

Construction Traffic Management Plan

WSU - Indigenous Centre of Excellence

State Significant Development No. 6491225

Prepared for Western Sydney University c/o JCB Architects

26 July 2024

234338

Revision Register

Rev	Date	Prepared by	Reviewed by	Approved by	Remarks
P1	22/03/2024	C. L. Ip G. Awadalla	E. Cowdery M. Babbage	-	Issued as draft
1	03/05/2024	C. L. Ip G. Awadalla	M. Babbage	M. Babbage	Issued for SSDA
2	15/05/2024	C. L. Ip G. Awadalla	M. Babbage	M. Babbage	Revised issue for SSDA
3	20/05/2024	C. L. Ip G. Awadalla	M. Babbage	M. Babbage	Revised issue for SSDA
4	26/07/2024	C. L. Ip G. Awadalla	M. Babbage	M. Babbage	Revised issue for SSDA

Document Control

Internal reference	234338
File path	P:\2023\2343\234338\Reports\TTW\Traffic\2 - Preliminary CTMP\240726 WSU ICoE Construction Traffic Management Plan Rev 4

Prepared by
TTW (NSW) PTY LTD



Ivan Ip
Traffic Engineer

Reviewed by
TTW (NSW) PTY LTD



Michael Babbage
Associate (Traffic)

Approved by
TTW (NSW) PTY LTD



Michael Babbage
Associate (Traffic)

Contents

Contents	3
Section 1 Background	4
1.1 Introduction	4
1.2 Site Description	4
1.3 Scope of Works	5
Section 2 Construction Overview	6
2.1 Construction Access	6
2.2 Worker Parking	7
Section 3 Construction Vehicle and Machinery	8
3.1 Construction Vehicle Types	8
3.2 Construction Vehicle Volumes	8
Section 4 Management Strategy	9
4.1 Hours of Operation	9
4.2 Construction Traffic Management	9
4.3 Vehicle Management	9
4.4 Construction Vehicle Routes	9
4.5 Construction Vehicle Manoeuvrability	10
4.6 Construction Program	10
Section 5 Construction Impacts	11
5.1 Pedestrian and Cyclists Impacts	11
5.2 Public Transport	11
5.3 Road Network	11
Section 6 Cumulative Impacts and Coordination	12
6.1 Neighbouring Construction Works	12
6.2 Site Communications	14
6.3 Community Notification	14
Appendix A Swept Path Analysis	15

Section 1 Background

1.1 Introduction

TTW has been engaged by Western Sydney University c/o JCB Architects to provide traffic and transport engineering consultancy services for the proposed development of WSU - Indigenous Centre of Excellence located at Victoria Road, Parramatta.

This Construction Traffic Management Plan (CTMP) has been developed to assess and address the construction traffic impacts of the proposed development and define the necessary management process and mitigation measures for construction of the project. The CTMP has been prepared in support of a state significant development application (SSDA) for the project, and in response to the Secretary’s Environmental Assessment Requirements (SEARs) issued in respect of SSD-64916225 for the site.

The SEARs requirements for this CTMP (as part of item 10 of the SEARs) are shown in Table 1 and have been addressed in various sections of this report as referenced.

Table 1: Response to SEARs

Issue and Assessment Requirements	Section Reference
<i>Provide a Construction Traffic Management Plan detailing:</i>	
Predicted construction vehicle movements, routes, access and parking arrangements	Section 4
Coordination with other construction occurring in the area	Section 6.1
How impacts on existing traffic, pedestrian and bicycle networks would be managed and mitigated.	Section 5.1

This CTMP prepared for the SSDA however is considered preliminary in nature and would be finalised post-approval as a condition of consent. This document should also be read in conjunction with the Transport and Accessibility Impact Assessment (TAIA) prepared for the SSDA.

1.2 Site Description

The Western Sydney University South Parramatta Campus is located at 171 Victoria Road, Parramatta. The site comprises one singular allotment, which is legally described as Lot 100 in DP 816829. The project site is known as the P1 Car Park in the northern portion of the wider site campus. The project site is approximately 12,150m² in size and is broadly rectangular in shape. It currently comprises of a hardstand area that accommodates approximately 284 car parking spaces. There is an existing single storey Central Energy Plant to the west of the development area which serves the wider campus; it remains outside of the scope of this SSDA.

The site is strategically positioned to the northern boundary of the Western Sydney University (University) South Parramatta Campus, fronting Victoria Road (the A40). The wider campus comprises a significant landholding size of approximately 20ha containing a series of buildings of differing heights and massing forms which are used for educational purposes. The buildings contained within the wider campus site are dissected by a series of open, at grade car parks, internal roads, pathways, and landscaped areas. The campus sits to the north of the Parramatta River.

The site is located approximately 3km east of the Parramatta CBD, which is an area undergoing a process of significant transformation. It is also located approximately 500m to the Parramatta Light Rail Corridor, with the construction of new Yallamundi Light Rail now completed and awaiting operation by TfNSW.

The site location is identified in Figure 1.



Figure 1: Western Sydney University Parramatta South Campus Locational Context

Source: Nearmap / Ethos Urban

1.3 Scope of Works

This SSDA specifically seeks detailed approval for the following works:

- Site preparation including demolition of the existing car park, tree removal and installation of inground utility infrastructure services.
- Construction of a four-storey Indigenous Centre of Excellence encompassing:
 - Ground level facilities, including but not limited to; a dedicated arrival area, outdoor amphitheatre, cinema and lecture theatre, performance space, artist studios and exhibition space. Associated workspaces, meeting areas, lounge areas and other amenities are to be provided throughout the ground floor.
 - First floor level upwards comprising dedicated educational facilities including library facilities, learning areas and teaching spaces.
 - Second floor level comprising staff / student foyer, offices, meeting rooms and collaboration spaces.
 - Third level comprising a multi-functional recreational sports court, with associated ancillary amenities, alongside an astronomy garden.
 - Roof level plant and services.
- Construction of internal driveway with hardstand area to provide 13 car parking spaces.
- Landscaping works to provide outdoor educational and recreational spaces.

Section 2 Construction Overview

Until the appointment of a contractor and the development of a detailed construction methodology, few details are known about the precise nature of construction works, and construction vehicle movements required to service this site. However, preliminary estimates can be made based on the site constraints, existing connections, and proposed new works. Once a contractor is appointed in future, and a construction methodology is developed, these details will be further refined and published in an updated CTMP.

2.1 Construction Access

Victoria Road

Given that Victoria Road operates as a slip lane, its suitability for construction access may be limited, as they are typically designed for uninterrupted traffic flow and may not provide adequate space for construction-related activities. Nevertheless, subject to specific times or management measures, access from Victoria Road to the internal service road may be sought during construction. This would be used in order to mitigate usage of the internal university roads by construction vehicles, given the volumes of local traffic including pedestrian activity within the university site.

It is noted that this would be subject to separate approval from TfNSW and would require further detailed consultation. If this option is not pursued, alternative access points are available.

Bridge Street

Considering the difference in road level between Bridge Street and the site, the unknown weight limit of the road, and limited space for construction vehicles to turn and manoeuvre, Bridge Street is unlikely to be used as construction access.

Railway Street

Given the proximity of the street to the Victoria Road traffic signals and the extent of turning lanes (which are likely to experience queuing), it can be reasonably assumed that Railway Street will not be a primary consideration for construction access. Subject to the tree removal schedule and detailed swept path analysis, Railway Street may be used as access at later phases when construction occurs along the street's frontage.

Fifth Street

Based on the proposed site plan (see Figure 2) and the nature of the available road frontages, it is likely that main construction works will be accessed from Fifth Street.

During early phases of construction, the access driveway to the existing carpark may be utilised as construction access considering its existing presence. Depending on the schedule of tree removal and detailed swept path analysis, trucks may be able to access the site through the western end of Fifth Street to facilitate the construction of the carpark, access driveway and loading dock.

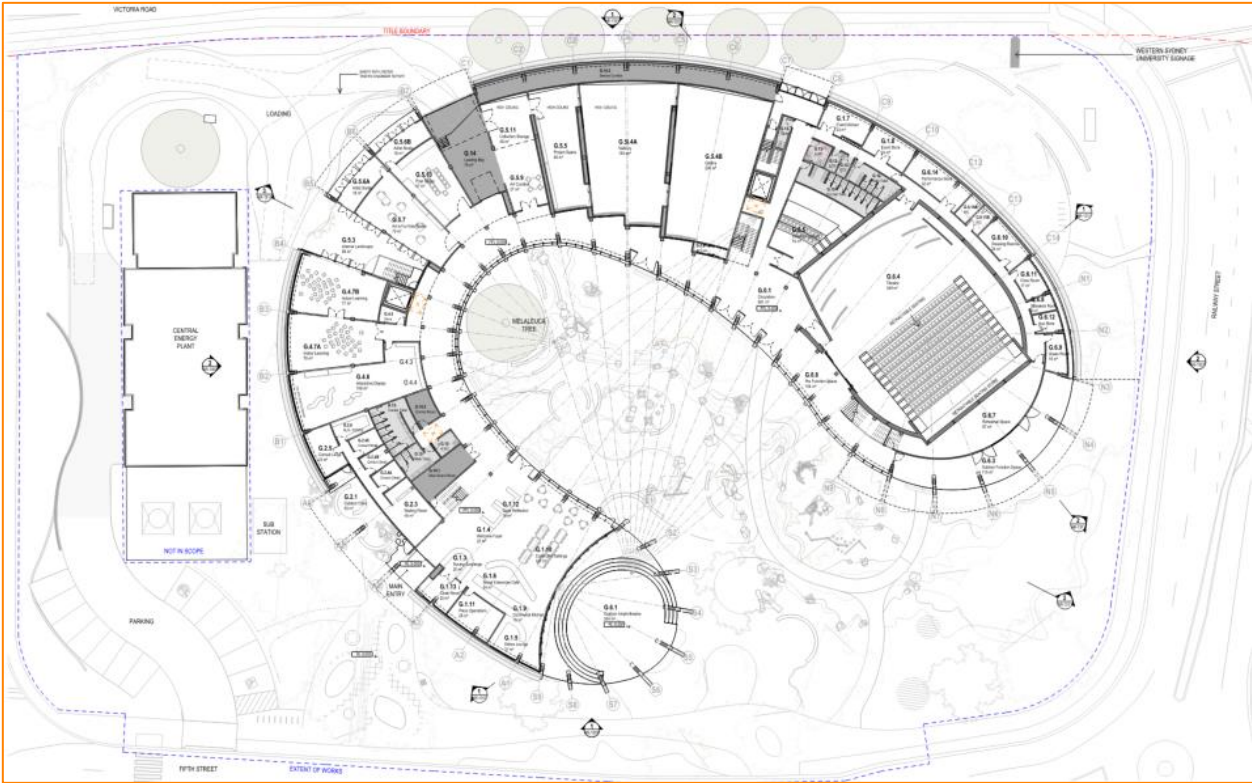


Figure 2: Proposed Site Plan
Source: Jackson Clements Burrows Architects

2.2 Worker Parking

Table 2: Projected Typical and Peak Workforce Numbers at Similar Construction Site

Project	GFA (m²)	Typical Daily Workforce #	Peak Daily Workforce #
Commercial Facility in St Marys	5,500	6 – 8	20
Cultural Facility in Central Sydney	6,500	-	35
WSU Indigenous Centre of Excellence	6,000	12 – 15	30

Based on similar projects as listed in Table 2, it is estimated that there will be a maximum workforce of 30 staff, with an average of approximately 12 – 15 staff. WSU has confirmed that parking for these workers will be permitted on the university site. The exact locations and arrangements will be confirmed once a Contractor is appointed.

Depending on the staging of construction works, parts of the existing carpark which are yet to be revamped may be available to construction workers. The future carpark may also be available during the construction of the centre, subject to a contractor methodology being developed.

Be that as it may, travelling by private vehicles is discouraged, workers are strongly encouraged to utilise alternatives such as public transport or active travel modes. As the site is situated in a well-developed area within the City of Parramatta, workers are encouraged to utilise paid parking to alleviate any additional demands on the existing on-street parking spaces.

Section 3 Construction Vehicle and Machinery

3.1 Construction Vehicle Types

The most common vehicle types are expected to range from Medium to Heavy Rigid Vehicles, or around 8 – 12 metres in length.

Early concept designs have indicated the potential use of long construction modules, such as cross-laminated timber columns, that forms the skeleton of the structure. As these modules are considerably more cumbersome than regular construction materials, the occasional use of heavy trucks to deliver such materials would be inevitable.

Semi-trailers (up to 20 metres long), as described in Section 4.5, may be used from time to time. Oversized special-purpose vehicles, subject to special approval, may also be required for activities such as the installation or removal of tower cranes. Detailed swept path analysis for large / oversized trucks will be performed and be included in the detailed CTMP to ensure sufficient manoeuvring space in the vicinity.

3.2 Construction Vehicle Volumes

It is assumed that the average volume of construction vehicle traffic to and from the site would be consistent with other projects similar in Gross Floor Area (GFA). Sample data from other projects is provided in Table 3 below. However, this information is provided for reference only, more accurate data would be provided by the appointed contractor prior to commencement of construction.

Table 3: Projected Construction Vehicle Volumes

Project	GFA (m ²)	Peak # of Trucks per day	Typical # of Trucks per day
Commercial Facility in St Marys	5,500	8	4
Cultural Facility in Central Sydney	6,500	22	14
<i>WSU Indigenous Centre of Excellence</i>	6,000	13 – 15	9 – 10

Thus, with a GFA of 6,000 m², it is estimated that this project will generate approximately **13 – 15** trucks during peak phase, and around **9 – 10** on a typical day.

Section 4 Management Strategy

4.1 Hours of Operation

The hours of operation for construction activities are to be determined by the planning authority, and will likely contain similar work hours to the following:

- Monday to Friday 7:00 am – 6:00 pm
- Saturday 8:00 am – 1:00 pm
- Sunday and Public Holidays None

4.2 Construction Traffic Management

The delivery of construction materials to and from the site will result in some generated traffic activity associated with the works. It is expected that the heavy vehicles would generally arrive outside of AM and PM peaks, therefore there is no impact on the peak period traffic volume associated with the heavy construction vehicles. The estimated construction traffic volume for the standard operation of the worst-case is 15 trucks per day, which is equivalent to approximately 2 trucks per hour. As a result, increased traffic associated with construction activities will have only minimal impacts on the existing road network.

Light vehicle traffic generation would be generally associated with construction staff movements to and from the site. Staff would be comprised of project managers, traders and general construction employees. Over the full period, the peak workforce represents the worst-case scenario for vehicle movements during the morning and evening road network peak hour. The workforce arrival and departure periods (6:30 – 7:00 am, and 6:00 – 6:30 pm) represent the peak construction traffic periods. Workers should be encouraged to use active and public transport options.

4.3 Vehicle Management

During days of high estimated vehicle movements, communication between the site and incoming vehicles will be maintained to stagger the arrival of vehicles, in order for them to be accommodated within the worksite and to minimise traffic disruptions.

Loading and unloading activities will occur within the site, at the nominated vehicle zones, or within any approved Works Zone. Truck movements to and from the site will be scheduled outside peak hours where possible to reduce impacts to the local and state road network. All deliveries are to be made within the approved work hours.

Non-tonal reversing beepers (or an equivalent mechanism) shall be fitted and used on all construction vehicles and mobile plants regularly used on-site (i.e., greater than one day) and for any out of hours work.

4.4 Construction Vehicle Routes

All construction vehicles are to travel on the main road network (such as motorways and arterial roads) as far as practical, except where strictly required to reach the construction site.

It is anticipated that trucks travelling to / from the east / west will utilise Victoria Road, while those travelling from the north / south will mainly utilise James Ruse Drive, as shown in Figure 3. However, note that these are suggested routes only. Drivers are expected to travel to their intended destination using routes that are deemed as appropriate depending on local traffic conditions.

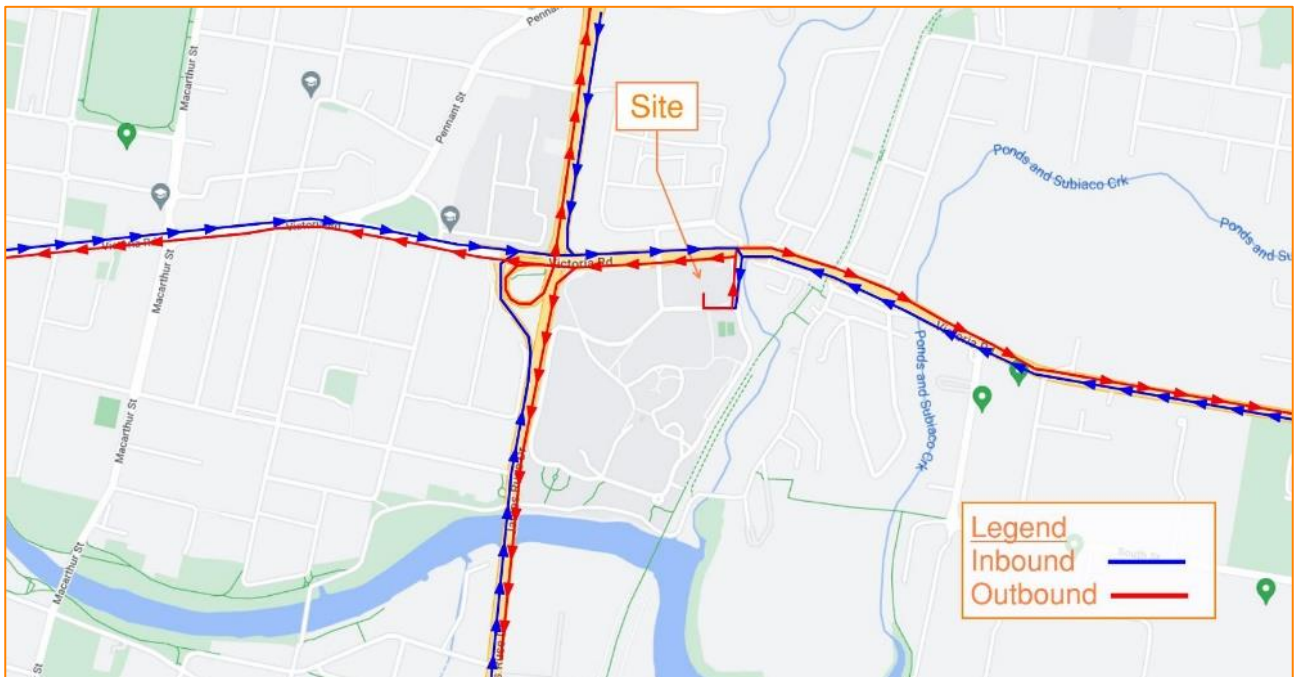


Figure 3: Construction vehicle routes

Source: Google Maps

4.5 Construction Vehicle Manoeuvrability

As documented in Section 3.1, the largest feasible truck servicing to and from the site will be subject to the final design of the development and detailed swept path analysis ensuring sufficient manoeuvring clearance for any oversized vehicles. Appendix A illustrates swept path analysis of a 20-metre articulated vehicle accessing several major junctions in the vicinity with satisfactory manoeuvres. Further to that, the structural capacity of local roads (namely, Bridge Street) in the vicinity should also be investigated in the detailed CTMP to ensure such roads possess adequate weight capacities, where relevant.

To avoid construction vehicles posing any safety concerns to the local road network, all trucks are to enter and exit the site in a forward direction **only**. Reverse manoeuvres may occur within the WSU site and would be managed under traffic control.

4.6 Construction Program

The construction program has not yet been determined. A detailed CTMP would be prepared by the appointed contractor prior to construction, documenting the construction duration of each stage along with their respective traffic arrangements and details.

Section 5 Construction Impacts

5.1 Pedestrian and Cyclists Impacts

The potential impacts to the pedestrian network, and associated mitigation measures, are detailed in Table 4.

Table 4: Construction Impacts to the Pedestrian / Cyclist Network

Impact	Mitigation Measures
Materials lifting / construction activities adjacent to Fifth and Railway Street footpaths.	Appropriate hoarding or fencing to be provided at construction site boundary.

5.2 Public Transport

There shall be no changes to local public transport routes and services due to construction.

5.3 Road Network

The potential impacts to the road network, and associated mitigation measures, are detailed in Table 5.

Table 5: Construction Impacts to the Traffic Network

Impact	Mitigation Measures
Construction traffic increases traffic volumes on road network.	<p>As detailed in Section 4.2, the estimated truck volume generated by this project in worst-case will result in 2 trucks per hour only. Besides, it is assumed that major trucks routes such as Victoria Road, which is already extensively used by trucks, can accommodate the extra truck trips generated by the project. Therefore, heavy truck traffic is expected to have minimal impacts on the local road network.</p> <p>Furthermore, construction traffic movements are to be scheduled outside peak periods where possible. However, some movements may be necessary from time to time such as for significant concrete pours which cannot be interrupted. Therefore, additional measures for minimisation and management of these impacts may be required and would be determined in advance based on the nature of the event.</p>
Construction worker parking exerting additional demand to on-street parking.	<p>As discussed in Section 2.2, certain parts of the site may be available to workers subject to the staging of construction works, and the development of a construction methodology.</p> <p>Construction Worker Transport Strategy shall be prepared and implemented by the Contractor to encourage alternate transport modes, and reductions in car usage by construction workers, to minimise demand for on-street car parking.</p>
Oversized Construction Vehicle	<p>As discussed in Section 4.5, detailed swept path analysis should be conducted to ensure sufficient manoeuvring clearance. Structural capacity of nearby local roads should also be investigated and exclude such roads from construction vehicle routes should any roads be incapacitated for oversized trucks.</p>
Local impacts.	<p>Sufficient communication measures as documented in Section 6.2 are to be implemented to ensure nearby neighbours are well-informed of any project updates.</p>

6.1.3 Sydney Metro West

As part of the Sydney Metro West project that will be connecting Greater Parramatta and the Sydney CBD, two infrastructure developments – Parramatta metro station and Clyde stabling and maintenance facility are located nearby the proposed development. Construction traffic of these major developments is expected to overlap with ICoE's traffic along major roads, notably James Ruse Drive.

However, similar to the light rail development, it is expected that the combined traffic of all three projects is expected to generate minimal impact in the larger perspective as the nearby major roads are already widely employed. At time of writing (March 2024), it is understood that there are no scheduled or any long-term road closures as a result of said developments that potentially affects ICoE's traffic. Any relevant road closures in the future shall be integrated into later revisions of the subject report.

As documented in Sydney Metro West's project website, two potential station locations are currently being investigated, including one at Rosehill Gardens, located immediately adjacent to the above-discussed Clyde stabling and maintenance facility and nearby south to the site, as illustrated in Figure 5.

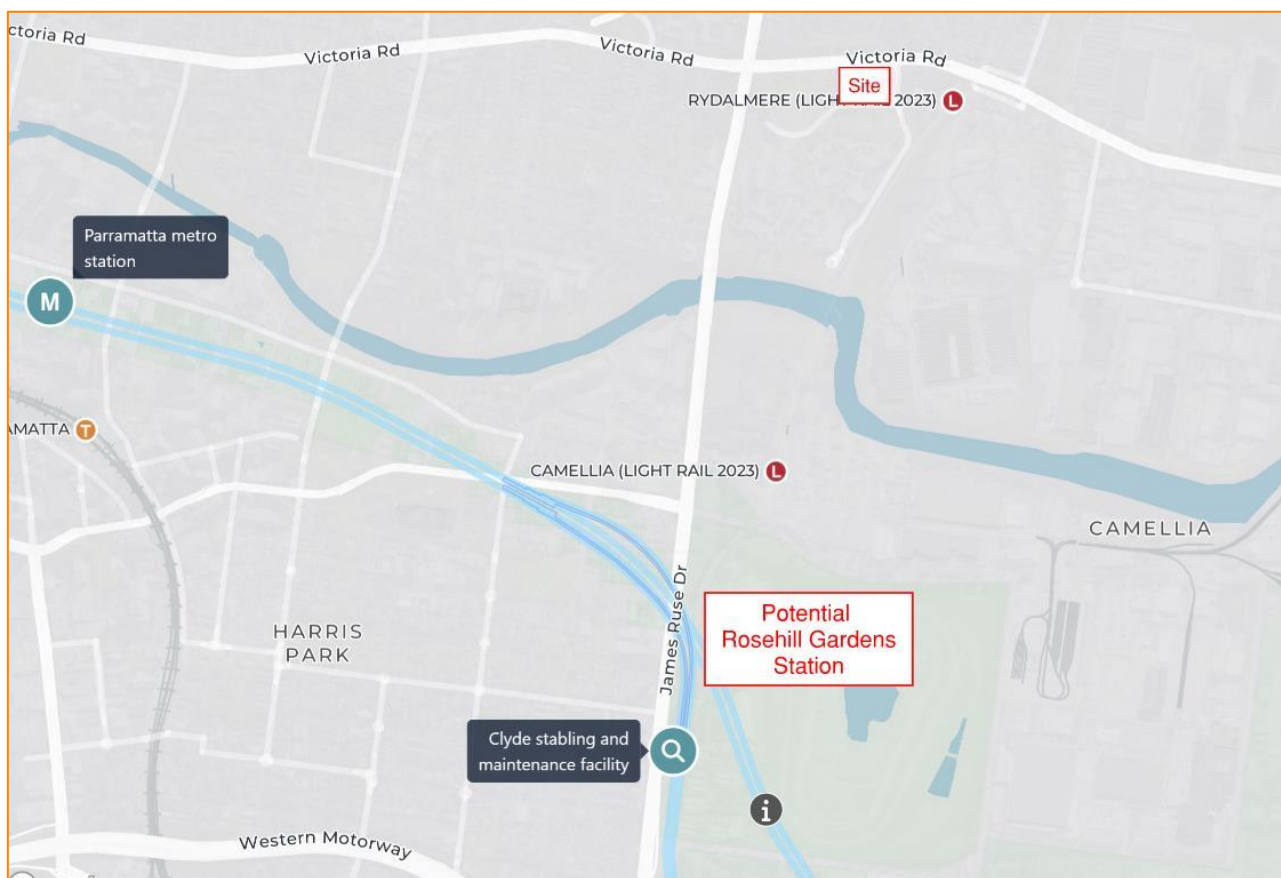


Figure 5: Sydney Metro West – Neighbouring Construction Works

Source: Sydney Metro West Interactive Portal

It is acknowledged that an additional development will generate further construction demand in the vicinity, in particular James Ruse Drive, as the potential development situates next to said road. That said, as the station is currently unconfirmed at this stage, the discussion of any cumulative impacts generated as a result of this proposal shall be evaluated and integrated into a future revision of this report should the development proceed.

6.2 Site Communications

The site manager shall be responsible for liaising with the site manager of the surrounding construction projects once identified. Communication across sites should ensure:

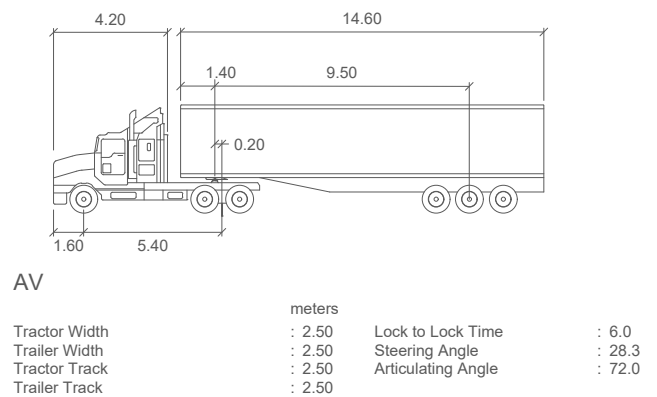
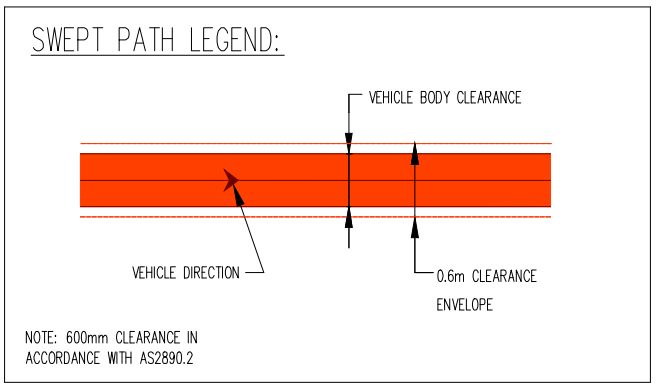
- Overall project programs are to be identified and shared.
- High-volume days or periods (such as concrete pours) are to be communicated, and where possible are to be coordinated to avoid excessive impact to the road network.
- Oversize / overmass delivery days are to be communicated, and where possible are to be coordinated to avoid excessive impact to the road network.
- Traffic control measures (including Traffic Control Plans / Traffic Guidance Schemes) are to be shared if these may be relevant to construction vehicle routes for surrounding projects.

6.3 Community Notification

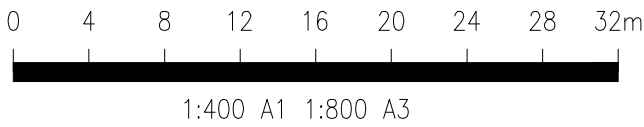
Community notification shall be undertaken as per TfNSW requirements and includes (but is not limited to):

- Temporary notification signage installed around the site and affected areas highlighting the upcoming changes / impact.
- Door knocks to immediately surrounding stakeholders advising them of the upcoming works.
- Mailbox drops within a set radius around the project distributing the monthly project updates.
- Project specific website containing project updates, notifications, planning documents, and contact numbers.
- Project specific distribution lists that can be signed up to by members of the public who wish to receive notifications electronically.

Appendix A Swept Path Analysis



Filename: 234338-TTW-GS-DR-TR-00007-11-SWEPT PATH SKETCH - CONSTRUCTION ACCESS 20m AV.dwg USER: ian - Plot File Created: May 20, 2024 - 3:17pm



THIS DRAWING HAS BEEN PREPARED USING COLOUR

Rev	Description	Eng	Draft	Date	Rev	Description	Eng	Draft	Date	Rev	Description	Eng	Draft	Date
2	REVISED ISSUE FOR SSDA	CI	CI	20/05/24										
1	ISSUED FOR SSDA	CI	CI	03/05/24										

Architect
Jackson Clements Burrows Architects
345 Swan St
Richmond VIC 3121

Engineer
TTW **Structural Civil Traffic Façade**
612 9439 7288 | Level 6, 73 Miller Street, North Sydney, NSW 2060

Project
WSU INDIGENOUS CENTRE OF EXCELLENCE

Sheet Subject
**SWEPT PATH ANALYSIS
CONSTRUCTION ACCESS
20m SEMI-TRAILER**

Scale : A1 1:400	Drawn CI	Authorised MB
Job No 234338	Drawing No DRTR00007	Revision 2
Plot File Created: May 20, 2024 - 3:17pm		