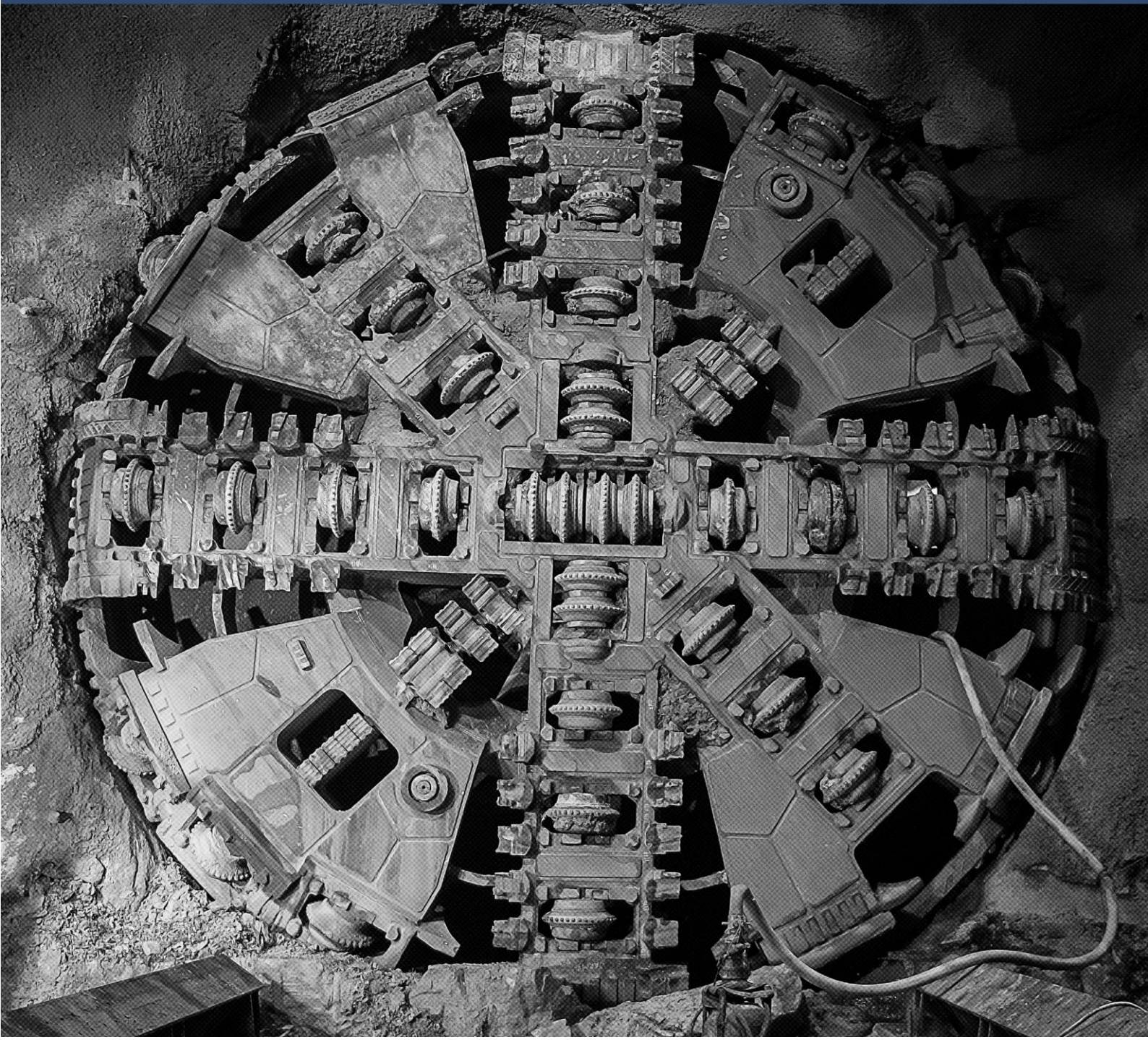


Heavy Vehicle Local Road Report for Use of Local Roads

Hunter Street East & West Construction Sites – Rev F



Hunter Street East & West Construction Sites

Project number	7040
Document number	SMWSTETP-JCG-SCB-SN100-TF-RPT-093007

Rev	Date	Prepared by	Reviewed by	Comments	Approved by
A	04/08/2023				
B	28/08/2023				
C	30/01/2024			Updated to include Macquarie St SB movements	
D	20/2/24			Updated to address comments from Rev C	
E	26/2/24			Updated to address CJP comments 26 from Rev D	
F	8/3/24			Updated to include the close out comments log from Rev E	
Signature:					

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1. Introduction

1.1. Project Background

Sydney Metro West is a new 24-kilometre metro line that will connect Greater Parramatta with the Sydney CBD via stations at Westmead, Parramatta, Sydney Olympic Park, North Strathfield, Burwood North, Five Dock, The Bays, Pyrmont and Hunter Street (Sydney CBD).

The planning process for Sydney Metro West was assessed as a staged infrastructure application under section 5.20 of the Environment Planning and Assessment Act 1979 (EP&A Act).

Stage 1 of the development, the Sydney Metro West Concept and major civil construction work for Sydney Metro West between Westmead and The Bays (SSI-10038 Schedule 2), was approved on 11 March 2021 and includes:

- Construction of a new passenger rail infrastructure between Westmead and the central business district of Sydney, including:
 - Tunnels, stations (including surrounding areas) and associated rail facilities
 - Stabling and maintenance facilities (including associated underground and overground connections to tunnels)
- Modification of existing rail infrastructure, including stations and surrounding areas
- Ancillary development.

Stage 2 of the planning approval process, the ETP Works, includes all major civil construction work including station excavation (Pyrmont Station and Hunter Street Station (Sydney CBD) and tunnelling between The Bays and Sydney CBD (Figure 1).

It is noted that the existing Sydney Metro West precast facility at Eastern Creek will be utilised in the delivery of concrete segments.

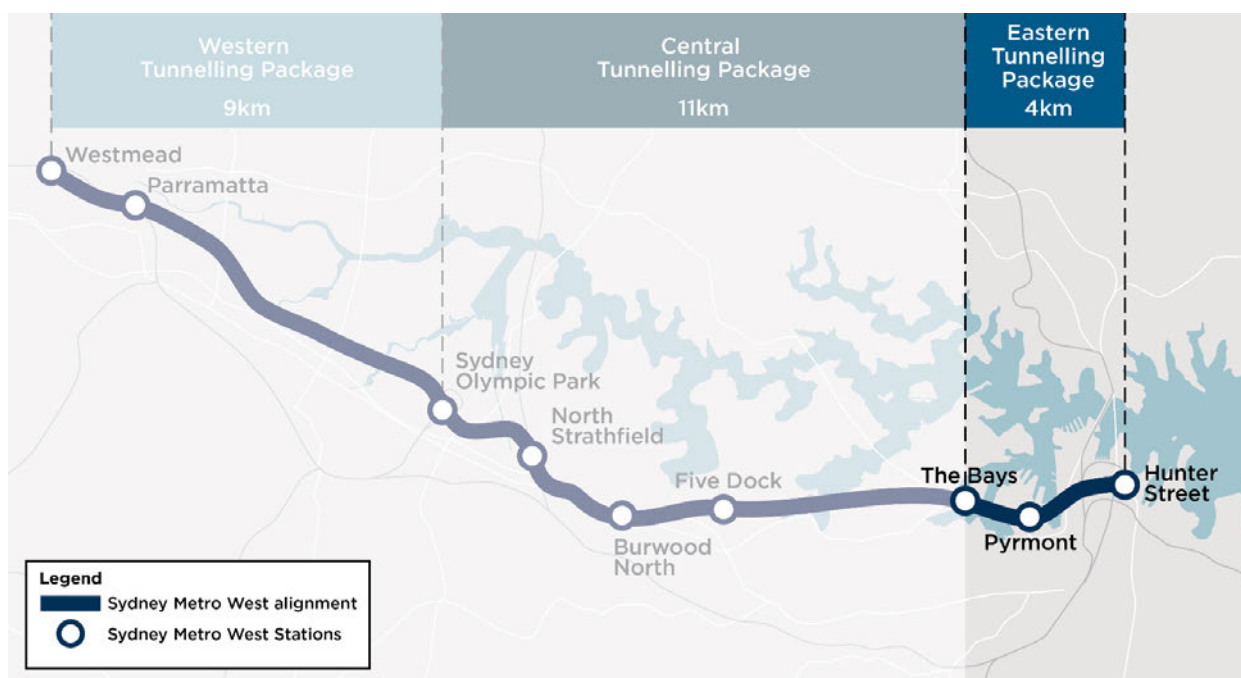


Figure 1: Sydney Metro West alignment

1.2. Purpose and Scope of this HVLR

The scope of this Heavy Vehicle Local Road (HVLR) report is in relation to the heavy vehicle route which is in addition to the approved haulage routes. There is one additional outbound route required to service the Hunter East and West construction sites towards the west via Anzac Bridge.

The following assessments have been undertaken in this HVLR to address the Ministerial Conditions of Approval:

- Swept path analysis assessment for the design vehicle (12.5m long HRV) along the proposed alternative outbound haulage route as depicted in the dotted yellow line in Figure 6. The swept path diagrams include all intersections where turning movements of the design vehicle will occur along this haulage route.
- Road Safety Audit undertaken independently on the swept path assessment with a site inspection to identify safety issues associated with pedestrians, cyclists and two-way traffic flow.
- Details on the dates of the road dilapidation survey for the subject alternative haulage route.
- Measures to avoid schools, aged care facilities, and childcare facilities during their peak operation times.
- Development of recommendations on the suitability of the proposed alternative haulage route taking into consideration the above assessment results.

1.3. Ministerial Conditions of Approval

This report complies with the following Condition of Approvals (CoA) and Revised Environmental Management Measures requirements.

Table 1: Compliance to CoA

ID	Conditions	Reference in this HVLR Report
D73	Local roads proposed to be used by heavy vehicles to directly access construction sites that are not identified in the documents listed in Condition A1 must be approved by the Planning Secretary and be included in the CTMPs.	This HVLR report
D74	All requests to the Planning Secretary under Condition D73 must include the following:	-
	(a) a swept path analysis;	Section 3 Appendix A
	(b) demonstration that the use of local roads by heavy vehicles for the CSSI will not compromise the safety of pedestrians and cyclists or the safety of two-way traffic flow on two-way roadways;	Section 4 Appendix B
	(c) details as to the date of completion of the road dilapidation surveys for the subject local roads;	Section 2.8
	(d) measures that will be implemented to avoid where practicable the use of roads past schools, aged care facilities and child care facilities during their peak operation times; and	N/A (Section 2.5 and Section 2.6) Refer to Section 2.7.2 for pedestrian and cyclist management
	(e) written advice from an appropriately qualified professional on the suitability of the proposed heavy vehicle route which takes into consideration items (a) to (d) of this condition.	Section 6

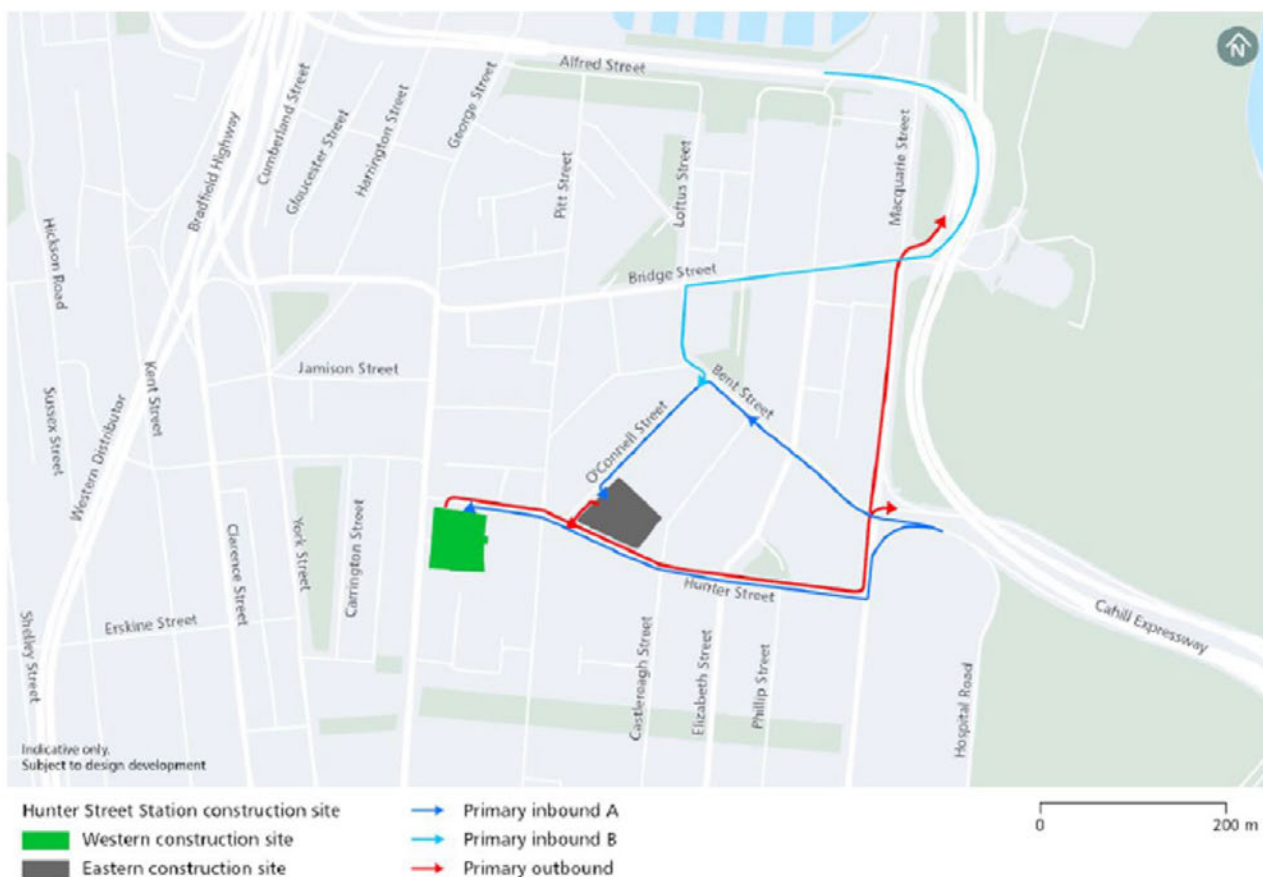
Table 2: Compliance to REMM

ID	Conditions	Reference in this HVLR Report
TT6	All trucks would enter and exit construction sites in a forward direction, where feasible and reasonable.	Appendix A
TT7	Construction site traffic would be managed to minimise movements during peak periods.	Section 2.7.3
TT8	Construction site traffic would be managed to minimise vehicle movements through school zones during pick up and drop off times.	N/A (Section 2.5 and Section 2.6) Refer to Section 2.7.2 for pedestrian and cyclist management

Refer to Construction Traffic Management Plans SMWSTETP-JCG-SCB-SN100-TF-PLN-002041_Hunter St East - Stage 1 - Tunnel Excavation CTMP, SMWSTETP-JCG-SCB-SN100-TF-PLN-002391-Hunter St West - Stage 2 CTMP – Excavation and SMWSTETP-JCG-SCB-SN100-TF-PLN-002050-Hunter St East CTMP - Stage 2 - Demolition for the compliance for other REMM requirements.

1.4. Existing Approved Routes

The existing approved EIS routes for the Hunter Street construction sites are shown in Figure 2, as identified in the Response to Submission (RTS).



Reference: Response to Submission

Figure 2: Existing Approved Haulage Routes

The approved haulage routes for the Heavy Vehicle Local Road (HVLR) report for the Hunter Street West Construction Site Rev 0 as shown in Figure 3.



Figure 3: Approved Construction Haulage Routes from the Hunter Street West HVLR Report

The RTS haulage routes as shown in Figure 2 require the use of Loftus Street which Council proposed to close to vehicular traffic. Refer to the separate HVLR report in relation to using Gresham Street in lieu of Loftus Street. This route is shown in Figure 4 as a modification from the RTS routes and has since been approved.

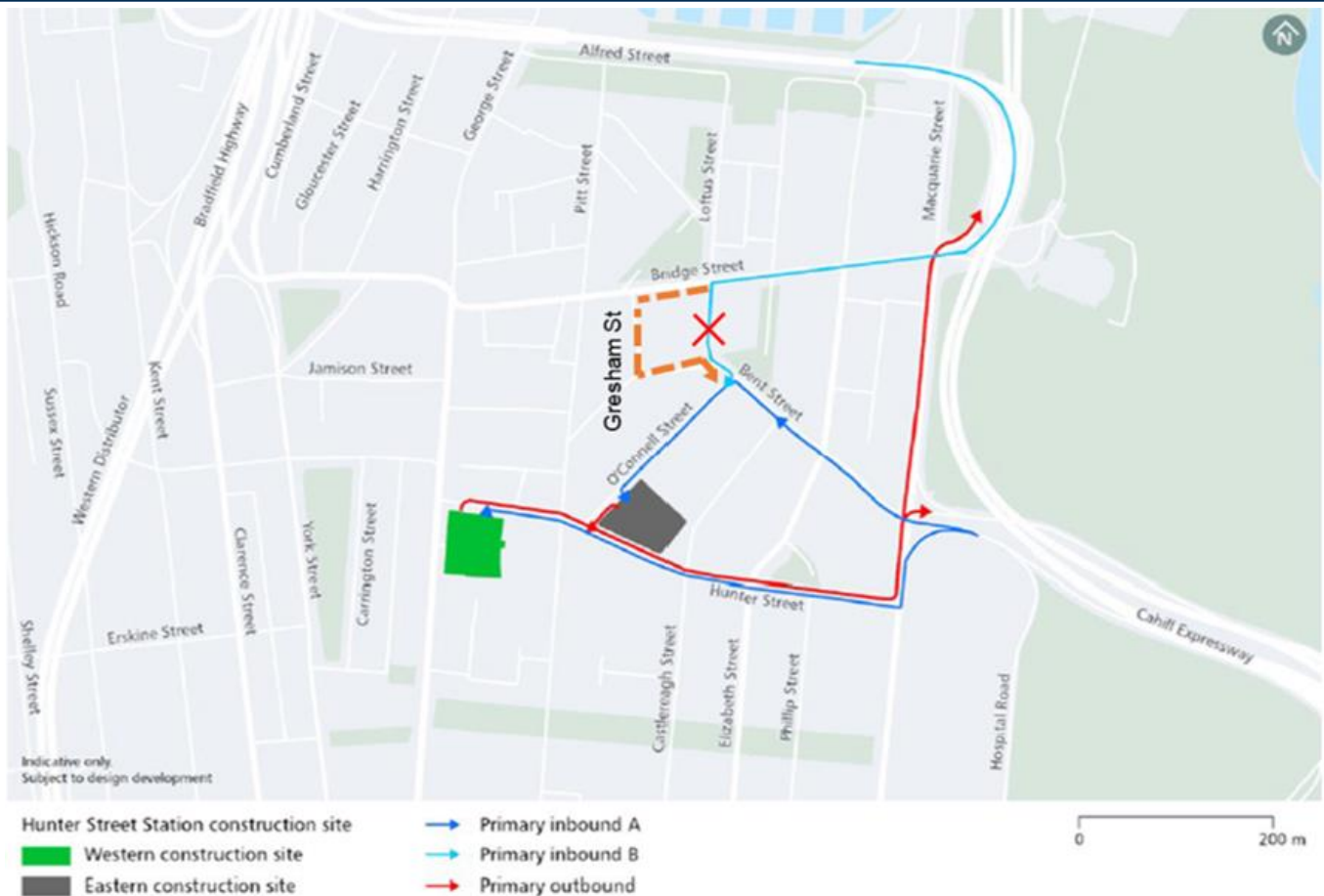


Figure 4: Construction Haulage Route using Gresham Street in Lieu of Loftus Street in a Separate Hunter Street East Construction HVLR Report

Haulage routes for the Hunter Street East and West construction site have been approved to/from the west via City West Link and Anzac Bridge to connect to the projects marshalling site located at the Bays. Refer to the separate HVLR report for the use of these routes towards Anzac Bridge. These approved haulage routes are depicted by the dotted green line in Figure 5.

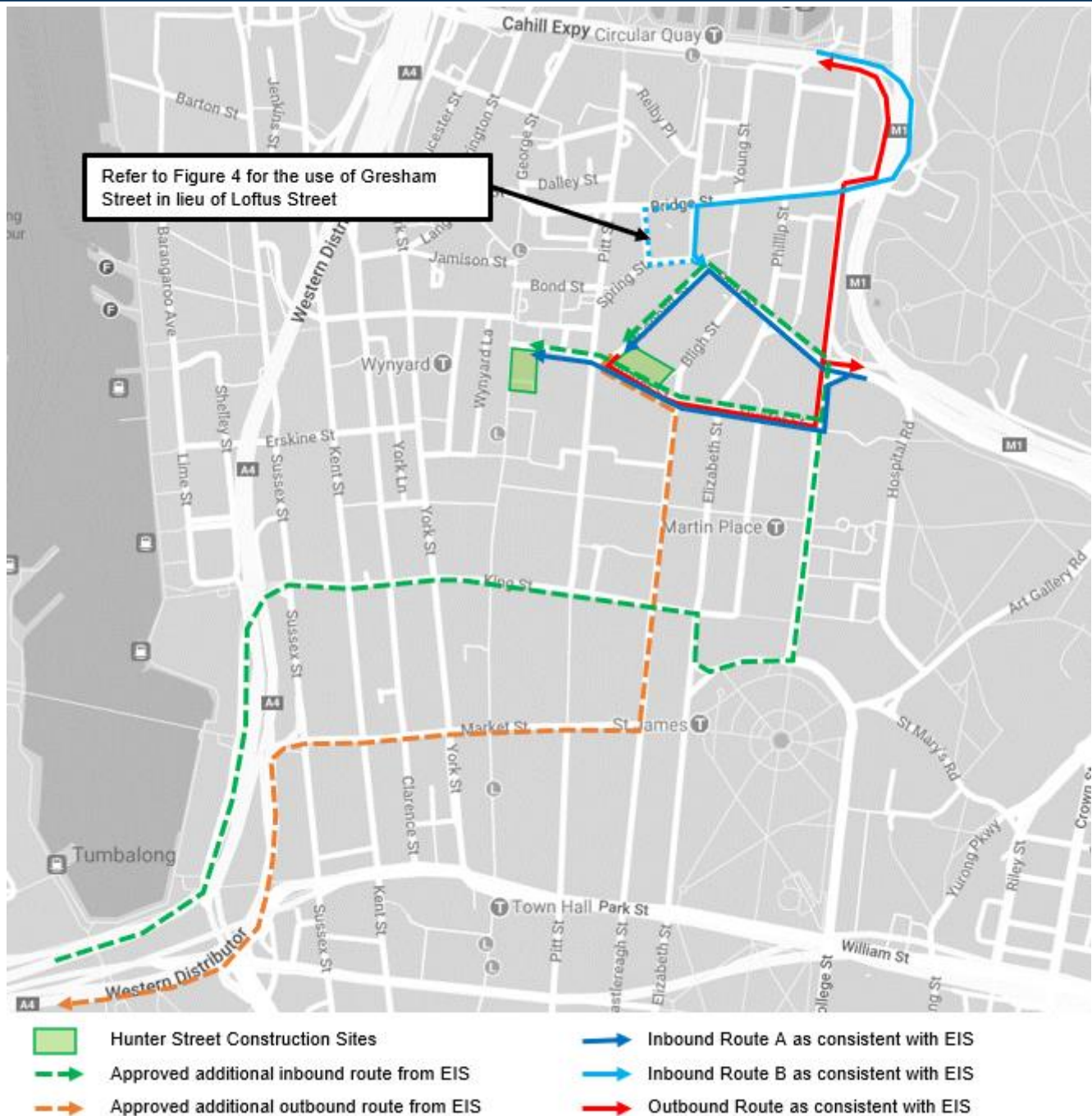


Figure 5: Approved Modified Haulage Routes

2. Proposed Route and Local Roads to be Used

2.1. Proposed Route and Local Roads

JCG JV recognise that effective management of haulage operations is not only critical to the success of the project, but it is also necessary to minimise the impacts on the road network and increase pedestrian and cyclist safety. The proposed alternative haulage route has been selected on the basis that trucks are to utilise State and Regional Roads, where possible, before traveling on local roads. Sensitive areas such as schools, aged care facilities and childcare facilities will be avoided, where possible.

The JCG JV proposed an alternative outbound route to the existing outbound route to the Anzac Bridge via Macquarie Street, shown by the yellow dotted line in Figure 6.

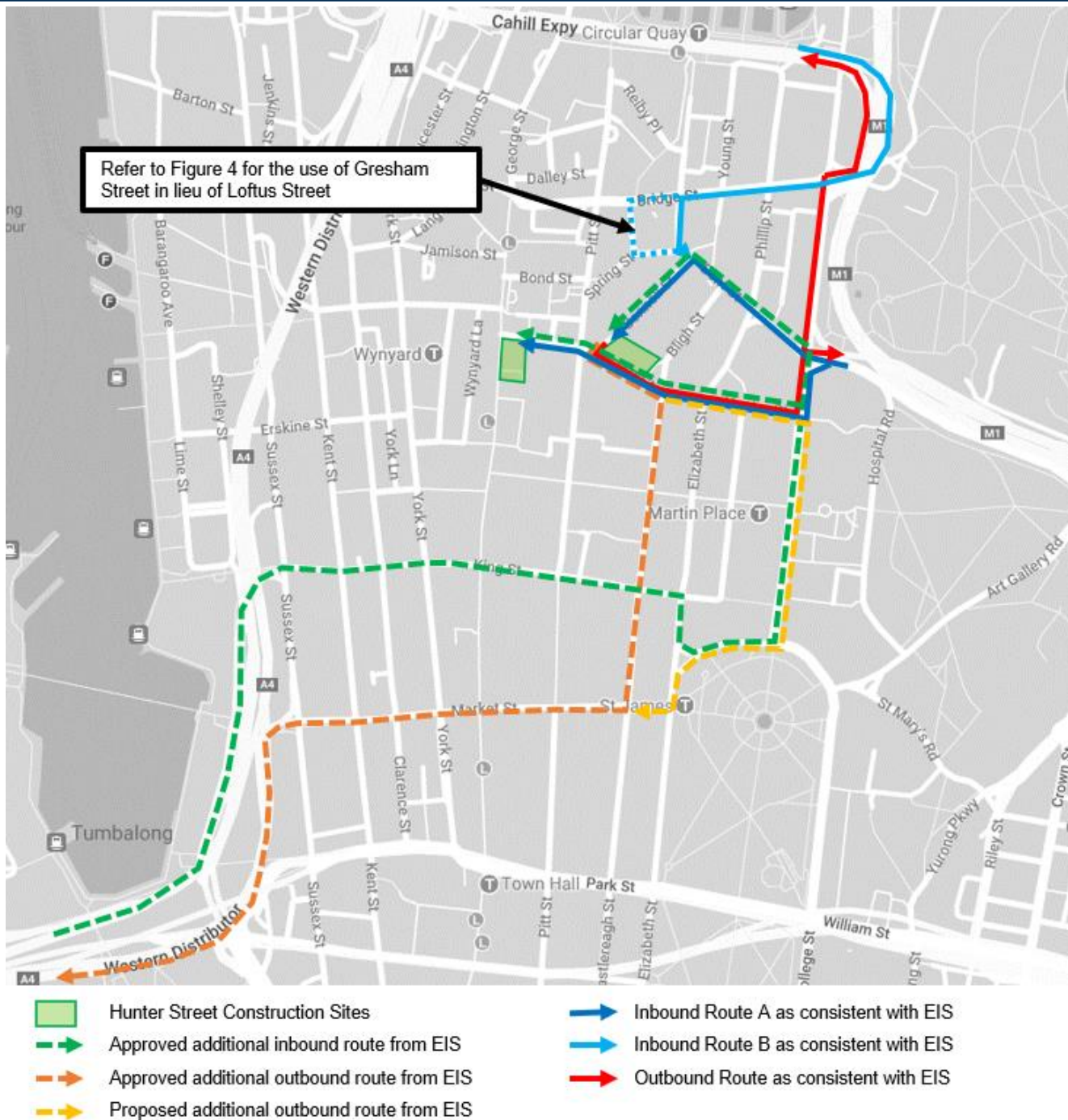


Figure 6: Modified Haulage Route

The full extent of proposed additional outbound route as depicted by the yellow line in Figure 6 is described as follows:

- Turn left from O'Connell Street onto Hunter Street (as consistent with EIS)
- Turn right from Hunter Street onto Macquarie Street (proposed)
- Turn right Macquarie Street onto St James Road (proposed)
- Turn left from St James Road onto Elizabeth Street (proposed)
- Turn right from Elizabeth Street onto Market Street (proposed)
- Turn left from Market Street onto Western Distributor (approved)

As this proposed alternative route is in addition to the EIS routes as shown in the Response to Submission (RTS), they trigger planning approval conditions D73 and D74 as shown in Table 1.

The relevant swept paths for the proposed haulage route are contained in Appendix A. JCG JV identifies the largest vehicle to be used at the Hunter Street East and West construction sites, which is a 12.5m heavy rigid vehicle (HRV). This is the largest vehicle allowed to travel in the Sydney CBD without requiring a permit. The proposed largest construction vehicle is consistent with what was identified in the EIS. Therefore, the traffic impacts would be no worse than what was identified in the EIS.

2.2. Existing Road Environment

Existing road environment and the road network surrounding the subject site and the proposed haulage route are described as follows:

Hunter Street is a four-lane, two-way road in the CBD road network, extending between George Street in the west to Macquarie Street in the east. The section of the road between George Street and Pitt Street provides loading zones, taxi zones and four-hour restricted parking along the kerbside of the road. Hunter Street intersects with George Street, Pitt Street and Castlereagh Street via signalised junctions with marked pedestrian crossings on all approaches of the intersections.

George Street between Grosvenor Street and Ultimo Road is pedestrianised with the Sydney light rail track running down the centre of roadway. Vehicle access on George Street is restricted to local residents and tenants where vehicular access to existing buildings along George Street are retained. Parking along both sides of George Street are prohibited in the near vicinity of the site.

King Street is a one-way street between Sussex Street to the west and Phillip Street to the east. King Street has three eastbound lanes with parking permitted on sections of the kerbside lane on the south side. A separate bi-directional cycleway is provided on the north side of King Street between Pitt Street and Queen Square.

Elizabeth Street is a two-way road, with 2 to 3 travel lanes in each direction. A bus lane is provided in both northbound and southbound directions. The kerbside lane use involves time restricted parking, loading zone and taxi zone depending on the time of the day. A bus zone is provided in sections of Elizabeth Street.

Phillip Street is a two-lane, two-way road and is referred as Chiefly Square for a short section at the southern end, north of Elizabeth Street. The kerbside lane on both sides of the road is a taxi zone and No Parking zone. A bus lane is provided in the southbound direction.

Bridge Street is a four-lane, two-way road in the CBD road network, extending between George Street to the west to Macquarie Street to the east. Parking is generally not permitted on Bridge Street.

Macquarie Street is a four-lane, two-way road with indented time restricted parking and loading zone in sections on the west side of the road. Clearway is applicable during special events with specific days shown on the Clearway signs.

St James Road is a two-lane, two-way road that runs along the northern end of the Hyde Park between Elizabeth Street and Macquarie Street. The kerbside use in the north side of the road involves restricted parking, No parking zone depending on the time of the day. Clearway is applicable during special events with specific days shown on the Clearway signs.

Market Street is a three to four lane, one-way road between Elizabeth Street and York Street, with restricted parking, loading zone, taxi zone and bus zone restrictions on either side of the road. Between York Street and Sussex Street it has two to three lanes westbound, and one to two lanes eastbound, with no parking allowed on either side of the road. Clearway is applicable during special events with specific days shown on the Clearway signs.

2.3. Public Transport Network

The Hunter Street construction sites are surrounded by extensive public transport services due to the location with the Sydney CBD in close proximity to various commercial offices, retail and hospitality

buildings, and shopping centres. Public transport services around the site vicinity include trains, buses, light rails and ferries.

Train stations in vicinity of the subject site include Wynyard, Circular Quay and Martin Place station. These train stations are serviced by multiple train lines, including T2 Inner West, T8 Airport and South, T1 North Shore and Western, T9 Northern Line and Central Coast & Newcastle, T4 Eastern Suburbs and Illawarra train lines. These train lines provide connections across the Sydney Greater Metropolitan Area through the Sydney CBD.

It is noted Sydney metro City and Southwest (Chatswood to Sydenham) Is currently underway, which is expected to be operational in 2024. This would open up three additional metro stations in the Sydney CBD, namely Barangaroo, Martin Place and Pitt Street. These stations are located within the proximity of the subject site. It is also noted that the proposed construction works would coincide with the Sydney Metro City and Southwest project.

Light rail services can be accessed at the nearby Bridge Street and Wynyard light rail stops. Both of these light rail stops are serviced by L2 Randwick Line and L3 Kingsford Line, which provide connection between the Sydney CBD, Surry Hills, Moore Park, Kingsford and Randwick. Bus stops are extensively available across the Sydney CBD, consolidating along York Street, Carrington Street, Clarence Street, Kent Street, Bridge Street, Phillip Street and Macquarie Street. The buses running through the Sydney CBD and servicing these bus stops provide connections to a number of suburbs and suburban hubs across the Greater Sydney Metropolitan Area. Night bus services are also available at some of these bus stops to accommodate the night travel demand induced by the surrounding licenced and entertainment venues within the Sydney CBD.

Ferry services can be accessed at Circular Quay, which is located at approximately 650m walking distance (8-minute walk) from the Hunter Street West construction site. The F1 Manly, F2 Taronga Zoo, F3 Parramatta River, F4 Pyrmont Bay, F5 Neutral Bay, F6 Mosman Bay, F7 Double Bay, F8 Cockatoo Island and F9 Watson Bay ferry lines service the Circular Quay wharfs, which provide connection between Circular Quay and multiple suburbs along the Sydney Harbour.

The public transport network facilities and services in the vicinity of the Hunter Street construction sites are shown in Figure 7.

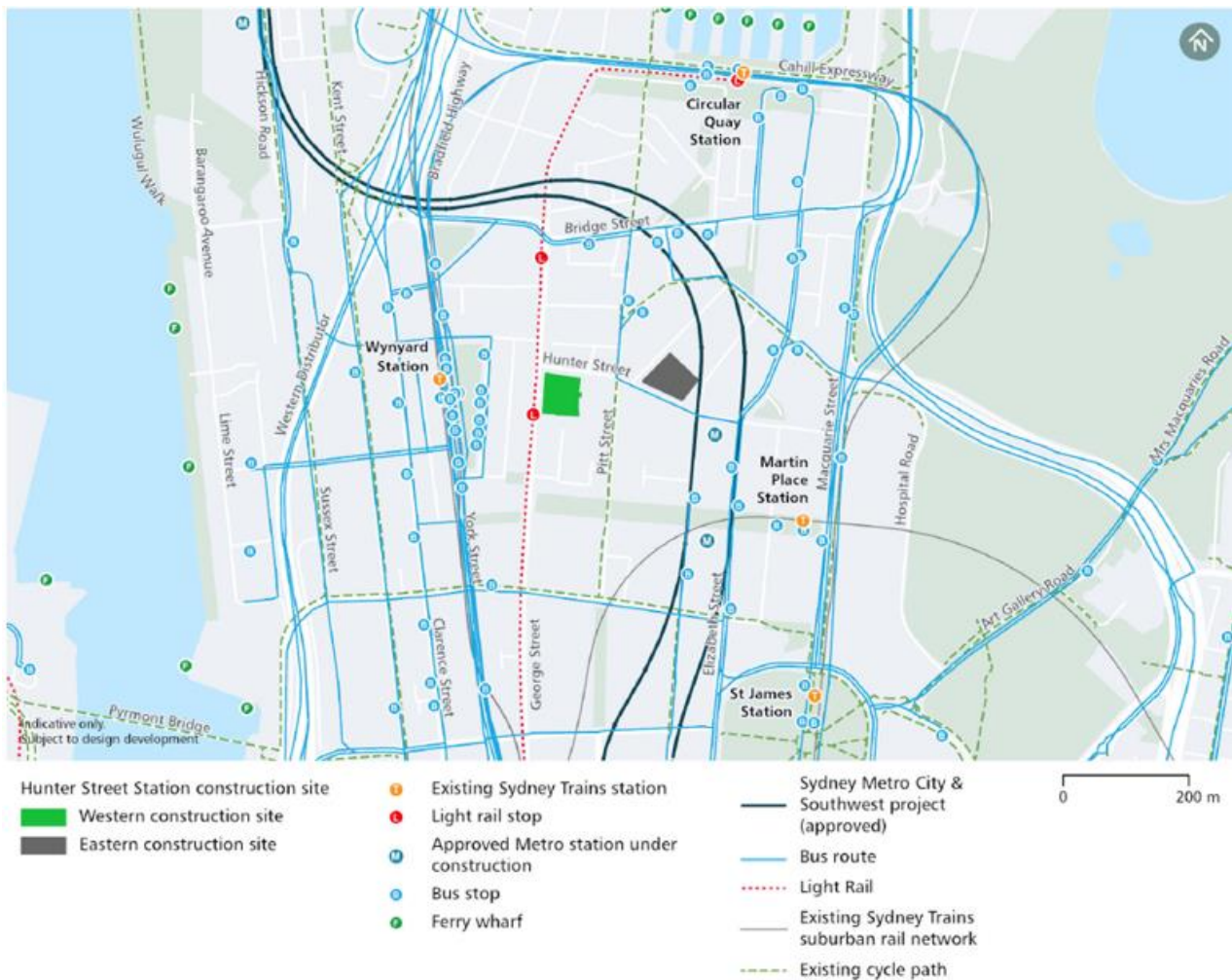


Figure 7: Public Transport Services Surrounding Hunter Street Construction Sites

2.4. Pedestrian and Cyclist Routes

Footpaths are designed with various widths along both sides of most roads in the Sydney CBD to cater for the frequently high volumes of pedestrian movement. Signalised crossings are available at majority of intersections. Given the proximity of the site to a variety of commercial, educational, entertainment and retail establishments, pedestrian activity remains high, both during the day and night, as well as on weekends and weekdays. Consequently, George Street has been transformed into a pedestrianised zone in the CBD between Hay Market and Circular Quay.

Cycling infrastructure around the construction site is well established and continually improving. Currently, there is a shared user path on Macquarie Street, separated cycleways along the western side of Pitt Street, the eastern side of Kent Street, and the northern side of King Street. Notably, a separated cycleway is currently under construction on Castlereagh Street between Liverpool Street and King Street. In addition to these routes, bicycle parking facilities are conveniently located throughout the Sydney CBD, including spots like Hunter Street and Margaret Street.

The existing cycle infrastructure surrounding the Hunter Street construction sites is shown in Figure 8.

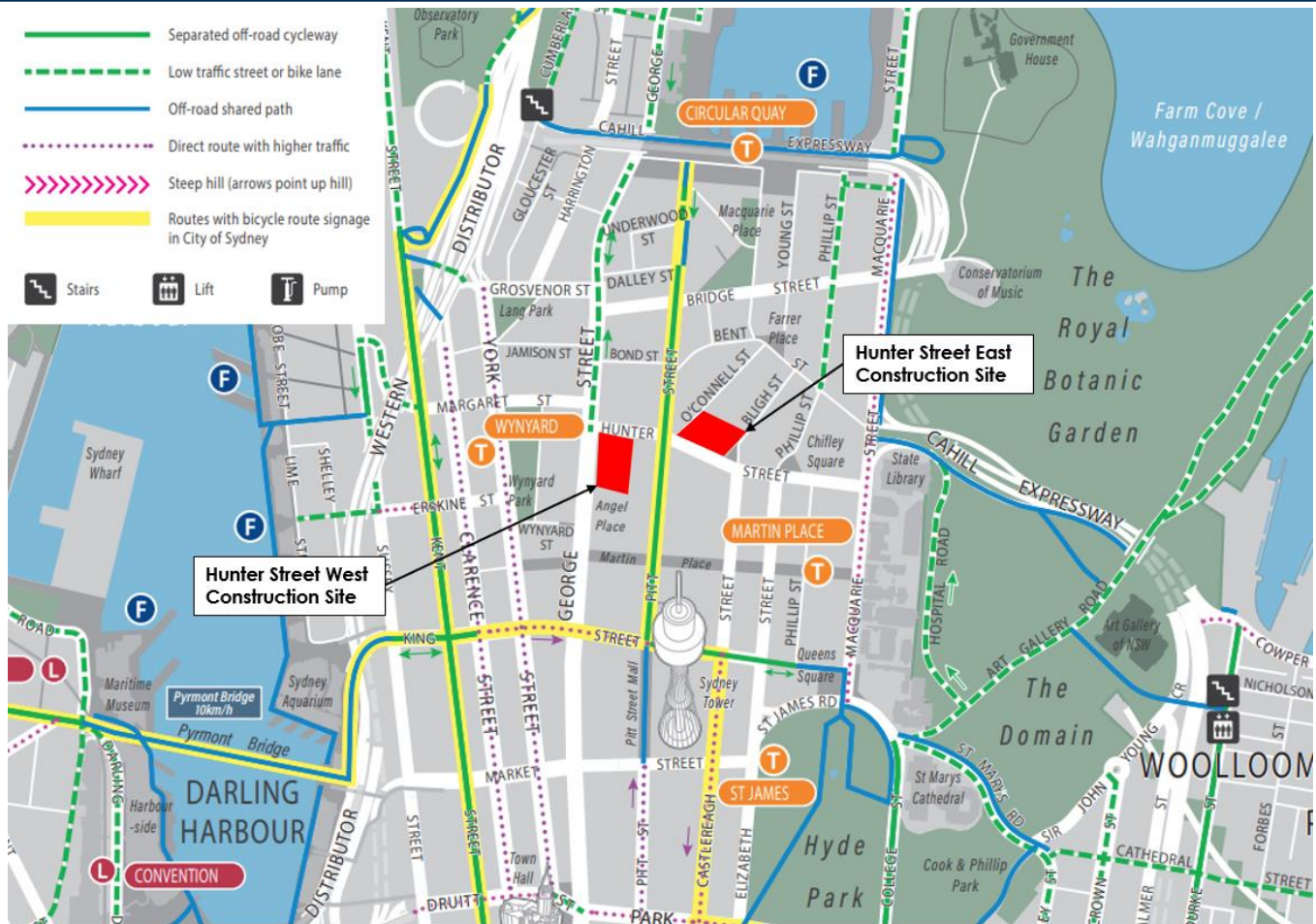


Figure 8: Cycle Infrastructure and Routes Surrounding Hunter Street East Construction Site

2.5. School Zones

There are no public schools or high schools within the vicinity of the proposed alternative route.

2.6. Aged Care and Childcare Facilities

There are no known aged care and childcare centres located on the roads nominated for the modified haulage route.

2.7. Construction Traffic

2.7.1. Construction Traffic Management

Construction vehicles will be managed through monitoring, marshalling, traffic control and communication between vehicles and the site.

2.7.1.1. Real Time Monitoring

The locations of all heavy vehicles used for spoil haulage will be monitored in real time and the records of monitoring will be made available electronically to the Planning Secretary and the Environmental Protection Authority (EPA) upon request for a period of no less than one year following the completion of the construction.

The real time monitoring will be undertaken using a Telematic system to track and analyse construction vehicle movements. Telematics are able to analyse real-time traffic data, allowing JCG JV to manage

its spoil haulage vehicles fleet more efficiently by predicting arrival times and communicate directly with construction workers.

The GPS tracking feature allows JCG JV to determine the speed and location of the fleet to better manage the spoil haulage vehicle movements by determining pinch-points and adjust accordingly. If drivers are found to not comply with the posted speed limit, the traffic manager will receive notifications, enabling immediate action to mitigate the unsafe driver behaviour.

The spoil haulage vehicles will be restricted to use only the approved vehicle routes and avoid any unapproved local roads unless it is permitted for specific works by the authorities.

2.7.1.2. Inspection and Monitoring

Regular inspections will be conducted by the Foremen regarding compliance of the implementation of the relevant Hunter Street East CTMP in conformance with the Construction Traffic Management Framework and TCaWS manual. All critical safety defects will be rectified as soon as practicable.

Long-term traffic management setups will be inspected weekly with minor issues recorded and rectified within a reasonable timeframe. More significant issues will be recorded for rectification. The inspections will be documented.

Daily inspections will be undertaken to ensure all traffic management signs and devices are properly located, oriented and maintained in an effective condition.

All critical safety defects caused by the project activities, to any road, footpath, shared path or cycleway which is open to the public will be rectified as soon as practicable. Temporary rectification (e.g. cold mix, plating and etc.) might be used as an interim solution prior to permanent rectification works to the conditions it was in prior to the occurrence of the damage.

2.7.1.3. Marshalling

All truck marshalling is to be contained at The Bays site, with the site capable of holding eight trucks. Therefore, no on-street parking is required for truck marshalling in the vicinity of the site, and no layover would occur in any public roads nor the proposed haulage route.

2.7.1.4. Traffic Management

Traffic Controllers will be stationed at O'Connell Street and Hunter Street and will assist construction vehicles entering and exiting from the sites.

2.7.1.5. Communication

The haulage route will be communicated and adhered to by drivers through the implementation of a Drivers Code of Conduct, which would be made available to the relevant personnel during the site induction training. All drivers will undergo the mandatory project-specific induction training provided by JCG JV.

As mentioned above, the Telematic system is able to provide details of the construction vehicle movements through real time monitoring. Telematics allow JCG JV to communicate directly with construction truck drivers.

2.7.2. Pedestrian and Cyclist Safety Management

The proposed construction activities will not result in any major pedestrian impacts as pedestrian movements will be maintained on existing footpaths along each sites frontages on Hunter Street, O'Connell Street and George Street, as well as the existing footpaths along the approved and proposed alternative haulage routes.

Flashing lights will be mounted on the construction vehicle to alert pedestrians of the presence of the construction vehicle in the low-speed environment.

Warning signage has been erected at key intersections along the additional haulage routes to warn and inform pedestrians of the changes in travel conditions and the traffic arrangement in place. TfNSW have implemented a 'Be Truck Aware' campaign which aims to show road users, the challenges that truck drivers face every day. Where the proposed haulage route crosses a pedestrian crossing facility along the proposed haulage route, truck awareness decals (Figure 9) are proposed to be placed on the footpath in front of the kerb ramps where crossing facilities are provided along King Street, Castlereagh Street, Elizabeth Street, Hunter Street, Market Street, Phillip Steet, Bridge Street, Gresham Street, Bent Street, Macquarie Street and St James Road, as shown in Figure 10 subject to City of Sydney's approval. This will raise pedestrian awareness of the trucks on these local roads.



Reference: <https://roadsafety.transport.nsw.gov.au/campaigns/be-truck-aware/index.html>

Figure 9: Truck Aware Decals

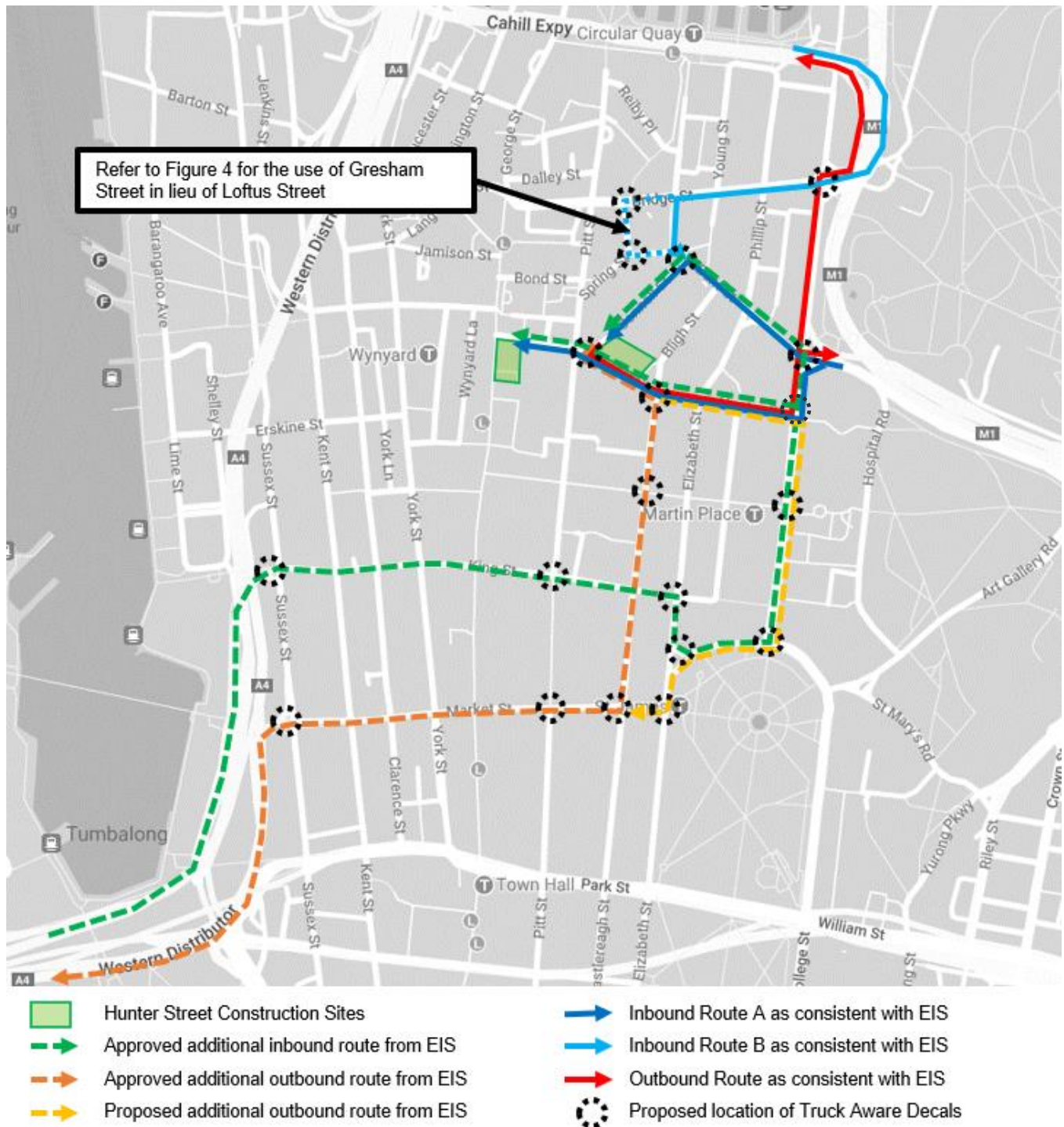


Figure 10: Proposed Location for Truck Aware Decals on Both Sides of Pedestrian Crossings along the Haulage Routes in the CBD

Toolbox talks will be held regularly during construction works and investigations. They will reinforce and reiterate information from inductions. Toolbox talks will advise drivers of any risk areas especially the proposed haulage route where pedestrian crossing facilities are provided; particularly at signaled intersections as pedestrians may attempt to cross even against a flashing red signal or a solid red signal.

Driver training will consider current best practice and information, including cycle awareness training. The contractor must ensure that regular briefings are provided to drivers on routes, potential changes and impacts on the routes in the form of toolbox talks.

All heavy vehicles used for spoil haulage will be equipped with ABS brakes and Front Underrun Protection to provide industry best practice in terms of truck safety standards.

2.7.3. Construction Traffic Volumes

The construction traffic volume to be assigned to the Macquarie Street route involves 40 trucks (20 inbound, 20 outbound) during the AM peak, 56 trucks (28 inbound, 28 outbound) during the inter-peak and 24 trucks (12 inbound, 12 outbound) during the PM peak.

Hourly proposed volumes are shown in Figure 11

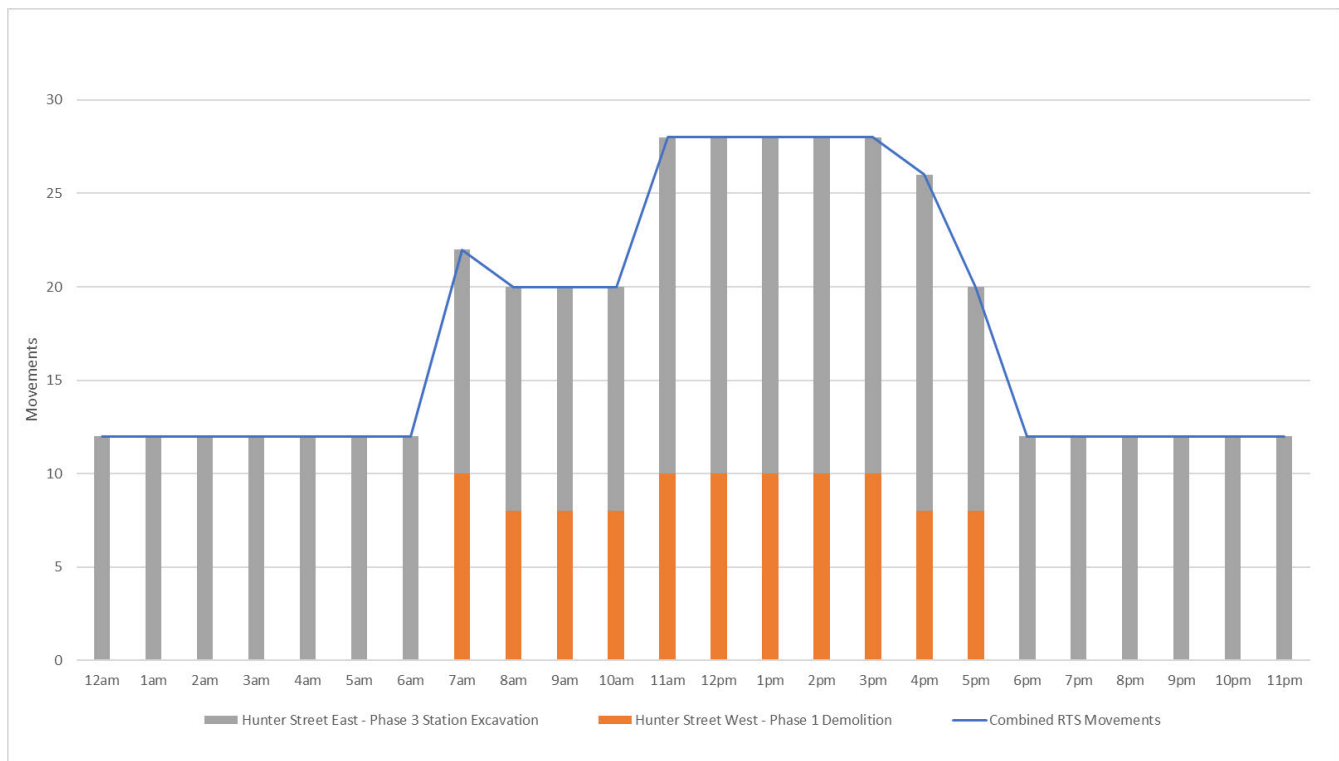


Figure 11: Indicating Proposed Hunter East and Hunter West combined hourly volumes.

The analysis of the traffic impact for the construction traffic volumes along the proposed route is presented in the traffic modelling report, as shown in Appendix E.

In summary, the modelling results indicate that the construction vehicles would have an imperceptible impact to the operation of the intersections along the proposed alternative outbound route at the Macquarie Street and / Hunter Street and Elizabeth Street / St James Rd / Market Street intersections.

2.8. Dilapidation

A road dilapidation survey was completed on 31 August 2023. A copy of the dilapidation report has been provided to TfNSW and City of Sydney.

3. Swept Path Assessment

Swept path assessment is presented in Appendix A for all intersections as encircled in Figure 12 where turning movements of a 12.5m long HRV will occur along the proposed alternative outbound haulage route via Macquarie Street.

One off and special oversize deliveries will be managed under a separate application.

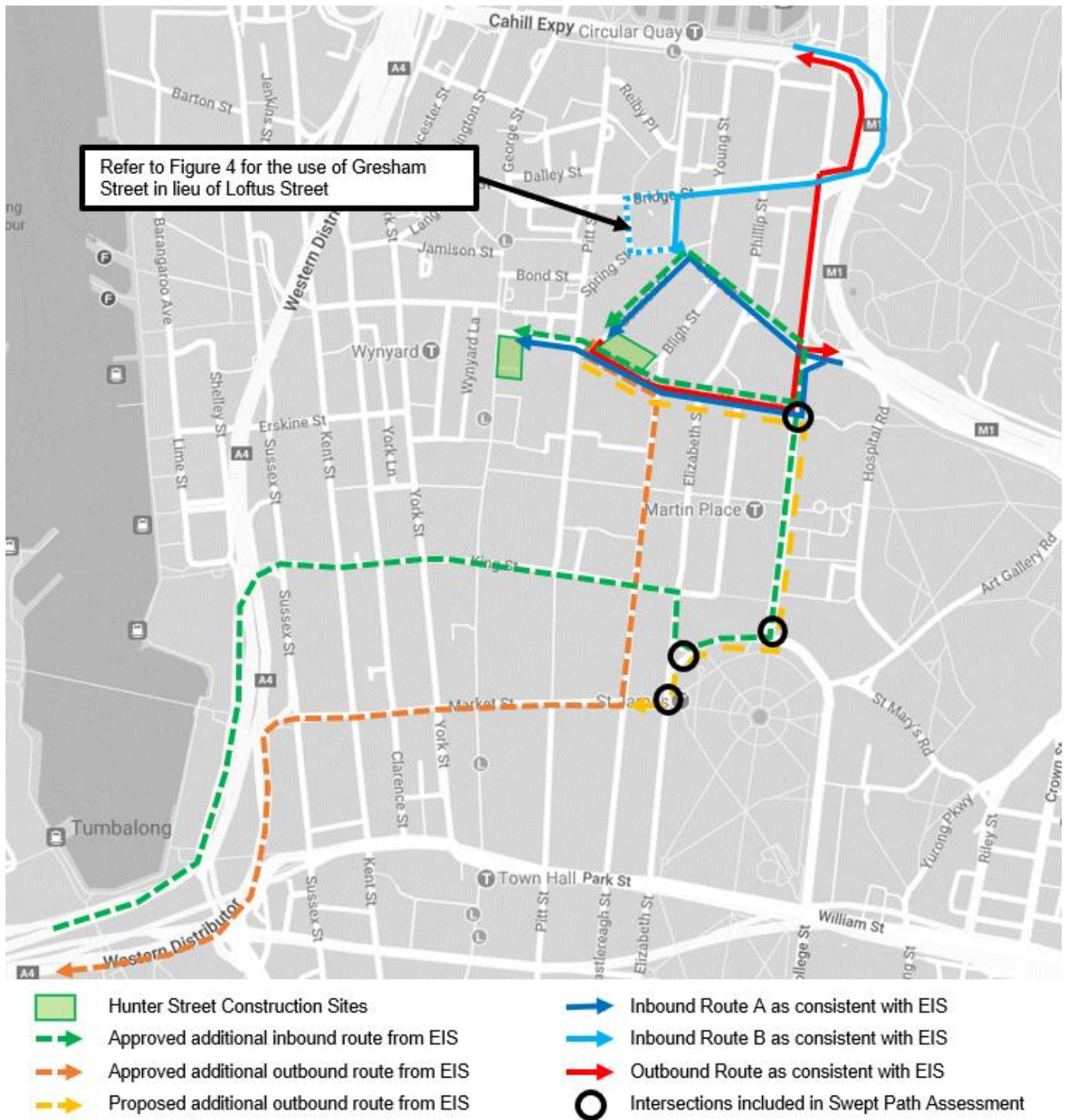


Figure 12: Intersections Included in Swept Path Assessment

The swept path assessment as shown in Appendix A demonstrates that the proposed alternative haulage route via Macquarie Street is suitable for 12.5m long HRVs.

4. Road Safety Audit

A road safety audit was conducted on the proposed alternative outbound haulage route based on the swept path assessment in conjunction with a site inspection of the haulage route. The road safety audit report is presented in Appendix C, whilst the previous road safety audit for the then-proposed routes are retained in Appendix B.

There were no high risk items identified, and four low risk items were categorised as unlikely to possible in terms of likelihood, and one medium risk was categorised as a rare likelihood.

Designer responses are shown in the last column in Table 4.2 in the road safety audit report in Appendix C.

The swept path diagrams demonstrate that sufficient space is available to accommodate the 12.5m long HRV at the intersections along the proposed alternative outbound haulage route. Although occupancy of two lanes to make a turning movement is permitted under the NSW road rules for trucks, swept path diagrams have been refined in Appendix D to minimise straddling as much as possible at the Hunter Street and Macquarie Street intersection and the Elizabeth Street and Market Street intersection.

5. Consultation

Consultation of the proposed alternative outbound haulage route outlined in this report has been discussed at number of meetings with CoS and CJP in October and November 23. The report was presented to the TTLG meeting on 25 January 24.

6. Qualification

This HVLR report in relation to the proposed haulage route has been prepared by Doris Lee and James Goodman. James Goodman is a Traffic Engineer with a Bachelor of Civil Engineering. James is an accredited Level 1 Road Safety Auditor and has certification to prepare work zone traffic management plans.

Doris is an Associate Traffic Engineer with a Bachelor of Civil Engineering. Doris has 20 years' experience in traffic engineering and transport planning and is an accredited Level 3 Road Safety Auditor and has certification to prepare work zone traffic management plans.

The road safety audit was carried out by the following team:

- Stephen Read (RSA-02-0652) – level 3 road safety auditor (lead auditor)
- Jessica Ng (RSA-02-1207) – level 2 road safety auditor (team member)

Stephen and Jessica are registered road safety auditors with the TfNSW Register of Road Safety Auditors and are experienced in traffic engineering and design/ inspection of traffic management schemes. Both auditors are independent of the design process.

7. Conclusion

The swept path assessment demonstrates that the intersections along the proposed alternative haulage route via Macquarie Street can provide sufficient clearance to accommodate the turning movements of a 12.5m HRV.

Three risk items were identified, four were categorised as low risk and one was categorised as medium risk with a rare occasion. These risks were addressed in the designer response within the Road Safety Audit which includes measures to counter these risks. These measures would effectively manage the identified risks from the road safety audit.

Truck awareness decals will be placed on the footpath in front of the kerb ramps where crossing facilities are provided along King Street, Castlereagh Street, Elizabeth Street, Hunter Street, Market Street, Phillip Street, Bridge Street, Macquarie Street and St James Road, subject to City of Sydney's approval. This will raise pedestrian awareness of the trucks on these local roads. JCGJV acknowledge it that significant volumes of people walking on the City streets.

During driver onboarding driver training for the project, drivers are made aware of the CBD high pedestrian activities, at intersections and throughout the route. During each sites Toolboxing, the drivers are further reminded to be aware of the high pedestrian activities on their routes in the CBD.

Trucks operating on the project are fully equipped with best practise safety features like under runner guards, blind spot assistance etc. All HVs are project onboarded, inspected prior to operating on the project.

A road dilapidation survey was completed on 31 August 2023. A copy of the dilapidation report has been provided to TfNSW and City of Sydney.

There are no known aged care facilities or childcare facilities along the proposed heavy vehicle route, and one high school is located adjacent to the approved EIS route. Therefore, the proposed alternative haulage route via Macquarie Street are suitable for use and are recommended for approval.

JCGJV will further review the haulage route when the situations on Macquarie St changes in late 2024.

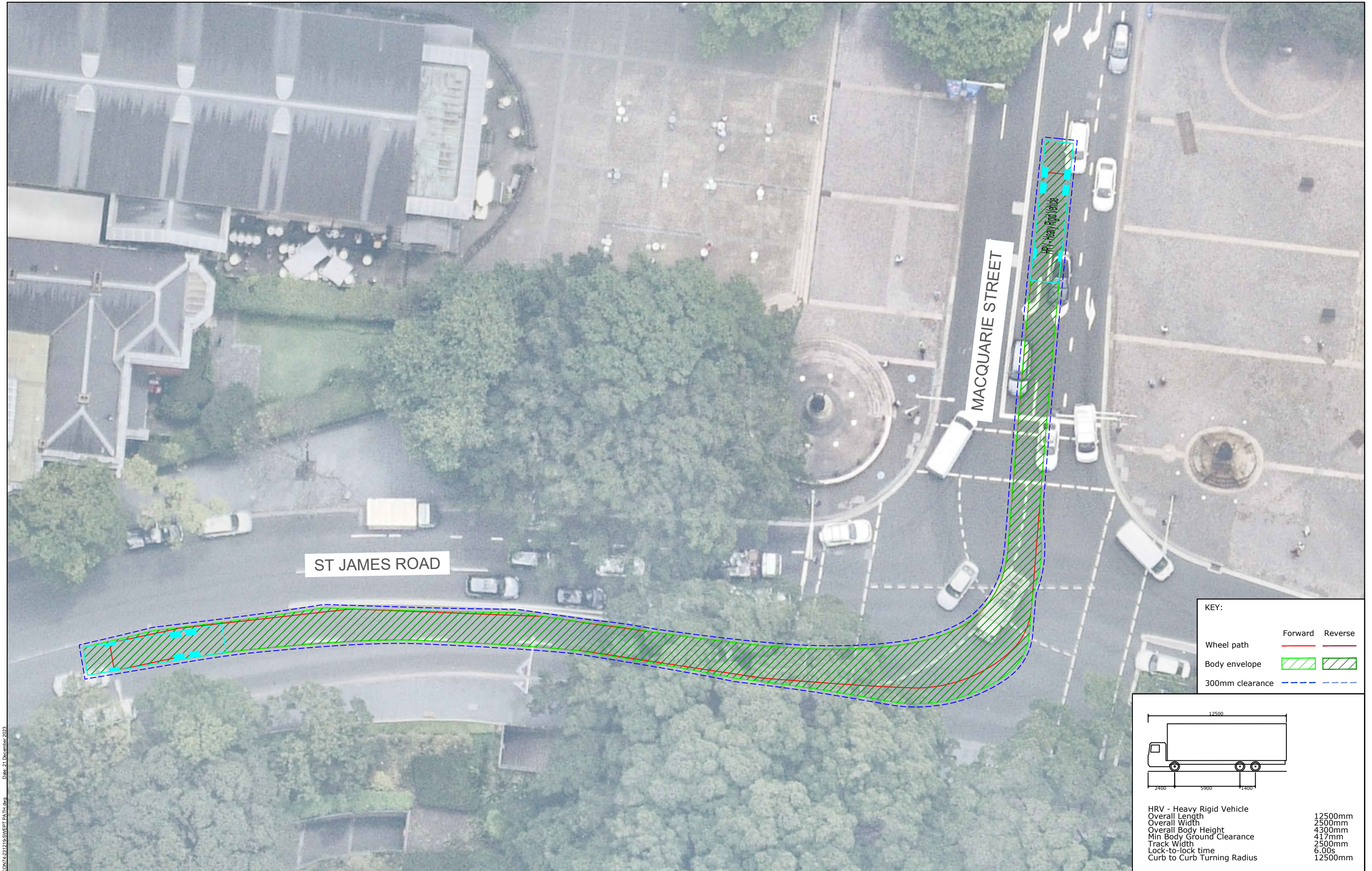


REV.	DESCRIPTION	DRAWN	CHECK	APP'D	DATE
A	ISSUE FOR DISCUSSION	JG	DL	WJ	19/12/23



PROJECT	SYDNEY METRO WEST PROJECT HUNTER STREET EAST - STAGE 2 DEMOLITION - CONDITION 74	
TITLE	SWEPT PATH ANALYSIS - HUNTER STREET ONTO MACQUARIE STREET (OUTBOUND) AS2890.2 12.5m HEAVY RIGID VEHICLE	

DWG No. 21480CAD-HUNTER-E-003 FIGURE 7		
DATE STAMP 19 DECEMBER 2023		
PROJECT No. 21480	SCALE 1:300 @A3	REV. A



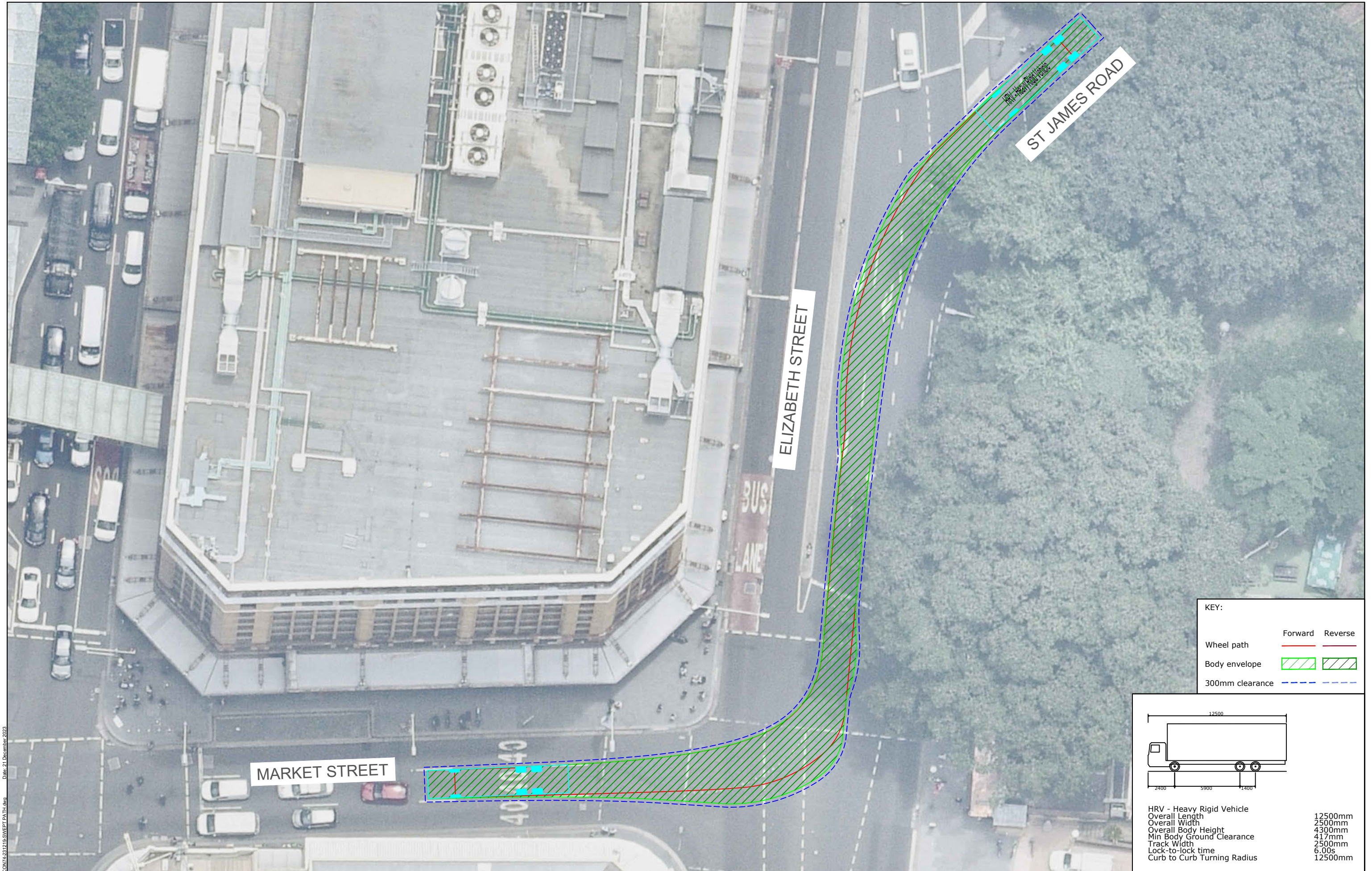
Filename: 21480CAD-HUNTER-E-003-CONTA-231218-SWEEP PATH.dwg Date: 21 December 2023

REV.	DESCRIPTION	DRAWN	CHECK	APP'D	DATE
A	ISSUE FOR DISCUSSION	JG	DL	WJ	19/12/23

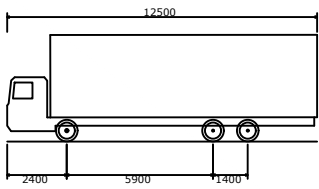


PROJECT	SYDNEY METRO WEST PROJECT HUNTER STREET EAST - STAGE 2 DEMOLITION - CONDITION 74	
TITLE	SWEPT PATH ANALYSIS - MACQUARIE STREET ONTO ST JAMES ROAD (OUTBOUND) AS2890.2 12.5m HEAVY RIGID VEHICLE	

DWG No. 21480CAD-HUNTER-E-003 FIGURE 8		
DATE STAMP 19 DECEMBER 2023		
PROJECT No. 21480	SCALE 1:300 @A3	REV. A



KEY:		
	Forward	Reverse
Wheel path	—	—
Body envelope	▨	▨
300mm clearance	---	---



HRV - Heavy Rigid Vehicle	
Overall Length	12500mm
Overall Width	2500mm
Overall Body Height	4300mm
Min Body Ground Clearance	417mm
Track Width	2500mm
Lock-to-lock time	6.00s
Curb to Curb Turning Radius	12500mm

REV.	DESCRIPTION	DRAWN	CHECK	APP'D	DATE
A	ISSUE FOR DISCUSSION	JG	DL	WJ	19/12/23



PROJECT	SYDNEY METRO WEST PROJECT HUNTER STREET EAST - STAGE 2 DEMOLITION - CONDITION 74	
	TITLE SWEPT PATH ANALYSIS - ST JAMES ROAD ONTO ELIZABETH STREET ONTO MARKET STREET (OUTBOUND) AS2890.2 12.5m HEAVY RIGID VEHICLE	

DWG No. 21480CAD-HUNTER-E-003 FIGURE 9		
DATE STAMP 19 DECEMBER 2023		
PROJECT No. 21480	SCALE 1:300 @A3	REV. A

Appendix B Road Safety Audit (As Per Previous HVLR Report)



Hunter Street East and West Sites – Proposed Haulage Routes (Anzac Bridge)

Existing Conditions Road Safety Audit

Prepared for:

JCG JV

17 July 2023

The Transport Planning Partnership

Hunter Street East and West Sites – Proposed Haulage Routes (Anzac Bridge)

Existing Conditions Road Safety Audit

Client: JCG JV

Version: V03

Date: 17 July 2023

TPP Reference: 21480

Quality Record

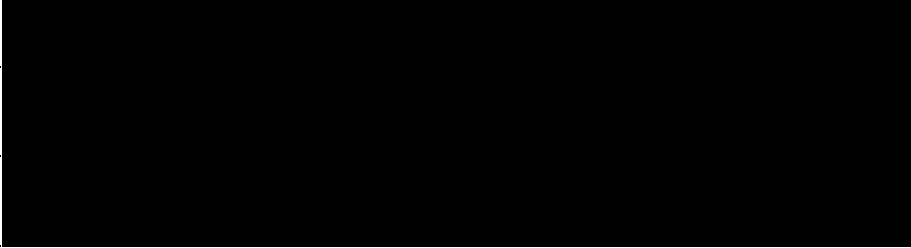
Version	Date	Prepared by	Reviewed by	Approved by	Signature
V01	07/06/2023				
V02	05/07/2023				
V03	17/07/2023				

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APPENDICES

A. SWEPT PATH ASSESSMENT

1 Road Safety Audit Summary

Audited project:	Hunter Street East and West Sites – Proposed Haulage Routes via Anzac Bridge
Client:	JCG JV
Project manager:	[REDACTED]
Email address:	[REDACTED]
Telephone:	[REDACTED]
Audit Team:	[REDACTED] (level 3 lead road safety auditor) [REDACTED] (level 2 road safety auditor)
Audit type:	Existing Conditions
Commencement meeting:	N/A
Audit date:	17 July 2023
Completion meeting:	Not required

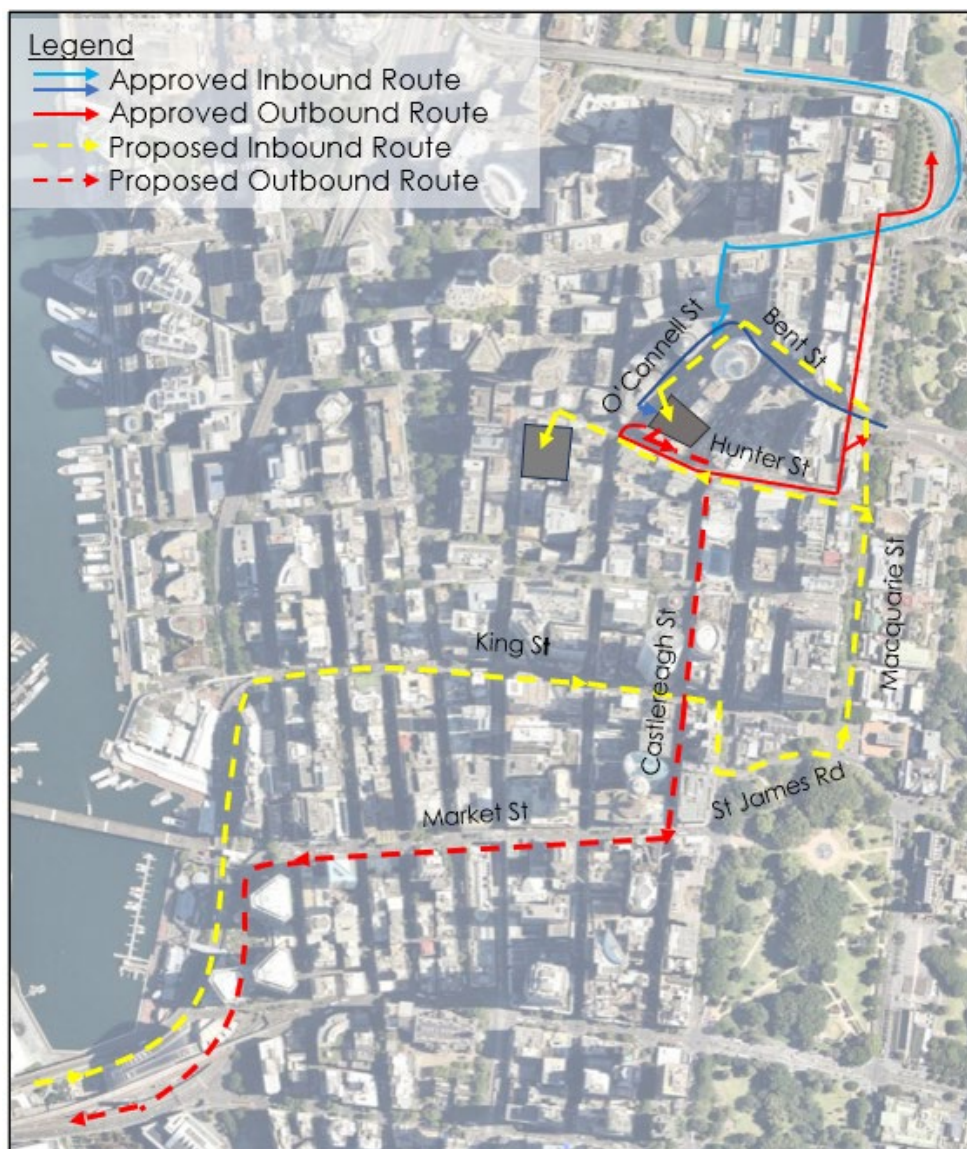
2 Introduction

2.1 Background

This report has been prepared on behalf of JCG JV to present road safety audit findings that have been identified from the proposed haulage routes associated with the construction of the Hunter Street metro station as part of the Sydney Metro West Eastern Tunnelling Package.

JCG JV are proposing additional inbound and outbound haulage routes to access the Hunter Street east and west sites via Anzac Bridge. The currently approved routes are shown in solid lines, while the proposed routes are shown in dotted lines in Figure 2.1. The dotted line segments are not identified in Condition A1 of the Conditions of Approval for this project.

Figure 2.1: Approved and Proposed Routes



The swept path analysis for the turning movements of a 12.5m HRV along the dotted line routes in Figure 2.1 were audited. A site inspection was carried out along the proposed haulage routes to identify road safety issues associated with different road users.

2.2 Audit Objective

The objective of this Audit is to examine the road safety issues associated with the proposed inbound and outbound routes via Anzac Bridge instead of Cahill Expressway.

2.3 Procedures and Reference Material

The procedures used are described in the following guidelines:

- Roads and Maritime Services' 2011 Guidelines for Road Safety Audit Practices
- Austroads Guide to Road Safety 2022: Part 6 Road Safety Audits

Following information was supplied and referenced prior to undertaking Road safety Audit:

Table 2.1: Information Supplied

Documentation	Date	Document Reference
Swept Path Analysis	12 July 2023	21480CAD-HUNTER-E-001 (6 Sheets)

2.4 Audit Team

The RSA was carried out by the following team:

- [REDACTED] (RSA-02-1607) – level 3 road safety auditor (lead auditor)
- [REDACTED] (RSA-02-1527) – level 2 road safety auditor (team member)

[REDACTED] are registered road safety auditors with the TfNSW Register of Road Safety Auditors and are experienced in traffic engineering and design/ inspection of traffic management schemes. Both auditors are independent of the road design process.

3 Road Safety Audit Program

3.1 Commencement Meeting

A formal meeting was not held.

3.2 Site and Field Audit

The audit team has undertaken a site inspection in day and night conditions along the proposed haulage routes covered in the scope of this audit on 14 July 2023. The weather condition was fine, and visibility was good. The site visit was recorded through photographs.

3.3 Completion Meeting

Not required.

4 Road Safety Audit Findings

4.1 Introduction

Table 4.1 provides specific details of the road safety deficiencies and a risk rating as extreme, high, medium, low, or negligible. The risk ratings have been based on the risk matrix presented in Table 4.1, which has been adopted from Figure 10.2 of Guide to Road Safety part 6 – Road Safety Audit.

Table 4.1: Risk Matrix

			Severity				
			Insignificant	Minor	Moderate	Serious	Fatal
			Property damage	Minor first aid	Major first aid and/or presents to hospital (not admitted)	Admitted to hospital	Death within 30 days of the crash
Likelihood (includes exposure)	Almost Certain	One per quarter	Medium	High	High	Extreme (FSI)	Extreme (FSI)
	Likely	Quarter to 1-year	Medium	Medium	High	Extreme (FSI)	Extreme (FSI)
	Possible	1 to 3 years	Low	Medium	High	High (FSI)	Extreme (FSI)
	Unlikely	3 to 7 years	Negligible	Low	Medium	High (FSI)	Extreme (FSI)
	Rare	7 years+	Negligible	Negligible	Low	Medium (FSI)	High (FSI)

Safe System crash outcome threshold

The terms in Table 4.1 are described below.

Likelihood:

- Almost certain – occurrence once per quarter
- Likely – occurrence once per quarter to once per year
- Possible – occurrence once per year to once every three years
- Unlikely – occurrence once every three years to once every seven years
- Rare – occurrence less than once every seven years.

Severity:

- Insignificant – property damage
- Minor – minor first aid
- Moderate – major first aid and/or presents to hospital (not admitted)
- Serious – admitted to hospital
- Fatal – at scene or within 30 days of the crash.

Priority:

- Negligible – no action required
- Low – should be corrected or the risk reduced if the treatment cost is low
- Medium – should be corrected or the risk significantly reduced, if the treatment cost is moderate, but not high
- High – should be corrected or the risk significantly reduced, even if the treatment cost is high
- Extreme – must be corrected regardless of cost.

4.2 Responding to the Audit Report

As set out in the road safety audit guidelines, the responsibility for the road rests with the project manager, not with the auditor. The project manager is under no obligation to accept the audit findings. Neither is it the role of the auditor to agree to or approve the project manager's responses to the audit.

The audit provides the opportunity to highlight potential road safety problems and have them formally considered by the project manager in conjunction with all other project considerations.

4.3 Road Safety Audit Findings

The audit findings are documented in Table 4.2 which provides:

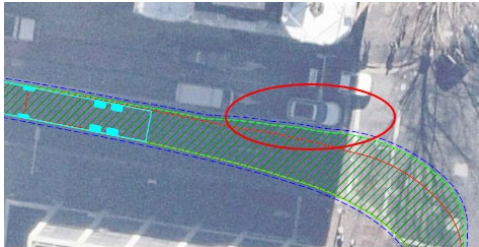
- specific details of the road safety issues identified during the audit
- a risk level rating for each of the road safety audit findings.

It should be acknowledged that positive attributes of the audited road section have not been discussed. Deficiencies that do not cause a safety problem are also not listed.

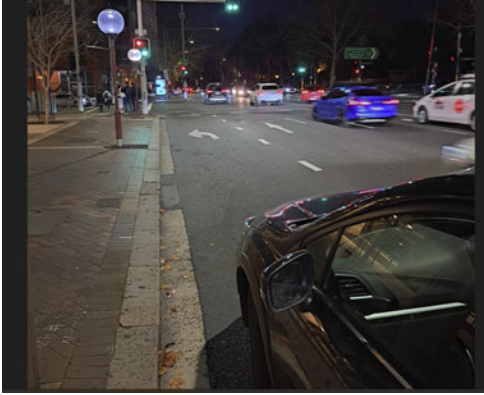
In-line with TfNSW's best practice recommendations have not been included in the road safety audit findings.

Table 4.2: Road Safety Audit Findings

Item No.	Location	Descriptions of Findings	Photo	Likelihood	Severity	Risk Rating	Designer Response
1.	Macquarie St / Hunter Street	Trucks (12.5m) turning left from Macquarie Street onto Hunter Street are required to use two lanes on the approach. Vehicles traveling in the adjacent lane may not be aware of the truck taking up two lanes prior to turning left into Hunter Street and this could cause side swipe type crashes and minor injuries. However, we note that this movement is permitted in the NSW road rules for trucks with the correct signage.		Rare	Minor	Negligible	Given the intersection is sufficient to accommodate the turning movement of a 12.5m vehicle by straddling two travel lanes, this audit finding is not considered a safety concern. However, JCG JV will ensure construction vehicles longer than 7.5m are to display a Do Not Overtake Turning Vehicle sign at the back, in accordance with Road Rule 32. 

Item No.	Location	Descriptions of Findings	Photo	Likelihood	Severity	Risk Rating	Designer Response
2.	Macquarie St / Hunter Street	As indicated, the swept path of a construction vehicle turning left from Macquarie Street onto Hunter Street, vehicle would straddle into opposing lane and over the centre line after making the left turn. This increases the risk of conflict with vehicles standing in the opposing lane waiting to turn right resulting in side swipe type crashes and minor injuries.		Unlikely	Minor	Low	The aerial photo base has been updated with better resolution. The swept path diagram indicates the left turning vehicle would not encroach in to the travel lane in the opposite direction in Hunter Street. 

Item No.	Location	Descriptions of Findings	Photo	Likelihood	Severity	Risk Rating	Designer Response
3.	Macquarie St / Bent St	The swept path of a construction vehicle turning left from Macquarie Street onto Bent Street indicates the vehicle going over the kerb. This presents risk of property damage, as well as conflict with pedestrians standing close to the edge of the kerb at the pedestrian crossing, which may result in minor injury. During the site inspection, a 12.5m STA bus was observed turning wholly within the left turn lane on Bent Street.		Possible	Insignificant	Low	Given the intersection is sufficient to accommodate the turning movement of a 12.5m vehicle within the kerbside lane, this audit finding is not considered a safety concern. However, JCG JV will ensure construction vehicles longer than 7.5m are to display a Do Not Overtake Turning Vehicle sign at the back, in accordance with Road Rule 32. 

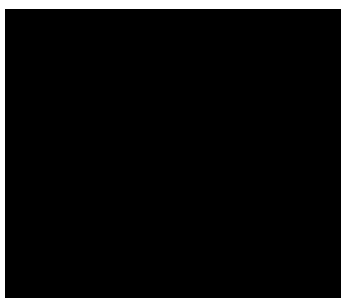
Item No.	Location	Descriptions of Findings	Photo	Likelihood	Severity	Risk Rating	Designer Response
4.	Macquarie St / Bent St	The left turning lane on Macquarie St at the intersection with Bent St comprises a loading zone and a 4hr parking restriction area. When vehicles are parked in the loading zone, it limits the available length of the left turning lane. This may cause construction vehicles accessing the left turning lane to partially overhang into the adjacent through lane resulting in blocking the adjacent through lane.	 			Note Only	No action required. Occupancy of two lanes to make a turning movement is permitted in the NSW road rules for trucks.

5 Concluding Statement

The findings and opinions in the report are based on the examination of the specific road and environments and might not address all concerns existing at the time of the audit.

The auditors have endeavoured to identify features of the road that could be modified in order to improve safety, although it must be recognised that safety cannot be guaranteed since no road can be regarded as absolutely safe.

While every effort has been made to ensure the accuracy of this report, it is made available strictly on the basis that anyone relying on it does so at their own risk without any liability to the Auditors.



Auditor

The Transport Planning Partnership

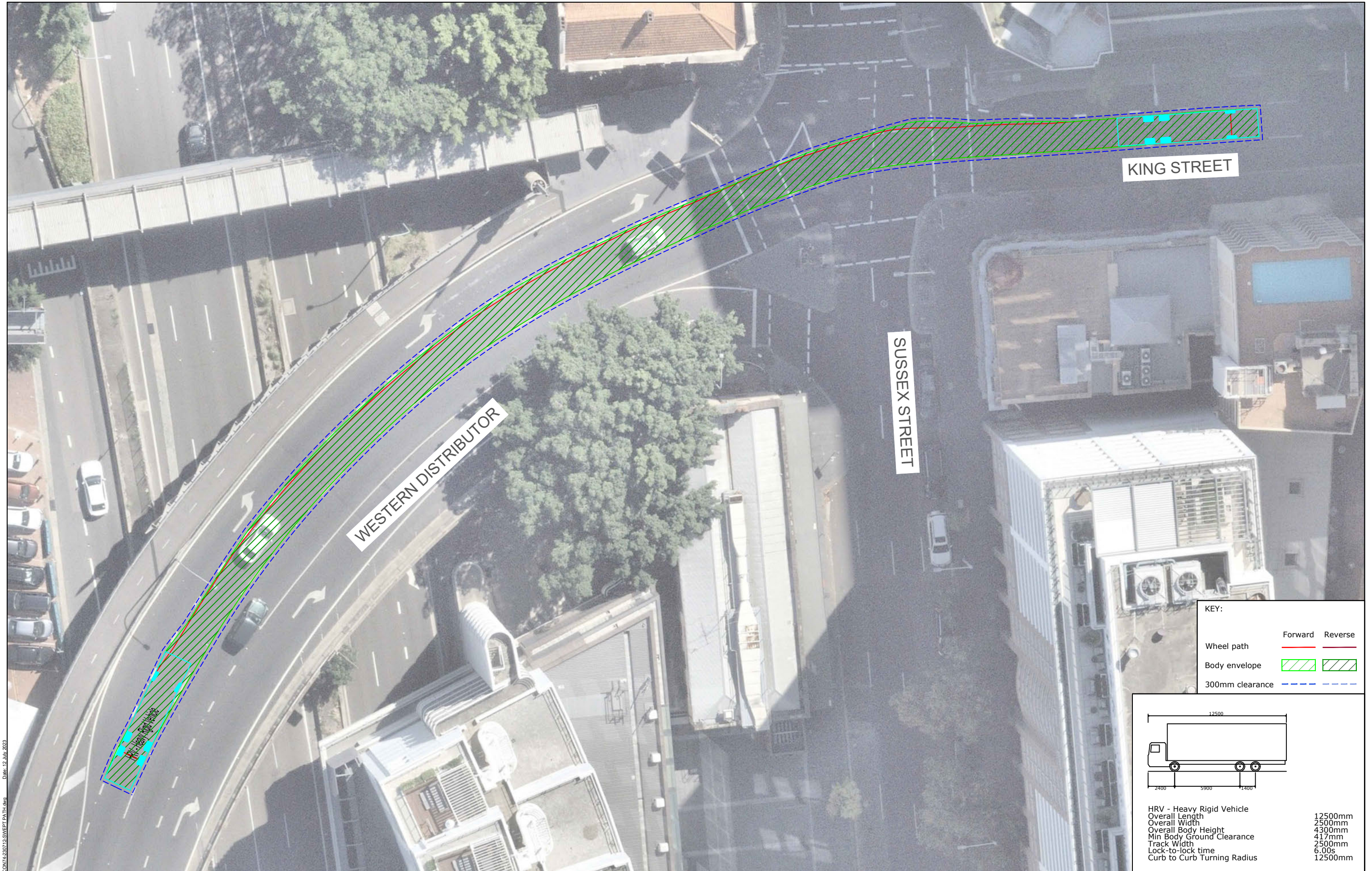


Level 2 Road Safety Auditor

The Transport Planning Partnership

Appendix A

Swept Path Assessment



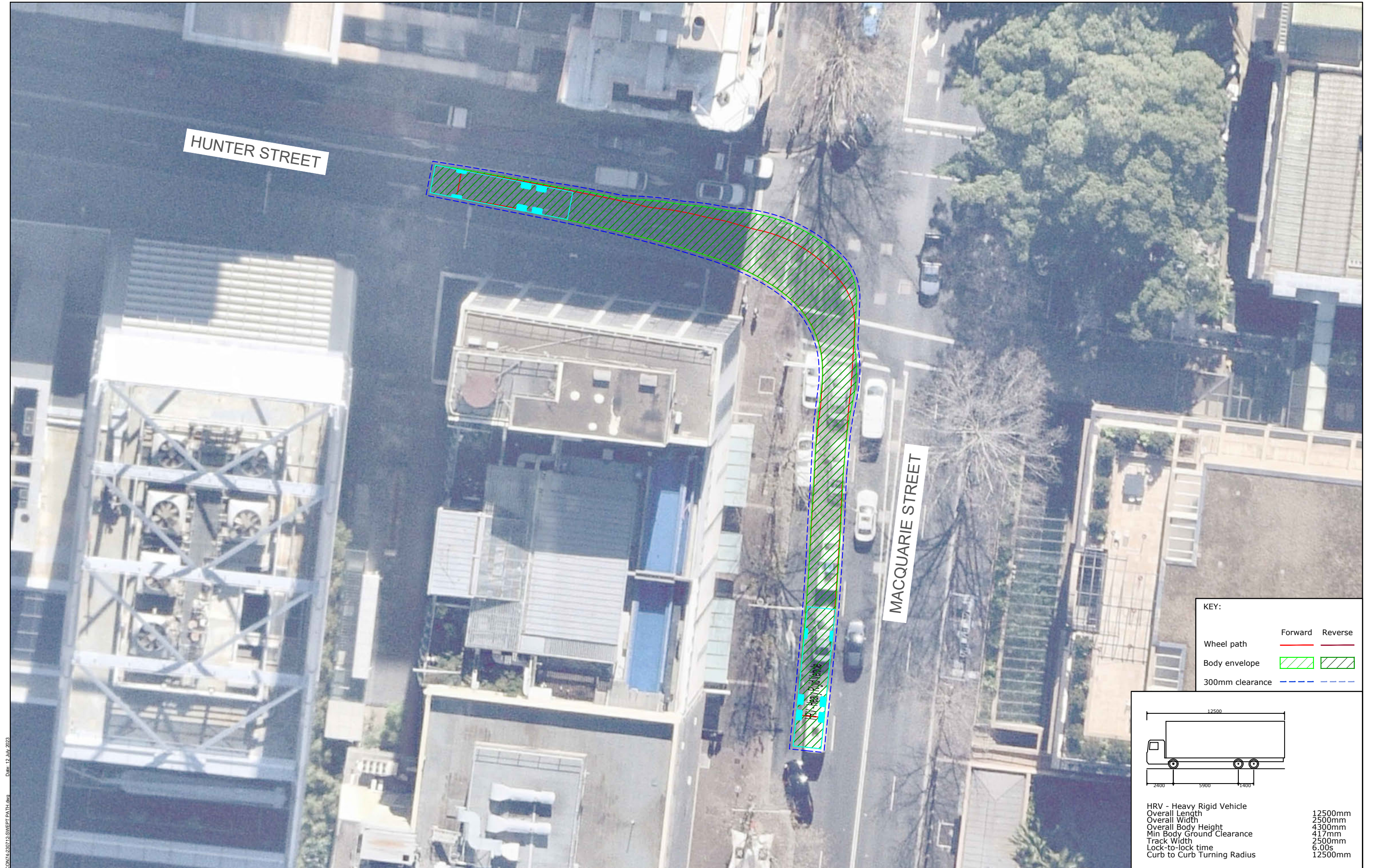
Filename: 21480CAD-HUNTER-E-001.CONTA-230712-SWEEP PATH.dwg Date: 12 July 2023

REV.	DESCRIPTION	DRAWN	CHECK	APP'D	DATE
A	ISSUE FOR DISCUSSION	JG	WJ	WJ	12/07/23

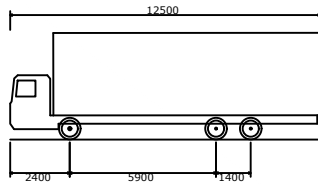


PROJECT	SYDNEY METRO WEST PROJECT HUNTER STREET EAST - STAGE 2 DEMOLITION - CONDITION 74	
TITLE	SWEPT PATH ANALYSIS - WESTERN DISTRIBUTOR ONTO KING STREET (INBOUND) AS2890.2 12.5m HEAVY RIGID VEHICLE	

DWG No. 21480CAD-HUNTER-E-001 FIGURE 1		
DATE STAMP 12 JULY 2023		
PROJECT No. 21480	SCALE 1:300 @A3	REV. A



KEY:		
	Forward	Reverse
Wheel path	—	—
Body envelope	▨	▨
300mm clearance	- - -	- - -



HRV - Heavy Rigid Vehicle	
Overall Length	12500mm
Overall Width	2500mm
Overall Body Height	4300mm
Min Body Ground Clearance	417mm
Track Width	2500mm
Lock-to-lock time	6.00s
Curb to Curb Turning Radius	12500mm

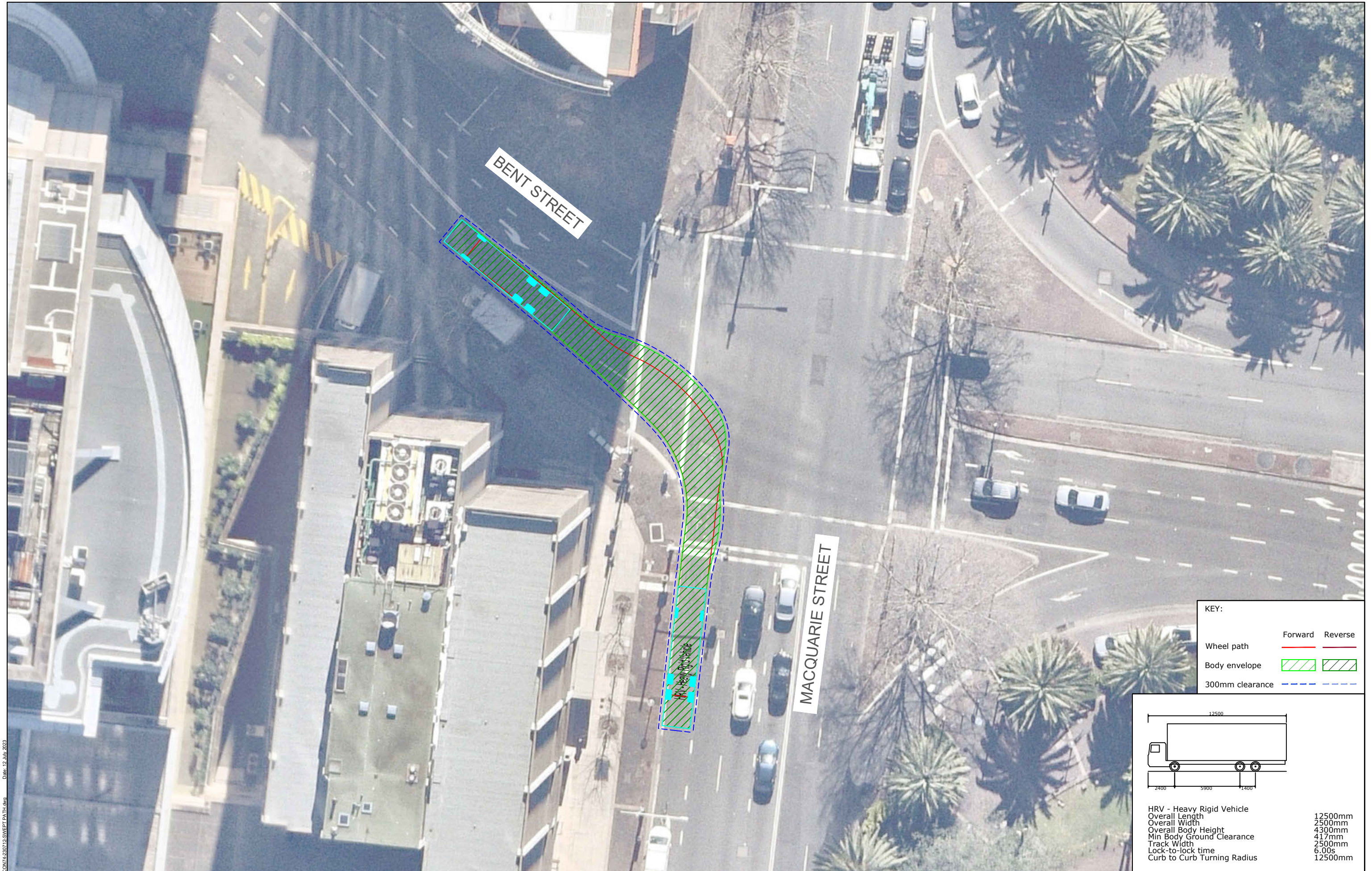
REV.	DESCRIPTION	DRAWN	CHECK	APP'D	DATE
A	ISSUE FOR DISCUSSION	JG	WJ	WJ	12/07/23



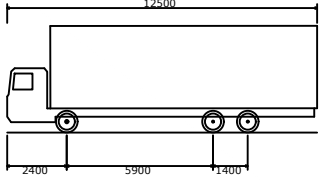
PROJECT	SYDNEY METRO WEST PROJECT	
	HUNTER STREET EAST - STAGE 2 DEMOLITION - CONDITION 74	
TITLE	SWEPT PATH ANALYSIS - MACQUARIE STREET ONTO HUNTER STREET (INBOUND)	
	AS2890.2 12.5m HEAVY RIGID VEHICLE	

DWG. No. 21480CAD-HUNTER-E-001		
FIGURE 2		
DATE STAMP 12 JULY 2023		
PROJECT No. 21480	SCALE 1:300 @A3	REV. A

Filename: 21480CAD-HUNTER-E-001.CONTA-230712-SWEPT PATH.dwg Date: 12 July 2023



KEY:		
	Forward	Reverse
Wheel path	---	---
Body envelope	/ /	\ \
300mm clearance	---	---



HRV - Heavy Rigid Vehicle	
Overall Length	12500mm
Overall Width	2500mm
Overall Body Height	4300mm
Min Body Ground Clearance	417mm
Track Width	2500mm
Lock-to-lock time	6.00s
Curb to Curb Turning Radius	12500mm

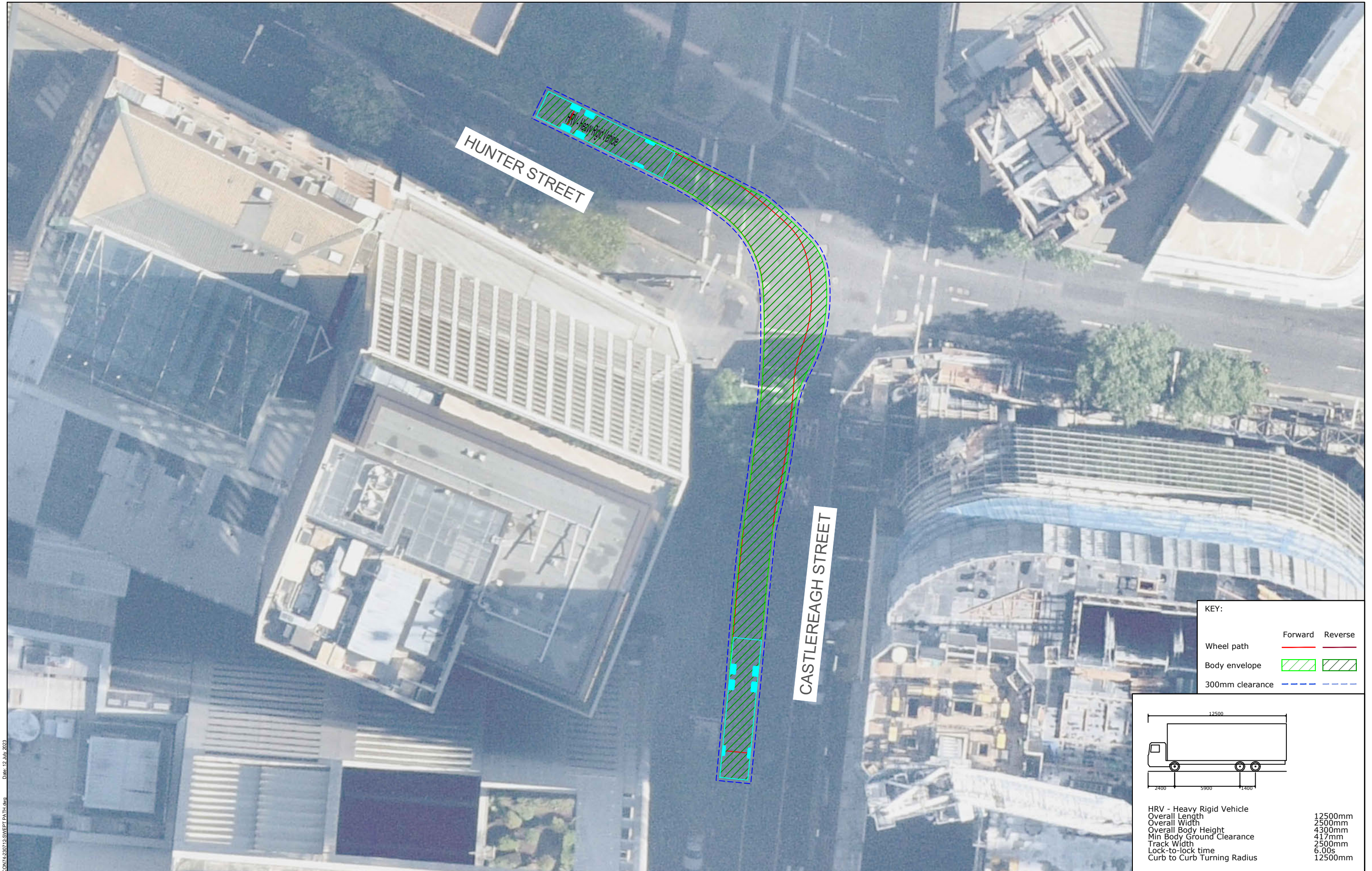
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A	ISSUE FOR DISCUSSION	JG	WJ	WJ	12/07/23



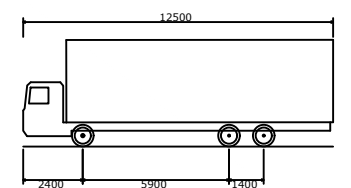
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TITLE	SWEPT PATH ANALYSIS - MACQUARIE STREET ONTO BENT STREET (INBOUND) AS2890.2 12.5m HEAVY RIGID VEHICLE		

DWG No. 21480CAD-HUNTER-E-001 FIGURE 3		
DATE STAMP 12 JULY 2023		
PROJECT No. 21480	SCALE 1:300 @A3	REV. A

Filename: 21480CAD-HUNTER-E-001.CONTA-230712-SWEPT PATH.dwg Date: 12 July 2023



KEY:		
	Forward	Reverse
Wheel path	—	—
Body envelope	▨	▨
300mm clearance	---	---



HRV - Heavy Rigid Vehicle	
Overall Length	12500mm
Overall Width	2500mm
Overall Body Height	4300mm
Min Body Ground Clearance	417mm
Track Width	2500mm
Lock-to-lock time	6.00s
Curb to Curb Turning Radius	12500mm

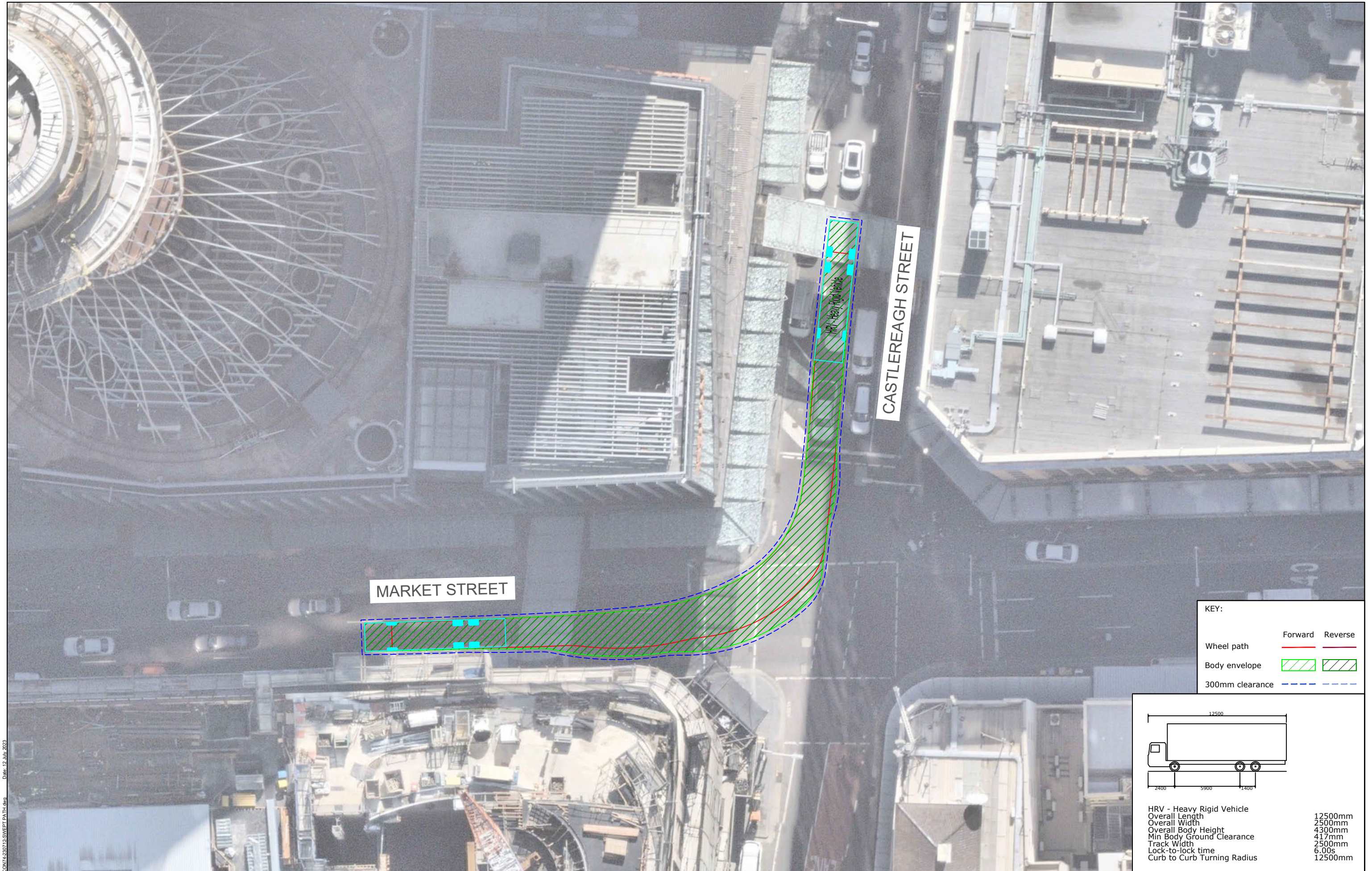
REV.	DESCRIPTION	DRAWN	CHECK	APP'D	DATE
A	ISSUE FOR DISCUSSION	JG	WJ	WJ	12/07/23



PROJECT	SYDNEY METRO WEST PROJECT	
	HUNTER STREET EAST - STAGE 2 DEMOLITION - CONDITION 74	
TITLE	SWEPT PATH ANALYSIS - HUNTER STREET ONTO CASTLEREAGH STREET (OUTBOUND)	
	AS2890.2 12.5m HEAVY RIGID VEHICLE	

DWG No. 21480CAD-HUNTER-E-001		
FIGURE 4		
DATE STAMP 12 JULY 2023		
PROJECT No. 21480	SCALE 1:300 @A3	REV. A

Filename: 21480CAD-HUNTER-E-001.CONTA-230712-SWEPT PATH.dwg Date: 12 JULY 2023



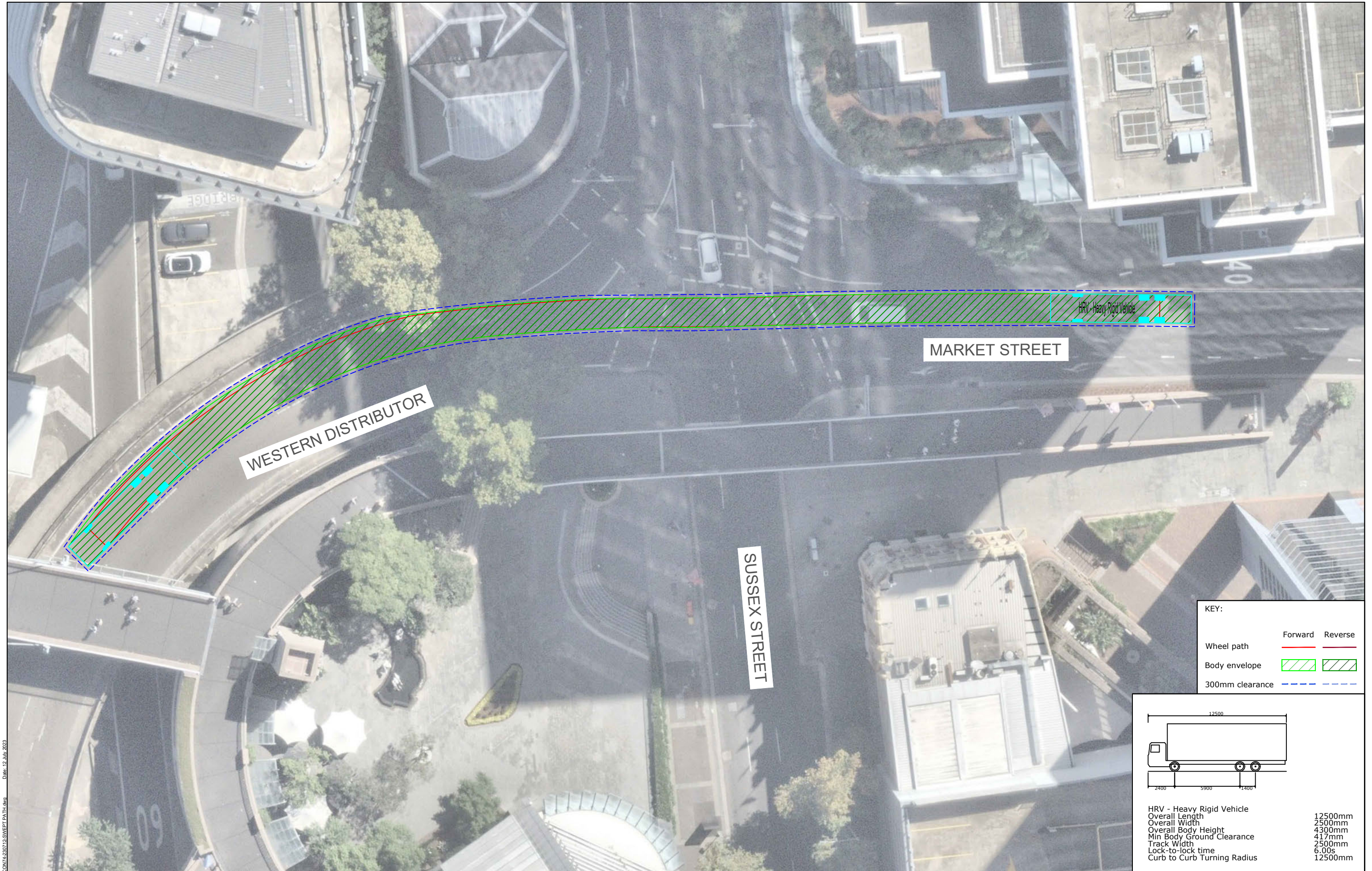
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REV.	DESCRIPTION	DRAWN	CHECK	APP'D	DATE
A	ISSUE FOR DISCUSSION	JG	WJ	WJ	12/07/23



PROJECT	SYDNEY METRO WEST PROJECT HUNTER STREET EAST - STAGE 2 DEMOLITION - CONDITION 74		
TITLE	SWEPT PATH ANALYSIS - CASTLEREAGH STREET ONTO MARKET STREET (OUTBOUND) AS2890.2 12.5m HEAVY RIGID VEHICLE		

DWG No. 21480CAD-HUNTER-E-001 FIGURE 5		
DATE STAMP 12 JULY 2023		
PROJECT No. 21480	SCALE 1:300 @A3	REV. A



REV.	DESCRIPTION	DRAWN	CHECK	APP'D	DATE
A	ISSUE FOR DISCUSSION	JG	WJ	WJ	12/07/23



PROJECT	SYDNEY METRO WEST PROJECT HUNTER STREET EAST - STAGE 2 DEMOLITION - CONDITION 74	
TITLE	SWEPT PATH ANALYSIS - MARKET STREET ONTO WESTERN DISTRIBUTOR (OUTBOUND) AS2890.2 12.5m HEAVY RIGID VEHICLE	

DWG. No. 21480CAD-HUNTER-E-001 FIGURE 6		
DATE STAMP 12 JULY 2023		
PROJECT No. 21480	SCALE 1:300 @A3	REV. A

Filename: 21480CAD-HUNTER-E-001-CONTA-230712-SWEPT PATH.dwg Date: 12 July 2023

The Transport Planning Partnership
Suite 402 Level 4, 22 Atchison Street
St Leonards NSW 2065

P.O. Box 237
St Leonards NSW 1590

02 8437 7800

info@tpp.net.au

www.tpp.net.au

Appendix C Updated Road Safety Audit (Proposed Alternative Route via Macquarie Street- This Report)

Addendum 1

Date: 17 January 2024

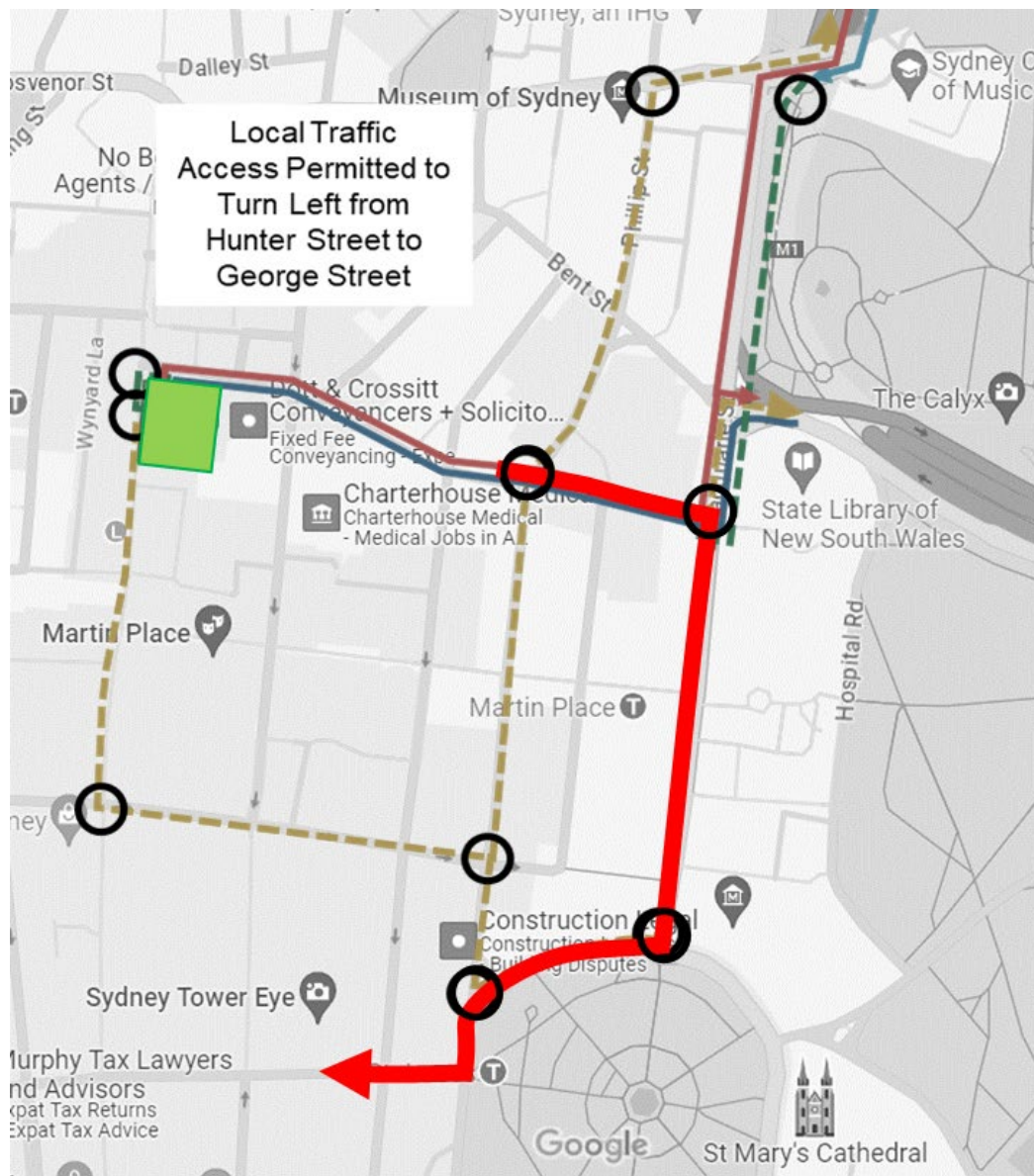
TTPP REF: 21480

ADDITIONAL HAULAGE ROUTES – HUNTER EAST (CONDITION 74)

This addendum has been prepared by The Transport Planning Partnership (TTPP) to address an additional haulage route proposed that was not included in the road safety audit report “Hunter Street East and West Sites – Proposed Haulage Routes – Existing Conditions Road Safety Audit” dated 17 July 2023.

The road safety audit scope has been increased to include an additional route that would involve trucks using Hunter Street, turning right into Macquarie Street then right into St James Road, Elizabeth Street and then right into Market Street as shown in Figure 1.

Figure 1: Additional Haulage Route



- Hunter Street West Construction Site
- Additional outbound route
- Swept paths

The additional route was inspected on the 15 January 2024 during daylight and night time conditions. Weather during the day was fine and there was light rain during the evening inspection. The route was walked and driven recording the visit through video and photographs. The additional findings from the audit are presented in Table 1.

The RSA was carried out by the following team:

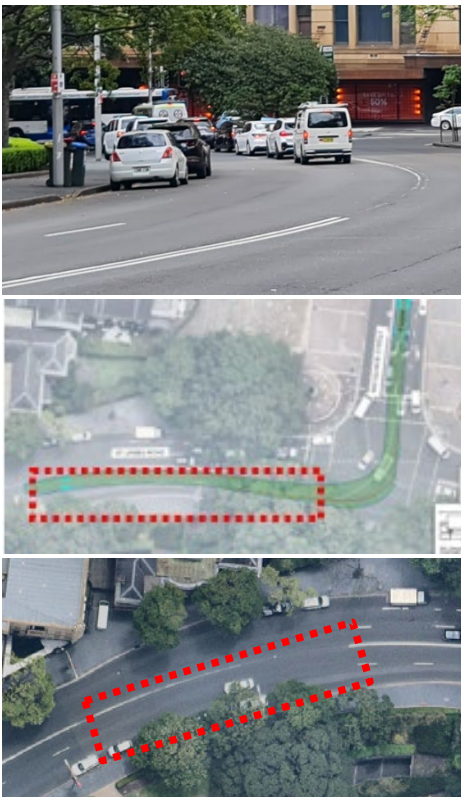
- [REDACTED] (RSA-02-0652) – level 3 road safety auditor (lead auditor)
- [REDACTED] (RSA-02-1207) – level 2 road safety auditor (team member)

[REDACTED] are registered road safety auditors with the TfNSW Register of Road Safety Auditors and are experienced in traffic engineering and design/ inspection of traffic management schemes. Both auditors are independent of the road design process.

Table 1: Audit Findings

Item No.	Location	Descriptions of Findings	Photo	Likelihood	Severity	Risk Rating	Designer Response
1.	Hunter Street	The gradient of Hunter Street is relatively steep. Trucks may potentially accelerate slowly when starting from traffic signals. This may lead to rear end type crashes.		Unlikely	Minor	Low	This section of Hunter Street is an approved haulage route.

Item No.	Location	Descriptions of Findings	Photo	Likelihood	Severity	Risk Rating	Designer Response
2.	Hunter Street	The lane width on Hunter Street appears narrow on approach to Macquarie Street. During the audit, cars were observed to encroach into the adjacent traffic lane when turning onto Macquarie Street. Swept path diagrams also indicate that trucks (12.5m) would encroach into the adjacent lane when turning right onto Macquarie Street. This could result in potential side swipe type crashes.	Cars encroaching on the adjacent lane  Queues on approach to Macquarie Street 	Unlikely	Minor	Low	Refer to the swept path diagram in Appendix D that has been refined to minimise straddling on Hunter Street. The swept path diagram indicates the design vehicle (12.5m long) would be contained within the right turn lane on Hunter Street.

Item No.	Location	Descriptions of Findings	Photo	Likelihood	Severity	Risk Rating	Designer Response
3.	St James Road	The lane line markings on St James Road are discontinuous for a section of about 40m on approach to the Market Street traffic signals. This may result in unexpected lane changes, increasing the risk of side swipe collisions. Swept paths also indicate that trucks would encroach into the adjacent lane on St James Road. Drivers may attempt to pass a slow-moving truck at this location, which could result in side swipe incidents.		Unlikely	Minor	Low	JCG JV will approach Council to have the missing linemarking repainted to improve delineation of the travel lane along the curve. JCG JV to ensure construction vehicles longer than 7.5m are to display a Do Not Overtake Turning Vehicle sign at the back, in accordance with Road Rule 32. 
4.	Market Street	The lanes on Market Street are short in distance midblock. Large trucks turning onto Market Street may queue past the pedestrian crossing during congested peak periods. Consequently, pedestrians may need to walk outside of the marked pedestrian crossing area onto the road, increasing the risk of being struck by a vehicle.		Rare	Serious	Medium	Truck drivers are to undertake toolbox training as not to make the turning movement when there is a queue in the downstream road.

Item No.	Location	Descriptions of Findings	Photo	Likelihood	Severity	Risk Rating	Designer Response
5.	Elizabeth Street	The turn line marking is worn and faded on Elizabeth Street turning right to Market Street. At night the line was not visible. This may lead to side swipe type crashes.	 	Unlikely	Minor	Low	JCG JV will approach Council to have the missing linemarking repainted to improve delineation of the dual right turn lanes through the intersection.

Addendum 2

Date: 20 February 2024

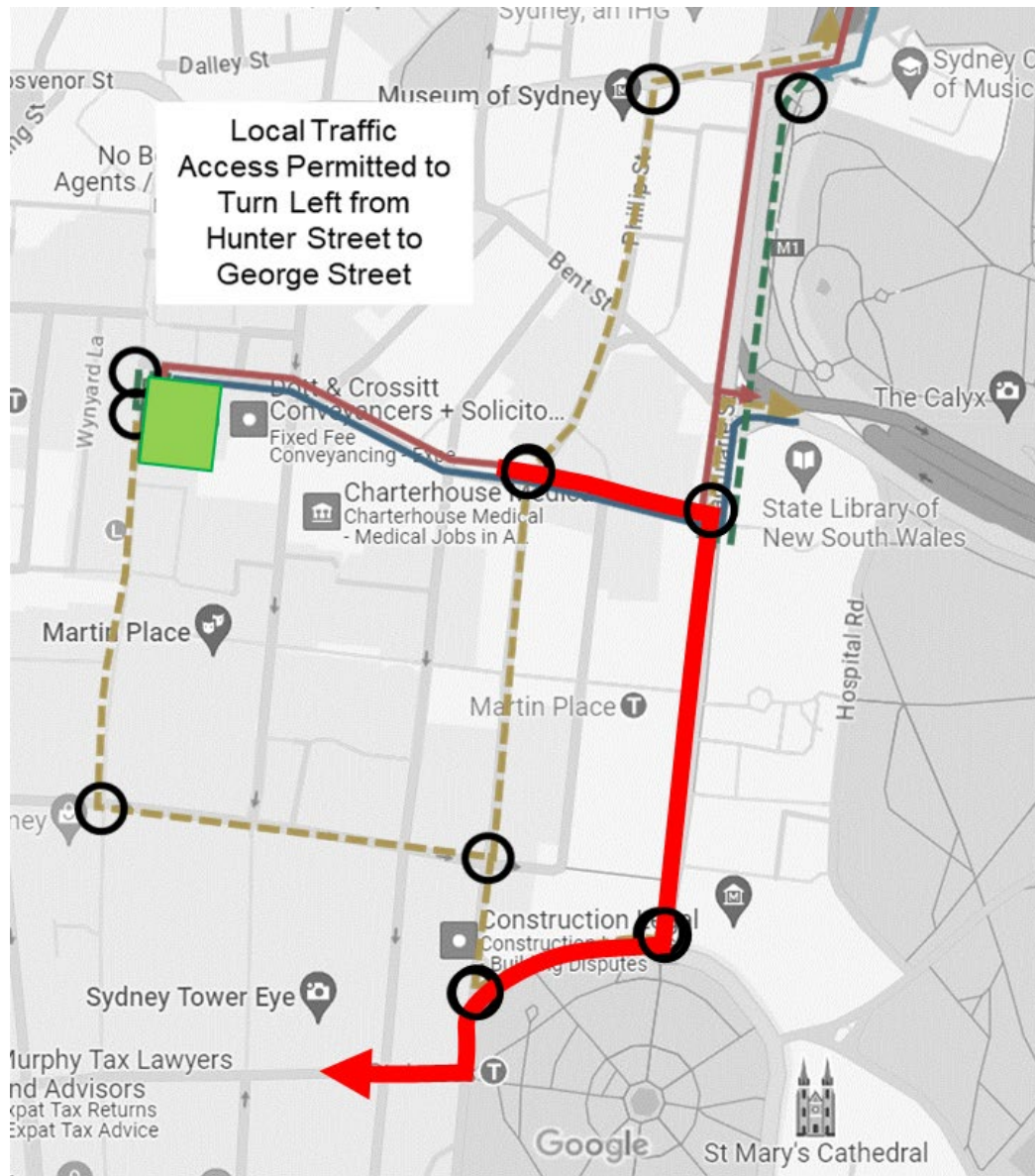
TTPP REF: 21480

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The road safety audit scope has been increased to include an additional route that would involve trucks using Hunter Street, turning right into Macquarie Street then right into St James Road, Elizabeth Street and then right into Market Street as shown in Figure 1.

Figure 1: Additional Haulage Route



- Hunter Street West Construction Site
- Additional outbound route
- Swept paths

The additional route was inspected on the 15 January 2024 during daylight and night time conditions. Weather during the day was fine and there was light rain during the evening inspection. The route was walked and driven recording the visit through video and photographs. The additional findings from the audit are presented in Table 1.

The RSA was carried out by the following team:

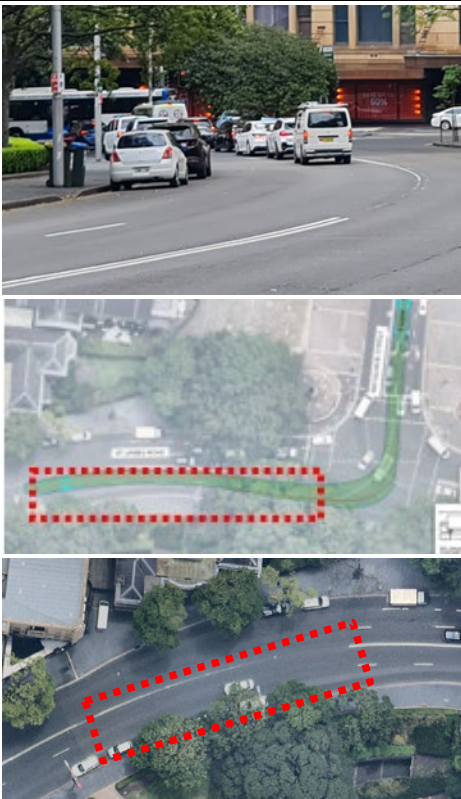
- [REDACTED] (RSA-02-0652) – level 3 road safety auditor (lead auditor)
- [REDACTED] (RSA-02-1207) – level 2 road safety auditor (team member)

[REDACTED] are registered road safety auditors with the TfNSW Register of Road Safety Auditors and are experienced in traffic engineering and design/ inspection of traffic management schemes. Both auditors are independent of the road design process.

Table 1: Audit Findings

Item No.	Location	Descriptions of Findings	Photo	Likelihood	Severity	Risk Rating	Designer Response
1.	Hunter Street	The gradient of Hunter Street is relatively steep. Trucks may potentially accelerate slowly when starting from traffic signals. This may lead to rear end type crashes.		Unlikely	Minor	Low	This section of Hunter Street is an approved haulage route.

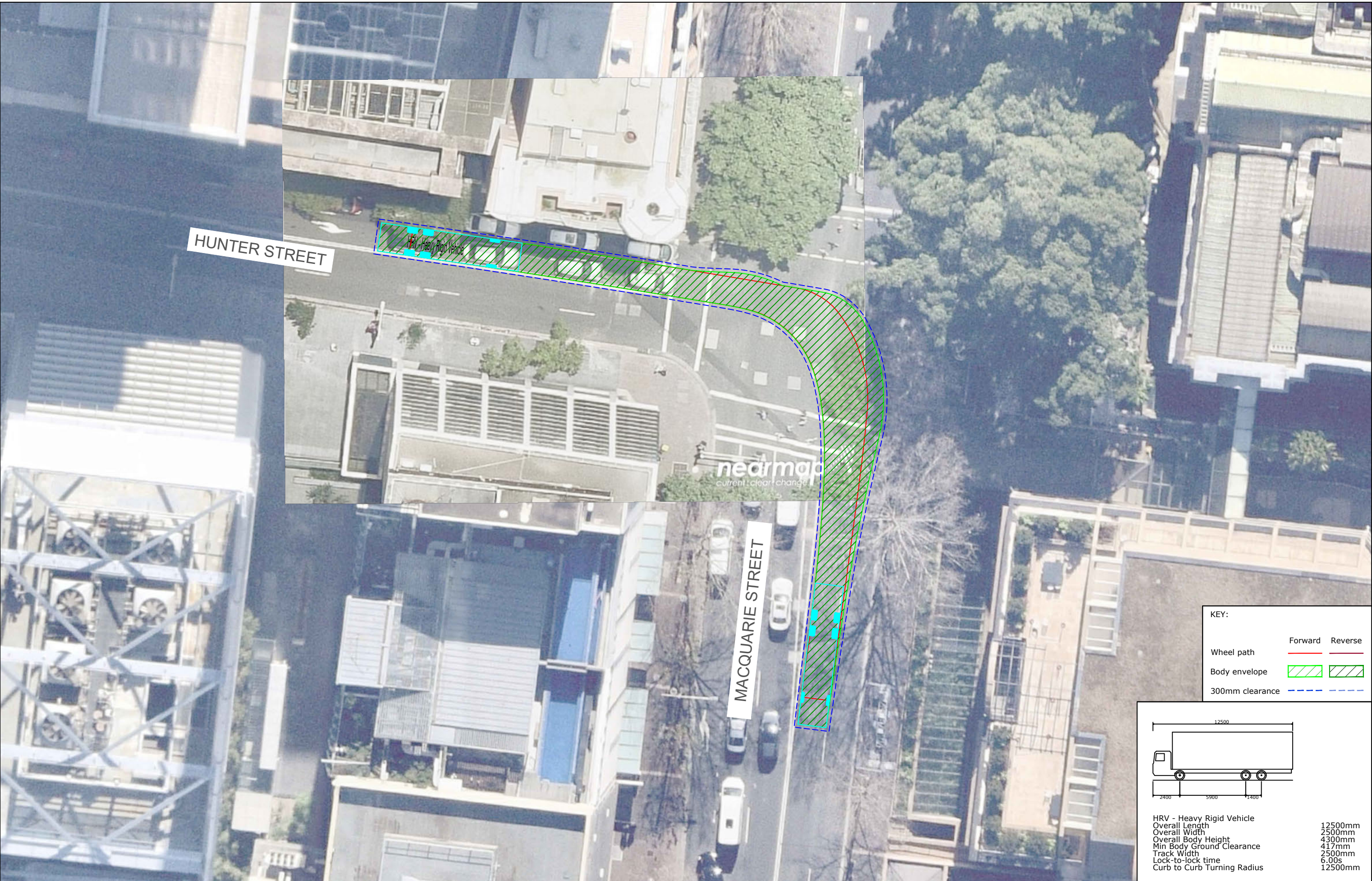
Item No.	Location	Descriptions of Findings	Photo	Likelihood	Severity	Risk Rating	Designer Response
2.	Hunter Street	The lane width on Hunter Street appears narrow on approach to Macquarie Street. During the audit, cars were observed to encroach into the adjacent traffic lane when turning onto Macquarie Street. Swept path diagrams also indicate that trucks (12.5m) would encroach into the adjacent lane when turning right onto Macquarie Street. This could result in potential side swipe type crashes.	Cars encroaching on the adjacent lane  Queues on approach to Macquarie Street 	Unlikely	Minor	Low	While the additional swept path diagram in Appendix D of the HVLR report indicates the intersection has sufficient clearance to enable a 12.5m long HRV to be contained within one right turn lane on Hunter Street, it is considered safer for construction vehicles to use both turn lanes when approaching the intersection of Hunter Street and Macquarie Street. This would reduce the risk of side swipe collisions with other vehicles. JCG JV to ensure construction vehicles longer than 7.5m are to display a Do Not Overtake Turning Vehicle sign at the back, in accordance with Road Rule 32. 

Item No.	Location	Descriptions of Findings	Photo	Likelihood	Severity	Risk Rating	Designer Response
3.	St James Road	The lane line markings on St James Road are discontinuous for a section of about 40m on approach to the Market Street traffic signals. This may result in unexpected lane changes, increasing the risk of side swipe collisions. Swept paths also indicate that trucks would encroach into the adjacent lane on St James Road. Drivers may attempt to pass a slow-moving truck at this location, which could result in side swipe incidents.		Unlikely	Minor	Low	JCG JV will approach Council to have the missing linemarking repainted to improve delineation of the travel lane along the curve. JCG JV to ensure construction vehicles longer than 7.5m are to display a Do Not Overtake Turning Vehicle sign at the back, in accordance with Road Rule 32. 
4.	Market Street	The lanes on Market Street are short in distance midblock. Large trucks turning onto Market Street may queue past the pedestrian crossing during congested peak periods. Consequently, pedestrians may need to walk outside of the marked pedestrian crossing area onto the road, increasing the risk of being struck by a vehicle.		Rare	Serious	Medium	Truck drivers are to undertake toolbox training as not to make the turning movement when there is a queue in the downstream road.

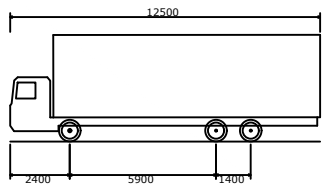
Item No.	Location	Descriptions of Findings	Photo	Likelihood	Severity	Risk Rating	Designer Response
5.	Elizabeth Street	The turn line marking is worn and faded on Elizabeth Street turning right to Market Street. At night the line was not visible. This may lead to side swipe type crashes.	 	Unlikely	Minor	Low	JCG JV will approach Council to have the missing linemarking repainted to improve delineation of the dual right turn lanes through the intersection.

Appendix D Revised Swept Path (to Address RSA comments in Appendix C)

Filename: 21480CAD-HUNTER-E-003-CONTA-240128-SWEPT PATH.dwg Date: 29 January 2024



KEY:		
	Forward	Reverse
Wheel path	—	—
Body envelope	▨	▨
300mm clearance	---	---



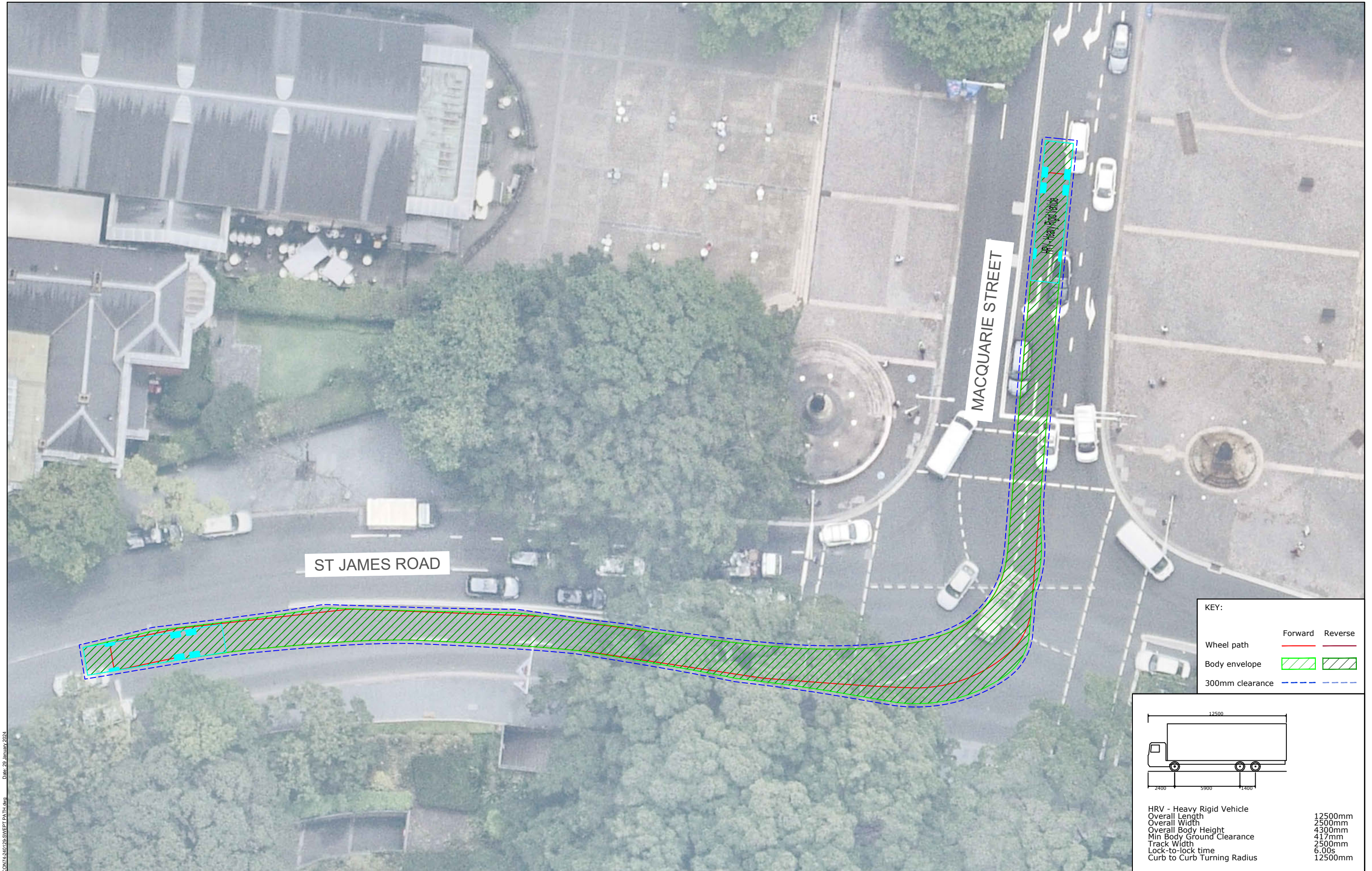
HRV - Heavy Rigid Vehicle	
Overall Length	12500mm
Overall Width	2500mm
Overall Body Height	4300mm
Min Body Ground Clearance	417mm
Track Width	2500mm
Lock-to-lock time	6.00s
Curb to Curb Turning Radius	12500mm

REV.	DESCRIPTION	DRAWN	CHECK	APP'D	DATE
A	ISSUE FOR DISCUSSION	JG	DL	WJ	29/01/24



PROJECT	SYDNEY METRO WEST PROJECT	
	HUNTER STREET EAST - STAGE 2 DEMOLITION - CONDITION 74	
TITLE	SWEPT PATH ANALYSIS - HUNTER STREET ONTO MACQUARIE STREET (OUTBOUND)	
	AS2890.2 12.5m HEAVY RIGID VEHICLE	

DWG No. 21480CAD-HUNTER-E-003		
FIGURE 7		
DATE STAMP 29 JANUARY 2024		
PROJECT No. 21480	SCALE 1:300 @A3	REV. A



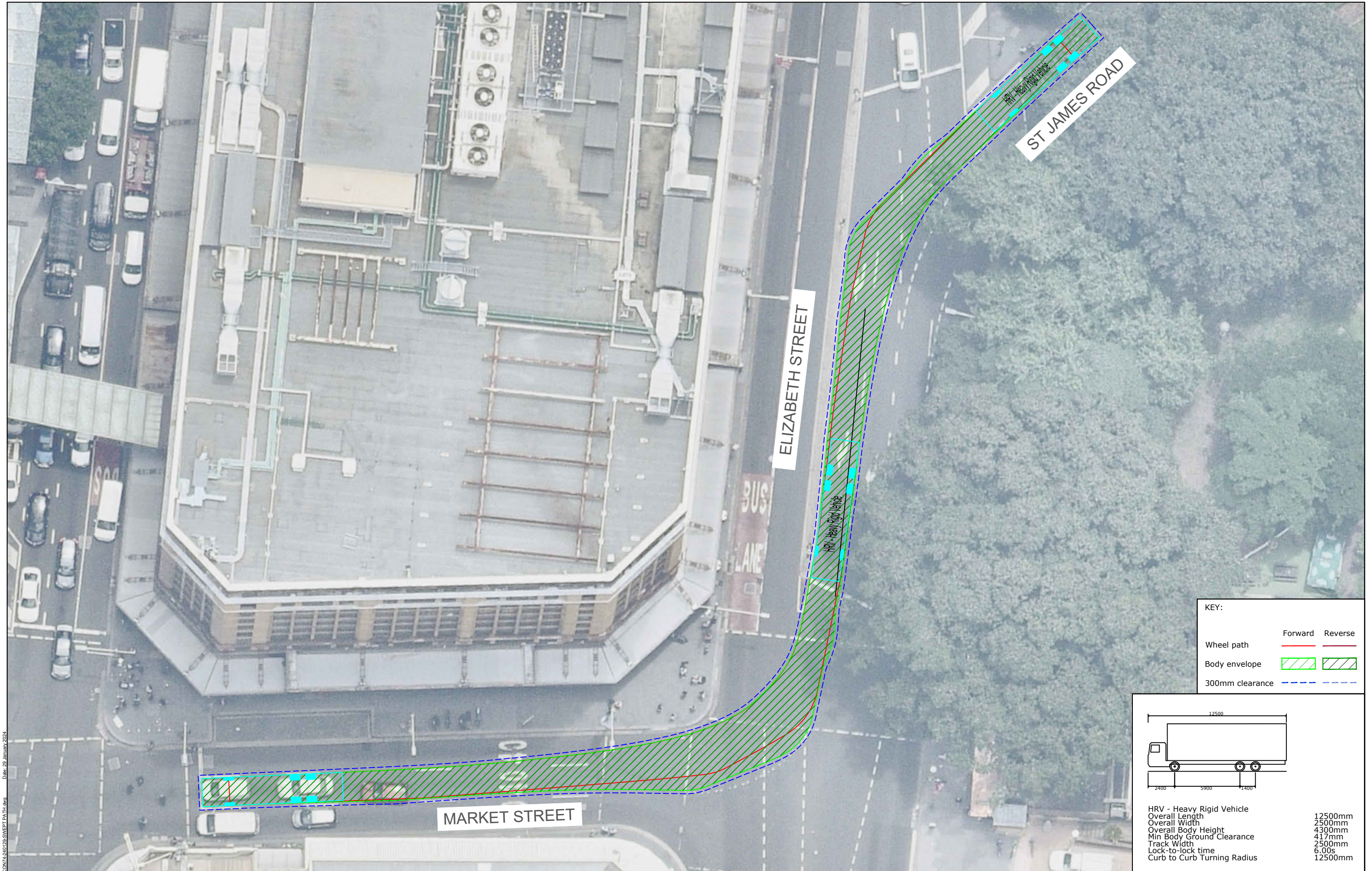
Filename: 21480CAD-HUNTER-E-003-CONTA-240128-SWEEP PATH.dwg Date: 29 January 2024

REV.	DESCRIPTION	DRAWN	CHECK	APP'D	DATE
A	ISSUE FOR DISCUSSION	JG	DL	WJ	29/01/24



PROJECT	SYDNEY METRO WEST PROJECT HUNTER STREET EAST - STAGE 2 DEMOLITION - CONDITION 74	
TITLE	SWEPT PATH ANALYSIS - MACQUARIE STREET ONTO ST JAMES ROAD (OUTBOUND) AS2890.2 12.5m HEAVY RIGID VEHICLE	

DWG No. 21480CAD-HUNTER-E-003 FIGURE 8		
DATE STAMP 29 JANUARY 2024		
PROJECT No. 21480	SCALE 1:300 @A3	REV. A



Filename: 21480CAD-HUNTER-E-003-CONTA-240128-SWEEP PATH.dwg Date: 29 January 2024

REV.	DESCRIPTION	DRAWN	CHECK	APP'D	DATE
A	ISSUE FOR DISCUSSION	JG	DL	WJ	29/01/24

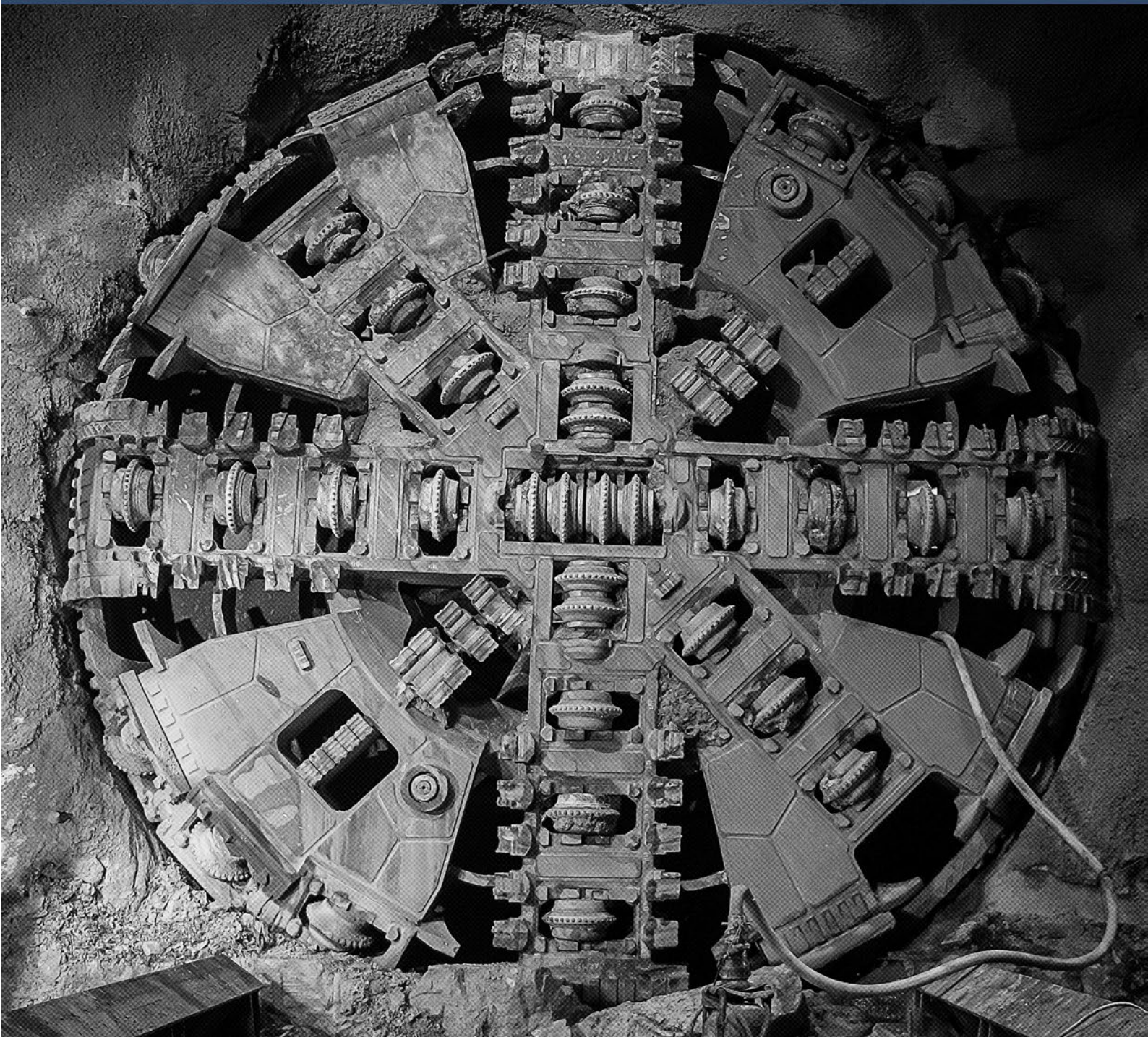


PROJECT	SYDNEY METRO WEST PROJECT HUNTER STREET EAST - STAGE 2 DEMOLITION - CONDITION 74	
TITLE	SWEPT PATH ANALYSIS - ST JAMES ROAD ONTO ELIZABETH STREET ONTO MARKET STREET (OUTBOUND) AS2890.2 12.5m HEAVY RIGID VEHICLE	

DWG No. 21480CAD-HUNTER-E-003 FIGURE 9		
DATE STAMP 29 JANUARY 2024		
PROJECT No. 21480	SCALE 1:300 @A3	REV. A

Appendix E Updated SIDRA Modelling Report

Traffic Modelling Report for Macquarie Street-Hunter Street, Macquarie Street-St James Road, Elizabeth Street-Market Street Intersection



Traffic Modelling Report for Macquarie Street-Hunter Street, Macquarie Street-St James Road, Elizabeth Street-Market Street Intersection

Hunter Street Construction Sites

Project number	
Document number	

Document approval

Rev	Date	Prepared by	Reviewed by	Comments	Approved by
V01	17/01/2024				
V02	13/02/2024				
Signature:					
Signature:					

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1. Introduction

1.1. Project Background

Sydney Metro West is a new 24-kilometre metro line that will connect Greater Parramatta with the Sydney CBD via stations at Westmead, Parramatta, Sydney Olympic Park, North Strathfield, Burwood North, Five Dock, The Bays, Pyrmont and Hunter Street (Sydney CBD).

The planning process for Sydney Metro West was assessed as a staged infrastructure application under section 5.20 of the Environment Planning and Assessment Act 1979 (EP&A Act).

Stage 1 of the development, the Sydney Metro West Concept and major civil construction work for Sydney Metro West between Westmead and The Bays (SSI-10038 Schedule 2), was approved on 11 March 2021 and includes:

- Construction of a new passenger rail infrastructure between Westmead and the central business district of Sydney, including:
 - Tunnels, stations (including surrounding areas) and associated rail facilities.
 - Stabling and maintenance facilities (including associated underground and overground connections to tunnels)
- Modification of existing rail infrastructure, including stations and surrounding areas
- Ancillary development.

Stage 2 of the planning approval process, the ETP Works, includes all major civil construction work including station excavation (Pyrmont Station and Hunter Street Station (Sydney CBD) and tunnelling between The Bays and Sydney CBD (Figure 1).

It is noted that the existing Sydney Metro West precast facility at Eastern Creek will be utilised in the delivery of concrete segments.

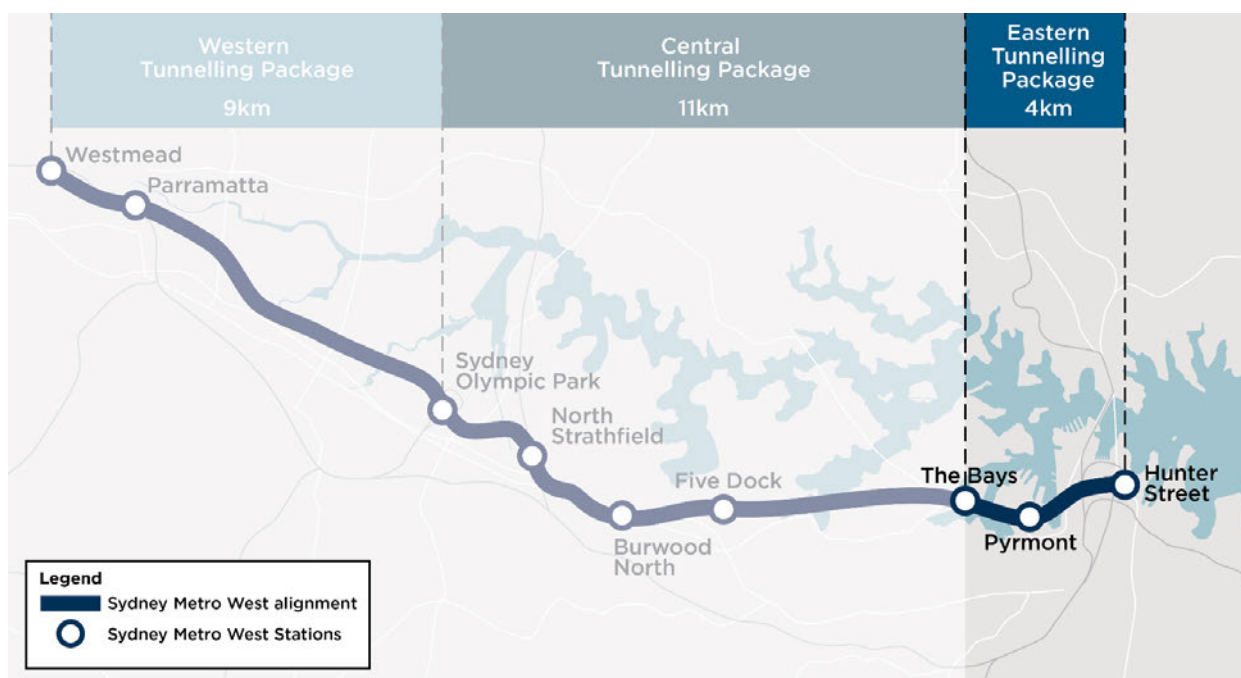


Figure 1: Sydney Metro West alignment

1.2. Scope

JCG JV are exploring an alternative outbound haulage route from the Hunter Street construction sites to Anzac Bridge via Macquarie Street.

The scope of this modelling report is to assess the traffic effects associated with the proposed alternative outbound route via Hunter Street, Macquarie Street, St James Road and Market Street, instead of the approved route via Elizabeth Street, as depicted in yellow dotted line shown in Figure 2.

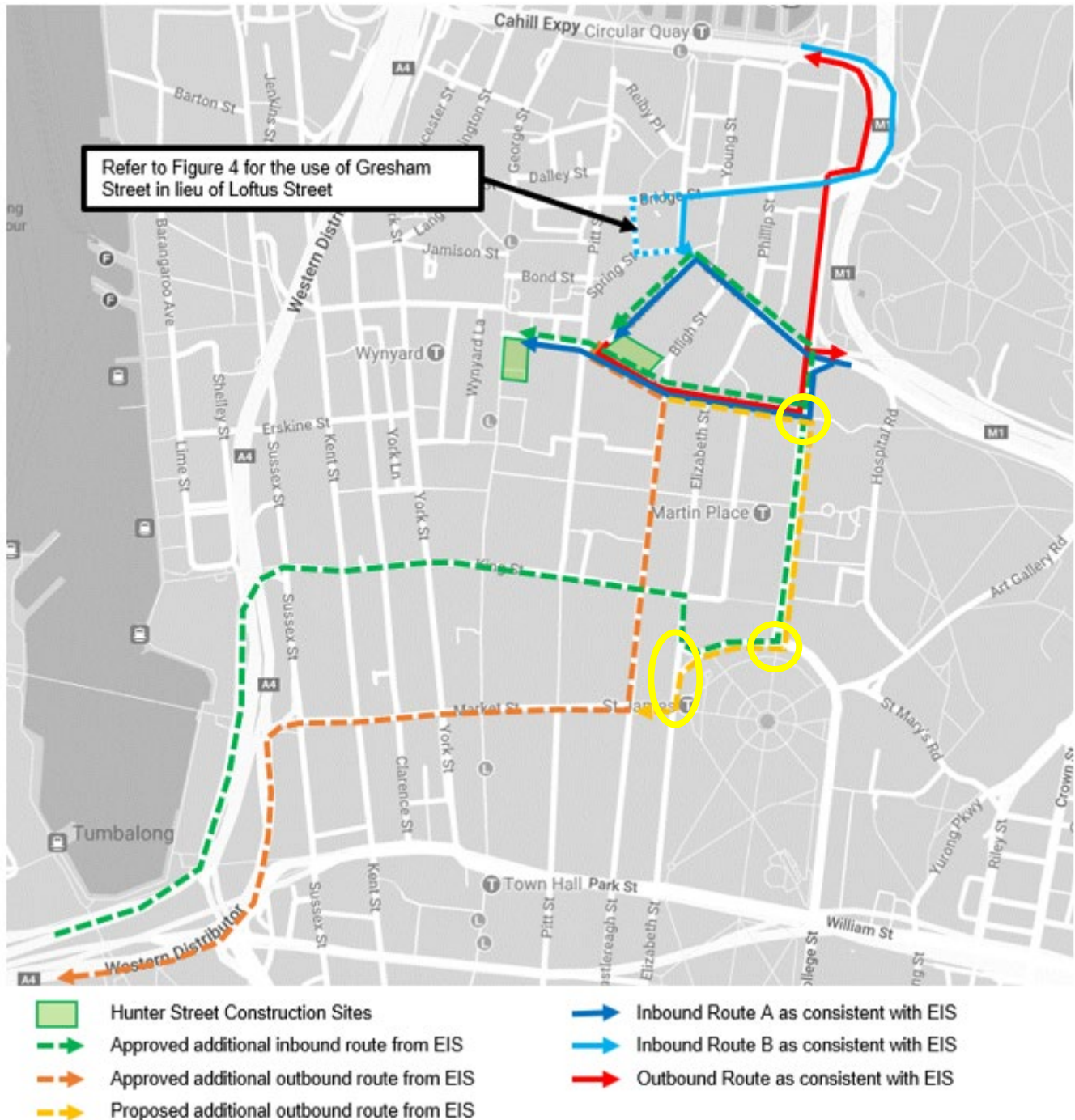


Figure 2: Proposed Haulage Route

The proposed alternative route was not identified in the project EIS. To justify the new route, traffic modelling is required to determine whether the traffic impact to the key intersections along the proposed alternative route are acceptable.

Following discussion with TfNSW, the following modelling scenarios have been assessed:

- Existing conditions

- Existing conditions plus Construction Heavy Vehicle Traffic

The following key intersections as encircled in Figure 2 have been assessed:

- TCS 0290 – Macquarie Street-Hunter Street intersection
- TCS 0276 – Macquarie Street-St James Road intersection, and
- TCS 0269 – Elizabeth Street-St James Road-Market Street intersection:

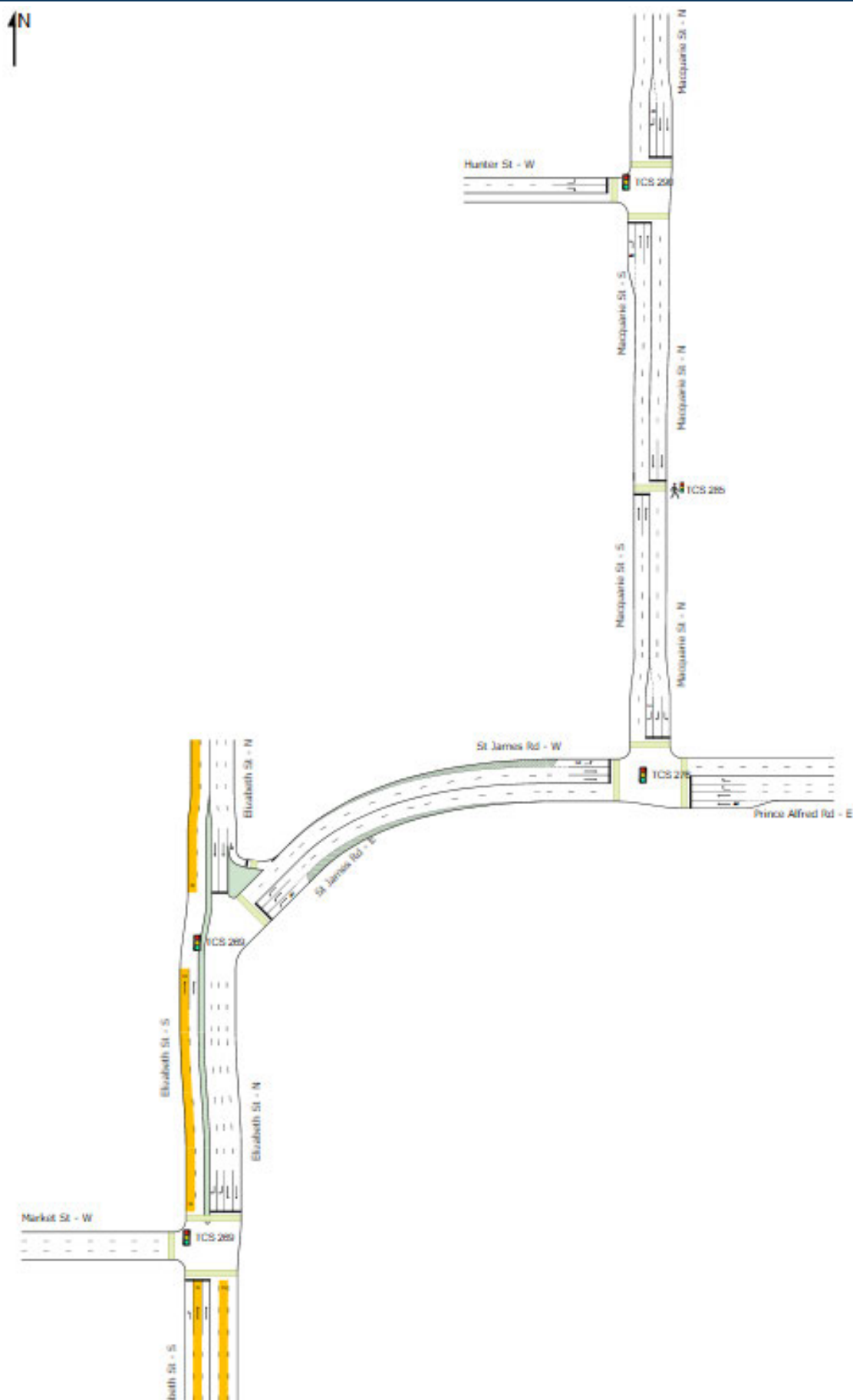
This traffic modelling statement assesses the traffic impact associated with the construction heavy vehicles (inbound and outbound) that will be assigned to the above signalised intersections in the AM peak, midday inter-peak and PM peak hours on a typical weekday.

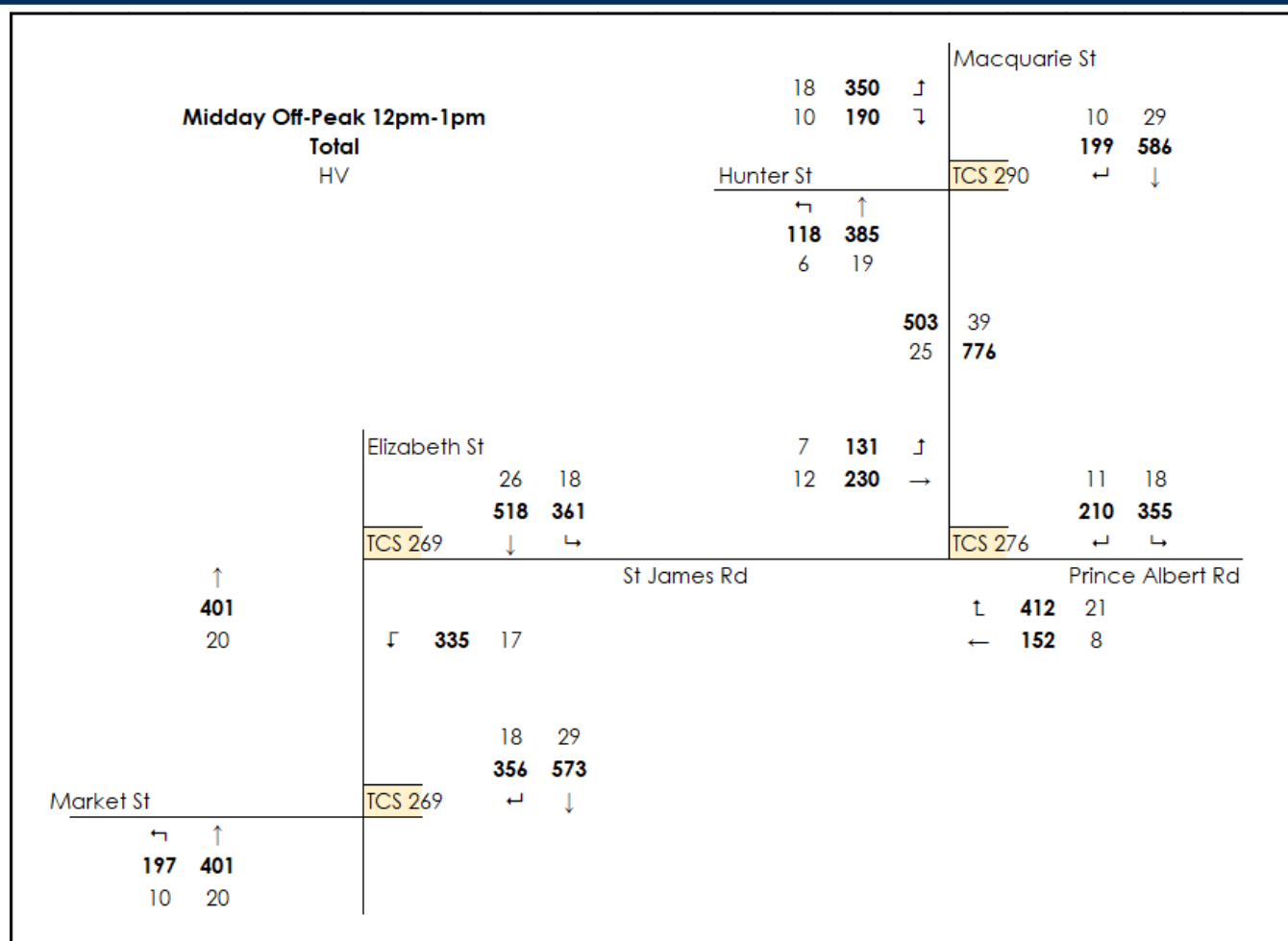
2. Traffic Modelling Parameters

2.1. Input Parameters / Model Development

2.1.1. Intersection Layout and Geometry

Nearmap aerial imagery has been used to code the intersection layouts. The SIDRA network layout is shown in Figure 3. It is noted that TCS 0269 has been coded as two signalised intersections operating under Common Control Group (CCG) phasing in SIDRA. Orange lanes depict bus only lanes.





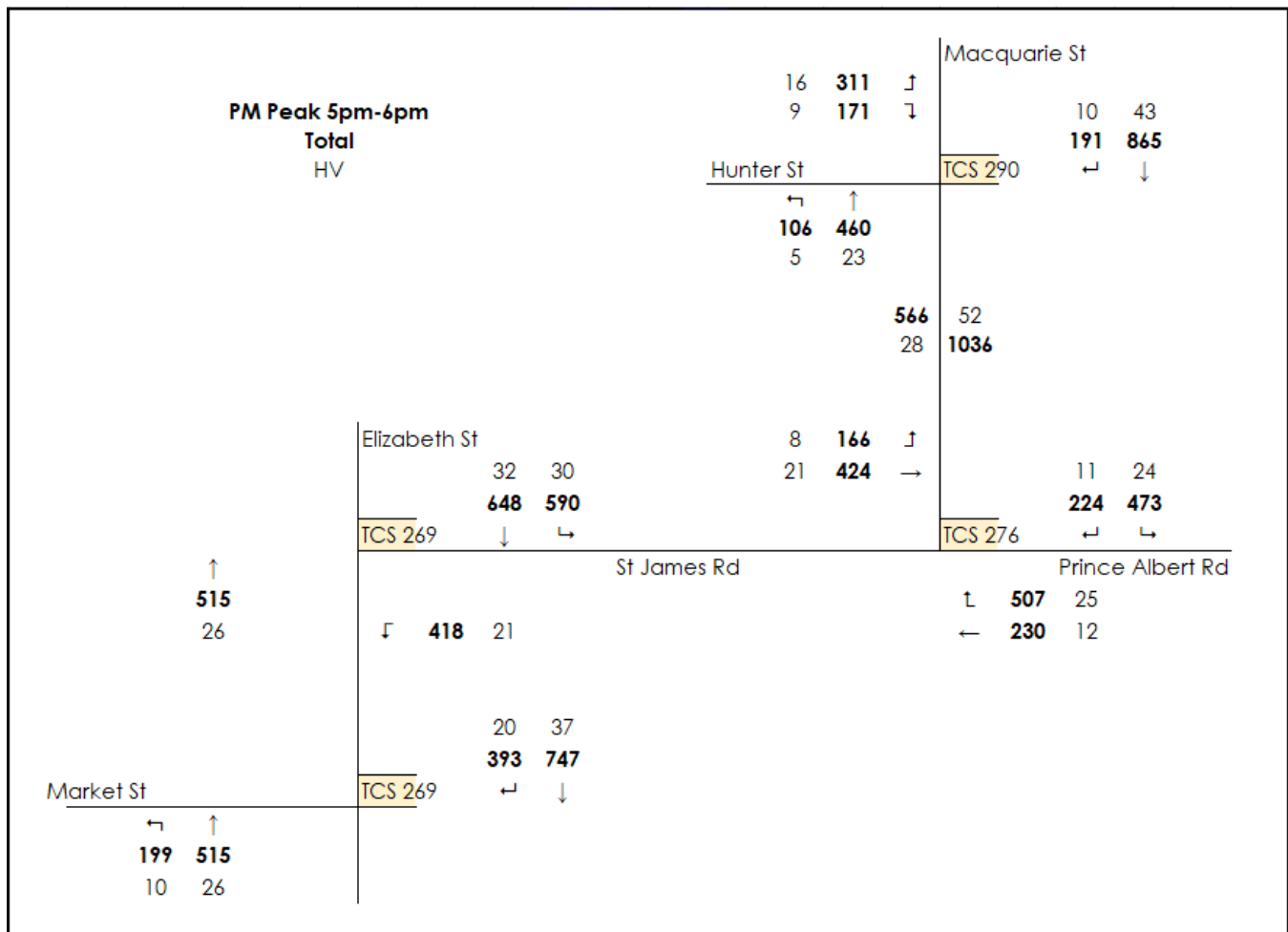


Figure 6: PM Peak Traffic Volume

2.1.3. TCS Signal Plan

The TCS signal plans were used for geometric details of the intersection including the gradients, layout and lane widths. They also provide details of the phasing arrangements and additional information about how the intersection operates.

2.1.4. SCATS History, LX File and TCS Intersection and Sub System Data

Signal timing was input as user-given phase times. The basic timing for the signalised intersection has been taken from the SCATS history files. The LX file was used for signal offset coordination between TCS sites. TCS Intersection and subsystem data including Pedestrian Walk Times, Clearance 1 and 2 times and Inter green (yellow and red) times were also obtained from TfNSW.

2.1.5. Model Calibration and Validation

The model was calibrated with the use of the SCATS history files, TCS Intersection and Subsystem data and LX files for signal coordination. The modelled queue lengths have been validated against TTPP site observations and compared against Google Maps traffic queues for a typical Wednesday AM (8am-9am), midday (12pm-1pm) and PM (5pm-6pm) peaks. It is however noted that site observations were undertaken when an event was held at The Domain during the evening, as such traffic levels were noticeably more congested than suggested by typical Google Maps traffic queues.

The modelled queue lengths against typical Google traffic queues for the AM peak, inter-peak and PM peak are shown in Figure 7, Figure 8 and Figure 9, respectively.

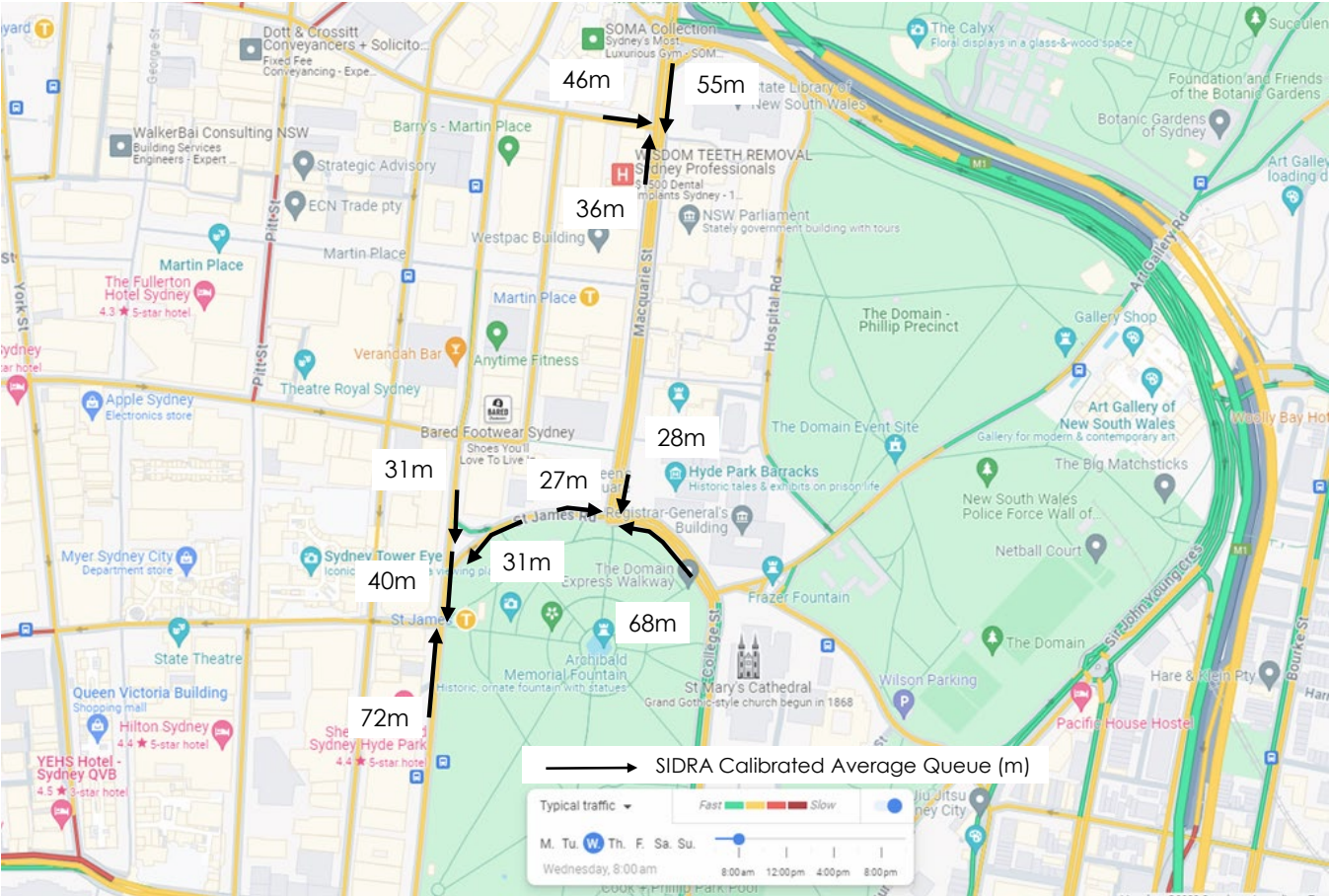


Figure 7: AM Peak Queue Length Calibration/Validation

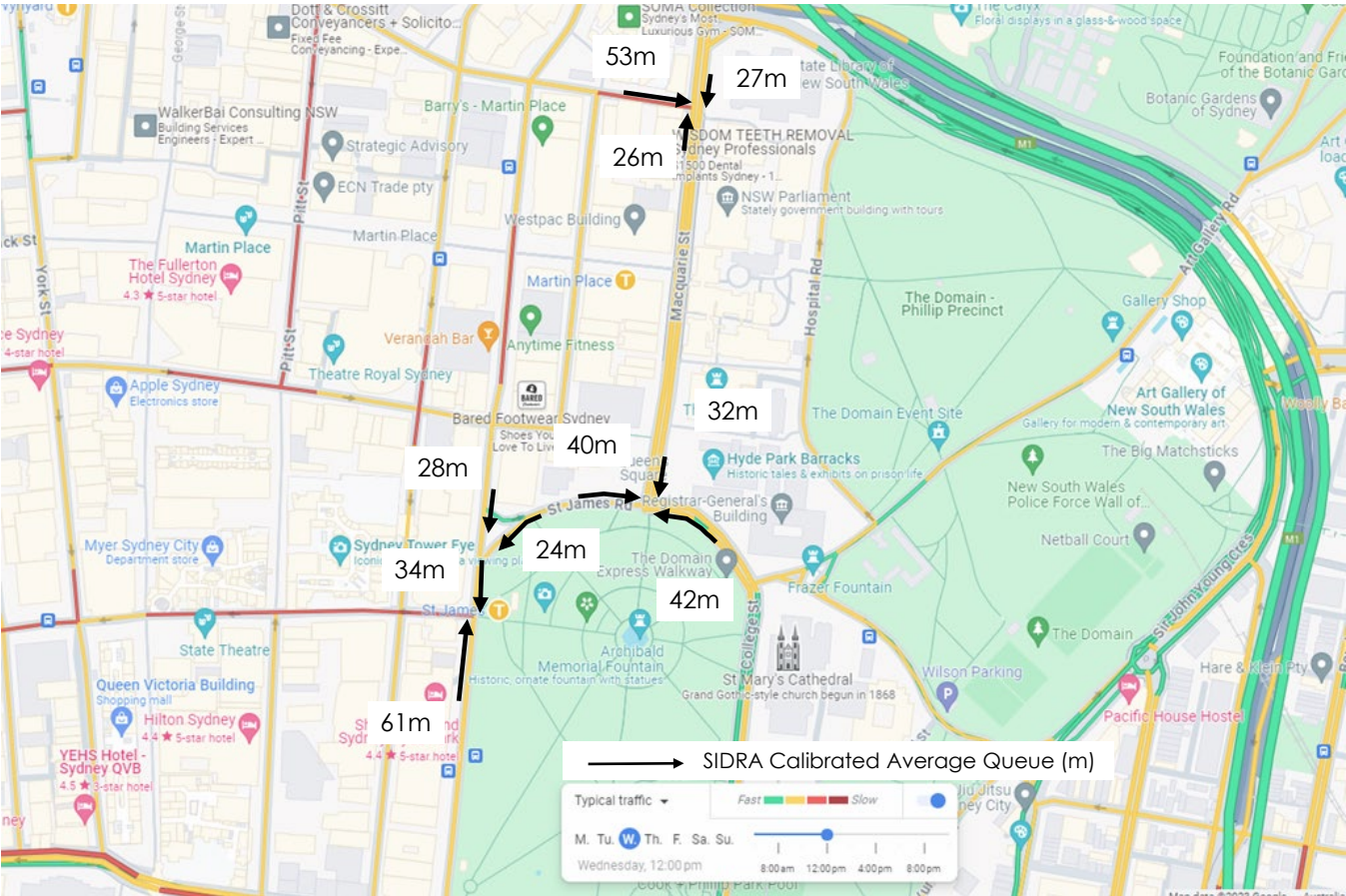


Figure 8: Midday Peak Queue Length Calibration/Validation

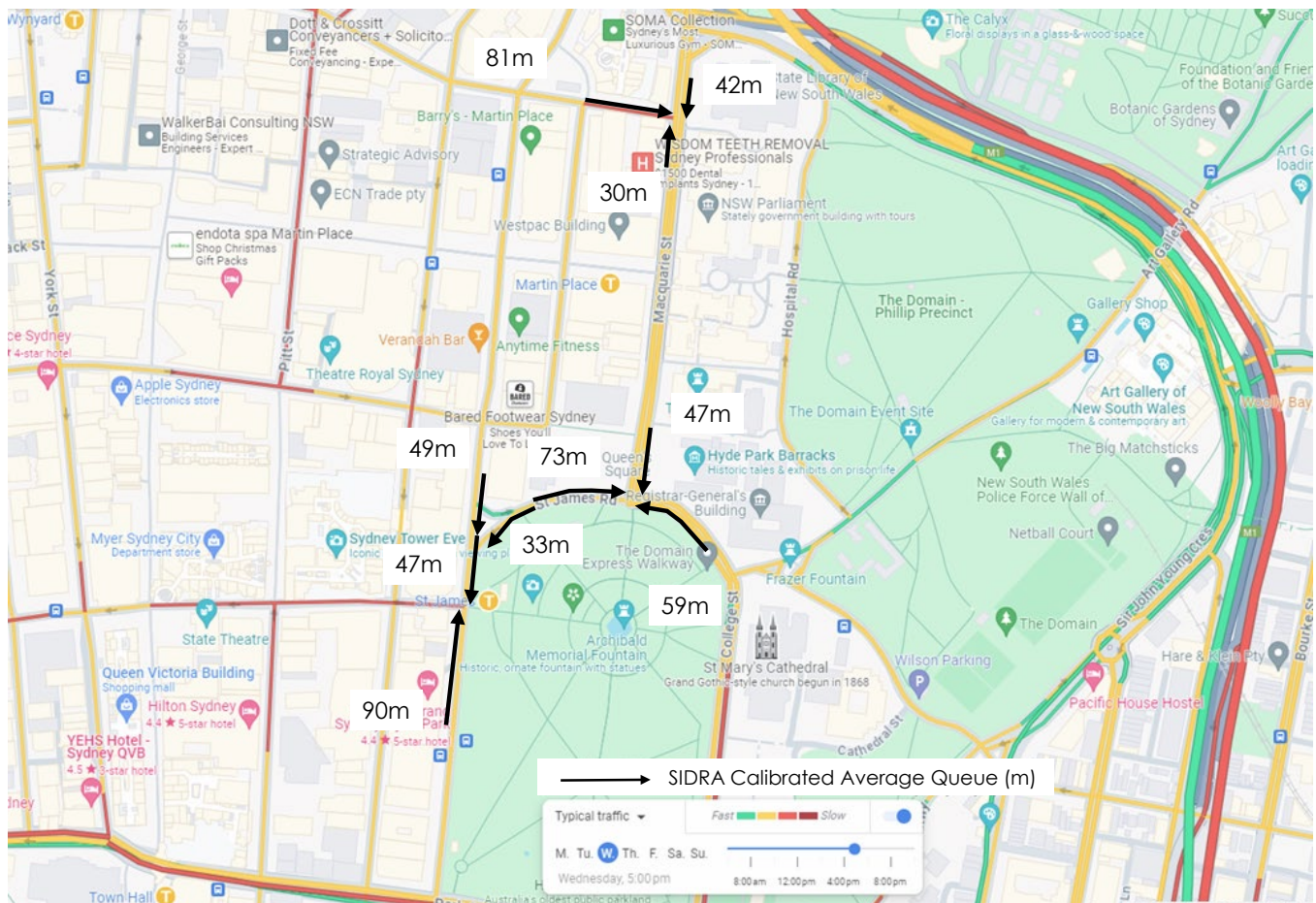


Figure 9: PM Peak Queue Length Calibration/Validation

3. Construction Haulage

3.1. Construction Traffic Volume

The construction traffic volume to be assigned to the Macquarie Street route involves 40 trucks (20 inbound, 20 outbound) during the AM peak, 56 trucks (28 inbound, 28 outbound) during the inter-peak and 24 trucks (12 inbound, 12 outbound) during the PM peak.

Figure 10 shows the construction traffic volume at the key assessed intersections.

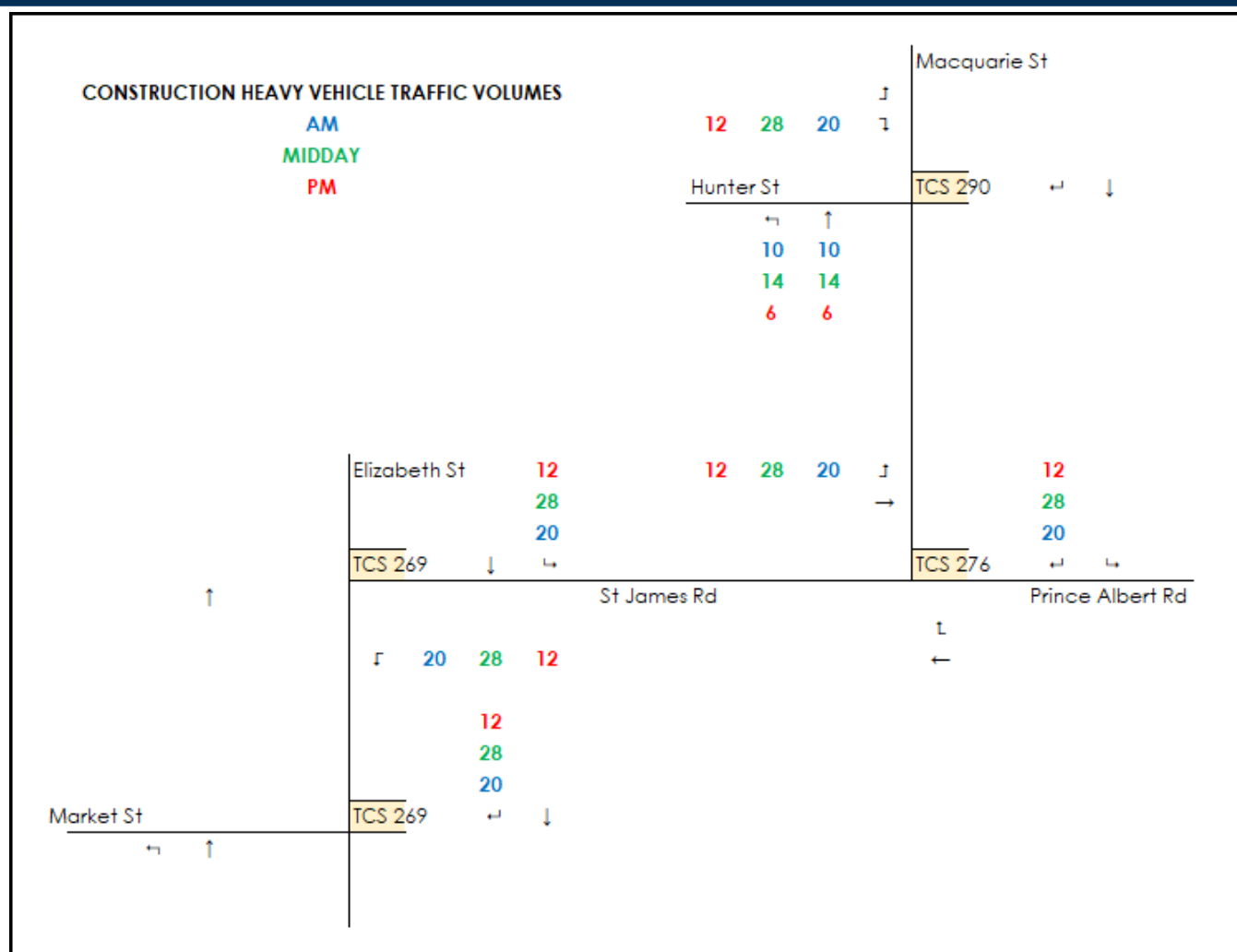


Figure 10: AM peak, midday inter-peak and PM peak hour construction traffic volumes

3.2. Modelling Results

3.2.1. EIS Results

The Environmental Impact Statement (EIS) indicates the Macquarie Street and Hunter Street intersection currently operates at LoS C in the AM and PM peak hours, as shown in Figure 11 based on the Aimsun modelling results. No inter-peak modelling was undertaken for the EIS.

Intersection and peak hour	Demand flow (vehicles per hour)	Average delay (seconds per vehicle)	Level of Service¹	Maximum queue length by directional approach (metres)	
Macquarie Street / Hunter Street					
Morning	2,213	31	C	NB	270
				EB	100
				SB	60
				WB	-
Evening	2,073	23	B	NB	150
				EB	80
				SB	80
				WB	-

Figure 11: EIS Intersection Performance (2021)

The Response to Submission (RTS) indicates the intersection was forecasted to operate at LoS C during the peak construction activities in 2025. The intersection would not be affected by the construction traffic volume given the intersection delay was very similar without the ETP project, as shown in Figure 12.

Intersection and peak hour	2025 without this proposal				2025 with this proposal as described in the Environmental Impact Statement				2025 with this proposal as described within this Submissions Report			
	Demand flow (vehicles per hour)	Average delay (seconds per vehicle)	Level of Service	Maximum queue length by directional approach (metres)	Demand flow (vehicles per hour)	Average delay (seconds per vehicle)	Level of Service	Maximum queue length by directional approach (metres)	Demand flow (vehicles per hour)	Average delay (seconds per vehicle)	Level of Service	Maximum queue length by directional approach (metres)
Macquarie Street/Hunter Street												
Morning	2,120	28	B	NB 160	2,090	30	C	NB 200	2,086	30	C	NB 230
				EB 140				EB 100				EB 100
				SB 70				SB 50				SB 50
				WB -				WB -				WB -
Evening	2,183	38	C	NB 190	2,187	40	C	NB 210	2,216	35	C	NB 160
				EB 150				EB 120				EB 140
				SB 90				SB 80				SB 80
				WB -				WB -				WB -

Figure 12: RTS intersection Performance during Peak Construction Activities (2025)

3.2.2. SIDRA Modelling Results

The scope of this modelling report is to compare the intersection performance based on the existing conditions with the inclusion of the construction traffic on the Macquarie Street route.

The SIDRA modelling results for the AM, midday and PM peak hours with and without the construction traffic are presented in Table 1.

Table 1: Modelling Results

Intersection	AM Peak (8am-9am)						Midday Off-Peak (12pm-1pm)						PM Peak (5pm-6pm)					
	Existing			With Construction Traffic			Existing			With Construction Traffic			Existing			With Construction Traffic		
	Avg Delay (s)	LoS	95 TH Queue	Avg Delay (s)	LoS	95 TH Queue	Avg Delay (s)	LoS	95 TH Queue	Avg Delay (s)	LoS	95 TH Queue	Avg Delay (s)	LoS	95 TH Queue	Avg Delay (s)	LoS	95 TH Queue
TCS 0290 – Macquarie St – Hunter St	22	B	90	28	B	104	22	B	87	23	B	98	29	C	132	31	C	150
TCS 0276 – Macquarie St – St James Rd	37	C	111	41	C	111	33	C	69	35	C	89	43	D	118	44	D	137
TCS 0269 – Elizabeth St – St James Rd	15	B	51	15	B	59	13	A	45	14	A	47	11	A	80	11	A	81
TCS 0269 – Elizabeth St – Market St	23	B	117	23	B	117	20	B	99	20	B	99	20	B	147	21	B	154

The modelling results as shown in Table 1 indicates that the key intersections currently operate at Level of Service (LoS) C or better during the AM, midday peak and PM peak hours, except for TCS 0276 which operates near capacity at LoS D in the PM peak. However, this LoS is still considered acceptable. These results are consistent with the site observations suggesting that the model has been reasonably calibrated to reflect the existing conditions.

Considering SCATS adapts traffic signal timing in real time to match traffic conditions, the model has been refined by adjusting the existing phase times within + / - four seconds to better accommodate the traffic conditions in the midday and PM peaks when construction traffic is in place. The increase in 95th percentile queue lengths would be in the order of 20m at the Macquarie Street- Hunter Street intersection and Macquarie Street- St James Road intersection, as shown in Table 1.

Table 2 provides a phase time comparison of the user-given phase times (SCATS) versus the adjusted SCATS phase times.

Table 2: Phase Time Comparison

Intersection	Peak		Phase			
			A	B	C	Total
TCS 0290 – Macquarie St – Hunter St	Midday Peak	User Given Phase Times (SCATS)	44	20	26	90
		User Adjusted Phase Times	40	20	30	
	PM Peak	User Given Phase Times (SCATS)	47	20	23	90
		User Adjusted Phase Times	46	20	24	
TCS 0276 – Macquarie St – St James Rd	Midday Peak	User Given Phase Times (SCATS)	23	25	42	90
		User Adjusted Phase Times	26	24	40	
	PM Peak	User Given Phase Times (SCATS)	24	25	41	90
		User Adjusted Phase Times	25	25	40	

The assessed intersections are expected to continue to operate satisfactorily during both the AM, interpeak and PM peak with the construction traffic. TCS 0276 would continue to operate at LoS D during the PM peak however this LoS is considered acceptable.

Furthermore, the SIDRA results for Macquarie Street-Hunter Street (TCS 0290) are generally consistent with the EIS results discussed above in that it concluded the intersection would not be affected by the construction traffic given the intersection delay was very similar to the scenario without the ETP project.

4. Summary

Based on the above assessment, the construction vehicles would have an imperceptible impact to the operation of the signalised intersections between Macquarie Street-Hunter Street and Elizabeth Street-St James Rd-Market Street intersection.

Appendix F Consultation

Minutes
Sydney Metro West – Traffic & Transport Liaison Group (TTLG) – Meeting 35

Date	Thursday 25 January 2024		Time	3:30pm – 4:10pm
Venue	Microsoft Teams meeting			
	Name		Organisation	Role
Chair		GF	SM	Sr. Mgr Transport Planning
Attendees		TB	City of Sydney Cl.	City Access
		PAB	SM	Traffic & transport
		NB	JCGJV	ETP Contractor
		LC	Quickway	Westmead Utilities Relocation
		HC	TfNSW	
		SCI	SM	Traffic & transport
		JCon	AFJV	CTP contractor
		RF	Burwood Cl.	Traffic & transport
		RG	TfNSW	Light Rail Operations Manager
		MHu	Inner West Cl.	Traffic & transport
		GHu	Fire & Rescue	Zone manager
		TI	TfNSW (P&P)	Network and Safety
		GJ	Port Authority	Project manager
		BMa	Canada Bay Cl	Traffic & transport
		KM	SM	Engagement
		MOS	GLC	WTP Logistic Manager
		MR	Placemaking NSW	Assurance, Development, Public Works
		AS	AFJV	CTP contractor
		MT	TfNSW (P&P)	Traffic & transport
		FV	SM	ETP Interface Mgt
		KV	JCGJV	ETP Contractor – Traffic Manager
		TU	CDC buses	Service planning
		MW	HBI	Environmental Rep.
		MY	TfNSW	Operational Improvement Planning
		HY	TfNSW (P&P)	Transport planning

Item		Overview / Action by	Actions
1.	Welcome and Introductions		- Acknowledgment of Country. - GF welcomed all to the meeting and asked for council attendees to introduce themselves. - Roberto Di Federico – Burwood Council - Brendan MacGillicuddy – Canada Bay Council <i>Note: Tom Bershtein (City of Sydney); and Michael Huy (Inner West Council) arrived after the introductions</i> - The Minutes of TCG Meeting 34 (21 December 2023) were accepted as an accurate record of the meeting and were adopted by the TTLG Group.
2.	Actions Arising		Nil actions arising

3.	Western Tunnelling Package (WTP) Works Overview - Traffic document status - Westmead site traffic update - Parramatta site traffic update - Clyde/Rosehill site traffic update - Eastern Creek site traffic update - Sydney Olympic Park update		MOS spoke to the tabled slides noting as follows: • Traffic document status - All SOP traffic plans are approved • Westmead site traffic update - Ongoing and Upcoming - Station box excavation ongoing - Mined tunnel excavation crossover cavern ongoing on east and west ends - Ongoing site entry and exit from Hawkesbury Rd - Relining sewer pipes on Alexandra Ave is planned for February • Parramatta site traffic update - Completed since last TTLG - Installation of Eastern E0 Temporary Steel Strut & Waler - Stage E-Temp Excavation stage - Crane Pad FRP (form reo pour) on South-East - Ongoing and Upcoming - D-wall installation West (75% complete) - Eastern Box Excavation E-1 - Installation of Eastern Upper Strut level • Clyde/Rosehill site traffic update - Rosehill - Completed since last TTLG - TBM 1 installed 808 rings - TBM 2 installed 470 rings - Ongoing and Upcoming - TBM Tunnelling ongoing - TBM Spoil Removal ongoing - TBM 1 & 2 continuing mining and ring installation - XP73 excavation ongoing - Clyde MSF West - Ongoing and Upcoming - A'becketts Creek WCS - Area 2 – Low flow channel - Kay St realignment - Completed since November - Footpath Diversion: Tue 28/11/23 - Full Footpath: Tue 5/12/23 - Road Diversion: 19/01/24 • Clyde MSF East - Ongoing and Upcoming - Excavation for MSF retaining wall ongoing - BEW (below earth works) spreading/compacting and import of material Clyde Dive/ Rosehill. - Utilities works for Sydney Water and Endeavour will continue until Feb 2024. - Commencement of retaining wall footings along M4 corridor. • Eastern Creek site traffic update - Ongoing and Upcoming - ECPY is currently operating 24 hours/day from Monday to Friday. - Segment transport to Rosehill is currently at 240 rings or 1440 segments per week. - Precast yard produced 18,461 segments. - Total of 7,740 segments delivered to Rosehill site.
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Item	Overview / Action by	Actions
		- Spur segment casting has commenced. Currently produced 119 segments. - CoR cameras operational • Sydney Olympic Park update - Completed since last TTLG - Site Establishment - Offices are operational. Site carpark has been identified with 4 spaces. - Waterproofing completed. - Ongoing works - FRP (form reo pour) in operation at the nozzle in the box. Questions from the Attendees - SC queried whether the upcoming sewer lining work in Alexandra Ave Westmead has any impacts on the road network/bus stop. MOS to investigate and advise. Actions: - MOS to investigate and advise any potential traffic impact associated with the sewer lining works in Alexandra Ave Westmead - <i>Post Meeting Note: Following the meeting, MOS advised the following via email dated 1/2/2024</i> - <i>The set-up will have no impact on the buses, the crew will be working on the westbound parking lane (east of Hassall St).</i> - <i>There is a provisional set up on the eastbound lane (kerbside lane, east of Hassall St) for contingency in case the crew need to get access, but there isn't a need for use at this stage.</i> - <i>The plan is to complete this work around the end of February, but awaiting for permits and crew confirmation.</i>

4.	Westmead Utility Relocation Works Overview - Traffic document overview - Works completed since last TTLG - January Works Photos - February Upcoming Works - Proposed Traffic Guidance Schemes - Parking Impacts		LC spoke to the tabled slides noting as follows: • Traffic document overview - No foreseeable changes to traffic documents • Works completed since last TTLG - Main construction works: - Both Telstra & Jemena installed on Bailey Street under dayworks. - Jemena main installed across Hassall St - Approx 80% of Testra install complete on Hassall St. - Ongoing weekly traffic coordination meetings between GLC & Quickway • January Works Photos - Refer to the attached slides • February Upcoming Works - Hawkesbury Road Works: - All works scheduled at night (8pm/9pm – 5am) Mon, Tues, and Thurs nights only. - W/C Mon 29th January - Median Island removal. Replaced with klemmfix. - Hawkesbury Rd contra flow - Full road closure Bailey St (nights subject to approvals) - Parking removal required - Proposed Traffic Guidance Schemes - Hawkesbury Road Median Island Removal - Night works only - Approved ROL Hours → 8pm/9pm – 5am - Access arrangements to GLC WTP site coordinated - Parking removal required - Hawkesbury Road Contra Flow - Night works only (Mon/Tue/Thurs) - Approved ROL Hours → 8pm/9pm – 5am - Access arrangements to GLC WTP site coordinated - Parking removal required - 2-way traffic flow maintained - Boom gates on Hawkesbury Road will generally be open. To be used on to assist construction vehicle access egress form the GLC site if necessary - Bailey Street full closure and Hawkesbury Road contra flow - Permit application submitted to Cumberland Council LTC - Mon 19/02/24, Tues 20/02/24, Thurs 22/02/24 Mon 26/02/24, Tues 27/02/24, Thurs 29/02/24 - Approved ROL hours TBC → Indicative 8pm – 5am - Residential access/egress retained (Communications to be sent to residents) - Parking removal required - No Bus Stop Impact • Parking Impacts - Short-term parking removal required - Only required spaces removed progressively Questions from the Attendees • Nil Actions: • Nil
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5.	Central Tunnelling Package (CTP) Works Overview - CTMP status overview - The Bays overview - Five Dock overview - Burwood North overview - North Strathfield overview - Sydney Olympic Park overview - Tunnelling overview		AS spoke to the tabled slides noting as follows: • CTMP status overview - All traffic documents approved with no pending updates • The Bays overview - Minimal work occurring while TBMs are located at Five Dock Station site. - Upcoming: - Works will increase back to peak operations following the relaunch of TBMs at Five Dock, expected at end January 2024 • Five Dock overview - West site - Update - Bulk excavation works completed with some minor excavation remaining - TBMs continuing to traverse through site - CTMP Revision 12 approved as of 22nd January 2024. - Upcoming: - Concrete pours for lining works to continue - From the end of February 2024 and In accordance with CTMP revision 12, truck movements will change to forward in & out, instead of the current reversing entry movements. - East site - Operations ongoing for TBM traverse through site. - Following TBM traverse, concrete pours for lining works will continue. • Burwood North overview - North site - Bulk excavation works completed. - Upcoming: - Utility treatments and construction of the exit driveway on Parramatta Road continuing. - Watermain relocations on Loftus Street continuing, target completion first quarter of 2024. - South site - Bulk excavation works completed - Upcoming: - Demobilisation of site facilities and equipment. • North Strathfield overview - Bulk excavation works ongoing, 93% completed as of 19th January 2024 - Plant deliveries and removals from site during nightshift Queen Street closure/detours have been completed successfully. - Upcoming - Additional plant deliveries and removals from site expected to take place on: - 5th February 2024 - 15th February 2024 - 22nd February 2024
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Item		Overview / Action by	Actions
			- This will occur under Queen Street closure/detours between 9pm & 5am. • Sydney Olympic Park overview - Bulk excavation completed - Currently no upcoming changes to existing traffic arrangements expected • Tunnelling overview - Arrival at Five Dock – completed, expected relaunch by the end of January 2024 - Arrival at Burwood North – early to mid 2024 - Arrival at North Strathfield – mid 2024 - Arrival at Sydney Olympic Park – mid to late 2024 Questions from the Attendees • Nil Actions: • Nil

6.	Eastern Tunnelling Package (ETP) Works Overview - Traffic Plans Status Update - Pyrmont East Site Works - Pyrmont West Site Works - Hunter St East Site Works - Hunter St West Site Works - The Bays Works - Eastern Creek Casting Yard - Macquarie St HVLR – Modified Haulage Route - Union St Pyrmont Ancillary Facility: Parking lane and footpath closures (Update to CPAS and Pyrmont East Stage 2 Site Establishment and Excavation CTMP)		KV spoke to the tabled slides noting as follows: • Traffic Plans Status Update - Refer to the attached presentation for the current status • Pyrmont East Site Works - Edward St driveway is temporarily closed. - Union St driveway is been utilised as ingress and egress to the site. - Progress being made with the retaining wall along Pyrmont Bridge Road and Edward Street, including anchoring, FRP and excavation for pad footings. • Pyrmont West Site Works - Pyrmont Bridge Rd driveway is the only ingress and egress point to the site at present. - Low volume of HV activities to and from the site (2-3 vehicles per day). - Structural demolition is now complete. - Drilling along Pyrmont Street and Pyrmont Bridge Road to install CHS posts underway • Hunter St East Site Works - Excavation - Spoil removal is ongoing from the site, approximately 1000t a day. - Pillar works are underway in the station cavern - In the northern drive of the turnbacks, the Turnback 6 transition wedge is complete and on the Turnback 6 undercut roof commenced. - In the southern drive, excavating the first top heading in Turnback 7. - Demolition - Scaffold has been completed on the north faces above the Hunter Street shaft site. - Scaffold is halfway up the west frontage along O'Connell St. - At 28 O'Connell St, demolition for truck access is finished, while basement demolition is paving the way to give the shaft team access. - Construction vehicle movements are approximately 3 delivery vehicles and 5 building material removal per day. - Commenced utilising the driveway on Hunter St • Hunter St West Site Works - Demolition - Works completed to the Level 1 slab at 314-318 George Street. - 9 Hunter Street, structural demolition of the podium, in line with 314-318 George Street. Scaffold is complete on the west frontage of this building and progressing on the east frontage. - Low volume of construction HV activities at present. Approximately 4 delivery and 6 building demolition material removal HV movements per day. • The Bays Works - Cladding installation of the segment shed ongoing
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			- Excavation for the TBM thrust frame foundation has been completed and FRP works are underway. - Drilling and grouting of the TBM eye seal rock bolts is completed. - Concrete placement for further sections of the haul roads is ongoing - The HV marshalling yard is being utilised well with all haulage contractors. • Eastern Creek Casting Yard - Delivery and installation has started for water treatment. - Minimal HV movements to and from the casting yard at present. • Macquarie St HVLR – Modified Haulage Route - Proposed modification of HVLR to utilise Macquarie Street southbound for the egress from the Hunter Street sites (in addition to the existing approved route northbound on Macquarie St) to add in safety, as it has been identified that the current approved route on Castlereagh St has higher construction activity, bicycle path and can create construction vehicle delays - Proposed increase in trucks from the Hunter Street sites - 40 trucks (20 inbound, 20 outbound) during the AM peak - 56 trucks (28 inbound, 28 outbound) during the interpeak - 24 trucks (12 inbound, 12 outbound) during the PM peak - SIDRA modelling has been carried out (at agreed intersections with CJP) which indicates that the construction vehicles would have an imperceptible impact to the operation of the intersections along the proposed alternative outbound route at the Macquarie Street and / Hunter Street and Elizabeth Street / St James Rd / Market St intersections - Turn path review is being carried out as part of the HVLR report submission • Union St Pyrmont Ancillary Facility: Parking lane and footpath closures (Update to CPAS and Pyrmont East Stage 2 Site Establishment and Excavation CTMP) - Propose to utilise the kerb parking lane and footpath on the southern side of Union Street, between Pyrmont Bridge Road and Edward St as a site ancillary facility. - Consultation has been ongoing with CoS and CJP - CoS has no objections and supports the proposal. - Proposal will result in the temporary removal of eight 2-hour parking spaces and a 10m No Parking zone across the existing driveway. The existing No Stopping restrictions at both ends will remain unchanged. - The site ancillary facility will be defined by concrete barriers and gawking screens, set back 500mm from the travelling lane
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Item		Overview / Action by	Actions
			- To manage the closure of the southern side of Union Street footpath, the pedestrian detour has been planned to minimise the impact on walking distance, and there are safe alternative road crossings available at both ends of the closure. - Edward Street offers traffic signal controlled pedestrian crossing, while Pyrmont Bridge Road has a marked pedestrian crossing. - Union St Pyrmont Ancillary Facility is included in the updated CPAS and Pyrmont East Stage 3 Site Establishment and Excavation CTMP. - The proposed is intended to be utilised from January 2024 until July 2024. Following this period, the parking will be reinstated to the current arrangement, with the addition of a parking space in the location of the redundant driveway - Updated CTMP to be submitted shortly Questions from the Attendees • SC queried the proposed date of the Macquarie St HVLR update. KV to advise • HY queried if traffic surveys were undertaken for the Macquarie Street route SIDRA analysis. KV advised that traffic counts were provide by CJP via SCATS in November. On site observations were undertaken to observe queue lengths for SIDRA calibration. Actions: • KV to advise the anticipated date of the Hunter St sites HVLR report incorporating the Macquarie Street route and additional construction traffic volumes
7.	Other Matters:	All	Nil other matters raised.
8.	Next Meeting		The next TCG meeting is scheduled for 29 February 2024 at 3:30 pm.

Appendix G Comments Register and Approval

REVIEW COMMENTS SHEET

DOCUMENT NO.	TITLE	VER	STATUS	NO.	DATE	COMPANY	RAISED BY	REVIEW DOC. NO.*	DOCUMENT REF*	DEED REF*	COMMENTS / RESPONSE	COMMENT CATEGORY*	CLOSED OUT
SMWSTETP-JCG-SCB-SN100-TF-RPT-093007	Sydney Metro West - ETP - Heavy Vehicle Local Road Report for Use of Local Roads - Hunter East and West (Anzac Bridge)	E.01	S3	26	7/02/2024	SCO		SMWSTETP-JCG-SCB-SN100-TF-RPT-093007	General	n/a	Please provide a table which indicates number of trucks per hour and the route to be taken to and from the site.	Observation	Y
								SMWSTETP-JCG-SCB-SN100-TF-RPT-093007	General	n/a		Observation	Y
				26.01	21/02/2024	JCG		SMWSTETP-JCG-SCB-SN100-TF-RPT-093007	General	n/a	Traffic volumes per hour are shown in section 2.7.3 and the route to and from the site is shown in Fig 6.	Observation	Y
								SMWSTETP-JCG-SCB-SN100-TF-RPT-093007	General	n/a		Observation	Y
				26.02	27/02/2024	JCG		SMWSTETP-JCG-SCB-SN100-TF-RPT-093007	General	n/a	A table with hourly volumes added in section 2.7.3	Observation	Y
								SMWSTETP-JCG-SCB-SN100-TF-RPT-093007	General	n/a		Observation	Y
				29	13/02/2024	SMD		SMWSTETP-JCG-SCB-SN100-TF-RPT-093007	Appendix F	N/A	Whilst Appendix F contains the agenda from TTLG 35, suggest to include the minutes/presentation of the TTLG, which would indicate what was actually shown at the TTLG	Observation	Y
								SMWSTETP-JCG-SCB-SN100-TF-RPT-093007	Appendix F	N/A		Observation	Y
				29.01	21/02/2024	JCG		SMWSTETP-JCG-SCB-SN100-TF-RPT-093007	Appendix F	N/A	TTLG #35 minutes attached in Appendix F	Observation	Y
								SMWSTETP-JCG-SCB-SN100-TF-RPT-093007	Appendix F	N/A		Observation	Y
				30	19/02/2024	CSC		SMWSTETP-JCG-SCB-SN100-TF-RPT-093007	SMWSTETP-JCG-SCB-SN100-TF-RPT-093007	N/A	Noting the need for heavy vehicles to service construction sites, the City remains concerned about the high volumes of people walking in all areas of the Sydney CBD and the potential for crashes, Metro should acknowledge that road safety takes precedence over efficiency. Haulage route selection should reduce unnecessary turning movements that increase road trauma risk.	Observation	Y
								SMWSTETP-JCG-SCB-SN100-TF-RPT-093007	SMWSTETP-JCG-SCB-SN100-TF-RPT-093007	N/A		Observation	Y
				30.01	21/02/2024	JCG		SMWSTETP-JCG-SCB-SN100-TF-RPT-093007	SMWSTETP-JCG-SCB-SN100-TF-RPT-093007	N/A	Noted, Pedestrian, cyclist and vehicle safety is always considered during the CTMP development.	Observation	Y
								SMWSTETP-JCG-SCB-SN100-TF-RPT-093007	SMWSTETP-JCG-SCB-SN100-TF-RPT-093007	N/A		Observation	Y
				31	19/02/2024	CSC		SMWSTETP-JCG-SCB-SN100-TF-RPT-093007	SMWSTETP-JCG-SCB-SN100-TF-RPT-093007	N/A	The City accepts the current proposal to use Macquarie Street as an alternate haulage route and agrees with Metro that Castlereagh is inappropriate given the road trauma risk present. Notwithstanding, the City notes that the College Street Cycleway and Macquarie Street renewal will occur within the next 18 months and clash with the ETP associated truck movements. Additionally, the opening of Metro City & Southwest in mid-2024 will alter movement patterns and should prompt a reassessment of the bus network. While the City acknowledges Metro's view on using Elizabeth Street, Metro should arrange for a future review of haulage routes when the situations on those streets change in late 2024.	Observation	Y
								SMWSTETP-JCG-SCB-SN100-TF-RPT-093007	SMWSTETP-JCG-SCB-SN100-TF-RPT-093007	N/A		Observation	Y
				31.01	21/02/2024	JCG		SMWSTETP-JCG-SCB-SN100-TF-RPT-093007	SMWSTETP-JCG-SCB-SN100-TF-RPT-093007	N/A	Section 7 updated to indicate "JCGJV will further review the haulage route when the situations on Macquarie St changes in late 2024".	Observation	Y
								SMWSTETP-JCG-SCB-SN100-TF-RPT-093007	SMWSTETP-JCG-SCB-SN100-TF-RPT-093007	N/A		Observation	Y

[illegible]

Our ref: SSI-19238057-PA-115

██████████
Director Environment, Sustainability & Planning
Sydney Metro
PO Box K659
HAYMARKET NSW 1240

Attention: ██████████ – Manager
18/4/2024

Subject: Sydney Metro West, Eastern Tunnelling Package – Request for Approval of ‘Heavy Vehicle Local Road Report for Use of Local Roads, Hunter Street East & West Construction Site’, Revision F

Dear Mr ██████████,

Thank you for submitting the ‘Heavy Vehicle Local Roads Report for Use of Local Roads, Hunter Street East and West Construction Sites’, Revision F, dated 8 March 2024 (the HVLR) on 26 March 2024.

I note the HVLR:

- has been prepared in consultation with stakeholders including the City of Sydney Council, Transport for NSW and Customer Journey Planning.
- has been reviewed by Sydney Metro and no issues have been raised with the department.
- has been endorsed by a Level 3 Road Safety Auditor.

Accordingly, as nominee of the Planning Secretary, I approve the use of the follow roads by heavy vehicles as outlined in the HVLR under conditions D73 and D74 of SSI 19238057.:

- Hunter Street east bound between Castlereagh Street and Macquarie Street
- Market Street west bound between Elizabeth Street and Castlereagh Street

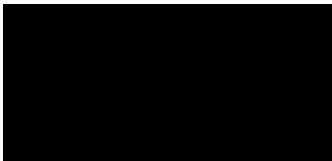
For the avoidance of doubt, my approval for use of these roads by heavy vehicles applies only as necessary to allow for the additional haulage routes to provide a route via Macquarie Street, as detailed in the HVLR.

Please ensure that the relevant Construction Traffic Management Plan is updated with reference to the HVLR and that the HVLR is made publicly available on the project website as soon as possible.

If there are any inconsistencies between the document and the conditions of approval, the conditions prevail.

If you have any queries, please contact [REDACTED]

Yours sincerely



Team Leader – Rail
Infrastructure Management

As nominee of the Planning Secretary