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Transport Assessment

Industrial Warehouse Development (SSD 31552370)

42 Raymond Avenue, Matraville
10/03/2022
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Glossary

Acronym	Description
AGRD	Austroads Guide to Road Design
AGTM	Austroads Guide to Traffic Management
CC	Construction Certificate
Council	Randwick Council
CTMP	Construction Traffic Management Plan
DA	Development Application
DCP	Development Control Plan
DoS	Degree of Saturation
DPIE	Department of Planning, Industry and Environment
FSR	Floor space ratio
GFA	Gross Floor Area
HRV	Heavy Rigid Vehicle (as defined by AS2890.2:2018)
LEP	Local Environmental Plan
LGA	Local Government Area
LoS	Level of Service
MOD	Section 4.55 Modification (also referred as a S4.55)
MRV	Medium Rigid Vehicle (as defined by AS2890.2:2018)
NHVR	National Heavy Vehicle Regulator
OC	Occupation Certificate
RMS Guide	Transport for NSW (formerly Roads and Traffic Authority), Guide to Traffic Generating Developments, 2002
S4.55	Section 4.55 Modification (also referenced as MOD)
S96	Section 96 Modification (former process terminology for an S4.55)
SIDRA	SIDRA Intersection Modelling Software Version 9.
SRV	Small Rigid Vehicle (as defined by AS2890.2:2018)
TDT 2013/04a	TfNSW Technical Direction, Guide to Traffic Generating Developments – Updated traffic surveys, August 2013
TfNSW	Transport for New South Wales
TIA	Transport Impact Assessment
TIS	Transport Impact Statement
veh/hr	Vehicle movements per hour (1 vehicle in & out = 2 movements)

1 Introduction

1.1 Executive Summary

Ason Group has been engaged by Hale Capital Partners to prepare a Transport Assessment (TA) to support State Significant Development Application (SSDA) 31552370 at 42 Raymond Avenue, Matraville (the Site).

The proposal seeks the construction of a two-storey warehouse and distribution, with an additional Site access proposed. A reduced copy of the existing Site plan is provided in **Figure 1** and **Figure 2**.

Accordingly, the facility has been designed to meet all parking requirements as outlined in the Council's LEP and DCP. A total of 101 parking spaces are provided to serve the 4 warehouse tenancies, with the inclusion of 2 accessible parking spaces ideally situated to building and office entry locations. To similar effect, the internal circulation, access crossovers and service vehicle access for the Site have been assessed and are deemed to generally comply with Council DCP and Australian Standards. Accordingly, the site layout design has been deemed satisfactorily and its design compliance is expected to form part of the Conditions of Consent during later stages of the development.

It is anticipated that the Site generates a daily traffic generation of; 61 morning trips, 54 midday trips, and 58 afternoon trips.

The traffic generation above has been assessed using SIDRA modelling and is demonstrated that the overall impact is deemed supportable due to negligible increase in delay and Level of Service remaining at a LoS B or better in all peaks. Accordingly, this TA is in support of the development and does not determine any additional infrastructure upgrades are required as a result of the proposal.

Notwithstanding, an application is currently underway to obtain gazettal of Raymond Ave and McCauley St to be approved under the National Heavy Vehicle Register's B-double approved routes.

1.2 Introduction

The proposal seeks the construction of a two-storey warehouse and distribution centre comprising 19,460 m2 GFA including ancillary office space, landscaping, bicycle, and car parking. An additional Site access is also proposed. A reduced copy of the existing Site plan is provided in Appendix A.

The site is legally described as:

- Lot 1 in Deposited Plan 369888,
- Lot 32 Sec B Deposited Plan 8313, and
- Lot 1 Deposited Plan 511092, and
- Lot 2 in Deposited Plan 1082623

It is currently zoned as IN1 – General Industrial by the Three Ports SEPP.

1.3 Transport Assessment Objectives

The key objectives of this SSDA TA are to:

- Establish that the development of the Site is compliant and consistent with the access, traffic and parking principles outlined in Council's Development Control Plan (DCP);
- Demonstrate that there is an appropriate and sustainable provision of car parking within the Site;
- Demonstrate that the proposed access driveways, internal roads, car parks and service facilities can provide a design compliant with the relevant Australian Standards;
- Establish that the trip generation of the proposal can appropriately be accommodated by completed/committed upgrades to the local road network;
- Demonstrate that the construction of the Site can be undertaken in an efficient and safe manner, and that construction vehicles can be appropriately accommodated by the local road network in the short term.

1.4 Secretary's Environmental Assessment Requirements

Industry specific Secretary's Environmental Assessment Requirements (SEARs) were provided by the DPIE on 18 November 2021. The SEARs relating to transport issues are outlined in **Table 1** below. Ason Group has provided a summary response to each SEAR, and reference to the section of this SSDA TA providing a more detailed analysis of each SEAR.

TABLE 1: DEPARTMENT OF PLANNING, INDUSTRY AND EVIRONMENT SEARS

No	SEARS	TA Summary
No. 6 Traffic Transport & Accessibility		
a)	Provide a transport and accessibility impact assessment, which includes:	-
	- details of all traffic types and volumes likely to be generated during construction and operation, including a description of key access and haulage routes	Traffic types and volumes for operational purposes have been outlined within Figure 11 and Section 4.3. Key haulage routes to and from the Site have been outlined within Section 9.2.3
	- an assessment of the predicted impacts of this traffic on road safety and the capacity of the road network, including consideration of cumulative traffic impacts at key intersections (using industry standard modelling).	This assessment includes SIDRA intersection modelling at 2 key intersections in close proximity of the site, being: ▪ Botany Road / McCauley Street, and ▪ McCauley Street / Perry Street As outlined in Section 5, these intersections will continue to perform satisfactorily; further to the addition of development traffic and taking into consideration other forecast background traffic growth.
	- plans demonstrating how all vehicles likely to be generated during construction and operation and awaiting loading, unloading or servicing can be accommodated on the site to avoid queuing in the street network.	Swept paths provided within Appendix A demonstrates manoeuvring within the Site. As such, the swept paths demonstrate that several vehicles can access the Site prior to any potential queuing. Site access gates are expected to remain open during operational hours and shall be closed at all remaining times.

		With respect to queuing during construction. It is expected that a schedule is created for deliveries to minimise queuing. Furthermore, contingency plans are expected to be implemented to minimise queuing and is outlined within Table 25.
	- details and plans of any proposed internal road network, loading dock provision and servicing, on-site parking provisions, and sufficient pedestrian and cyclist facilities, in accordance with the relevant Australian Standards.	Detailed plans are provided separately. Swept path analysis is provided within Appendix A and outlines the proposed internal road network and demonstrates the adherence to the relevant Australian Standards. Parking provisions (including car, accessible, motorcycle and bicycle parking) are assessed in Section 1. Assessment of loading dock provisions is provided within Section 1.
	- swept path analysis for the largest vehicle requiring access to the development.	Swept path analysis is included Appendix A Subject to NHVR permit approvals, the largest vehicle proposed to access the site (ground floor) is a 26m B-double. Access to the upper level being limited to 20m articulated vehicles or smaller.
	- details of road upgrades, infrastructure works, or new roads or access points required for the development if necessary.	No road or other infrastructure upgrades external to the site are deemed necessary
b)	Provide a Construction Traffic Management Plan detailing predicted construction vehicle movements, routes, access and parking arrangements, coordination with other construction occurring in the area, and how impacts on existing traffic, pedestrian and bicycle networks would be managed and mitigated.	A Preliminary Construction Traffic Management Plan has been prepared within Section 9, and includes commentary regarding predicted construction vehicle movements, routes, access, and parking arrangements and impacts to the wider road network. A more detailed CTMP is expected to be prepared and approved by The Randwick Traffic Committee, prior to construction.

In addition to the above, a Preliminary Green Travel Plan (GTP) has been prepared and is outlined in Section 7.

A Preliminary Construction Traffic Management Plan (PCTMP) is also included in Section 9.

1.5 Stakeholder Engagement

As part of the SSDA process, consultation with TfNSW has been undertaken which provided an outline of the proposed development, and to allow TfNSW to raise any concerns, recommendations, or any other comments. Consultation with TfNSW began via email on 2 December 2021, and can be found within **Appendix A**. Further engagement is expected to occur throughout the exhibition period.

Further to the above, a meeting with Council was also undertaken on 23 November 2021. During this meeting, Council outlined their preference for the access routes for this Site to be restricted to using the southern section of Raymond Avenue to access McCauley Street and then heading south to Botany Road only.

Finally, comments have been received from DPIE and have been outlined below.

TABLE 2: DEPARTMENT OF PLANNING, INDUSTRY AND EVIRONMENT COMMENTS

No	DPIE Comment	Response
1	Section 2.1 Overview, & Table 2 of the Traffic Impact Assessment (TIA) provided in Appendix K of the EIS states the following GFA, 17,789 m2 of warehouse and distribution GFA; and 1,671 m2 GFA ancillary office space. The EIS states different GFAs as noted above. As a result, the TIA and/or the EIS should subsequently be updated to clarify this discrepancy.	Noted. EIS Corrected
2	The TIA states site access gates will remain open during operational hours, the operational hours are purposed to be 24 hours are gates open 24/7, if they are closed does this create a queuing situation for heavy vehicle movements as part of the operation. Further clarification is required.	Approval is sought for 24/7 operations; however, this will ultimately be subject to tenant requirements. The proposed gate is provided for flexibility should operations not require the full 24-hrs at any point in time
3	The EIS makes no mention of the service bays, and the non-compliance with the requirements set out within the Randwick Development Control Plan 2013 (RDCP). Acceptable analysis and justification has been undertaken within the TIA, however the EIS is silent on the matter. The EIS should be updated accordingly.	Noted. Item deferred to Urbis for their response.
4	The Department notes the EIS stipulates the development will generate 210 operational jobs, however the TIA makes no reference to a maximum workforce of approximately 210 workers and the proposed parking spaces of 101 spaces. Whilst the Department recognises that the parking complies with the requirements of the RDCP 2013, further information/justification within the Traffic Impact Assessment (TIA) in support of the proposed parking arrangements referencing proposed operational jobs is required.	An employment Benefit Analysis was undertaken by Rider Levett Bucknall (RLB) on behalf of Hale Capital. It demonstrates that there could be up to a maximum of 210 operational jobs. As the site is expected to operate 24/7, it is assumed that there shall be 2 or even 3 shifts across the 24-hour period, and therefore would require a worst case scenario of 105 parking spaces at any one time. It is noted that the proposal complies with the RDCP 2013 minimum parking rate for warehouse and office uses. In addition, the proposed Green Travel Plan for the development encourages staff and visitors to access the site by sustainable travel modes including car-sharing and public transport.

1.6 Reference Documents

In preparing this TA, Ason Group has referenced key planning documents, including:

- Randwick Comprehensive Development Control Plan 2013 (DCP 2013)
- Randwick Local Environmental Plan 2012 (LEP 2012)
- State Environmental Planning Policy (Three Ports) 2013 (SEPP 2013)

Ason Group has also referenced the following policies and guidelines relevant to the assessment:

- Australian Standard 2890.1:2004 Parking Facilities – Off-Street Car Parking (AS2890.1:2004);
- Australian Standard 2890.2:2018 Parking Facilities – Off-Street Commercial Vehicle Facilities (AS2890.2:2018);
- Australian Standard 2890.3:2015 Parking Facilities – Bicycle Parking (AS2890.3:2015); and
- Australian Standard 2890.6:2009 Parking Facilities – Off-Street Parking for People with a Disability (AS 2890.6:2009).

- Roads and Maritime Guide to Traffic Generating Developments Updated Traffic Surveys, August 2013 (RMS Guide Update);
- Roads and Maritime Services (Roads and Maritime) Guide to Traffic Generating Developments, October 2002 (RMS Guide);

2 The Proposal

2.1 Project Description and Overview

The proposal comprises the redevelopment of the site as summarised below:

- Construction, fit out and operation of a two-storey warehouse and distribution centre comprising approximately 19,460 m2 GFA including:
  - 17,789 m^2 of warehouse and distribution GFA; and
  - 1,671 m^2 GFA ancillary office space.
- Provision of 11 bicycle parking spaces and 101 car parking spaces at ground.
- Approximately 2,250 m^2 of hard and soft landscaping at ground.
- Provision of one additional access crossover from Raymond Avenue.
- Provision of internal vehicle access route and loading docks.
- Upgrades to existing on-site infrastructure.
- Building identification signage.
- Operation 24 hours per day seven days per week.

A breakdown of the proposed floor areas and site consideration are provided in Figure 1 and Figure 2 respectively

TABLE 3: AREA SCHEDULE

Level	Warehouse	Total GFA (m^2)	Warehouse GFA (m^2)	Office GFA (m^2)
Level 1	**Warehouse Tenancy 1**	4,935	4,519	416
	Warehouse Tenancy 2	4,565	4,144	421
	Ancillary	30	30	-
Level 2	**Warehouse Tenancy 3**	4,938	4,522	416
	Warehouse Tenancy 4	4,866	4,448	418
	Ancillary	30	30	-
Other	**Lobby Area**	96	96	-
Total		**19,460**	**17,789**	**1,671**

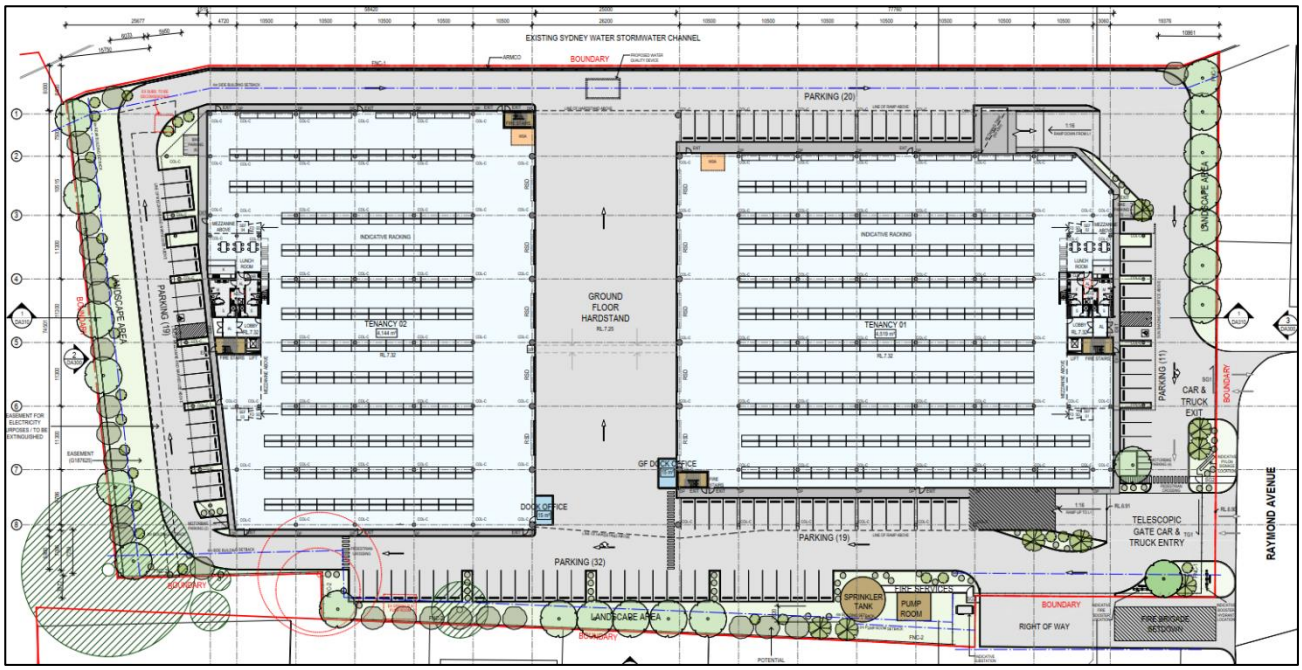


Figure 1: Site Plan (Ground Floor)

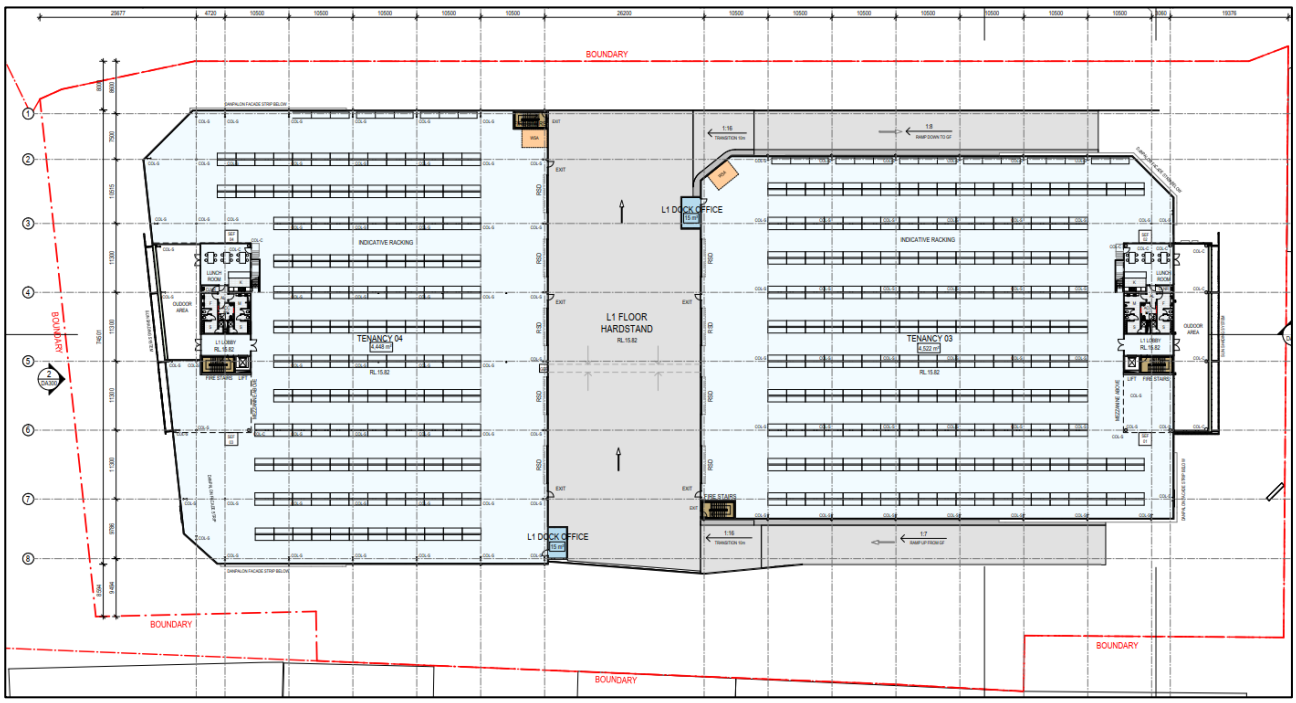


Figure 2: Site Plan (First Floor)

2.2 Vehicle Access

The proposal seeks to provide access to the Site via 3 crossovers on Raymond Avenue, as shown below, of which access driveways 1 and 3 exist currently.

The access driveways 1 and 2 connect to the internal circulation roads, providing access to all internal facilities. Access driveways 1 is to be used by all vehicle classes, including trucks, employee and visitor cars for egress from the Site.

Access driveway 2 is to provide access to the Site for all vehicles classes including trucks, employee and visitor cars.

Finally, access driveway 3 is a “right of way” access providing accessibility to the sprinkler booster on Site only and is to be used solely by emergency vehicles.

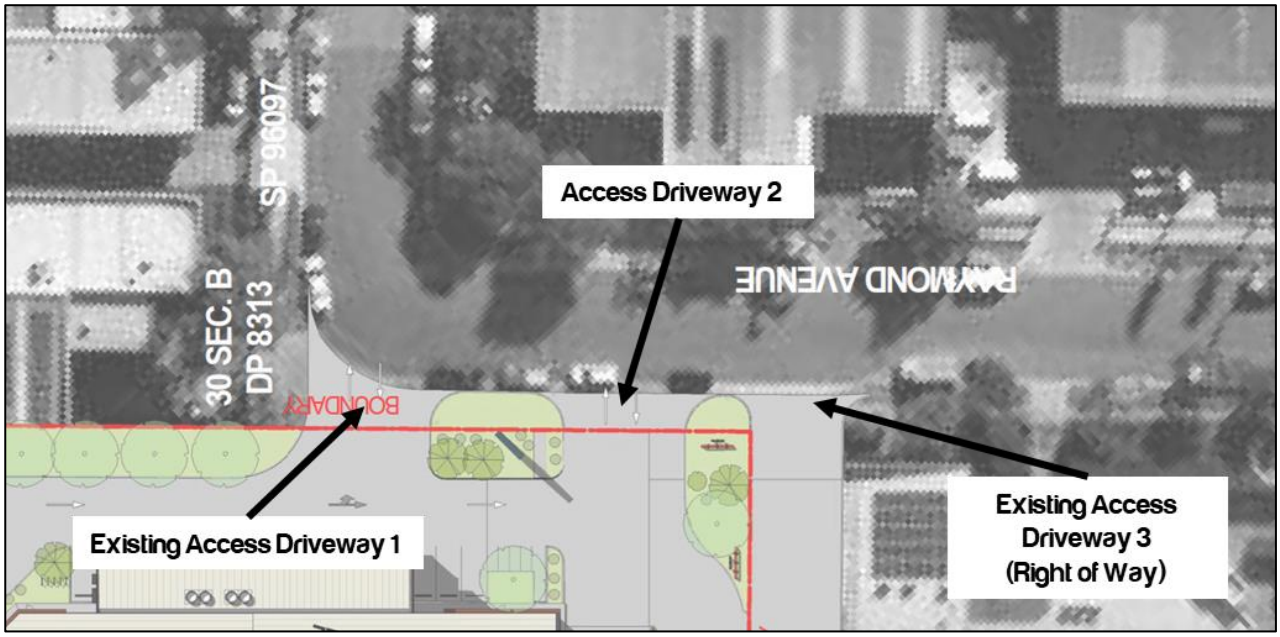


Figure 3: Access Driveways

3 Existing Condition

3.1 Site Context

The Site is located at 42 Raymond Avenue, Matraville, approximately 11km from the Sydney CBD, neighbouring Sydney Airport, and the Botany Bay precinct. The Site has vehicle access to Botany Road and McCauley Street from Raymond Avenue and is shown in its local context in **Figure 1**.

Figure 4: Site Location

The Site is a speculative development with no tenants committed. The Site has been designed to accommodate typical warehouse and distribution centre occupiers in accordance with the permitted use of IN1 zoning under the Three Ports SEPP. The Site maintains a close connection to several key distribution sites, namely Sydney Airport and Port Botany – Australia's second largest operational shipping port, which is expected to attract port users including third party logistics providers and import/export businesses

The ground floor has been designed to meet the needs of this target market, accommodating for a wide range of freight vehicles up to b-doubles. One way circulation allows heavy vehicles to efficiently side load within the undercover breezeway. Medium Rigid Vehicles (MRV's) and smaller are able to rear load via the on-grade doors to each warehouse. Unloading of containers would take place on the hardstand within the breezeway.

The site's close proximity to the airport and urban population, lends itself to last mile and ecommerce users who rely on short delivery times as a key function of their business. It is common for these types of users to adopt a 'hub and spoke' model, with a distribution centre located in Western Sydney where larger footprints are prevalent and more economical, and with smaller facilities in last mile locations closer to population centres. These occupiers typically use forklifts and manual handling to load goods into the rear of vans and rigid vehicles. It is anticipated that the use of articulated heavy vehicles will be limited.

Internal operations could include manual loading, forklift use and potentially minor automation including autonomous mobile robots (AMR) and chute conveyors would be utilised by the occupiers. There will be no use of overhead gantry cranes and other manufacturing equipment within the facility.

3.2 Current Site Use

The Site is currently vacant, however previously there was a warehouse development within the Site prior to its demolition. Historically, the previous warehouse had a developable site area of 19,437 m^2 and 2 access driveways (1x access driveway and 1x Right of Way driveway), as shown below. From review of historical aerial footage, the previous warehouse is estimated to have had an area of approximately 13,800m^2 GFA.

Figure 5: Existing Site Access Arrangements

3.3 Road Hierarchy

The key roads providing in the vicinity of the Site are shown in **Figure 6** and are summarised below:

- Botany Road: Botany Road is a major arterial road serving the Port Botany area and industrial operations. It connects to Foreshore Road and thence to General Holmes Drive and Southern Cross Drive and the M5 Motorway as part of Sydney's main road network. The 6-lane divided carriageway is an approved B-Double route and carries approximately 40,000 vehicles per day (2017). In the vicinity of the Site, Botany Road has a posted speed limit of 70km/h.
- Perry Street: A local collector road providing connections to Beauchamp Rd to the west and Bunnerong Road to the east. Perry Street provides a 2-lane divided carriageway with parking on both sides of the road. Perry Street provides access to industrial and residential precincts and has a vehicular weight restriction of 3 tonnes. A 2017 Survey indicates that Peery St carries approximately 9,500 vehicles per day. In the vicinity of the Site, Perry Street has a posted speed limit of 60km/h.
- McCauley Street: A local road connecting Botany Road and Perry Street, McCauley Street was upgraded to provide for B-Double movements for a part of the road and to Botany Road. McCauley Street has a default speed limit of 50km/h.
- Raymond Avenue: A local road that connects to McCauley Street in both the north and south and provides access to the Site. Raymond Avenue provides access to several industrial developments, including the Site. The road provides parking and 1 lane of traffic in each direction and has a posted speed limit of 50km/h.

A detailed intersection model of the existing road network has been undertaken within Section 5.1.

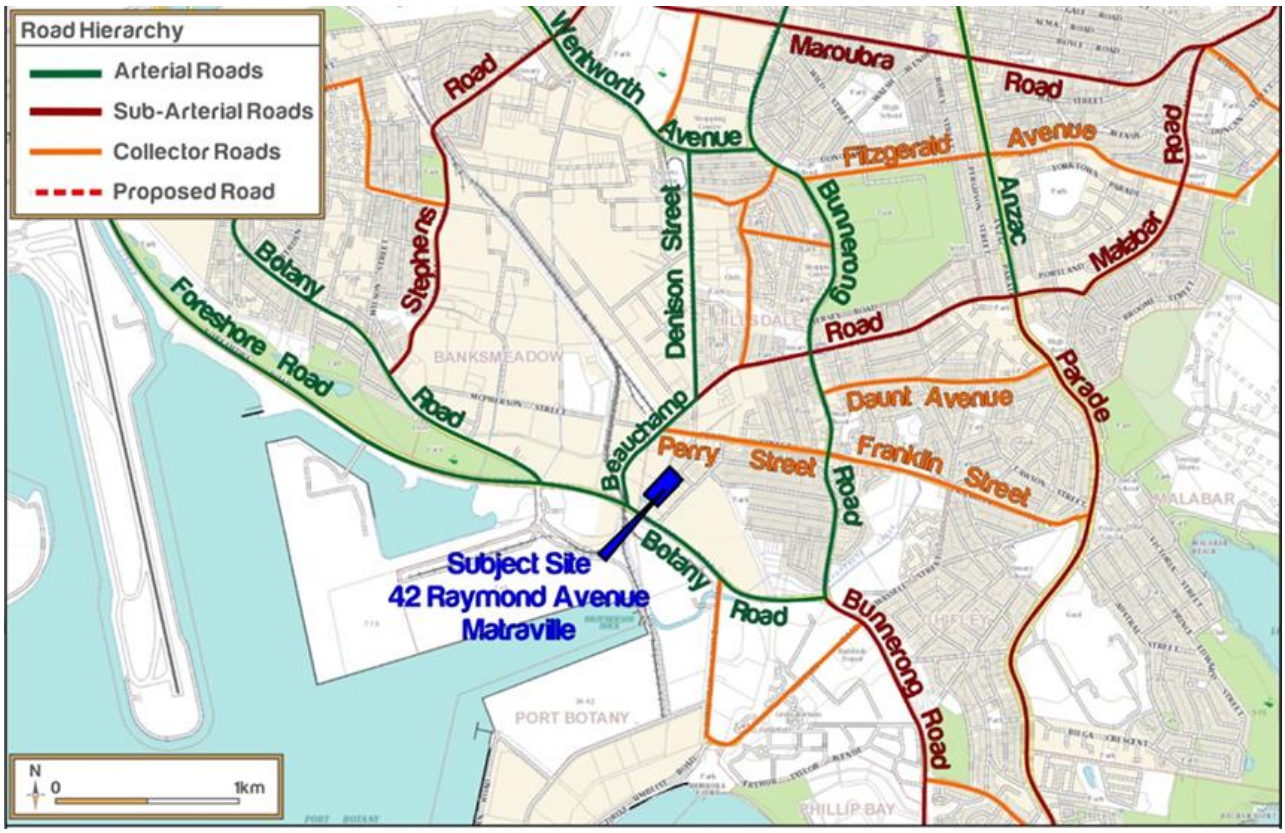


Figure 6: Surrounding Road Hierarchy

3.4 B-double Approved Routes

Truck drivers must have regard for Restricted Access Vehicle (RAV) limitations in the Port Botany precinct as established by the TfNSW while both accessing and egressing the Site. Currently access to the Site via Raymond Avenue is not a b-double approved route, however an application is underway to allow b-doubles to access the site to and from Botany Road. This b-double application does not form part of this proposal. A reduced map of the b-double approved routes near the vicinity of the Site can be found below.

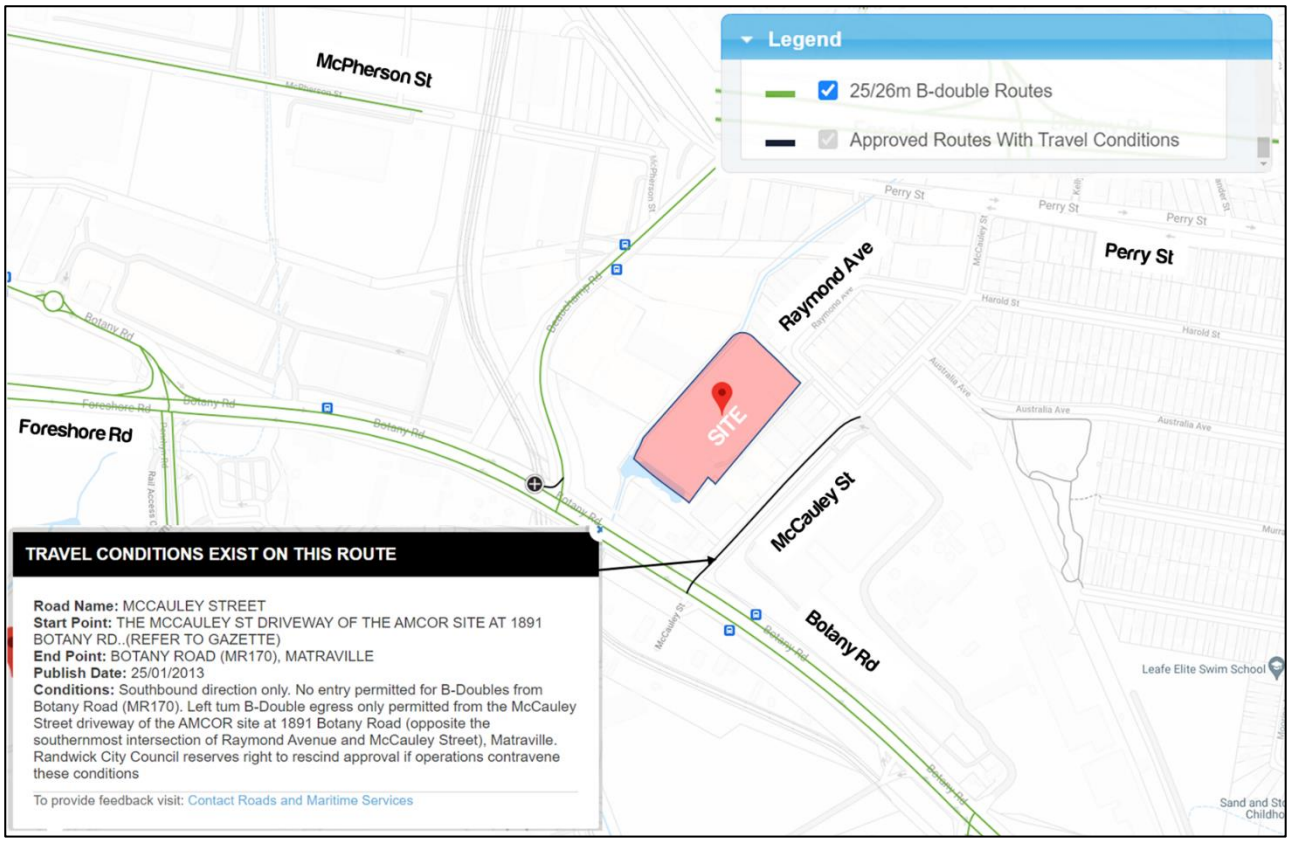


Figure 7: B-Double Approved Route

Up-to-date details regarding approved B-double routes can be obtained from the TfNSW web portal. (https://roads-waterways.transport.nsw.gov.au/business-industry/heavy-vehicles/maps/restricted-access-vehicles-map/map/index.html)

3.5 Travel Mode Share

In lieu of any site-specific data, the existing travel patterns of residents and workers has been assessed by examining the 2016 Census, which is presented in the Journey to Work (JTW) data provided by the Australian Bureau of Statistics (ABS).

A summary of key travel modes for those travelling to the locality for work have been reviewed with regard for the Destination Zones 113241534, 113241535, and 113241536 (refer to Figure 8).

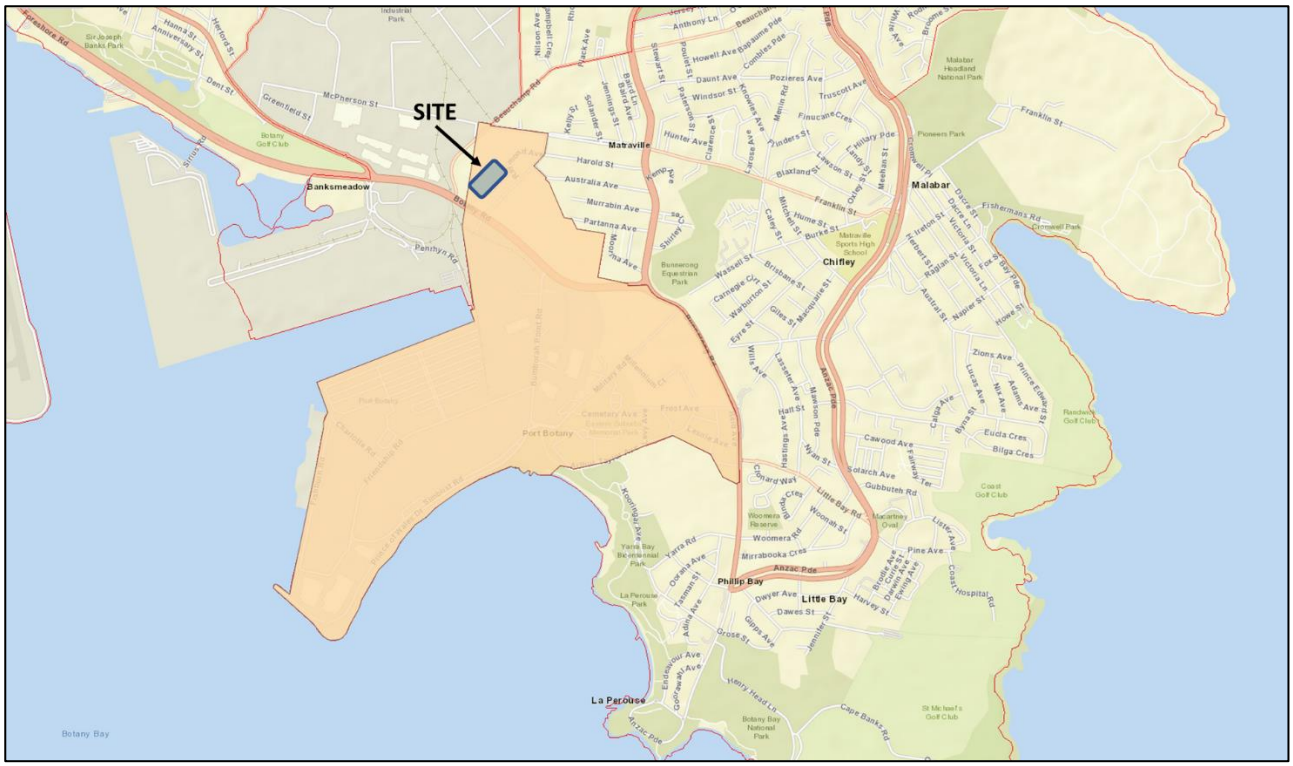


Figure 8: Journey to Work Travel Zone

The travel modes are presented in **Table 4** below.

TABLE 4: TRAVEL MODE SUMMARY (JOURNEY TO WORK)

Travel Mode	Mode Share of Employees
Train	3%
Bus	2%
Car, as driver	80%
Car, as passenger	4%
Motorbike/scooter	1%
Bicycle	1%
Walked only	1%
Other Mode	8%
TOTAL	100%

With reference to the above, it is evident that the private vehicle (car) is the overwhelming preferred mode of choice for commuters travelling to work in in the area. The data indicates that 84% travel to work by car with 80% as the driver and 4% as passenger i.e. Car-pooling.

3.6 Existing Public Transport Services

3.6.1 Bus Services

The Integrated Public Transport Service Planning Guidelines state that bus services influence the travel mode choices of sites within 400 metres (5-minute walk) of a bus stop. With reference to **Figure 9**, access to a number of bus stops are located within walking distance of the Site, providing access to the following route:

- Route 309X: This route provides a connection to Central Railway Square and operates exclusively in the AM and PM weekday peak periods (approximately once every 10 minutes).

Another bus stop is located approximately 800m from the Site, providing access to the following route;

- Route 307: This route provides a connection between Port Botany Depot and Mascot and runs approximately every 20 minutes through the broader AM and PM peaks.

3.7 Existing Active Transport Infrastructure

3.7.1 Existing Pedestrian Accessibility

Footpaths are provided along both sides of Raymond Avenue, McCauley Street, and a short part of Botany Road, providing access to the bus stop in Botany Road. Additionally, there is a pedestrian crossing provided at the Botany Road / McCauley Street intersection.

3.7.2 Existing Cycle Routes

There are currently limited cycling facilities and routes provided within the vicinity of the development. An overview of the cycle network is as follows:

- Bicycle friendly routes and connecting to Sydney Airport along Botany Road to the west of the Site
- Bicycle friendly roads connecting to Port Botany via Bumborah Point Road further south of the Site
- Recreational routes within Sir Joseph Banks Park via Botany Road connecting to Foreshore Road west of the Site

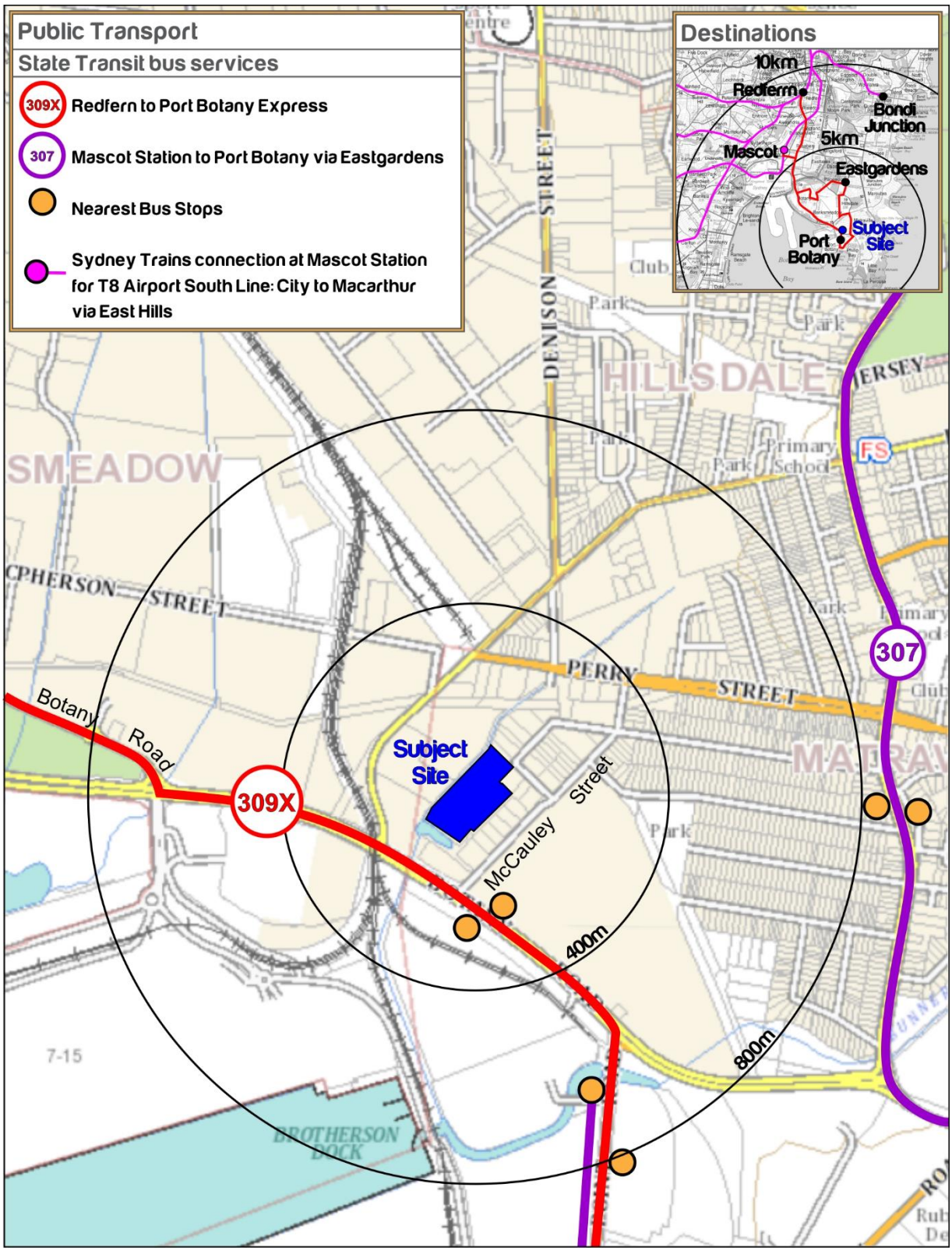


Figure 9: Public and Active Transport

4 Modelling Inputs / Assumptions

4.1 Data Collection

The various data sources which formed the basis of this traffic assessment are outlined in **Table 5**.

TABLE 5: DATA SOURCES

Data	Date / Year	Time	Source
SMPM Traffic Volume Plots	2021, 2036	n/a	TfNSW
Classified Intersection Count (CIC)	Thursday, 5 December 2019	5:00am – 8:00pm	Trans Traffic Survey
SCATS TCS & Signal History Data	Thursday, 5 December 2019	All Day	TfNSW

4.2 Model Development

4.2.1 Modelling Platform

Analysis of key intersections has been undertaken in SIDRA Intersection software Version 9 (SIDRA).

4.2.2 Input Parameters

All modelling assessments for this study were conducted in SIDRA, with below input parameters:

- Site Level of Service Method was set to 'Delay (RTA NSW).'
- Physical features of the existing intersection geometries were coded with reference to NearMap aerial imageries as well as site visit observations.
- Default values for basic saturation flow, peak flow factor, gap acceptance and pedestrian walking speed were unchanged.
- Speed limits were input as per existing posted speed limits at each location.
- Passenger Car Unit (PCU) factors for Heavy Rigid and Heavy Articulated vehicles were adopted as 2.0 and 3.0, respectively. PCU for Light vehicles were adopted as SIDRA default value of 1.0.

4.2.3 Key Intersections for Assessment

To assess the impact of the proposed development, SIDRA modelling has been undertaken to evaluate the performance of two key intersections near the Site, as listed below and shown in **Figure 10**.

- Botany Road x McCauley Street,
- Perry Street x McCauley Street.

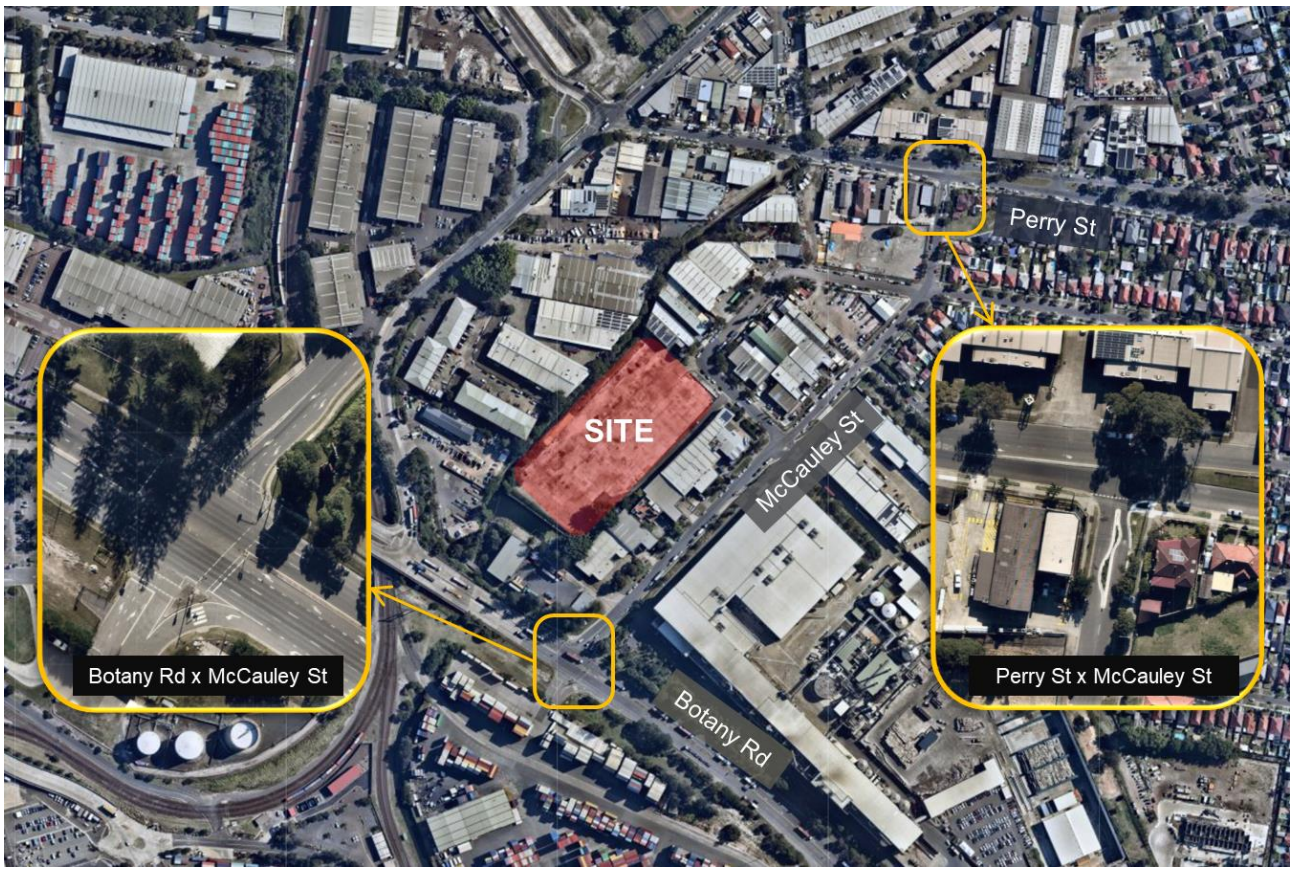


Figure 10: Key Intersections

Further to the above, it is expected that the following access routes will be utilised during operational aspects of the development.

Figure 11: Vehicle Access Routes

4.2.4 SIDRA Layouts

For the purpose of this assessment, the representative SIDRA layouts of existing intersections are shown in Figure 12**.**

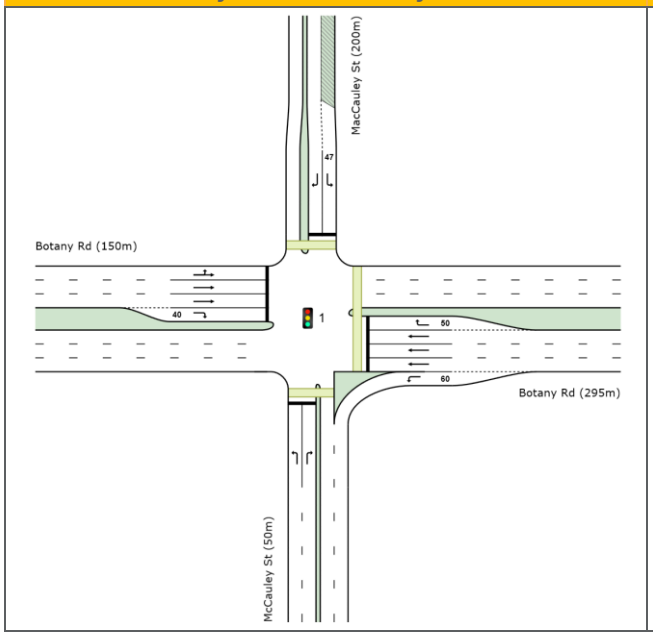
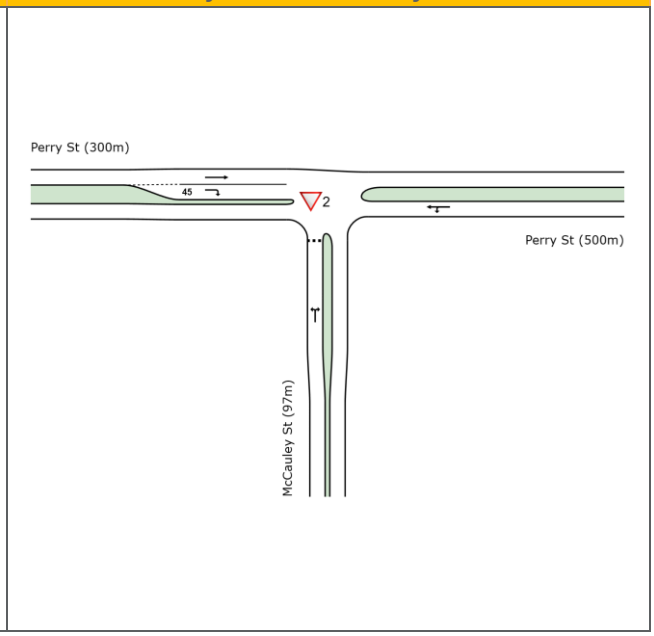
Botany Road / McCauley Street	Perry Street / McCauley Street
	

Figure 12: Existing 2019 SIDRA Layouts

4.2.5 Signal Phasing

To assist in assessing the intersections using SIDRA, additional data pertaining to signal phasing has been obtained (SCATS data) for the intersection of Botany Road x McCauley Street. In addition, the Traffic Control Signal (TCS) plans have been obtained for input into SIDRA.

TCS Plan	Input Phasing
	

Figure 13: Signal phasing

SCATS data has been utilised to determine the cycle time for each peak period during the existing scenario. For all other scenarios (including the future scenarios) has adopted a cycle time of 140 sec.

4.2.6 Modelling Scenarios

Table 6 outlines the scenarios assessed in SIDRA.

TABLE 6: MODELLING SCENARIOS

Scenario No	Scenario Name	Geometry	Traffic Demand	
			Background	Development
1	2019 Existing	Existing	✓	
2	2031 Base Case	Existing	✓	
3	2031 Project Case	Existing	✓	✓

Note: Tick (✓) indicates that the demand has been included within that Scenario.

4.3 Traffic Demand

4.3.1 Peak Period

The analysis identified three peak periods for the study – morning (AM), midday and evening (PM) peaks. The midday peak period was associated with the highest volume of freight movement and therefore has been referred to as Freight Peak. A breakdown of the traffic profile for each intersection and the total volume of traffic for both intersections are presented in **Figure 14**.

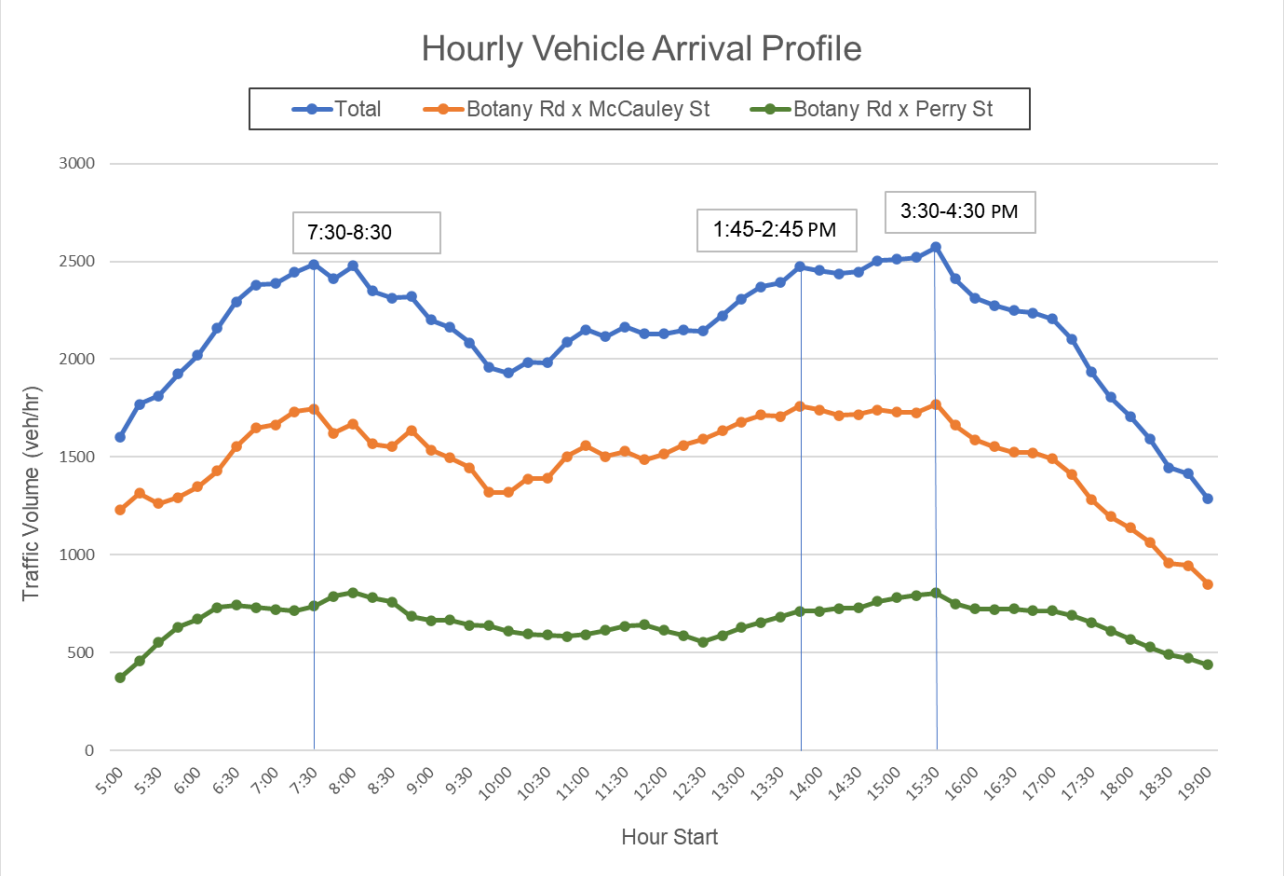


Figure 14: Hourly traffic profile

Based on the traffic profile identified peak periods are as below:

- AM Peak – 7:30am – 8:30am
- Freight Peak – 1:45pm – 2:45pm
- PM Peak – 3:30pm – 4:30pm

4.3.2 Background Traffic

The existing 2019 survey data has been used to develop a baseline for the background traffic. As such a visual representation of the existing traffic has been provided through the following network diagrams for each peak period.

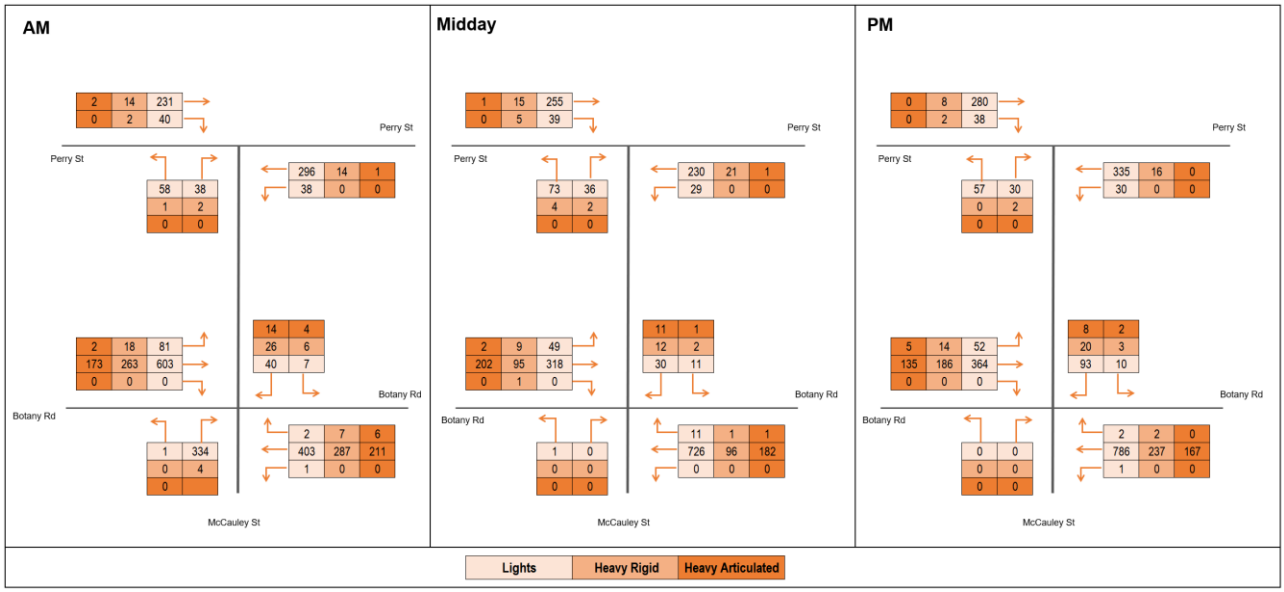


Figure 15: Network Diagram for 2019 Existing

Growth rates for each identified peak periods have been determined from the SMPM volume plots of 2021 and 2036 which were provided by TfNSW for the purpose of this particular study. Therefore, the following growth rates have been utilised in the SIDRA modelling:

- AM Peak: 1%,
- Midday peak: 1%, and
- PM peak: 1%.

Application of the growth rates to the 2019 base network volumes provide the following peak period volumes for the Future Base case (2031).

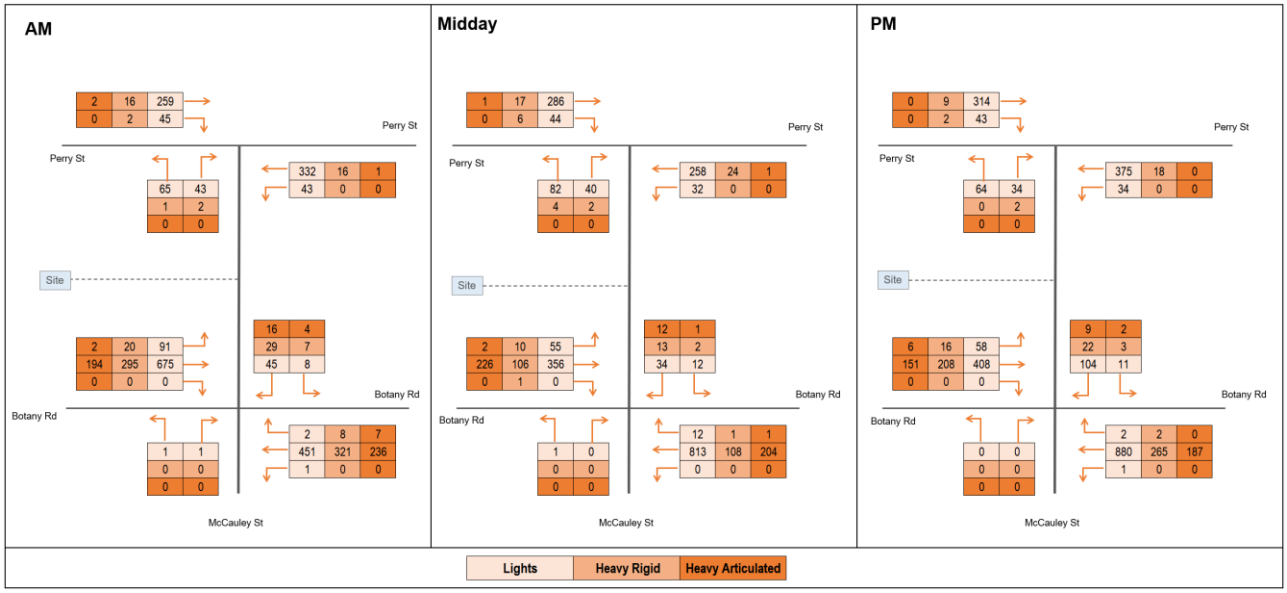


Figure 16: Network Diagram for Future Base 2031

4.3.3 Development Trips

For the calculation of existing and expected development trips, reference has been made to the TfNSW (formerly, RMS) Guide to Traffic Generating Developments – Updated Traffic Surveys 2013 (the updated Guide). The updated Guide provides a catalogue of surveyed sites around Sydney which can be utilised to develop site-specific trip generation rates based on similar developments. For the purposes of this assessment, the following industrial developments within the updated Guide were adopted:

- Survey Site 3: Wonderland Business Park, Eastern Creek, and
- Survey Site 4: Riverwood Business Park, Riverwood

The two survey sites were chosen as they reflect the proposed development, as the average warehouse size and typical surrounding environment of Survey Sites 2 and 3 were most closely related to proposal.

The peak trip generation rates for each Site noted above have been averaged to develop the proposed trip generation rates to be utilised in this report. The averaged trip rates to be utilised are summarised below for each peak.

TABLE 7: DEVELOPMENT TRIP GNERATION RATES

Land Use Type	AM	Midday	PM	Daily
Industrial Warehousing	0.32 trips / 100m^2	0.28 trips / 100m^2	0.30 trips / 100m^2	3.015 trips / 100m^2

TABLE 8: VEHICLE CLASS & INBOUND / OUTBOUND SPLIT

Peak	AM	Midday	PM	Daily
Car IN%	67%	30%	22%	33.3%
Car OUT%	16%	50%	61%	39.5%
Rigid IN%	5%	7%	5%	6.9%
Rigid OUT%	6%	6%	6%	8.3%
Articulated IN%	3%	4%	3%	6.4%
Articulated OUT%	2%	3%	3%	5.6%

Based on the above distribution**, Table 9** provides a breakdown of the number of trips (veh / hr) generated by the proposed development for AM, Midday and PM peaks.

TABLE 9: SUMMARY OF DEVELOPMENT TRIPS

Peak	AM	Midday	PM	Daily
Car IN	41	16	13	196
Car OUT	10	27	35	232
Rigid IN	3	4	3	40
Rigid OUT	4	3	4	49
Articulated IN	2	2	2	37
Articulated OUT	1	1	1	33
Total	**61**	**54**	**58**	**587**

The proposed directional distribution of development trips have been obtained from SMPM cordon matrix data to develop a better understanding of where vehicles arrive and depart the Site. The breakdown of arrival and departure distributions have been summarised in **Table 10** and **Table 11**.

TABLE 10: INBOUND (ARRIVAL) DEVELOPMENT TRIP DISTRIBUTION

Origin	AM	Midday	PM
Botany Road (East)	5%	5%	6%
Botany Road (West)	37%	31%	27%
Perry Street (East)	28%	22%	30%
Perry Street (West)	29%	44%	37%

TABLE 11: OUTBOUND (DEPARTURE) DEVELOPMENT TRIP DISTRIBUTION

Destination	AM	Midday	PM
Botany Road (East)	4%	4%	5%
Botany Road (West)	18%	25%	33%
Perry Street (East)	21%	21%	24%
Perry Street (West)	58%	50%	38%

Noting that there is a 3-tonne weight restriction for vehicles passing through Perry Street, it has been assumed that all heavy vehicles associated with the development will arrive to and depart from the Site via Botany Road only. Accordingly, the assignment of development trips has been outlined below in **Figure 17**.

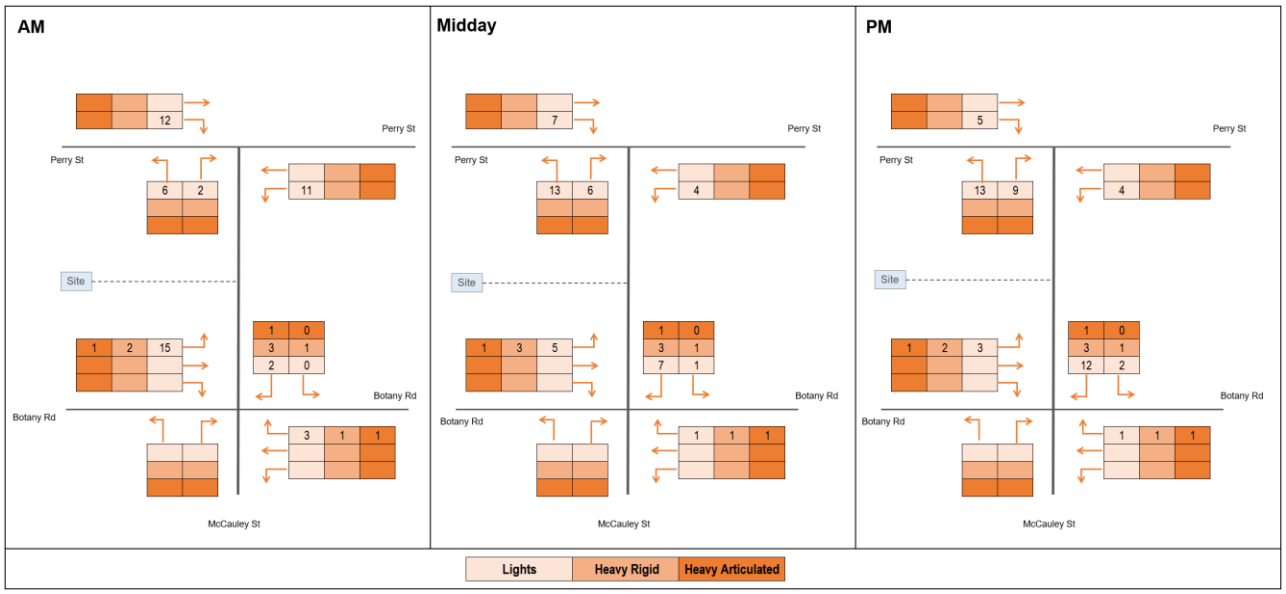


Figure 17: Network Diagram for Development Trips

The 2031 Project case network peaks have been obtained through the combination of the "*Future Base Case 2031* (Figure 16) plus the calculated development traffic (Figure 17). As such, the expected network volumes are presented below in **Figure 18**

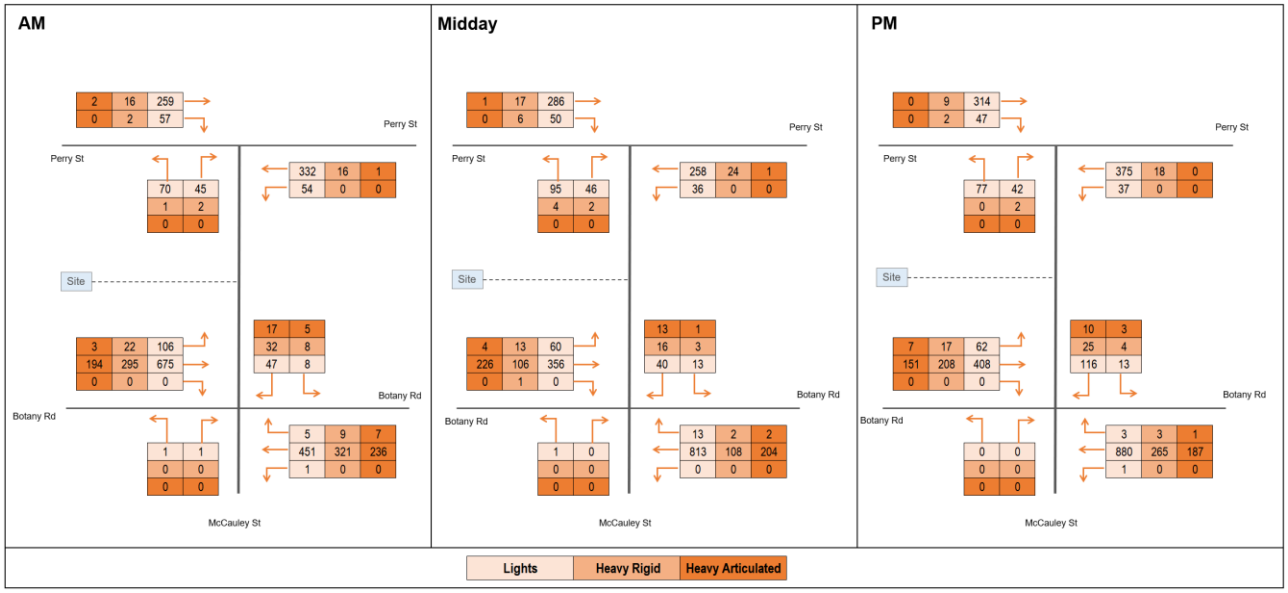


Figure 18: Network Diagram for Project Case 2031

4.3.4 Assessment Criteria

The performance of the key intersections has been analysed using SIDRA modelling. All SIDRA modelling outputs a range of performance measures; however, the model shall assess the following measures:

- Average Vehicle Delay (AVD) –The AVD (or average delay per vehicle in seconds) for intersections also provides a measure of the operational performance of an intersection and is used to determine an intersection's Level of Service (see below). For signalised intersections, the AVD reported relates to the average of all vehicle movements through the intersection. For priority (Give Way, Stop & Roundabout controlled) intersections, the AVD reported is that for the movement with the highest AVD.
- Level of Service (LOS) –This is a comparative measure that provides an indication of the operating performance, based on AVD. The following table provides a recommended baseline for assessment as per the RMS Guide.
- Degree of Saturation (DoS): The ratio of volumes by capacity. The maximum acceptable DoS for signalised and priority-controlled intersections are 0.90 and 0.80, respectively.

Table 12 provides a summary of the SIDRA recommended criteria for the assessment of intersections with reference to AVD and LoS, as outlined in the RMS Guide.

TABLE 12: SIDRA LEVEL OF SERVICE CRITERIA

LoS	Average Vehicle Delay (sec/veh)	Traffic Signals & Roundabout	Give Way & Stop Signs
A	<14	Good Operation	Good operation
B	15 – 28	Good with acceptable delays & spare capacity	Acceptable delays & spare capacity
C	29 – 42	Satisfactory	Satisfactory, but accident study required
D	43 - 56	Operating near capacity	Near capacity & accident study required
E	57 – 70	At capacity: at signals, incidents will cause excessive delays. Roundabouts require other control mode	At capacity, requires other control mode
F	>70	Unsatisfactory and requires additional capacity	Unsatisfactory and requires other control mode or major treatment

When applying the above criteria, it is recommended that for traffic signals, the LoS should be calculated based the average vehicle delay at the whole intersection, whereas for roundabouts and priority-controlled intersections, the critical measure of LoS is determined by the movement with the highest delay.

5 Modelling Outcomes

SIDRA assessment has been conducted to analyse the performance of the key intersections identified within the site. The following sections outline the layouts and resulting performances of these intersections during AM, Midday and PM peaks.

5.1 Scenario 1 – 2019 Existing

5.1.1 SIDRA Outcomes

SIDRA performance outcomes of each key intersection in the study area for both AM, Midday and PM peak periods are summarised in **Table 13**. Detailed SIDRA outputs are attached in **Appendix A.**

TABLE 13: SIDRA RESULTS – SCENARIO 1 (2019 EXISTING)

Intersection No	Intersection Name	Control	Peak	DoS	Delay (s)	LoS
1	Botany Road / McCauley Street	Signal	AM	0.78	15	B
			Mid	0.54	14	A
			PM	0.68	20	B
2	Perry Street / McCauley Street	Priority	AM	0.20	11	A
			Mid	0.17	10	A
			PM	0.22	12	A

The analysis demonstrates that the existing two intersections operate with acceptable delays (LoS B or better) in each peak period.

5.1.2 2019 Base Model Calibration / Validation

The 2019 Existing models have been developed on the basis of existing geometry, surveyed traffic data as well as SCATS signal phases and phase times. The models have been calibrated by comparing observed and modelled 95th percentile queue lengths, as shown below for each of the three peak periods.

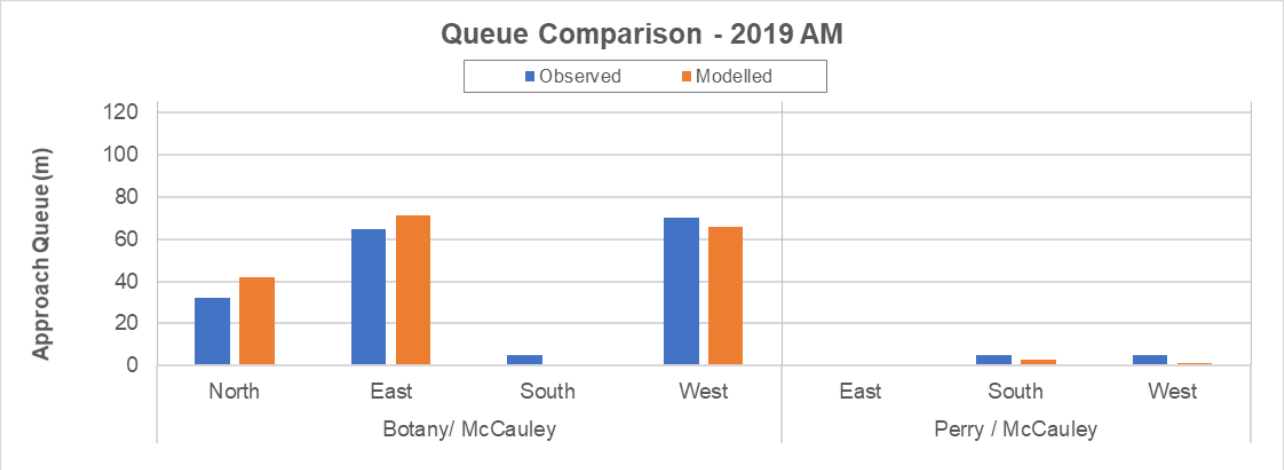


Figure 19: 2019 Existing Base Model Queue Validation – AM Peak

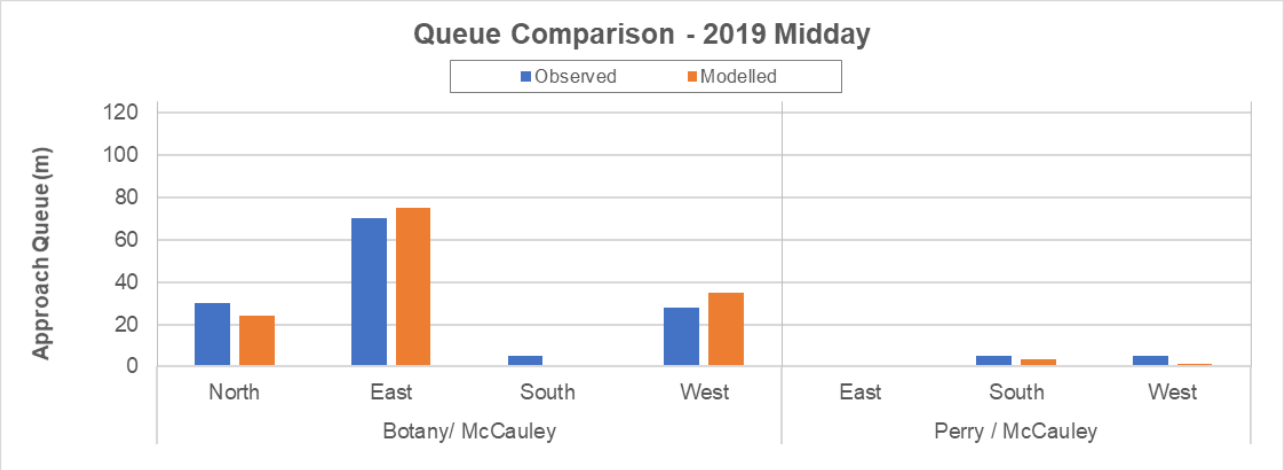


Figure 20: 2019 Existing Base Model Queue Validation – Midday Peak

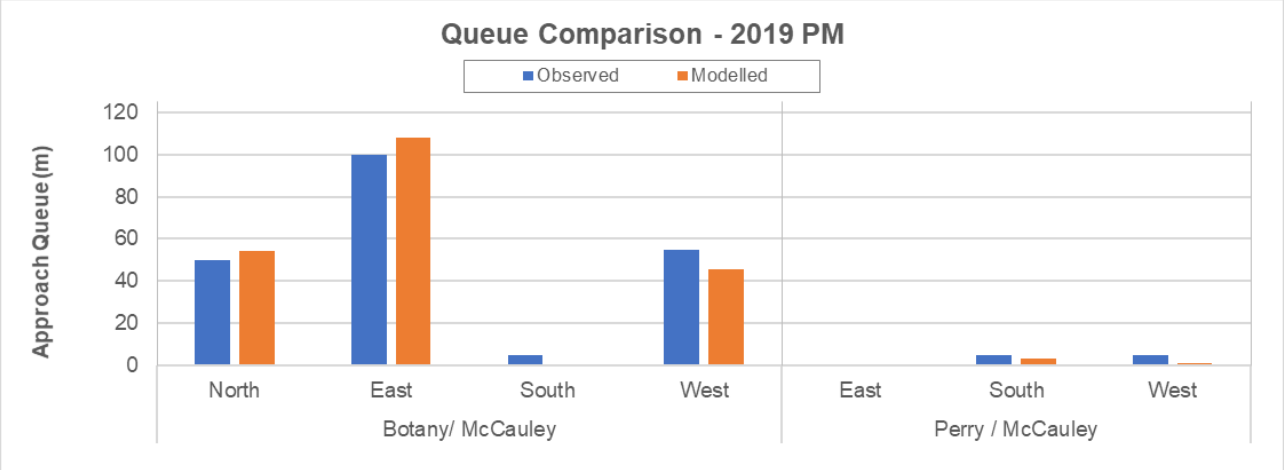


Figure 21: 2019 Existing Base Model Queue Validation – PM Peak

The above queue comparisons indicate the 2019 Existing base model represents the existing conditions of the two intersections during weekday AM, Midday and PM peaks. As such, the 2019 Existing Conditions Base model is considered fit-for-purpose to be utilised to determine the future development impacts.

5.2 Scenario 2 – 2031 Future Base Case

With the application of background growth, the 2031 Future (without development) base case scenario has been provided within **Table 14**.

TABLE 14: SIDRA RESULTS – SCENARIO 2 (2031 FUTURE BASE CASE)

Intersection No	Intersection Name	Control	Peak	DoS	Delay (s)	LoS
1	Botany Road / McCauley Street	Signal	AM	0.56	19	B
			Mid	0.51	18	B
			PM	0.62	21	B
2	Perry Street / McCauley Street	Priority	AM	0.22	12	A
			Mid	0.19	11	A
			PM	0.24	13	A

The SIDRA results demonstrate that the intersection is expected to perform at an acceptable level of service for the 2031 AM, Midday and PM peak periods, with only a slight increase in delay in each peak period.

5.3 Scenario 3 – 2031 Project Case

The 2031 Project Case includes the 2031 Future Bae Case + Development traffic predicted for 2031 under existing layouts (since no planned or committed upgrades were identified for 2031). Assessment of this scenario with SIDRA creates the outputs within in **Table 15.**

TABLE 15: SIDRA RESULTS – SCENARIO 3 (2031 PROJECT CASE)

Intersection No	Intersection Name	Control	Peak	DoS	Delay (s)	LoS
1	Botany Road / McCauley Street	Signal	AM	0.57	20	B
			Mid	0.51	18	B
			PM	0.65	23	B
2	Perry Street / McCauley Street	Priority	AM	0.23	12	A
			Mid	0.20	12	A
			PM	0.24	14	A

The SIDRA results demonstrates that the intersection will also perform at an acceptable level of service for the 2031 Project Case during AM, Midday and PM peak periods, with only a slight increase in delay in each peak period.

6 Parking Requirements

6.1 Parking Requirements

Forming part of the Randwick LGA, the Site is subject to the controls as outlined in the DCP. Parking rates applicable to the development are provided in the below table.

TABLE 16: PARKING RATES

Source	Land Use		Parking Rate (Minimum)
Randwick Comprehensive Development Control Plan (2013)	Car Parking	Warehouses	1 space per 300 m^2 of Warehouse GFA
		Office	1 space 40m^2 of Office Gross Floor Area (GFA)
	Accessible Parking		Accessible car spaces should be in accordance with the Access to Premises Standards, Building Code of Australia and AS2890.
	Motorcycle Parking		5% of the car parking rate
	Bicycle Parking		1 space per 10 car parking spaces

Assessment of the proposed parking spaces are provided below.

6.2 Car Parking

6.2.1 Council Requirements

Having regard for the proposal, the below table demonstrates the provision of proposed parking spaces for the Site against the DCP rates in **Table 17**.

TABLE 17: PARKING ASSESSMENT

Land Use	Tenancies	Yield GFA (m^2)	Minimum Parking Requirement	Proposed
Warehouse Tenancy	Tenancy 1	4,558	15	101
	Tenancy 2	4,183	14	
	Tenancy 3	4,561	15	
	Tenancy 4	4,487	15	
	Sub Total	**17,789**	**59**	
Ancillary Office	Tenancy 1	416	10	
	Tenancy 2	421	11	
	Tenancy 3	416	10	
	Tenancy 4	418	10	
	Sub Total	**1,671**	**41**	
Total		**-**	**100**	**101**

Note that the warehouse tenancy parking requirements include the lobby area and dock offices as part of the warehouse land-use and are divided individually to their respective tenancies. It is therefore evident that the proposed parking provisions of 101 parking spaces readily satisfy DCP requirements calculated to 100 spaces.

6.3 Accessible Car Parking

The DCP calls for the provision of accessible parking to be in line with the National Building Code of Australia (BCA). In this regard, the NCC 2019 Building Code of Australia – Volume One highlights the following requirements for buildings characterizes as 5, 7, 8 or 9c

1 space for every 100 carparking spaces or part thereof.

Accordingly, the development requires 2 accessible spaces.

In response, the provision of 2 accessible spaces readily satisfies the requirements set out within the DCP and the BCA.

6.4 Motorcycle Parking

Following the rates outlined within **Table 16**, 5% of the parking provided equates to 6 motorcycle spaces to be provided. A review of the plans indicate that motorcycle parking has been provided at a rate of 6 spaces – satisfying the requirements within the DCP.

6.5 Bicycle Parking

In addition to the bicycle parking rates outlined within **Table 16**, further requirements are outlined within Table 3 of Part B7 within DCP in relation to the provision of bicycle parking. These rates would be applied to each warehouse tenancy GFA and are as follows.

TABLE 18: BICYCLE & END OF TRIP REQUIREMENTS

Land Use	Employees	Customers / Visitors	Showers / Lockers
Industrial Developments	1 Space per 10 Parking Spaces, and 1 Secure Locker per Bicycle Space, and 1 Accessible Shower per 10 Bicycle Spaces		1 Shower for 0-12 Staff 2 Shower for 13-49 Staff 4 Shower for 50-149 Staff, and 2 Change Rooms where 13 or more staff (1x Male & 1x Female)

Based on 101 parking spaces, there would be a requirement for 11 bicycle spaces.

In response, 11 bicycle parking spaces have been provided with 6 spaces provided at the rear of the site, and 5 spaces to the front of the Site; thereby satisfying the requirements of the DCP.

6.6 Service Vehicles

Applicable servicing rates for the development are outlined within Table 2 of Part B7 within the DCP and are provided in the below table.

TABLE 19: SERVICING REQUIREMENTS

Land Use	Minimum Requirements
Industrial Developments	1 Space per 800m^2 GFA up to 8,000m^2 GFA (All spaces being adequate for trucks)

For reference, a service bay will be located within the hardstand of each level within the development and be labelled at “RSD” on the plans (**Figure 1** and **Figure 2**). Although the number of service bays does not meet the requirements set out within the DCP, Section 3.9 of Part B7 notes the following.

The number of service bays required for a development depends on the size and nature of the development. The following rates are based on the RMS Guideline. However, given the age of the data used, major developments should quantify their service vehicle requirements through new surveys of similar developments.

Noting the above, and based on experience with similar projects, the strict application of TfNSW Guides service bay rates leads to significant on-site service bay requirements which in most cases is higher than the actual tenant demands for such facilities.

In this regard, a review of the similar site-specific plans for developments within the recently approved (and nearly complete) First Estate development at Distribution Drive, Orchard Hills, has been undertaken to review current practice regarding provision of service bays for such developments.

Details of this analysis are outlined in below table.

TABLE 20: SERVICING ASSESSMENT

Lot	Warehouse Area (GFA in m^2)	Number of Service Bays Provided	Service Bay Rate
Lot 6A	5,000	6	1 space per 833m^2
Lot 6B	4,575	4	1 space per 1,144m^2
Lot 6C	13,950	6	1 space per 2,325m^2
Lot 8A	21,000	25	1 space per 840m^2
Lot 8B1	7,000	9	1 space per 778m^2
Lot 8B2	11,734	13	1 space per 903m^2

From the above, the actual service bay provision is expected to fall within the range between 1 space per 778 m^2 and 2,325 m^2 of warehouse GFA

6.6.1 Updated Service Bay Provisions

Having regard to the above, the minimum and maximum service bay rates have been applied. The resultant service bay requirements are outlined in the following table.

TABLE 21: SERVICING BAY REQUIREMENT VS. PROVISION

Land Use	Yield GFA (m^2)	Service Bay Requirements (Lower Rate)	Service Bay Requirements (Upper Rate)	Service Bay Provision
Tenancy 1	4,558	2	6	4
Tenancy 2	4,183	2	6	5
Tenancy 3	4,561	2	6	4
Tenancy 4	4,487	2	6	5
Total	**17,789**	**8**	**24**	**18**

In line with **Table 21**, it is demonstrated that the indicative number of service bays provided is within the range of the requirements established when considering TfNSW guidelines generally exceed actual tenant demands for warehouse facilities. As such, this provision is deemed sufficient.

7 Preliminary Green Travel Plan

7.1 Travel Mode Targets

7.1.1 Introduction

This section sets out the targets for the reduction in car journeys associated with the Site, with consideration to the land use in the area being a mixed-used precinct comprised mainly of industrial warehouses, with low-rise residential land-uses to the north. A focus on encouraging modal shifts away from private vehicles to utilising the existing public and active transport network aligns with the overall objective of this FTP.

Targets are the means of measuring the achievement of the objectives. They need to be clear, directly linked to the objectives, monitored and reviewed.

Questionnaire surveys shall be issued to the future tenants, to form the updated travel mode baseline to further develop site-specific targets. The first surveys will be undertaken shortly after occupation (within the first 6 months). These surveys will be repeated at a suitable time to assess the effectiveness of the implemented Travel Plan; the targets are to be reviewed to align with the most up-to-date information.

The implemented GTP is to be in place for the lifetime of the development. The initial timeframe in which targets need to be monitored and reviewed will be reviewed annually, for a minimum period of 5 years for the first 5 years.

7.2 Mode Share Targets

It is essential that Mode Share targets be achievable with consideration for the public transport, walking and cycling opportunities available within proximity to the Site. Targets should also be factoring in what future transport options could reasonably be used to access the Site, and also the nature of the development itself. The existing mode shares have previously been outlined within Section 3.5.

The targets should be revisited and updated upon operation of the development as part of the monitoring process. The preliminary targets, developed with consideration to Council's strategies and policies are nominated in **Table 22**. These represent *preliminary* 5-year targets to coincide with the minimum 5 years of monitoring and review.

TABLE 22: PRELIMINARY 2026 MODE SHARE TARGETS

Travel Mode	Mode Share of Employees	Proposed Targets	Relative Change
Car as driver	80%	70%	-10%
Train	3%	4%	+1%
Bus	2%	5%	+3%
Walked only	1%	3%	+2%
Car as passenger	4%	5%	+1%
Motorbike/Scooter	1%	1%	-
Bicycle	1%	3%	+2%
Other Modes	8%	8%	-

7.3 Measures and Action Strategies

7.3.1 Measures

The below is a range of measures which could achieve the objectives of this FTP (and subsequent operational GTP).

This section needs to be reviewed and confirmed prior to implementation of any future Plan.

- An introduction to the Plan for all staff, setting out its purpose and objectives.
- Provision of public transport travel information for staff, customers and visitors.
- Encouragement of car sharing, both amongst staff on site and in the wider context.
- Provision of car share spaces (future potential measure) and / or provision of a business “pool car” while public car share operators are limited in the area.
- Assisted cycle purchase schemes.
- Interest free loans to assist with cycle purchase, cycle equipment purchase etc.
- A transport section on the company website with links to local bus operator sites, to ensure that travel information is always up to date.
- The provision of transport information for visitors to the Site.

7.3.2 Strategies

Seven main strategies are identified, and the actions required for each are detailed in **Table 23.**

This table details specific actions that could be implemented as part of a future Plan (subject to tenant requirements) and the party responsible for implementing each action.

These actions must be reviewed at regular intervals to ensure that the mode split targets are being met. By that principle, this document is classed as a living document and subject to regular review. It is important to note, that the actions should not be taken as mandatory but rather potential options that should be investigated and implemented by future tenants of the development.

TABLE 23: PROPOSED ACTION STRATEGIES

STRATEGY	HOW IT WORKS	RESOURCES / RESPONSIBILITY	TIMELINE	FUNDING
1 Travel Planning and Demand Management				
1.1 Green / Sustainable Travel Plans	• Develop a GTP to provide information for Travel Access Guide (TAG) (See Appendix A) • Management of GTPs. • Promotion of GTPs.	Building Manager to be responsible for overall implementation of final GTP and providing annual reporting on GTP outcomes to Council. Tenant to develop Company specific travel plan based on Final GTP prior to the commencement of a new lease/sale of property. Company/Staff/Visitors shall be responsible for ongoing implementation of Company assigned actions and participation in annual monitoring and reporting process to Council	Upon completion of the development and ongoing annual GTP events	Tenant / Business Owner
1.2 Travel Information Points	• Establish locations such as travel information points where staff and visitors and others can access travel information via interactive platforms. • Promotion of GTPs • Provision of travel and transport information options	Tenant / Business Owner	Subject to employer preference.	Tenant / Business Owner
1.3 Flexible Working hours	Allow employees the flexibility to commute outside peak periods to reduce overall congestion and travel time.	Tenant / Business Owner	Subject to employer preference. Action to be considered by employers / Visitors as part of an Employer specific GTP to be developed and forwarded to Council prior to building occupation.	Tenant / Business Owner
1.4 Teleworking	Provide the option to work remotely (where possible) to reduce the number of vehicles travelling to the development and encourage teleconferencing rather than travelling to meetings.	Tenant / Business Owner	Subject to employer preference. Action to be considered by employers / visitors	Tenant / Business Owner
2 Promoting Public Transport				
2.1 Opal Card Loan Schemes / Subsidising	Company may consider subsidising staff public transport travel.	Tenant / Business Owner / TPC	Subject to employer. Can be implemented at building occupation	Tenant / Business Owner

STRATEGY		HOW IT WORKS	RESOURCES / RESPONSIBILITY	TIMELINE	FUNDING
	schemes for public transport travel through pre-paid credit cards	Alternatively, staff can pay for their own Opal Cards / pre-paid travel card through their salary, spreading the cost over the year to make it more affordable.			
2.2	Public Transport for work travel	The company and the TPC can promote public transport as one of the main preferences for work travel. This should be supported by all users and visitors to development having access to Opal Cards.	TPC	Subject to employer. Can be implemented at building occupation	Tenant / Business Owner
3 Promoting Carpooling					
3.1	Open Car Sharing	Where anyone in a defined geographical area can join a ride sharing scheme. This involves no input from the employer and should be on the onus of staff to schedule.	Staff	Ongoing in the workplace	Fuel costs can be arranged and split equitably by those involved
3.2	Closed Car Sharing	The company / department sets up an in-house car-matching scheme	Company, TPC	Ongoing in the workplace. Updates can be made to organisation as appropriate	Tenant / Business Owner
3.3	Third-party Car Sharing Program	Companies such as Liftshare are an online service that facilitates journey sharing between individual users, as well as providing separate services for businesses, organisations and events.	Staff – encouraged by TPC	Ongoing in the workplace	Staff
3.4	Carpool week	Arrange for a dedicated carpool campaign week to promote the benefits of carpooling.	Tenant / Business Owner	One week per calendar year	Tenant / Business Owner
4 Promoting Cycling					
4.1	Create a Bicycle Users Group (BUG)	BUGs are local groups of like-minded bike riders who get together generally for social riding in their area. For the purposes of the workplace, this can be adapted as a way of creating as social and healthy aspect of travelling to work.	Tenant / Business Owner, TPC	Ongoing in the workplace	Tenant / Business Owner
4.2	Providing & Maintaining End of Trip Facilities	Providing facilities such as showers, change rooms, lockers. For the initial stages of development it is recommended to provide facilities compliant with the relevant controls, and as the Site develops further, they should be	Developer / Estate &/or warehouse Owner / Manager	To be provided at completion and maintained throughout the life of the building.	Developer / Estate &/or warehouse Owner / Manager

STRATEGY	HOW IT WORKS	RESOURCES / RESPONSIBILITY	TIMELINE	FUNDING
	reviewed as part of monitoring process to meet any increase in demand.			
4.3 Promote Bicycle Initiatives	Promotion of bicycle initiatives – NSW bicycle week, Ride to Work etc.	TPC	To be promoted annually	Developer / Estate &/or warehouse Owner / Manager
4.4 Advertise Bicycle Routes	Promotion of bike lanes through the TAG.	TPC	To be promoted and provided at communal areas such as key information kiosks within facility	Tenant / Business Owner
5 Promoting Walking				
5.1 Providing End of Journey Facilities	Provision of sufficient end of trip facilities such as showers, change rooms, lockers etc to maximise pedestrian activity throughout the site.	Developer	To be provided at completion of development	Tenant / Business Owner
5.2 Walking routes	Incentivise travelling by foot by highlighting possible routes particularly those to nearest bus stops	Tenant / Business Owner	To be promoted and provided at communal areas such as key information kiosks within facility	Tenant / Business Owner
5.3 Promote walking initiatives	Promotion of walking initiatives: walk to game / training day, pedometers / step challenge / gamification of walking / reward programs based on steps to elevate pedestrian activity throughout site and to / from public transport points.	Tenant / Business Owner, TPC	To be implemented monthly or as appropriate throughout the calendar year.	Tenant / Business Owner
7 Influencing Travel Behaviour				
7.1 Provision of Sustainable Travel Packs to employees and visitors	Introduces employees and visitors alike to the GTP and provides information on walking and cycling routes, and travel by bus & train, timetables, and access routes. This would include a TAG.	Tenant / Business Owner, TPC	Travel Packs to be provided upon occupancy of building to employees.	Tenant / Business Owner

7.4 Communications Strategy

7.4.1 Welcome Packs

New staff shall be provided with a 'welcome pack' as part of the on-site induction process which includes a Travel Plan Pamphlet and other information in relation to sustainable transport choices. This pack shall include copy of the Travel Plan and a current Travel Access guide (TAG), as well as general information regarding the health and social benefits of active transport and advice on where to seek further information. It is recommended that an electric copy of the welcome pack be created and made available to staff.

7.4.2 Accurate Transport Information

In addition to these 'welcome packs', a copy of the TAG shall be clearly displayed in communal areas of the site including (but not limited to):

- Staff lunchroom
- Lift lobby area and entrances to buildings
- Any marketing material associated with the Site, such as websites and newsletters

7.4.3 Travel Access Guide

A Travel Access Guide (TAG) will be prepared prior to the occupation of the Site to more accurately reflect up-to-date public and active transport networks and services within vicinity of the development.

7.5 Monitoring Strategy

7.5.1 Responsibility for Implementation

The Travel Plan Coordinator (TPC) will be responsible for the running of the future Plan, including its administration and all liaison with interested parties. The role is likely to be undertaken by Site / Building Management, or an independent consultant, appointed by Building Management. The TPC will be appointed following occupation of the development, who will liaise with Council as part of the monitoring process.

7.5.2 Travel Plan Coordinator

A Travel Plan Coordinator (TPC) should be appointed to act as the primary point of contact for enquiries relating to the progress of the future Plans. The TPC will manage all aspects of the future Plan, including the co-ordination and joint working practices between those on-site.

The TPC will promote participation in and commitment to the future Plan from and will work in partnership with all stakeholders to deliver the strategies and actions.

The TPC should be appointed within 1 month of the site becoming occupied. Contact details for the TPC should be provided in the implemented Plan.

7.5.3 Plan Maintenance

This Plan shall be subject to ongoing reviews and will be updated accordingly. Regular reviews will be undertaken by the TPC. As a minimum, a review of the GTP would occur annually.

The key considerations when reviewing or monitoring the GTP are as follows:

Update baseline conditions to reflect any changes to the transport environment in the vicinity of the Site such as changes to bus services, new cycle routes etc.

- Track progress against target travel mode targets.
- Identify any shortfalls and develop an updated action plan to address issues.
- Ensure travel modes targets are updated (if necessary) to ensure they are realistic and remain ambitious.

7.5.4 Monitoring

So as to record the overall success, as well as the effectiveness of the individual measures, monitoring and review of the GTP is to be conducted at regular intervals. The TPC will act as the primary point of contact for all enquiries relating to the GTP's progress.

The GTP will be monitored annually with the first survey being carried out shortly (within 6 months) after first occupation of the Development. Travel mode surveys would determine the proportion of persons travelling to/from the Site by each transport mode. This will be in the form of annual travel mode questionnaire surveys to be completed by all persons attending the site, as far as practicable. A sample of a typical travel mode questionnaire form is included in Appendix D.

If targets are not met at the end of the initial period of monitoring, the GTP will be reviewed, new measures introduced and would be reassessed at the next monitoring stage.

7.5.5 Consultation

It is essential that any parties that may play a part in the future of GTP's and their actions are aware and have an opportunity to discuss. This would enable equitable input and feedback as well as maximising their overall efficacy. For this reason, a coordinated approach to GTPs should be implemented (subject to individual tenant participation) to assist in the consultation with the relevant parties, which could include the following:

- Council Traffic & Transport Department
- Traffic Committee
- Local Bus Operators
- Transport for New South Wales

Other organisations may be added to this list as the Plans evolve.

8 Design Commentary

8.1 Design Standards

The Sites access, car park and loading areas have been designed with reference to the following Australian Standards:

- AS2890.1:2004 for car parking areas.
- AS2890.2:2018 for commercial vehicle loading areas.
- AS2890.3:2015 for bicycle parking areas; and
- AS2890.6:2009 for accessible (disabled) parking.

It is expected that any detailed construction drawings in relation to any areas of the car park or Site access would comply with these Standards. Furthermore, compliance with the above Standards would be expected to form a standard Condition of Consent prior to any development approval.

8.2 Design Vehicles

Proposed internal circulation roads and warehouse hardstand areas have been designed to accommodate movements for the relevant vehicle size to be utilised within the Site. The largest vehicle to utilise the ground floor access and breezeway of the development shall be a 26.0 metre B-double truck, while the largest vehicle to be accommodated to the rear of the development shall be a 12.5m Heavy Rigid Vehicle (Emergency Vehicles Only). Under normal circumstance, access and circulation around the southern aisle shall be limited to cars, motorcycles and other light vehicles. All vehicle access to the first floor shall be restricted to 20.0m Articulated Vehicles. In this regard, **Appendix B**, provides a swept path analysis for this vehicle type.

8.3 Existing Right of Way

An existing Right of Way (RoW) easement is located on the north-eastern corner of the Site and provides access to the rear of the adjacent property. As part of the development, the RoW is expected to provide access for fire trucks to the water tank and booster assembly pumps. At no stage will the adjacent property's access be impeded as a result of the proposal.

8.4 Service Areas

All service areas are to be designed with reference to AS 2890.2:2018, and again provide for the movement of vehicles up to and including a 26.0m B-Double vehicles. It is anticipated that service area design compliance with AS 2890.2:2018 would form a standard Condition of Consent further to approval.

It is noted that the plans nominate a ramp gradient of 1:7 accessing the Level 1 service area. However, it is noted that the actual ramp profile is marginally less (1:7.35). As such, the provision of additional ramp transitions — to comply with change of grade requirements of AS2890.2:2018 – should not have a material impact on the overall design and can be accommodated within the existing length of the ramp. It is therefore a matter for detailed design coordination prior to issue of a Construction Certificate.

8.5 Fire Service Appliance Circulation

In line with Fire and Rescue NSW (FRNSW) Guidelines, circulation around the Site has been assessed for a 12.5 m HRV, demonstrating sufficient access for 'General and 'Specialist' fire appliances, as demonstrated in **Appendix A**.

9 Preliminary Construction Traffic Management Plan

9.1 Overview

This Preliminary Construction Traffic Management Plan (CTMP) has been prepared in advance of development approval and, as such, relevant conditions of consent have not yet been provided. Notwithstanding, as is standard practice, it is expected that the final CTMP shall demonstrate the proposed management of the impact in relation to construction traffic addressing the following:

- Assessment of cumulative impacts associated with other construction activities (if any).
- Assessment of road safety at key intersections and locations to be subject to heavy vehicle construction traffic movements and high pedestrian activity,
- Details of construction program detailing the anticipated construction duration and highlighting significant and milestone stages and events during the construction process,
- Anticipated peak hour and daily construction vehicle movements to and from the site,
- On-site car parking and access arrangements of construction vehicles, construction workers to and from the site, emergency vehicles and service vehicle; and
- Details of temporary cycling and pedestrian access during construction.

Having regard for the above, the purpose of this report is to establish the broad traffic principles for construction that would minimise traffic impacts on the surrounding road network, ensure safety and efficiency for workers, pedestrians, and road users, and provide information regarding construction vehicle access routes and any changed road conditions (if applicable).

It is expected that this plan will be updated should any necessary changes to the currently proposed arrangements arise in the future. Any special events (if required) would be subject to a separate request for a specific permit not covered by this report. Please note, Ason Group is responsible for the preparation of this CTMP only and not for its implementation, which is the responsibility of the Contractor.

This report has been prepared by consultants who hold the TfNSW prepare a Work Zone Traffic Management Plan certification. Details of the accredited personnel are provided below:

- James Laidler Certification No. 0052158569

9.1.1 Authority Requirements

Following approval of future applications relation to the Site, it is expected that this CTMP shall be updated to include a comprehensive list of requirements for later stages of construction.

9.2 Overview of Works

9.2.1 Staging and Duration of Work

Recognising that this CTMP has been prepared to support a SSD, detailed construction staging and the duration of each stage of works will be determined post approval as part of the CC phase inputs.

9.2.2 Hours of Operation

The type of work being undertaken may vary depending on the phase of construction and associated activities and includes both construction and design personnel. However, all works will be in accordance with standard construction working hours, which are likely to be as follows:

- Monday to Friday (other than Public Holidays): 7:00AM – 6:00PM.
- Saturday: 8:00AM – 1:00PM.
- Sunday and Public Holidays: No works to be undertaken.

Any work to be undertaken outside of the standard construction hours will be required to obtain an Out of Hours (OOH) approval. Any such works would necessarily be undertaken in accordance with the appropriate OOH protocols and approval processes.

9.2.3 Proposed Construction Site Access

Access is proposed to be provided to all construction vehicles via the existing crossover on Raymond Ave, Matraville. The routes shown are to be utilised by all construction vehicles travelling to and from the site and represents the shortest route between the local and regional road network, minimising the impacts of the construction. An on-site turning area shall be provided within the future car park area so that movement to/from the site is undertaken in a forward direction, at all times. It will be included as part of the Drivers Code of Conduct that all construction vehicles shall access the Site via Botany Road Only, and not to utilise Perry Street at any time.

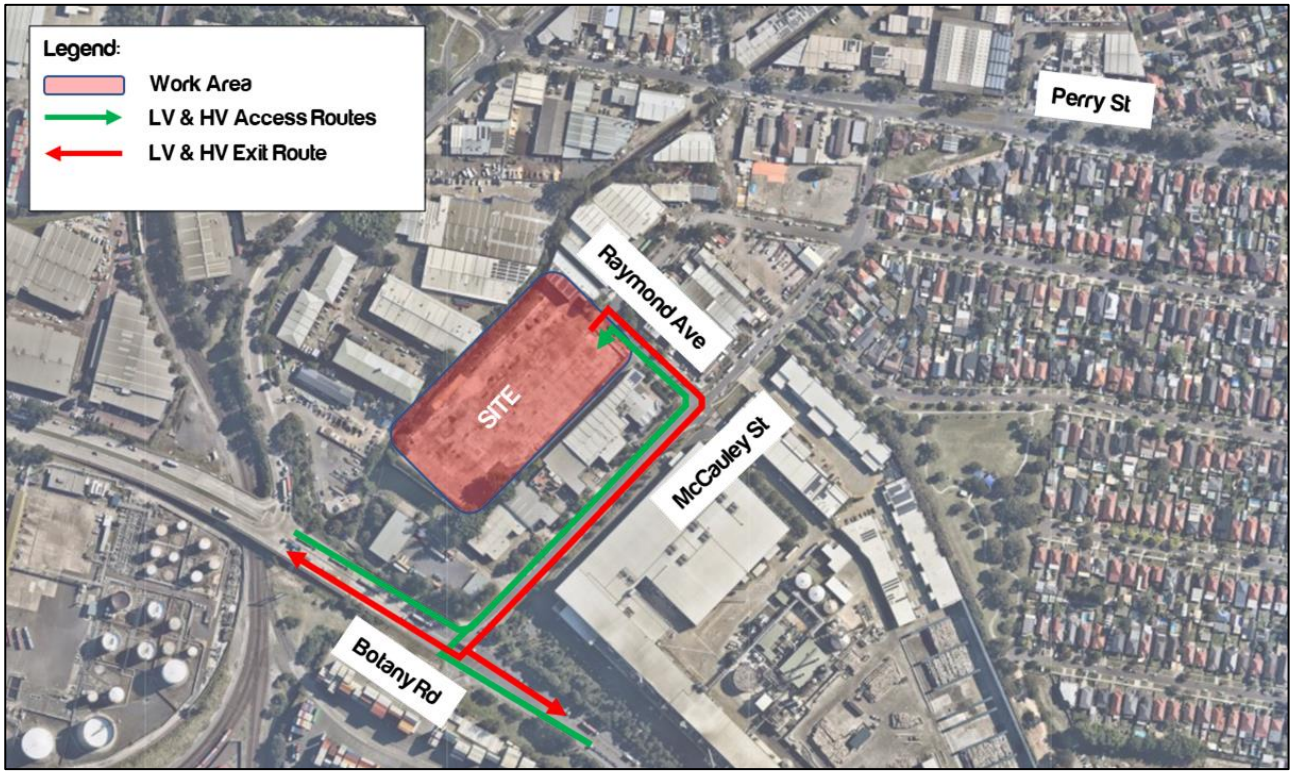


Figure 22: Construction Vehicle Routes

Any vehicles required to access the Site that do not comply with the mass, dimension or operating requirements as specified by the National Heavy Vehicle Regulator (NHVR) will need to apply for a class 1 Oversize Over-mass (OSOM) permit. Permits may be issued with conditional restrictions that limit the time and days that these vehicles are allowed to access the Site. Additionally, specific Traffic Guidance Schemes (TGS) may be required to facilitate safe manoeuvring of these vehicles.

9.2.4 Emergency Vehicle Access

Emergency vehicle access to and from the Site will be available at all times while the Site is occupied by construction workers. This process would be implemented through emergency protocols on the site which will be developed by the Contractor.

9.2.5 Fencing Requirements

Temporary exclusion fencing (chain mesh fencing) will be erected along the entire boundary of the Site and will be maintained for the duration of the construction program.

The fencing is to ensure unauthorised persons are kept out of the Site. Site access gates would be provided within Raymond Ave and will be closed at all times outside of the permitted construction hours. Any control points—operational during work hours—shall be sufficiently setback so that no queuing will occur on-street.

9.2.6 Materials Handling

Handling of all materials throughout the construction shall adhere to the following.

- It is proposed that all material loading will occur within the construction site boundary.
- No loading is proposed to occur outside of the provisioned areas.
- Equipment, materials, and waste will be kept within the construction site boundary.

During latter stages of construction, tie in works will be required within the kerbside of Raymond Ave. All materials handling shall be undertaken off public roadways, however in the event materials handling is required from a public roadway, then prior approval shall be sought and obtained from the relevant Authorities. If required Works Zones may be required.

9.3 Assessment of Construction Traffic Impacts

9.3.1 Construction Traffic

The traffic generation outlined within Section 4.3 provides the following relevant figures regarding future operational traffic volumes associated with the Site.

- AM Peak 61 movements per hour (movements, in & out combined)
- PM Peak 58 movements per hour (movements, in & out combined)

For the purpose of this report, 1 truck delivery is equal to 1 inbound movement plus 1 outbound movement which equals to a total of 2 movements.

Construction traffic generation is not expected to exceed the operational traffic generation of the Proposal, however further discussion is outlined below.

9.3.2 Construction Vehicle Traffic Generation

Noting that construction staging has not been addressed within this Preliminary CTMP, construction vehicle traffic generation can also not be assessed in detail at this time.

Light vehicle traffic generation would generally be associated with staff movements to and from the Site. Staff would be comprised of project managers, various trades, and general construction employees. Light vehicle construction trips are expected to arrive in the morning and depart in the evening. Noting the typical construction work hours, the peak periods are likely to occur outside of traditional road network peak periods.

The anticipated heavy vehicle movements generated by the construction of the Site has been estimated having consideration of the likely requirements for construction plant, equipment, and haulage.

It is expected that construction traffic will be substantially less than the future operational traffic and will therefore not have any unacceptable impacts on the surrounding road network more broadly. In the event that construction volumes are in excess of the volumes outlined above in Section 9.3.1, then a separate construction impact assessment shall be undertaken.

9.3.3 Road Safety

It is noted that there will be an increased number of heavy vehicles along Raymond Avenue during the construction period. However, the heavy vehicles will be travelling along approved RAV routes which would mitigate road safety impacts along local roads and heavily pedestrianised areas. Traffic Guidance Schemes for the site access will be designed to minimise vehicle, pedestrian and cyclists impacts along Raymond Avenue, as far as practicable

9.3.4 Vehicle Management Principles

All vehicles transporting loose materials will have the entire load covered and/or secured to prevent any large items, excess dust or dirt particles depositing onto the roadway during travel to and from the site. Drivers are to be familiar with the Driver Code of Conduct before attending the Site. A copy of the Code is included in Appendix C.

All subcontractors must be inducted by the Contractor to ensure that the procedures are met for all vehicles entering and exiting the construction site. The Head Contractor will monitor the roads leading to and from the site and take all necessary steps to rectify any road deposits caused by site vehicles.

Vehicle movements to, from and within the Site shall do so in a manner, which does not create unreasonable or unnecessary noise or vibration.

No tracked vehicles will be permitted or required on any paved roads. Public roads and access points shall not be obstructed by any materials, vehicles, refuse skips or the like, under any circumstances.

9.3.5 Construction Staff Parking

The location of Contractor parking is expected to change as construction continues and encompasses various portions of the Site.

Contractors are also encouraged to carpool (or utilise public transport service within the area, should improve services be available at the time of construction), thereby further reducing the minimal parking demand. The Site's accessibility to public and active transport is discussed in Section 3.6.

9.4 Traffic Control

9.4.1 Traffic Guidance Schemes

Any Traffic Guidance Scheme (TGS's) associated risk assessment, consultation schedules, TGS verification checklist, and inspection checklists shall be prepared by an accredited person, in accordance with the TfNSW Traffic Control at Worksites Manual (Issue 6.0) and AS1742.3:2019.

All TGSs involving signage or impacts to public roads shall be approved by the Traffic Management Centre (TMC), prior to the works for which they relate. These TCPs shall be updated to respond to any changes to prevailing traffic conditions throughout the life of the works.

With regard to the proposed temporary access road, a site-specific TGS would be implemented for the duration of the works. A copy of all approved TGSs shall be kept on-site for reference at all times.

9.4.2 Authorised Traffic Controller

An authorised Traffic Controller is to be present on-site throughout the construction stage of the project. Responsibilities include:

- Supervision of all construction vehicle movements into and out of site at all times,
- Supervision of all loading and unloading of construction materials during the deliveries in the construction phase of the project, and
- Pedestrian management, to ensure that adverse conflicts between vehicle movements and pedestrians do not occur, while maintaining radio communication with construction vehicles at all times.

9.4.3 Road Occupancy

The works are not expected to require extensive occupation or obstruction of traffic on Raymond Avenue. However, there may be a need for some works within the public road for tie in works.

At all times, two-way traffic shall be maintained along Raymond Avenue. Any works within or affecting (e.g., signage within) a public road shall only be undertaken in accordance with relevant TGS developed by an accredited person that has relevant Prepare Work Zone Traffic Management Plan accreditation.

All TGS shall be approved by TfNSW prior to commencement of any works. The Contractor shall adhere to any restrictions imposed by TfNSW (or Council) in the granting of those Road Occupancy Licenses (ROLs).

9.5 Monitoring & Communication Strategies

9.5.1 Development of a Monitoring Program

The development of a program to monitor the effectiveness of this CTMP shall be established by the lead contractor. It is not anticipated that the monitoring of the processes will have any material cost implications.

This CTMP shall be subject to ongoing review and will be updated accordingly. Regular reviews will be undertaken by the on-site coordinator. As a minimum, review of the CTMP shall occur monthly, however a weekly review would be preferred.

- All and any reviews undertaken should be documented, however key considerations regarding the review of the CTMP shall be:
- Tracking deliveries against the estimated volumes.
- To identify any shortfalls and develop an updated action plan to address issues that may arise during construction (Parking and access issues)
- To ensure TGS are updated (if necessary) by “Prepare a Work Zone Traffic Management Plan” card holders to ensure they remain consistent with the set-up on-site.
- Regular checks undertaken to ensure all loads are leaving site covered as outlined within this CTMP

9.5.2 Communications Strategies

A communications strategy shall be prepared by the Head Contractor and will outline the most effective communication methods to ensure adequate information within the community and assist the project team to deliver the traffic changes with minimal disruption to the road network.

Surrounding landowners shall be notified of any work that is deemed disruptive to the surrounding network prior to commencement. Ongoing communication is also proposed so that all key stakeholders are kept up to date of works and potential impacts. Nearby property owners that may be affected directly by the construction works shall be included within the communications strategy.

The contractor is to notify the community liaison representative when traffic is expected to exceed the parameters set within “Condition Green” of **Table 25**. Notwithstanding, **Table 24** outlines an indicative communication strategy to ensure that adequate communication with key stakeholders have been met.

TABLE 24: COMMUNICATION STRATERGY

Risk	Impact	Comms Channel
Wider Traffic Specific Disruption	Ensure construction crews use traffic routes identified in the Traffic Management Plan, Ensure residents in area are notified in advance to any traffic changes that may affect them	Stakeholder meetings Stakeholder emails

9.6 Plan Administration

9.6.1 Monitoring Program

This PCTMP shall be subject to ongoing review and will be updated accordingly. Regular reviews will be undertaken by the on-site coordinator. As a minimum, review of the CTMP shall occur monthly. All and any reviews undertaken should be documented, with key considerations of the review of this CTMP shall be:

- Tracking deliveries against the volumes outlined within report. Deliveries will be tracked against approved volumes and will keep a vehicle log - including rego & time of entry - for the purpose of assessing the effectiveness of these monitoring programs.
- To identify any shortfalls and develop an updated action plan to address issues that may arise during construction (Parking and access issues)
- To ensure TGSs are updated (if necessary) by "Prepare a Work Zone Traffic Management Plan" card holders to ensure they remain consistent with the set-up on-site.
- Regular checks undertaken to ensure all loads are entering and leaving site covered.

The development of a program to monitor the effectiveness of this CTMP shall be established by the Contractor. This process is expected to form part of the monitoring plan required to be included as part of the overarching Construction Environmental Management Plan (CEMP), of which this CTMP forms a part.

9.6.2 Contingency Plan

A contingency plan shall be established by the Contractor and is to be included in an overarching CEMP. Notwithstanding, **Table 25** outlines an indicative plan to be undertaken by the builder in the event that the monitoring program identifies the management plan is not effective in managing the construction impacts.

TABLE 25: CONTINGENCY PLAN

Risk		Condition Green	Condition Amber	Condition Red
Construction Movements	Trigger	Construction traffic volume is in accordance with permissible and programmed volume and time constraints	Construction traffic volumes exceeds programmed volume but is within permissible volume constraints	Construction traffic volumes exceeds permissible volume and time constraints
	Response	No response required	Review and investigate construction activities, and where appropriate, implement additional remediation measures such as: • Review CTMP and update where necessary • Provide additional training.	As with Condition Amber, plus; • If it is concluded that construction activities were directly responsible for the exceedance, submit an incident report to government agencies. • Stop all transportation into and out of the site until rectified.
Queuing	Trigger	No queuing identified	Queuing identified within site	Queuing identified on the public road

	Response	No response required Continue monitoring program	Review the delivery schedule prepared by the builder. If drivers are not following the correct schedule, then they should be provided with additional training and an extra copy of the Driver Code of Conduct	As with Condition Amber, plus • Review and investigate construction activities. • If it is concluded that construction activities were directly responsible for the exceedance, submit an incident report to government agencies. • Temporary halting of activities and resuming when conditions have improved. • Stop all transportation into and out of the site. • Review CTMP and update where necessary, provide additional training.
Noise	Trigger	Noise levels do not exceed imposed noise constraints	Noise levels in minor excess of imposed noise constraints	Noise levels greatly in excess of imposed noise constraints
	Response	No response required	Undertake all feasible and reasonable mitigation and management measures to minimise noise impacts.	As with Condition Amber, if noise levels cannot be kept below applicable limits, then a different construction methods or equipment must be utilised.
Traffic Guidance Schemes	Trigger	No observable issues	Minor inconsistencies with TGS to onsite operations	Near miss or incident occurring regardless of / as a result of the TCP being implemented
	Response	No response required	Traffic Controller to amend TGS on site and to keep a log of all changes	Stop work until an investigation has been undertake into the incident. There are to be changes made to the TGS to ensure that the safety of all workers, students and civilians are catered for.
Dust	Trigger	No observable dust	Minor quantities of dust in the air and tracking on to the road	Large quantities of dust in the air and tracking on to the road
	Response	No response required	Review and investigate construction activities and respective control measures, where	As with Condition Amber. • If it is concluded that construction

			appropriate. Implement additional remedial measures, such as: • Deployment of additional water sprays • Relocation or modification of dust-generating sources • Check condition of vibrating grids to ensure they are functioning correctly. • Temporary halting of activities and resuming when conditions have improved	activities were solely responsible for the exceedance, submit an incident report to government agencies. • Implement relevant responses and undertake immediate review to avoid such occurrence in future.

It is therefore proposed to incorporate the above items within the communications strategy. The contingency plan outlines the most effective methods to ensure that each item identified within the Monitoring Program is adhered to, resulting in the impacts to the wider community being minimised.

10 Summary and Recommendations

10.1 Key Findings

The key findings of the transport assessment undertaken from this report are summarised below:

- The SSDA relates to the development of a proposed 19,460m^2 GFA of industrial warehouses at 42 Raymond Avenue, Matraville. The site is situated within the Randwick Council's LGA and is currently vacant (following the demolition of a previous warehouse).
- As a worst-case scenario (without assessing the previous warehouse), the proposal will result in a net increase in daily traffic generation of 587 vehicles, comprising of:
  - 61 morning trips
  - 54 midday trips, and
  - 58 afternoon trips.
- While currently vacant, the site had previously been used as an industrial warehouse with a GFA of approximately 13,800m^2, generating a daily total of 416 vehicles. As such, the proposed development represents only a moderate increase above the historic traffic generated on the site.

TABLE 26: TRAFFIC GENERATION SUMMARY

Scenario	GFA (m^2)	AM Peak	Midday	PM Peak	Daily
Existing[1]	13,800	61	54	58	587
Proposed	19,460	44	39	41	416
Net Change	+5,660	+17	+15	+17	+171

Note: 1) Based on historic use; site currently vacant

- The key intersections of Botany Road / McCauley Street and Perry Street / McCauley Street have been assessed for scenarios of 2021, 2031 future base traffic, and 2031 future base plus development traffic scenarios.
- Analysis of SIDRA modelling undertaken indicates that there is expected to be a negligible increase in delay across the 2031 Base Case and 2031 Project Case. All scenarios indicate a Level of Service B or better in each peak period.
- An assessment of parking requirements suggests the site requires a minimum of 100 spaces. In response, the Site provides 101 spaces and therefore readily demonstrates compliance with DCP Rates.
- Furthermore, a review of motorcycle and bicycle parking, along with end of trip facilities would indicate that all the requirements are accommodated and satisfy DCP requirements.
- The internal configuration of the Site – including light and vehicular access, car parking and servicing areas will be designed in accordance with the relevant Australian Standards of AS 2890.1:2014, AS 2890.2:2018 and AS 2890.6:2020. It is expected that this forms a Condition of Consent.
- Construction traffic has been assessed to establish the broad traffic principles that would minimise traffic impacts on the surrounding road network, ensure safety and efficiency for workers, pedestrians, and road users, and provide information regarding construction vehicle access routes and any changed road conditions.

10.2 Conclusions

In summary, the warehouse development is deemed supportable on traffic planning grounds and is not expected to result in any adverse impacts on the surrounding road network during construction or operational scenarios.

Appendix A. Stakeholder Engagement

James Laidler

From: Tim Lewis
Sent: Friday, 4 February 2022 3:27 PM
To: Brett Morrison
Cc: James Laidler; Sadeepth Bandaranayake
Subject: RE: 42 Raymond Ave, Matraville - SSDA Proposal
Attachments: 42 Raymond Avenue Matraville, SIDRA Results.zip

Hi Brett,

Find attached SIDRA files, as requested.
Let me know if you have any questions in relation to these models.

Regards,

Tim Lewis
Ason Group | Principal Lead
Development Assessment & Advisory

M: +61 412 299 692 | T: +61 2 9083 6601 | E: tim.lewis@asongroup.com.au

---

From: Tim Lewis
Sent: 27 January 2022 18:28
To: Brett Morrison <Brett.Morrison4@transport.nsw.gov.au>; Sadeepth Bandaranayake <sadeepth.bandaranayake@asongroup.com.au>
Cc: James Laidler <james.laidler@asongroup.com.au>
Subject: RE: 42 Raymond Ave, Matraville - SSDA Proposal

Will do.

@Sadeepth Bandaranayake – in James' absence, can you please package up the files?

Regards,

Tim Lewis
Ason Group | Principal Lead
Development Assessment & Advisory

M: +61 412 299 692 | T: +61 2 9083 6601 | E: tim.lewis@asongroup.com.au

---

From: Brett Morrison <Brett.Morrison4@transport.nsw.gov.au>
Sent: 27 January 2022 18:24
To: Tim Lewis <tim.lewis@asongroup.com.au>
Cc: Sadeepth Bandaranayake <sadeepth.bandaranayake@asongroup.com.au>; James Laidler <james.laidler@asongroup.com.au>
Subject: RE: 42 Raymond Ave, Matraville - SSDA Proposal

If you can send the SIDRA file, as this takes a while to review.

Brett Morrison
Development Assessment Officer Eastern
Planning and Programs

Greater Sydney
Transport for NSW

M 0419 338 081 E Brett.Morrison@transport.nsw.gov.au

27-31 Argyle Street
Parramatta NSW 2150

Transport for NSW

I acknowledge the Aboriginal people of the country on which I work, their traditions, culture and a shared history and identity. I also pay my respects to Elders past and present and recognise the continued connection to country.

Please consider the environment before printing this email.

OFFICIAL: Sensitive – NSW Government

From: Tim Lewis <tim.lewis@asongroup.com.au>
Sent: Thursday, 27 January 2022 6:15 PM
To: Brett Morrison <Brett.Morrison4@transport.nsw.gov.au>
Cc: Sadeepth Bandaranayake <sadeepth.bandaranayake@asongroup.com.au>; James Laidler <james.laidler@asongroup.com.au>
Subject: RE: 42 Raymond Ave, Matraville - SSDA Proposal

Hi Brett,

Further to the below – see attached the submitted traffic report.
Let me know if you have any questions once you've had a chance to review.

Regards,

Tim Lewis
Ason Group | Principal Lead
Development Assessment & Advisory

M: +61 412 299 692 | T: +61 2 9083 6601 | E: tim.lewis@asongroup.com.au

---

From: Tim Lewis
Sent: 27 January 2022 17:54
To: Brett Morrison Brett.Morrison4@transport.nsw.gov.au
Cc: James Laidler <james.laidler@asongroup.com.au>
Subject: RE: 42 Raymond Ave, Matraville - SSDA Proposal

Hi Brett,

Thanks for checking in.
I believe the SSD has now been lodged a week or so ago. Might be still in a Test of Adequacy stage with DPIE but presumably will make it's way to you from DPIE shortly. Therefore, a pre-lodgement meeting probably not required at this point as I presume it would be good for you to review the submission and then we can talk through any queries to shortcut the *submissions* process.

Regards,

Tim Lewis
Ason Group | Principal Lead
Development Assessment & Advisory
M: +61 412 299 692 | T: +61 2 9083 6601 | E: tim.lewis@asongroup.com.au

---

From: Brett Morrison <Brett.Morrison4@transport.nsw.gov.au>
Sent: 27 January 2022 16:56
To: Tim Lewis <tim.lewis@asongroup.com.au>
Cc: James Laidler <james.laidler@asongroup.com.au>
Subject: RE: 42 Raymond Ave, Matraville - SSDA Proposal

Tim,
I have just returned from leave and I'm not sure if a pre-lodgement meeting was organised or still required. If so, please send through any additional information and I will arrange a meeting.

Brett Morrison
Development Assessment Officer Eastern
Planning and Programs
Greater Sydney
Transport for NSW

M 0419 338 081 E Brett.Morrison@transport.nsw.gov.au

27-31 Argyle Street
Parramatta NSW 2150

Transport for NSW

From: Tim Lewis <tim.lewis@asongroup.com.au>
Sent: Friday, 17 December 2021 8:50 PM
To: Brett Morrison <Brett.Morrison4@transport.nsw.gov.au>
Cc: James Laidler <james.laidler@asongroup.com.au>
Subject: RE: 42 Raymond Ave, Matraville - SSDA Proposal

Hi Brett,

See attached.

Noted r.e. the base models. I think the client is planning to submit shortly so we'll likely issue both base model and options testing as a single pack. If any issues are raised with the base models, we can update the options analysis as part of any Response to Submissions phase updates.

Regards,

Tim Lewis
Ason Group | Principal Lead
Development Assessment & Advisory
M: +61 412 299 692 | T: +61 2 9083 6601 | E: tim.lewis@asongroup.com.au

From: Brett Morrison <Brett.Morrison4@transport.nsw.gov.au>
Sent: 15 December 2021 12:24
To: Tim Lewis <tim.lewis@asongroup.com.au>
Cc: James Laidler <james.laidler@asongroup.com.au>
Subject: RE: 42 Raymond Ave, Matraville - SSDA Proposal

Thanks,
A preliminary design would be sufficient to initiate discussion. If you can send it through today, I'll check availability of our TfNSW stakeholders for a meeting.

Also, it would be better for us to review the base model first before doing any future scenario testing.

Brett Morrison
Development Assessment Officer
Planning & Programs
Greater Sydney
Transport for NSW

I work flexibly. Unless it suits you, I don't expect you to read or respond to my emails outside of your normal work hours.

M 0419 338 081
27-31 Argyle Street Parramatta NSW 2150

I acknowledge the traditional owners and custodians of the land in which I work and pay my respects to Elders past, present and future.

OFFICIAL: Sensitive – NSW Government

From: Tim Lewis <tim.lewis@asongroup.com.au>
Sent: Wednesday, 15 December 2021 12:15 PM
To: Brett Morrison <Brett.Morrison4@transport.nsw.gov.au>
Cc: James Laidler <james.laidler@asongroup.com.au>
Subject: RE: 42 Raymond Ave, Matraville - SSDA Proposal

Hi Brett,

The plans are not 100% complete yet – I expect we can share in the meeting itself – but the proposal relates to a multi-level industrial facility (4 tenancies) with circa 19,500sqm of combined GFA over the two levels.

Operations are 24/7 with approximately 104 car parking spaces and 10 bicycle spaces.

Access strategy is for B-double access to the ground floor, with access to the upper level limited to 20m articulated trucks. All truck will side-load from a central breezeway on each level.

At this stage, we have undertaken preliminary SIDRA assessment of 2 key intersections, being Botany Rd / McCauley St and McCauley St / Perry St; both performing well under 2019 Base Case and 2031 Future Project Case scenarios.

Regards,

Tim Lewis
Ason Group | Principal Lead
Development Assessment & Advisory

M: +61 412 299 692 | T: +61 2 9083 6601 | E: tim.lewis@asongroup.com.au

---

From: Brett Morrison <Brett.Morrison4@transport.nsw.gov.au>
Sent: 13 December 2021 10:27
To: James Laidler <james.laidler@asongroup.com.au>
Cc: Tim Lewis <tim.lewis@asongroup.com.au>
Subject: RE: 42 Raymond Ave, Matraville - SSDA Proposal

We welcome a meeting, to assist with organising relevant internal stakeholders could provide some preliminary information. Particularly in regards operation, access, parking, proposed use and size.

Brett Morrison
Development Assessment Officer
Planning & Programs
Greater Sydney
Transport for NSW

I work flexibly. Unless it suits you, I don't expect you to read or respond to my emails outside of your normal work hours.

M 0419 338 081
27-31 Argyle Street Parramatta NSW 2150

Transport for NSW

I acknowledge the traditional owners and custodians of the land in which I work and pay my respects to Elders past, present and future.

From: James Laidler <james.laidler@asongroup.com.au>
Sent: Thursday, 2 December 2021 5:30 PM
To: Development Sydney <Development.Sydney@transport.nsw.gov.au>
Cc: Tim Lewis <tim.lewis@asongroup.com.au>
Subject: 42 Raymond Ave, Matraville - SSDA Proposal

Dear Sir/Madam,

We are the traffic consultants working on behalf of Hale Capital on a warehouse development at 42 Raymond Avenue, Matraville. The application relates to the construction of 4 warehouses with provision of onsite car parking. As part of the development process, we are obligated under SSD31552370 to demonstrate consultation with TfNSW in the preparation of this report:

"Stakeholder Engagement
All consultants must document the relevant authorities/agencies/etc consulted during the preparation of their reports, including:

- *Meeting attendees or the relevant person in telephone/email correspondence*
- *Date/time of meetings or correspondences*
- *Issues discussed*
- *How the matters raised by the relevant stakeholder have been addressed within the proposal, including the key findings, recommendations, final plans, etc."*

I would like to discuss with TfNSW whether you have any comments regarding the proposal. Could you also please advise if RMS would like to meet to discuss the Proposal and provide some possible times and dates.

Since the timing is quite critical for us, your timely review and approval is greatly appreciated.

Thank you in advance and regards,

James Laidler
Senior Traffic Engineer | Ason Group

T: +61 2 9083 6601 | M: +61 421 209 996 | E: james.laidler@asongroup.com.au
A: Suite 17.02, Level 17, 1 Castlereagh Street, Sydney NSW 2000

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James Laidler

From: Brett Morrison <Brett.Morrison4@transport.nsw.gov.au>

Sent: Monday, 13 December 2021 10:27 AM

To: James Laidler

Cc: Tim Lewis

Subject: RE: 42 Raymond Ave, Matraville - SSDA Proposal

We welcome a meeting, to assist with organising relevant internal stakeholders could provide some preliminary information. Particularly in regards operation, access, parking, proposed use and size.

Brett Morrison

Development Assessment Officer
Planning & Programs

Greater Sydney

Transport for NSW

I work flexibly. Unless it suits you, I don't expect you to read or respond to my emails outside of your normal work hours.

M 0419 338 081

27-31 Argyle Street Parramatta NSW 2150

I acknowledge the traditional owners and custodians of the land in which I work and pay my respects to Elders past, present and future.

From: James Laidler <james.laidler@asongroup.com.au>

Sent: Thursday, 2 December 2021 5:30 PM

To: Development Sydney <Development.Sydney@transport.nsw.gov.au> **Cc:** Tim Lewis <tim.lewis@asongroup.com.au>

Subject: 42 Raymond Ave, Matraville - SSDA Proposal

Dear Sir/Madam,

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*"**Stakeholder Engagement***

All consultants must document the relevant authorities/agencies/etc consulted during the preparation of their reports, including:

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- *Issues discussed*
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Since the timing is quite critical for us, your timely review and approval is greatly appreciated.

Thank you in advance and regards,

James Laidler

Senior Traffic Engineer | Ason Group

T: +61 2 9083 6601 | M: +61 421 209 996 | E: james.laidler@asongroup.com.au A: Suite 17.02, Level 17, 1 Castlereagh Street, Sydney NSW 2000

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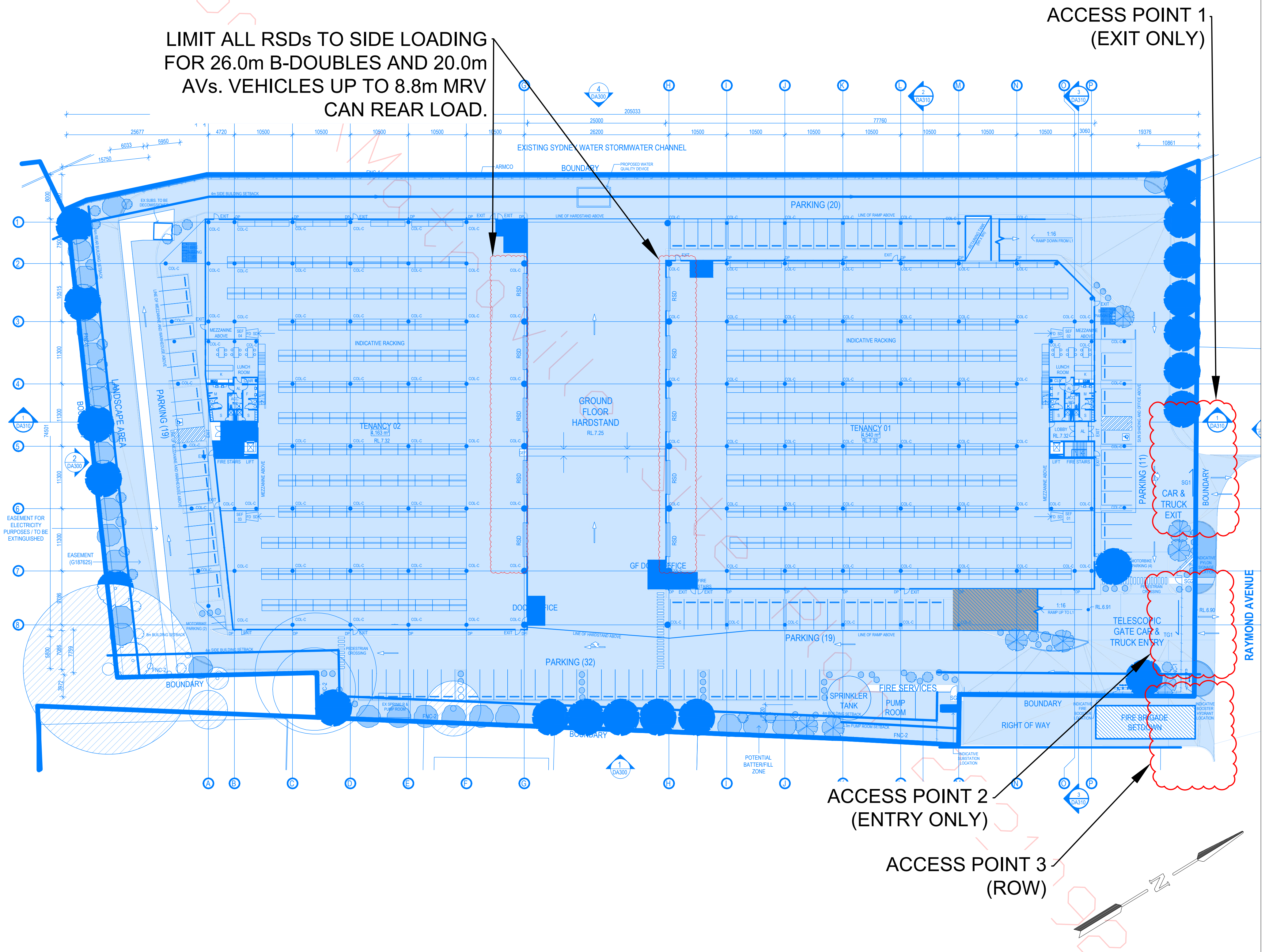
Appendix B. Design Advice and Swept Path Analysis

NOTE:

1. ACCESS POINT 3 IS A RIGHT OF WAY (ROW), USED BY THE ADJOINING SITE (54 RAYMOND AVENUE) AND FOR ACCESS TO THE FIRE BRIGADE SETDOWN AREA AND / OR DURING MAINTENANCE ONLY.
   - 1.1. AS SUCH, IT WILL ONLY EVER BE USED BY THE BENEFIT OF THE SUBJECT SITE DURING EMERGENCIES AND THEREFORE, USED VERY INFREQUENTLY.
   - 1.2. IT WILL NOT BE USED BY OPERATIONAL TRAFFIC ASSOCIATED WITH THE SUBJECT SITE ON A DAY-TO-DAY BASIS.
   - 1.3. USE OF THE FIRE SETDOWN AREA IS TO BE MANAGED TO ENSURE SATISFACTORY EGRESS TO / FROM THE ADJOINING SITE (54 RAYMOND AVENUE) CAN BE MAINTAINED.
2. ACCESS POINT 2 SHALL BE LIMITED TO ENTRY MOVEMENTS ONLY.
3. ACCESS POINT 1 SHALL BE RESTRICTED TO EGRESS MOVEMENTS ONLY.
4. SITE CIRCULATION SHALL OCCUR ONE-WAY IN A CLOCKWISE DIRECTION.
   - 4.1. CARS SHALL USE THE OUTER CIRCULATION ROAD / AISLE AND ARE NOT TO TRAVERSE THROUGH THE CENTRAL COMMERCIAL VEHICLE HARDSTAND AREA.
5. DESIGN VEHICLES ADOPTED:
   - 5.1. GROUND FLOOR (SITE ACCESS AND COMMERCIAL VEHICLE HARDSTAND AREA)
     - 5.1.1. 26.0m B-DOUBLES (SUBJECT TO APPROVAL TO USE ADJOINING ROADS; A SEPARATE PROCESS TO THIS APPLICATION).
   - 5.2. GROUND FLOOR (REAR CAR PARK)
     - 5.2.1. B99 CAR; OR
     - 5.2.2. HRV FOR FIRE CIRCULATION ONLY.
   - 5.3. LEVEL 1
     - 5.3.1. 20.0m ARTICULATED VEHICLES (AVs)
   - 5.4. THE ABOVE ASSUMES 20.0m AVs AND 26.0m B-DOUBLE COMMERCIAL VEHICLES WILL BE SIDE LOADED. VEHICLES UP TO 8.8m MRVs WILL BE ABLE TO REAR LOAD.

NOTE
PROPOSED SIGNAL HARDWARE LOCATIONS ARE INDICATIVE ONLY
The actual locations of proposed pedestals, conduit pits, conduits, etc. shall be determined on site at pre-installation meeting (Hold Point).



GENERAL NOTES	DESIGNED	PAPER SIZE	CLIENT	DOCUMENT INFORMATION	
This drawing is provided for information purposes only and should not be used for construction.	James Laidler	A3	Hale Capital	DESIGN ASSESSMENT	
Base Plan prepared by SB Architects, recieved 17.12.2021.	APPROVED BY	DATE	PROJECT		
Swept path assessments completed at 10 km/h and 300mm clearance.	T. LEWIS	22.12.2021	1846		
	SCALE			FILE NAME	SHEET
	1:2000	NTS	46 Raymond Ave, Matraville	AG1846-01-v05.dwg	AG01

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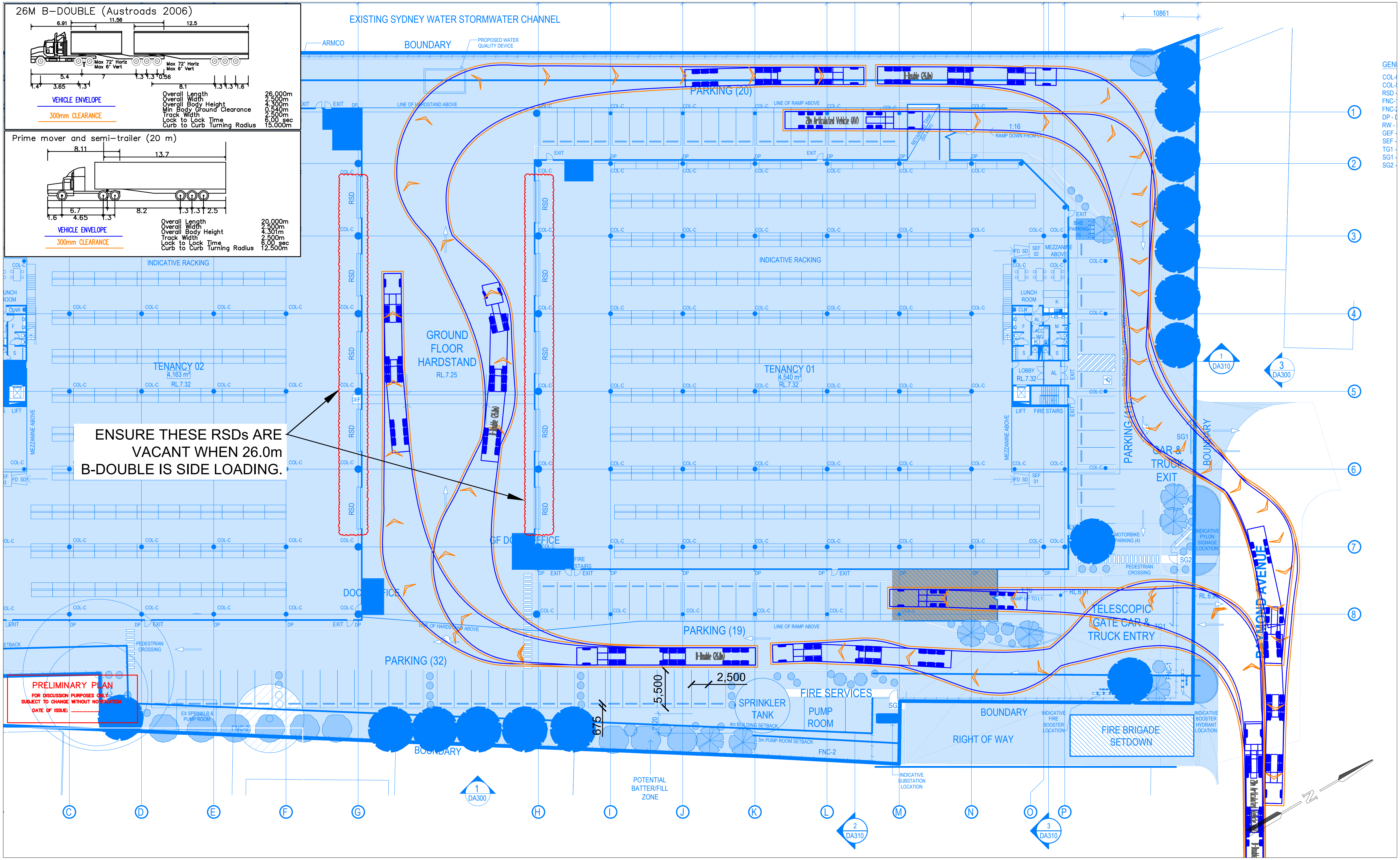
Sydney NSW 2000
info@asongroup.com.au


26M B-DOUBLE (Austroads 2006)
VEHICLE ENVELOPE
300mm CLEARANCE
Overall Length 26.000m
Overall Width 2.500m
Overall Body Height 4.300m
Min Body Ground Clearance 0.540m
Track Width 2.500m
Lock to Lock Time 6.00 sec
Curb to Curb Turning Radius 15.000m
Prime mover and semi-trailer (20 m)
Overall Length 20.000m
Overall Width 2.500m
Overall Body Height 4.301m
Track Width 2.500m
Lock to Lock Time 6.00 sec
Curb to Curb Turning Radius 12.500m
EXISTING SYDNEY WATER STORMWATER CHANNEL
BOUNDARY
ARMCO
PARKING (20)
INDICATIVE RACKING
TENANCY 02
TENANCY 01
GROUND FLOOR HARDSTAND
RL.7.25
ENSURE THESE RSDs ARE VACANT WHEN 26.0m B-DOUBLE IS SIDE LOADING.
PARKING (19)
PARKING (32)
TELESCOPIC GATE CAR & TRUCK ENTRY
CAR & TRUCK EXIT
SPRINKLER TANK
FIRE SERVICES
PUMP ROOM
RIGHT OF WAY
FIRE BRIGADE SETDOWN
RAYMOND AVENUE
POTENTIAL BATTER/FILL ZONE
PRELIMINARY PLAN
FOR DISCUSSION PURPOSES ONLY - SUBJECT TO CHANGE WITHOUT NOTIFICATION
DATE OF ISSUE:

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Swept path assessments completed at 10 km/h and 300mm clearance.

DESIGNED	James Laidler	PAPER SIZE	A3
APPROVED BY	T. LEWIS	DATE	22.12.2021
SCALE	1:500		0 5 10

CLIENT
Hale Capital

PROJECT
1846
46 Raymond Ave, Matraville

DOCUMENT INFORMATION
GROUND FLOOR
SWEPT PATH ASSESSMENT

FILE NAME	SHEET
AG1846-01-v05.dwg	AG02

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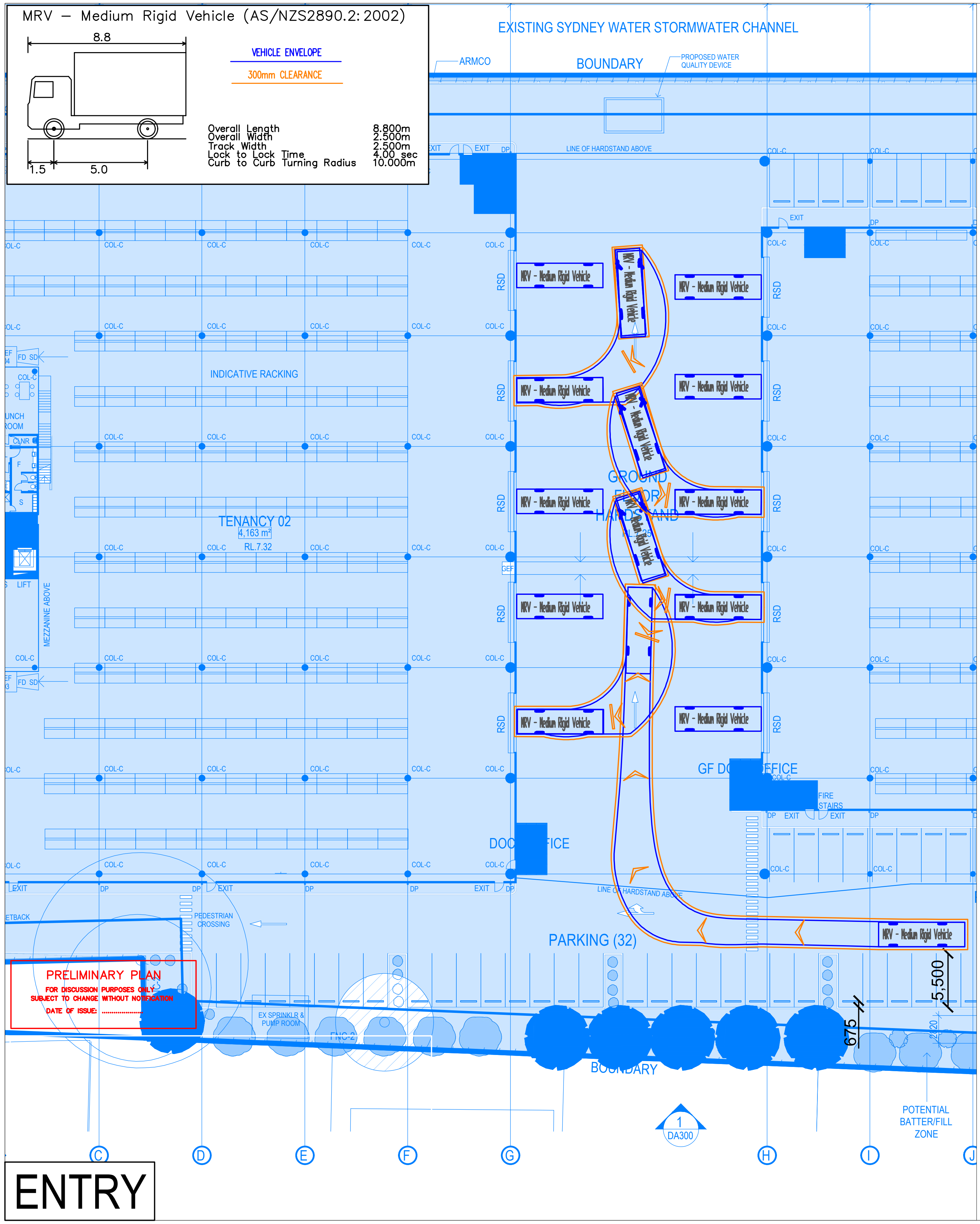

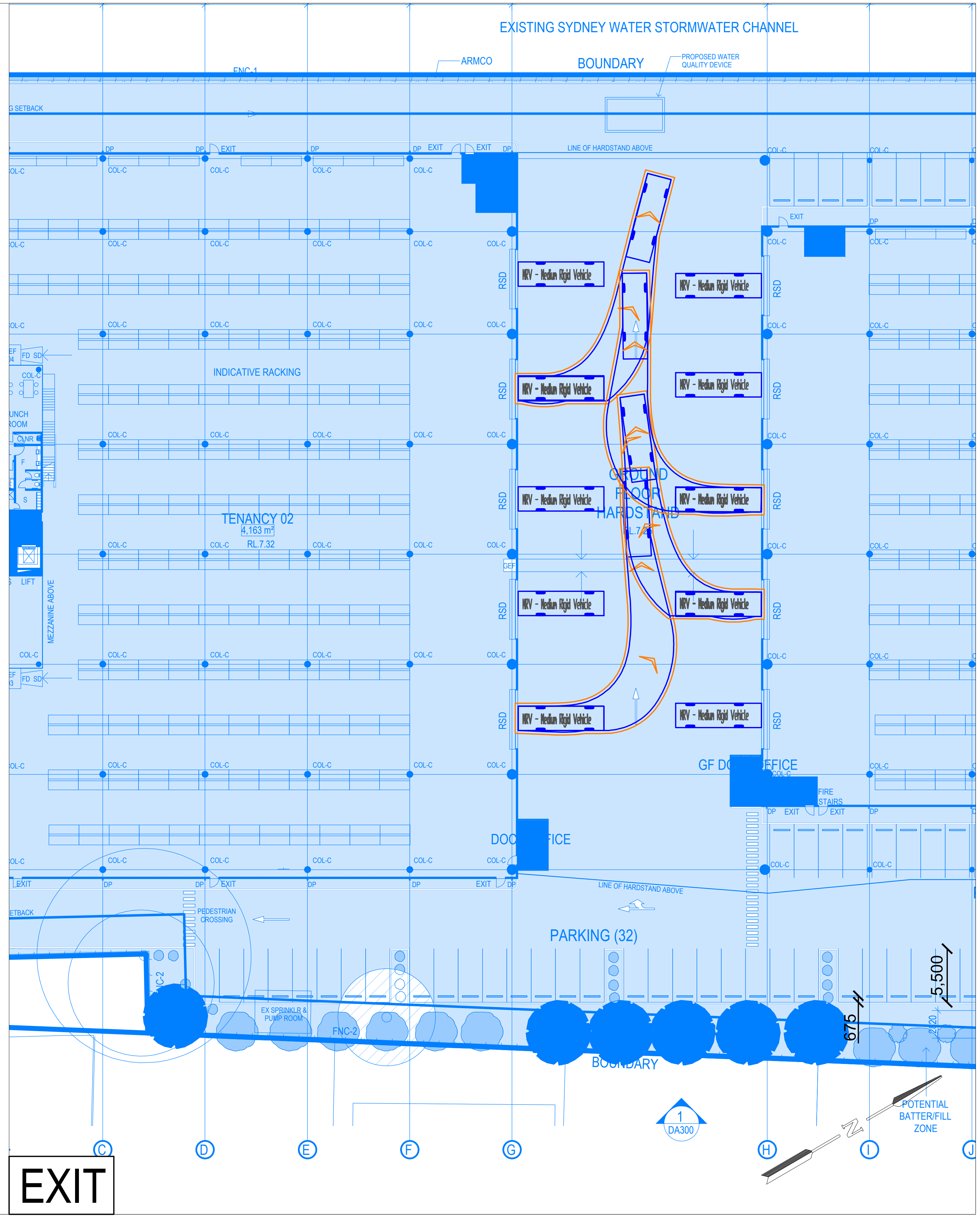

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DESIGNED: James Laidler	PAPER SIZE: A3	CLIENT: Hale Capital	DOCUMENT INFORMATION: GROUND FLOOR — SWEPT PATH ASSESSMENT
APPROVED BY: T. LEWIS	DATE: 22.12.2021	PROJECT: 1846 — 46 Raymond Ave, Matraville	FILE NAME: AG1846-01-v05.dwg
SCALE: 1:500	0 5 10		SHEET: AG03

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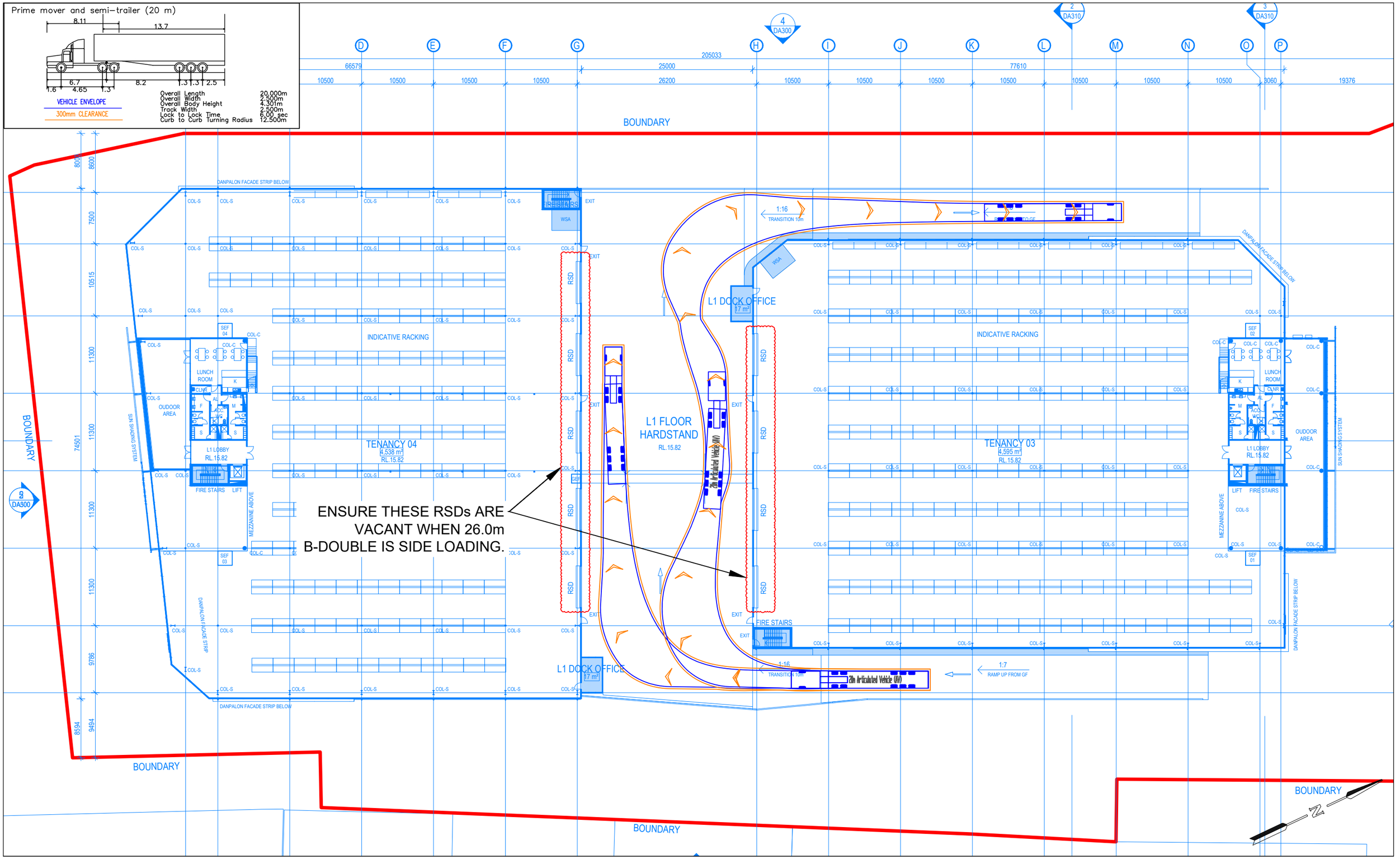

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Swept path assessments completed at 10 km/h and 300mm clearance.

DESIGNED	Osama Hashmi
PAPER SIZE	A3
APPROVED BY	T. LEWIS
DATE	22.12.2021
SCALE	1:500
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CLIENT
Hale Capital

PROJECT
1846
46 Raymond Ave, Matraville

DOCUMENT INFORMATION
FIRST FLOOR
SWEPT PATH ASSESSMENT

FILE NAME	SHEET
AG1846-01-v04.dwg	AG04

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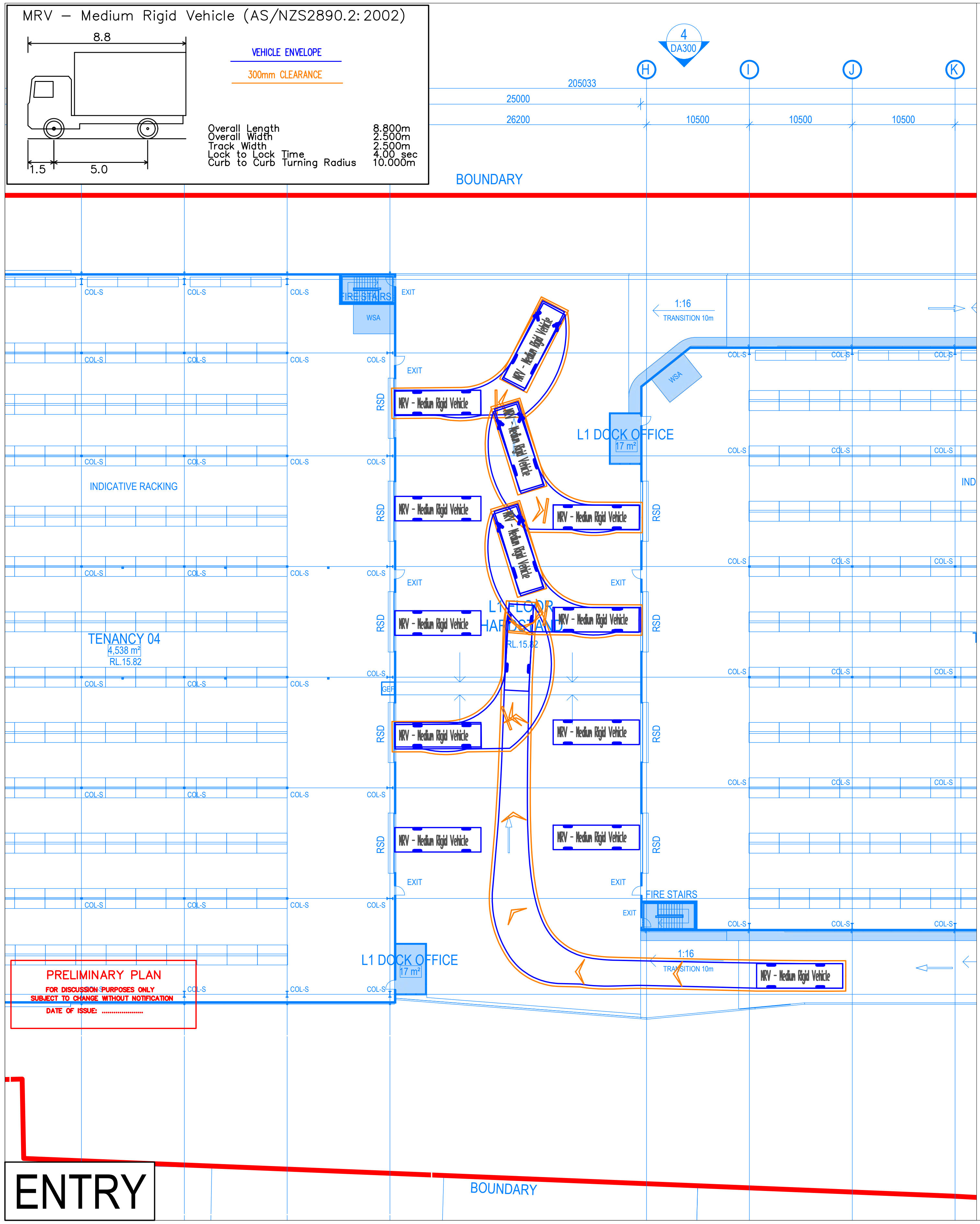

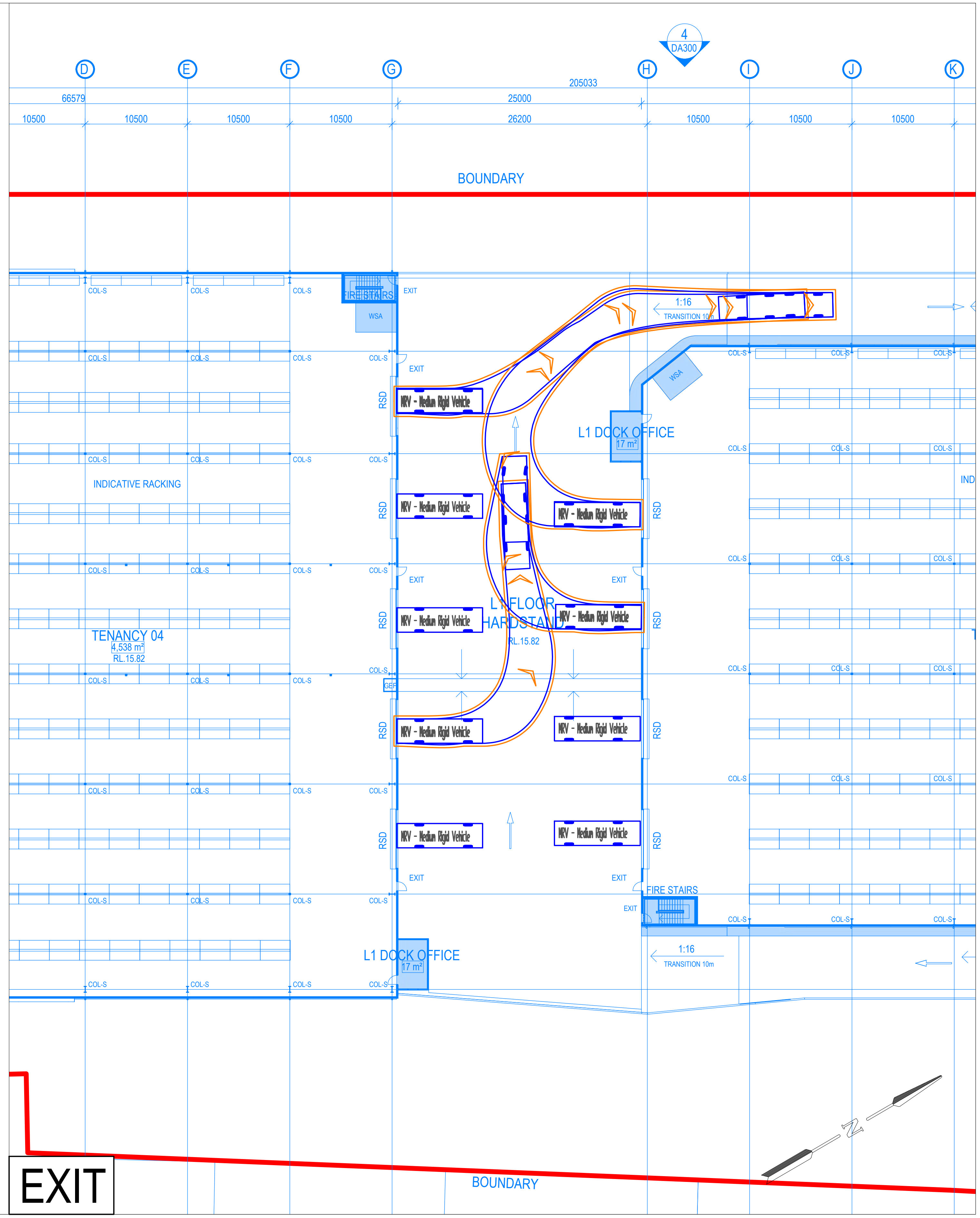

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APPROVED BY: T. LEWIS	DATE: 22.12.2021	PROJECT: 1846
SCALE: 1:500	0 5 10	46 Raymond Ave, Matraville

DOCUMENT INFORMATION

FIRST FLOOR

SWEPT PATH ASSESSMENT

FILE NAME	SHEET
AG1846-01-v04.dwg	AG05

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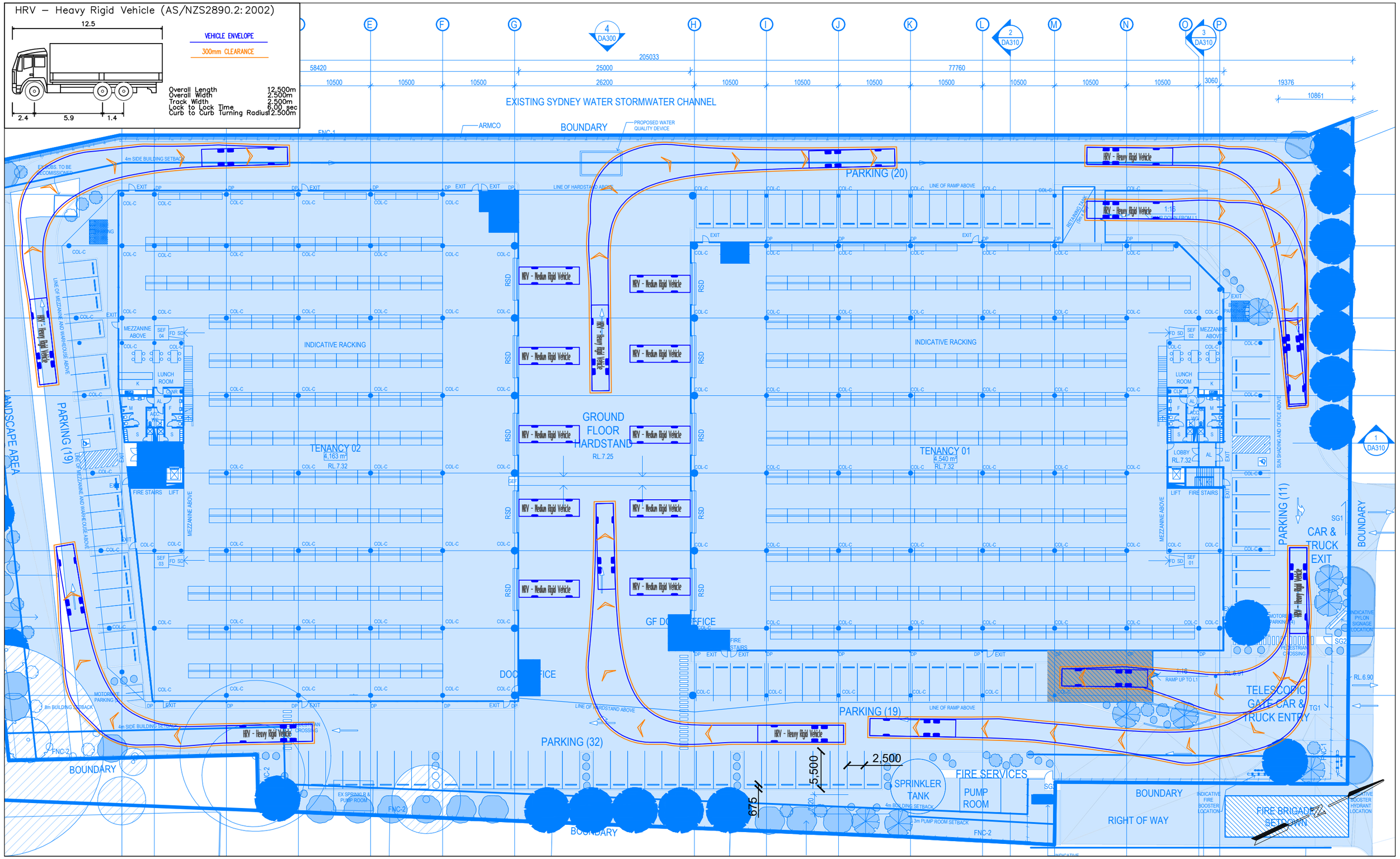
PLOT DATE: 22/12/2021 2:47:07 pm | CAD REFERENCE: C:\Users\Osama Hashmi\OneDrive - Ason Group\1846 - Matraville\AG1846-01-v04.dwg | Osama Hashmi |



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Swept path assessments completed at 10 km/h and 300mm clearance.

DESIGNED	James Laidler
PAPER SIZE	A3
APPROVED BY	T. LEWIS
DATE	22.12.2021
SCALE	1:500
	0 5 10

CLIENT
Hale Capital

PROJECT
1846
46 Raymond Ave, Matraville

DOCUMENT INFORMATION
GROUND FLOOR
SWEPT PATH ASSESSMENT

FILE NAME	SHEET
AG1846-01-v05.dwg	AG06

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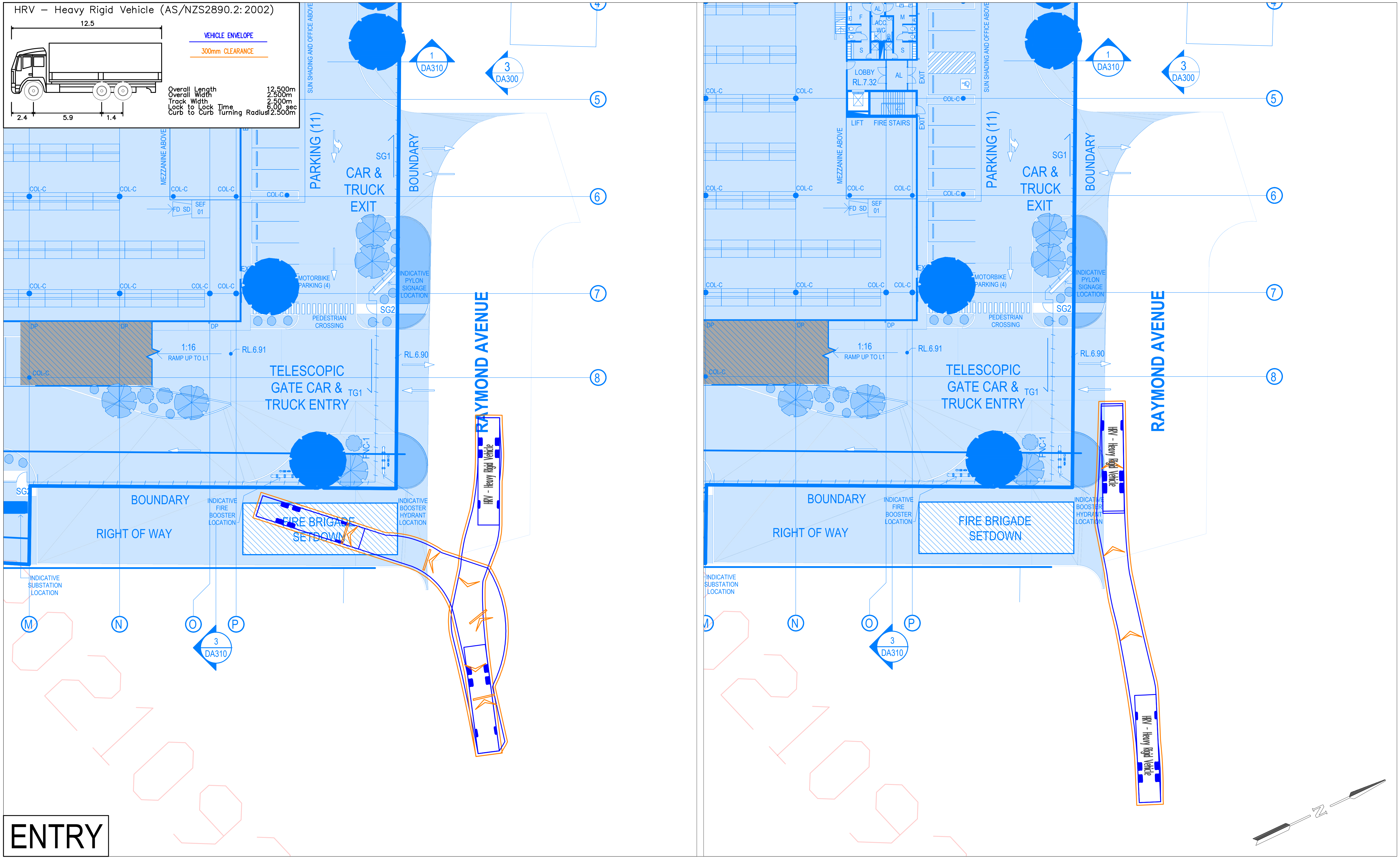

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DESIGNED: James Laidler	PAPER SIZE: A3	CLIENT: Hale Capital	DOCUMENT INFORMATION: GROUND FLOOR — FIRE TRUCK - SWEPT PATH ASSESSMENT
APPROVED BY: T. LEWIS	DATE: 22.12.2021	PROJECT: 1846 — 46 Raymond Ave, Matraville	FILE NAME: AG1846-01-v05.dwg — SHEET: AG07
SCALE: 1:500	0 4 8		

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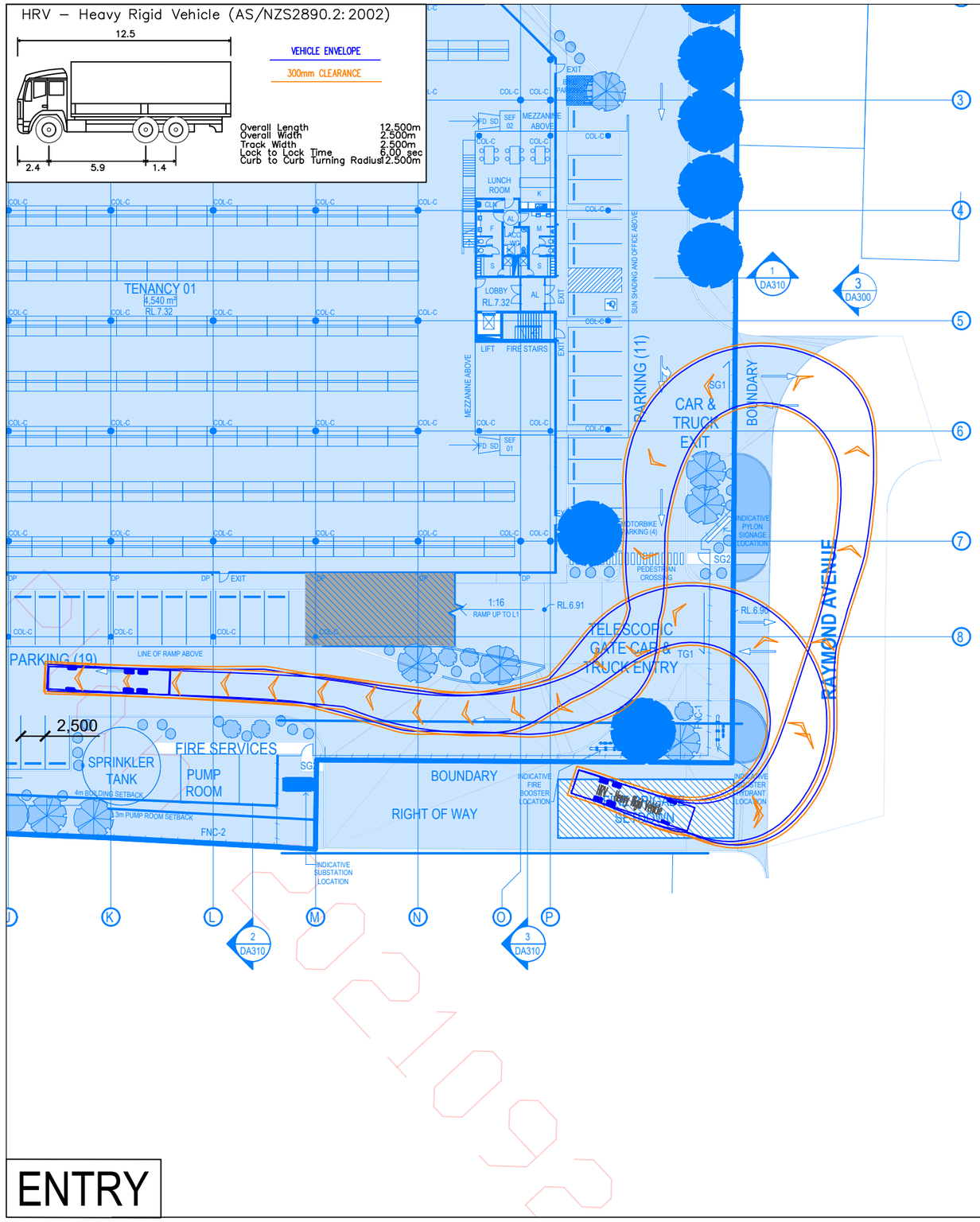
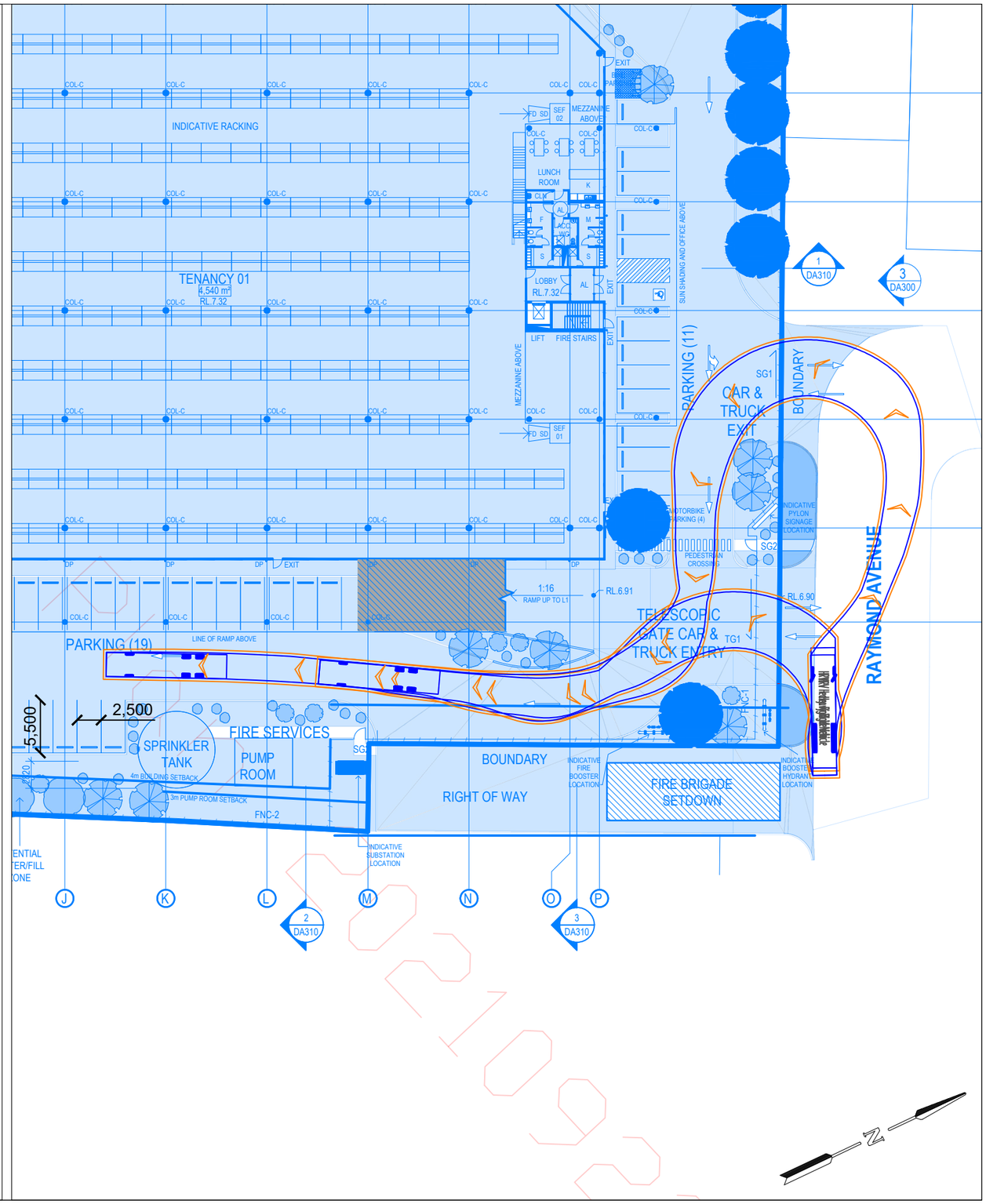
HRV – Heavy Rigid Vehicle (AS/NZS2890.2: 2002)

VEHICLE ENVELOPE

300mm CLEARANCE

Overall Length	12.500m
Overall Width	2.500m
Track Width	2.500m
Lock to Lock Time	6.00 sec
Curb to Curb Turning Radius	2.500m





ENTRY

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Swept path assessments completed at 10 km/h and 300mm clearance.

DESIGNED	James Laidler
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APPROVED BY	T. LEWIS
DATE	22.12.2021
SCALE	1:500
	0 5 10

CLIENT: Hale Capital

PROJECT: 1846

46 Raymond Ave, Matraville

DOCUMENT INFORMATION

GROUND FLOOR

SWEPT PATH ASSESSMENT

FILE NAME	SHEET
AG1846-01-v05.dwg	AG08

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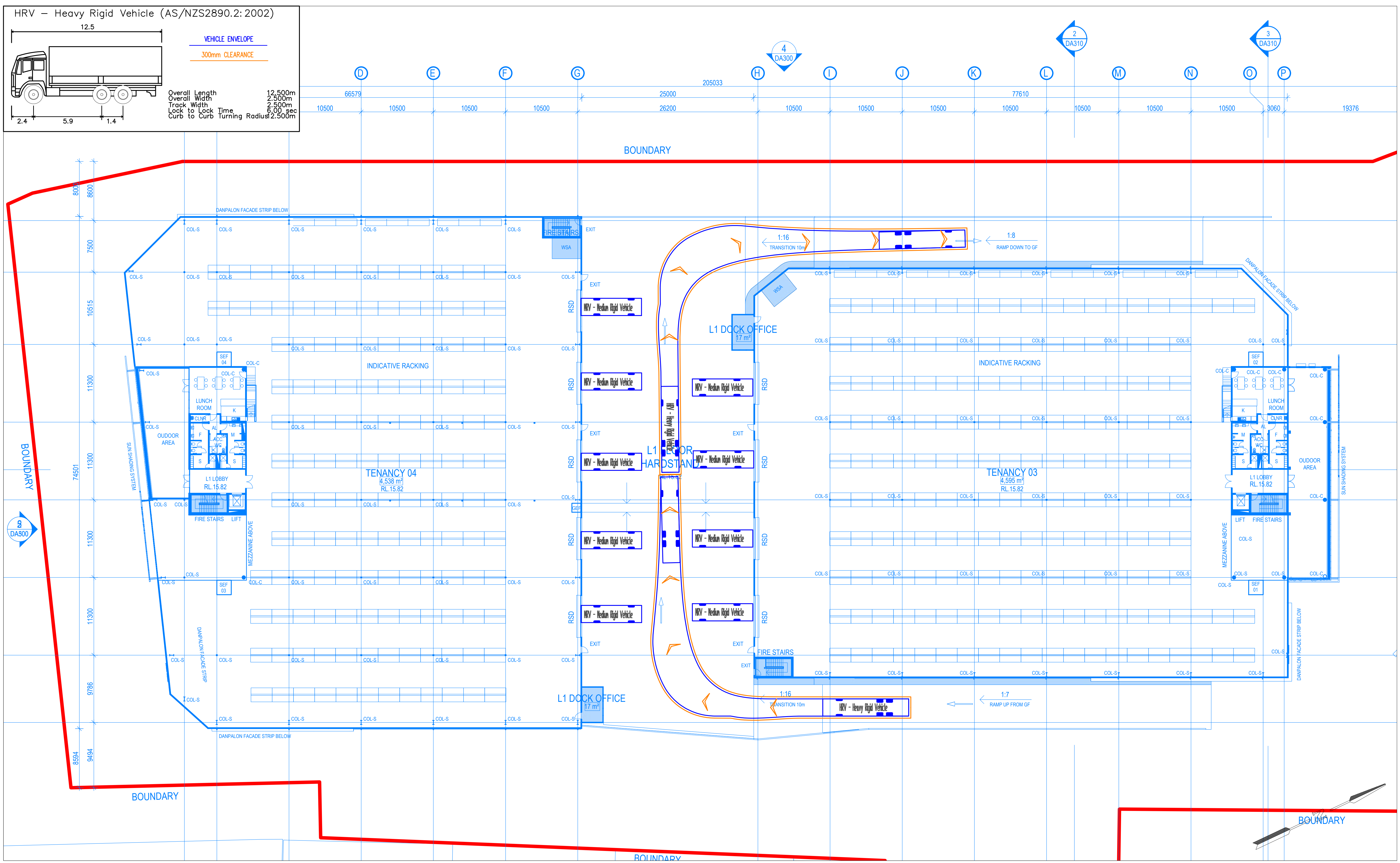

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APPROVED BY: T. LEWIS	DATE: 22.12.2021	PROJECT: 1846	SWEPT PATH ASSESSMENT
SCALE: 1:500	0 5 10	46 Raymond Ave, Matraville	FILE NAME: AG1846-01-v04.dwg / SHEET: AG09

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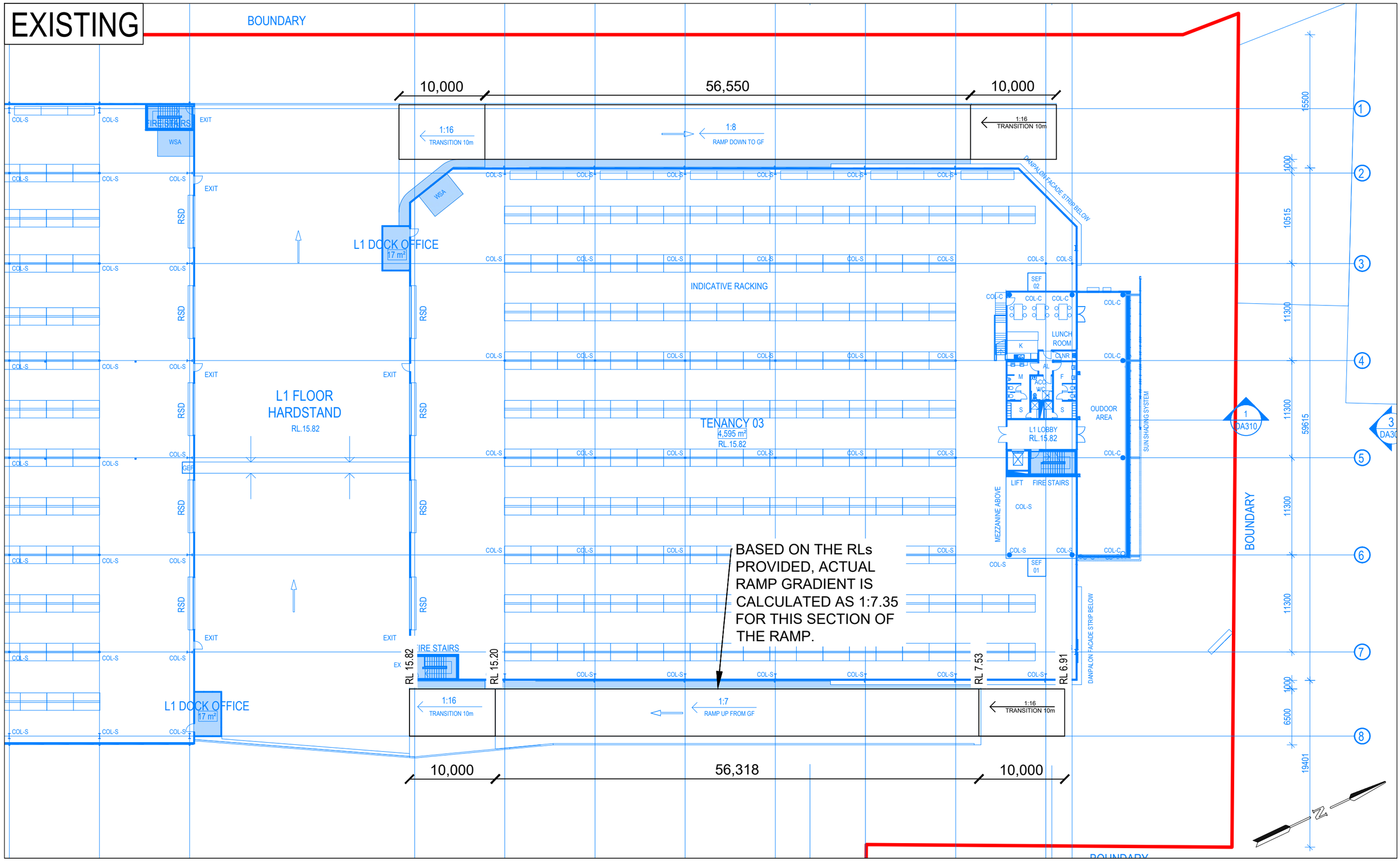

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Swept path assessments completed at 10 km/h and 300mm clearance.

DESIGNED: Osama Hashmi	PAPER SIZE: A3	CLIENT: Hale Capital	DOCUMENT INFORMATION: FIRST FLOOR
APPROVED BY: T. LEWIS	DATE: 22.12.2021	PROJECT: 1846	RAMP ASSESSMENT
SCALE: 1:500	0 5 10	46 Raymond Ave, Matraville	FILE NAME: AG1846-01-v04.dwg / SHEET: AG10

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PROPOSED

BOUNDARY

10,000 | 56,550 | 10,000

1:16 TRANSITION 10m

1:8 RAMP DOWN TO GF

1:16 TRANSITION 10m

DANPALON FACADE STRIP BELOW

NO CHANGE TO THIS RAMP.

INDICATIVE RACKING

L1 DOCK OFFICE 17 m²

L1 FLOOR HARDSTAND RL.15.82

TENANCY 03 4,595 m² RL.15.82

L1 LOBBY RL.15.82

LUNCH ROOM

OUDOOR AREA

SUN SHADING SYSTEM

MEZZANINE ABOVE

LIFT FIRE STAIRS

SEF 02

SEF 01

FIRE STAIRS

WSA

EXIT

RSD

COL-S

COL-C

GEF

RAMP WILL HAVE GRADIENT OF 1:7.0 FOR THIS SECTION (LENGTH OF 36.318m).

RL 15.82 | RL 15.20 | RL 13.95 | RL 8.79 | RL 7.54 | RL 6.91

1:16 TRANSITION 10m | 1:8 TRANSITION 10m | 1:7 RAMP UP FROM GF | 1:8 TRANSITION 10m | 1:16 TRANSITION 10m

10,000 | 10,000 | 36,318 | 10,000 | 10,000

PROVIDE 10m @ 1:8 FALL TRANSITIONS (AS PER AS2890.2:2018)

15500 | 1000 | 10515 | 11300 | 11300 | 59615 | 11300 | 11300 | 1000 | 6500 | 19401

1 DA310

3 DA30

N

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DESIGNED	Osama Hashmi
PAPER SIZE	A3
APPROVED BY	T. LEWIS
DATE	22.12.2021
SCALE	1:500
	0 5 10

CLIENT
Hale Capital

PROJECT
1846
46 Raymond Ave, Matraville

DOCUMENT INFORMATION
FIRST FLOOR
RAMP ASSESSMENT

FILE NAME	SHEET
AG1846-01-v04.dwg	AG11

asongroup
Suite 17.02, Level 17, 1 Castlereagh St
Sydney NSW 2000
info@asongroup.com.au

Appendix C. Driver Code of Conduct

Drivers Code of Conduct

Objectives of the Drivers Code of conduct

- To minimise the impact of earthworks and construction on the local and regional road network.
- Minimise conflict with other road users.
- Minimise road traffic noise; and
- Ensure truck drivers use project approved routes only.

Code of Conduct

The code of conduct requires that while driving any vehicle for work-related purposes. Drivers are to be issues with a copy of the Drivers Code of Conduct, and must comply with all the following:

- Demonstrate safe driving and road safety activities.
- Abide by traffic, road, and environmental legislations.
- Follow site signage and instructions.
- Drivers must only enter and exit the site via the approved entry and exit points and travel routes.

The below activities in any vehicles will be considered as a breach of conduct and will result in removal from site:

- Reckless or dangerous driving causing injury or death.
- Driving whilst disqualified or not correctly licensed.
- Drinking or being under the influence of drugs while driving
- Failing to stop after an incident.
- Loss of demerit points leading to suspension of licence.
- Any actions that warrant the suspension of a licence
- Exceeding the speed limit in place on any permanent or temporary roads
- The use of roads other than internal roads to arrive and/depart from the site to access the wider road network.

Driver Responsibilities

All Drivers on site must:

- abide with the following route to and from the Site.
- Be responsible and accountable for their actions when operating a company vehicle or driving for the purposes of work.
- Display the highest level of professional conduct when always driving a vehicle.
- Ensure they have a current driver licence for the class of vehicle they are driving, and this licence is to be always carried.

- Immediately notify their supervisor or manager if their drivers' licence has been suspended, cancelled, or has had limitations applied.
- Comply with all traffic and road legislation when driving.
- Assess hazards while driving.
- Undertake daily pre-start checks of oil, tyre pressures, radiator, and battery levels of company vehicles they regularly used.
- Drive within the legal speed limits, including driving to the conditions.
- Not drive outside of the approved heavy vehicle routes. All drivers must obey weight, length and height restrictions imposed by the National Vehicle Regulator, and other Government agencies. Heavy Vehicles shall adhere to the routes outlined in Section 0.
- Be cognisant of the noise and emissions requirements imposed within the EIS, and in a broader sense, the NSW/ Australian Road Rules. Works must be constructed with the aim of achieving the construction noise management levels detailed in the Interim Construction Noise Guideline.
- Do not queue on public roads unless a prior approval has been sought.
- Be aware that at no time may a tracked plant be permitted or required on a paved road.
- Never drive under the influence of alcohol or drugs, including prescription and over the counter medication if they cause drowsiness – to do so will merit disciplinary measures.
- All drivers to report to their supervisor if they have been prescribed medication prior to the start of work.
- Wear a safety seat belt at all times when in the vehicle.
- Avoid distraction when driving – the driver will adjust car stereos/mirrors etc. before setting off or pull over safely to do so.
- Report ALL near misses, crashes, and scrapes to their manager,
- Report infringements to a manager at the earliest opportunity.
- Report vehicle defects to a manager prior to the next use of the vehicle.
- Follow the approved site access/egress routes only.
- Follow speed limits as imposed within the estate.
- Keep loads covered at all times.

The Site Team Responsibilities

The Contractor is responsible to take all steps necessary to ensure company vehicles are as safe as possible and will not require staff to drive under conditions that are unsafe.

This will be achieved by undertaking the following:

- Ensure that all drivers adhere to the designated heavy vehicle routes as required by the route designated above. If a driver accesses the Site contrary to the approved routes, then approval to drive to and from the Site will be revoked by Management.
- Ensuring all vehicles are well maintained and that the equipment enhances driver, operator, and passenger safety by way of:
  - Pre-commencement checks for all new plant arriving on-site and prior to undertaking any work.
  - Daily prestart inspections for all plant, vehicles, and equipment currently on-site.
  - All construction plant must be fitted with a flashing light, fire extinguisher and reverse alarms (or squawkers).
  - Ensure all operators onsite have a current verification of competency (VOC) for their current driver's licence of the appropriate class.
- Ensure maintenance requirements are met and recorded.

- Identify driver training needs and arranging appropriate training or re-training. This may include providing the below:
  - Operator VOC assessment as part of all inductions.
  - Regular Toolbox discussions on safety features, managing fatigue, approved heavy routes, driver responsibility and drink-driving.
- Encouraging Safe Driving behaviour by:
  - Ensuring the subcontractor is informed if their staff become unlicensed.
  - Not covering or reimbursing staff speeding or other infringement notices.
  - Ensuring Legal use of mobile phones in vehicles while driving only
- Encouraging better fuel efficiency by:
  - Use of other transport modes or remote conferencing, whenever practical.
  - Providing training on, and circulating information about, travel planning and efficient driving habits.

Crash or Incident Procedure

- Stop your vehicle as close to it as possible to the scene, making sure you are not hindering traffic. Ensure your own safety first, then help any injured people and seek assistance immediately if required.
- Ensure the following information is noted:
  - Details of the other vehicles and registration numbers
  - Names and addresses of the other vehicle drivers.
  - Names and addresses of witnesses.
  - Insurers details
- Give the following information to the involved parties:
  - Name, address, and company details
- If the damaged vehicle is not occupied, provide a note with your contact details for the owner to contact the company.
- Ensure that the police are contacted should the following circumstances occur:
  - If there is a disagreement over the cause of the crash.
  - If there are injuries.
  - If you damage property other than your own.
- As soon as reasonably practical, report all details gathered to your manager.

Environmental Procedures.

A range of measures shall be implemented to ensure the following.

- No dirt or debris from the construction vehicles is tracked on to the public road network.
- Reduce the impacts to sensitive receivers, including, where practicable, starting noisy equipment away from sensitive receivers and implementing respite periods.
- Watering of dusty activities will be undertaken, or activities temporarily halted and then resumed once weather conditions have improved.
- Containment measures for spillages will be provided at appropriate locations and in close proximity to staff car park areas, dangerous goods stores areas and main Project work areas.

- All vibratory compactors must not be used closer than 30 metres from residential buildings unless vibration monitoring confirms compliance with the vibration criteria, and
- Keep an accurate record which includes the range of measures undertaken to reduce environmental impacts.

Appendix D. Sample Questionnaire

Instructions for Surveyor(s)

1. The Survey Form (over page) should be completed by EVERY PERSON attending the site on a particular day.
2. This survey should be completed SEPARATELY for EACH TRIP undertaken

Travel Mode Questionnaire Survey Form

Date: **Approximate Time:**

Q1. Are you one of the following?

☐ Warehouse staff

☐ Office staff

☐ Courier / office delivery

☐ Casual contractor

☐ Company driver / sub-contractor

☐ Other (Please specify)……

Q2. How did you travel to / from the site today?

☐ Walked only

☐ Bicycle only

☐ Train

☐ Bus

☐ Taxi

☐ Car share vehicle

☐ Motorcycle / scooter

☐ Car (as passenger)

☐ Car (as driver)

☐ Other (Please specify)……..

Q3. If you drove to the site, where did you park?

☐ Not applicable – did not drive

☐ On-site car park

☐ On-site within truck hardstand

☐ Other (Please specify)……

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