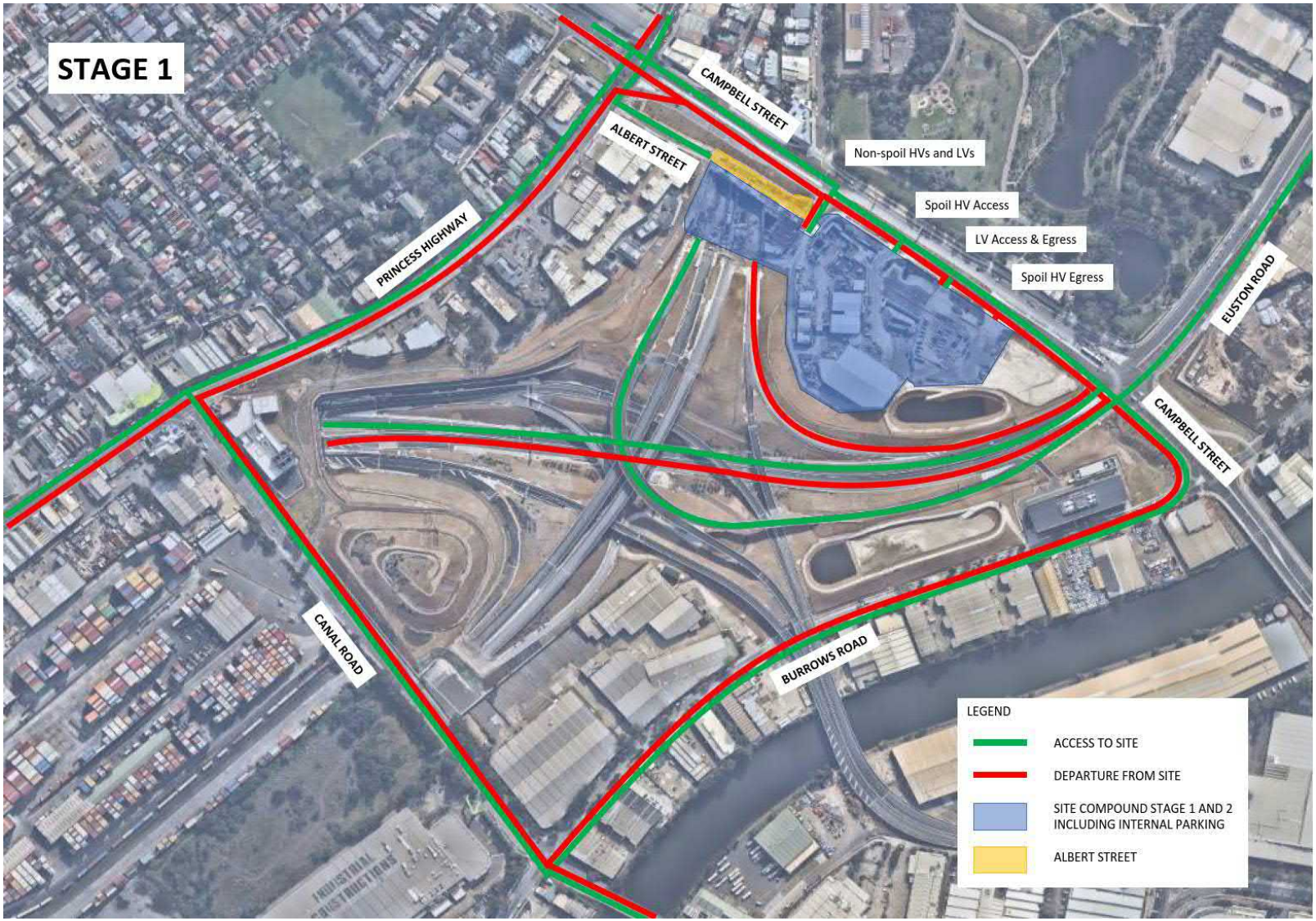

Figure 1 Campbell Road civil and tunnel site layout - Stage 1

4.3.3 Pyrmont Bridge Road tunnel site

Proposed changes to current alignment:	Nil
Tunnel Spoil Haulage Site?	Yes
LV movements	70
HV movements	337
Heavy Vehicle Access / Egress operation:	• Left in, Left out (LILO). • All spoil haulage Heavy Vehicle traffic will approach from the west and use left in off Parramatta Road into the acoustic shed. • One gate will be located on Mallett Street, just south of Bignell Lane and will be designated primarily for light vehicle and non-spoil haulage heavy vehicles. • Egress from site is a left turn onto Pyrmont Bridge Road accessing the Parramatta Road intersection for outbound travel to western or eastern spoil disposal locations. • Refer to **Figure 2** below. • On occasion it may be required for oversized vehicles to utilise access or egress locations in reverse to that intended (i.e. utilise an access location for egress or vice versa) for safety or operational reasons. Where this is required, appropriate traffic control measures will be implemented to facilitate the movement.
Truck Queueing / Storage Capacity	• Internal Truck Queue Storage: ◦ Regular operation – 9 Truck & Dogs.
Staff and Parking Capacity	• There is limited on-site parking available for light vehicles; ◦ Alternate parking provided at a private parking station near the Royal Prince Alfred Hospital (RPA) • Refer to the Construction Parking Access Strategy (CPAS) for more detailed numbers
Wattle St, Bridge Rd & Pyrmont Bridge Road – Loop & Eastern Access Route (Figure 10)	• In instances where the Pyrmont Bridge Road Shed is congested or where a spoil disposal location is located to the east of this location, empty spoil trucks will need to utilise the route presented in Figure 10 to access the spoil shed to be filled. • The maximum number of spoil truck movements (one way) along this route is 80 between 7am-10pm (max 30/hour), and 30 between 10pm-7am (max 20/hour). • The need to use this route may occur at anytime and may be needed for the duration of the construction program.

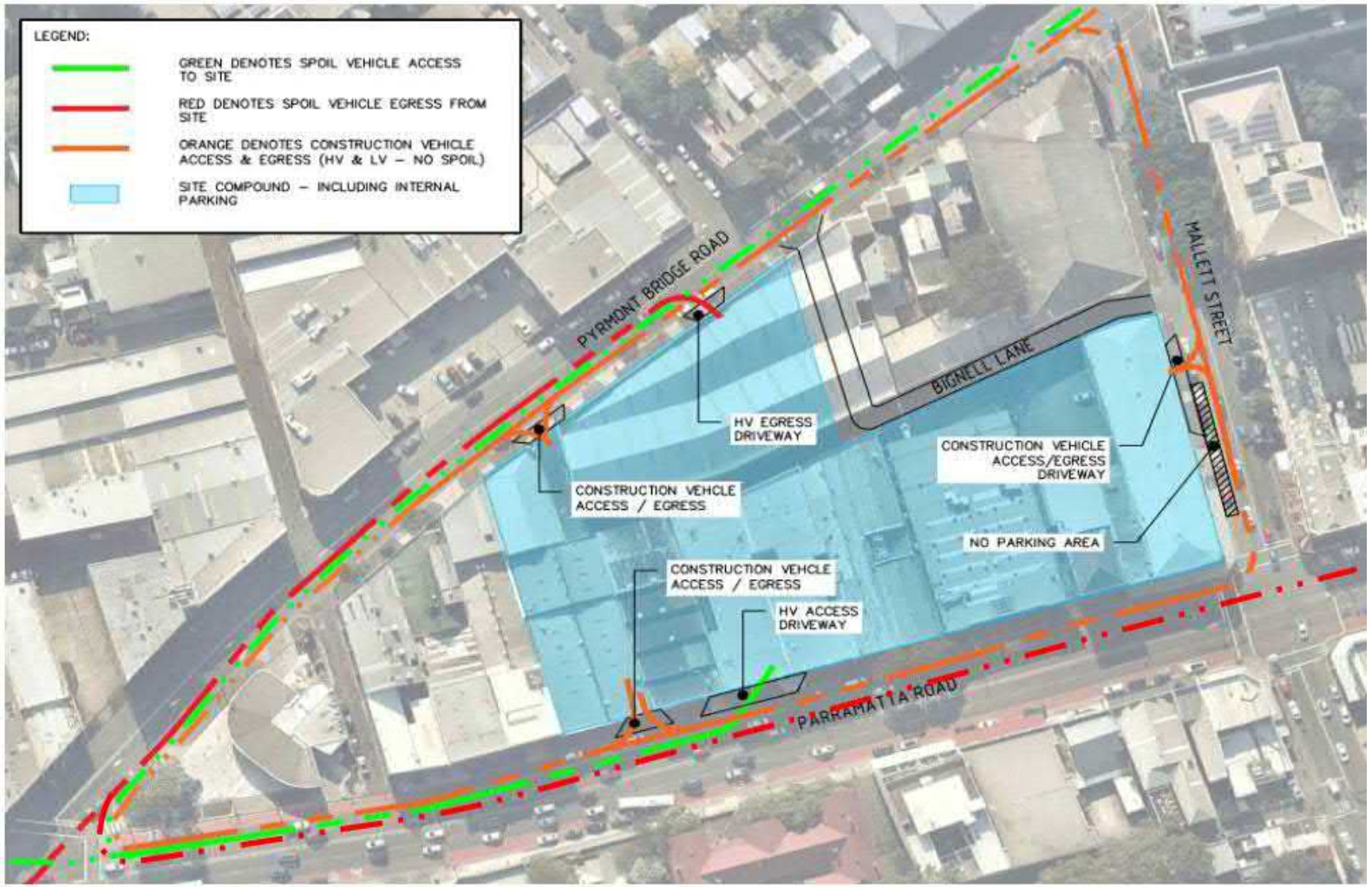

Figure 2: Pyrmont Bridge Road Site layout

4.3.4 Parramatta Road East and West Sites

Proposed changes to current alignment:	Nil
Tunnel Spoil Haulage Site?	No
LV movements	516
HV movements	50
Access / Egress operation:	• HVs will access and egress via Left in, Left out (LILO) from Parramatta Road. Until permanent site access points are constructed, heavy vehicles associated with site establishment may use the temporary access points identified in Figure 3. • A number of access points are provided off Alt Street with a restriction that they may only be used by light vehicles (with one exception noted below). • In accordance with CoA E50A, HV movements will utilise Parramatta Road during site operation, with the exclusion of a three-day period required for the delivery of site offices and ablutions to the work area adjacent to the CIC from Alt Street in late 2019. • The use of Johnston Street by heavy vehicles will be minimised during school pick up and drop off times. • LVs wishing to depart site in either direction, and return to Northcote Site will utilise Dalhousie, Ramsay, Fairlight (or Henley marine Drive), Great North Road and Parramatta Road; ◦ LVs departing site will otherwise be encouraged to utilise Parramatta Road and arterial roads where possible. • Site will support primarily light vehicle movements in and out servicing the offices and underground workforce as well as laydown, equipment storage, assembly and maintenance. • No tunnel spoil haulage or truck marshalling proposed to or from this site. • A traffic controller will be present at entry or exit point on the Parramatta Road East and West construction ancillary facilities between the hours of 7:30 am to 9:30 am and 2:30 pm to 4:30 pm on week days during school terms whenever: (a) a heavy vehicle is to enter or exit the site via that point; and (b) light vehicles are entering and exiting the site at that point during staff shift change over periods. • Refer to **Figure 3** below.
Truck Storage Capacity	• The compound will cater for expected numbers of HV deliveries within site during permitted delivery times, as frequency and volume will not be significant.
Staff and Parking Capacity	• Available on-site parking for light vehicles following site establishment;

    - This site provides parking for workers based out of the Wattle Street ramp sites, the Haberfield civil site and the Northcote Street civil and tunnel site.
- Refer to the Construction Parking Access Strategy (CPAS) for more detailed numbers.

Figure 3: Parramatta Road East and West Sites

4.3.5 Wattle Street civil and tunnel site

Proposed changes to current alignment:	Nil Access & Egress to be provided from Wattle Street.
Tunnel Spoil Haulage Site?	Yes
LV movements	50
HV movements	133
Access / Egress operation:	• Enter via tunnel dive structure to the right of Wattle Street, eastbound. • Exit via tunnel ramp toward Parramatta Road. • All Heavy Vehicle traffic approaching this site will take one of the following routes; ◦ When approaching from City West link they will have to turn right up Ramsay Street, left onto Fairlight, left onto Great North Road, left onto Parramatta Road and left again into Wattle Street then merge right and enter site*. ◦ When approaching from the west (Parramatta Road) they will simply turn left into Wattle Street, and merge right to enter site. • Refer to **Figure 4** below. • On occasion it may be required for oversized vehicles to utilise access or egress locations in reverse to that intended (i.e. utilise an access location for egress or vice versa) for safety or operational reasons. Where this is required, appropriate traffic control measures will be implemented to facilitate the movement.
Truck Storage Capacity	• The site (once established) will have storage for many trucks in the dive structure and underground, and will typically only be serviced by rigid trucks.
Staff and Parking Capacity	• There are no designated parking spaces at the Wattle Street civil and tunnel site. This site workers will be provided parking at Parramatta Road East and West civil sites. A shuttle bus for workers at the Wattle Street civil and tunnel site will be available from/to the Northcote Street civil and tunnel site. • Refer to the Construction Parking Access Strategy (CPAS) for more detailed numbers

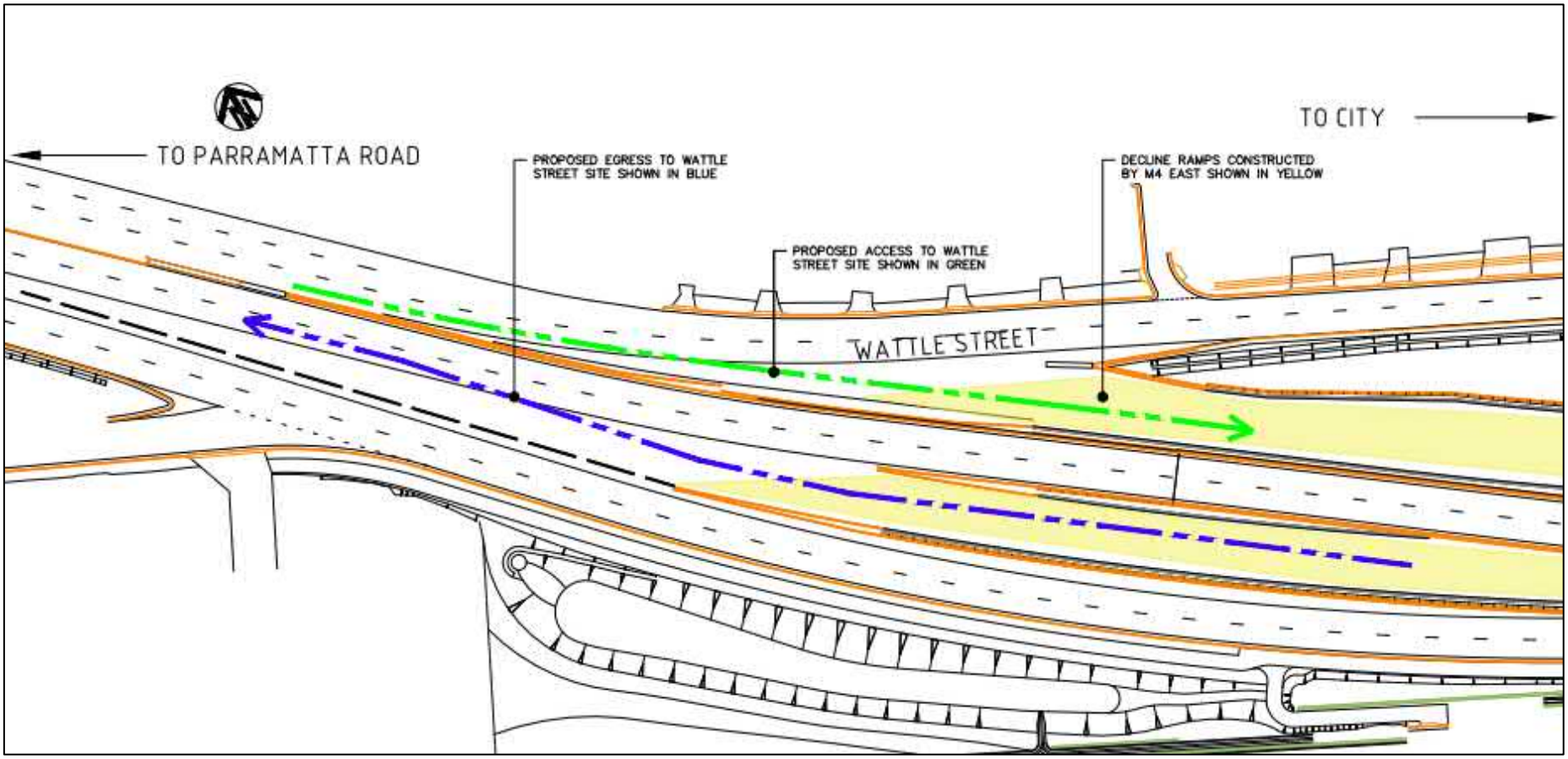

Figure 4: Wattle Street civil and tunnel site

4.3.6 Northcote Street civil and tunnel site

Proposed changes to current alignment:	Nil
Tunnel Spoil Haulage Site?	Yes
LV movements	20
HV movements	143
Access / Egress operation:	• Enter via driveway access on Parramatta Road eastbound. • Exit via driveway onto Wattle Street northbound. • Refer to **Figure 5** below. • On occasion it may be required for oversized vehicles to utilise access or egress locations in reverse to that intended (i.e. utilise an access location for egress or vice versa) for safety or operational reasons. Where this is required, appropriate traffic control measures will be implemented to facilitate the movement.
Staff and Parking Capacity	• There are no designated parking spaces at the Northcote Street civil and tunnel site. This site workers will be provided parking on site at Northcote street civil and tunnel site. • Refer to the Construction Parking Access Strategy (CPAS) for more detailed numbers

4.3.7 Haberfield civil site

Proposed changes to current alignment:	Nil
Tunnel Spoil Haulage Site?	No
LV movements	20
HV movements	10
Access / Egress operation:	• Enter driveway access on Parramatta Road. • Exit via driveway access onto Wattle Street (refer Figure 5). • All Heavy Vehicle traffic approaching this will take one of the following routes: ◦ When approaching from City West link they will have to turn left onto Parramatta Road, and left into site.; ◦ When approaching from the west (Parramatta Road) they will simply turn left into the driveway.
Truck Storage Capacity	• Nil – not required.
Staff and Parking Capacity	• There are no designated parking spaces for workers at this site, it will be provided by the Parramatta Road East and West civil sites. There will only be a limited number of workers at this site during construction and fit-out. • Refer to the Construction Parking Access Strategy (CPAS) for more detailed numbers

Figure 5: Northcote Street civil and tunnel site & Haberfield civil site

4.3.8 Burrows Road Ancillary Facility

Proposed changes to current alignment:	Nil
Tunnel Spoil Haulage Site?	No
LV movements	20
HV movements	10
Access / Egress operation:	• Enter driveway access on Burrows Road. • Exit via driveway access onto Burrows Road (refer **Figure 6**) • All Heavy Vehicle traffic approaching this will take one of the following routes: ◦ When approaching from the north they will travel south on Princess Highway, left into Canal Road, left into Burrows Road and right into site. ◦ When approaching from the south they will travel north on Princess Highway, right into Canal Road, left into Burrows Road and right into site ◦ When approaching from the east they will travel west on Campbell Road, left into Burrows Road and left into site.
Truck Storage Capacity	• Nil – not required.
Staff and Parking Capacity	• Available on-site parking for light vehicles following site establishment; This site provides parking for workers based out of the WMCC and SPI site. • Refer to the Construction Parking Access Strategy (CPAS) for more detailed numbers

4.3.9 WMCC Ancillary Facility

Proposed changes to current alignment:	Nil
Tunnel Spoil Haulage Site?	No
LV movements	20
HV movements	10
Access / Egress operation:	• Enter driveway access on Burrows Road. • Exit via driveway access onto Burrows Road (refer **Figure 6**). • All Heavy Vehicle traffic approaching this will take one of the following routes: ◦ When approaching from the north they will travel south on Princess Highway, left into Canal Road, left into Burrows Road and right into site. ◦ When approaching from the south they will travel north on Princess Highway, right into Canal Road, left into Burrows Road and right into site ◦ When approaching from the east they will travel west on Campbell Road, left into Burrows Road and left into site.
Truck Storage Capacity	• Nil – not required.
Staff and Parking Capacity	• Staff will only be a limited number of workers at this site during construction and fit-out. • There is designated parking for workers at this site • Refer to the Construction Parking Access Strategy (CPAS) for more detailed numbers

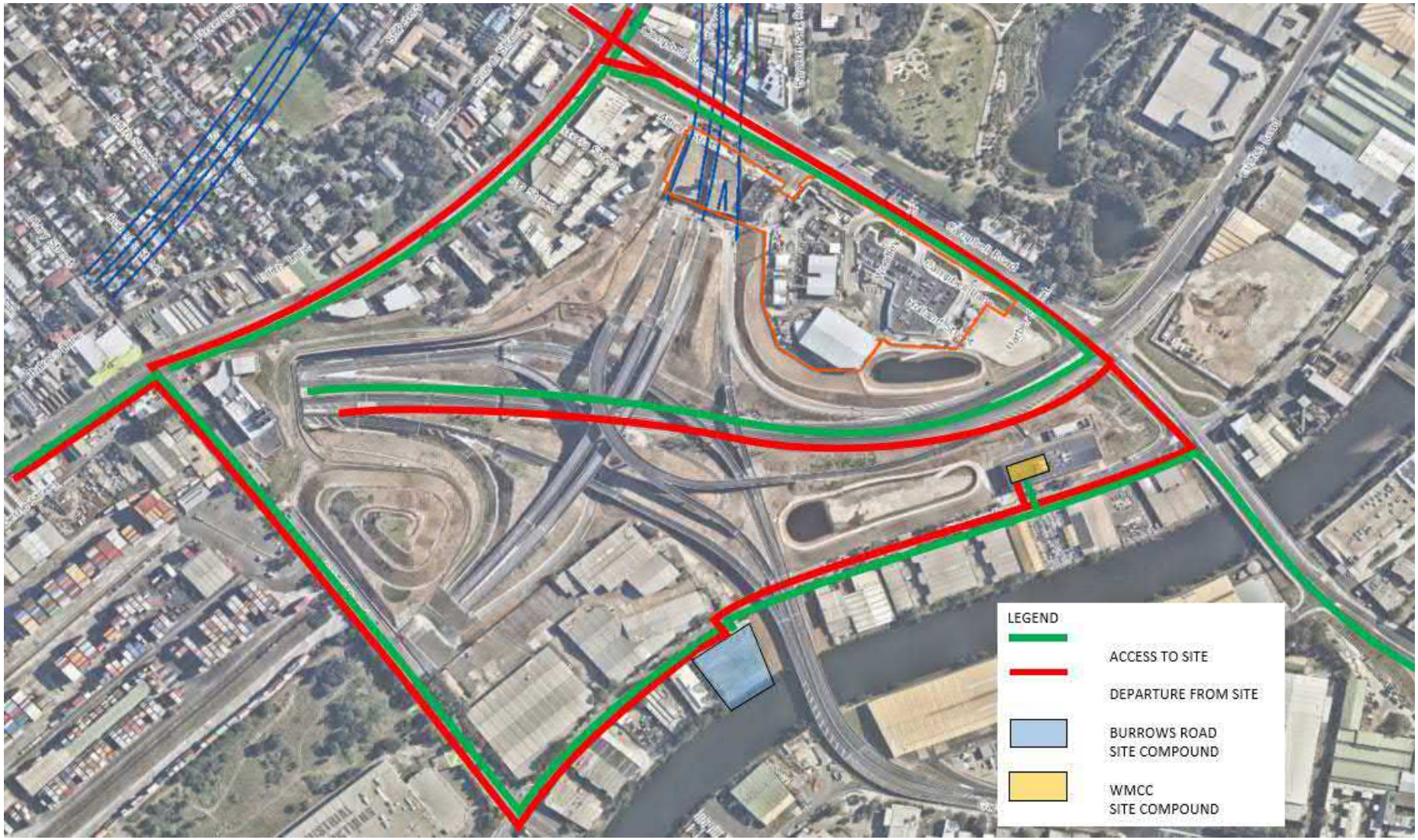

Figure 6 Burrows Road ancillary facility & WMCC civil site

4.4 Access for works

ASBJV will enter and depart from each worksite, depot or site compound using the following roads, in order of preference:

- Classified State Roads
- Regional and Unclassified Regional Roads
- Other parts of the road network, subject to obtaining the necessary prior approval of the relevant Road Authority in accordance with CoA requirement E51, with additional details provided in Section 4.5 below.

Site access and egress routes utilise roads where they will avoid sensitive areas including schools, aged care facilities, hospitals and shopping precincts wherever possible. The designated haul routes have been selected to minimise impact on residents and return spoil and construction vehicles to major arterial roads as quickly as possible.

Only delivery heavy vehicles will be permitted to use Johnston Street. Heavy vehicle use on Johnston Street will be minimised during school drop off and pick up times.

4.5 Access to Local Roads

ASBJV proposes to avoid the use of local roads wherever possible for the operation of spoil movements, deliveries and any other heavy vehicle movements associated with the CSSI construction activities.

Current local roads proposed to be used include those listed in the Table 4-3 below.

Table 5: Local Roads Proposed for Use

Road	From	To	Road Type	Use HV numbers per day
Bignell Lane	Mallett Street	Pyrmont Bridge Road	Local	Construction of Bignell Lane realignment only. HV numbers will vary depending on construction phase of Bignell Lane. These works will be completed mid-2019.
Henley Marine Drive	Parramatta Road	Ramsay Street	Local	Light vehicle only (<4.5t GVM) No HVs proposed
Alt Street	Parramatta Road	Limit of site boundary	Local	5 HVs per day during site establishment only

Where the Project requires access to any local road for regular heavy vehicle movements, ASBJV will undertake early and ongoing consultation and communication with local councils and affected

property occupiers to identify the potential impacts of any proposed traffic management arrangements that affect access to local roads and adjoining properties. ASBJV will submit a proposal for the use of required the roads to the Secretary, including a traffic and pedestrian impact assessment as outlined in CoA E51.

ASBJV will develop and implement management strategies to avoid or mitigate identified impacts, including:

- At all times, maintaining safe and suitable access for vehicles and pedestrians to adjoining properties and side roads affected by the road construction.
- Not commence any work affecting access to adjoining properties and use of side roads without providing an adequate alternative access.
- Responsible consultation with the owners and/or occupiers of affected properties and businesses, including notification prior to commencing the construction of property accesses.
- Implement additional fencing, signposting (including VMS where appropriate), provide alternate access arrangements for any visitors, customers and delivery vehicles to adjoining property occupiers and communicate these changes effectively.

Access to utilities and properties will be maintained wherever possible, unless prior agreement can be reached with the property or utility owner prior to the impact being implemented. Any access physically affected by the construction of the CSSI is to be reinstated at the cessation of the associated activity to at an at least equivalent standard, unless otherwise agreed by the landowner or occupier.

4.6 Parking management

ASBJV will provide car parking facilities to support its work areas and compounds to minimise parking on local roads and streets. The bulk of this car parking storage will be within the Parramatta Road East & West and Campbell Road compounds. The workers will be encouraged to park at these sites through the use of the clock on and off facilities being provided at these sites, and providing paid travel between the parking facilities and the worksites.

ASBJV will provide shuttle buses between the Wattle Street and Northcote sites. These buses will run pre-determined routes between each site.

Some on street parking will need to be removed in some locations adjacent to construction compounds during construction for a variety of reasons, including safety and improved provision for turn paths of trucks. These spaces will be surveyed prior to removal, in consultation with stakeholders. The outcome of the surveys will determine the mitigation measures proposed to better facilitate the removal of the parking where necessary.

In accordance with CoA E54, ASBJV have prepared a project Construction Parking and Access Strategy to facilitate the optimisation of the return of on- and off-street parking removed or altered during construction and consequent to the operation of the CSSI.

This parking strategy forms part of the ‘Driver Code of Conduct’ which is explained below.

The ASBJV Traffic Manager will ensure that the parking management requirements are monitored and reported through inspections as listed in Table 12: Inspection Form List, and as outlined in Section 6.3 - Inspections of this Plan.

The inspections should be conducted weekly, or on an as needs basis, with the day of the week being varied to ensure a thorough review is achieved every month across the project. The findings of the parking management strategy performance will be reported as outlined above, at three monthly intervals. Additional information on the responsibility, escalation and mitigation measures are outlined in the Construction Parking and Access Strategy.

4.6.1 Driver Code of Conduct

The purpose of this Driver Code of Conduct is to ensure that the impacts of construction related traffic on local roads to the local community and businesses is minimised. This code clearly defines and details acceptable behaviour for all vehicle drivers in connection with the Works including ASBJV, suppliers and subcontractors using private and company vehicles. The Driver Code of Conduct will be included in the onboarding process for workers employed by the project for acceptance to ensure disciplinary action is possible for non-compliance.

Site plans will be provided to workers and truck drivers showing all permitted roads for travel adjacent compounds for construction vehicles.

Responsibilities of ALL drivers:

Drivers are to follow ALL road rules and regulations required by law including:

- Hold a current and appropriate licence for the class of vehicle they are operating.
- Complying with speed including roadwork speed limits and other construction traffic signs.
- Making sure that your vehicle is roadworthy, registered, insured and well maintained.
- Do not queue across signalised or unsignalised intersections and do not queue or park idling on public roads.
- Be familiar with project parking management strategy and restrictions.

Drivers are to practise safe driving and behaviour which includes, but is not limited to:

- Making sure you are medically fit to drive and not under the influence of drugs and/or alcohol.
- Driving in a professional, calm and courteous manner.
- Driving to existing road, traffic and weather conditions.
- Complying with driver fatigue management and rest laws and procedures.
- Making sure that your rest breaks are taken at the prescribed intervals and are effective.
- Not operating any vehicles while suffering from fatigue.
- Drivers passing schools and childcare centres should be avoided remembering that during school zone periods (08:00-09:30 and 14:30–16:00) the maximum speed limit is 40Km/h.
- Ensure that there is no littering from the vehicle.
- Not block residential driveways or any other access points.
- Not tailgate (drive too close to other vehicles).
- Driving to include the five key eco driving principles:
    1. Start car without warming engine;
    2. Quick but smooth acceleration and deceleration;
    3. Anticipate obstacles and respect safety distances;
    4. Avoid using air conditioning when not needed;
    5. Ensure your vehicle is properly maintained.

Parking commitments:

- Drivers are encouraged to park in the project parking facilities provided, and understand the contents of the project parking strategy.
- Vehicles must be parked ‘fundamentally stable’ when on-site.

Additionally, for truck drivers:

- Only driving on project approved roads and haul routes.
- Ensure required signage is in place whenever conducting works for M4-M5 Link Mainline Tunnels project.
- Ensuring vehicle does not exceed mass or dimension limits, and that routes to be taken will cater for expected swept path of vehicle.
- Ensuring any loads are distributed to remain within the capacity of the vehicle and are appropriately restrained.
- Turn vehicles off when not attended or not in use to minimise disturbance to local residents and businesses.
- Vehicles must not transfer dirt or debris onto public roads. If any materials are deposited on the roads, contact your supervisor and the LSBJV supervisor must be contacted immediately.
- If approached by people with enquiries or complaints about the project, drivers are not to engage with the person beyond providing them with the community information line number.
- As a courtesy to people who may be impacted by driver behaviour, drivers will:
    - Use horns only in an emergency or for safety reasons;
    - Minimise reversing and minimise noise;
    - No use of compression brakes is permitted for construction vehicles associated with the project;
    - HV drivers are to follow the directions of control room operators at all times (The Traffic Control Room will be monitoring and actively managing truck movements to minimise impacts across the network);
    - Ensure you can be contacted by the control room at all times when on duty.

4.7 Haul routes

Refer to Appendix C for graphical representations of proposed haul routes, including a project wide proposed haul route map. Appendix C is not an exhaustive list of all routes where variations may appear with new tipping sites proposed in the future.

Haul routes for any significant heavy vehicle movements associated with the construction will be developed in consultation with road authorities, the most likely of haul routes for spoil tip sites have been identified and are shown below in Figure 7 to Figure 10 below. Routes may be signposted; if signposted, these signs will serve to:

- Reaffirm the correct routes to and from site compounds for project staff and subcontractors.
- Provide the local community and residents a clear reference of the approved routes that project heavy vehicles are required to follow.
- Provide local council authorities and residents an indication of the roads which are expected to have increased heavy vehicle traffic on them.

Where signs are deployed they will be limited to roads adjacent to compounds to communicate haul routes. In addition to potentially signposting haul routes, as outlined in CoA A44, spoil trucks will clearly display signage on them identifying their associated with the project.

Secondary routes that may be used under infrequent and unexpected occurrences are included in Figure 7 to Figure 10 below. These routes are provided as an alternative access into or around site and are not the primary routes for significant heavy vehicle movements.

The haulage routes will be provided to the haulage contracting companies for dissemination to their drivers and will be readily available at each of the compound sites for review by any drivers.

With regards to Northcote Street civil and tunnel site, there are two spoil haulage route options; Option A and Option B (the G-loop). The details and the restrictions relevant to the two routes are outlined in Table 6 and 4-5 and shown in Figure 7.

Table 6 Spoil haulage routes from the Northcote Street civil and tunnel site

Route	Spoil haulage route
A	Entry: Left turn into site from Parramatta Road city bound.
	Exit: Left turn from site onto Wattle Street, then left turn onto Ramsay Street/Road, then left turn onto Fairlight Street, then left turn onto Great North Road, then onto Parramatta Road.
B	Entry: Left turn into site from Parramatta Road city bound.
	Exit: Left turn from site onto Wattle Street, then left turn onto the G-loop at the intersection of Dobroyd Parade and Waratah Street, then right turn from the G-loop onto Wattle Street towards the M4 East Motorway or Parramatta Road.

The use of Route A is permitted under the circumstances identified in Table 7.

Table 7 Circumstances under which the use of Route A is permitted

No.	Circumstance	Reference
Note: In all of the below circumstances, the use of Route A is restricted to 7am to 7pm daily.		
1	On commencement of spoil haulage from the Northcote Street site, Route A may be used as the primary spoil haulage route for the first two months of spoil haulage, or until the G-loop is operational, whichever is sooner, unless an alternative time period is agreed to by the Planning Secretary.	CoA E49A
2	Once the G-loop is operational, the use of Route A by spoil haulage vehicles is permitted during the following hours: • 7am to 9am and 4pm to 6pm Monday to Friday (excluding public holidays) • 8am to 9am and 4pm to 6pm Saturdays.	CoA E49B(a)
3	During periods of maintenance and/or unserviceability of the G-loop (such as repairs, signal failure, unauthorised standing of vehicles)	CoA E49B(b)
4	If there is an incident or event in the vicinity of the Northcote Street site and the G-loop that prevents spoil haulage vehicles from accessing or travelling on Route B.	CoA E49B(c)
5	In the event that the Northcote Street site has insufficient capacity to accommodate spoil haulage trucks, Route A may be used as a bypass route.	CoA E49B(d)
6	During peak spoil generating periods of no greater than six months approved by the Planning Secretary. In this case the following must be submitted to the Planning Secretary when seeking approval:	CoA E49B(e) CoA E49C

No.	Circumstance	Reference
	• Estimated dates and duration of the peak spoil generating period • The estimated hourly number of spoil haulage vehicle trips using Route A both during and outside the hours specified in condition E49B(a) (refer to No. 2) each day during the peak spoil generating period • Six months of data which details on an hourly basis the following: ◦ The total number of spoil haulage vehicle trips associated with tunnelling and backfilling at the Northcote Street construction ancillary facility (inbound and outbound) ◦ The number of trips (times) spoil haulage vehicles have used Route A, and Wattle Street / Parramatta Road (instead of the M4 East Motorway tunnels) when exiting the G-Loop, including the dates and times of use as well as the reasons for use of these routes noting the criteria for use specified in condition E49B. • The results of representative noise monitoring at residential receivers of construction vehicles along Fairlight Street on Route A during and outside the hours identified in condition E49B(a) (refer to No.2) • An analysis of the operational performance of the G-loop.	CoA E49D

As per CoA E122A, measures to manage light spill from spoil haul vehicles exiting the G-loop will be developed in consultation with the residents surrounding the G-loop.

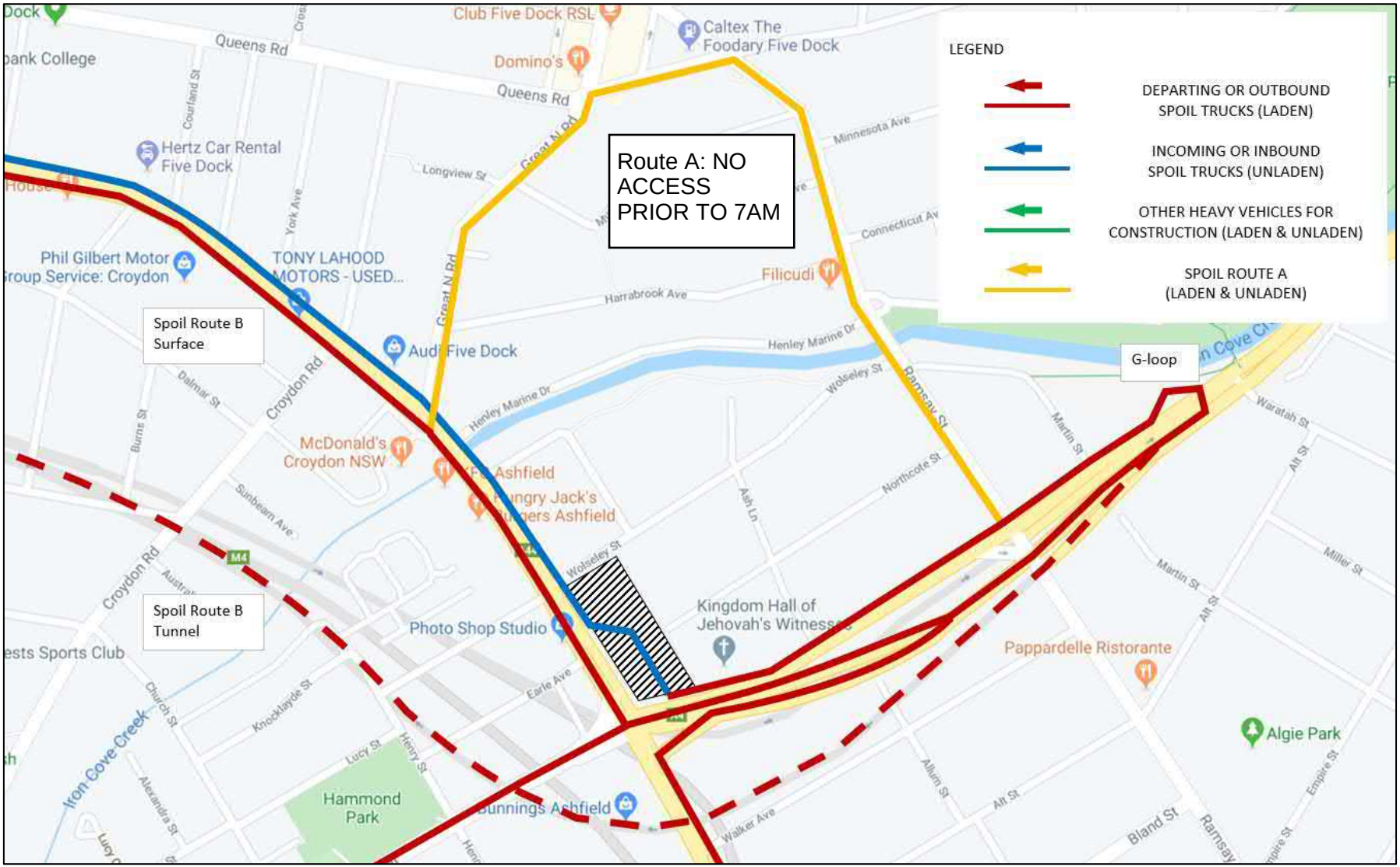

Figure 7: Spoil haulage routes for Northcote Street civil and tunnel site

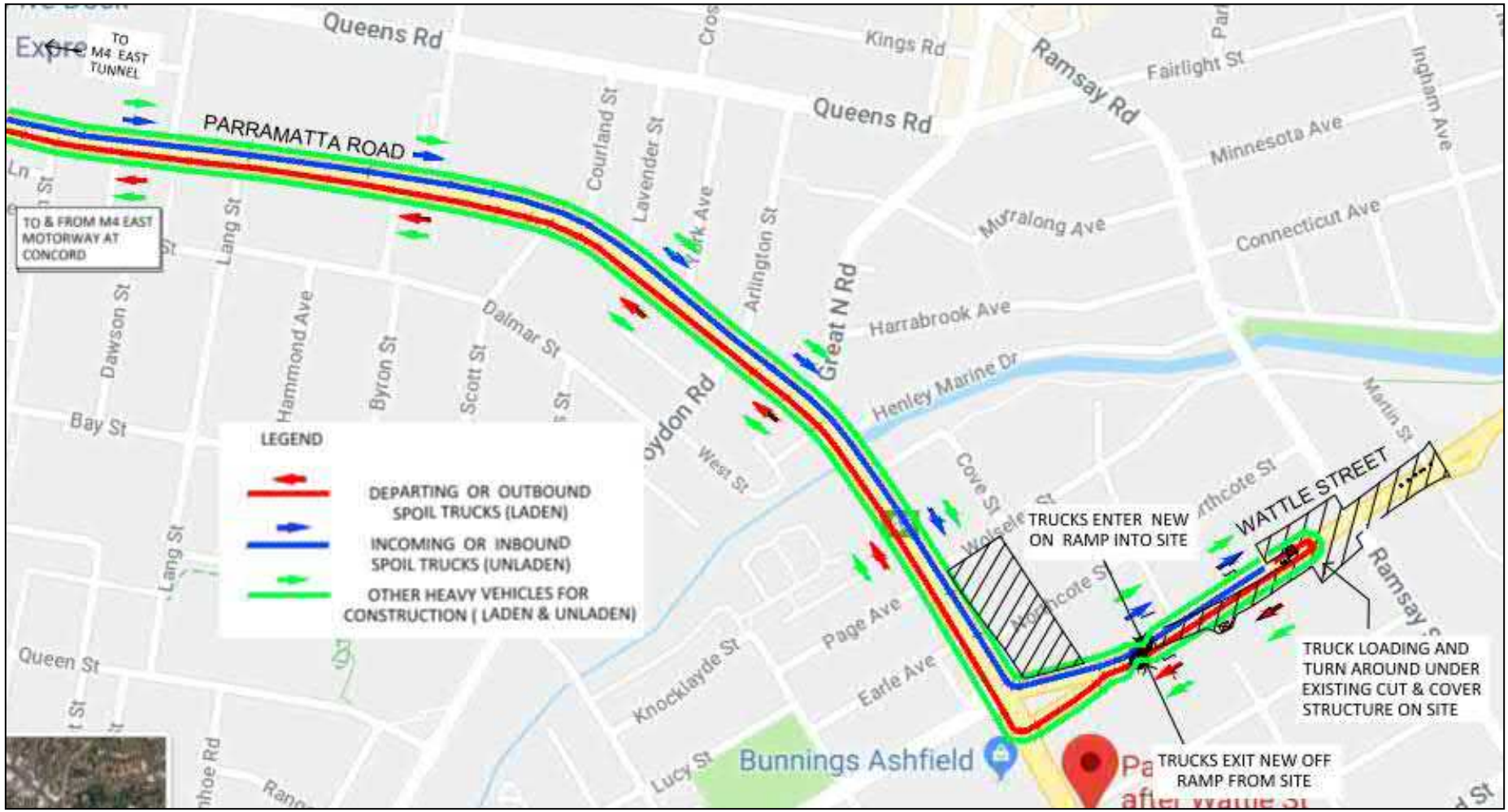

Figure 8: Haulage routes for Wattle Street civil and tunnel site

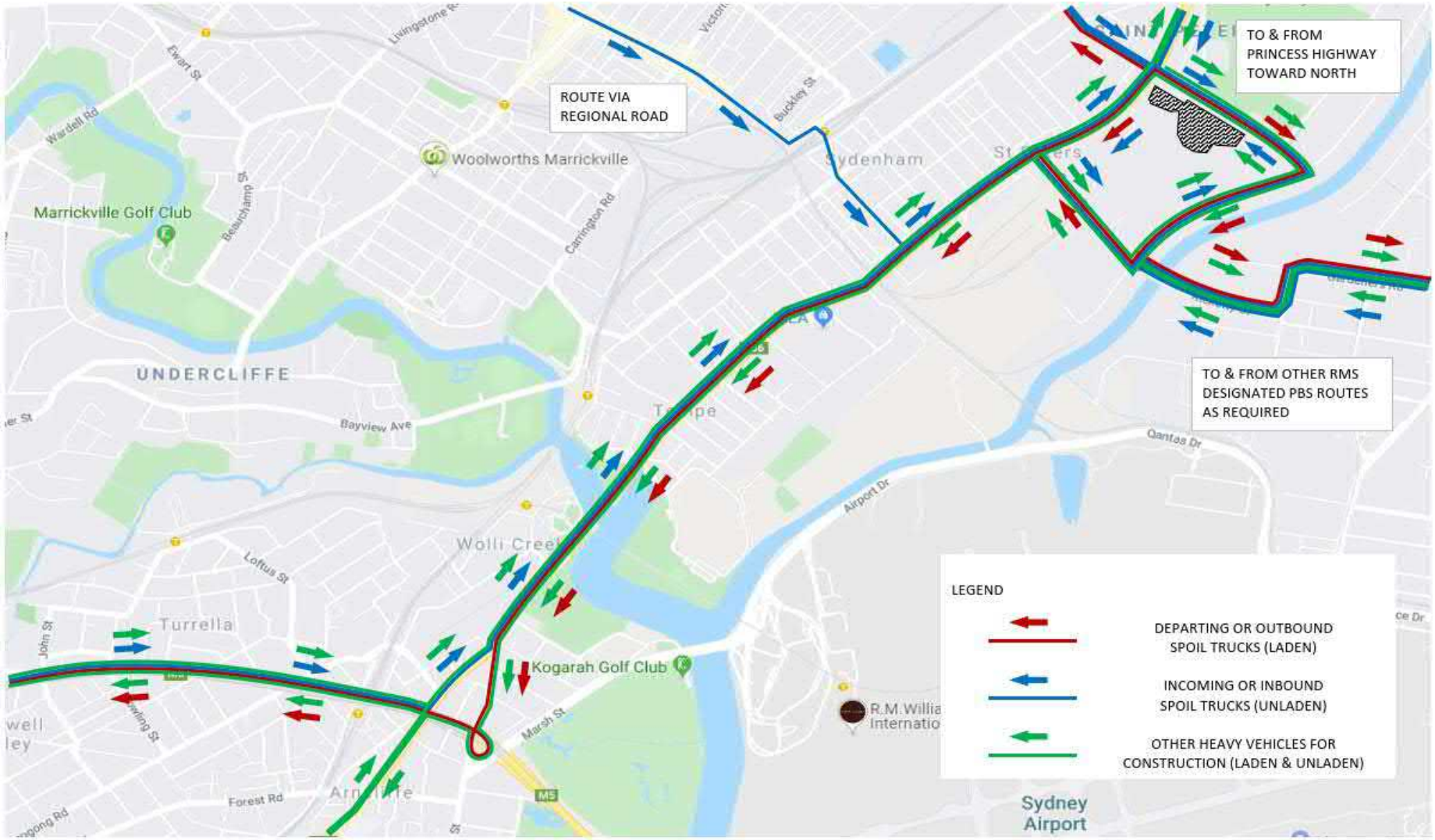

Figure 9: Haulage routes for Campbell Road civil and tunnel site

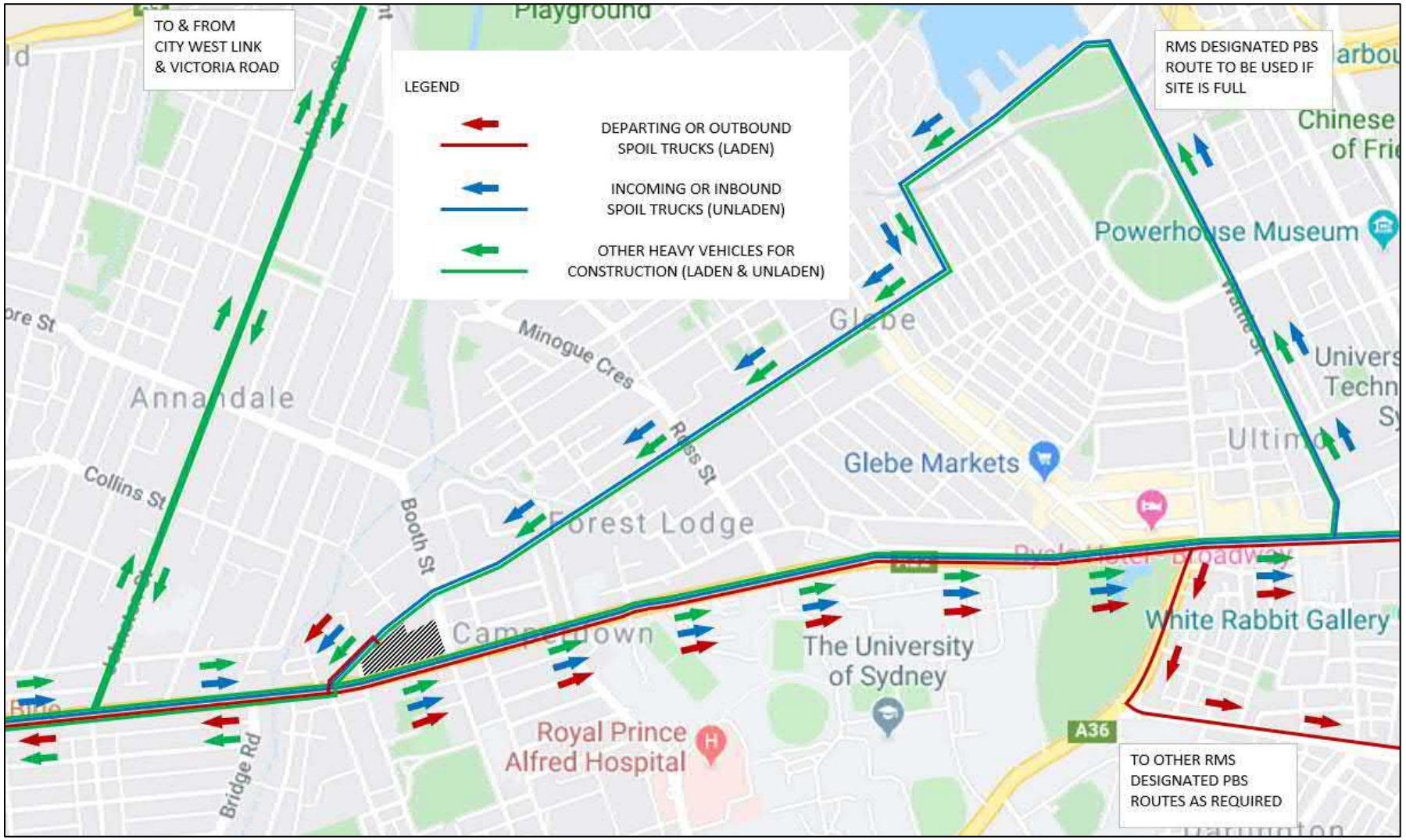

Figure 10: Haulage routes for Pyrmont Bridge Road tunnel site

4.7.1 Spoil haulage management

A ‘Trip-Ticket System’ (records/issues tickets for outgoing trucks weights and material are matched to fill site dockets for tipping) and GPS tracking will be implemented to track deliveries for disposal of waste offsite at one of ASBJV’s nominated disposal or licenced contaminated waste disposal sites.

ASBJV is targeting to remove spoil during both day and night where possible; thereby minimising potential traffic impacts during day time spoil activities. Spoil haulage via Route A is only permitted under the circumstances outlined in Table 7.

The routes should minimise potential impacts on traffic and sensitive receivers along the route and generally use major arterial roads or motorways as the haul routes.

4.7.2 GPS Tracking of Spoil Haulage

Haul route compliance and all Heavy Vehicle movements to and from construction sites will be monitored using a GPS tracking system fitted to all spoil vehicles.

Drivers will enable the tracking system when transporting material for the project and will allow the project to monitor movements and provide assurance that the vehicles are sticking to designated (approved) haul routes.

The system will capture all route information and will be monitored in real time via the project Traffic Control Room (TCR).

The project TCR will manipulate driver departure times and arrival times to mitigate issues including turn bay queueing, driving on non-approved local roads and unnecessary impacts on the road network.

4.8 Chain of Responsibility (CoR)

Full details of National Heavy Vehicle Law (NHVL) Chain of Responsibility (CoR) conformance are contained in the CoR Management Plan. The heavy vehicle CoR recognises that a number of different participants in each road transport ‘chain’ can influence and direct driver’s on-road behaviours, and the state of the heavy vehicle being driven. The many parties in the road transport ‘chain’ are given responsibility for either:

- Complying with their specific obligations under the laws; or
- Taking all reasonable steps to ensure that other parties in the road transport ‘chain’ achieve compliance and are not encouraged or incentivised to break the law.

The Chain of Responsibility Management Plan applies to all of ASBJV’s operations and all persons working under the supervision or control of ASBJV personnel.

CoR compliance requires duty-holders to address the following four main areas:

The Load	Ensuring the load is not in excess of the heavy vehicle’s capacity and that it is properly restrained (i.e. mass, dimension and loading)
The Vehicle	Ensuring that the heavy vehicle is properly maintained and roadworthy
The Driver	Ensuring that the driver is not fatigued when driving the heavy vehicle
The Public	Ensuring that the heavy vehicle is not induced or encouraged to speed while on the road, endangering the driver and other members of the public.

The parties in the road transport ‘chain’ include Employers, Loaders, Loading Managers, Consignees, Schedulers and others. Importantly, ASBJV may perform more than one role in a particular heavy vehicle ‘chain’.

As part of compliance with the core legislative requirements, there is a statutory obligation to obtain and comply with appropriate licences, permits, approvals and notifications. At all times ASBJV will

hold (and ensure its Service Providers and workers hold) all required licenses, permits, approvals, certificates and registrations.

Under the CoR Management Plan and using the resources referred to in the plan, ASBJV will manage any specific obligations it owes and take reasonable steps to ensure broader CoR compliance in a particular transport ‘chain’. ASBJV is committed to acting consistently with community expectations and the standards of civil construction industry participants of its type.

5 Traffic Management

5.1 Construction stage traffic management

5.1.1 Construction staging

ASBJV has developed a design that takes into account the construction staging plans as well as placing an emphasis on providing a safe and effective traffic staging solution. The design along with the construction staging and methodology has been planned to cause the least possible disruption to traffic.

Wherever possible, work would be carried out during approved normal working hours. However, some work will be adjacent to live traffic and require lane closures to enable safe work practices. This would be undertaken outside peak periods in accordance with the requirements of the TMC.

ASBJV will liaise with the TfNSW (Sydney Coordination Office) and Transport Management Centre (TMC) representatives and other regulatory authorities to ensure all parties are in acceptance of the traffic management proposals prior to implementation.

All proposed arrangements will be designed to meet standards outlined in the Austroads Guide to Traffic Management, Road Design and relevant TfNSW Supplements, to the satisfaction of TfNSW and local councils where applicable.

ASBJV will endeavour to utilise more efficient equipment or design solutions to minimise disruption and maximise productivity when impacting traffic in construction temporary traffic arrangements or conducting works.

ASBJV will change the existing traffic conditions at the following locations:

Wattle Street

Traffic staging at Wattle Street Ramps involves:

- The installation of site access, internal turnaround and truck warning signage on the approach to the work site.
- The alignment and all connections will remain in their current arrangement.

Refer below, to Figure 11 for an indicative arrangement for the Wattle Street access and egress:

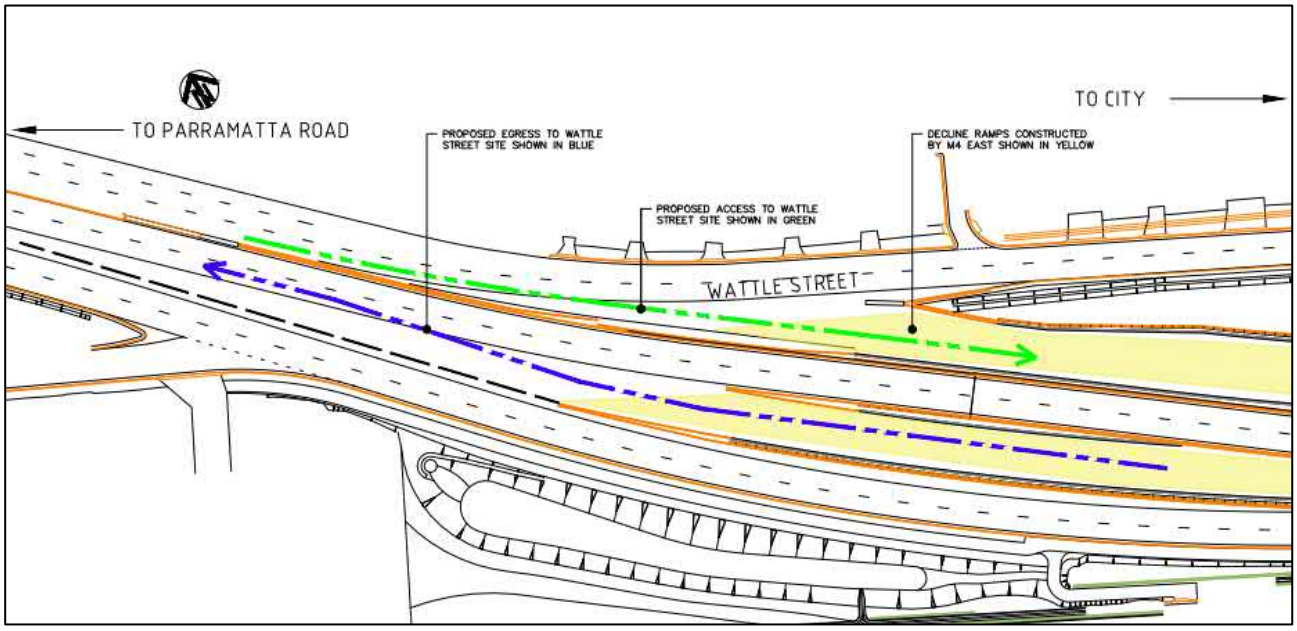

Figure 11: Concept Access and Egress from Wattle Street

M4-M5 Link Portals

Traffic staging at the M4-M5 Link Portals involves:

- Some linemarking adjustments may be required to provide for access and egress arrangements (yellow chevrons across the site access and demarcation of construction access – Refer to Figure 12 below).
- The installation of warning and site gate signage for the new site access.
- The outbound tube will see the installation of an egress acceleration lane for construction vehicles leaving the stub. Warning signage and delineators on the approach to this stub will warn drivers of the merging traffic ahead.
- Both tubes will be restored to their permanent design at the conclusion of the delivery works.

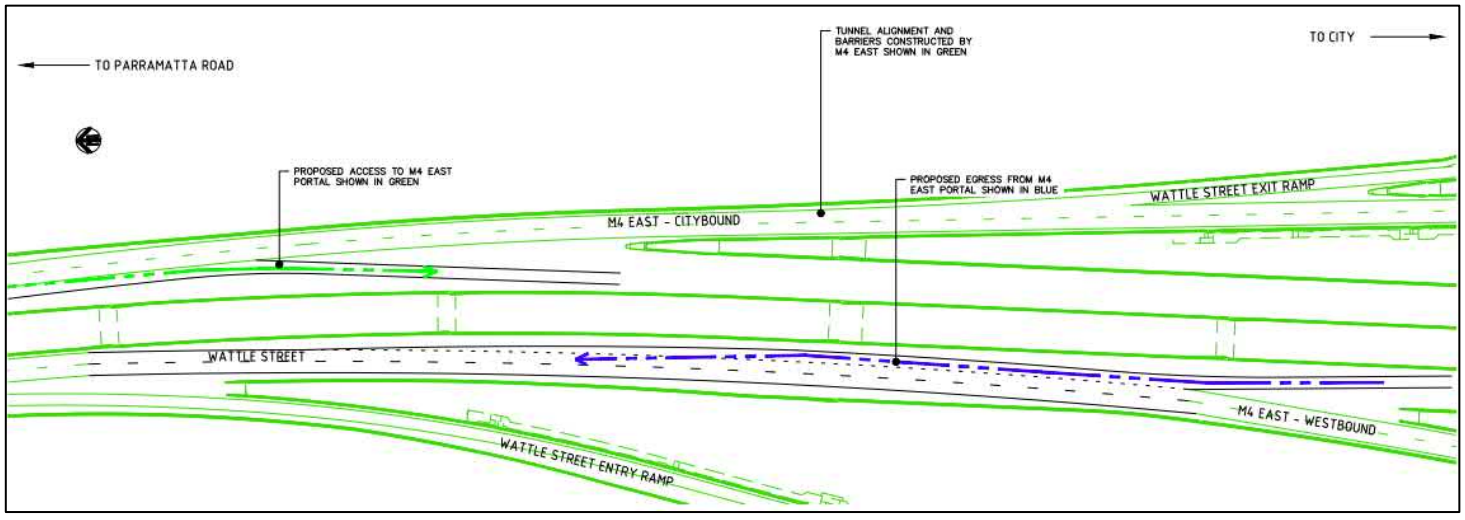

Figure 12: Indicative Access and Egress Gate Arrangement – M4-M5 Link Portals

5.1.2 Major impacts / full closures / detours

Refer to Table 8 below for short-term road occupancy strategies planned for the project. In short, ASBJV does not plan to implement any works that will require a full closure of a road or diversion of traffic for any period greater than the indicated 'night time closure' approved hours.

All short-term road occupancy of any impact will be subject to the normal TMC / ROL application process and ASBJV 'Work Permit' process, where applicable.

Table 8: Road / lane closure predictions

Road subject to Temporary Closure	Proposed Works	Description of Traffic Management	Duration of Closure	Mitigation Measures
Pyrmont Bridge Road site				
Parramatta Road	Utilities works, road crossings and connections. Hoarding construction and demolition works	Overnight lane closures or detours to complete works	Sunday to Thursday Multiple shifts required	ROL, SZA issued by TMC Monitor impacts during shift.
Pyrmont Bridge Road	Utilities works, kerb and footpath works and modifications, truck access and egress.	Lane closures, shoulder closures and Stop/Go control	Sunday to Thursday Multiple shifts required Monday to Friday Multiple shifts required	ROL, SZA issued by TMC Monitor impacts during shift.
Bignell Lane	Building demolition, utilities works, Bignell Lane realignment and reconstruction works.	Temporary full closure during demolition and during realignment	For duration of demolition, and to finalise realignment (and subsequent reconstruction)	Monitor impacts during works and consultation with council.
M4 East Interface Precinct (Wattle Street, WestConnex M4 East Tunnel & PRE&W sites)				
Wattle Street	Linemarking, access and egress, plant deliveries and site establishment work, kerb modifications and asphalt works	Lane closures adjacent the Wattle Street ramp diverge and merge points.	Multiple shifts required	ROL, SZA issued by TMC Monitor impacts during shift.

Road subject to Temporary Closure	Proposed Works	Description of Traffic Management	Duration of Closure	Mitigation Measures
Parramatta Road	Kerb modifications, utilities work, asphalt works and plant access and egress.	Lane closures to complete works at pinch points and across intersections	Multiple shifts required	ROL, SZA issued by TMC Monitor impacts during shift.
Parramatta Road	Installation (and removal) of pedestrian bridge structure	Overnight full closure and detour	Overnight closure with contingency (install). Additional overnight with contingency (remove)	ROL, SZA issued by TMC. Monitor impacts during shift.
M4 East Tunnels	Installation (and removal) of signage and linemarking for site access and egress	Lane closures to complete works within the tunnel	Multiple shifts required (installation and removal / reinstatement)	ROL, SZA issued by TMC & permit from WestConnex Transurban
M4 East Tunnels	Installation of ultimate linemarking / signage and commissioning works	Lane and tunnel closures to complete works within tunnel	Multiple shifts required	ROL, SZA issued by TMC & permit from WestConnex Transurban
New M5 Interface Precinct (Euston Road, Princes Highway, Campbell Road)				
New M5 Tunnels	Installation of ultimate linemarking / signage and commissioning works	Lane and tunnel closures to complete works within tunnel	Multiple shifts required	ROL, SZA issued by TMC & permit from WestConnex Transurban
Euston Road	Kerb modifications, utilities work, asphalt works and plant access and egress.	Lane closures to complete works at pinch points and across intersections	Multiple shifts required	ROL, SZA issued by TMC Monitor impacts during shift.

Road subject to Temporary Closure	Proposed Works	Description of Traffic Management	Duration of Closure	Mitigation Measures
Princes Highway	Kerb modifications, utilities work, asphalt works and plant access and egress.	Lane closures to complete works at pinch points and across intersections	Multiple shifts required	ROL, SZA issued by TMC Monitor impacts during shift.
Campbell Road	Kerb modifications, utilities work, asphalt works and plant access and egress.	Lane closures to complete works at pinch points and across intersections	Multiple shifts required	ROL, SZA issued by TMC Monitor impacts during shift.

At the completion of all works and before the opening of the new tunnel to traffic (commissioning) ASBJV will perform overnight full closures of the citybound lanes of the M4 East and New M5 tunnels to facilitate the removal of temporary devices previously deployed to limit access to the new roads. These closures will implement the permanent diversion routes, currently in place for major events and emergencies during the night before commissioning. Additional works will be required on some surface roads for completion and commissioning works, these will be detailed in the road opening strategy or associated traffic management plan(s).

5.2 Construction site traffic management

Wattle Street civil and tunnel site

The Wattle Street site will have access and egress gates fashioned out of the adjacent project stubs being constructed. Once the M4 East tunnel is operational, or the ramps are operational the stubs will be utilised as access and egress points for the M4-M5 Link Mainline Tunnel Project to enter and exit with tunnel spoil removal trucks.

Limited localised traffic management is expected to be required except for when adjusting linemarking, signage or commissioning the new M4-M5 tunnel on completion.

Parramatta Road East and West civil sites

Parramatta Road sites (east and west) will need localised short-term traffic control in place to facilitate some demolition works and kerb / driveway modifications to cater for the expected vehicle movements entering and exiting the compounds.

Some long-term controls will be required, including parking restrictions and relocation of bus stops with some modifications to pedestrian access. Some utilities and services works will be required in the street, and in the footpath during construction which will also require localised traffic management. The Parramatta Road sites will not be used for spoil haulage truck marshalling.

Additionally, a traffic controller must be present at an entry or exit point on the Parramatta Road East and West construction ancillary facilities between the hours of 7:30 am to 9:30 am and 2:30 pm to 4:30 pm during school terms whenever:

(a) a heavy vehicle is to enter or exit the site via that point; and

(b) light vehicles are entering and exiting the site at that point during staff shift change over periods.

Pyrmont Bridge Road tunnel site

PBR site will require localised traffic management to facilitate erection of barriers, class B hoarding and during demolition of the existing structures. Short-term arrangements will be required for utilities and survey works in the streets adjacent, and during the construction of the relocated Bignell Lane after demolition. It should be noted that Bignell Lane will be reinstated to its preimpact alignment and length unless otherwise approved by the Secretary following consultation with the relevant council, in accordance with CoA E48.

Additional short-term works will include barrier movements and installation, pedestrian access modifications, new driveway accesses and any required maintenance works on the roads impacted by the works. Bignell lane will be investigated to be made one way (pending stakeholder consultation) during construction to allow for additional width for a separated pedestrian access. The access would be provided by installing longitudinal barrier protection to one side of Bignell Lane which would ensure protected pedestrian access between Mallett Street and Pyrmont Bridge Road.

Long-term controls will be limited to parking restrictions and relocation of bus stops to better cater for truck and site vehicle movements entering and exiting the site, which will be completed in consultation with bus companies and to meet criteria of CoA E43 in relation to distance for relocation or alternatives. Access and egress arrangements are outlined in Section 4.3 - Key construction precincts.

Campbell Road civil and tunnel site

The Campbell Road compound will be established on Campbell Road in St Peters, and will utilise the newly constructed signalised intersection for access and egress.

As there will be concurrent works being carried out in Campbell Road, and Campbell Road intersection being newly constructed; it is not expected significant works will be required in the street during construction of the CSSI. All utilities works and requirements for access will have been catered for by commissioning of the new intersection.

Some works may be required for road maintenance and/or survey.

Northcote Street civil and tunnel site

There are no parking restrictions proposed for this site, nor are there any changes to existing buses or pedestrian accesses.

5.3 Road maintenance

5.3.1 Dilapidation reports

A Roads Dilapidation Report will be prepared out (prior to construction commencement) on the local roads, arterial roads, Parramatta Road, City West Link and Princes Highway, to meet CoA E61. The report will cover the roads adjacent project sites, identified to be potentially used for construction traffic routes as outlined in Table 9 below.

Table 9: Road Dilapidation - Roads

Road	From	To	Length (m)
Pyrmont Bridge Road	Parramatta Road	Mallett Street	330m
Bignell Lane	Mallett Street	Pyrmont Bridge Road	175m
Parramatta Road	Pyrmont Bridge Road	Mallett Street	290m
Mallett Street	Pyrmont Bridge Road	Parramatta Road	160m

Road	From	To	Length (m)
Dalhousie Street	Parramatta Road	Ramsay Street	565m
Ramsay Street	Dalhousie Street	Fairlight Street	1,385m
Fairlight Street	Ramsay Road	Great North Road	170m
Great North Road	Fairlight Street	Parramatta Road	440m
Henley Marine Drive	Parramatta Road	Ramsay Street	510m
Wattle Street	Parramatta Road	Waratah Street	795m
Parramatta Road	Great North Road	Dalhousie Street	1,475m
Campbell Road	Burrows Road	Princes Highway	690m
Alt Street	128 Alt Street	142 Alt Street	115m
Bland Street	124 Bland Street	Parramatta Road	55m
Canal Road	Darley Road	End of Canal Rd	670m
Darley Road	City West Link	Canal Road	265m
Ramsay Street	Wattle Street	Marion St	1210m
Marion Street	Ramsay Street	Hawthorne Parade	210m
Hawthorne Parade	Marion Street	Dobroyd Parade	1410m
Dobroyd Parade	Hawthorne Parade	Tillock Street	165m
Tillock Street	Dobroyd Parade	Learmonth Street	295m
Crescent Street	Tillock Street	Boomerang Street	345m
Boomerang Street	Crescent Street	Learmonth Street	200m
Mortley Avenue	Boomerang Street	City West Link	250m
Learmonth Street	Tillock Street	Boomerang Street	360m

A copy of the report shall be provided to the relevant local council within three weeks of completing the surveys and no later than one month prior to the commencement of roads being used by construction vehicles.

5.3.2 Repair & restore

If damage to roads occurs as a result of the construction of CSSI, ASBJV will either:

(a) compensate the relevant road authority for the damage so caused. The amount of compensation may be agreed with the relevant road authority; or

(b) rectify the damage so as to restore the road to at least the condition it was in pre-construction.

ASBJV will maintain the traffic infrastructure within the road network to facilitate the safe and efficient movement of traffic along these routes. Temporary alignments installed by ASBJV through the TMP process will be monitored and maintained, as well as existing infrastructure inspected at least twice weekly. The permitted times generally allow enough time to schedule the work to be efficiently carried out, except for those instances where the issue may pose a hazard to the public or cause congestion, these types of incidents have some higher priority response times.

5.4 Road occupancy

ABSJV shall obtain the necessary approvals and concurrence of the relevant road authority, prior to conducting any works on the road or the road reserve.

The three specific areas of approval will include:

- All development works within the road reserve and/or any changes to existing infrastructure.
- The installation and/or changes of any regulatory traffic control device.
- Occupation of the road to conduct works, and the associated installation of temporary traffic control devices.

5.4.1 TfNSW Road Occupancy Licensing (ROL)

A Road Occupancy Licence (ROL) authorises the occupation of a portion of the road that would normally be available to traffic. Except in the case of an unplanned incident, or when directed by the Police or other Emergency Services, a Road Occupancy Licence must be obtained for any work which:

- Slows, stops or otherwise delays or affects the normal flow of traffic.
- Diverts traffic from its normal course along the road, including lane closures and detours.
- Occupies any portion of the road related area, including the footpath that is normally available for vehicular, pedestrian or bicycle movement.

Applicants are required to prepare submissions for Road Occupancy Licences and complete the Online application form. Applications for Road Occupancy Licences should be submitted to the TMC at least 10 working days prior to the proposed occupancy. TfNSW and/or Council will grant or reject the application within this period.

Road Occupancies must comply with the TCPs for the specific areas.

The traffic control arrangements must provide sufficient capacity to accommodate the expected traffic volumes during the period of occupancy (noting that some exclusions may apply during special events and during holiday periods as communicated by the TMC). The overall coordination of ROLs is managed by TMC.

ASBJV will obtain an approved ROL prior to the commencement of any works on or near a State road except in the case of an emergency, or when directed by Police or Emergency services. ROL applications will be submitted in accordance with the Road Occupancy Licensing Guidelines.

The ROL application will be forwarded to ‘TMC Planned Incident Unit’ with an allowance of 10 working days to process the application. All ROLs will comply with the overarching road safety and traffic management principles, objectives and targets outlined in the TTAMP.

Where works impact the M4 East and New M5 tunnels, concurrence from WestConnex Transurban for the works will also be required prior to conducting lane and tunnel closures.

5.4.2 Council lane closure permits

ASBJV will obtain concurrence of any relevant Councils as required prior to the installation of temporary traffic controls/devices and/or occupying the local road network. The ASBJV submission to Council will include:

- Brief details of the works to be undertaken
- Any relevant design drawings of the works
- Program of the works
- Copies of TCPs
- If applicable, details of Speed Zone Authorisation (SZA)
- Contact details of a construction Site Representative
- Traffic modelling, if required.

Special consultation will be undertaken with local councils (as required) and local residents regarding instances of special deliveries such as:

- Major bridge segments
- Oversize cranes or plant
- OMCS delivery of structures such as fixed VMS pillars, camera poles and boards at various locations

While Council may be the road authority to approve and issue road occupancy permits on council roads, all works relating to the project must include ROL approvals from TMC.

5.5 Speed Management

Temporary roadwork speed limits are one of many traffic controls that ASBJV will implement to manage the speed of traffic approaching and passing through a work site. ASBJV is conscious of the potential for speed reductions over long distances, to have negative impacts on road user travel times.

ASBJV will implement Roadwork Speed Zones logically, credibly and capable of being enforced by the NSW Police Force.

When considering the use of a roadwork speed zones, ASBJV will:

- Ensure they are clearly delineated and capable of being enforced;
- Position speed signs away from other traffic control signs and devices;
- Ensure they are used only while road works are in progress or the lower speed road conditions exist.

5.5.1 Speed Zone Authorisation (SZA)

An application to TfNSW / TMC will be made for any proposed adjustment to speed limits whether they are temporary (tactical), such as those required for short-term road occupancies, or longer term such as those for the duration of a construction stage or permanent.

A Speed Zone Authorisation (SZA) application usually accompanies a ROL application where a change in speed limit is proposed as part of road occupancy. The SZA application, available online from the TfNSW website, will be forwarded to the ‘TMC Planned Incident Unit’ a minimum of 10 working days before it is required for all short-term ROL associated SZAs.

SZAs required to reduce the speed of a section of road for greater than one shift, will be forwarded to the Speed Management Unit of TfNSW for consideration. This application will be corroborated by scale drawings of the position and size of speed signage proposed.

ASBJV will undertake to provide specific timings for the decrease and subsequent increase of speed zones along the Projects road network.

5.5.2 Construction Speed Zone

As per the Traffic Control at Worksites Manual, in order to maintain the current speed limits through some of the work zones, the use of safety barriers will be required to protect work and workers.

When night works are required, special consideration will be taken to determine changes in the speed limit depending on the location and type of works.

As per TCWS Manual, when working adjacent to traffic in side streets the speed limit selection will be based on the following criteria:

- Degree of vehicular and pedestrian conflicts
- Type and extent of the work
- Characteristics of the road and proximity of workers to passing traffic.

The following strategies may be implemented to enforce speed limits:

- Utilisation of existing speed cameras, if available.
- Use of Speed Advisory Boards or 'speed check' speed advisory signs which records and flashes the speed a driver is travelling at, then switches to 'Slow Down' if the driver has exceeded the speed limit.
- If required, involve police presence to enforce speed as per TDT 2009/07 (Technical Direction – Police Speed Enforcement or Presence on TfNSW Work Sites). The Traffic Manager should contact the Police Traffic Coordinator at an early stage of the Project. Enforcement might include marked police vehicles patrolling the construction site and/or the inclusion of a stationary marked police vehicle with an operating flashing blue light positioned within the construction area or, provision of police enforcement facilities.
- Use of portable Variable Message Signs to enhance advanced warning sign posting and provide changed traffic condition information to road users.

5.6 Signposting and delineation

During the Project Works, there will be impacts on the existing road network information and distance information signage.

Signage associated with property access, local community access and businesses will be considered during the detailed design and implementation of temporary traffic management schemes and any impacts addressed to ensure the appropriate information for road users is effectively communicated at all times.

Information signage and advance warning signage will be designed for all changes to the road network and traffic conditions in accordance with relevant TfNSW Supplement Manual of Uniform Traffic Control Devices (AS 1742.3) and 1743 Road Sign Specifications.

5.6.1 Advice signage – community information

The early implementation of directional signposting and driver information signposting, to provide advance warning of changes to traffic conditions, is a key element in ASBJV's strategy to minimise disruption to traffic.

To complement the Community Communication Strategy, ASBJV will:

- Post temporary large static driver advisory signs prior to the implementation date for changes to the road network or traffic systems.

- Provide temporary large static directional signage to guide motorists seeking businesses or other properties which may be affected by construction works on an ad hoc basis before the implementation date for changes to the road network or traffic systems.
- Provide notices and signposting at bus stops detailing route and / or timetable changes before the implementation of those changes. Wayfinding signage will be installed to direct commuters to the relocated bus stops, in accordance with CoA E43.
- Provide notices and signposting at pedestrian and cycle crossings detailing restriction or removal of crossings before the implementation of those changes.
- Provide VMS advertising changes to alignments, intersections before the implementation of those changes.
- Provide VMS on approach to road occupancies to notify of the road occupancy during the works at the discretion of the TMC and TfNSW;
    - Where required by the ROL, the VMS to be installed one week prior to the road occupancy to provide advance notification.

Advanced notice signage to be provided for 10 days prior to the change.

5.6.2 TMP signage

The following management process will be used when designing signage requirements for the works:

- Identify any impacts on existing signs.
- Obtain TfNSW approval for the general advance warning signage strategy for work sites and implement at the commencement of construction.
- Ensure consistency of new signs/temporary signs and existing signs on the road network.
- Utilise VMS messages along the project area for a 10-day period leading up to the commencement of construction then remove and identify and rectify any inconsistencies/defects through regular inspections.

Signage plans for the works will be developed and included as attachments in the site specific TMPs.

ASBJV's Traffic Manager will be responsible for overall management of traffic operations and monitoring functions, and safe and efficient day to day management and control of traffic and traffic movements on the road network, including reinstatement of existing signage where required. The design, manufacture and installation will be in accordance with TfNSW QA Specifications G10 and R143 "sign-posting and Australian Standards".

5.6.3 Pavement marking

ASBJV will engage a line-marking subcontractor(s) to meet the following pre-qualification minimum professional requirements:

- TfNSW Category G approved
- ISO AS/NZS 4801:2001 Compliant
- Member of the Paint Contractors Certification Program (PCCP)
- Safe Work Method Statements (SWMS)
- Current approved Enterprise Bargaining Agreement
- Quality; Environmental and WH&S Systems in place
- Currently Insured:
    - Workers Compensation

- Public & Products Liability
- Fleet
- Professional Indemnity.

ASBJV will apply pavement marking in compliance with the TfNSW QA Specifications G10 and R142. Redundant lines will be permanently removed to negate ambiguous alignments in wet conditions or direct sunlight.

5.7 Pedestrians and cyclists

5.7.1 Pedestrians

ASBJV will endeavour to maintain pedestrian connectivity around each of the precinct sites, however some detours may be required to improve safety or amenity of pedestrians, or accessibility of trucks entering and exiting compounds. Any changes to pedestrian connectivity will be communicated to council and project representatives at least one week prior to implementation.

ASBJV will manage the pedestrian desire lines with temporary footpaths that comply with the requirements of Austroads Guide to Road Design Part 6A: Pedestrians and Cycle Paths and AS 1742.3. Prior to work commencing on State and local roads, where the pedestrian access may be affected, ASBJV will provide alternate pedestrian access routes that are clearly signed and delineated in accordance with all safety requirements.

Alternate routes will aim to minimise inconvenience to pedestrians with the primary goal of maintaining clear space between pedestrians and active work areas. This will be addressed in site specific TMPs prior to the construction activities commencing.

As part of this TTAMP, ASBJV will implement the following measures when providing alternate pedestrian routes to minimise impacts on mobility impaired pedestrians:

- Clearly define temporary footpath arrangements by using appropriate signage.
- Maintain sufficient space for wheelchair access.
- Maintain a smooth, even surface on all temporary footpaths and crossings.
- Conduct regular inspections to maintain footpaths free of trip hazards.
- When changing footpath access, minimise grades for wheelchair use.

In accordance with CoA E57 safe pedestrian access will be maintained around work sites during construction. In circumstances where pedestrian access is restricted or removed due to construction activities, an alternate route which complies with the relevant standards must be provided and signposted prior to the restriction or removal of the relevant pedestrian access.

Engineered controls are proposed to manage any high-risk interface between pedestrians and tunnel spoil trucks, this will be achieved through a combination of temporary barriers or barricading to manipulate desire lines as well as the installation of electronic gates and warning signage and lights to ensure pedestrians are contained prior to trucks crossing their paths. These controls will be further outlined in their respective Traffic Management Plans.

Pedestrian diversions have been identified to be required at the following sites, for the associated works listed in Table 10 below.

Table 10: Identified Pedestrian Impacts

Footpath Location	Proposed Closure Requirement	Description of Pedestrian Management	Duration of Closure	Mitigation Measures
Northcote				
Parramatta Road Wattle Street	Temporary footpath closures to allow vehicles to access site	Pedestrian gates / Line marking	Only to facilitate the access of vehicles	Monitor impacts during shift. Traffic control on site
Pyrmont Bridge Road site				
Parramatta Road	Utilities works, road crossings and connections. Hoarding construction and demolition works	Footpath closure & diversion (may see pedestrians placed within lane closure on the road overnight)	Sunday to Thursday Multiple shifts required	Monitor impacts during shift. Traffic control on site
Pyrmont Bridge Road	Utilities works and connections, Bignell Lane reconstruction and demolition works.	Footpath closure & diversion via opposite side of the road – signalised crossings at each end of the block.	Multiple shifts required during demo and Bignell Lane realignment	Monitor impacts during shift. Traffic control on site
Mallett Street	Remove pedestrians from traversing the entrance to site on Mallett Street	Long-term closure of footpath from Parramatta Road to Bignell Lane (diversion via other side of Mallett Street – signalised crossings at each end)	For duration of construction – late 2018 to late 2022	Monitor impacts, controls and compliance – monitor from TCR.
Parramatta Road East and West				
Parramatta Road	Utilities, footpath and driveway construction activities	Footpath closure & diversion (temp. diversion inside site where required).	Multiple shifts required.	Monitor impacts during shift. Traffic control on site.

Additionally, a traffic controller must be present at an entry or exit point on the Parramatta Road East and West construction ancillary facilities between the hours of 7:30 am to 9:30 am and 2:30 pm to 4:30 pm during school terms. The entry and exit points at the Parramatta Road East and West sites will be managed by a traffic controller during school term dates between the hours of 7:30 am - 9:30 am and 2:30 pm - 4:30 pm Monday to Friday whenever:

(a) a heavy vehicle is to enter or exit the site via that point; and

(b) light vehicles are entering and exiting the site at that point during staff shift change over periods.

5.7.2 Cyclists

ASBJV will endeavour to maintain cyclist connectivity and functionality provided within and directly adjacent to the project area by preserving existing facilities or providing alternative facilities as part of a detour. ASBJV will manage the cyclist desire lines with temporary routes that comply with the requirements of AS 1742 Part 9 – Bicycle Facilities, Austroads Guide to Traffic Management Part 10 and AS 1743 – Road Signs Specifications.

In accordance with CoA E57 safe cyclist access will be maintained around work sites during construction. In circumstances where cyclist access is restricted or removed due to construction activities, an alternate route which complies with the relevant standards must be provided and signposted prior to the restriction or removal of the relevant cyclist access.

Where alternate routes are implemented, they will be appropriately signed and marked, where alternate routes are impractical, directional signage will be erected to advise cyclists that the cycle access is temporarily unavailable. Any changes will be communicated to council and project representatives at least one week prior to implementation.

Cyclists on local/urban roads would typically utilise shoulders or dedicated paths where they exist. There are no identified dedicated cycle facilities on the roads or footpaths currently proposed to be impacted by the precinct traffic management controls or site access arrangements. Cyclist movements at site access points will be managed to maximise cyclist safety.

5.8 Public transport

5.8.1 Public transportation

ASBJV will strive to minimise disruption to the current level of bus services. Local bus service companies will continue to be consulted during the construction period to minimise disruption to services via the TTLG process.

Access to Light Rail stops will not be impacted by ASBJV at any time during construction.

Coaches carrying passengers between Sydney and other destinations utilise the M4 and M5 Motorways, Princes Highway and Parramatta Road. Tourist coach tours and other chartered buses and coaches also utilise these routes on a regular basis, or to a schedule for popular destinations.

The Princes Highway and Parramatta Road are also used by Sydney Trains buses during periods of track works on the adjacent railway lines. Buses frequently move on and off the Princes Highway at various points to access suburban train stations en-route from the CBD to the suburbs and return.

Such track works often occur infrequently at night and on weekends, although they may run over a period of a few weeks if required.

5.8.2 Bus operations

ASBJV may need to temporarily relocate bus stops during construction to facilitate the safe operation of the Works. ASBJV will ensure:

- In accordance with CoA E43, new temporary bus stops have similar capacity and are relocated within 400 m walking distance of the existing bus stop (where feasible and reasonable).
- Have comparable capacity, and are on the same route and in the same direction of the closed bus stop.
- In accordance with CoA E44 all bus stops temporarily closed or relocated will be reinstated in a manner that provides equal or improved capacity and accessibility to the original.

- Where a bus stop is being relocated, the original bus stop must not be closed until the relocated bus stop is functioning.

Consultation with TfNSW has been undertaken for all proposed bus stops identified as requiring relocation during construction of the Project. Ongoing consultation on bus stop relocations with TfNSW will be facilitated through regular Traffic Coordination Group (TCG) meetings (refer to Section 6.2.2 for further detail on the TCG). Additionally, all TMPs require SCO approval which will ensure further consultation prior to the removal of bus stops.

All bus stops temporarily removed or relocated during construction of the Critical State Significant Infrastructure (CSSI) must be reinstated in a manner that provides equal or improved capacity and accessibility in consultation with Transport for NSW and relevant councils prior to the commencement of operation of the CSSI.

Bus stops identified to be relocated during works are listed below, including the proposed new location and distance:

- Parramatta Road Northbound at Bland Street:
    - Stop proposed to be relocated north-west approximately 150m to just past Alt Street to improve driveway sight distances, and improve on the safety and operation of the driveway accesses. Refer to Figure 13: Proposed Bus Stop Relocation – PRE&W below:

Figure 13: Proposed Bus Stop Relocation – PRE&W

- Parramatta Road Eastbound at Mallett Street:
    - Stop proposed to be relocated east approximately 60m, to the other side of Mallett Street to allow establishment of site, installation of hoarding and to ensure patron access to and from buses is maintained at current levels. Refer to Figure 14: Proposed Bus Stop Relocation - PBR below:

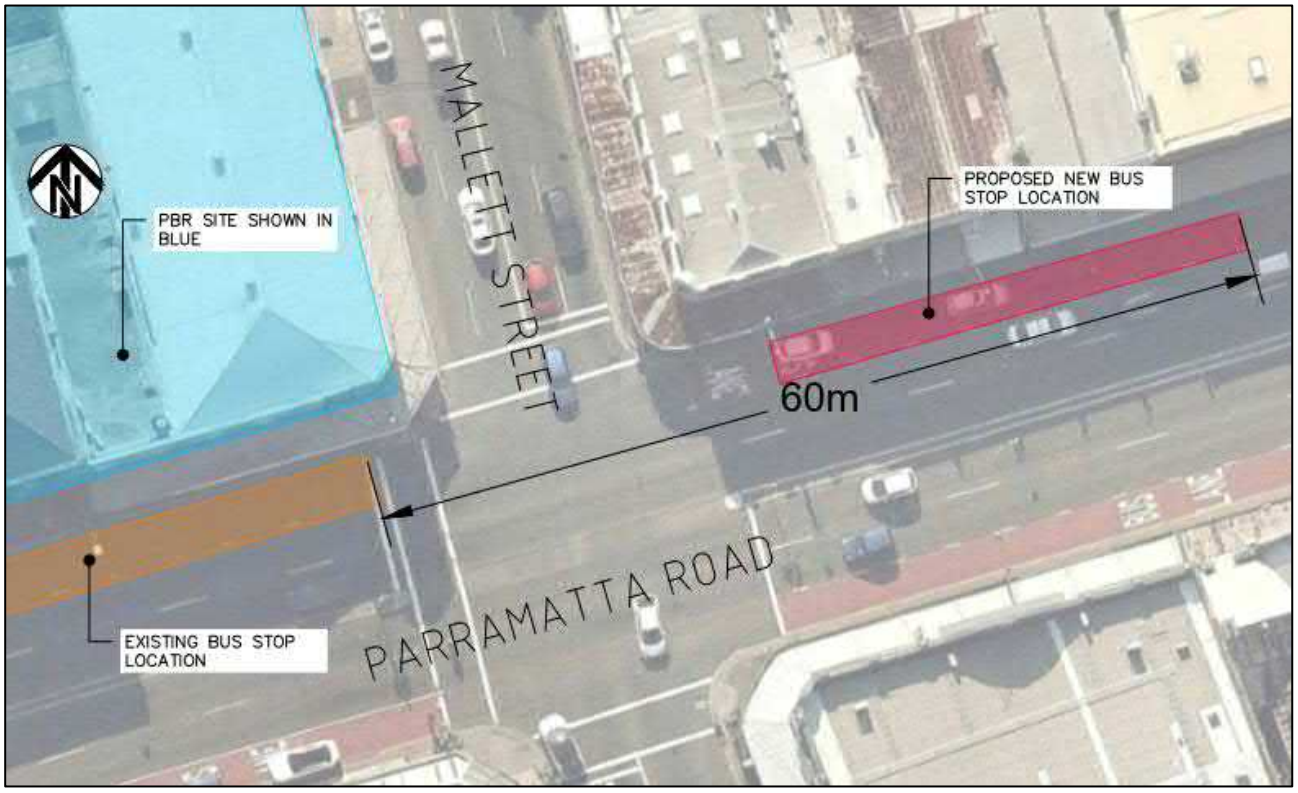

Figure 14: Proposed Bus Stop Relocation - PBR

ASBJV have identified several strategic bus corridors running adjacent to the Princes Highway, Parramatta Road, City West Link and the M5 Motorway. Construction activities on local roads and construction haulage routes will be mindful of the bus routes as shown in Figure 15, Figure 16 and Figure 17 below:

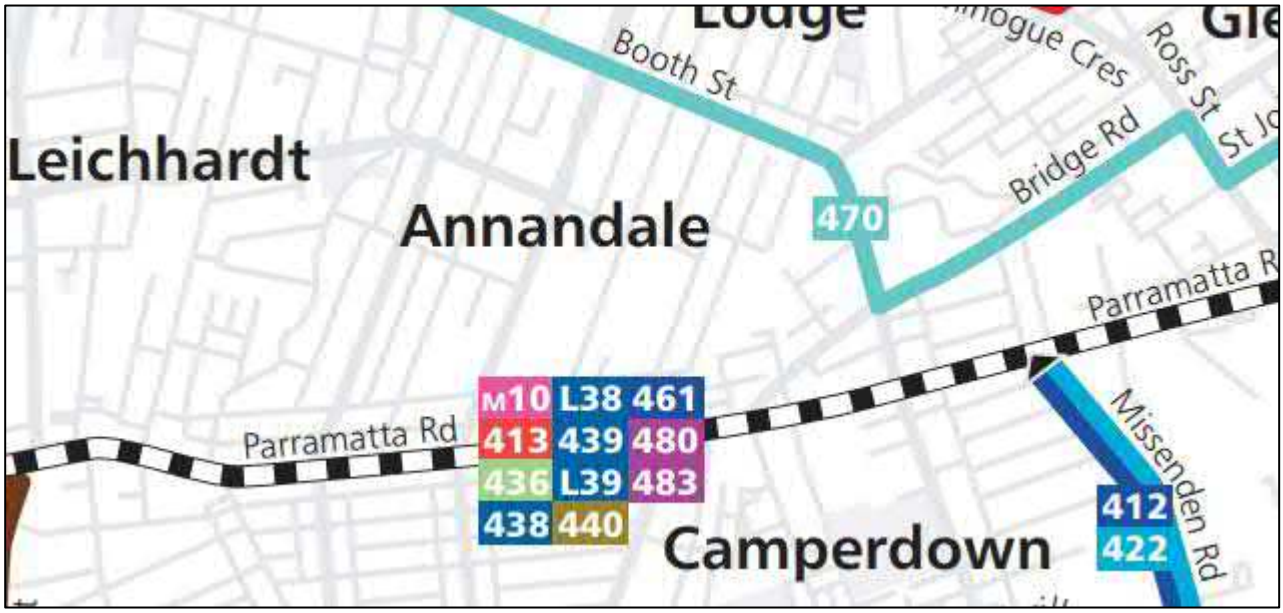

Figure 15: Bus Routes - Parramatta Road at PBR

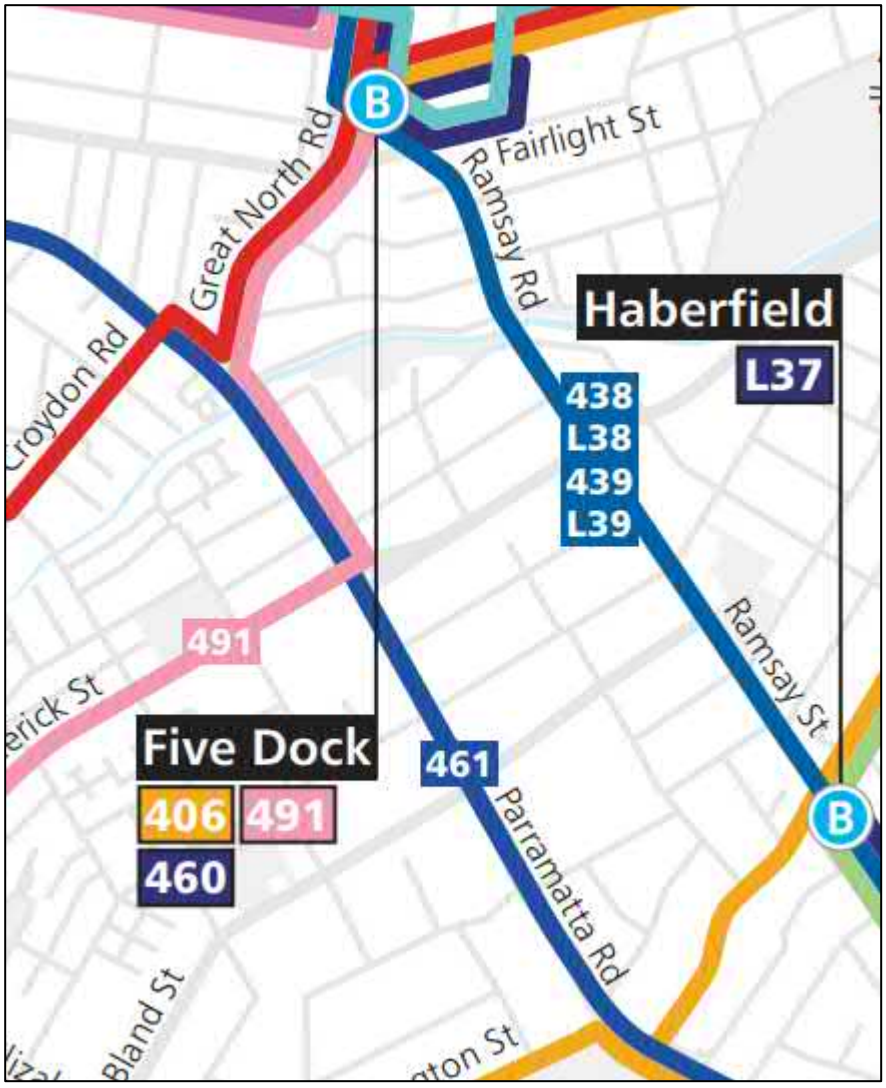

Figure 16: Bus Routes – PRE&W and Northcote Street

Figure 17: Bus Routes - Campbell Road

These details and potential impacts will be considered in individual TMPs as required for specific locations and works. Overall, the proposed changes are not expected to impact on existing public transport routes or timetabling.

5.9 Special events

ASBJV will implement traffic management controls which will primarily have limited impact on the traffic lanes, and thoroughfare of public traffic. The primary impact on the public will be the increase in traffic concentration during tunnel spoil movements, or shift changes at primary parking sites across the project.

Special events and peak holiday periods may impact ROL times.

5.9.1 Local Festivals

Local festivals where increased traffic volumes are expected, where works are planned will be moved to the next available shift for non-critical activities. The TMC will provide exclusion periods for where traffic controls are not permitted, and on which roads. These exclusions will be adhered to.

5.9.2 Day light savings changes

Works where impacts on traffic are planned will be in accordance with times outlined within Road Occupancy Licences (ROLs), and will be adjusted to suit times throughout the year, taking into consideration day light savings. Tunnelling work shifts will maintain a consistent start time throughout day light savings periods, unless changes are perceived to be beneficial to the project delivery.

5.9.3 Seasonal variations in traffic volumes

Seasonal variations in traffic volumes are not expected to have significant impact on the planned activities. ROL times will be adhered to, and are not expected to fluctuate throughout the project.

If there are critical works that may benefit from low traffic periods these will be pursued in consultation with the TMC, TfNSW Sydney Coordination Office (SCO) and project representatives to ensure a best for project solution is achieved. Generally, there are not expected to be significant works planned for low traffic volumes or holiday periods due to the limited surface impact works included in the project scope.

5.9.4 Holiday periods for NSW

Special events where otherwise traffic management controls may be deployed, will be avoided to ensure holiday traffic can navigate the network without unnecessary delay. These periods will be as per the TMC communicated exclusion periods.

5.10 Incident management and response

The project will establish, and operate a Traffic Control Room, which will operate in conjunction with a number of temporary cameras installed at each of the tunnel compounds. It will also have access to additional cameras provided by the TMC that would be beneficial for the detection of incidents in the area. The TCR will also have access to portable VMS, which will be utilised to best manage traffic movements through and around site in the event of an incident, in consultation with the TMC.

The Traffic Control Room (once operational) will have the capacity to monitor project related construction traffic movements around the compounds to ensure incidents and obstructions are identified, and attended to within 10 minutes during normal working hours, and 20 minutes outside of normal work hours. Minor incidents should be cleared within 40 minutes. The traffic associated with the Project operations will be monitored 24 hours a day, 7 days a week while affecting the road network and traffic systems.

Prior to commencement of operation of the TCR, an Incident Management Plan (IMP) will be developed to provide the TCR operator a pre-determined sequence of actions in the response to the most likely of incidents to occur. The occurrence of unplanned incidents within the project corridor can have significant impacts on road user delay. Similarly, incidents that occur outside the project corridor on the surrounding road network can temporarily restrict construction activities. In some instances, incidents may have environmental impacts (ie Fuel spill leaving the road); in these instances the IMP will refer to the process outlined in the Pollution Incident Response Management Plan (PIRMP) to ensure appropriate process is followed for environmental impacts of these spills.

The types of unplanned incidents that may occur include:

- Motor vehicle crashes
- Fires
- Environmental spills
- Construction type incidents
- Structural catastrophic failures
- Inclement weather conditions
- Flooding
- Anti-social behaviour
- Terrorist attacks/bomb threats.

The IMP will generate a list of Incident Response Procedures designed to:

- Mitigate the effect of incidents
- Clear the incident
- Return the road network and traffic systems to normal operating conditions

- Review the effectiveness of the response and provide feedback aimed at improvements where applicable.

ASBJV will complete an Incident Report for all incidents attended**.**

In order to minimise the impact of such events on road user delay, LSBJV will:

- Clearly identify the relative responsibilities and roles of government agencies and the project team when responding to incidents;
- Establish and maintain communication protocols for both internal and external communications with Public Liaison Manager involvement;
- Provide close support to emergency services, where appropriate;
- Reschedule planned works that will interfere with the incident, or create additional delays to those road users already affected by the incident;
- Develop Incident Management Plans and Crisis Management Plans as part of the Project Safety Plan, which will incorporate standard operating procedures for managing construction site emergencies/unplanned incidents;
- The Incident Management Plan and Crisis Management Plan will be developed in consultation with the Traffic Management Centre to ensure that uniform procedures currently operating successfully across the larger Sydney network are adopted on the Project.

As part of the Community Communications Strategy, all enquiries, suggestions, comments, etc. should be directed to the Project 1800 hotline number. Staff will ensure all information is forwarded to the respective people.

The following initiatives will be put in place to supplement this, in order to ensure timely response to incidents occurring within the work zone:

- Commercial agreements will be established with several local Tow truck companies to provide adequate coverage during the day and after-hours assistance.
- There will be an Incident Response Crew (IRC) during work hours (7am to 5pm), with after-hours support either on site or located nearby.

The incident response crews will be equipped with materials and equipment (including hand tools, shovels, saw dust, sand, brooms and some traffic management equipment) to assist in the first instance, with supplementary tow trucks and additional materials to be dispatched on request to assist in rectification of the incident and to restore safe road conditions.

5.11 Traffic management documents

5.11.1 Traffic Management Plans (TMPs)

Site specific Traffic Management Plans (TMP) conforming to AS 1742.3 and the TfNSW *Traffic Control at Worksites* manual will be developed for the works. These plans will contain additional written details describing the nature of the works.

The TMP will be prepared by a qualified member of the LSBJV Traffic Team and be signed off by the Traffic Manager before forwarding to the TCG for consideration and approval. Where the work impacts on council areas, the relevant council will be consulted prior to implementation. Key stakeholders will also be provided a copy of the approved TMP for their information and overview.

The TMP will include a set of long-term TCP drawings in Appendix A of the TCP. These drawings will be to scale and provide exact geographical references for:

- Work Zone
- Line marking changes

- New signage
- Safety barrier placement
- Site gates
- Portable VMS positions.

The TMP written document itself will include a detailed site-specific explanation which addresses the key traffic management issues listed below:

- Scope of works (brief explanation)
- Location of the TMP
- Proposed timing and duration
- Traffic Control Measures (Long Term TCP explained)
- Impact of TMP on Network Performance
- Impact of TMP on Pedestrians / Cyclists
- Impact of TMP on Public Transport
- Community / Advertising / Consultation
- Property Access
- Parking
- Events
- Emergency Services
- Risk Assessment Plan (RMP)
- Contacts – Responsible persons (on site)
- Confirmation of implementation / removal
- General Notes
- TMP Approval – Sign off by relevant authorities
- Long-term TCP drawings.

5.11.2 Traffic Control Plans (TCPs)

A TCP is defined in the TCWS Manual, as a diagram showing signs and devices arranged to warn traffic and guide it around, past or, if necessary through a work site or temporary hazard.

All Traffic Control Plans to be used by ASBJV during the construction activity will be developed in accordance with *Australian Standard 1742.3* and the TfNSW "*Guide to Traffic Control at Worksites*" by a suitably qualified person.

A TCP can only be prepared by a person who has undertaken and passed the TCWS training course and holds a current certification (Orange card). Relevant reference documents are:

- Australian Standard AS 1742.3: 2009 – Manual of uniform traffic control devices Part 3 Traffic control for works on roads
- TfNSW *Traffic Control at Work Sites* (TCAWS), Version 5, 2018
- Austroads *Guide to Traffic Management* Part 3 – Traffic Studies and Analysis, 2009.

All worksites and traffic control plans will be implemented by suitably qualified personnel as per the authorised TCP for the particular stage of the works. All TCPs will be implemented in accordance

with the TfNSW guide to Traffic Control at Worksites with particular attention paid to the spacing of traffic control devices.

Short-term TCPs

Short-term TCPs are diagrams that illustrate the signs and devices that will be installed to warn traffic, pedestrians and cyclist around or past, or if necessary through the work site. These plans will address the specific control measures required to safely work on the road during a single shift implementation period.

These plans will be used to corroborate applications for Road Occupancy Licenses and Speed Zone Authorisations as applicable.

5.11.3 Preparation & implementation of TMPs & TCPs

ASBJV has developed a robust and comprehensive process for the design, preparation, implementing, inspecting and auditing of temporary traffic control measures. The process includes a number of checks/audits to ensure that the TMPs are both designed and implemented correctly, and meet all project requirements.

The requirement for temporary traffic control will be identified by the Traffic Team in consultation with the requesting construction unit. Requests for TMPs or short-term TCPs which may impact on the community will be forwarded to the communications team – 'For Information'.

The Traffic Management Team will then work closely with the relevant construction area engineers, designers, community consultation personnel and external specialist traffic management consultants (if required) to develop the TMP.

TMPs will be then designed approved and implemented. All TMPs will be prepared under the supervision of a suitably qualified and experienced person. Generally, TMPs will be designed in-house and Traffic Staging Drawings will be used as a baseline for long term TCPs. TMPs for local roads will be developed to suit construction and stakeholder requirements. All TCPs and TMP layout drawings will be prepared and certified by the appropriate personnel.

Particular TMP proposals may require traffic engineering analysis e.g. intersection alterations. When required, the traffic analysis and modelling to confirm that both the proposed and finalised traffic control measures are viable will be conducted.

Regular monitoring and audits of the implemented TMPs will be undertaken at the direction of the Traffic Manager pursuant to the audit protocols of this document.

The finalised TMP will be reviewed and signed by the Traffic Manager before being submitted to the relevant approvals authorities (TCG). Once these signature(s) have been received and the TMP checked, the Traffic Manager will sign the TMP Verification Form to release the Hold Point. Implementation of the TMP can then proceed.

5.11.4 TMP development timeline

The Traffic Team will prepare and submit TMPs meeting the requirements stipulated in the TfNSW QA Specification G10. A graphical representation of the TMP timeline is presented below in Figure 18

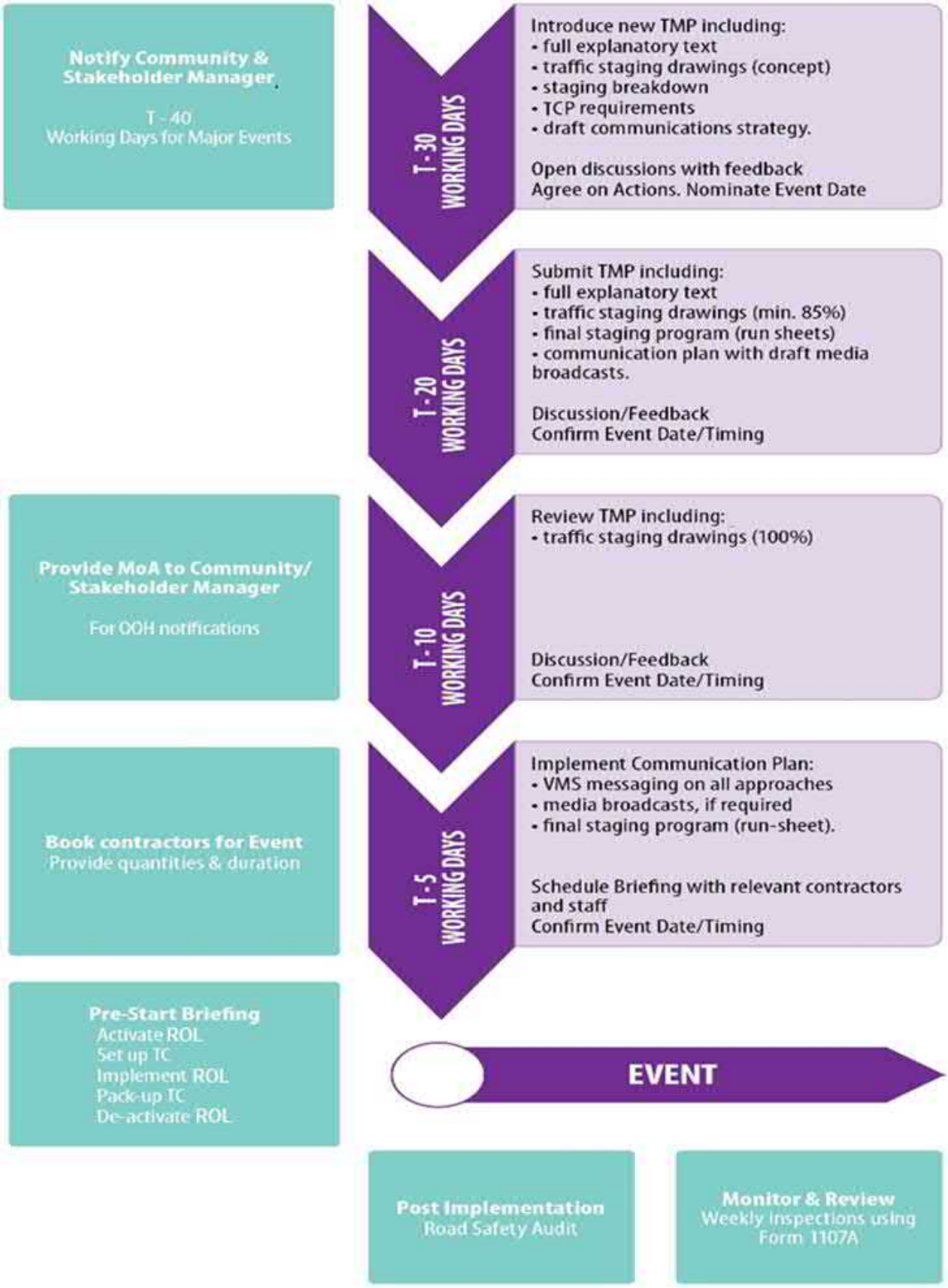

Figure 18: TMP development timeline

30 Working Days from Event:

The Traffic Manager will nominate the preferred 'Event Date' and submit a preliminary TMP to TfNSW with a full written component and conceptual representation of the temporary design drawings.

These drawings may be conceptual in nature but must clearly explain the proposed alignment changes and positions of control treatments including, signage, pavement marking and barrier safety treatments in sufficient detail to generate an accurate communications strategy.

This Temporary Traffic Management (TTM) staging design does not need to be independently road safety audited at this stage. In addition, any TCPs designed to facilitate major road occupations like detours and side tracks should be proposed at this time.

20 working days from Event:

The Traffic Manager will submit the revised TMP to WestConnex Transurban and TfNSW with a full written component and draft Traffic Staging Drawings at approximately 85 per cent TTM design completion.

A run-sheet nominating the program of activities on the 'Event' shift will be presented in draft format. Similarly, the Community Communications Strategy including VMS placement and messaging will be submitted and discussed.

The key design elements of the 85 per cent design should provide the Public Liaison Manager with sufficient information to finalise media broadcasts. The TCPs will be complete and ready for ROL applications. The 'Event Date' should be confirmed.

Ten working days from Event:

TfNSW will have provided sufficient feedback to the Traffic Staging Drawings and the TMP document to enable the completion of these designs to 100 per cent.

They will then be resubmitted inclusive of any recommended changes with design verification and road safety audits, if applicable. In addition, all minor TCPs enabling single/dual lane closures will be included in the TMP as well as applied for through the TfNSW – OPLINC system.

The Traffic Manager will also provide a copy of the approved ROL enabling the installation of TCPs required to implement the TMP, to the Public Liaison Manager for 'out-of-hours' notifications. It is expected that these meetings will be part of a routine process including Public Liaison personnel from ASBJV and TfNSW.

Five working days from Event:

The Community Consultation Strategy should commence, including the VMS messaging on all approaches and media broadcasts.

The final run-sheet should be confirmed with all relevant staff, subcontractors and client representatives briefed on the Event activities and contingency arrangements.

5.11.5 Vehicle Movement Plans (VMPs)

Site specific VMPs will be developed by the Traffic Management Team for every active site compound and site gate. Wherever practicable, 'left in, left out' (LILO) movements only will be permitted to and from ASBJV work sites. Where LILO is not practicable, additional controls will be implemented to manage the safe access and egress from the site gate. These controls may include, but are not limited to:

- Traffic signals
- Traffic Controller (Gatekeeper)
- Controlled crossing points
- Advice and directional signage

- Each individual VMP will nominate the following information
- Site gate / Compound I.D. (alpha-numeric)
- UHF channel
- Preferred approach and departure routes
- Any additional ‘Road Rules’ instruction relevant for the particular road
- The necessity for additional Traffic Control for specific vehicle or plant deliveries.

6 Compliance management

6.1 Roles and responsibilities

The ASBJV Project Team's organisational structure and overall roles and responsibilities are outlined in Section 3.3 of the CEMP. Specific responsibilities for the implementation of construction traffic management are detailed below.

6.1.1 Traffic Management Team

ASBJV will establish a Traffic Management Team. The Traffic Manager shall assume overall responsibility for all traffic management issues.

The traffic management organisational chart below demonstrates a generic structure currently operating on metropolitan roads projects. Some of these roles subordinate to the Traffic Manager may be shared or duplicated depending on each projects requirement.

The Traffic Management Team positions and their responsibilities are listed below and shown in Figure 19. All personnel will have documented responsibility statements.

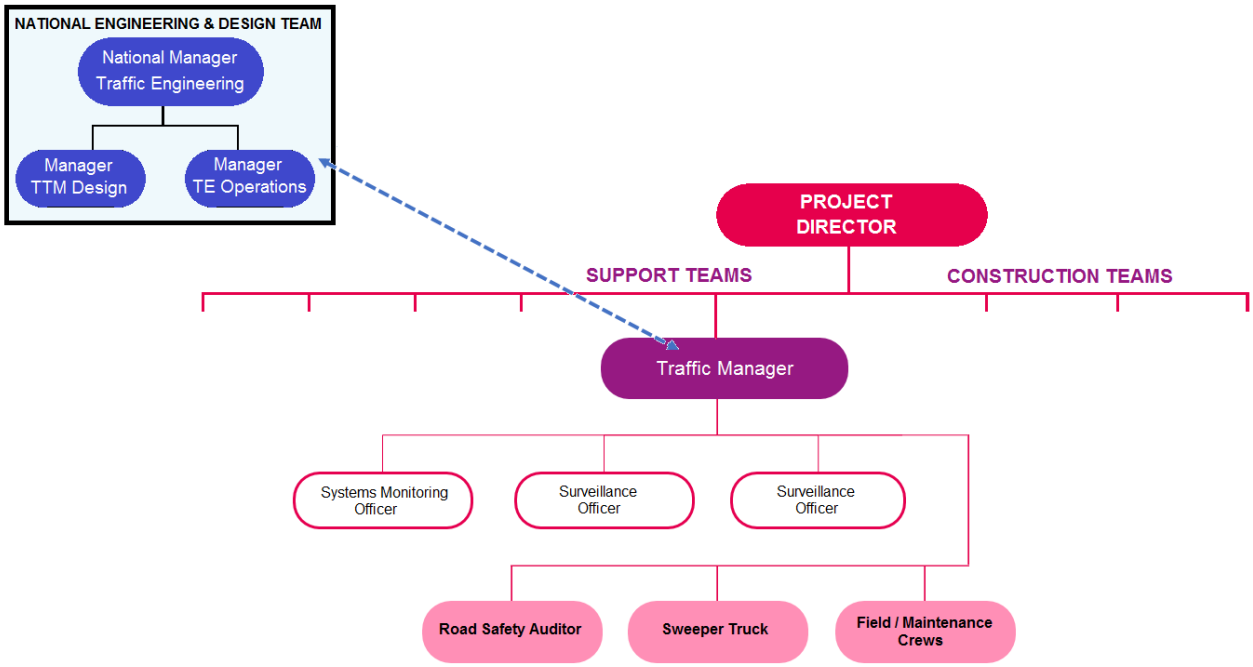

Figure 19: Traffic Management Team organisational chart

6.1.2 Traffic Manager

The Traffic Manager is responsible for the Traffic, Pedestrian and Parking Management of the Project. The Traffic Manager will be qualified, as a minimum, in the TfNSW *Prepare a Work Zone Traffic Management Plan* course, hold tertiary qualifications in traffic or transport related fields acceptable to TfNSW and have recent experience in traffic management on TfNSW road construction sites of equivalent scale and complexity, including detailed exposure to and development of staging on major TfNSW civil construction works. The Traffic Manager must also be highly skilled and experienced in liaison with TMC. In addition, the Traffic Manager will:

- Oversee the projects compliance with the provisions of this document (TTAMP) and ensure the traffic management objectives of the project are achieved.

- Liaise with the Lendlease's National Manager, Road Safety & Traffic for functional support and guidance.
- Comply with LLE 1107 Procedures.
- Communicate with stakeholders regarding traffic matters in conjunction with the Community & Stakeholder Representative.
- Prepare, implement, monitor and review all staging TMPs.
- Present TMP drafts to the Public Liaison Manager and Safety Manager for their approval before submitting to TfNSW.
- Review TMP/TCP following incidents and/or accidents.
- Chair traffic-related meetings (TTLG and TCG).
- Obtain all necessary approvals and ROLs for the TCPs as necessary.
- Be responsible for the implementation of ROLs and must continuously monitor the implementation and operation of all road occupancies to ensure that they are compliant with the ROLs, including:
    - Monitor and quantify the duration of any traffic delays;
    - Monitor, measure and record traffic queue lengths during ROL operation, including the maximum traffic queue lengths in each direction and the total occupancy or traffic stoppage times;
    - Maintain and adjust traffic control measures and devices to assist prevailing traffic flows, minimise lane and shoulder occupancies and any lost traffic flow capacity and minimise traffic delay durations and queuing;
    - Monitor over-dimension heavy vehicle movements.
- Maintain close liaison with construction teams regarding the programming of work activities which impact traffic.

6.1.3 Surveillance Officer(s)

The Surveillance Officer's responsibilities during construction are as follows:

- Report to the project Traffic Manager.
- Monitoring parking management controls around site to ensure ASBJV impacts on residents and local streets are minimised;
    - Checking registrations of vehicles parked on local streets adjacent compounds against worker database.
- Patrol all designated haul roads at least twice weekly, documenting condition and disrepair and passing on condition reports to Traffic Manager after inspection.
- Monitor heavy vehicles transporting material for the project, to ensure compliance with the CoR Management Plan.
- Monitor tunnel sites during shift changes to verify controls for transportation of staff to and from sites is being adhered to and functioning as required.
- Inspect any, and all temporary traffic management signage on site is installed, clean and legible for the duration of works at least weekly, and documenting inspections.
- Responding to any incidents within the project boundary and responsibility which may aggravate traffic congestion or contribute to delays of truck movements to and from site;
    - Where responding to incidents (and are the first responder) surveillance officer to communicate status and requirements to the Traffic Monitoring Officer on duty, to

coordinate towing and cleaning equipment as required, and so they can relay information to the TMC.

6.1.4 Traffic Monitoring Officer(s)

ASBJV will have officers managing security, monitoring and coordination of repairs and maintenance as well as coordination of responses to incidents with the TMC. Security and safety monitoring of sites through the use of site mounted cameras, and connection to appropriate existing TMC camera infrastructure which will be fed back to a monitoring room at O'Riordan St primary site office, but also to a cloud system to allow wider mobile monitoring if required, remotely.

The Traffic Monitoring Officer's responsibilities during construction are as follows:

- Report to the project Traffic Manager.
- Be on site and monitor all cameras for driveway access and egress, and to assist in identifying issues with Pedestrian / vehicle and maintenance issues.
- Monitor the locations of all spoil trucks on the live monitoring system, to ensure they are contained within approved haul road corridors;
    - Where they deviate from approved roads an incident report will be raised and the truck driver will be contacted.
- Monitor site security and cleanliness, coordinating sweeper responses to any spoil left on the public roadway due to construction activities.
- Monitor project and TMC cameras within the project boundary and footprint for incidents
    - Where an incident is detected, coordinate a field response through dispatching Surveillance Officer(s) to assist;
    - Report to the TMC and provide support as required;
    - Dispatch tow trucks or maintenance crews as required, in consultation with TMC or site surveillance officers;
    - Document all incidents in an incident management system and provide reports to the Traffic Manager.

6.1.5 Traffic Field Crews

Personnel will be allocated to provide the following functions during the construction period:

- Project-wide traffic control duties (not related to a specific area or zone).
- Assist the Surveillance Officer(s) to undertake their duties to the satisfaction of the TTAMP.
- Utilise resources provided by the Traffic Manager and Surveillance Officer(s) to undertake routine and periodic maintenance of traffic management and control facilities.
- Undertake the reporting and auditing requirements of Section 6 of the TfNSW Traffic Control at Worksites manual.
- Respond and attend to unplanned incidents across the project, and to support the Surveillance Officer(s) in carrying out their duties.

6.1.6 Independent Road Safety Auditor

In compliance with CoA E56, the Traffic Manager will engage an Independent Road Safety Auditor to audit all traffic management plans and to assess the safety performance of new or modified local road, parking, pedestrian and cycle infrastructure provided as part of the CSSI. The audit team carrying out the audit must comprise, as a minimum, a lead auditor registered at Level 3 certification and a second team member registered at Level 2 certification or higher, both of whom

must be listed on the NSW Centre for Road Safety's Register of Road Safety Auditors. See Section 6.4.1 Road safety audits.

6.1.7 Broader Project Team – Traffic Management Responsibilities

Key construction personnel with responsibility for management of traffic are listed below. All personnel will have documented responsibility statements.

6.1.8 Project Director

The Project Director will support the traffic management team in complying with the traffic management requirements associated with the Project including:

- Ensuring sufficient traffic management resources are made available and allocated to the Project.
- Driving an 'incident and injury free' culture in all areas of construction and traffic management.
- Ensuring quality assurance procedures are maintained in accordance with project requirements.
- Approve the TTAMP and revisions.
- Implement the staging and programme requirements, as per the contract.

6.1.9 Construction Manager

The Construction Manager will support the Traffic Representative in their duties, including:

- Facilitate efficient and timely communication between the construction team and the traffic personnel.
- Work closely with the traffic personnel to ensure site layouts are planned to achieve efficient and safe on-site plant, equipment, traffic and pedestrian movements.
- Ensure construction activities requiring traffic management are identified in good time to permit the necessary planning, approvals, implementation and administration to be undertaken in accordance with the TTAMP.
- Determine required scope and arrange procurement by assignment purchase or hire of all resources including labour plant and materials required to implement TMPs. Identify and procure any non-standard plant or equipment requirements to implement TMPs.
- Resolve construction interface/constructability issues identified during TMP design.
- Comply with LLE 1107 Procedures.

6.1.10 Public Liaison Manager

The Public Liaison Manager will undertake the following functions in relation to traffic management and road safety matters:

- Liaise with the Traffic Manager to obtain traffic management information required for the preparation of community information, responses to community and stakeholder enquiries and for the dissemination of information in the media and at community and stakeholder meetings.
- Be responsible for the preparation, approval and dissemination of community and stakeholder information relating to changed traffic conditions.
- Endorse TMPs before submission to TfNSW.

6.1.11 Quality & Systems Manager

The Quality Manager will liaise with the Traffic Manager to ensure appropriate records are being kept, including:

- Manage Witness and Hold points within the Traffic Manager process.
- Ensure Road Safety Audit reports are recorded in a timely manner.

6.1.12 Safety Manager

The Safety Manager will undertake the following functions in relation to traffic management and road safety matters:

- Report any identified workplace health and safety concerns to the Project Director.
- Liaise with Traffic Manager on traffic management incidents within the Project boundaries.
- Refer all road safety issues to the Traffic Manager.
- Train workers in safety work methods specific to traffic management operations.
- Assist with workplace safety aspects of TCP design and implementation, as necessary.
- Comply with LLE1107 and LLE622 Procedures.
- Review TMPs before submission to TfNSW.

6.1.13 Superintendent

The Superintendent will support the Traffic Representative and field personnel in complying with the traffic management requirements, including:

- Coordinate field resources and ensure that traffic management requirements are adhered to at all times.
- Ensure the procedures and site rules associated with traffic management are monitored and controlled.
- Ensure all personnel undertaking work activities associated with traffic management are appropriately qualified and competent to perform their duties.

6.2 Communication

Project communication protocols are detailed in the project Community Communication Strategy. The workforce, key stakeholders and subcontractors associated with the works are familiarised with the TTAMP at the project induction or during work briefing sessions including toolbox meetings, pre-start meetings and work planning sessions.

6.2.1 Role of the Public Liaison Team

Specific community notifications will be required for individual TMPs where a potential impact on any stakeholder is identified. This will be identified during the TCP development phase by the TTLG, Traffic Coordination Group (TCG) and Public Liaison Team.

Individual TMP requests that may involve community impacts are forwarded to the Public Liaison Team who determine the nature and extent of community notifications required for the TMP.

The Public Liaison Team reviews the finalised TMP to ensure that the proposed rearrangements are consistent with community notifications.

6.2.2 Notifications to client & road authorities

Traffic Coordination Group

The Traffic Manager will form a Traffic Coordination Group (TCG) consisting of representatives of the relevant approval authorities. The TCG will include representative(s) from:

- WestConnex Transurban
- TfNSW, Project Manager(s) and Surveillance officer(s)
- TMC
- TfNSW Sydney Coordination Office
- Local Councils, where applicable.

The TCG will meet at a frequency agreed between representatives attending (generally monthly but more frequently as required) to discuss the Traffic Management impacts on the road network. These meetings will discuss staging and control strategies proposed by ASBJV for future TMP implementation at a detailed level, beyond the interest of most external stakeholder groups. A TCG meeting should preface every TMP submission. This is not the Traffic and Transport Liaison Group (TTLG).

The TCG should also act as a ready reference for un-planned events which impact the project's occupation of the road network.

6.2.3 Notification to emergency services

Emergency services need to have up to date information about changed traffic conditions and potential delays they may experience when travelling around the construction work areas. LSBJV will ensure all emergency services are regularly consulted about proposed changed traffic conditions via inclusion in the Traffic and Transport Liaison Group (TTLG) – see below.

Emergency Services will be notified via email at least five days before the implementation of a Traffic Management Plan. The TMP forecast will also be a discussion topic at bi-monthly TTLG meetings. The minutes of these meetings will be forwarded to all the key Emergency Services contacts listed below.

Consultation with the following organisations will commence imminently:

- TfNSW Road Safety and Traffic Services Manager
- New South Wales Police Force
- Ambulance Service of New South Wales, District Manager
- State Emergency Service
- NSW Fire Brigade
- Local Councils.

Emergency Services workshops may take place to discuss traffic arrangements for emergency services and safety issues during construction. An emergency service contact list is provided below, in Table 11: Emergency Service Contacts (to be updated once provided):

Table 11: Emergency Service Contacts (to be updated once provided)

Agency	Key contact	Contact
NSW Police	Stephen Blair	0428 428 314
NSW Fire & Rescue	Chris Brown	Chris.Brown@fire.nsw.gov.au
NSW Ambulance	Darren Eller	Darren.Eller@health.nsw.gov.au
TMC	Peter Keyes	Peter.keyes@tmc.transport.nsw.gov.au

Emergency vehicle access

ASBJV will ensure that all Emergency Service first responders (Police, Fire and Ambulance) are provided un-restricted thoroughfare at all short-term work sites (lane closures) both day and night.

At long-term work sites (barrier enclosed daytime construction), ASBJV will endeavour to offer Emergency Services vehicles an alternative route through the work site to avoid/overtake congestion on the public road. However, at times during some stages of construction this thoroughfare will not be a safe option for 'road going vehicles'.

The Traffic Manager will ensure that the above Emergency Services contacts above are provided updates of all site access and egress locations, including the appropriate UHF channels and entry protocols to facilitate this thoroughfare.

6.2.4 Stakeholder consultation

Traffic and Transport Liaison Group

The TTLG will include senior representatives of ASBJV (Traffic Manager and Public Liaison Manager), WestConnex Transurban, TfNSW and other relevant agencies as listed below.

The TTLG will provide a forum for discussion of all traffic and transport and road safety matters associated with the project, including:

- Construction staging, current and proposed
- Traffic operations, including changes in traffic alignments, work area's and parking restrictions, if any
- Community feedback and identified issues, comments
- Impacts on public transport
- Pedestrian and cyclist's impacts
- Proposed communication strategies for future works and actions.

ASBJV recognises the importance of consulting with the various stakeholders in an effort to minimise the impacts during the construction phase. During the development of temporary traffic management arrangements, the following stakeholders will, be consulted as appropriate.

The following road user groups should be invited to the TTLG:

- WestConnex Transurban
- TMC
- TfNSW Sydney Coordination Office
- NSW Police Force
- NSW Fire and Rescue Service
- NSW Ambulance Service
- Local businesses, schools and residents
- Community liaison/action groups
- Inner West Council
- Heavy Vehicle Industry
- Sydney Buses
- NSW Bus and Coach Association
- NSW Taxi Council
- Bicycle User Groups (BUG)
- Special Events committees
- Adjacent major infrastructure projects
- Tow Truck Industry
- City of Sydney Council

The TTLG will meet monthly at the site office. As the project proceeds, meeting frequency will be determined by the TTLG, considering what is acceptable to all members.

6.2.5 Special event advertising

Major events / closures

ASBJV will publicly advertise adequate information during construction to keep the community, including businesses, informed of proposed changes to traffic movements and of any potential disruptions including changes to access or public transport. This information may be in various formats including displays, VMS boards, letterbox drops, published notices and advertising.

Advertisements will be published as required to advise upcoming traffic changes. Specific advertisements will be published outlining major traffic changes, and road closures. The required community notifications as advised by the Public Liaison Team will be detailed in the relevant TMP.

The main objectives of traffic and transport communication are to:

- Provide timely, accurate and comprehensive traffic and transport information
- Influence road users to adopt different travel modes in the area
- Allow and accommodate community feedback regarding traffic issues
- Manage traffic impacts to protect affected residential and business amenity
- Ensure media are well informed and aid in traffic impact minimisation.

The Traffic Manager (with the support of the Public Liaison Manager) will be responsible for ensuring a system is in place to inform TfNSW, TfNSW Sydney Coordination Office, road users, local councils, Police and other emergency services each time changes are made to traffic arrangements. Advice will include information about upcoming traffic switches, anticipated delays to traffic, and extended times of work or any likely major disruptions.

Signposting & VMS notifications

Advice to road users using static sign-posting or portable VMS will be managed by the Traffic and Transport Management Team.

6.3 Inspections

Requirements and responsibilities in relation to inspections are documented in Section 3.9 of the CEMP.

ASBJV will undertake regular inspections to ensure the safety of all traffic movements, as well as the wellbeing of pedestrians, cyclists, drivers and property through and surrounding all worksites. The responsibility and frequency of inspections is clearly stipulated in Section 6.1 of the TfNSW *Traffic Control at Worksites* manual.

These regular inspections will also verify the on-street parking commitments established by the ‘Driver Code of Conduct discussed in Section 4.6.1.

Three main types of inspections and records will occur:

- Inspections of short-term (single shift) traffic controls during the shift
- Regular daytime inspections of long-term traffic controls after implementation
- Regular night time inspections of long-term traffic controls after implementation.

Findings will be recorded using the forms attached in Appendix B of this TTAMP, and as described below in Table 12.

Table 12: Inspection Form List

Inspection / Audit	Process
Daily Routine Tasks (Appendix A.2 A S1742.3) Inspections of short-term traffic controls: • After initial set up • After any changes • Regularly (daily) during works.	Form LLE622B Sign Checklist (internal document)
A record of the Daily Routine Tasks preformed at all TCP set-ups will be made on this form every shift.	Form LLE622D Daily Routine Tasks (internal document)
Audit of all short-term controls and devices installed at multiple sites across the project will be performed every shift by a 'suitably qualified' team member	Form LLE622C Traffic Control Audit (internal document)
During staged implementations of TMPs using short term lane closures. An audit will be performed before public traffic is re-introduced to any long-term changes	Form LLE1107A Traffic Management Audit (internal document)
All installed TMPs will be audited by a qualified member of the Traffic Management Team at least once in every seven-day period.	Form LLE1107A Traffic Management Audit (internal document)
The ASBJV Traffic Manager and a WestConnex Transurban representative should jointly conduct an audit of all project-wide Traffic Management strategies at least once every calendar month.	Form LLE1107A Traffic Management Audit (internal document) Form LLE1107B TMS Review Checklist (internal document)
The Lendlease National Manager, Roads & Traffic Engineering should audit all Project-wide traffic management strategies at least once every three months to ensure the project is complying with the strategies outlined in this document.	Form LLE1107B TMS Review Checklist (internal document)

Pre-opening inspections will be carried by the Traffic Manager and Surveillance Officers before the start of each new temporary roadwork site or major modification. An independent Road Safety Audit will be conducted within 48 hours of the implementation of any long-term alignment change (switch).

Inspections of all temporary TCPs will be made:

- After initial erection of the traffic devices
- After any changes are made
- After a change in prevailing conditions – where practicable.

These following forms will be used for these inspections:

- LLE1107A – Short Term Traffic Management Audit (internal document)
- LLE1107B – Traffic Controller Audit (internal document)
- LLE1107C – Sign Checklist (for short term TCPs) (internal document)
- LLE1107D – Long Term Traffic Management Audit (internal document).

Any signage or devices identified during the checks or audits requiring attention will either be rectified at the time or advised to the Traffic Manager during that shift for follow-up action. The Traffic Manager will advise the Surveillance Officer if the specific item needs to be included on the Traffic Incident and Maintenance Register.

Records will be maintained of:

- All traffic guidance schemes, including dates and times the schemes were erected and removed
- Any adjustments made to such schemes
- Inspections.

All inspections will obey guidelines according to Section 6 of the TfNSW *Traffic Control at Worksites* manual and Appendix A of Australian Standard 1742.3. Three inspection types identified as part of this process are:

- Pre-start, during work and pre-closedown inspections of traffic control layout (daily, by Team Leader)
- Inspect the traffic control layout on the day before work begins, and weekly inspections (Traffic Manager)
- Undertake traffic control safety audit at least once a month (Surveillance Officer).

All documentation will be maintained regarding all Traffic Control Plans and any modifications to them, along with dates, times and reasons for their inclusion and exclusion.

6.3.1 Surveillance

To monitor the effects of the construction activity on affected roads and the surrounding network ASBJV will utilise field staff, the traffic team, and traffic control subcontractors. Their objective will be to detect and report any unsafe traffic conditions, incidents and unusual congestion. The surveillance staff will be regularly briefed on all changes implemented in the surrounding road network and the seasonal variations expected in traffic flows. As per the communications protocol, these staff will immediately report issues to the Traffic Manager. The Surveillance Officer will coordinate maintenance or remedial works with the Traffic Manager and Field traffic crews.

The ASBJV traffic control room will undertake surveillance of the road network surrounding the G-Loop through the use of the traffic camera network in order to identify issues and triggers (CoA E49B b – d) for the need to use Route A. Where an event results in a trigger, the ASBJV traffic control room will immediately notify the traffic handler at Northcote and the trucks will be re-routed as necessary until it is confirmed that the trigger no longer remains. A log of the trigger events will be maintained and provided in accordance with CoA E49D b).

Communication is an important part of traffic operations, for both planned and unplanned incidents. ASBJV field resources will report all incidents or issues to the Traffic Manager immediately. The Traffic Manager will commence a response strategy appropriate for the incident identified.

6.4 Auditing

Audits (both internal and external) will be undertaken to assess the effectiveness of traffic management measures, compliance with this sub plan, CoA and other relevant approvals, licenses and guidelines.

Audit requirements are detailed in Section 3.9 of the CEMP.

6.4.1 Road safety audits

A road safety audit is a formal examination of an existing or future road project in which a qualified auditor reports on the project's crash potential and safety performance. The audit team should include an independent auditor currently registered on the NSW Register of Road Safety Auditors.

The project will undergo regular Road Safety Audits of the temporary traffic alignments during the construction phases. The Traffic Manager and member of the Traffic and Transport Management Team will be qualified auditors currently registered on the NSW Register of Road Safety Auditors.

A copy of the "Guidelines for Road Safety Audit Practices" is currently only available for downloading from the TfNSW (internal) intranet at:

http://home.rta.nsw.gov.au/dts/cserv/os/original/roadsafety/guidelines_road_safety_audit_practices_20 11.pdf

The audit team carrying out the audit must comprise, as a minimum, a lead auditor registered at Level 3 certification and a second team member registered at Level 2 certification or higher, both of whom must be listed on the NSW Centre for Road Safety's Register of Road Safety Auditors.

These audits will focus on identifying any deficiencies, and or safety hazards, regardless of current practice, standards or operations, to enable ASBJV to implement corrective solutions.

These audits will be conducted in accordance with the TfNSW *Policy for Road Safety Audits of Construction and Reconstruction Projects* (TD2003/RS03), with reference to current practices outlined in Austroads *Guide to Road Safety* Part 6: Road Safety Audit.

The objectives of road safety audits are:

- To provide an independent assessment of the design from a road safety perspective
- To review the existing road environment and identify any safety related issues
- To look beyond the project limits and consider the effects in transition areas any proposed design changes will have on the existing built environment
- To identify potential safety problems of a particular design or section of road
- To ensure that measures to eliminate or reduce the problems are considered fully by the asset owner.

In compliance with CoA E56, ASBJV will engage an independent Road Safety Auditor during detailed design to assess the safety performance of any new or modified local road, parking, pedestrian and cycle infrastructure provided as part of the CSSI (including ancillary facilities) to ensure that they meet the requirements of relevant design, engineering and safety guidelines, including Austroads Guide to Traffic Engineering Practice. Triggers and timeframes of auditing on the project is outlined in Table 13 below.

Audit findings must be actioned prior to construction of the relevant infrastructure and must be made available to the Secretary on request.

Table 13: Timing of Independent Road Safety Audits

Timing	Audit Conducted	Audit Submitted to Client
TTM Design Audits		
Detailed Design	Within five business days of completion	Within 10 business days of the audit
Traffic Management Audits		

Pre-Implementation	Before opening temporary road to traffic	Within 10 business days of the audit
Post Implementation	Within 24 hours of opening temporary road to traffic	Within 10 business days of the audit

6.4.2 Self-monitoring audits

Road Safety Audits will also be undertaken after any temporary realignment implemented by an approved TMP on a public road. Project-wide Road Safety Audits will be conducted frequently by a qualified Road Safety Auditor in company with the Traffic Manager.

These audits will target the following milestones:

- Site shut down for the Christmas / New Year holiday period
- Site shut down for the Easter holiday period
- Any other site shutdown period.

The findings from these audits will be forward to members of the TCG listed above.

6.4.3 Corrective actions

Deficiencies identified during audits and site inspections will be discussed with relevant construction units and/or Traffic Team Field resources. Where possible, ASBJV will aim to rectify the deficiency immediately.

Any proposed changes to current TMPs will be initiated by the Traffic Management Team after consultation with construction personnel. Corrective actions will be undertaken at the next available safe opportunity. Interim risk management will be implemented if necessary and may include warning signage, VMS messaging and public broadcasts in consultation with the Public Liaison Team.

6.4.4 Preventative actions

The Traffic Manager will regularly analyse and review the following data to determine trends. The Traffic Manager will then recommend and implement the scope and timing of preventive action to be taken to reverse negative trends or prevent a recurrence of undesirable outcomes. This will include:

- Results of incident and crash investigations
- Incident, near miss and observation reports
- Daily Inspection Checklists
- TMP Implementation Audit Checklist
- Results of traffic flow monitoring
- Feedback from TCG and TTLG meetings and other meetings with external agencies
- Changes to legislation
- Industry reports.

All preventive actions will be monitored to determine their effectiveness. The requirements for additional measures will also be monitored.

6.5 Internal oversight

The Lendlease NSW Traffic Manager will attend the project and perform an audit verifying the Traffic Management Team's compliance with the operational procedures outlined in this document. Sections 6.5.1 to Section 6.5.5 detail components of this audit.

6.5.1 TMP development

- Are TMPs being prepared, submitted and approved in sufficient time before the implementation of traffic switches?
- Do TMPs appropriately address the long-term control strategies required to safely implement new construction staging?
- Are these controls compliant with the TfNSW QA Specification G10, AS 1742 and relevant R141, 143 and 145 specifications?
- Has the TMP been audited by a currently registered NSW Road Safety Auditor after implementation?
- Have the actions of this audit been reconciled?

6.5.2 Traffic Control

- Are short-term TCPs compliant with TCWS Manual?
- Have Form A, B and C inspections been conducted and recorded on site?
- Are ROLs in place, or being applied for, for all future road occupations?
- Incident management
- Is the Traffic Control Room functioning as required?
- Are incidents on the road network within the project boundaries being identified, attended and managed within a timely and appropriate manner compliant with the Incident Management Plan?

6.5.3 Stakeholder Liaison

- Is the Traffic Management Team meeting the consultative requirements of Section 6.2 of this TTAMP?
- Has a TTLG meeting been held within the last month?
- Are group email notifications issued before TMPs are implemented?

6.5.4 Subcontractor performance

- Are the traffic specialist subcontractors (line-markers, sign suppliers and installers, traffic controllers, incident responders) meeting the standards of the project?

These audits should occur every three months, a drive through inspection of the current work sites and temporary alignment is recommended as a part of this audit process.

6.5.5 Environmental compliance

All works including temporary traffic control measures will be in accordance with the Ministers Conditions of Approval (CoA) and the Revised Environmental Management Measures (REMM) listed in the Environmental Impact Statement (EIS), Submissions and Preferred Infrastructure Report (SPIR) and updated in the Project Modification.

All works, particularly approved night works will be planned to minimise disruption to adjoining properties. Control measures will be put in place to reduce direct work impacts such as dust, noise and vibration. Control measures will include dust suppression by water cart and use of plant that

minimises noise and vibration. Where access is affected suitable alternatives will be put in place as an integral part of the site-specific TMPs.

6.6 Reporting

Reporting requirements are detailed in Sections 3.9.4 and 3.9.5 of the CEMP.

6.6.1 Reporting to TfNSW during construction

The ASBJV Traffic Manager will collate and submit specific information to the Project Director at the end of each month for inclusion in the Projects monthly Project Report. Relevant traffic management information for this report will include:

- Current and upcoming TMPs
- Number and brief description of traffic incidents attended, with a cumulative to date total
- Upcoming major road occupations / detours
- Summary of recent major road occupations / detours and learnings
- Feedback from stakeholders including 'hotline' comments
- Summary of stakeholder liaison including TTLG meetings
- Other relevant operational matters.

6.6.2 Reporting to the Secretary during construction

In order to seek approval for increased Spoil haulage movement during peak spoil production in accordance CoA E49C ASBJV will report to the Secretary:

a) the estimated dates and duration of the peak spoil generating period;

b) the estimated hourly number of spoil haulage vehicle trips on Route A both during and outside the hours specified in condition E49B(a) each day during the peak spoil generating period;

c) at least six months of data as specified in condition E49D(a) and (b); and

d) analysis of the operational performance of the G-Loop, including the need to restrict the use of the G-Loop during the hours identified in condition E49B(a).

In accordance with CoA E49D, further reporting to the Secretary will also include:

a) the total number of spoil haulage vehicle trips associated with tunnelling and backfilling at the Northcote Street civil and tunnel site (inbound and outbound) on an hourly basis;

b) the number of trips (times) spoil haulage vehicles have used Route A, and Wattle Street / Parramatta Road (instead of the M4 East Motorway tunnels) when exiting the G-Loop, including the dates and times of use as well as the reasons for use of these routes noting the criteria for use specified in condition E49B.

Reporting under CoA E49D will occur within four months of the commencement of tunnelling at the Northcote Street civil and tunnel site and will continue at three monthly intervals thereafter until the completion of tunnelling and backfilling from the site.

7 Review and improvement

7.1 Continuous improvement

Continuous improvement of this plan will be achieved by the ongoing evaluation of environmental management performance against environmental policies, objectives and targets for the purpose of identifying opportunities for improvement.

The continuous improvement process will be designed to:

- Identify areas of opportunity for improvement of traffic management
- Determine the cause or causes of non-conformances and deficiencies
- Develop and implement a plan of corrective and preventative action to address any non-conformances and deficiencies
- Verify the effectiveness of the corrective and preventative actions
- Document any changes in procedures resulting from process improvement
- Make comparisons with objectives and targets.

7.2 TMP update and amendment

The processes described in Section 3.13 of the CEMP may result in the need to update or revise this Plan. This will occur as needed, but annually as a minimum.

Only the Construction Traffic Manager (in consultation with the Environment and Sustainability Manager) can amend this TTAMP. Approval of such changes can only be approved by the ER (Minor changes) in accordance with CoA A21(i) or the Secretary where changes are deemed not minor. A copy of the updated plan and changes will be distributed to all relevant stakeholders in accordance with the approved document control procedure – refer to Section 3.11.2 of the CEMP.

Traffic Management Plans for compounds and works (which sit below this document), as well as Traffic Control Plans for site activities can be revised by the Traffic Manager or members of the Traffic Team as required during construction, and in consultation with WestConnex Transurban, TfNSW, TfNSW Sydney Coordination Office and Local Council representatives where necessary.

Appendix A – Other Conditions of Approval and Revised Environmental Management Measures relevant to this Sub-plan

Other Conditions of Approval relevant to the development of this Sub-plan

CoA No.	Condition Requirements	Document reference
C20	The Parramatta Road East and Parramatta Road West civil sites must not be used for spoil haulage truck marshalling.	Section 5.2
E43	During construction, where bus stops are required to be temporarily closed or relocated, such closure must not occur until relocated bus stops are functioning, have similar capacity and are relocated within a 400 metre walking distance of the existing bus stop. Closures and relocation of bus stops during construction must be undertaken in consultation with Transport for NSW and relevant council(s). Wayfinding signage must be provided directing commuters to adjacent or relocated bus stops. Footpaths must be provided to any relocated bus stops such that accessibility standards are met.	Section 5.8
E44	Prior to the commencement of operation of the CSSI, all bus stops temporarily closed or relocated must be reinstated in a manner that provides equal or improved capacity and accessibility (including footpaths) in consultation with Transport for NSW and relevant council(s).	Section 5.8.2
E45	Access to Light Rail stops must be maintained at all times.	Section 5.8.1
E46	Access to all utilities and properties must be maintained during construction, where practicable, unless otherwise agreed with the relevant utility owner, landowner or occupier.	Section 4.5
E47	Any property access physically affected by the CSSI must be reinstated to at least an equivalent standard, unless otherwise agreed by the landowner or occupier.	Section 4.5
E48	Bignell Lane, Camperdown, must be reinstated to its preimpact alignment and length prior to operation, unless otherwise approved by the Secretary following consultation with the relevant council.	Section 5.2

CoA No.	Condition Requirements	Document reference
E50	Construction vehicles must not use Robert Street, Rozelle to access the White Bay Civil Site.	Section 4.6.1
E50A	All heavy vehicles must only access and exit the Parramatta Road East and Parramatta Road West construction ancillary facilities via Parramatta Road during the operation of the facilities, except for when exiting the Parramatta Road West site and they need to travel east. In these circumstances the site may be exited via Bland Street or as otherwise approved by the Planning Secretary.	Section 4.3.4
E51	All requests to the Secretary for local road usage need to include a traffic and pedestrian impact assessment, and should include a swept path analysis if required. The traffic and pedestrian impact assessment, incorporated in the Site Establishment Management Plan or Traffic and Transport CEMP as relevant, must: (a) demonstrate that the local road usage will not compromise the safety of the public and have minimal amenity impacts; (b) provide details as to the date of completion of the road dilapidation surveys for the subject local roads; and (c) describe the measures that will be implemented to avoid where practicable the use of local roads past schools, aged care facilities and child care facilities during peak times for operation.	Section 4.5
E52	Construction vehicles (including staff vehicles) associated with the CSSI must be managed to: (a) minimise parking on public roads; (b) minimise idling and queuing on public roads; and (c) ensure spoil haulage vehicles must adhere to the nominated haulage routes identified in the Traffic and Transport CEMP.	Section 4.6 Section 4.7 Construction Parking and Access Strategy

CoA No.	Condition Requirements	Document reference
E53	The locations of all construction spoil haulage vehicles must be able to be monitored in real time and the records of monitoring be made available electronically to the Secretary and the EPA upon request for a period of no less than one year following construction. Note: Refer to Condition A44 in relation to vehicle identification.	Section 4.7.2
E55	The CSSI (including new or modified local roads, parking, pedestrian and cycle infrastructure) must be designed to meet relevant design, engineering and safety guidelines, including the Austroads Guide to Traffic Management.	Section 5
E56	An independent Road Safety Audit(s) is to be undertaken by an appropriately qualified and experienced person during detailed design to assess the safety performance of new or modified local road, parking, pedestrian and cycle infrastructure provided as part of the CSSI (including ancillary facilities) to ensure that they meet the requirements of relevant design, engineering and safety guidelines, including Austroads Guide to Traffic Management. Audit findings and recommendations must be actioned prior to construction of the relevant infrastructure and must be made available to the Secretary on request.	Section 6.4.1
E57	Safe pedestrian and cyclist access must be maintained around work sites during construction. In circumstances where pedestrian and cyclist access is restricted or removed due to construction activities, an alternate route which complies with the relevant standards must be provided and signposted prior to the restriction or removal of the relevant pedestrian and cyclist access.	Section 5.7
E57A	A traffic controller must be present at entry and exit points on the Parramatta Road East and West construction ancillary facilities between the hours of 7:30 am to 9:30 am and 2:30 pm to 4:30 pm during school terms whenever: (a) a heavy vehicle is to enter or exit the site via that point; and (b) light vehicles are entering and exiting the site at that point during staff shift change over periods.	Section 4.3.4, 5.2, 5.7

CoA No.	Condition Requirements	Document reference
E61	A Road Dilapidation Report must be prepared by a suitably qualified person, for local roads (and associated infrastructure within the road reserve) proposed to be used by heavy vehicles for works associated with the CSSI, before the commencement of use by such vehicles. Copies of the Road Dilapidation Report must be provided to the relevant road authorities within three (3) weeks of completing the surveys and no later than one (1) month before the use of local roads by such vehicles.	Section 5.3.1
E62	If damage to roads occurs as a result of the construction of CSSI, the Proponent must either: (a) compensate the relevant road authority for the damage so caused. The amount of compensation may be agreed with the relevant road authority, but compensation must be paid even if no agreement is reached; or (b) rectify the damage so as to restore the road to at least the condition it was in pre-construction.	Section 5.3
E122A	The Proponent must implement measures, in consultation with affected residents, to prevent headlights from vehicles exiting the G-Loop spilling onto residences in the vicinity of the intersection of Dobroyd Parade / Wattle Street / Waratah Street.	Section 4.7

Revised Environmental Mitigation Measures relevant to the development of this Sub-plan

Outcome	Ref #	Commitment	Timing	Reference
Delays and disruptions to the road network during construction	TT01	A Construction Traffic and Access Management Plan (CTAMP) will be prepared as part of the CEMP. The CTAMP will include the guidelines, general requirements and principles of traffic management to be implemented during construction. It will be prepared in accordance with Austroads Guide to Road Design (with appropriate TfNSW supplements), the RTA Traffic Control at Work Sites Manual and AS1742.3: Manual of uniform traffic control devices – Part 3: Traffic control for works on roads, and any other relevant standard, guide or manual. The CTAMP will be prepared in consultation with relevant transport stakeholders and local councils. The overarching strategy of the CTAMP will be to:	Pre-construction	This document
		• Ensure relevant stakeholders are considered during all stages of the project		Section 6.2
		• Comprehensively communicate changes in traffic conditions to emergency services, public transport operators, other road user groups and any other affected stakeholders		Section 6.2
		• Identify measures to manage the movements of construction-related traffic to minimise traffic and access disruptions in the public road network		Section 5.1.2, 4.7.2, 4.3 and 5.4
		• Minimise the use of local roads for heavy vehicles		Section 4.5
		• Minimise the loss of on-road parking for local residents		Section 4.6
		• Describe a car parking strategy for construction staff at the various worksites and ancillary facilities.		Section 4.3 & CPAS

Outcome	Ref #	Commitment	Timing	Reference
		• Provide safe routes for pedestrians and cyclists during construction		Section 5.7
		• Develop construction methodologies so that interaction with existing road users is minimised thereby creating a safer work and road user environment		Section 5.6 and 5.1
		• Plan and stage works to minimise the need for road occupancy, where possible		Section 5.4
		• Develop project staging plans in consultation with relevant traffic and transport stakeholders		Section 6.2.2 & Section 5.11
		• Minimise the number of changes to the road users' travel paths and, where changes are required, develop and implement an effective community communication strategy, coupled with temporary wayfinding signage to warn, inform and guide. This will aim to minimise confusion by providing clear and concise traffic management schemes		Section 5.6
Delays and disruptions to the road network during construction	TT02	Identify potential road user delays during the planning and consultation phases and include strategies within the CTAMP to reduce identified delays.	Construction	Section 3.4, 5 & 6.2
Impacts on road network performance (delays) and safety	TT03	Develop construction staging and temporary works that minimises conflicts with the existing road network and maximises spatial separation between work areas and travel lanes.	Construction	Section 3.4 & 5

Outcome	Ref #	Commitment	Timing	Reference
Parking on local streets around construction sites	TT04	The car parking strategy described in the CTAMP will: • Quantify construction workforce parking demand around project work sites and ancillary facilities during site establishment and the construction phase generally • Identify public transport options and other management measures (such as carpooling and shuttle-buses) to reduce construction workforce parking demand • Identify all locations that will be used for construction workforce parking (including potential use of government owned land and other potential areas near to the construction ancillary facilities) • Identify potential offsite areas that could be used for construction workforce parking that would be investigated and secured for use during construction where required and possible • Identify parking exclusion zones, in consultation with potentially affected stakeholders, around construction sites and facilities where construction workforce parking would be restricted. • The strategy will also be developed in consultation with the M4 East and New M5 contractors to identify opportunities to use existing parking arrangements associated with those projects during their respective construction periods and once those periods are completed.	Pre-construction	Section 4.6 Construction Parking and Access Strategy

Outcome	Ref #	Commitment	Timing	Reference
Impacts on road network performance (delays) and safety	TT05	Isolate work areas from general traffic through the implementation of appropriate traffic and access controls.	Construction	Section 3.4 & 5
Impacts on road network performance (delays) and safety	TT06	Develop and implement work methods to minimise delays and road user impacts, for example utilising more efficient plant and equipment, and applying different design solutions.	Pre-construction	Section 5.1.1
Impacts on road network performance (delays) and safety	TT07	Provide temporary closed-circuit television (CCTV) and Variable Message Signs (VMS) in consultation with the Traffic Management Centre (TMC) to link with the existing TMC network to facilitate real time monitoring and management of impacts and traffic safety in the vicinity of the project.	Construction	Section 5.10
Impacts on road network performance (delays) and safety	TT08	During construction, work with the TMC to improve traffic conditions around work and incidents from CCTV footage and modify sites wherever practicable.	Construction	Section 5.10
Impacts on road network performance (delays) and safety	TT09	Provide a mechanism for the community to report incidents and delays, for example a project phone number. Advertise details along the construction site's interface with the road network.	Construction	Section 6.2.5

Outcome	Ref #	Commitment	Timing	Reference
Impacts on road network performance (delays) and safety	TT10	Schedule construction-related transport movements to avoid peak traffic periods and minimise project-related congestion, where possible.	Pre-construction	Section 4.7.1
Impacts on road network performance (delays) and safety	TT11	Develop and adopt robust community and stakeholder communication protocols regarding altered traffic conditions.	Pre-construction	Section 6.2
Impacts on pedestrian and cycle paths	TT12	Minimise impacts on the pedestrian paths and cycle lanes, and provide timely alternatives during construction where practical and safe to do so.	Construction	Section 5.7
Impacts on public transport	TT13	Identify impacts on bus stops and provide alternative locations and access in consultation with Transport for NSW.	Construction	Section 5.8
Impact on property access	TT14	Manage local road closures and maintain adequate property access. This will be undertaken in consultation with TfNSW, local councils and property owners likely to be impacted.	Construction	Section 4.5

Outcome	Ref #	Commitment	Timing	Reference
Impacts on road network from spoil transport	TT15	Identify spoil haulage routes and designated routes for other project-related heavy vehicles and communicate, along with site access requirements and restrictions, to all relevant drivers. Designated heavy vehicle routes will be identified with consideration of potentially affected stakeholders, such as schools, day care centres, nursing homes and places of worship, around project sites that might be adversely affected by project-related heavy vehicle movements. Routes and associated restrictions of use of the routes will be developed to minimise identified potential impacts. Project-related heavy vehicle routes and any associated restrictions of use will be documented in the CTAMP.	Construction	Section 4.7
Impacts on road network from spoil transport	TT16	Develop and implement a truck management strategy (as part of the CTAMP) that: • Identifies truck marshalling areas that will be used by project-related heavy vehicles • Describes management measures for project-related heavy vehicles to avoid queuing and site-circling in adjacent streets and other potential traffic and access disruptions • Describes monitoring programs to demonstrate that project-related heavy vehicles are complying with the strategy.	Construction	Section 4.7.2, 4.8, 6.3 & 6.4
Impacts on road infrastructure	TT18	Prepare a road dilapidation report, in consultation with relevant councils and road owners, identifying existing conditions of local roads and mechanisms to repair damage to the road network caused by heavy vehicle movements associated with the project.	Pre-construction	Section 5.3

Appendix B – Forms and Checklists

LLE 622B

Sign Checklist

Records of all sign installations using this form or similar register MUST be completed daily by the TC Team Leader.

Day / Date:		Road:		Direction:	
Nature of Works:				TC Team Leader:	

Installed Signs (cross out if not used)	Qty	Installation Time (Compulsory)	Check & Adjust (Compulsory)	Check & Adjust	Check & Adjust	Pack-Up Time (Compulsory)	Comments
 INSTALL		am/pm	am/pm	am/pm	am/pm	am/pm	
 COVER		am/pm	am/pm	am/pm	am/pm	am/pm	
 INSTALL		am/pm	am/pm	am/pm	am/pm	am/pm	
 INSTALL		am/pm	am/pm	am/pm	am/pm	am/pm	
 INSTALL		am/pm	am/pm	am/pm	am/pm	am/pm	
 INSTALL		am/pm	am/pm	am/pm	am/pm	am/pm	
 INSTALL		am/pm	am/pm	am/pm	am/pm	am/pm	
 INSTALL		am/pm	am/pm	am/pm	am/pm	am/pm	
 INSTALL		am/pm	am/pm	am/pm	am/pm	am/pm	
 INSTALL		am/pm	am/pm	am/pm	am/pm	am/pm	
 INSTALL		am/pm	am/pm	am/pm	am/pm	am/pm	
 INSTALL		am/pm	am/pm	am/pm	am/pm	am/pm	
 INSTALL		am/pm	am/pm	am/pm	am/pm	am/pm	
 INSTALL		am/pm	am/pm	am/pm	am/pm	am/pm	
 INSTALL		am/pm	am/pm	am/pm	am/pm	am/pm	

Declaration by Person Responsible for Installation and / or Removal pursuant to AS1742.3 Appendix A.

I certify that the installation and removal of the traffic control devices above were checked / adjusted during the shift at the times recorded.

Signature: .....

Date: .....

lendlease

LLE 1107A

AUDIT - Traffic Management

This Audit shall be conducted by suitably a qualified 'Traffic Management Professional'. Refer to LLE 1107 Traffic Management procedure for details.

Location:		Date:	

1	Auditors Details	Yes	No
1.1	Name:		
1.2	Position:		
1.3	Are you currently qualified in this State to audit Traffic Guidance Schemes?	☐	☐
1.4	Do you have 5 yrs (min) experience deploying long term Traffic Management Strategies?	☐	☐
1.5	Are you a qualified Road Safety Auditor?	☐	☐

2	Traffic Management Plan (TMP)	Yes	No	N/A
2.1	Has a written TMP document with scale drawings been prepared?	☐	☐	☐
2.3	Has the TMP been endorsed by a suitably qualified traffic professional?	☐	☐	☐
2.3	Does the work require complex traffic and/or high risk arrangements?	☐	☐	☐
2.4	Have these arrangements been designed through a TTM process?	☐	☐	☐
2.5	Has that TTM design been 'Issued for Construction'?	☐	☐	☐
3	Approval to Proceed			
3.1	Has the Road Authority approved / accepted the TMP?	☐	☐	☐
3.2	Have all other required approvals been obtained (e.g. heritage, environmental, community, council)?	☐	☐	☐
4	General Conditions of Approval			
4.1	Are there restrictions on working hours?	☐	☐	☐
4.2	Are these work hours being adhered to?	☐	☐	☐
4.3	Does the TMP require communication of traffic changes to the public?	☐	☐	☐
4.4	Are the communication requirements being followed (i.e. VMS)?	☐	☐	☐
4.5	Does the TMP require liaison with other Government Agencies (i.e. TMC, Police, Emergency Services)?	☐	☐	☐
4.6	Are the liaison requirements being followed?	☐	☐	☐
4.8	Does the TMP require a Road Safety Audit post implementation of each temporary traffic or pedestrian measure?	☐	☐	☐
4.9	Has the Road Safety Audit been conducted?	☐	☐	☐
5	Record Keeping			
5.1	Are records of this TMP document, approval by relevant authorities, pre and post implementation audits being kept for future reference?	☐	☐	☐
5.2	Is the operation of this TMP being monitored and inspected daily by a Lendlease representative?	☐	☐	☐
5.3	Is this Audit Checklist being performed weekly during the operation of the	☐	☐	☐

	TMP by a suitably qualified person?			
5.4	Is a copy of this Audit Checklist being provided to relevant internal and external stakeholders as required by the Contract?	☐	☐	☐
5.5	Is this original Audit Checklist being kept for future reference?	☐	☐	☐
6	Personnel			
6.1	Are workers on site at the time of this Audit?	☐	☐	☐
6.2	Is high visibility clothing being worn in accordance with AS 1742.3 Section 3.16.5, particularly where people are working adjacent to vehicles and traffic routes?	☐	☐	☐
6.3	Are Traffic Controllers working on site at time of Audit?	☐	☐	☐
6.4	Do all Traffic Controllers hold the relevant traffic controller qualifications for the role they are performing?	☐	☐	☐
6.5	Are the Traffic Controllers managing traffic effectively, particularly at site access and egress locations?	☐	☐	☐
6.6	Are communications between Traffic Controllers and site traffic effective and appropriate?	☐	☐	☐
7	Traffic Signs, Devices and Layout			
7.1	Compliance with the written TMP document and plans			
7.1.1	Are signs and devices set out in accordance with the approved TMP?	☐	☐	☐
7.1.2	Is there appropriate pedestrian exclusion control implemented where work traffic and foot traffic intersect (i.e. barriers, bollards, fencing, cones and guardrail)?	☐	☐	☐
7.1.3	Are chainage locations nominated for Sign, Device and Pavement marking locations in TMP document replicated on site?	☐	☐	☐
7.1.4	If not, has the relevant TMP long term drawing been amended to reflect the reason for variation?	☐	☐	☐
7.1.5	Has the amended drawing and sign / device location been approved by the relevant authorities and filed for future reference?	☐	☐	☐
7.2	Presentation of Signs and Devices			☐
7.2.1	Are all signs and devices installed in compliance with safe road design principles (AUSTROADS, AS 1742 and specific Road Authority guidelines)?	☐	☐	☐
7.2.2	Are the signs clearly visible and not affected (e.g. by other signs, plant items, vegetation, shade, light, glare)?	☐	☐	☐
7.2.3	Are sign faces compliant with AS 1742.3 and have Class 1 retro-reflective material?	☐	☐	☐
7.2.4	Are signs of the correct size for the speed conditions?	☐	☐	☐
7.2.5	Are signs installed within the 'Clear Zone' erected on frangible posts, on break away mounts or protected by an approved barrier treatment?			
7.3	Temporary Speed Limits			☐
7.3.1	Have speed limit signs been separately approved by the relevant Road Authority for long term use in this TMP?	☐	☐	☐
7.3.2	Are signs erected at the correct height, alignment and position?	☐	☐	☐

7.3.3	Are signs given the correct sight distance (min 2.5 x D metres, D = permanent speed limit)?	☐	☐	☐
7.3.4	Are regulatory / speed signs duplicated where required (dual lane carriageways or greater)?	☐	☐	☐
7.3.5	Are speed limit repeater signs installed at appropriate travel time intervals?	☐	☐	☐
7.4	Portable Traffic Signals			☐
7.4.1	Are portable traffic signals in use at time of audit?	☐	☐	☐
7.4.2	Has approval been obtained for the portable traffic signals?	☐	☐	☐
7.4.3	Are they preceded by a PREPARE TO STOP (T1-18) sign?	☐	☐	☐
7.4.4	Is the current mode of operation in balance with traffic demand?	☐	☐	☐
7.4.5	What is the maximum observed delay time of queues under stop condition?	☐ minutes		
7.4.6	Is the maximum observed delay time appropriate?	☐	☐	☐
7.4.7	Are back of queues cleared before losing sight of the traffic signals?	☐	☐	☐
7.5	Use of Variable Message Signs			☐
7.5.1	Are variable message signs in use?	☐	☐	☐
7.5.2	Has the Road Authority approved the message content, location and timing of these displays?	☐	☐	☐
7.5.3	Does the use of variable message signs comply with this approval?	☐	☐	☐
7.5.5	Are portable VMS trailers (non-frangible) positioned outside the 'Clear Zone' or protected by an existing or temporary barrier treatment?	☐	☐	☐
7.5.6	Are the displayed messages clearly visible to approaching traffic 2.5 seconds ahead?	☐	☐	☐
7.6	Pavement Marking, Configuration and Standard			☐
7.6.1	Has a new road alignment been implemented by this TMP?	☐	☐	☐
7.6.2	Are chainage locations nominated for pavement marking alterations in TMP document replicated on site?	☐	☐	☐
7.6.3	Are lane widths adequate on site for the safe thoroughfare of traffic?	☐	☐	☐
7.6.4	Is the line marking clear and obvious to all road users?	☐	☐	☐
7.6.5	Are redundant lines from the previous configuration completely removed or obscured to remove alignment ambiguity?	☐	☐	☐
7.6.6	Is the line marking clearly visible at night (Glass beads)?	☐	☐	☐
7.6.7	Is the road surface clean and adequate for all road users (motorcycles, cyclists and caravans)?	☐	☐	☐
7.6.8	Is the pavement free of ponding area's and high- flow channels which may affect traction (aqua-planing)?	☐	☐	☐
7.7	Barrier Boards and Bollards			☐
7.7.1	Are wide shoulders occupied with barrier boards and / or bollards?	☐	☐	☐
7.7.2	Are barrier boards and bollards suitably anchored to negate collapse in high winds?	☐	☐	☐
7.7.3	Are minimum shoulder clearances provided between Barrier Boards /	☐	☐	☐

	Bollards and the driven path?			
8	Safety Barrier Systems			
8.1	Installation			☐
8.1.1	Does this TMP deploy a temporary Safety Barrier System?	☐	☐	☐
8.1.2	Are chainage locations nominated for Barriers in the TMP document replicated on site?	☐	☐	☐
8.1.3	Are the barriers of an approved type for the purpose and located and assembled correctly (TL rating appropriate)?	☐	☐	☐
8.1.4	Are steel and concrete barrier blunt ends properly protected (tapered at 1:15 to terminate outside the 'Clear Zone' or attached to an approved crash end terminal)?	☐	☐	☐
8.1.5	Are CET's un-damaged and in full working condition?	☐	☐	☐
8.1.6	Is the barrier and CET installation AS 3845 complaint?	☐	☐	☐
8.1.7	Are Plastic Water-filled Barriers (PWFB) filled with a minim 350 litres of water each (desirable – 500 litres)?	☐	☐	☐
8.1.8	Are water height indicators and drainage taps serviceable on all PFWB's?	☐	☐	☐
8.2	Operational Effectiveness			☐
8.2.1	Are there more than one barrier type connected in one system of barriers?	☐	☐	☐
8.2.2	Are barrier connections compliant with Manufacturers Guidelines?	☐	☐	☐
8.2.3	Are the specified advance and departure terminal anchor lengths installed either side of the Length of Need (LON)?	☐	☐	☐
8.2.4	Are barrier mounted delineators positioned correctly, clean and clearly visible to approach traffic?	☐	☐	☐
8.2.5	Is the face of the barrier smooth without protrusions or blunt ends exposed?	☐	☐	☐
8.2.6	Are there any units in damaged condition (cracked, concrete chunks missing etc..)?	☐	☐	☐
8.2.7	Are the barriers regularly inspected as part of a surveillance program pursuant to AS/NZS 3845?	☐	☐	☐
8.2.8	Is the barrier system correctly located with respect to traffic clearances, kerb and channel locations?	☐	☐	☐
8.2.9	Are all barrier attachments authorised (sign brackets, fencing, steel poles, anti-gawk screens)?	☐	☐	☐
8.2.10	Are minimum shoulder widths (AS1742.3) provided and clearly delineated between the driven path and face of barrier?	☐	☐	☐
8.2.11	Do the barriers provide for adequate drainage of water?	☐	☐	☐
8.2.12	Are the specified dynamic deflection exclusion distances provided behind the barrier to protect workers?	☐	☐	☐
8.2.13	Are all PFWB's maintaining a minimum 350 litres of water content?	☐	☐	☐
8.3	Removal			☐
8.3.1	Is there a SWMS for the safe removal of the barrier system?	☐	☐	☐
8.3.2	Has all residual debris been cleared from the pavement after removal?	☐	☐	☐

9	Managing Vulnerable Road User Groups			
9.1	Cyclists, Pedestrians and Disabled			☐
9.1.1	Are the identified controls in place to prevent unauthorised access to all work areas by members of the public?	☐	☐	☐
9.1.2	Are pedestrian and cycle paths through the new alignment clearly delineated and exclusive of the work area?	☐	☐	☐
9.1.3	Are footpaths and cycle lanes compliant with AUSTROADS specifications?	☐	☐	☐
9.1.4	Are chainage locations nominated for new pedestrian paths and cycle routes in the TMP document replicated on site?	☐	☐	☐
9.1.5	Have advance warning and guidance signs been provided for pedestrians and cyclists?	☐	☐	☐
9.1.6	Can cyclists, wheelchairs and prams traverse the new paths, in particular ramps between road crossings and paths?	☐	☐	☐
9.1.7	Are all necessary pedestrian connections maintained at intersections?	☐	☐	☐
9.1.8	Are Traffic Controllers used to guide / assist pedestrians and disabled persons across site gates or through 'pinch-points'?	☐	☐	☐
9.1.9	Are these Traffic Controllers performing this role in a manner which reflects the Lendlease core values?	☐	☐	☐
9.2	Private Properties			☐
9.2.1	Are any private residences or business properties impacted by the implementation of this TMP?	☐	☐	☐
9.2.2	Are the access provisions of the approved TMP being executed on site?	☐	☐	☐
9.2.3	Are any temporary alternative access arrangements deployed and working effectively?	☐	☐	☐
9.3	Public Transport Providers			☐
9.3.1	Are any bus facilities or access to train stations impacted by the implementation of this TMP?	☐	☐	☐
9.3.2	Are the access provisions of the approved TMP being executed on site?	☐	☐	☐
9.3.3	Are temporary bus stops installed and working efficiently?	☐	☐	☐
9.3.4	Are the temporary access arrangements of these bus stops meeting the requirements of bus patrons?	☐	☐	☐
9.3.5	Are temporary bus shelters, J-poles suitably located to meet the needs of patrons and bus drivers?	☐	☐	☐
9.3.6	Are 'Ad-Shell' type bus stops still clearly visible to passing traffic?	☐	☐	☐
10	Provision for Hours of Darkness			
10.1	Has the TMP been inspected in reduced light conditions?	☐	☐	☐
10.2	Are all alignments, signs and devices clearly visible to road users at night?	☐	☐	☐
10.3	Is suitable illumination provided at conflict points (site gates, pedestrian crossings) in compliance with AUSTROADS?			
10.4	Are all lamps operational and effective in darkness?	☐	☐	☐
10.5	Are these lights properly aligned to avoid driver confusion and distraction?	☐	☐	☐

11	Miscellaneous			
11.1	Are safe access / egress points to the work area provided?	☐	☐	☐
11.2	Are deliveries complying with the site VMP?	☐	☐	☐

Comments / Actions:

Auditor Name:	Position:	Signature:	Date:
Close-Out Name:	**Position:**	**Signature:**	**Date:**

LLE 1107B

Traffic Impact Strategy Plan Review

This Check Sheet should be completed monthly by the Project Traffic Manager and quarterly by the Client Representative and National Traffic Manager.

No.	Date	Reviewer	Position	Comment
1				
2				
3				
4			TCG Representative	
5			National Traffic Manager	
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9			TCG Representative	
10			National Traffic Manager	
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70			National Traffic Manager	
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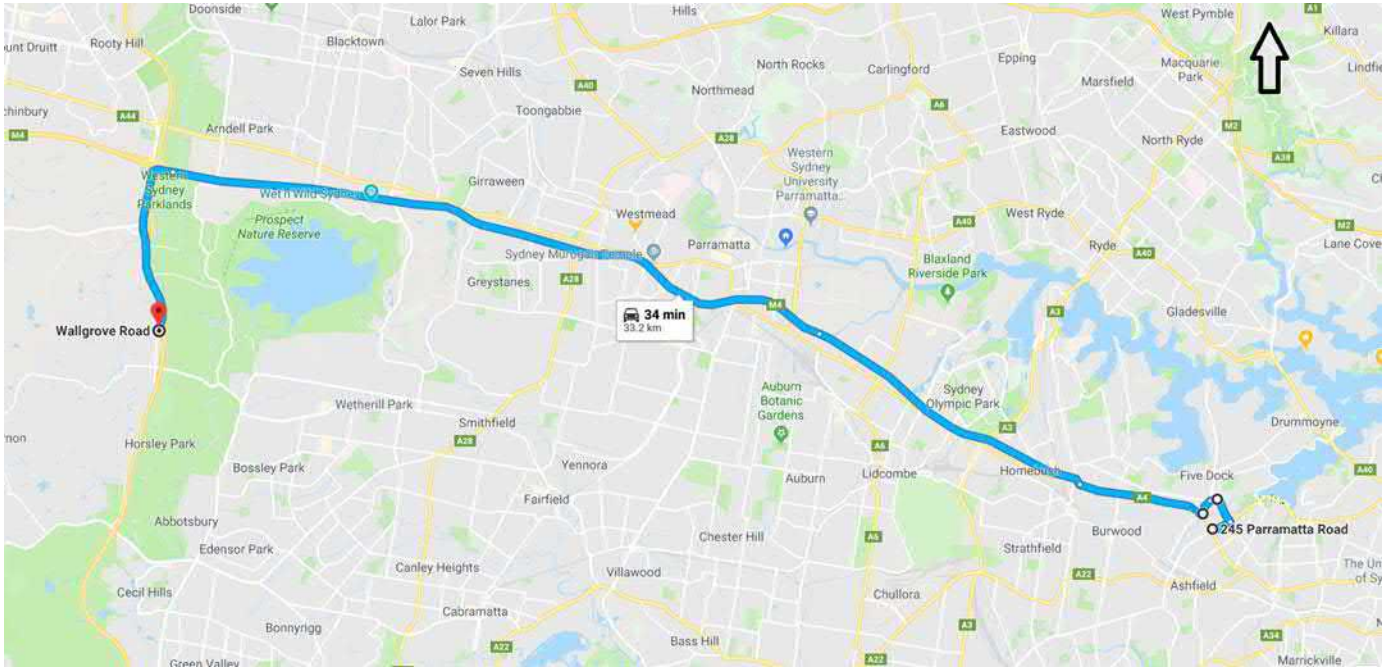
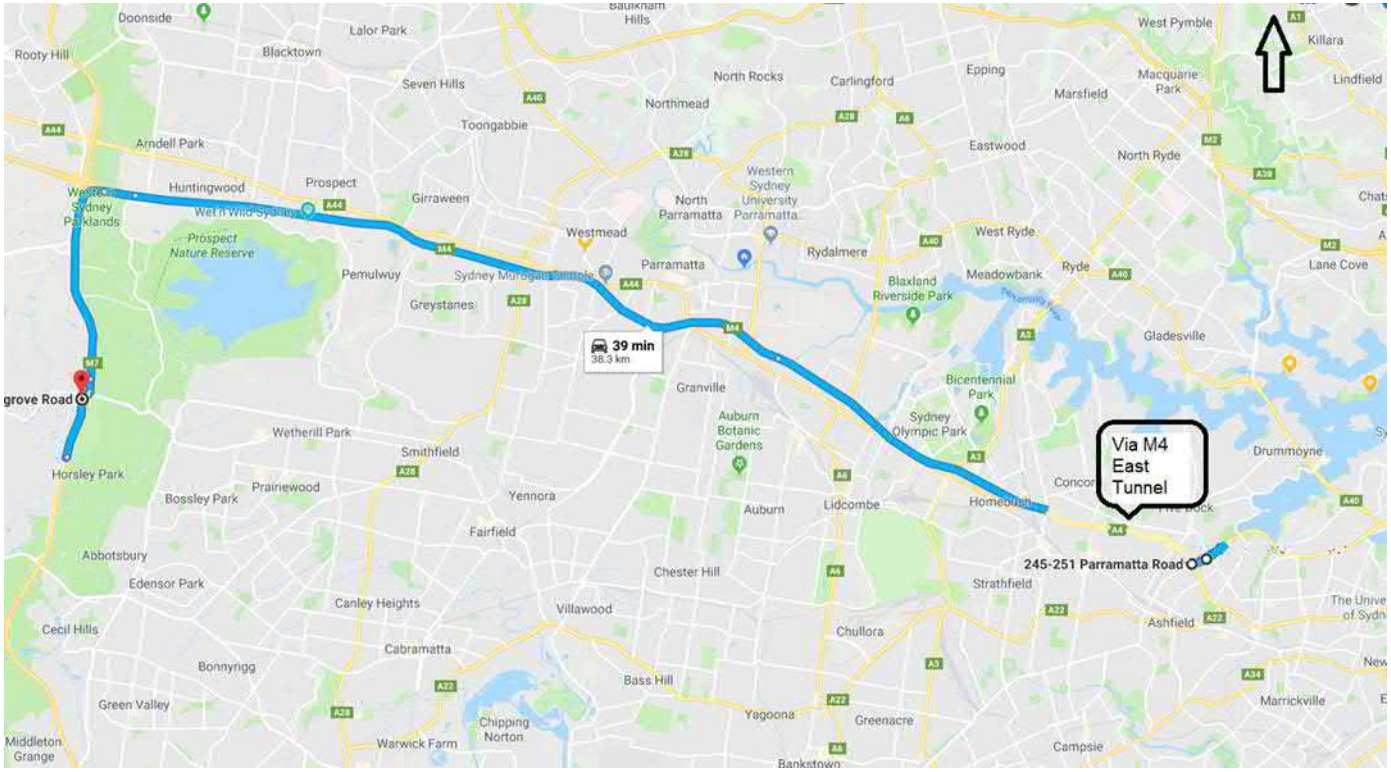
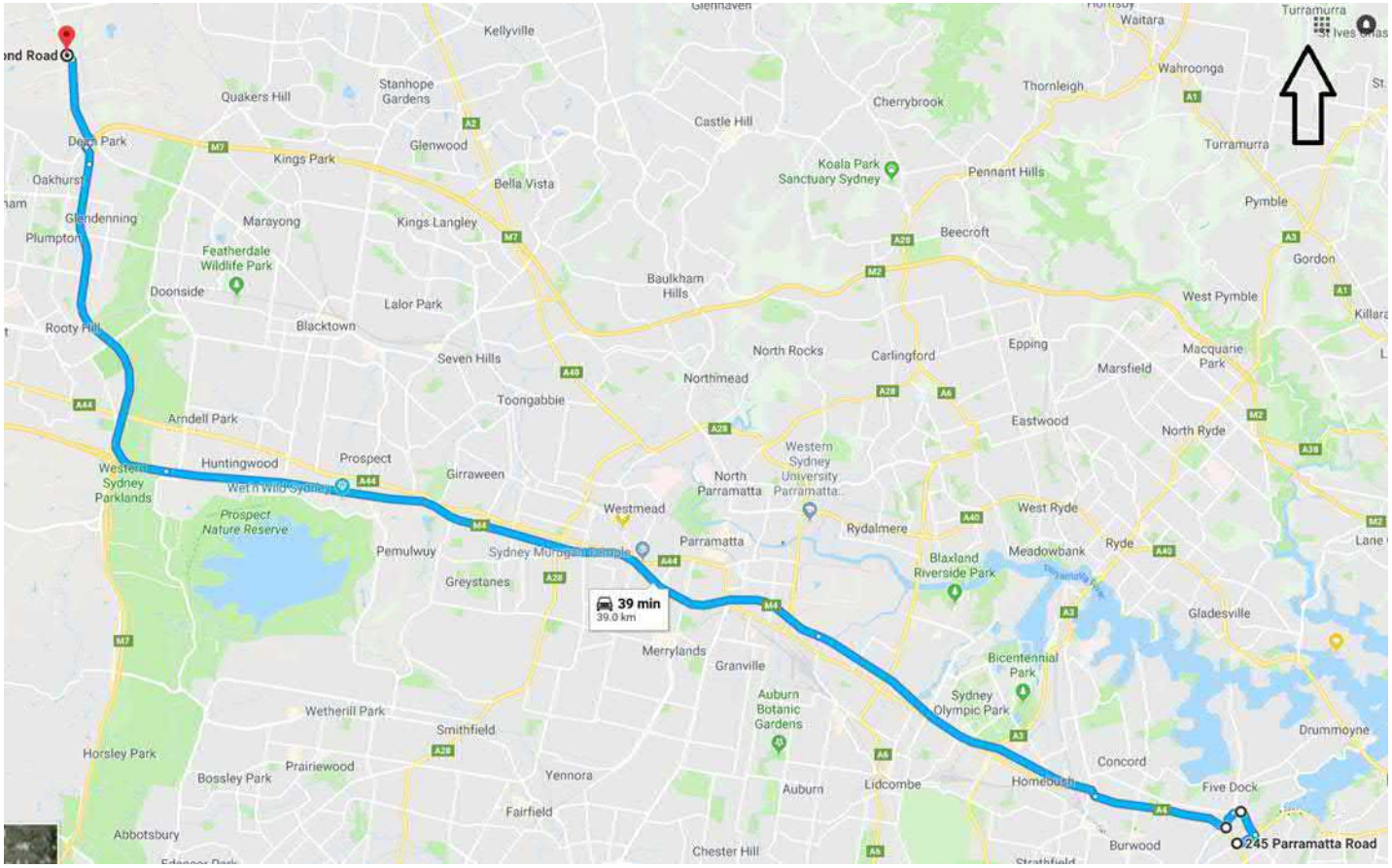
74			TCG Representative	
75			National Traffic Manager	

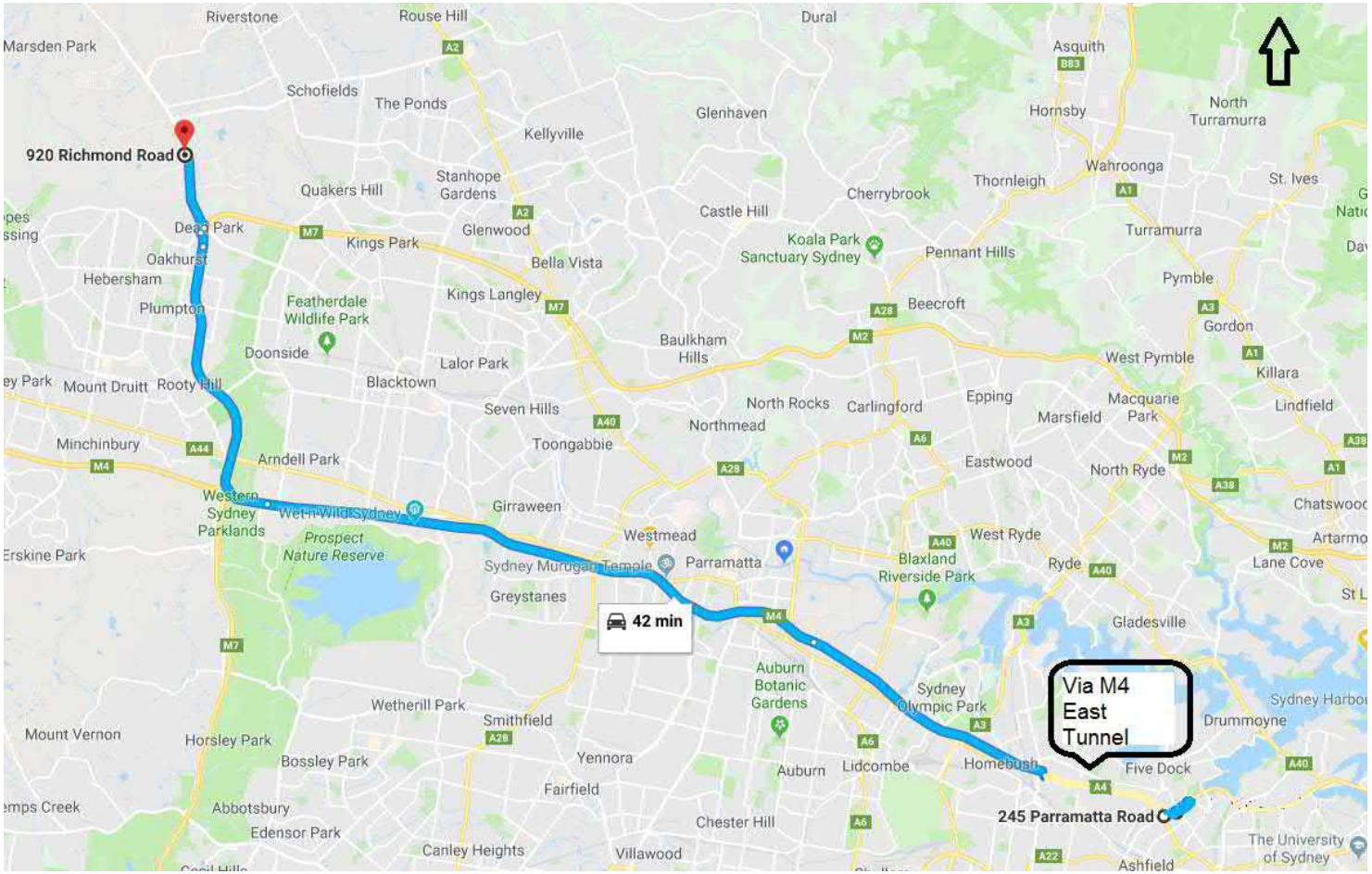
Appendix C – Proposed Routes to Spoil Sites and Distances

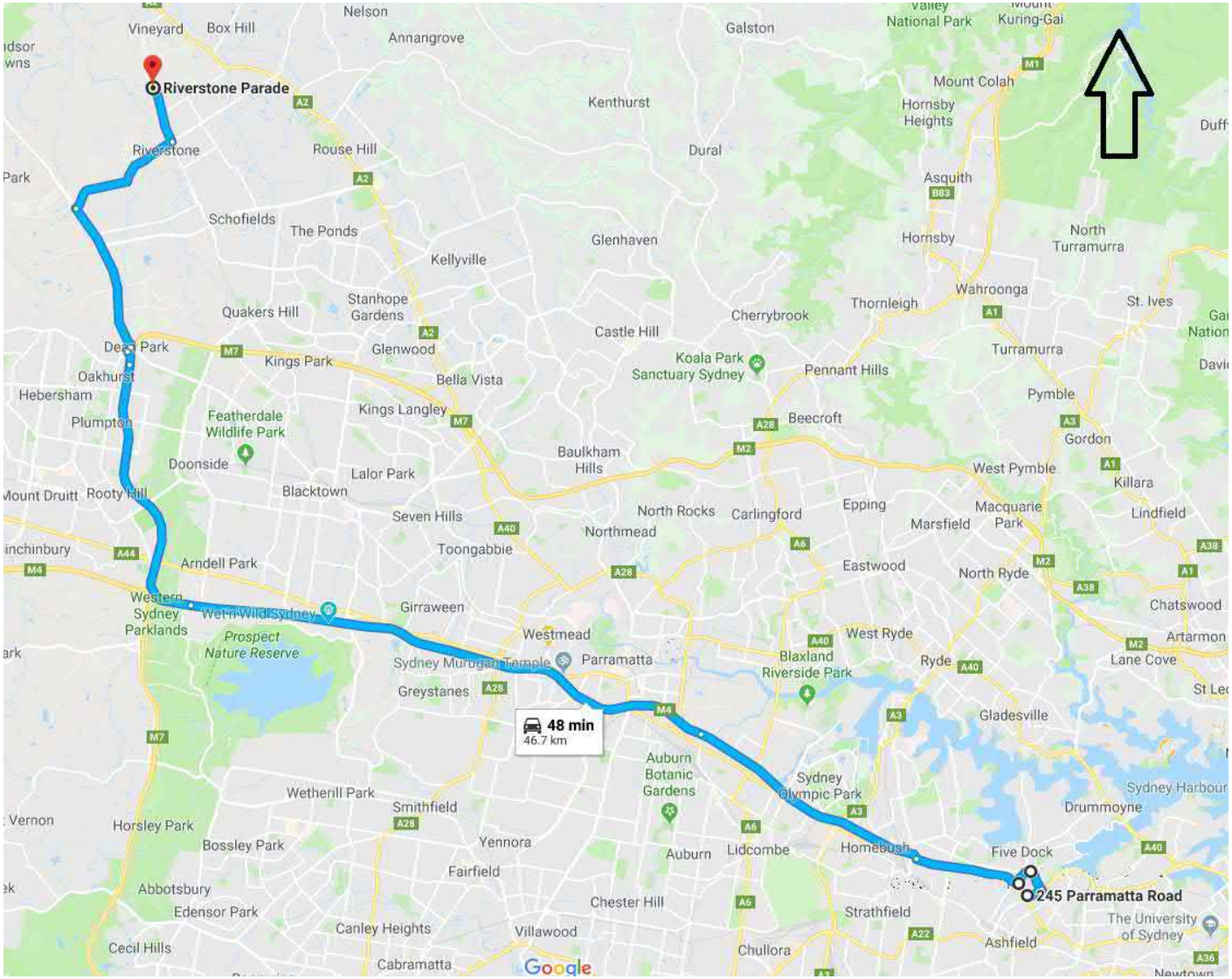
These locations are indicative only. Other options for disposal sites will be investigated throughout the project and it is anticipated that alternative locations may emerge during construction.

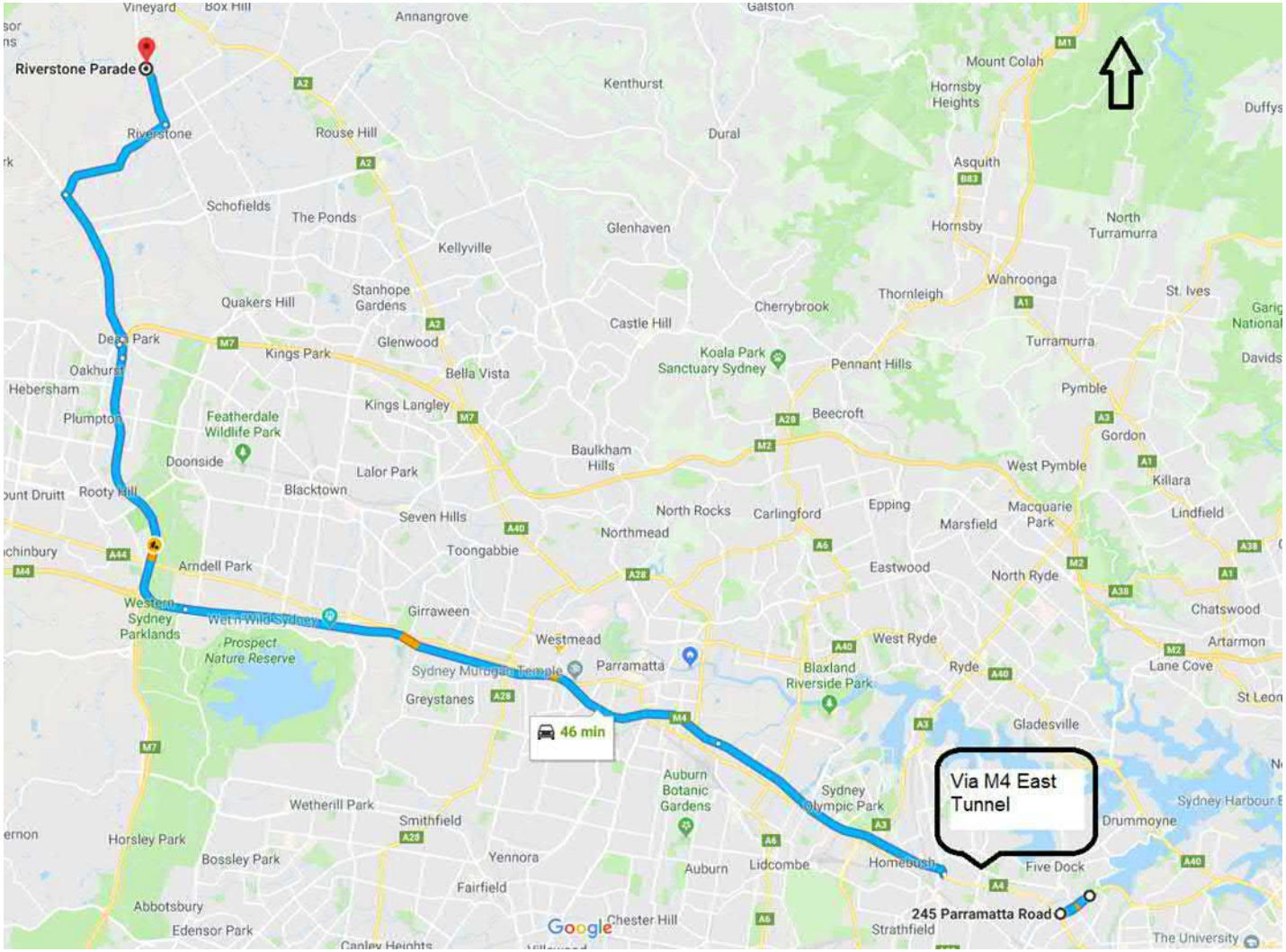
Spoil origin site	Tipping site	Est Dist	Route
Northcote	ROUTE A Wallgrove Road, Horsley Park	33 km	

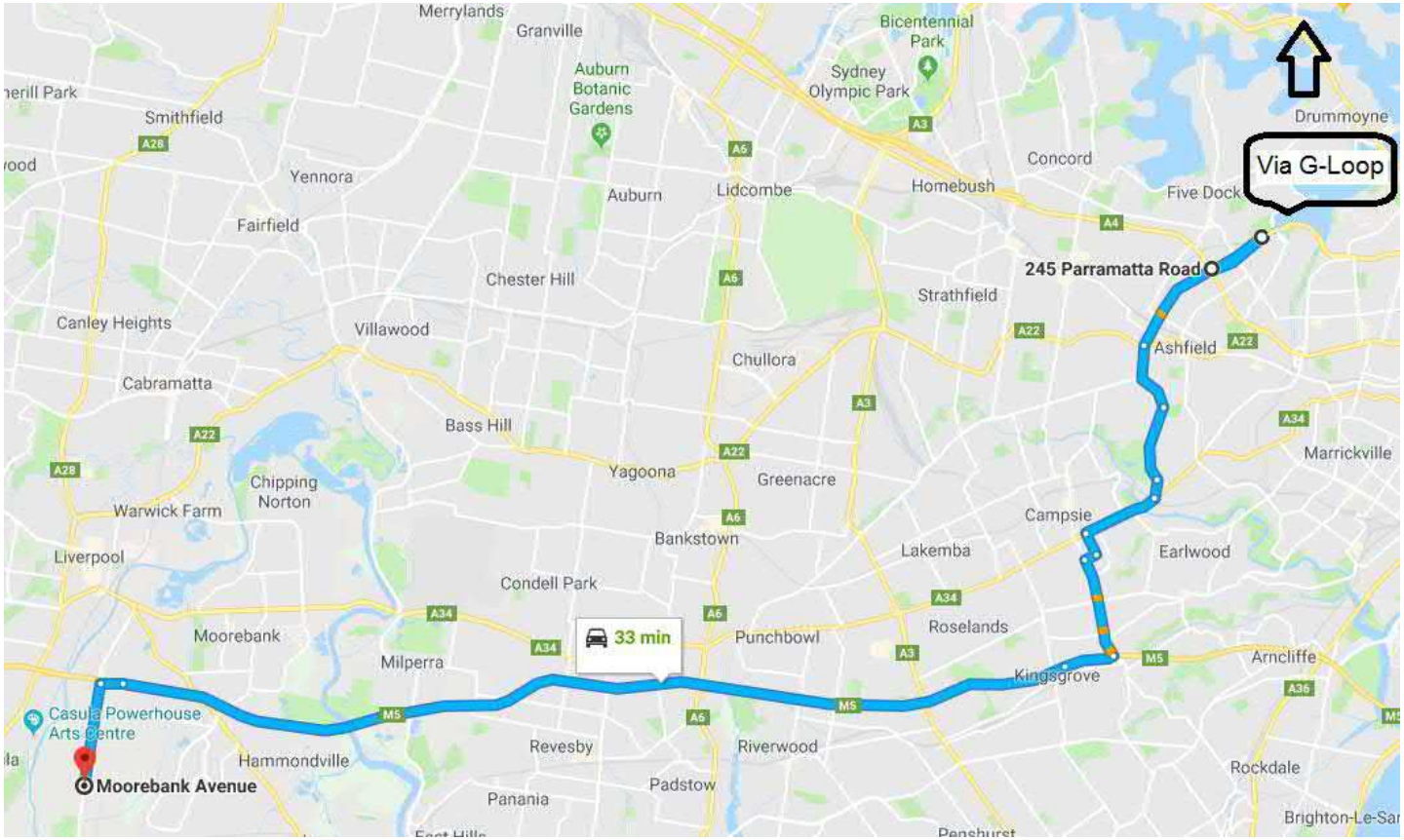
Spoil origin site	Tipping site	Est Dist	Route
Northcote	ROUTE B Wallgrove Road, Horsley Park	31 km	

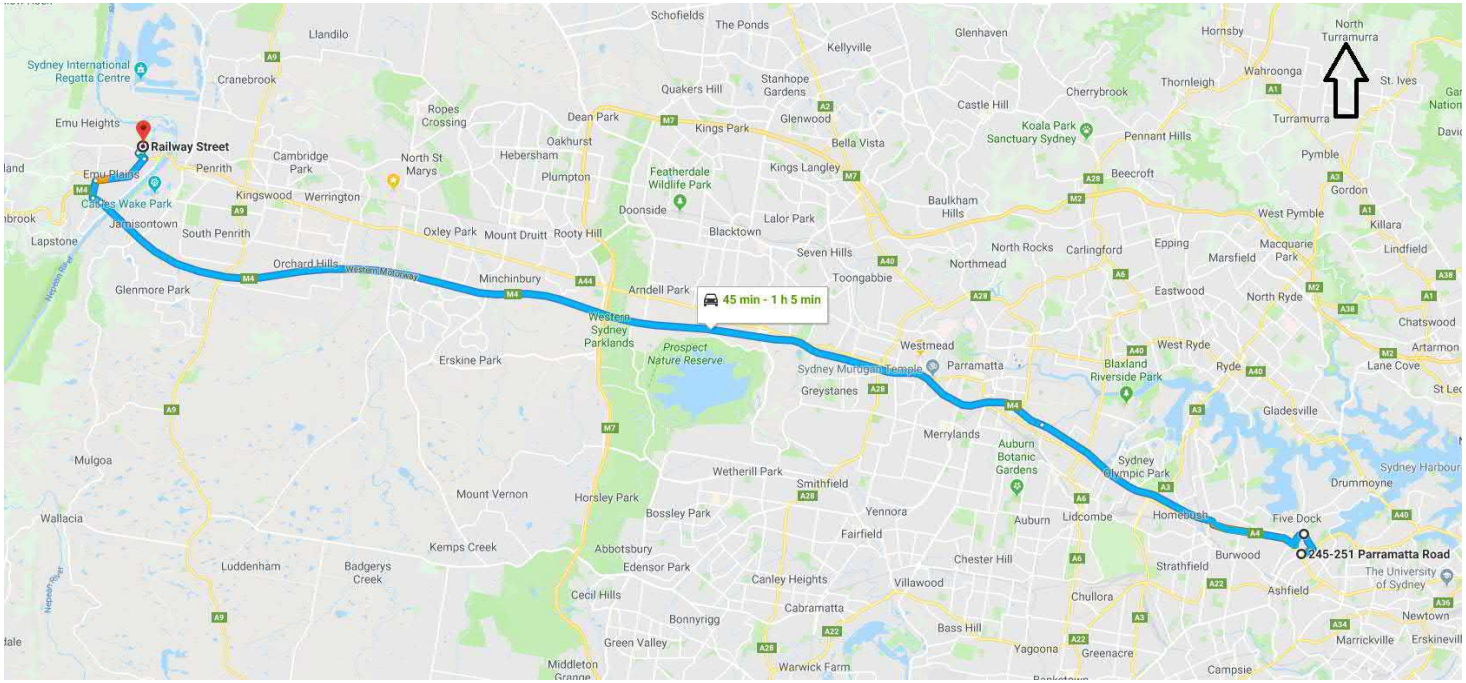
Spoil origin site	Tipping site	Est Dist	Route
Northcote	ROUTE A 920, Richmond Road, Marsden Park	39 km	

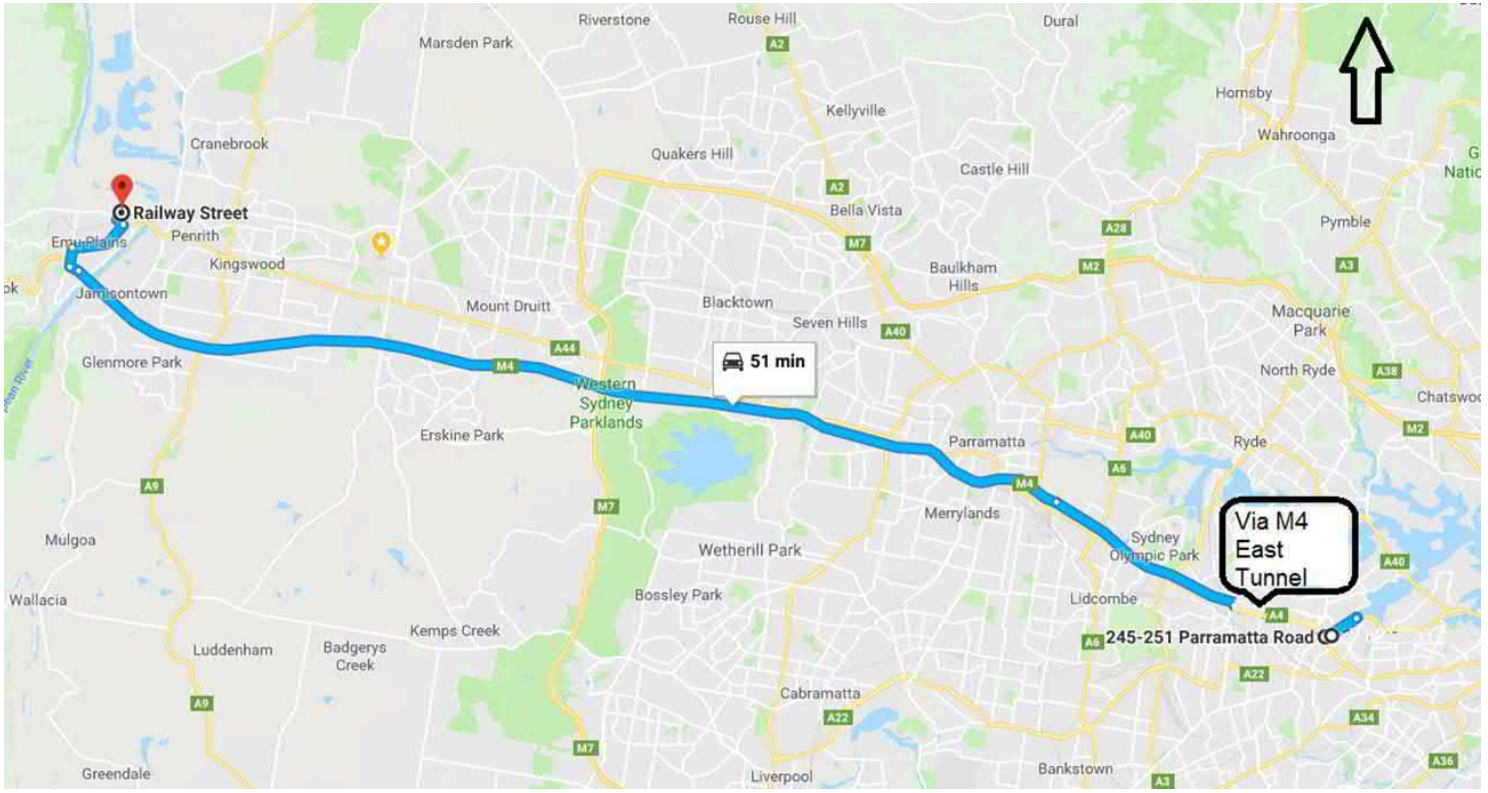
Spoil origin site	Tipping site	Est Dist	Route
Northcote	ROUTE B 920, Richmond Road, Marsden Park	37 km	

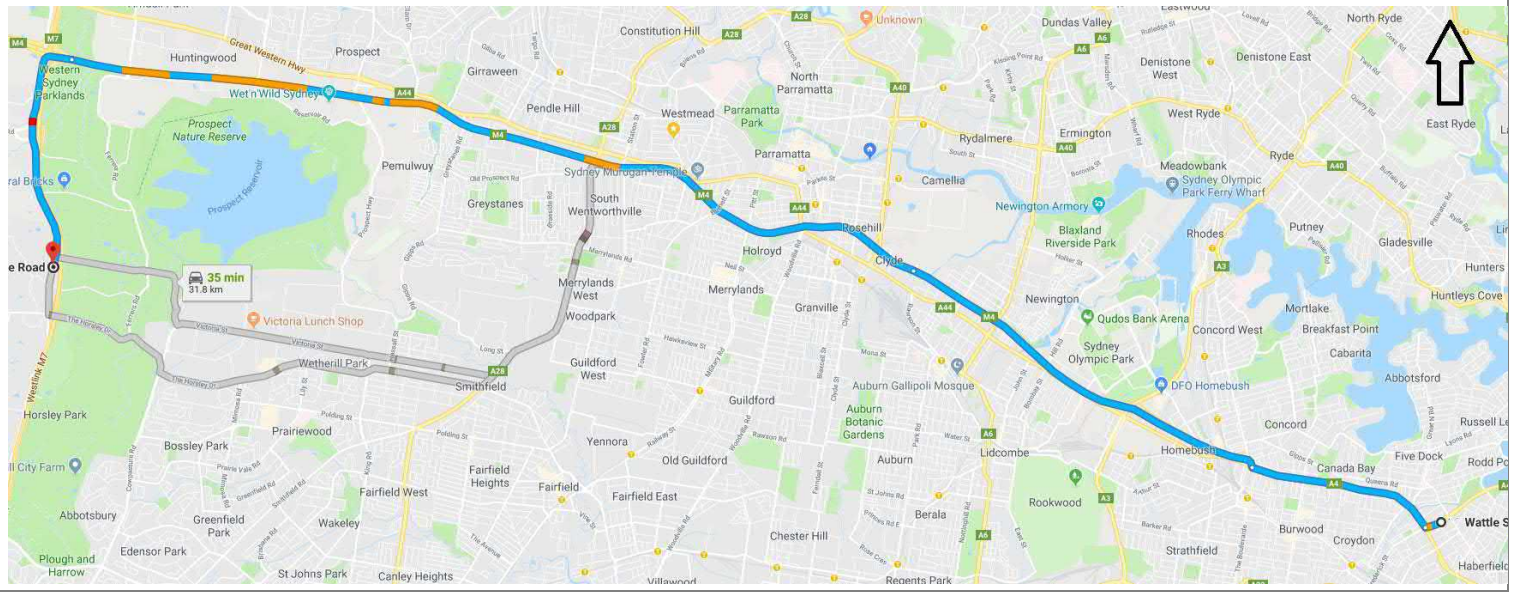
Spoil origin site	Tipping site	Est Dist	Route
Northcote	ROUTE A Riverstone Parade, Riverstone	46.7 km	

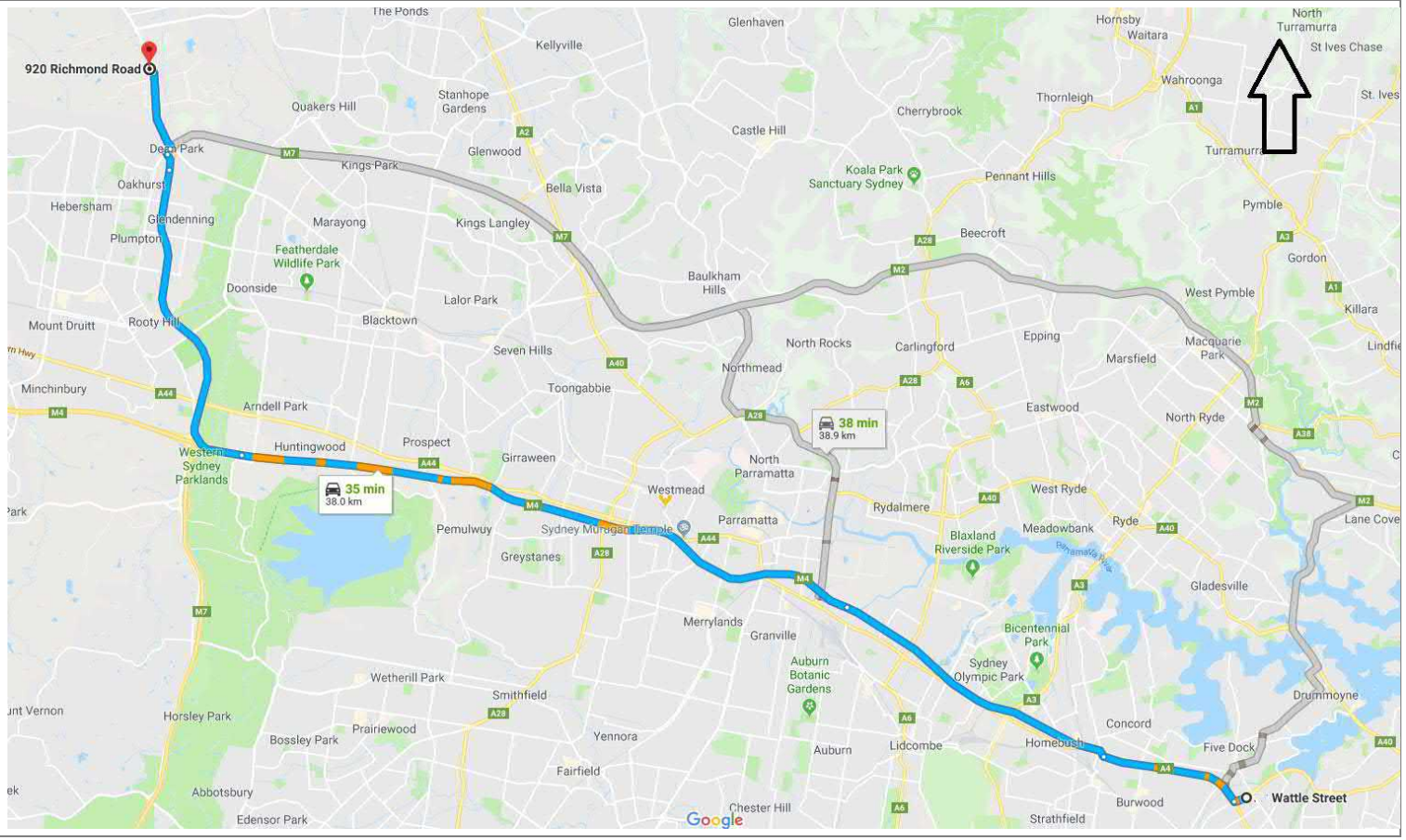
Spoil origin site	Tipping site	Est Dist	Route
Northcote	ROUTE B Riverstone Parade, Riverstone	44.7 km	

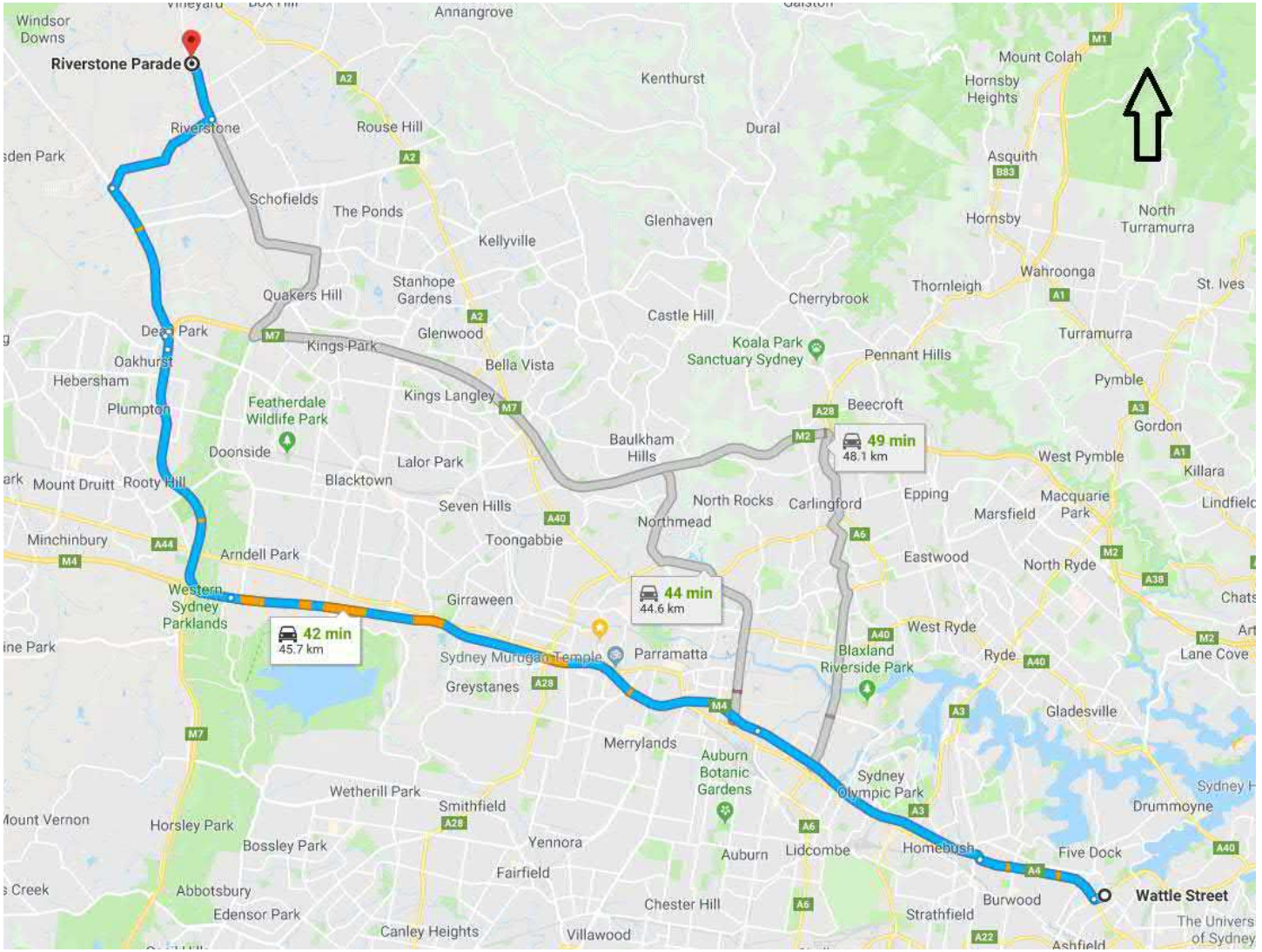
Spoil origin site	Tipping site	Est Dist	Route
Northcote	ROUTE B Moorebank Avenue, Moorebank	30 km	

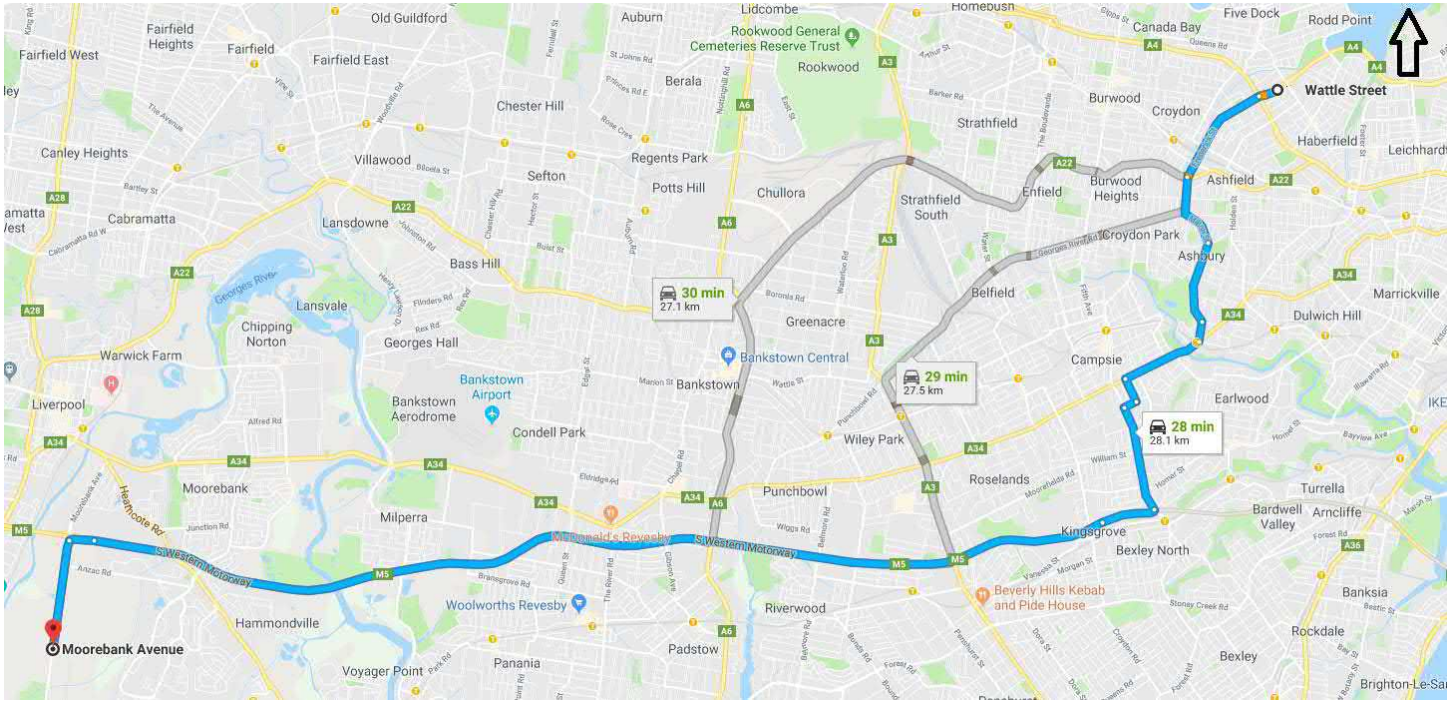
Spoil origin site	Tipping site	Est Dist	Route
Northcote	ROUTE A Railway St, Emu Plains	53 km	

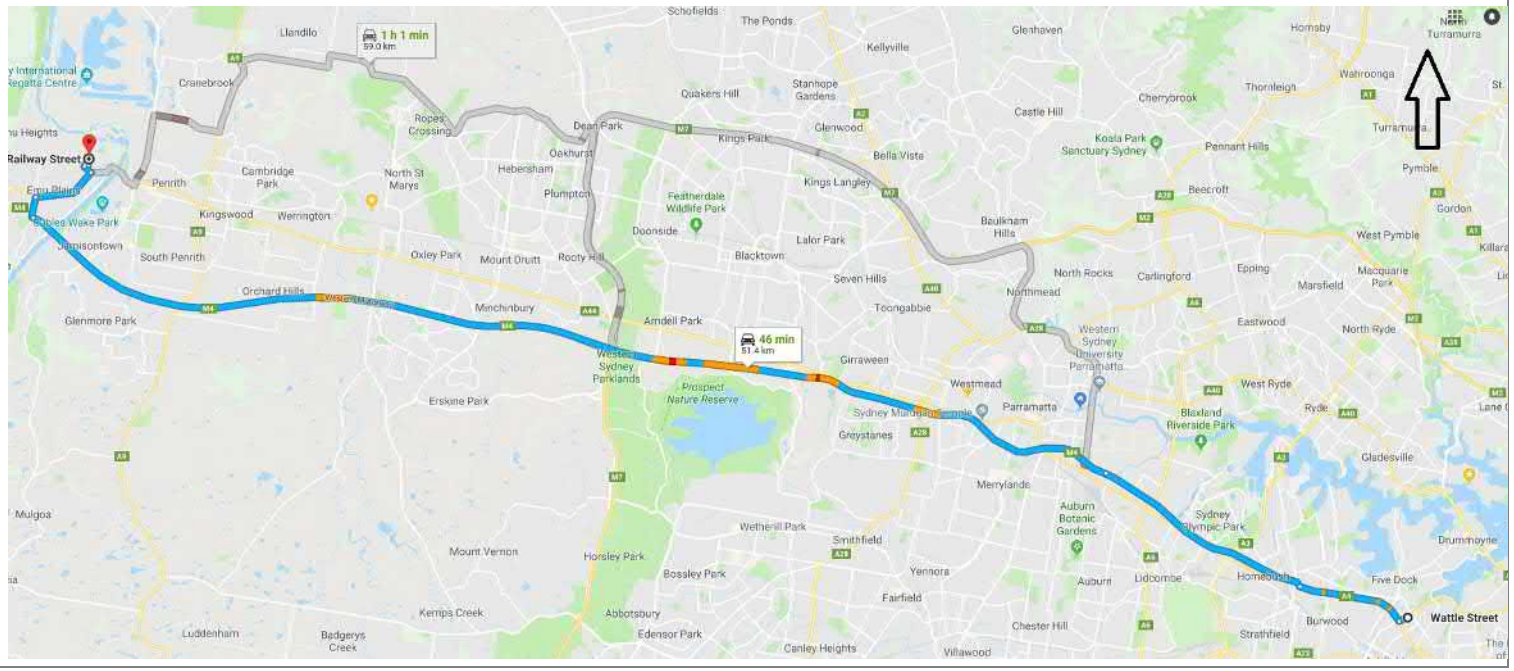
Spoil origin site	Tipping site	Est Dist	Route
Northcote	ROUTE B Railway St, Emu Plains	53 km	

Spoil origin site	Tipping site	Est Dist	Route
Wattle St	Wallgrove Rd, Horsley Park	31 km	

Spoil origin site	Tipping site	Est Dist	Route
Wattle St	Richard Road, Marsden Park	38 km	

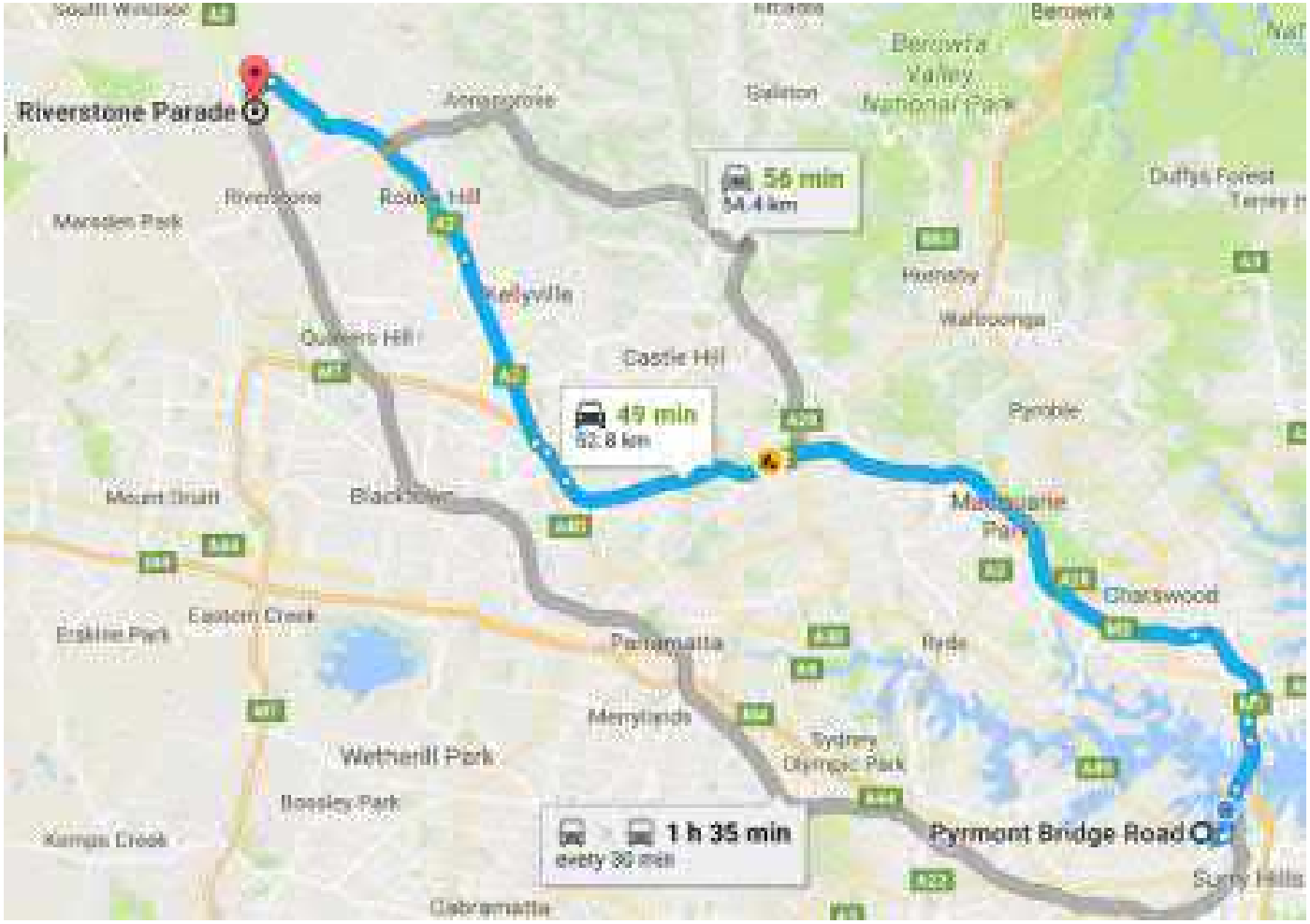
Spoil origin site	Tipping site	Est Dist	Route
Wattle St	Riverstone Parade, Riverstone	46km	

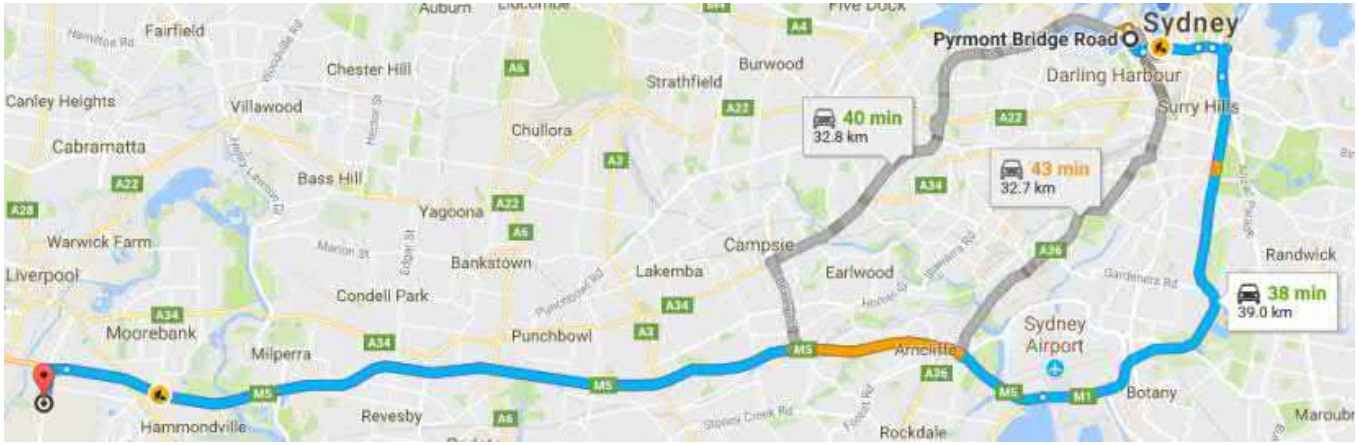
Spoil origin site	Tipping site	Est Dist	Route
Wattle St	Moorebank Avenue, Moorebank	28km	

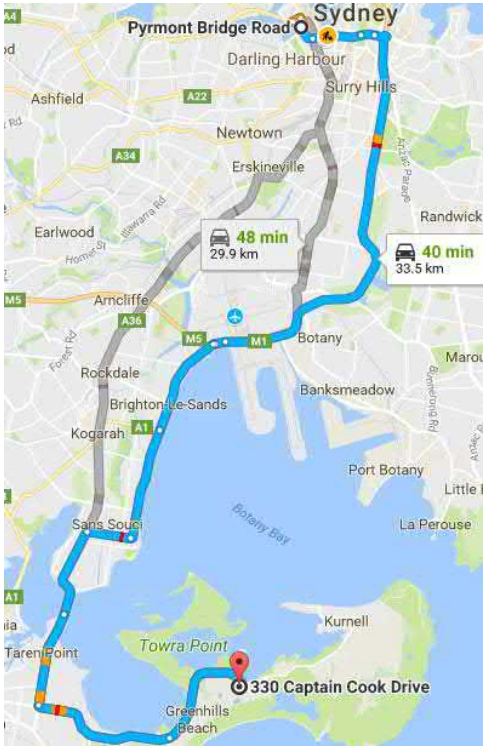
Spoil origin site	Tipping site	Est Dist	Route
Wattle St	Railway St, Emu Plains	51km	

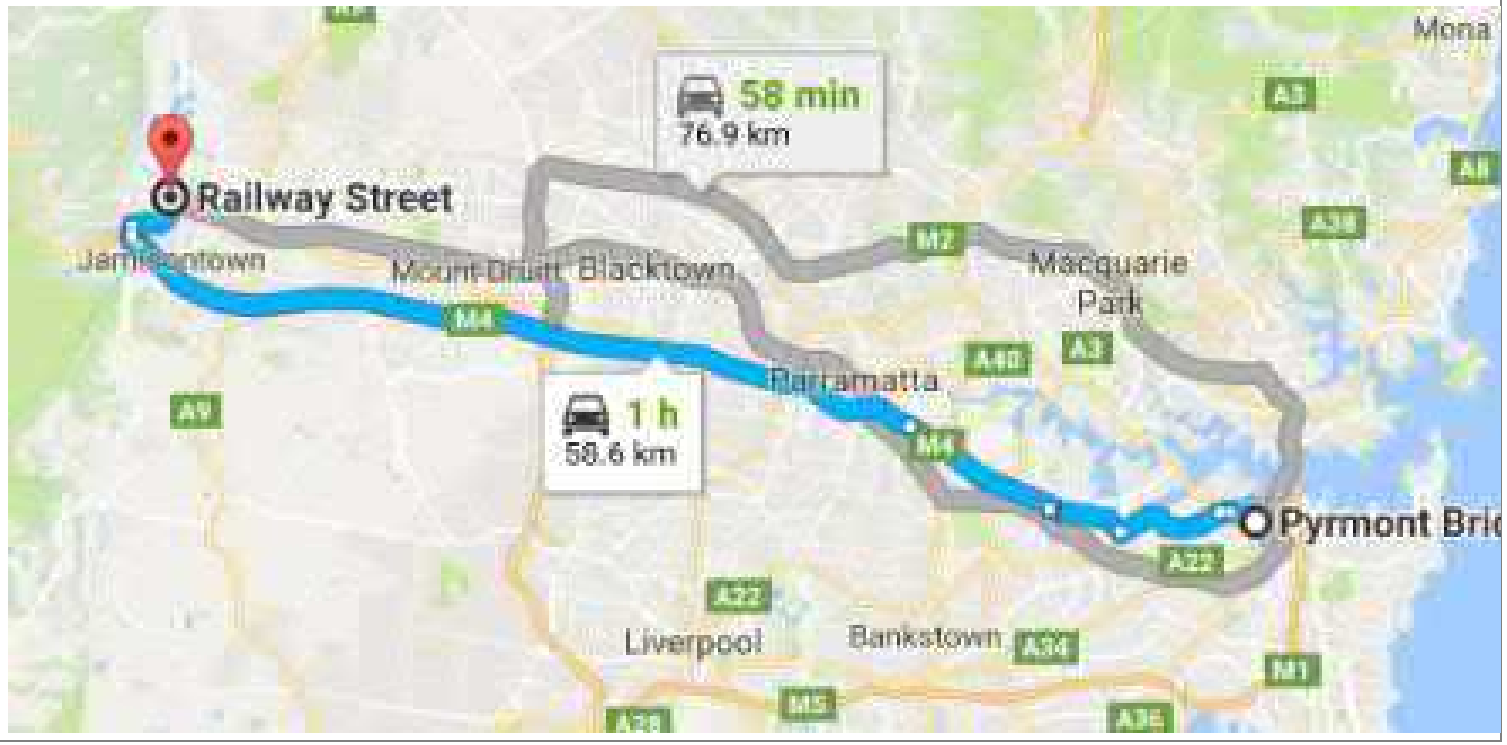
Spoil origin site	Tipping site	Est Dist	Route
Pyrmont Bridge Road	Wallgrove Road, Horsley Park	40.3 km	

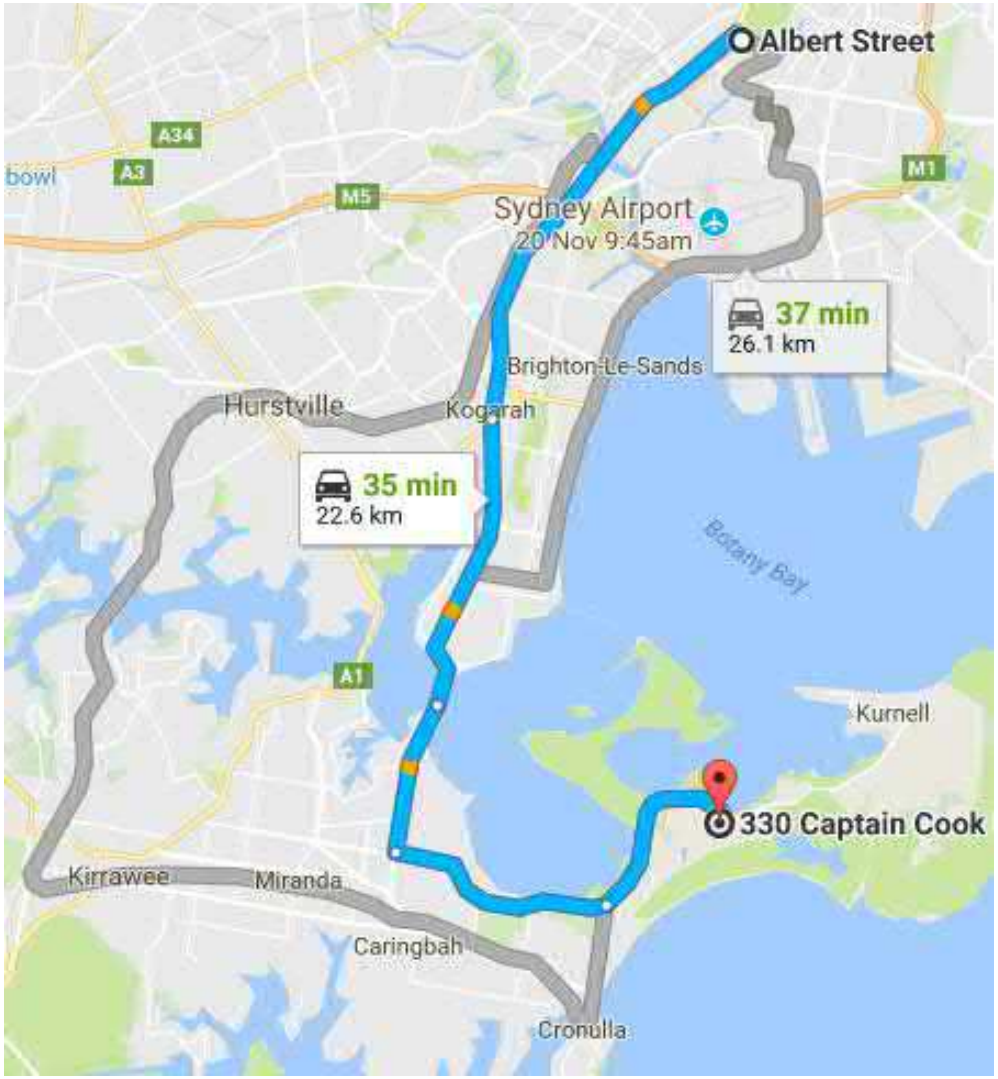
Spoil origin site	Tipping site	Est Dist	Route
Pyrmont Bridge Road	920 Richmond Road, Marsden Park	54.5 km	

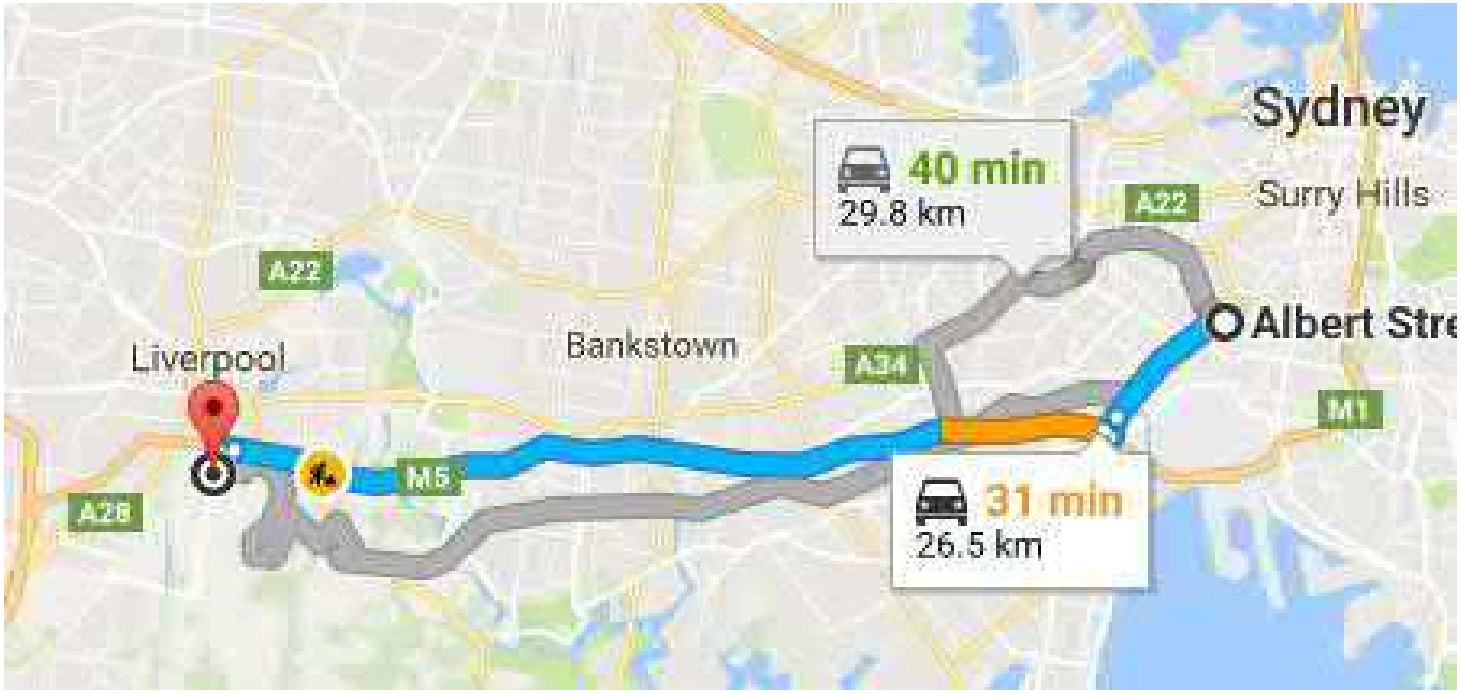
Spoil origin site	Tipping site	Est Dist	Route
Pyrmont Bridge Road	Riverstone Parade, Riverstone	52.8 km	

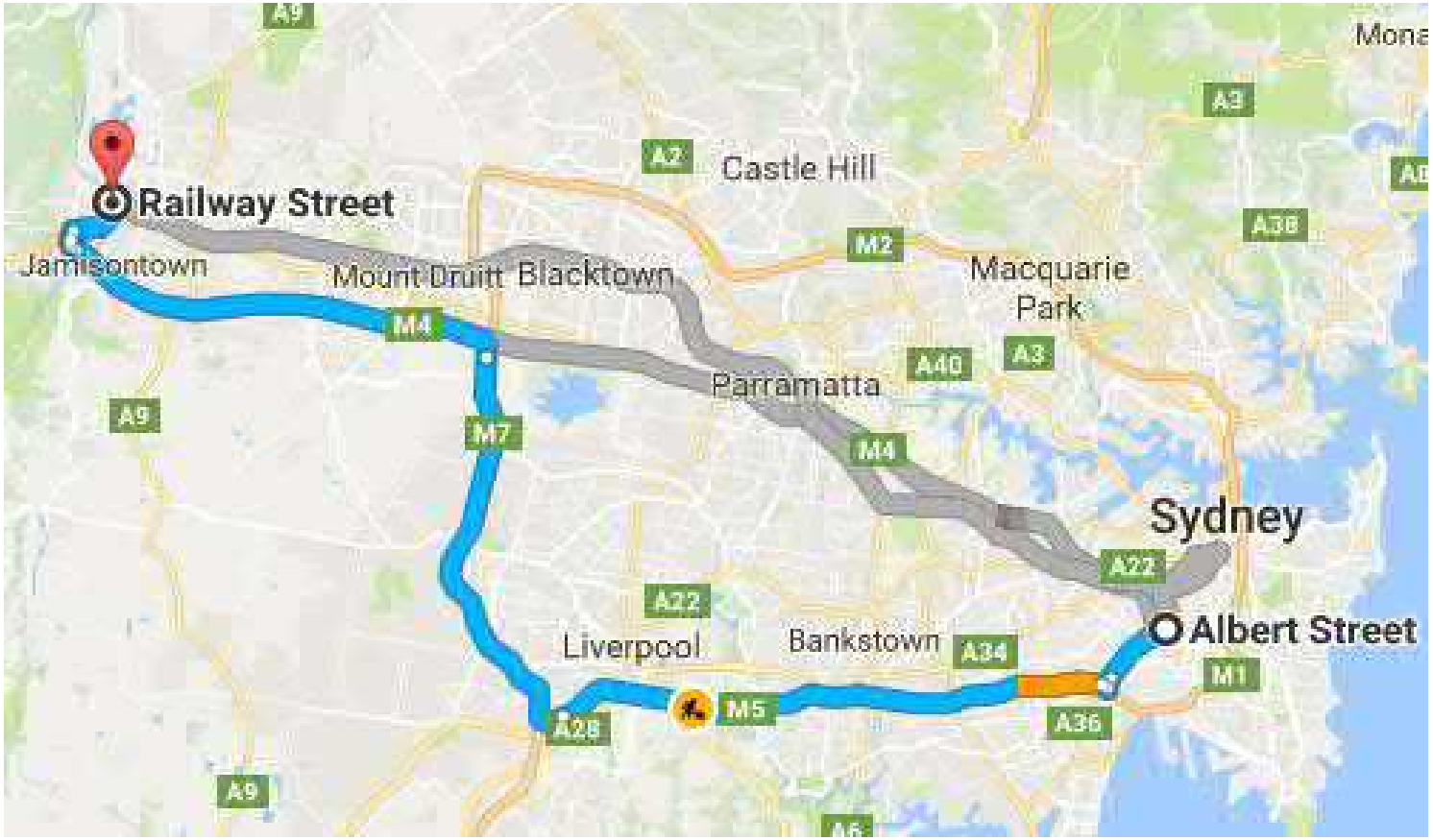
Spoil origin site	Tipping site	Est Dist	Route
Pyrmont Bridge Road	Moorebank Avenue, Moorebank	39 km	

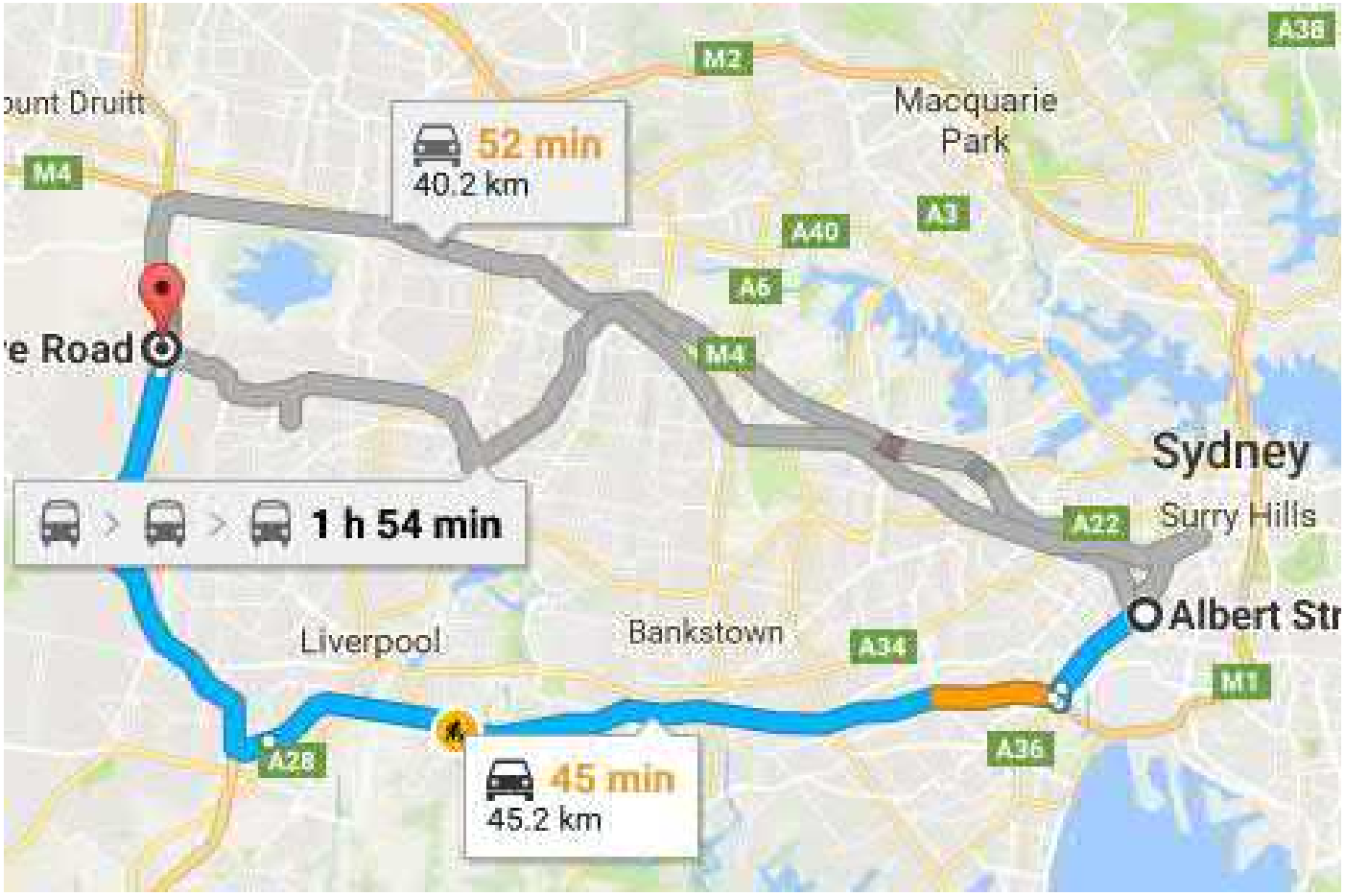
Spoil origin site	Tipping site	Est Dist	Route
Pyrmont Bridge Road	330 Captain Cook Drive, Kurnell	33.5 km	

Spoil origin site	Tipping site	Est Dist	Route
Pyrmont Bridge Road	Railway St, Emu Plains	58.6 km	

Spoil origin site	Tipping site	Est Dist	Route
St Peters Interchange	330 Captain Cook Drive, Kurnell	22.6 km	

Spoil origin site	Tipping site	Est Dist	Route
St Peters Interchange	Moorebank Avenue, Moorebank	26.5 km	

Spoil origin site	Tipping site	Est Dist	Route
St Peters Interchange	Railway St, Emu Plains	73 km	

Spoil origin site	Tipping site	Est Dist	Route
St Peters Interchange	Wallgrove Road, Horsley Park	45.2 km	

Spoil origin site	Tipping site	Est Dist	Route
St Peters Interchange	Riverstone Parade, Riverstone	61.6 km