Transport Assessment

Compass 2 Warehouse & Distribution Centre, State Significant Development Application

Lot 1 Eastern Creek Drive, Eastern Creek
4/03/2022
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-	01/12/2021	Draft	S. Bandaranayake	R. Butler-Madden
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Glossary

Acronym	Description
AGRD	Austroads Guide to Road Design
AGTM	Austroads Guide to Traffic Management
CC	Construction Certificate
Council	Blacktown City Council
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
MRV	Medium Rigid Vehicle (as defined by AS2890.2:2018)
NHVR	National Heavy Vehicle Regulator
OC	Occupation Certificate
RMS Guide	Transport for New South Wales (formerly Roads and Traffic Authority), Guide to Traffic Generating Developments, 2002
SEPP	State Environmental Planning Policy
SRV	Small Rigid Vehicle (as defined by AS2890.2:2018)
TA	Transport Assessment
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 Overview

Ason Group has been commissioned by Charter Hall to prepare a Transport Assessment (TA) in relation to the State Significant Development Application (SSDA) for a proposed industrial development, currently known as Compass 2 Warehouse & Distribution Centre. The subject site is located at Lot 1, Eastern Creek Drive, Eastern Creek (the Site).

This TA report addresses the relevant traffic, transport and parking implications of the Proposal, including compliance with relevant State and Local Government controls and Australian Standards. The Site is located within the Local Government Area (LGA) of Blacktown City Council and is therefore subject to that Council's controls.

1.2 Secretary's Environmental Assessment Requirements

Industry Specific Secretary's Environmental Assessment Requirements (SEARs) were provided by the NSW Department of Planning, Industry & Environmental (DPIE) on the 8 of November 2021 in relation to the SSD (Application No.: SSD-30923027).

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 TA providing a more detailed analysis of each SEAR.

TABLE 1: DPIE TRAFFIC & TRANSPORT SEARS - SSD-30923027

SEARs Requirement	Response	Section
SEAR 6 Traffic, Transport and Accessibility		
Provide a transport and accessibility impact assessment, which includes:	N/A	
Details of all traffic types and volumes likely to be generated during construction and operation, including a description of key access and haul routes.	Operational traffic flows have been determined at the key intersection of Old Wallgrove Road & Eastern Creek Drive. Construction traffic flows cannot be determined at this time; however, the anticipated construction vehicle mix, Site access provisions and potential haul routes have been clearly identified. The Preliminary CTMP provided as **Appendix E** will be updated to include traffic volumes at the appropriate stage.	**7**
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).	See **Section 7**. The operation of the key Old Wallgrove Road & Eastern Creek Drive intersection has been examined in detail utilising SIDRA intersection analysis.	**7**
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.	Refer to the architectural plan set provided separately. Swept path analysis is provided. With regards to the heavy vehicle access, it is noted that there is approximately 90-100m of queuing capacity between from the entry to the first loading bay. This will allow for 4-5 x 20m Avs to be queued within the Site boundary.	**Appendix A** **Appendix C**

	The conservative estimate based on a generic trip generation assessment detailed in Section 7.1.2 suggests a peak of 54 vehicles per hour, with a peak of 12 heavy vehicles (with a 50:50 arrival/departure profile, or 6 vehicles entering in any one peak hour). As such, it is evident that the current queuing distance is more than sufficient. Appendix C demonstrates that 3 x 26m b-double vehicles could comfortably queue within the property boundary while waiting for an AV to reverse into the first loading bay. It is noted that it is not expect that there would ever be an occurrence where 3 b-doubles would arrive at the site at the same time.	
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.	Refer to architectural plan set provided separately.	**N/A**
Swept path analysis for the largest vehicle requiring access to the development.	Swept path analysis is provided.	**Appendix A**
Details of road upgrades, infrastructure works, or new roads or access points required for the development if necessary.	See architectural plan set for details on Site access points. For heavy vehicles, a one-way circulation system is proposed, with entry via Eastern Creek Drive and exit via Honeycomb Drive. There are no road upgrades or infrastructure works required to accommodate the Proposal.	**7**
Documentation requirements: • **TA: Transport and Accessibility Impact Assessment** • **GTP: Green travel Plan** • **CTMP: Construction Traffic Management Plan**	• TA: Presented within this document. • GTP: A Framework GTP is attached to this report. • CTMP: A Preliminary CTMP is attached to this report.	**Appendix D & Appendix E**

1.3 Reference Documents

The preparation of this TA has been informed by the following key planning documents, transport standards and guidelines:

- Blacktown Development Control Plan (DCP) 2015,
- Blacktown Local Environmental Plan (LEP) 2015,
- Blacktown City Council, *State Environmental Planning Policy No. 59 – Central Western Sydney Economic and Employment Area 2005 – Employment Lands Precinct Plan* (Eastern Creek Precinct Plan);
- TfNSW (formerly Roads and Maritime Services (RMS)), *Guide to Traffic Generating Developments* 2002 (RMS Guide),
- Roads and Maritime Services, *Guide to Traffic Generating Developments Updated Traffic Surveys* (RMS TDT 2013/04a),

- Australian Standard 2890.1:2004 Parking Facilities – Off Street Car Parking (AS 2890.1:2004),
- Australian Standard 2890.2:2018 Parking Facilities – Off Street Commercial Vehicle Facilities (AS 2890.2:2018),
- Australian Standard 2890.3:2015 Parking Facilities – Bicycle Parking (AS 2890.3:2015),
- Australian Standard 2890.6:2009 Parking Facilities – Off Street Parking for People with Disabilities (AS 2890.6:2009),
- TfNSW, *Integrated Public Transport Service Planning Guidelines* 2013 (IPT Planning Guidelines),
- GHD *Old Wallgrove Road Upgrade (Roberts Road - M7 Motorway) Traffic and Transport Report*, dated 30 April 2012 (GHD Report).

2 Overview of Proposal

2.1 The Proposal

The development scheme proposed for this application includes the construction of an industrial development with a total building area of 28,720m^2, a warehouse Gross Floor Area (GFA) of 21,850m^2, 1,750m^2 of ancillary office GFA and 184 on-grade parking spaces.

Further details are provided in the wider Environmental Impact Statement prepared by Willowtree Planning. In summary the proposed development provides for the construction and 24/7 operation of a warehouse and distribution centre at Lot 1 Eastern Creek Drive, Eastern Creek, comprising:

- Minor earthworks involving cut and fill works;
- Site preparation works and servicing;
- Warehouse, main office, ancillary office, dock office, loading docks, carparking, forklift charging room;
- External hardstands and landscaping.

A copy of the proposed site plan prepared by Qanstruct is reproduced at a reduced scale in **Figure 1.**

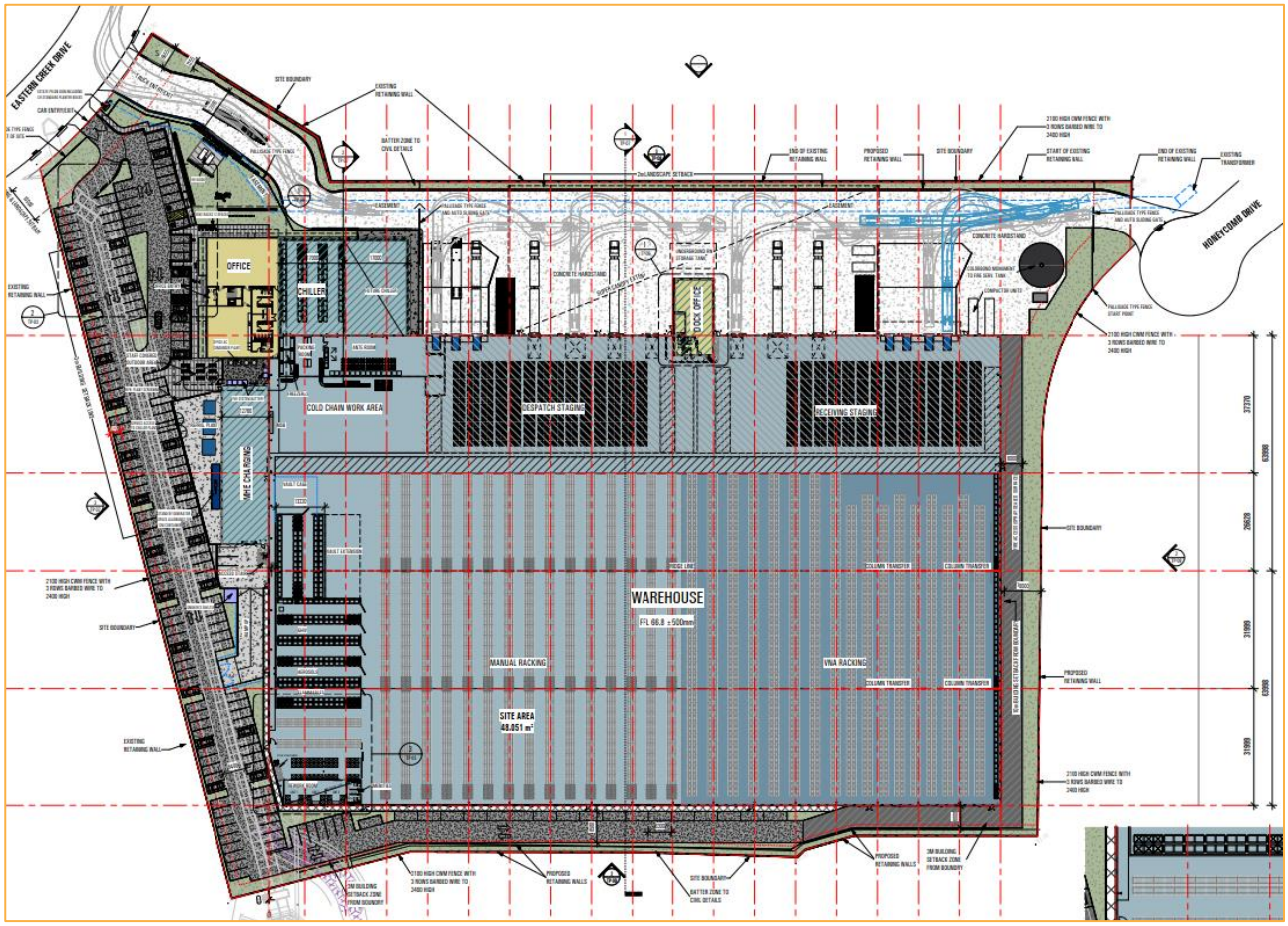


Figure 1: Site Plan

3 The Existing Site

3.1 Location

The Site is comprised of a single Lot (refer to **Table 2**) and is located at Lot 1 Eastern Creek Road, Eastern Creek.

At a regional level, the Site is located approximately 35 kilometres west of the Sydney CBD and 15 kilometres west of the Parramatta CBD. It is zoned *IN1 General Industrial* and is also subject to controls of the State Environmental Planning Policy (Western Sydney Parklands) 2009 (SEPP WSP), as well as Council's controls. The Site is shown in its sub-regional context in **Figure 2**, as well as the broader Eastern Creek area in which it lies.

TABLE 2: SITE DESCRIPTION

Address	Title	Area (Ha)
Lot 1	Lot 1 / DP 1274322	4.81

3.2 Current Land Usage

The Site is currently undeveloped and zoned IN1 - General Industrial under the provisions of the *State Environmental Planning Policy Western Sydney Employment Area* (SEPP WSEA) 2009.

3.3 Site Access

The Site currently has an access point onto Eastern Creek Drive. Eastern Creek Drive connects to Old Wallgrove Road, to the south of the Site. From Old Wallgrove Road, access is available east to the M7 Motorway, and Wallgrove Road; subsequently leading to the M4 motorway and Great Western Highway to the north.

Honeycomb Drive currently terminates in a turning head, to the north of Site. While no access is currently provided directly to the Site, it is envisaged that Honeycomb Drive will provide for an additional access point in the future.

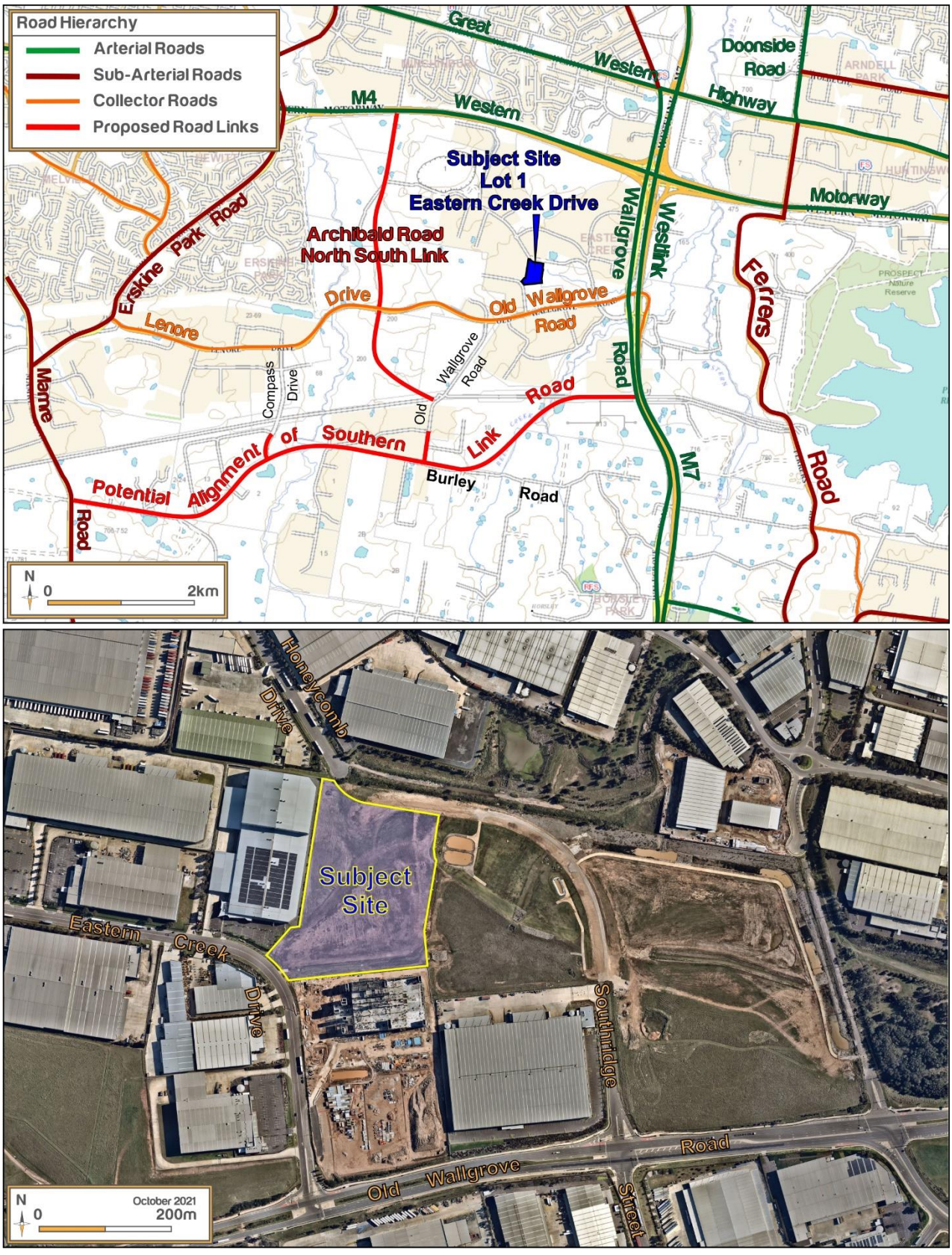


Figure 2: Site Context and Road Network

3.4 The Existing Road Network

The existing road network providing access to the Site is shown in **Table 3**, and detailed further below.

TABLE 3: ROAD NETWORK

Road Name	Jurisdiction	Road Classification	Number of Lanes	Speed Limit
Eastern Creek Drive	Council	Local Road	2 undivided	50km/h
Wonderland Drive	Council	Local Road	2 divided	50km/h
Honeycomb Drive	Council	Local Road	2 divided	50km/h
Old Wallgrove Road	TfNSW	Collector Road	4 divided	80km/h
Wallgrove Road	TfNSW	Collector Road	4 divided	70km/h
Westlink M7 Motorway	TfNSW	Arterial Road	4 divided	100km/h
M4 Motorway	TfNSW	Arterial Road	8 divided	100km/h

3.5 Heavy Vehicle Access

As denoted in the yellow shade in **Figure 3**, the entire Eastern Creek Industrial Area is approved for 25/26m B-double trucks with Old Wallgrove Road being the main heavy vehicle corridor to access the area before travelling onto the M7 Motorway.

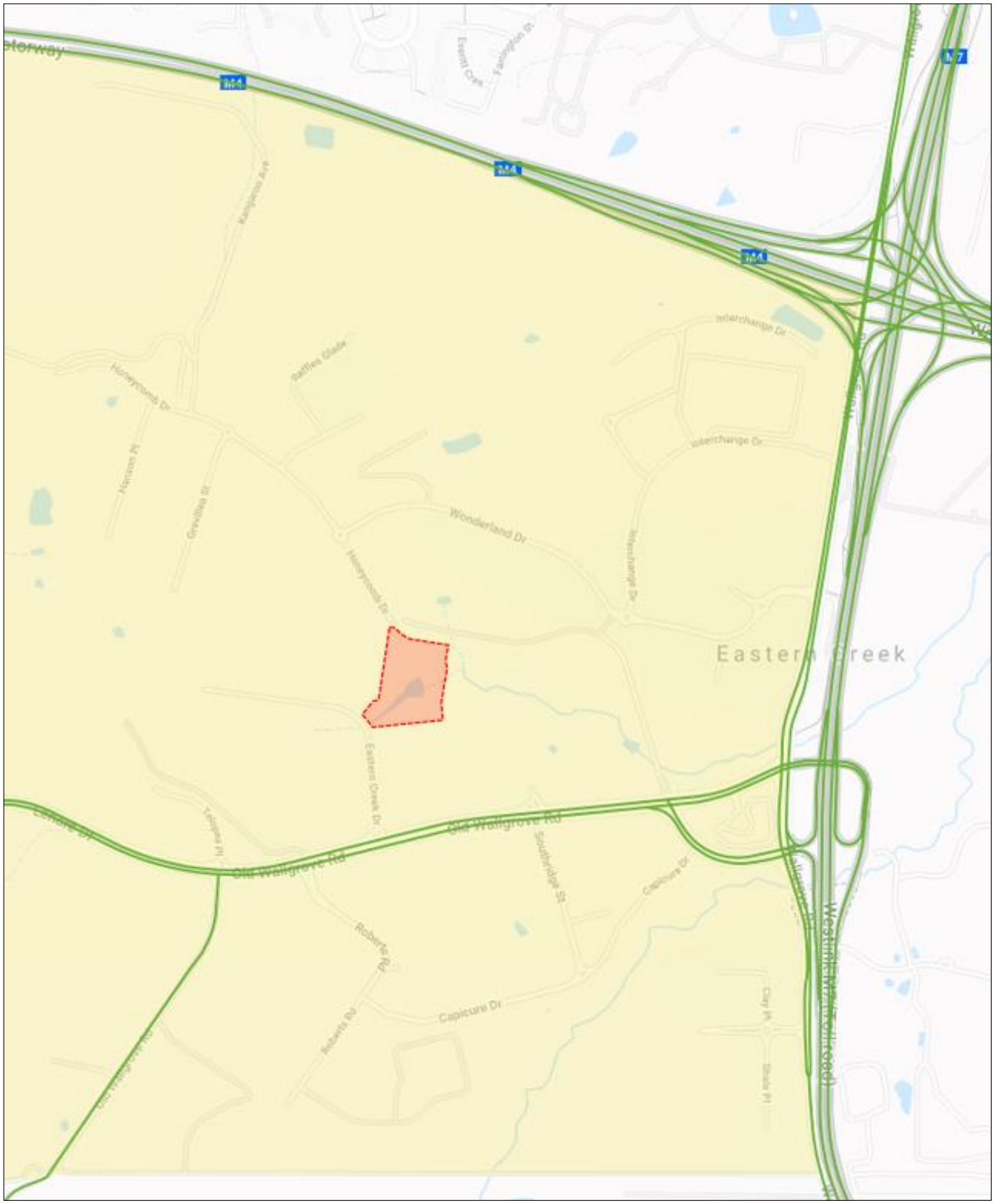


Figure 3: Heavy Vehicle Access Routes

4 Strategic Context

4.1 Western Sydney Economic and Employment Area

The land on which the Site is situated on, falls within Stage 3 of the Eastern Creek Precinct, as defined by Council's *Employment Lands Precinct Plan, Eastern Creek Precinct* (Eastern Creek Precinct Plan) **Figure 4** provides an appreciation of the Site within the Eastern Creek Precinct Plan area.

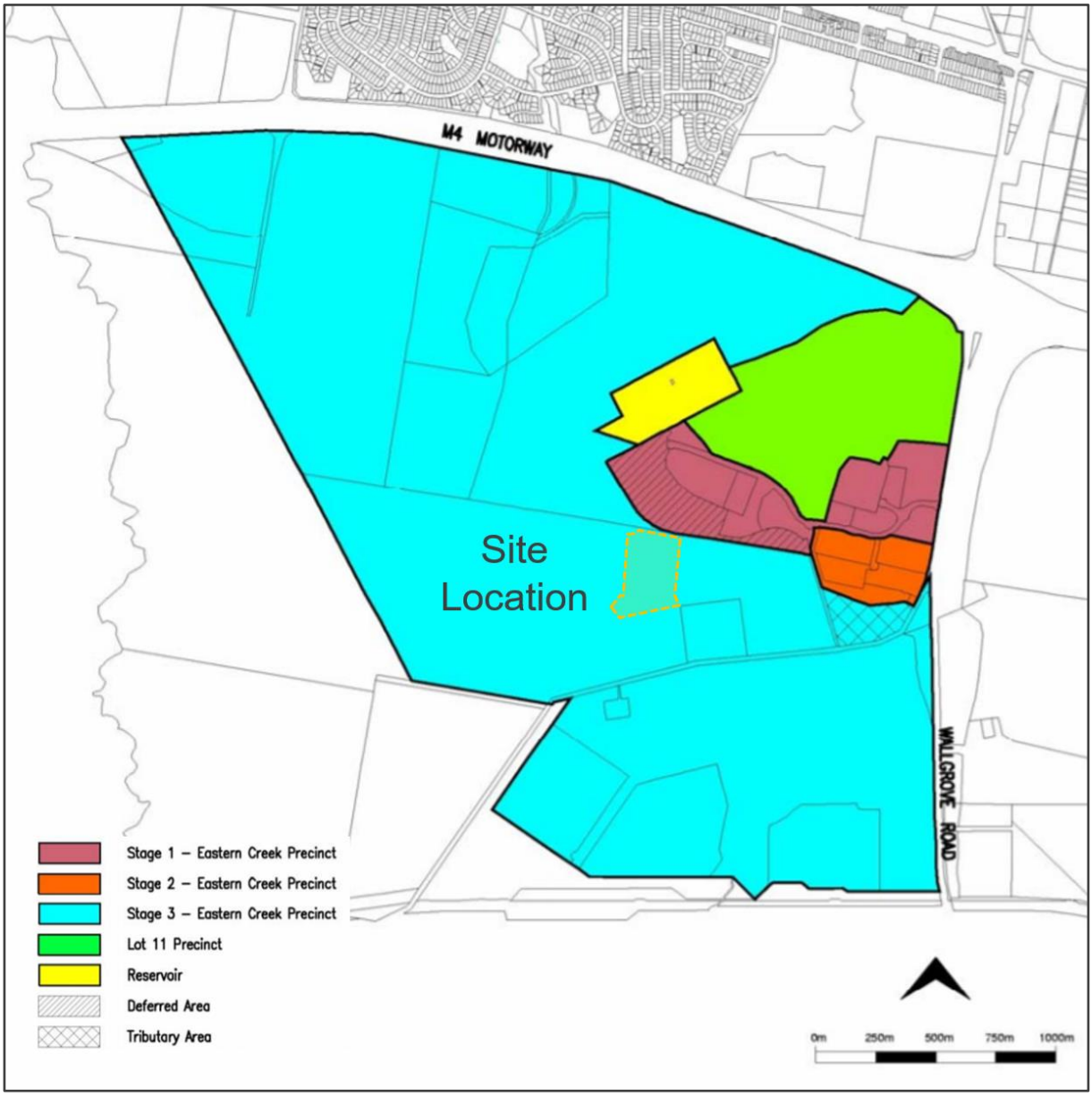


Figure 4: Eastern Creek Precinct Plan Release Area

4.2 Road Network Upgrades

In relation to the Site, the following upgrade works[1] have been completed as part of the Old Wallgrove Road Upgrade (see **Figure 5**):

- Old Wallgrove Road has been upgraded to two lanes in each direction between Southridge Street and Robert Street including a central median to allow for potential three lanes in each direction in the future.
- Upgrade of Old Wallgrove Road / Eastern Creek Drive intersection from priority controlled to signalised.
- Provision of active transport infrastructure in the way of shared paths and footpaths along Old Wallgrove Road.

It is noteworthy that Honeycomb Drive will eventually be extended from the north of the Site to Southridge Street. However, the timeframe for completion of these works is currently not known.

Figure 5: Old Wallgrove Road Completed Upgrades

As part of the planning process for the above works, GHD (on behalf of TfNSW) undertook extensive traffic modelling and analysis using strategic, microsimulation, and local intersection modelling platforms to determine the appropriate road and intersection treatments within the Old Wallgrove Road Upgrade study area.

[1] https://www.rms.nsw.gov.au/projects/01documents/eastern-creek/old-wallgrove-road-community-update-2017-07.pdf

The results were detailed in the GHD Report and were based upon assumptions regarding future land use and associated traffic generation of existing and future development in the area, consistent with planning for the Western Sydney Employment Area (WSEA).

The subject Site is located within the Eastern Creek Precinct, as defined in the GHD Report. This precinct was estimated to have a developed area of 550 hectares under both the 2021 and 2031 design scenarios and generate 21 vehicle trips per hectare over a two-hour peak period, equating to a total traffic generation of 11,550 vehicle trips in the two-hour AM peak.

4.3 Archbold Road

TfNSW is planning for a future upgrade and extension of Archbold Road[2]. The existing two-kilometre section of Archbold Road which lies to the north-west of the Site, would be upgraded, and the road extended by a further three kilometres south to Old Wallgrove Road in Eastern Creek.

It is anticipated that the planned upgrade and extension of Archbold Road would support the development of the Western Sydney Employment Area (WSEA) by providing a reliable, safe and efficient north-south route serving future transport needs in the region. A concept design of the Archbold Road Upgrade and Extension is provided at a reduced scale in **Figure 6**.

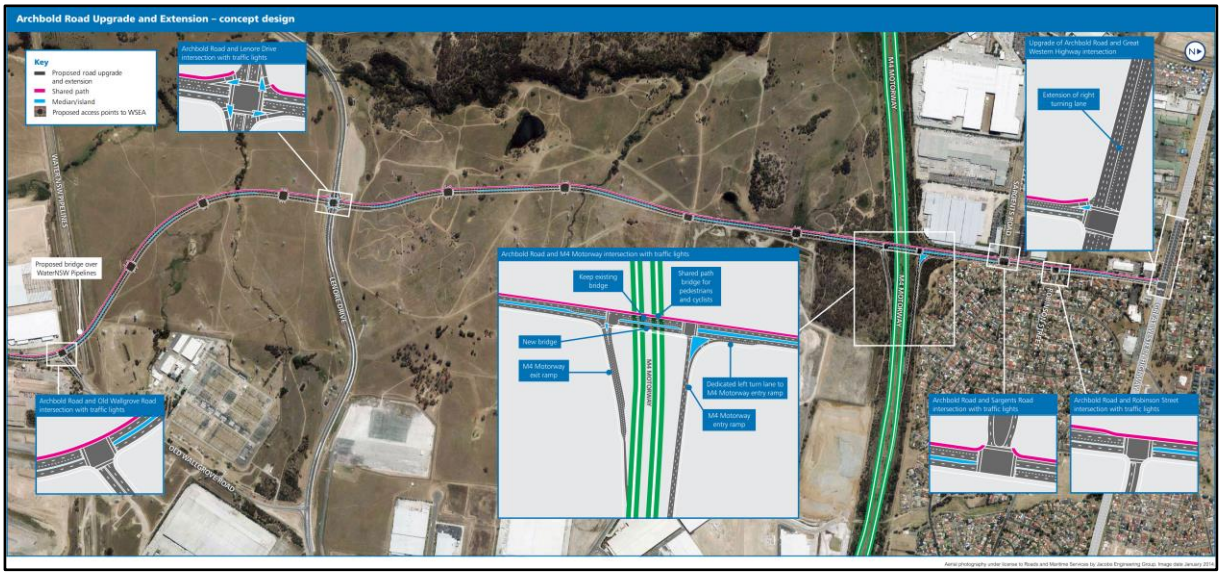


Figure 6: Archbold Road Upgrade

Ason Group is not aware of the exact timing for this upgrade at this stage. However, in the longer-term future when this additional connection is constructed, it is expected to provide an additional vehicular connectivity to the wider road network for the proposed development traffic travelling to / from the Site.

[2] https://www.rms.nsw.gov.au/projects/archbold-road/index.html

5 Public and Active Transport

5.1 Public Transport

The *Integrated Public Transport Service Planning Guidelines*, 2013 (PTS Planning Guidelines) as prepared by TfNSW, state that public transport service coverage within 400 – 800 metres (approximately 5-10 minutes' walk) influences travel mode choices. Public transport mode options in vicinity of the Site are shown in **Figure 7**.

5.1.1 Bus Services

The Site is located within 400m walking distance of several bus stops located along Old Wallgrove, Honeycomb Drive and Wonderland Drive as illustrated in Figure 7 and the bus services to these bus stops are detailed with the associated frequencies in **Table 4**.

The services which travel in proximity to the Site include the 723 and 738 bus routes, connecting Mt. Druitt Railway Station to Eastern Creek and Horsley Park, and the 835 bus route, connecting St. Mary's Railway Station to the Prairiewood T-Way Station.

TABLE 4: BUS SERVICES

Route No.	Route Name	Stops	Frequency
723	Mt Druitt to Blacktown	Mt Druitt, Rooty Hill, Eastern Creek, Minchinbury, Huntingwood, Arndell Park, Blacktown	AM Peak: 15-20 minutes PM Peak: 20 minutes Off Peak: 60 minutes
738	Mt Druitt Station to Rooty Hill	Mt Druitt. Rooty Hill, Eastern Creek, Horsley Park, Minchinbury, Rooty Hill	AM Peak: 20 minutes PM Peak: 20 minutes Off Peak: 30 minutes
835	Western Sydney University to Prairiewood	Penrith, St Marys, St Clair, Eastern Creek, Horsley Park, Bossley Park	AM Peak: 30 minutes PM Peak: 30 minutes Off Peak: 30 minutes

5.1.2 Train Services

With regard for accessibility to the existing rail network, the Site is not situated within walking distance of a train station. However, with reference to Figure 7, Rooty Hill station serves as the closest in proximity to the Site, some 7km away with buses 723 and 738 (Table 4) providing access.

Serviceably details are provided in **Table 5** below.

TABLE 5: TRAIN FREQUENCIES

Station - Line	To City	From City	Total
Rooty Hill Station - via Main Western line			
Morning Peak Hour (8-9AM)	4	4	8
Off Peak Hour	4	4	8
Afternoon Peak Hour (5-6PM)	4	6	10

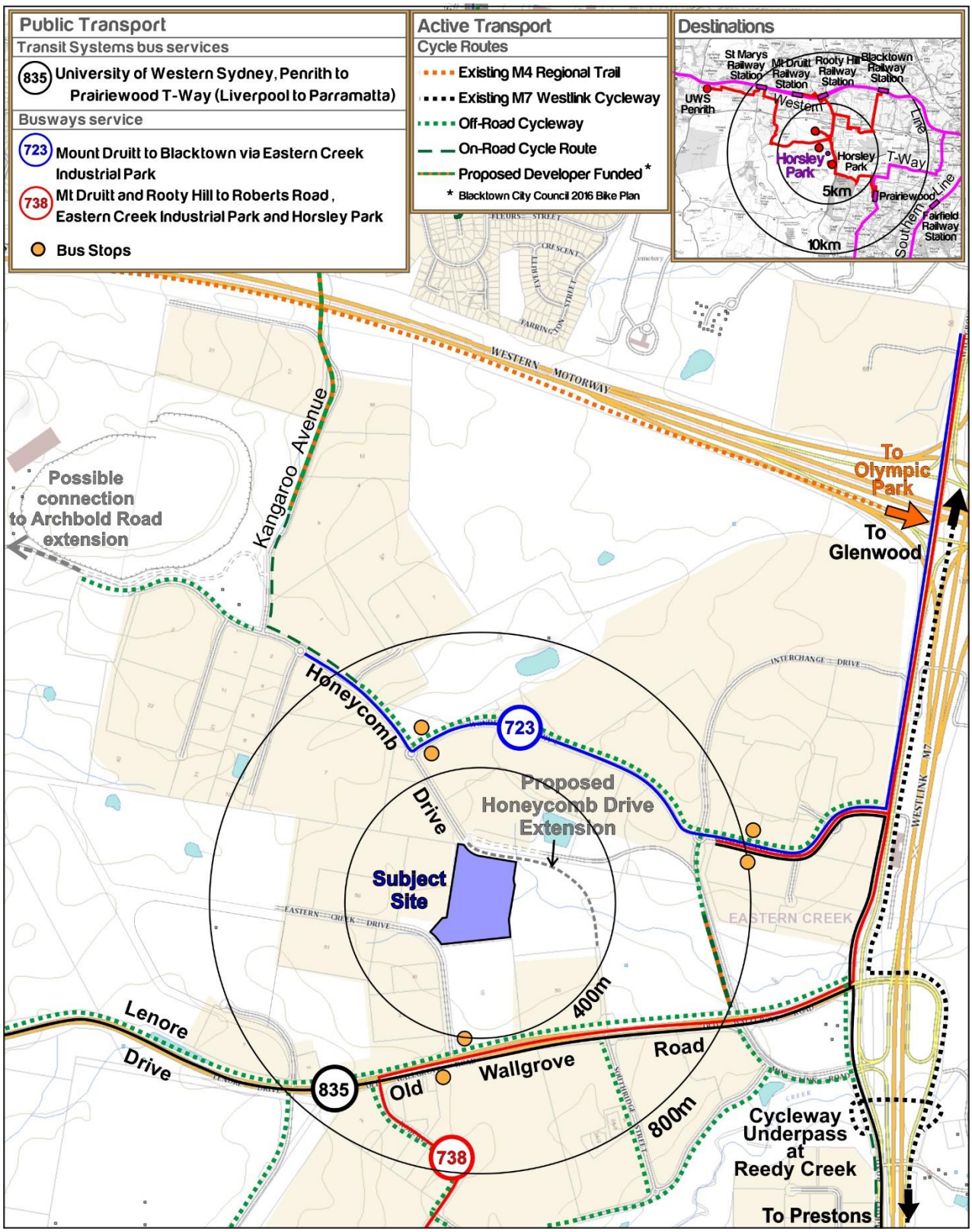


Figure 7: Public Transport Accessibility

5.2 Active Transport

Pedestrian infrastructure is not available on either side of Eastern Creek Drive however, there are shared paths along the northern side of Old Wallgrove Road. These shared paths connect with the Westlink M7 Shared Path, which extends along the western side of the Westlink M7 Motorway. In addition, the cycle lanes on the M4 cater for regional bicycle travel.

To the southern side of Old Wallgrove Road, footpaths are provided which are connected by a signalised crossing at the intersection with Eastern Creek Drive. Signalised pedestrian crossings are also provided at the slip lanes on Eastern Creek Drive and pedestrian footpaths are provided along the length of both sides of Honeycomb Drive which terminates just ahead of the cul-de-sac.

6 Parking Assessment

6.1 Car Parking

In developing the parking provision for the Proposal, parking demand vs. supply analysis has been undertaken. This analysis gives consideration to both Council controls and the RMS Guide requirements, as well as establishment of the demand generated by the staffing requirements of the proposed occupier.

6.1.1 Eastern Creek Precinct Plan Requirements (Council Controls)

Table 5 of Council's Eastern Creek Plan provides the following car parking requirements for industrial uses:

- Buildings 7,500 m^2 or less: 1 space per 100 m^2 GFA.
- Buildings greater than 7,500 m^2 GFA: 1 space per 200 m^2 GFA only for the area in excess of 7,500 where there is a specific end user which would not demand a higher rate and where employee parking is adequately catered for.
- Commercial / Office: 1 space per 40 m^2 GFA.

Accordingly, the required car parking spaces for each component of the proposed development are presented in **Table 6.**

TABLE 6: COUNCIL CAR PARK REQUIREMENTS

Building Component	Yield (m^2)	SEPP Parking Requirement	Parking Proposed
Warehouse	21,850	147	184
Ancillary Office	1,750	44	
Total	**23,450**	**191**	**184**

With reference to the table above, the current development scheme would require 191 car parking spaces based on the controls of the Eastern Creek Precinct Plan. The Site and Ground Floor Plan proposes 184 car parking spaces, which results in a technical deficit of 7 car parking spaces (or a 4% deficit) when considered against Council's controls.

Given the minor deficiency, the Proposal is still considered acceptable. This notable when compared against parking requirements for other similar sites in Western Sydney, as well as in consideration for the staffing levels of the prospective tenant, as detailed in the following sections.

6.1.2 RMS Guide Rates and Broader Western Sydney Rates

RMS Guide rates have been established having regard for actual parking surveys for numerous industrial sites, to arrive at a realistic parking rate which would be expected to represent such development. In this regard, the RMS Guide recommends the following rates for warehouse developments:

- 1 space per 300 m^2 GFA for warehouse GFA.

On the basis of the RMS Guide rates, **Table 7** summarises the parking requirements**.**

TABLE 7: RMS GUIDE CAR PARKING REQUIREMENTS

Building Component	Yield (m^2)	RMS Parking Requirement	Parking Proposed
Warehouse	21,700	73	165
Ancillary Office	1,750	44	
Total	**23,450**	**117**	**165**

With reference to the above, the proposed parking provision is greater than the number of parking spaces anticipated to be required by the RMS Guide by 67 car parking spaces.

It is worth noting that parking rates consistent with the RMS Guide have been adopted for the Mamre Road Precinct (MRP). The MRP forms one the Western Sydney Aerotropolis initial precincts and is covered by the controls of the WSEA SEPP; the DCP was finalised on 19 November 2021. The MRP provides an example of current practice with regard to parking in the WSEA, with the adopted rates more accurately reflecting a shift to more automation in industrial warehouses. Further, it recognises that restrictive measures to car parking can assist in the shift to more sustainable travel.

While the proposed parking provision is greater than the requirements of the RMS Guide, this comparison against the RMS Guide suggests that a deficit of 7 spaces against Council's controls is entirely acceptable.

6.1.3 First Principles Assessment

It is understood that there is currently a prospective occupier; the requirements of which has informed the Proposal. This includes consideration of the staffing requirements against the proposed parking provisions.

The following information and assumptions have been adopted in the following first principles assessment parking assessment.

- A maximum of 166 staff (136 warehouse, 30 office) will be working on-site at any one time.
- On the basis of 2016 Journey to Work (JTW) data, it is anticipated that 90% of employees will drive to Site.

Based on the above, the parking requirement is 150 spaces, the provision of 184 spaces therefore exceeds the requirements of the tenant by 34 spaces.

6.1.4 Accessible Parking

With regards to accessible parking, Section 10.6 of the Eastern Creek Precinct Plan provides the following:

- Developments of more than 50 car parking spaces must provide at least 2% of those spaces for disabled drivers, clearly marked and signposted for those purposes.

Application of this rate to the proposed on-site parking provision results in a requirement to provide 4 accessible parking spaces. Accordingly, the Proposal will provide for 4 accessible parking spaces. It is expected that this will form a suitable condition of consent.

Accessible spaces are to be located within proximity of building entrances, where possible, and designed in accordance with AS2890.6:2009.

6.1.5 Electric Vehicle Charging Bays

While there is no specific requirement for Electric Vehicle charging bays, a total of 6 bays have been provided.

6.2 Bicycle parking

With regards to Bicycle Parking, Clause 6.4.7 of the DCP provides the following:

"Applicants are encouraged to incorporate, in the design of their buildings, safe storage/parking areas for bicycles, with adequate shower and change facilities provided for staff (where appropriate)."

Aside from the above, there is no reference to the number of bicycle parking required. In the absence of this, reference has been made to DPIE's *Planning Guidelines for Walking and Cycling* (December 2004).

Accordingly, the following bicycle rates should be considered:

- Staff Bicycle Parking Requirement: 3-5% of staff number
- Visitor Bicycle Parking Requirement: 5-10% of staff number

As mentioned in 6.1.3 the prospective occupier of the Warehouse is known, the staffing requirements are already understood. Applying the rates above to the staff numbers provided yields the following bicycle space requirement:

- Staff Bicycle Parking Requirement: 5 - 9 spaces
- Visitor Bicycle parking Requirement: 9 - 7 spaces

The Proposal currently provides for 12 bicycle racks, and therefore is consistent with these requirements.

7 Traffic Assessment

7.1 Traffic Generation

7.1.1 WSEA Adopted Rates

The traffic modelling undertaken for the now completed Old Wallgrove Road Upgrade Project adopted the following trip generation rates, as detailed in the GHD Report:

- **Eastern Creek Precinct: 21 trips per hectare for two-hour peak period,**
- Ropes Creek Precinct: 10 trips per hectare for two-hour peak period,
- Erskine Park Employment Area: 10 trips per hectare for two-hour peak period, and
- Lands south of Sydney Water Pipeline: 21 trips per hectare for two-hour peak period.

The subject Site is located within the *Eastern Creek Precinct*, which was forecast by GHD to generate traffic at a rate of 21 trips per hectare over a two-hour peak period, or approximately 10.5 trips per hectare during the peak hour. The intersections surrounding the Site have been upgraded as part of the Old Wallgrove Upgrade to cater for this level of traffic generation.

The Site comprises approximately 4.8ha of land. Application of the GHD trip rate to this area results in a forecast traffic generation of 51 vehicle trips per peak hour.

7.1.2 Comparative Assessment

In more recent times, assessment of traffic impacts within WSEA have adopted rates based upon the building area (as opposed to site area). For example, the MRP assessments have adopted the following rates:

- 0.23 trips per 100m^2 GFA in the AM peak;
- 0.24 trips per 100m^2 GFA in the PM peak; and;
- 2.91 daily trips per 100m^2 GFA.

The application of the above rates to the proposed development, which provides for a GFA of 23,600m² in area, provides an estimated trip generation of:

- 54 veh/hr in the AM peak;
- 57 veh/hr in the PM peak; and
- 687 vehicles per day.

This volume of trips is generally consistent with the predicted Site generation that underpins the GHD study (51 veh/hr).

As such, it is evident that the Proposal is consistent with the assumptions made within the traffic modelling which informed the road network which has been delivered.

A breakdown of the Site's daily traffic profile on the basis of the MRP trip rates is shown in **Appendix A**. This has been established on the basis of survey data, undertaken for the purposes of Ason Group's extensive work on the MRP traffic assessment. It is note that a first principles assessment has been conducted on the basis of the tenant specific requirements. As such, the traffic flows in Appendix A provide for the average user for information purposes only.

Further, it is noted that the flows shown in Appendix A provide for an assessment of the switch form B-double use to A-double use, which is expected to occur in Western Sydney. This is again based on work undertaken in the MRP and has been provided for information purposes. Noting that the Site has been designed to accommodate a maximum of 26m B-double vehicles, it is expected that this Site could generate 48 B-double vehicles, on the basis of *application of generic trip rates*.

7.1.3 First Principles Assessment

Operational information is now known for the Proposal as a result of the prospective occupier informing the detailed design. As such, a more detailed assessment of the traffic generation has been undertaken for this component of the development.

The following information and assumptions for the operation of the Proposal have been adopted in the first principles trip generation assessment. The following information has been provided by the tenant who currently operates a similar site and is based on their specific operational requirements:

- Warehouse hours: 24 hours, 7 days a week, it is expected that the first shift would start at 5:00am, with subsequent shift changeovers at 1:00pm and 9:00pm (i.e. 3 x 8 hour shifts every 24 hours). The shift change overs at 1:00pm and 9:00pm will be slightly staggered, so not all staff arrive / depart in the 10-15 minutes before and after the shift change over.
- Office hours: assumed 8:00am - 4:00pm for a conservative assessment (note some office staff will arrive on-site at 6:00am).
- On the basis of 2016 Journey to Work data, it is assumed 90% of employees will drive to Site (with the other 10% travelling via other modes, i.e. walking/ cycling/ catching public transport/ car-pooling).
- Warehouse staff: peak of 136 per shift.

  Noting the above shift times, it is expected that warehouse staff movement would be outside of road network peak hours.
- Office staff: 30.

  Noting that there are 30 office staff, and assuming a conservative assessment where all will travel to Site during the morning peak hour and leave in the afternoon peak, then there would be 28 veh/h associated with the office component.
- The requirements for truck deliveries, on the basis of the information provided by the tenant, is detailed in **Table 8**.
- On the basis of Table 8, the vehicle movements associated with the warehouse delivery operation is 58 heavy vehicle movements per day (in and out movements); and 28 light vehicle movements (i.e. van movements).

  Assuming truck movements are spread over the course of a 24-hour day, there would be a maximum of 4 movements during the morning and afternoon peak hours.

TABLE 8: DAILY SITE TRUCK DELIVERY TOTAL MOVEMENTS

	Inbound (Receiving)	Outbound (Despatch)
B-double	8	12
Semi-trailer	16	4
Rigid	10	8
Van	8	20
Total	**42**	**44**

Based on the above, the trip generation based on the prospective occupancy yields the following:

- AM Peak Hour 32 veh/hr; and
- PM Peak Hour 32 veh/hr.

On the basis of the first principles assessment, the traffic generation is anticipated to be less than that assumed by the GHD Report by a total of 19 veh/hr in both peak periods.

7.2 Intersection Operation

Noting that the Proposal is entirely consistent with the assumptions which underpinned the now completed road network upgrades, it is already concluded that the development is acceptable from a traffic generation perspective.

Nevertheless, recognising that the road upgrades were completed in 2017, it is considered prudent to reassess the key intersection of Old Wallgrove Road / Eastern Creek Drive. For the purposes of this assessment, the following scenarios have been assessed:

- Baseline 2021;
- Baseline 2021 plus development;
- Baseline 2031;
- Baseline 2031 plus development.

The future operation of the proposed signalised intersection of Old Wallgrove Road and Eastern Creek Drive has been assessed using the TfNSW approved SIDRA intersection model. The SIDRA model provides a number of outputs by which to measure the performance of an intersection, including:

- Average Vehicle Delay (AVD): AVD (or average delay per vehicle in seconds) for intersections 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.
- Degree of Saturation (DOS): DOS is defined as the ratio of demand (arrival) flow to capacity.

- Level of Service (LOS): LOS is a comparative measure that provides an indication of the operating performance, based on AVD.

Table 9 provides the SIDRA recommended criteria for the assessment of intersections with reference to the RMS Guide.

TABLE 9: SIDRA LEVEL OF SERVICE CRITERIA

Level of Service	Average Delay per Vehicle (s)	Traffic Signals & Roundabout	Give Way & Stop Signs
A	**less than 14**	Good operation	Good operation
B	**15 to 28**	Good with acceptable delays & spare capacity	Acceptable delays & spare capacity
C	**29 to 42**	Satisfactory	Satisfactory, but accident study required
D	**43 to 56**	Operating near capacity	Near capacity & accident study required
E	**57 to 70**	At capacity; at signals, incidents will cause excessive delays	At capacity, requires other control mode
		Roundabouts require other control mode	
F	**More than 70**	Unsatisfactory and requires additional capacity.	Unsatisfactory and requires other control mode or major treatment.

7.2.1 Trip Distribution & Traffic Flows

The Proposal includes the following access strategy:

- Light vehicle access by way of Eastern Creek Drive; and
- Heavy vehicle ingress by way of Eastern Creek Drive and egress by Honeycomb Drive.

As such, the key intersection providing access to the Site of Old Wallgrove Road / Eastern Creek Drive, which would be subject to the following additional flows as a result of the prospective tenant:

- AM peak – 28 light vehicle entry movements, and 4 heavy vehicle entry movements; and
- PM – 28 light vehicle exit movements (noting the 4 movements consisting of vans and heavy vehicles will exit via Honeycomb Drive).

The Honeycomb Drive intersection will only be subject to *4 additional movements* in the peak hour. As such, it is evident that the Proposal will not materially impact upon the performance of this intersection.

The trip distribution of these movements has been based on traffic surveys undertaken on Tuesday 16 November 2021. The existing traffic flows recorded by these surveys are detailed in **Figure 8**.

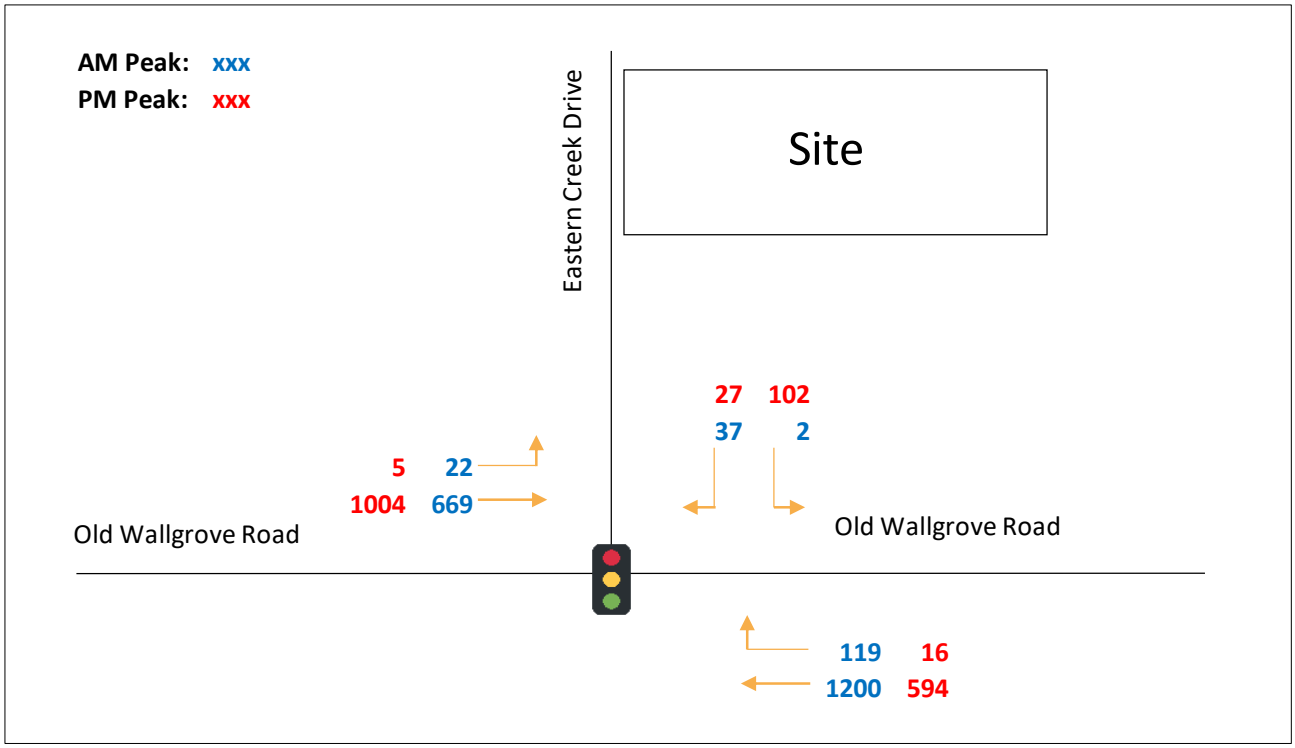


Figure 8: Existing Case (2021) Volumes

The existing case plus development traffic flows are presented in **Figure 9**.

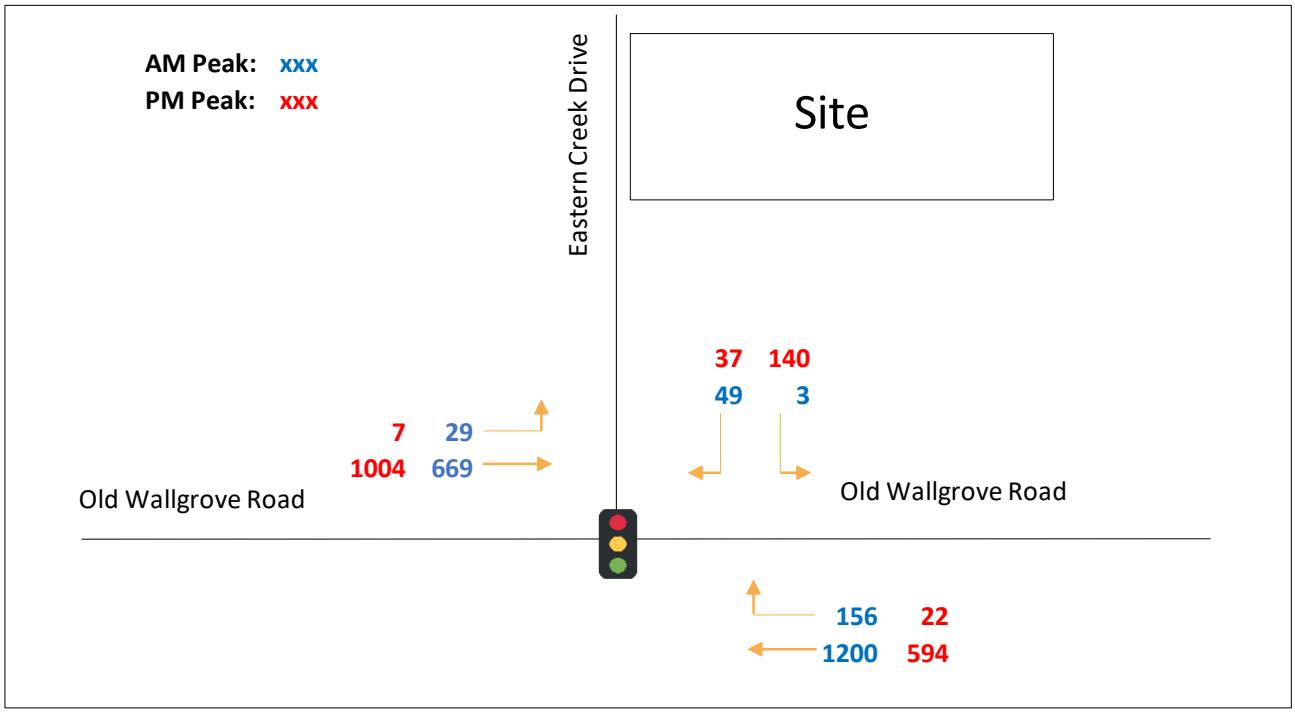


Figure 9: Existing Case (2021) + Development Traffic

To establish the 2031 baseline traffic flows, a growth rate of 2% was applied the 2021 surveyed flows, which is consistent with other strategic assessments completed within the area. The 2031 baseline flows are provided by **Figure 10**. The 2031 baseline plus development traffic flows are presented in **Figure 11**.

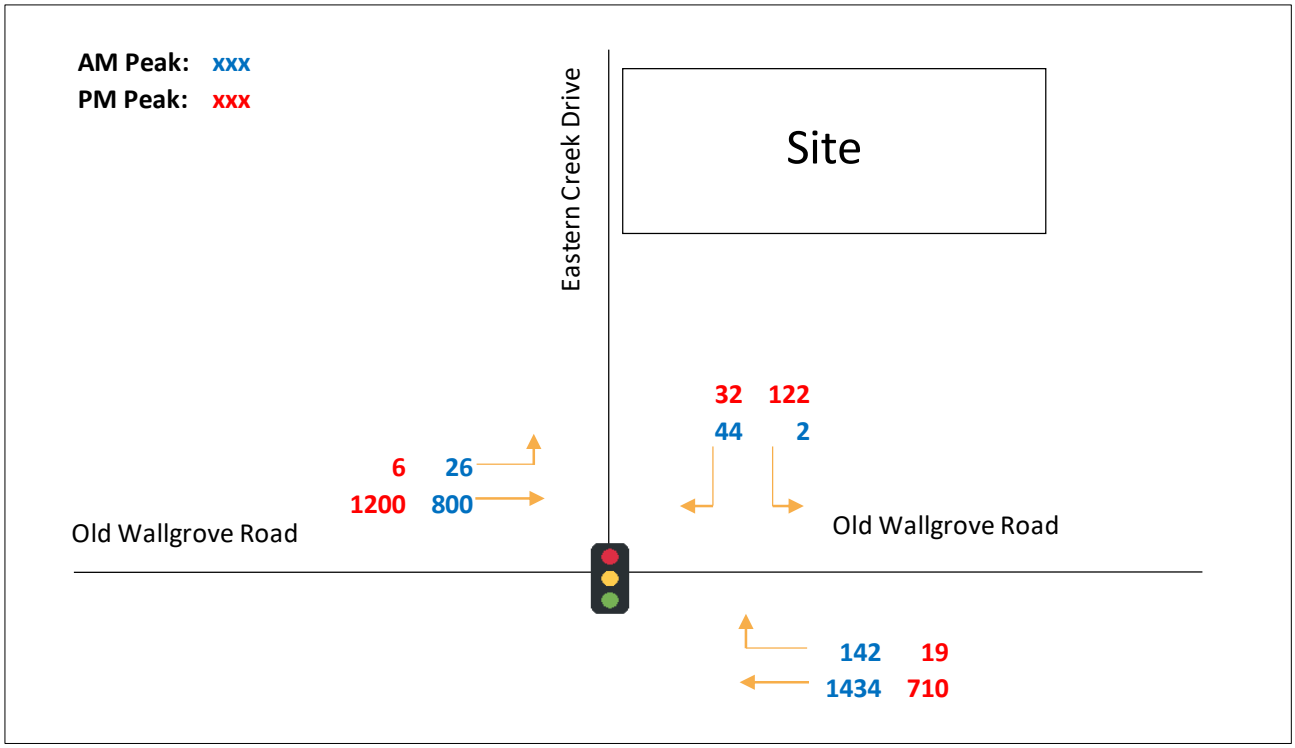


Figure 10: Future Base (2031) Volumes

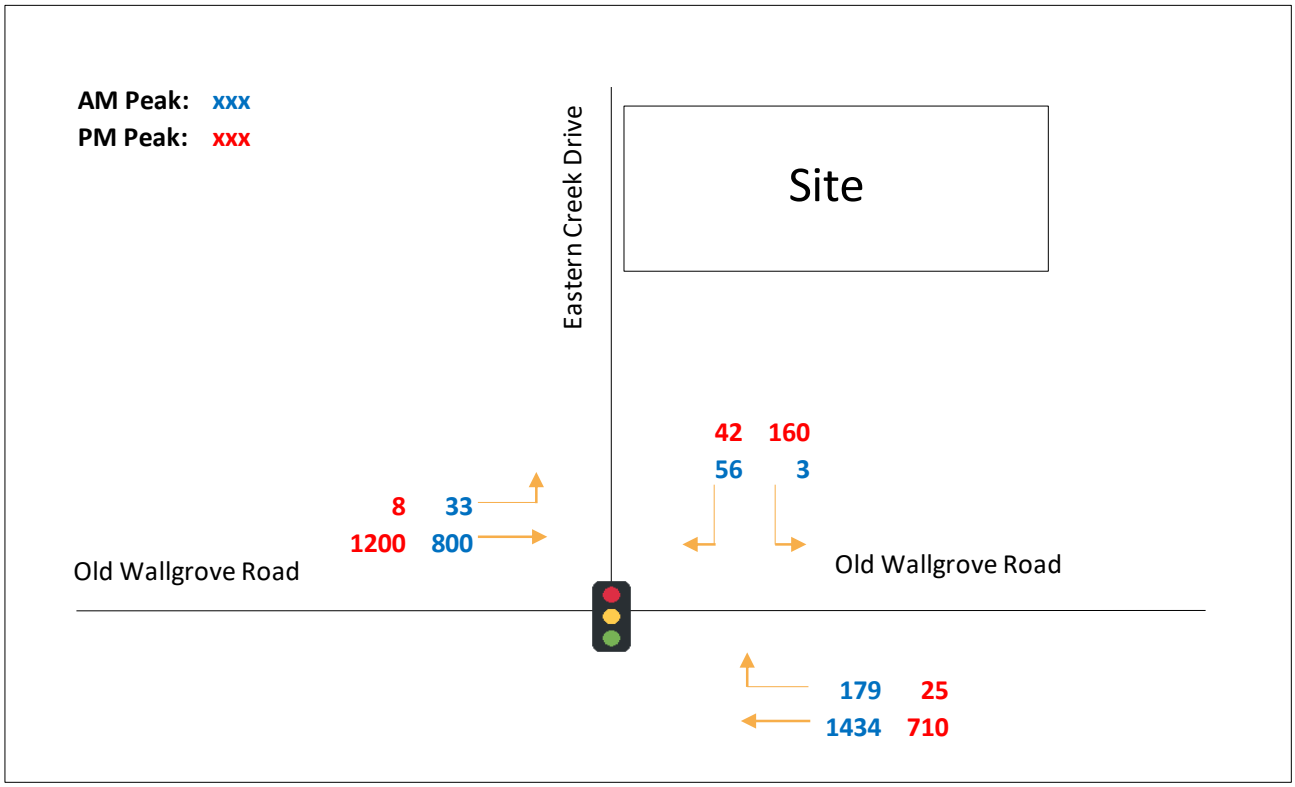


Figure 11: Future Base (2031) + Development Traffic

7.2.2 Intersection Performance

Table 10 below provides a summary of the SIDRA results for the performance of the key intersection, with the relevant SIDRA outputs provided as **Appendix B**.

TABLE 10: INTERSECTION OPERATIONS

Scenario	Configuration	Period	DOS	AVD	LOS
2021 Existing	Signals	AM	0.439	11.6	A
		PM	0.391	7.0	A
2021 Existing + Development Traffic	Signals	AM	0.439	13.6	A
		PM	0.394	8.0	A
2031 Base Case	Signals	AM	0.525	12.2	A
		PM	0.483	7.6	A
2031 Base case + Development Traffic	Signals	AM	0.525	14.0	A
		PM	0.483	8.3	A

With reference to the above, the intersection is currently performing well under existing conditions and is expected to do so with the addition of development traffic. The intersection is also expected to maintain this performance in the future year assessed of 2031.

Further to the addition of the development traffic, the 2031 scenario maintains a consistent LOS A with an acceptable DOS throughout the assessed scenarios. As such, it is evident that the Proposal will have a negligible impact on the future operation of the intersection and is acceptable from a traffic impact perspective.

7.3 Traffic Assessment Summary

The Proposal represents a less intensive development than previously considered by the strategic modelling assessment, which informed the current design of Old Wallgrove Road. A tenant specific first principles assessment has found that the Site would generate 19 veh/h less than assumed by the GHD Report.

Further to the comparisons of traffic generation, SIDRA intersection analysis has also been conducted of the key Old Wallgrove Road / Eastern Creek Drive intersection. The SIDRA analysis undertaken reveals the intersection will perform at a LOS A in the future assessment year of 2031, following the addition of development traffic. As such, it is concluded that the Proposal will have no material impact on the future operation of the external road network.

8 Access and Internal Design

8.1 Relevant Design Standards

The site access, car park and loading areas have been designed to comply with the following relevant Australian Standards:

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

8.2 Site Access

Access to the Site is proposed via 3 driveways, 2 of which will be provided on Eastern Creek Drive and one truck only egress on Honeycomb Drive. The Proposal involves:

- For commercial (heavy) vehicles, an entry driveway would be provided on the south-west of the Site along Eastern Creek Drive with an egress provided via Honeycomb Drive to the north.
- An entry/exit driveway for passenger vehicles to the south-west of the Site along Eastern Creek Drive, for access to the car park.

The proposed access arrangements have been developed to achieve the following desirable outcomes:

- to permit entry to and exit from the site in a forward direction;
- to separate commercial (heavy) vehicle and passenger vehicle traffic; and
- to minimise pedestrian crossing distances at the driveways.

The swept path analysis included as Appendix A demonstrates that the necessary manoeuvres can be accommodated by the design.

8.3 Car Park Design

A detailed review of the car parking areas has been undertaken and the following characteristics are noteworthy:

- All staff and employee parking is to be provided in accordance with AS2890.1 for a Class 1A user, which requires a minimum space length of 5.4m, a minimum width of 2.4m and a minimum aisle width of 5.8m.
- Dead-end aisles are provided with a turning bay.
- All disabled and adaptable parking spaces are to be provided in accordance with AS2890.6, which requires a space with a clear width of 2.4m and located adjacent to a minimum shared area of 2.4m.

- All spaces located adjacent to obstructions greater than 150mm in height are to be provided with an additional width of 300mm. This includes any landscaping that exceeds 150mm.

It is expected that any detailed construction drawings in relation to any modified 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 to any development approval.

8.4 Commercial Vehicle Facilities

The commercial (heavy) vehicle facilities of the development have been designed having regard for the operational requirements of future tenants and the requirements of AS2890.2. In this regard the following is considered noteworthy:

- Swept path analysis has been performed using a 26m B-double Vehicle, to verify the design widths of the circulation roads and driveways. The results of this analysis, which are presented on plans attached as Appendix A, reveal that the necessary manoeuvres of the largest vehicle expected to access the site can be accommodated under the Proposal.
- In light of the above, the internal circulation road would also accommodate fire truck access requirements.
- As shown in the plans attached as Appendix A, access to the loading docks has been assessed and it is demonstrated that the necessary manoeuvres can be accommodated under the Proposal.
- All service vehicles can enter and exit the site in a forward direction.

8.5 Design Summary

The internal configuration of the Site – including light and heavy vehicular access, car parking and servicing areas – has been designed generally in accordance with the requirements of Council's DCP and the relevant Australian Standards (AS2890.1, AS2890.2 and AS2890.6). It is however envisaged that a condition of consent would be imposed requiring compliance with these standards and as such any minor amendments considered necessary (if any) can be dealt with prior to the release of a Construction Certificate.

9 Summary and Conclusions

9.1 Key Findings

The key findings of this Transport Assessment are:

- The Site is located with the Western Sydney Employment Area, which was established by the New South Wales Government to provide businesses in the region with land for industry and employment, including transport and logistics, warehousing and office space.
- The Proposal is consistent with the planning for the WSEA, seeking approval for an industrial warehouse with ancillary office space.
- The Proposal generally seeks development approval for a warehouse and ancillary office space with a total building area of 28,570 m^2 including 21,850 m^2 of warehouse space, 1,750m^2 of office GFA, and 5,120m^2 of loading area, with supporting infrastructure and servicing areas and 184 parking spaces.
- The proposed level of on-site car parking (184 spaces) represents a deficiency of 7 spaces when compared against the Eastern Creek Precinct Plan. However, the provision is far superior when compared against other parking rates currently being implemented in Western Sydney (such as the MRP).

  Further, a first principles assessment, on the basis of staff requirements of the prospective occupier, demonstrates that the Proposal will generate a demand of 150 spaces.

  As such it is concluded that the Proposal would adequately accommodate the parking demand generated by the proposed development on-site.
- TfNSW completed upgrades to Old Wallgrove Road in April 2017. The design for the upgrades were based upon detailed analysis undertaken by GHD for the WSEA, as summarised in the report entitled *Old Wallgrove Road Upgrade (Roberts Road - M7 Motorway) Traffic and Transport Report*, dated 30 April 2012.
- It was assumed that the Site would generate 51 veh/hr during the peak periods by the GHD Report. However, on the basis of the prospective occupier, it is anticipated that the Proposal will generate 32 veh/hr, some 19 veh/hr less than previously assumed.
- The key intersection of Old Wallgrove Road / Eastern Creek Drive has been assessed for scenarios of 2021, 2021 plus development traffic, 2031 and 2031 plus development traffic. Notably, it is expected that the intersection will operate at an acceptable LOS (A) during both AM and PM peak periods with no constraints forecast to the DOS.
- The proposed access arrangements have been developed to permit entry to and exit from the Site in a forward gear, separate commercial (heavy) vehicle and passenger vehicle traffic, minimise pedestrian crossing distances at the driveways, and encourage one-way circulation of commercial (heavy) vehicle traffic through the Site.
- 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 form a Condition of Consent.

9.2 Conclusions

On the basis of the above, it is concluded that the proposed warehouse development known as Compass 2 Warehouse & Distribution Centre, Eastern Creek is supportable on traffic and transport planning grounds.

Appendix A. Daily Traffic Flows

Start Time	All Vehicle	Light Vehicle	Heavy Vehicle	Rigid	Semi-trailer	B-double	A-double
0:00	6	4	2	1	0	0	0
1:00	5	3	2	1	0	0	0
2:00	5	4	2	1	0	0	0
3:00	6	5	1	1	0	0	0
4:00	19	16	3	2	0	0	1
5:00	37	30	7	5	0	0	2
6:00	50	40	10	7	1	0	3
7:00	50	37	12	8	1	0	3
8:00	46	32	14	9	1	0	4
9:00	40	24	16	10	1	0	4
10:00	37	22	15	10	1	0	4
11:00	39	24	15	10	1	0	4
12:00	43	29	14	9	1	0	4
13:00	51	37	14	9	1	0	4
14:00	56	43	12	8	1	0	3
15:00	48	37	11	7	1	0	3
16:00	40	31	9	6	1	0	2
17:00	33	25	7	5	1	0	2
18:00	20	14	5	3	0	0	1
19:00	12	8	3	2	0	0	1
20:00	9	6	3	2	0	0	1
21:00	11	9	2	1	0	0	0
22:00	14	12	2	2	0	0	1
23:00	10	8	2	1	0	0	1
Total	**687**	**502**	**185**	**122**	**12**	**3**	**47**

Note: Minor discrepancies between sum numbers due to 'rounding'.

Appendix B. SIDRA Outputs

USER REPORT FOR SITE

All Movement Classes

Project: 1570m01_All Cases

Template: Default Site User Report

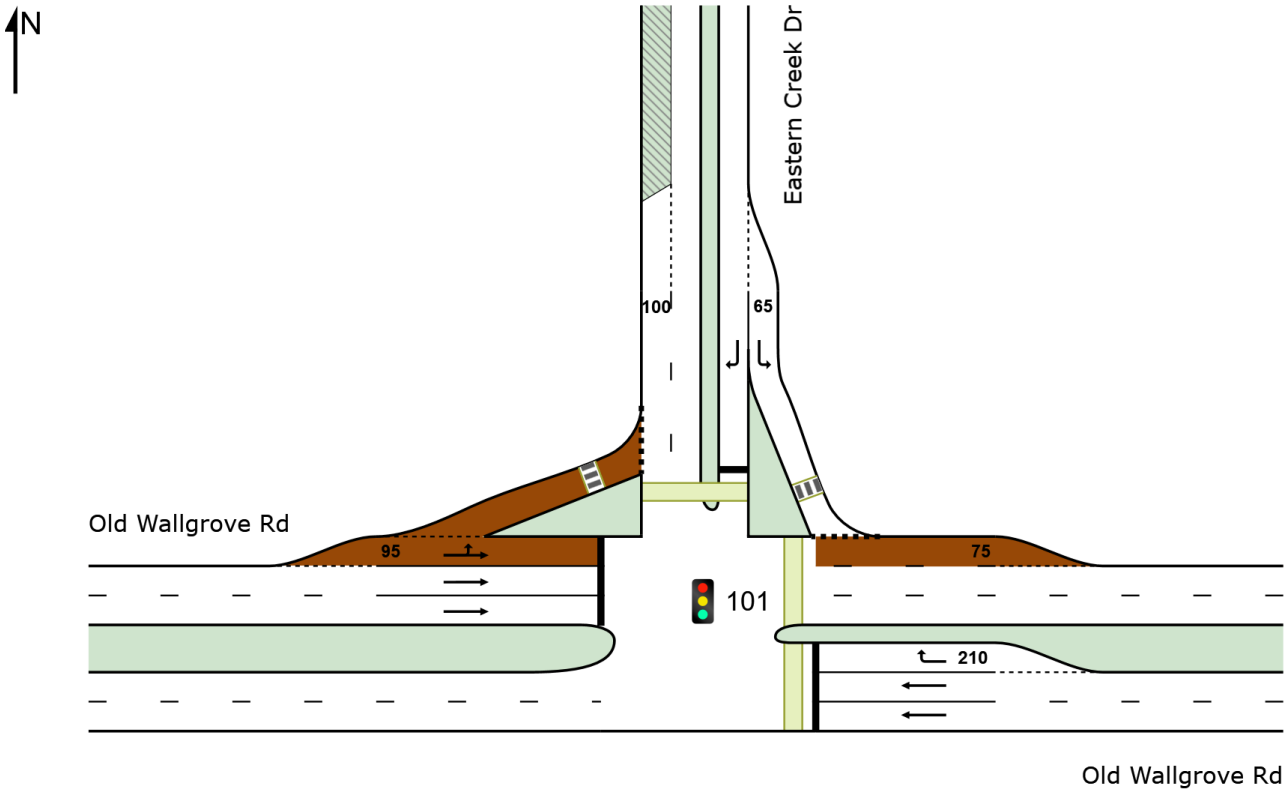
Site: 101 [Existing AM Old Wallgrove Rd / Eastern Creek Dr (Site Folder: General)]

Old Wallgrove Road / Eastern Creek Drive
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 140 seconds (Site User-Given Cycle Time)

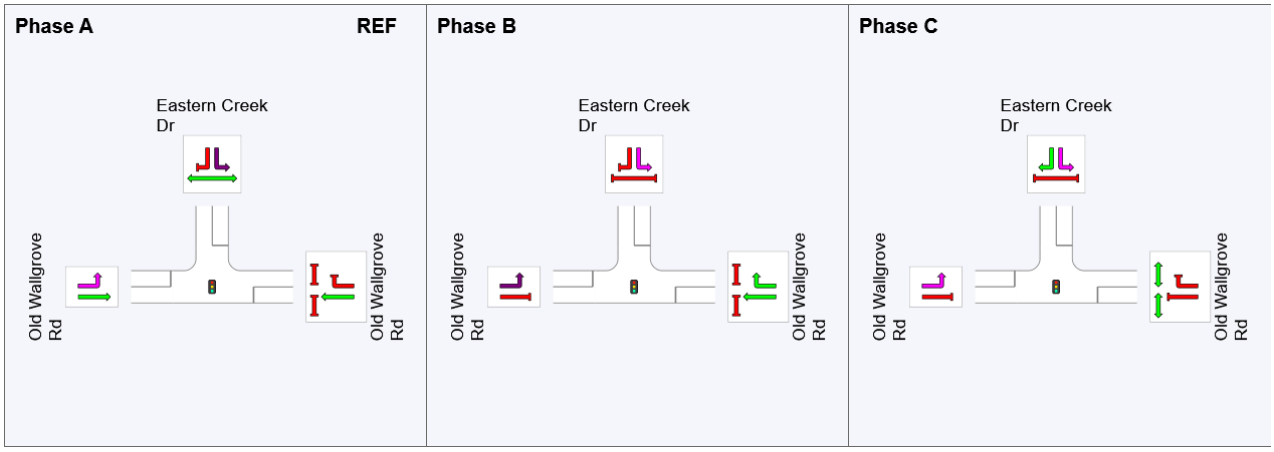
Timings based on settings in the Site Phasing & Timing dialog
Phase Times determined by the program
Phase Sequence: Leading Right Turn
Reference Phase: Phase A
Input Phase Sequence: A, B, C
Output Phase Sequence: A, B, C

Site Layout

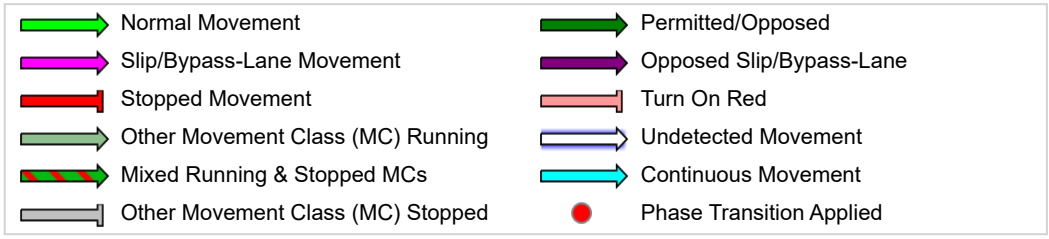
Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



Output Phase Sequence



REF: Reference Phase
VAR: Variable Phase



Vehicle Movement Performance														
Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Old Wallgrove Rd														
5	T1	1200	246	1263	20.5	* 0.439	3.1	LOS A	10.9	89.8	0.28	0.26	0.28	71.9
6	R2	119	7	125	5.9	0.378	61.4	LOS E	7.6	55.6	0.92	0.79	0.92	30.0
Approach		1319	253	1388	19.2	0.439	8.4	LOS A	10.9	89.8	0.34	0.31	0.34	60.7
North: Eastern Creek Dr														
7	L2	2	1	2	50.0	0.003	9.0	LOS A	0.0	0.2	0.22	0.56	0.22	46.8
9	R2	36	0	38	0.0	* 0.260	73.1	LOS F	2.5	17.6	0.98	0.73	0.98	21.8
Approach		38	1	40	2.6	0.260	69.8	LOS E	2.5	17.6	0.94	0.72	0.94	22.6
West: Old Wallgrove Rd														
10	L2	22	5	23	22.7	0.018	8.9	LOS A	0.2	1.3	0.17	0.63	0.17	51.2
11	T1	669	254	704	38.0	0.371	14.7	LOS B	12.0	111.1	0.54	0.48	0.54	52.3
Approach		691	259	727	37.5	0.371	14.5	LOS B	12.0	111.1	0.53	0.49	0.53	52.2
All Vehicles		2048	513	2156	25.0	0.439	11.6	LOS A	12.0	111.1	0.42	0.38	0.42	55.8

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

Site: 101 [Existing PM Old Wallgrove Rd / Eastern Creek Dr (Site Folder: General)]

Old Wallgrove Road / Eastern Creek Drive
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 160 seconds (Site User-Given Cycle Time)

Timings based on settings in the Site Phasing & Timing dialog
Phase Times determined by the program
Phase Sequence: Leading Right Turn
Reference Phase: Phase A
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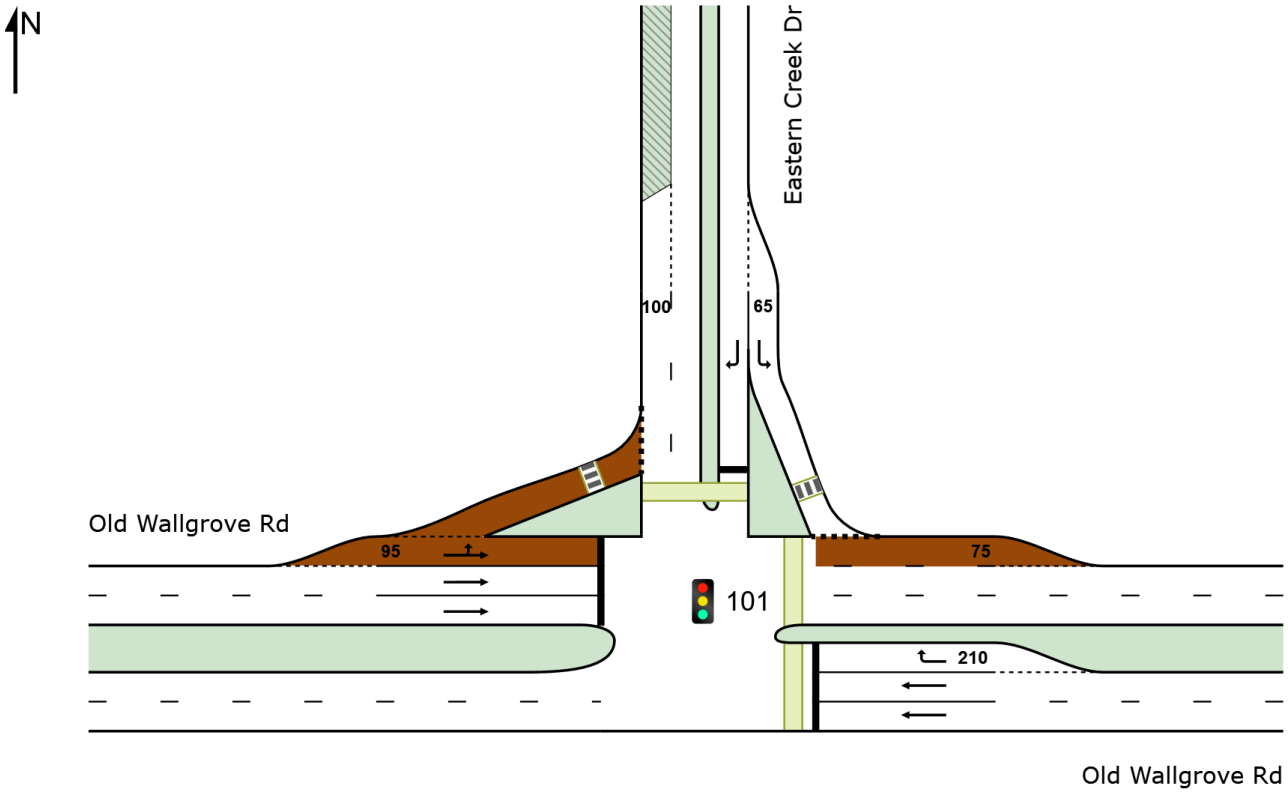
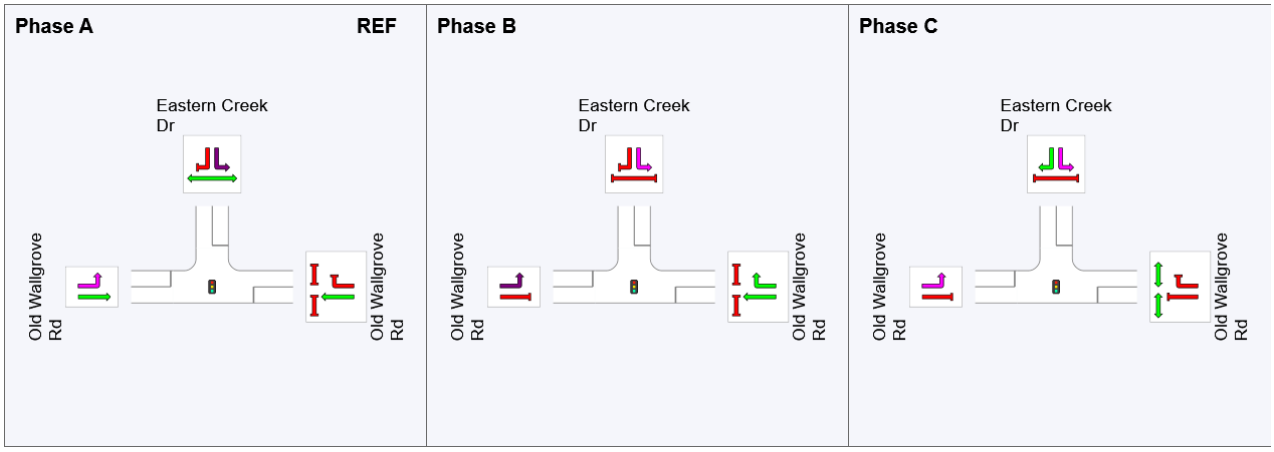


Output Phase Sequence



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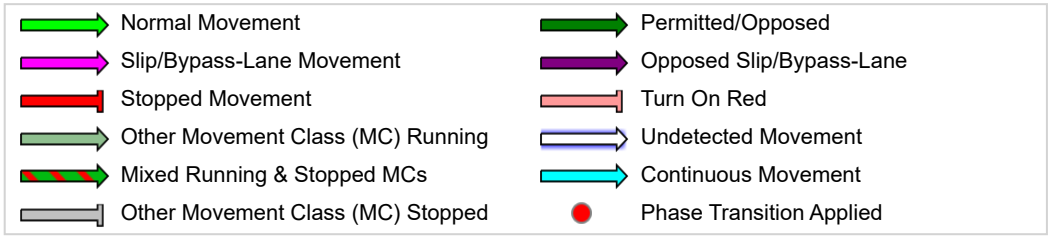
VAR: Variable Phase



Vehicle Movement Performance														
Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Old Wallgrove Rd														
5	T1	590	249	621	42.2	0.239	2.4	LOS A	4.4	42.2	0.20	0.18	0.20	73.7
6	R2	16	6	17	37.5	* 0.306	95.0	LOS F	1.4	12.8	1.00	0.70	1.00	22.9
Approach		606	255	638	42.1	0.306	4.8	LOS A	4.4	42.2	0.22	0.19	0.22	67.8
North: Eastern Creek Dr														
7	L2	102	6	107	5.9	0.200	9.2	LOS A	1.4	10.0	0.23	0.62	0.23	54.6
9	R2	27	10	28	37.0	* 0.258	84.3	LOS F	2.2	20.1	0.98	0.73	0.98	19.4
Approach		129	16	136	12.4	0.258	24.9	LOS B	2.2	20.1	0.39	0.64	0.39	42.1
West: Old Wallgrove Rd														
10	L2	5	4	5	80.0	0.005	8.6	LOS A	0.0	0.3	0.10	0.60	0.10	48.9
11	T1	1000	189	1053	18.9	* 0.391	6.1	LOS A	12.9	104.8	0.35	0.32	0.35	65.6
Approach		1005	193	1058	19.2	0.391	6.1	LOS A	12.9	104.8	0.35	0.32	0.35	65.5
All Vehicles		1740	464	1832	26.7	0.391	7.0	LOS A	12.9	104.8	0.31	0.30	0.31	62.6

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

Site: 101 [Existing + Dev AM Old Wallgrove Rd / Eastern Creek Dr (Site Folder: General)]

Old Wallgrove Road / Eastern Creek Drive
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 140 seconds (Site User-Given Cycle Time)

Timings based on settings in the Site Phasing & Timing dialog
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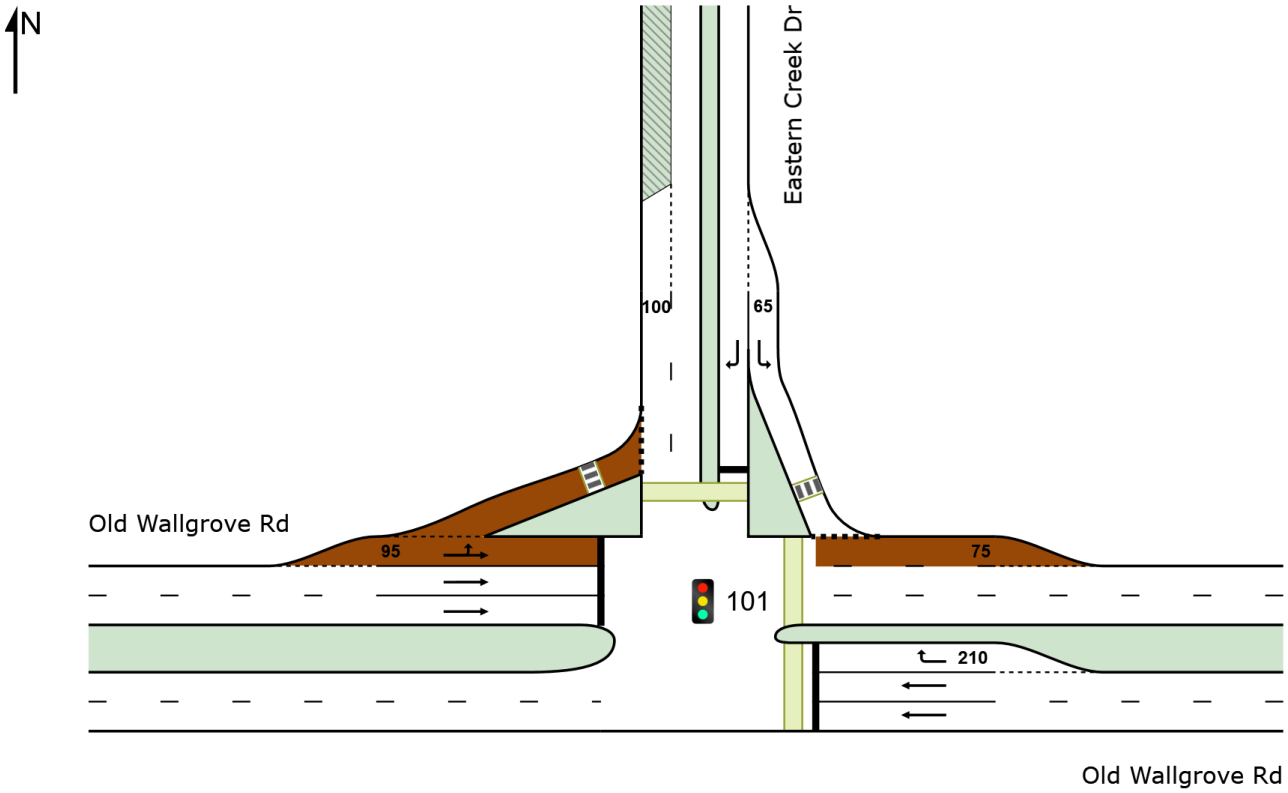
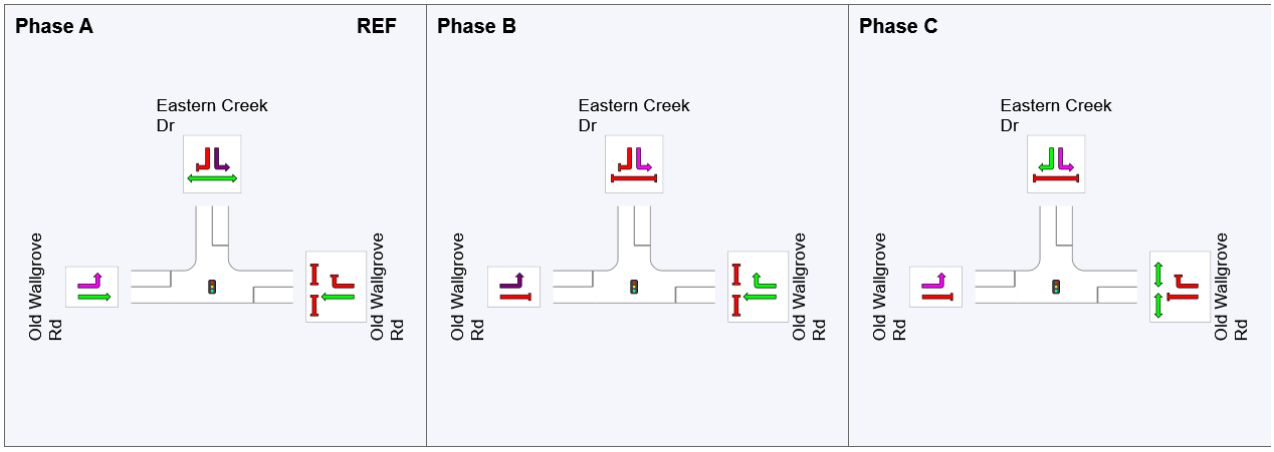


Output Phase Sequence



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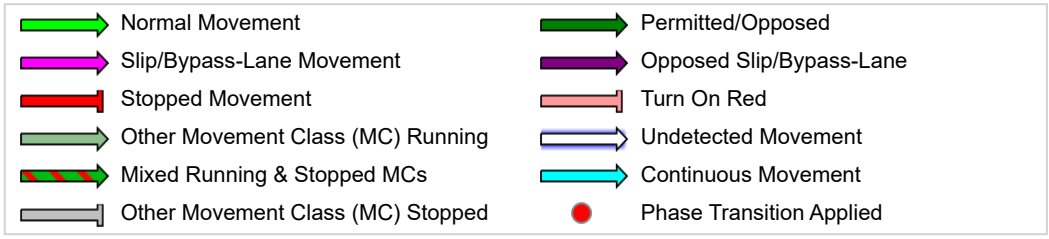


Vehicle Movement Performance														
Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Old Wallgrove Rd														
5	T1	1200	246	1263	20.5	* 0.439	3.1	LOS A	10.9	89.8	0.28	0.26	0.28	71.9
6	R2	156	9	164	5.8	0.403	56.7	LOS E	9.6	70.2	0.90	0.80	0.90	31.3
Approach		1356	255	1427	18.8	0.439	9.3	LOS A	10.9	89.8	0.35	0.32	0.35	59.2
North: Eastern Creek Dr														
7	L2	3	2	3	66.7	0.005	9.5	LOS A	0.0	0.4	0.24	0.56	0.24	44.2
9	R2	49	1	52	2.0	* 0.359	74.0	LOS F	3.5	24.7	0.99	0.75	0.99	21.6
Approach		52	3	55	5.8	0.359	70.3	LOS E	3.5	24.7	0.94	0.74	0.94	22.5
West: Old Wallgrove Rd														
10	L2	29	7	31	24.1	0.024	9.2	LOS A	0.2	2.1	0.19	0.63	0.19	50.8
11	T1	669	254	704	38.0	0.399	18.2	LOS B	13.3	123.4	0.60	0.53	0.60	48.4
Approach		698	261	735	37.4	0.399	17.8	LOS B	13.3	123.4	0.59	0.54	0.59	48.5
All Vehicles		2106	519	2217	24.6	0.439	13.6	LOS A	13.3	123.4	0.44	0.40	0.44	53.1

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

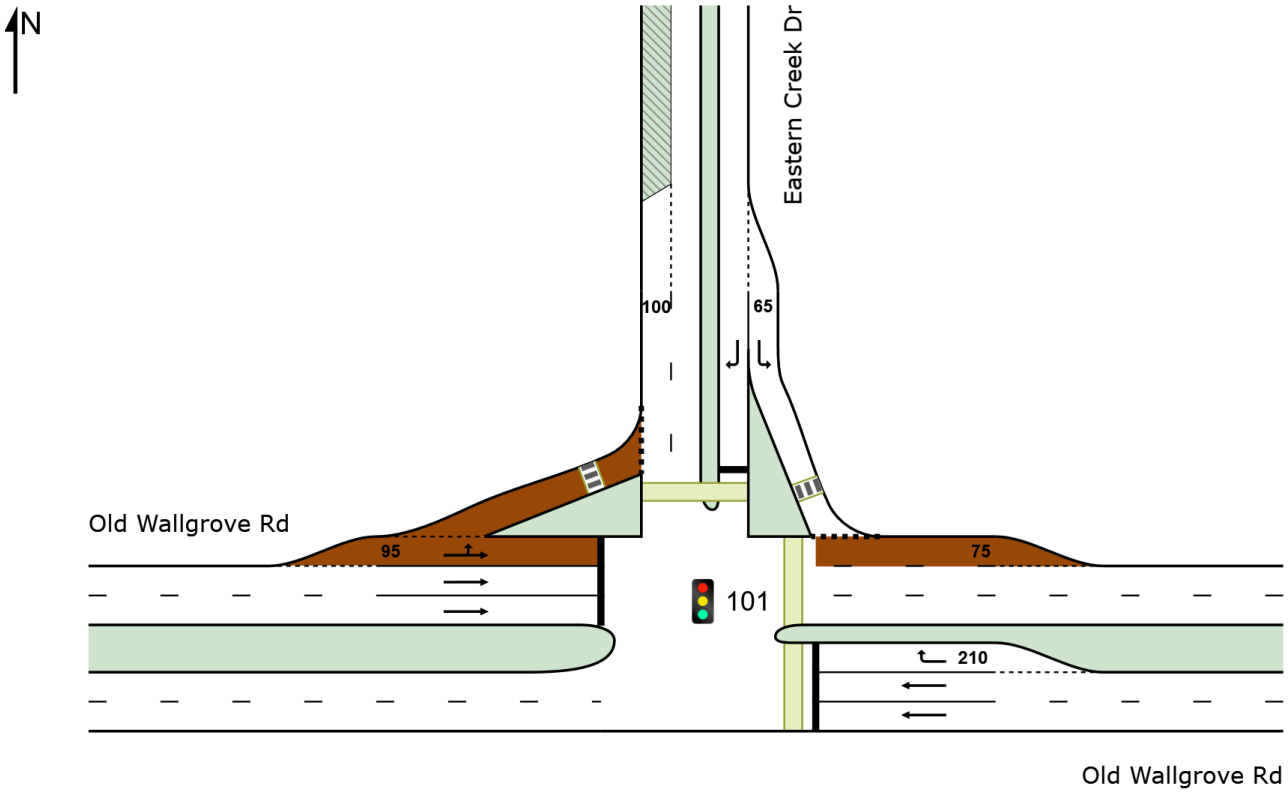
Site: 101 [Existing + Dev PM Old Wallgrove Rd / Eastern Creek Dr (Site Folder: General)]

Old Wallgrove Road / Eastern Creek Drive
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 160 seconds (Site User-Given Cycle Time)

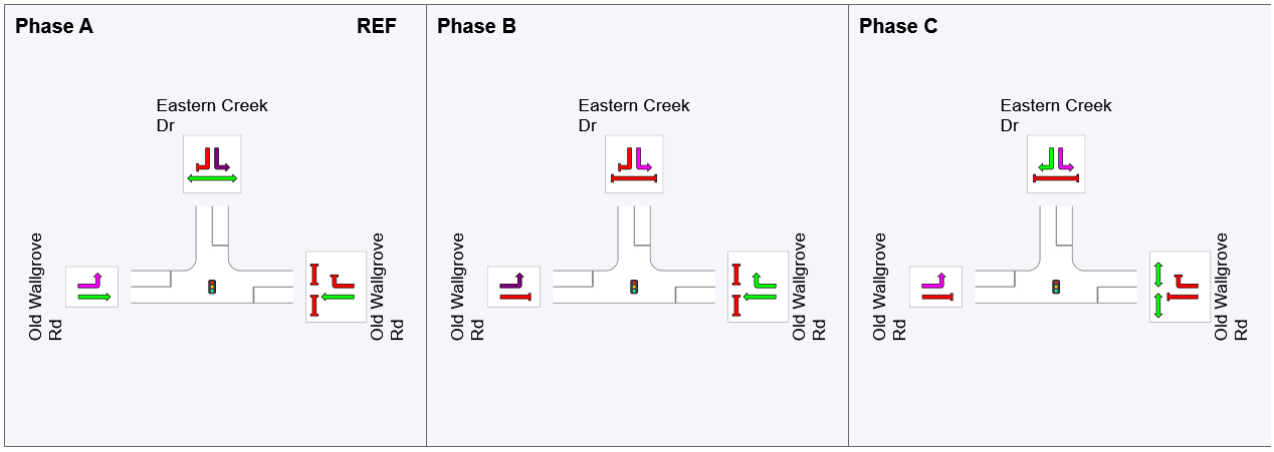
Timings based on settings in the Site Phasing & Timing dialog
Phase Times determined by the program
Phase Sequence: Leading Right Turn
Reference Phase: Phase A
Input Phase Sequence: A, B, C
Output Phase Sequence: A, B, C

Site Layout

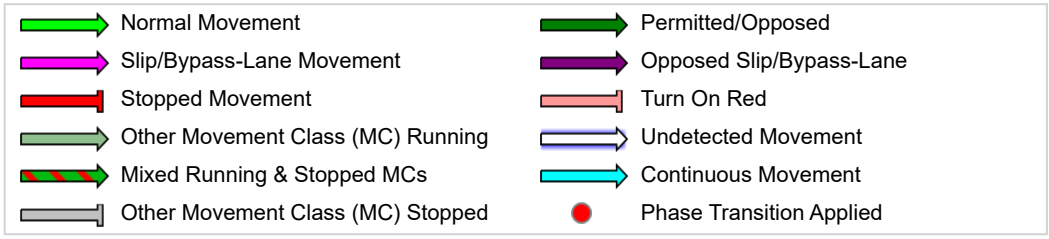
Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



Output Phase Sequence



REF: Reference Phase
VAR: Variable Phase



Vehicle Movement Performance														
Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Old Wallgrove Rd														
5	T1	590	249	621	42.2	0.239	2.4	LOS A	4.4	42.2	0.20	0.18	0.20	73.7
6	R2	22	8	23	36.4	* 0.359	93.6	LOS F	1.9	17.3	1.00	0.72	1.00	23.1
Approach		612	257	644	42.0	0.359	5.6	LOS A	4.4	42.2	0.23	0.20	0.23	66.0
North: Eastern Creek Dr														
7	L2	140	8	147	5.7	0.272	9.6	LOS A	2.1	15.6	0.26	0.63	0.26	54.4
9	R2	37	14	39	37.8	* 0.355	85.2	LOS F	3.0	28.0	0.99	0.75	0.99	19.3
Approach		177	22	186	12.4	0.355	25.4	LOS B	3.0	28.0	0.41	0.65	0.41	41.9
West: Old Wallgrove Rd														
10	L2	7	6	7	85.7	0.007	8.7	LOS A	0.0	0.4	0.11	0.60	0.11	48.6
11	T1	1000	189	1053	18.9	* 0.394	6.4	LOS A	13.3	107.8	0.36	0.33	0.36	65.0
Approach		1007	195	1060	19.4	0.394	6.4	LOS A	13.3	107.8	0.36	0.33	0.36	64.8
All Vehicles		1796	474	1891	26.4	0.394	8.0	LOS A	13.3	107.8	0.32	0.32	0.32	60.7

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

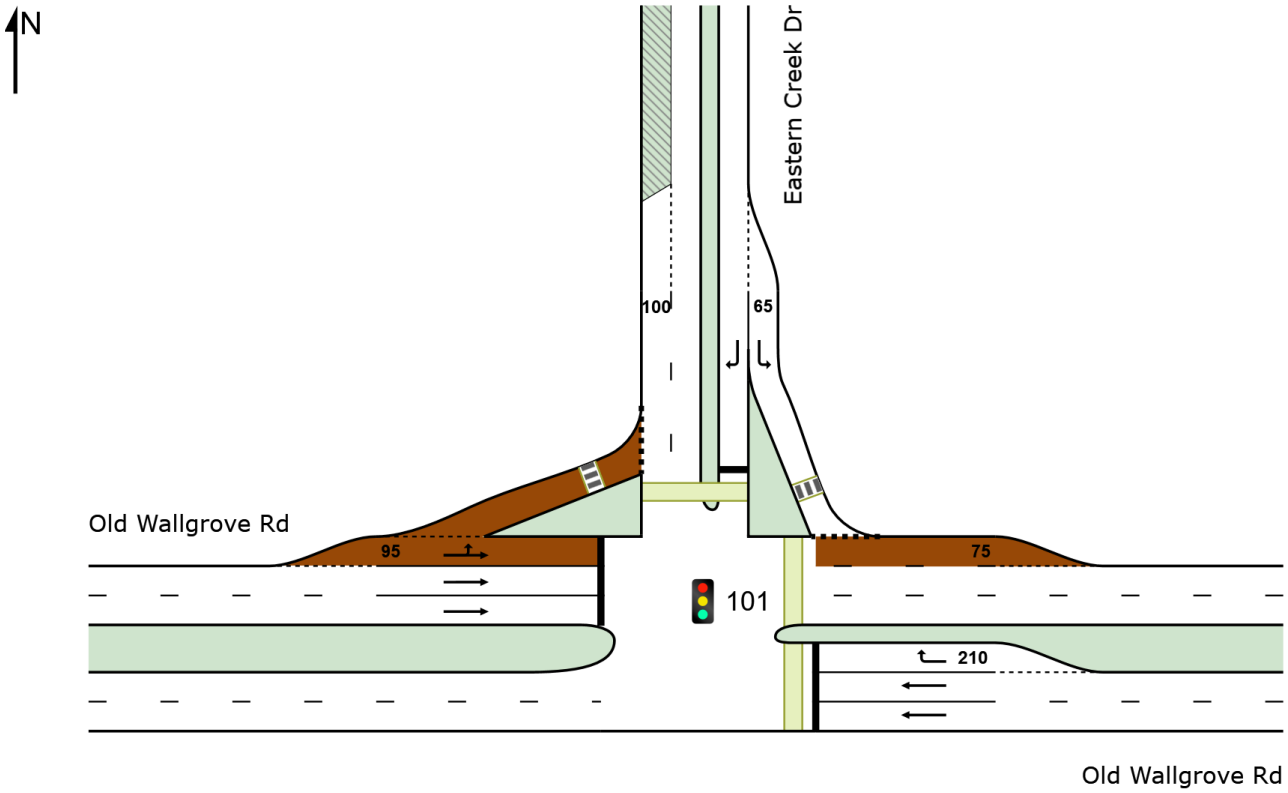
Site: 101 [Future Base AM Old Wallgrove Rd / Eastern Creek Dr (Site Folder: General)]

Old Wallgrove Road / Eastern Creek Drive
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 160 seconds (Site User-Given Phase Times)

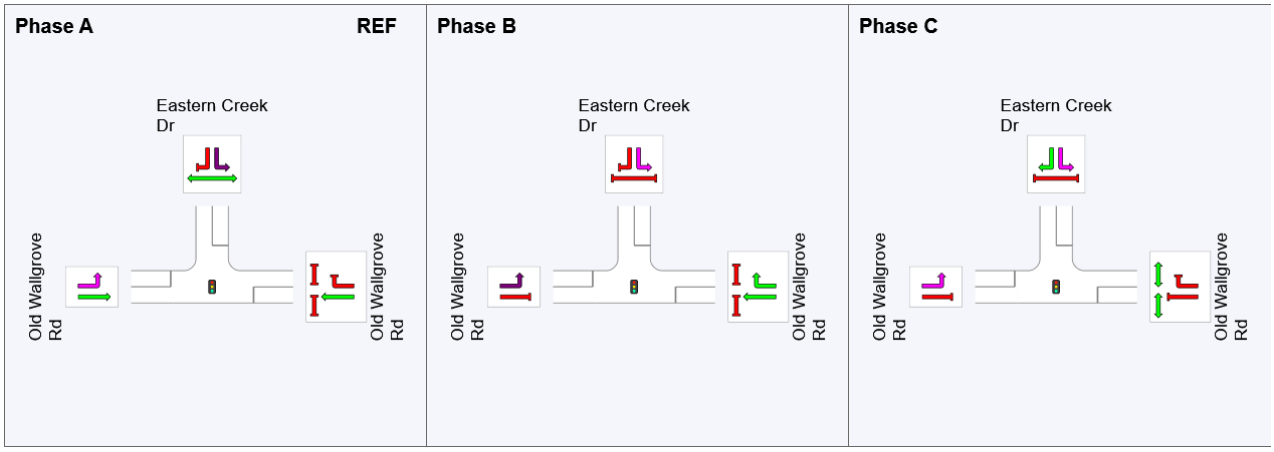
Timings based on settings in the Site Phasing & Timing dialog
Phase Times specified by the user
Phase Sequence: Leading Right Turn
Reference Phase: Phase A
Input Phase Sequence: A, B, C
Output Phase Sequence: A, B, C

Site Layout

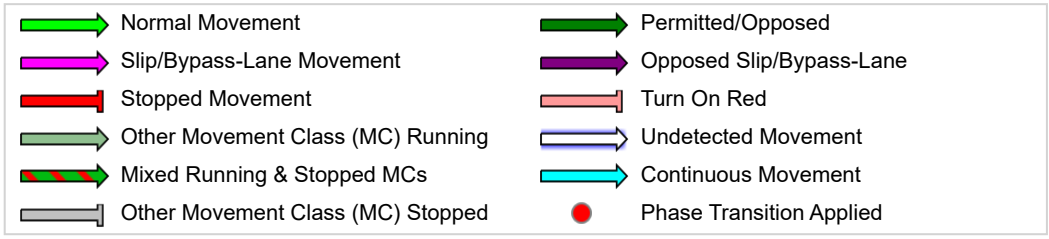
Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



Output Phase Sequence



REF: Reference Phase
VAR: Variable Phase



Vehicle Movement Performance															
Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Old Wallgrove Rd														
5	T1	1434	294	1509	20.5	* 0.524	3.9	LOS A	16.6	136.4	0.32	0.29	0.32	70.1
6	R2	142	8	149	5.6	0.957	112.4	LOS F	14.2	103.9	1.00	0.98	1.50	20.6
Approach		1576	302	1659	19.2	0.957	13.7	LOS A	16.6	136.4	0.38	0.36	0.42	53.3
North: Eastern Creek Dr														
7	L2	2	1	2	50.0	0.004	9.1	LOS A	0.0	0.2	0.20	0.56	0.20	46.9
9	R2	44	1	46	2.3	* 0.290	81.0	LOS F	3.5	24.8	0.97	0.75	0.97	20.4
Approach		46	2	48	4.3	0.290	77.9	LOS F	3.5	24.8	0.94	0.74	0.94	21.0
West: Old Wallgrove Rd														
10	L2	26	6	27	23.1	0.021	9.4	LOS A	0.3	2.2	0.19	0.63	0.19	50.7
11	T1	800	304	842	38.0	0.378	9.5	LOS A	12.6	117.1	0.42	0.38	0.42	59.6
Approach		826	310	869	37.5	0.378	9.5	LOS A	12.6	117.1	0.42	0.39	0.42	59.2
All Vehicles		2448	614	2577	25.1	0.957	13.5	LOS A	16.6	136.4	0.40	0.37	0.43	53.4

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

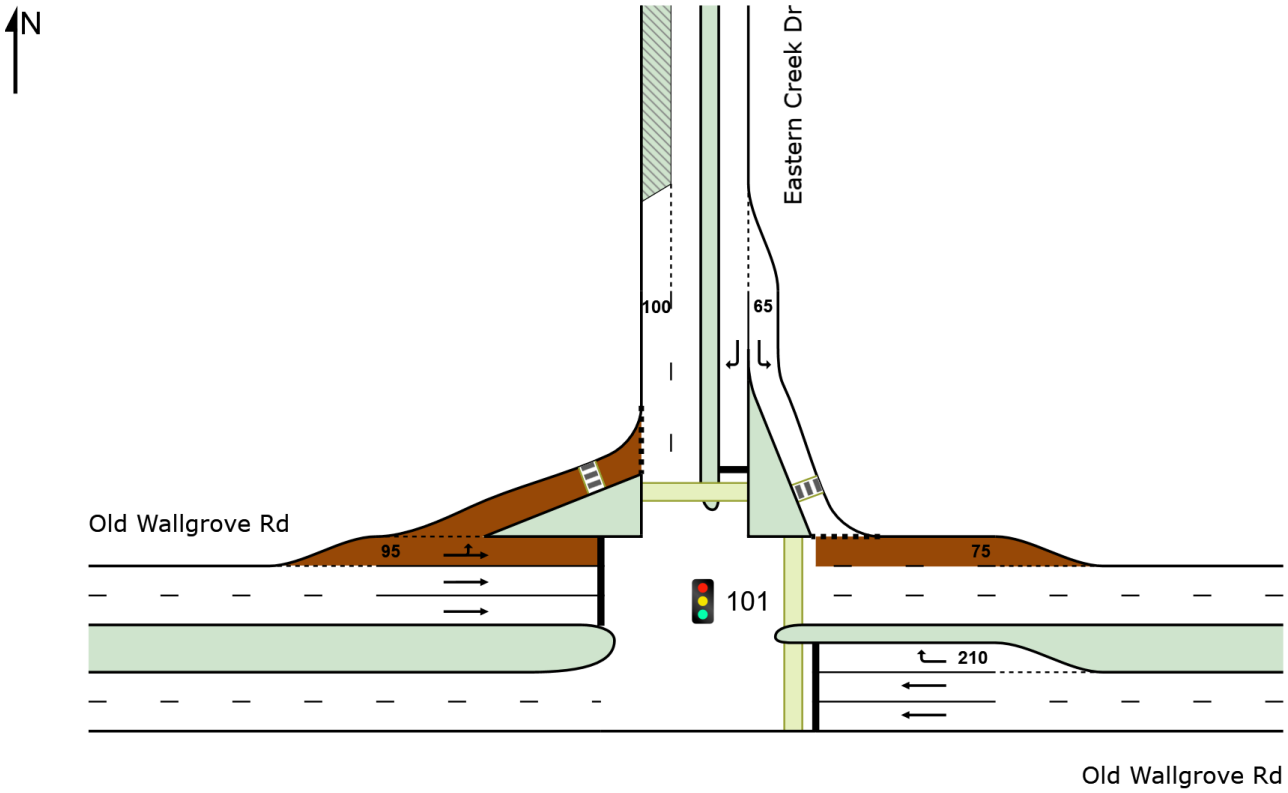
Site: 101 [Future Base PM Old Wallgrove Rd / Eastern Creek Dr (Site Folder: General)]

Old Wallgrove Road / Eastern Creek Drive
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 160 seconds (Site User-Given Phase Times)

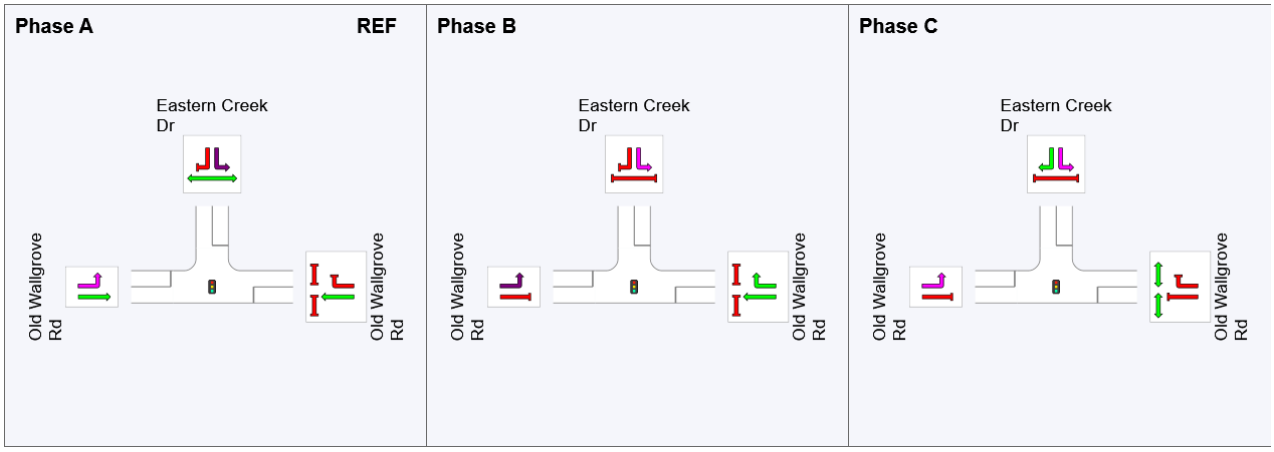
Timings based on settings in the Site Phasing & Timing dialog
Phase Times specified by the user
Phase Sequence: Leading Right Turn
Reference Phase: Phase A
Input Phase Sequence: A, B, C
Output Phase Sequence: A, B, C

Site Layout

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



Output Phase Sequence



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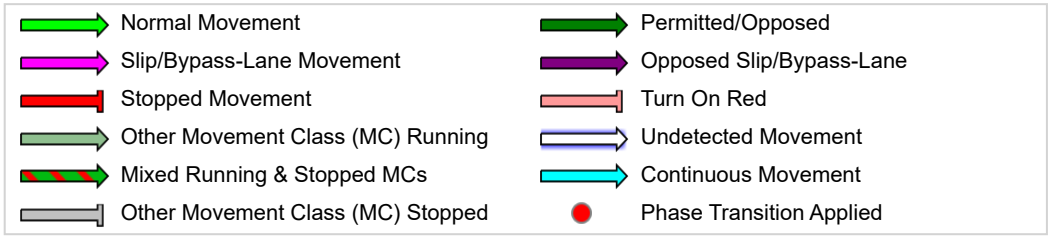

Vehicle Movement Performance														
Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Old Wallgrove Rd														
5	T1	706	298	743	42.2	0.290	2.9	LOS A	6.1	57.7	0.23	0.21	0.23	72.4
6	R2	19	7	20	36.8	* 0.155	82.6	LOS F	1.5	13.7	0.96	0.72	0.96	25.0
Approach		725	305	763	42.1	0.290	5.0	LOS A	6.1	57.7	0.25	0.22	0.25	67.4
North: Eastern Creek Dr														
7	L2	122	7	128	5.7	0.252	12.2	LOS A	2.6	19.1	0.34	0.65	0.34	52.4
9	R2	32	12	34	37.5	* 0.263	82.0	LOS F	2.5	23.5	0.97	0.74	0.97	19.8
Approach		154	19	162	12.3	0.263	26.7	LOS B	2.6	23.5	0.47	0.67	0.47	41.3
West: Old Wallgrove Rd														
10	L2	6	5	6	83.3	0.006	8.7	LOS A	0.0	0.3	0.11	0.60	0.11	48.7
11	T1	1195	226	1258	18.9	* 0.509	10.9	LOS A	21.6	175.6	0.49	0.45	0.49	57.5
Approach		1201	231	1264	19.2	0.509	10.9	LOS A	21.6	175.6	0.49	0.45	0.49	57.4
All Vehicles		2080	555	2189	26.7	0.509	10.0	LOS A	21.6	175.6	0.40	0.39	0.40	58.0

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

Site: 101 [Future Base + Dev AM Old Wallgrove Rd / Eastern Creek Dr (Site Folder: General)]

Old Wallgrove Road / Eastern Creek Drive
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 160 seconds (Site User-Given Phase Times)

Timings based on settings in the Site Phasing & Timing dialog
Phase Times specified by the user
Phase Sequence: Leading Right Turn
Reference Phase: Phase A
Input Phase Sequence: A, B, C
Output Phase Sequence: A, B, C

Site Layout

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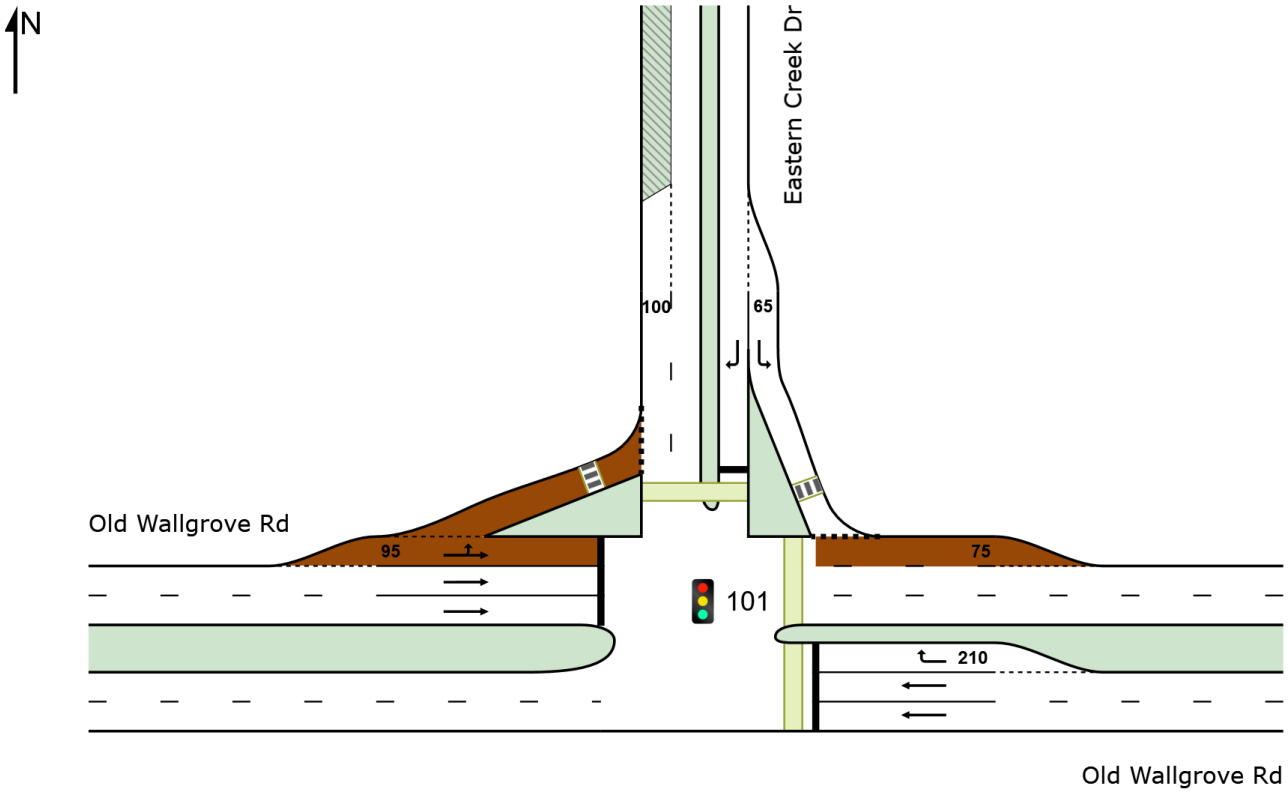
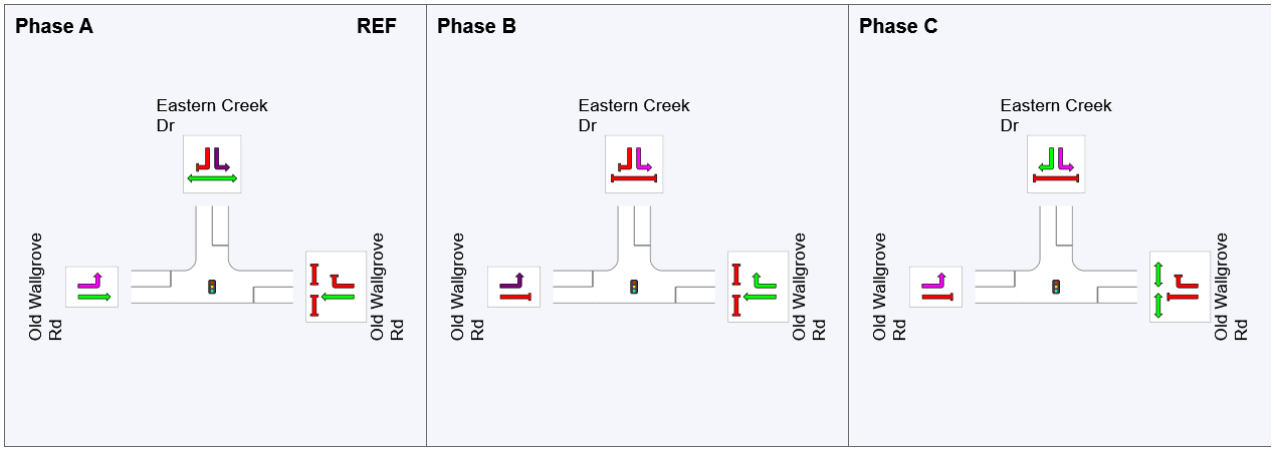
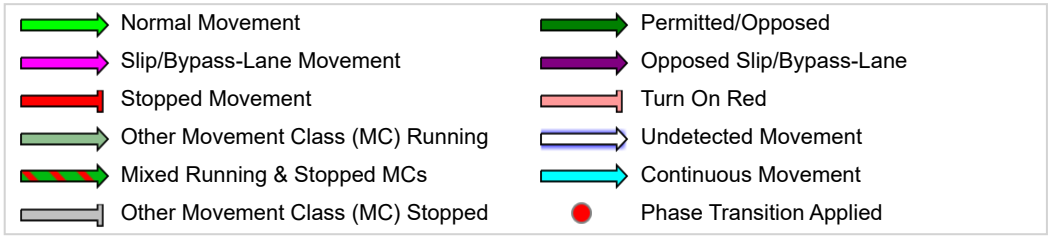


Output Phase Sequence



REF: Reference Phase
VAR: Variable Phase



Vehicle Movement Performance															
Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Old Wallgrove Rd														
5	T1	1434	294	1509	20.5	* 0.524	3.9	LOS A	16.6	136.4	0.32	0.29	0.32	70.1
6	R2	179	10	188	5.6	1.206	275.8	LOS F	29.9	219.1	1.00	1.26	2.29	9.9
Approach		1613	304	1698	18.8	1.206	34.1	LOS C	29.9	219.1	0.39	0.40	0.53	35.6
North: Eastern Creek Dr														
7	L2	3	2	3	66.7	0.007	9.3	LOS A	0.0	0.4	0.20	0.56	0.20	44.4
9	R2	56	1	59	1.8	* 0.367	81.7	LOS F	4.5	31.7	0.98	0.76	0.98	20.3
Approach		59	3	62	5.1	0.367	78.0	LOS F	4.5	31.7	0.94	0.75	0.94	21.0
West: Old Wallgrove Rd														
10	L2	33	8	35	24.2	0.026	9.5	LOS A	0.4	3.0	0.19	0.63	0.19	50.5
11	T1	800	304	842	38.0	0.378	9.5	LOS A	12.6	117.1	0.42	0.38	0.42	59.6
Approach		833	312	877	37.5	0.378	9.5	LOS A	12.6	117.1	0.42	0.39	0.42	59.1
All Vehicles		2505	619	2637	24.7	1.206	27.0	LOS B	29.9	219.1	0.41	0.41	0.50	40.0

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
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Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

Site: 101 [Future Base + Dev PM Old Wallgrove Rd / Eastern Creek Dr (Site Folder: General)]

Old Wallgrove Road / Eastern Creek Drive
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 160 seconds (Site User-Given Phase Times)

Timings based on settings in the Site Phasing & Timing dialog
Phase Times specified by the user
Phase Sequence: Leading Right Turn
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Input Phase Sequence: A, B, C
Output Phase Sequence: A, B, C

Site Layout

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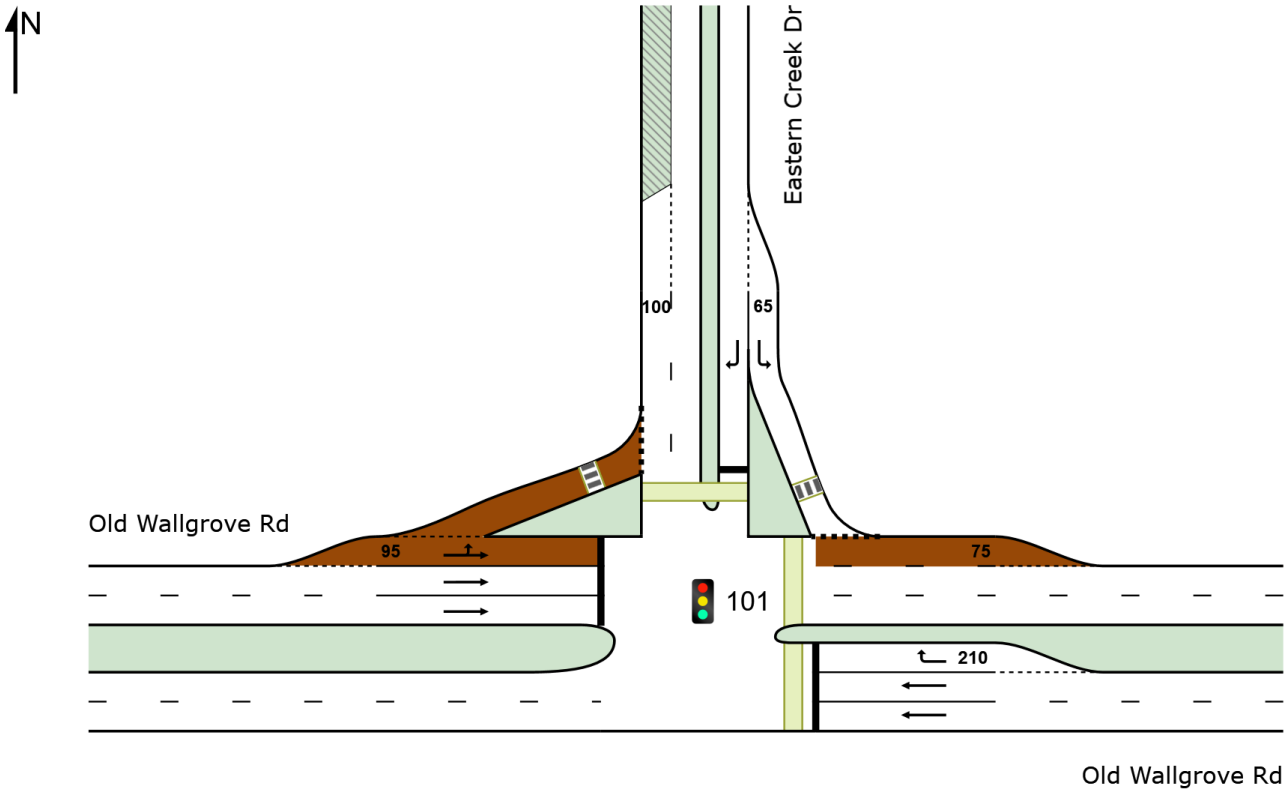
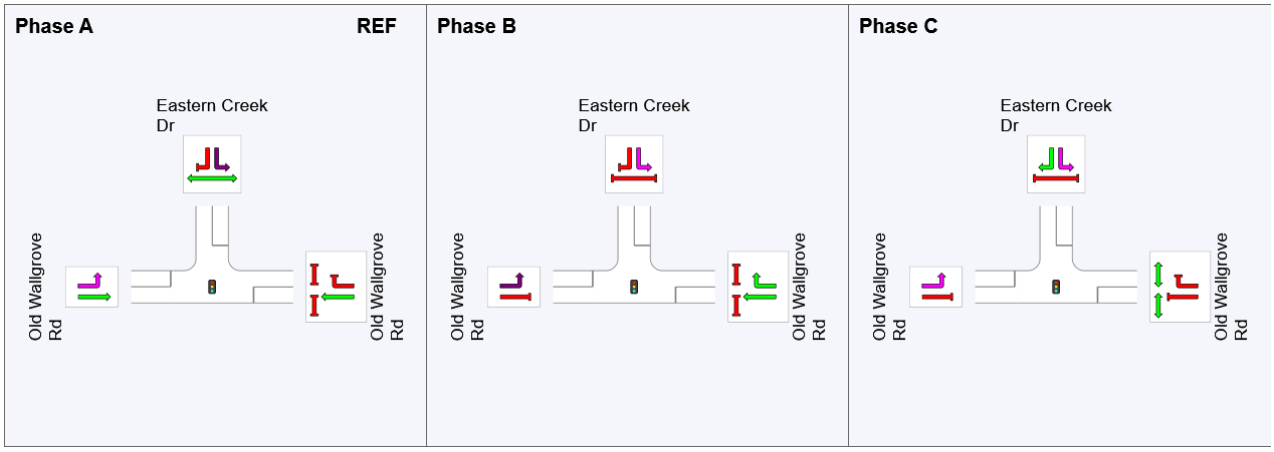


Output Phase Sequence



REF: Reference Phase
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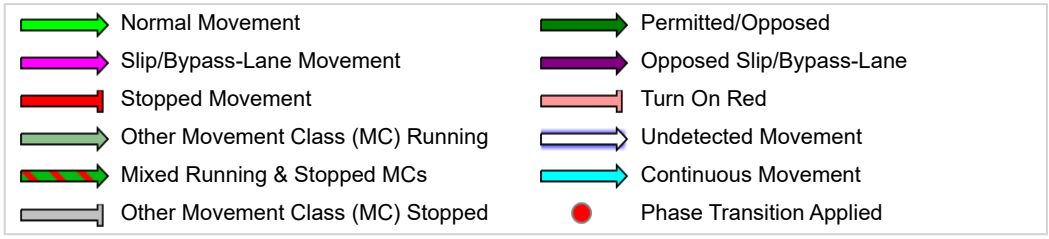

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Old Wallgrove Rd														
5	T1	706	298	743	42.2	0.290	2.9	LOS A	6.1	57.7	0.23	0.21	0.23	72.4
6	R2	25	9	26	36.0	* 0.204	83.1	LOS F	2.0	18.1	0.96	0.73	0.96	24.9
Approach		731	307	769	42.0	0.290	5.7	LOS A	6.1	57.7	0.26	0.23	0.26	66.0
North: Eastern Creek Dr														
7	L2	160	9	168	5.6	0.331	12.7	LOS A	3.8	27.5	0.37	0.67	0.37	52.1
9	R2	42	16	44	38.1	* 0.346	82.8	LOS F	3.4	31.3	0.98	0.75	0.98	19.6
Approach		202	25	213	12.4	0.346	27.3	LOS B	3.8	31.3	0.50	0.68	0.50	41.1
West: Old Wallgrove Rd														
10	L2	8	7	8	87.5	0.008	8.7	LOS A	0.0	0.4	0.11	0.60	0.11	48.6
11	T1	1195	226	1258	18.9	* 0.509	10.9	LOS A	21.6	175.6	0.49	0.45	0.49	57.5
Approach		1203	233	1266	19.4	0.509	10.9	LOS A	21.6	175.6	0.49	0.45	0.49	57.4
All Vehicles		2136	565	2248	26.5	0.509	10.6	LOS A	21.6	175.6	0.41	0.40	0.41	56.9

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
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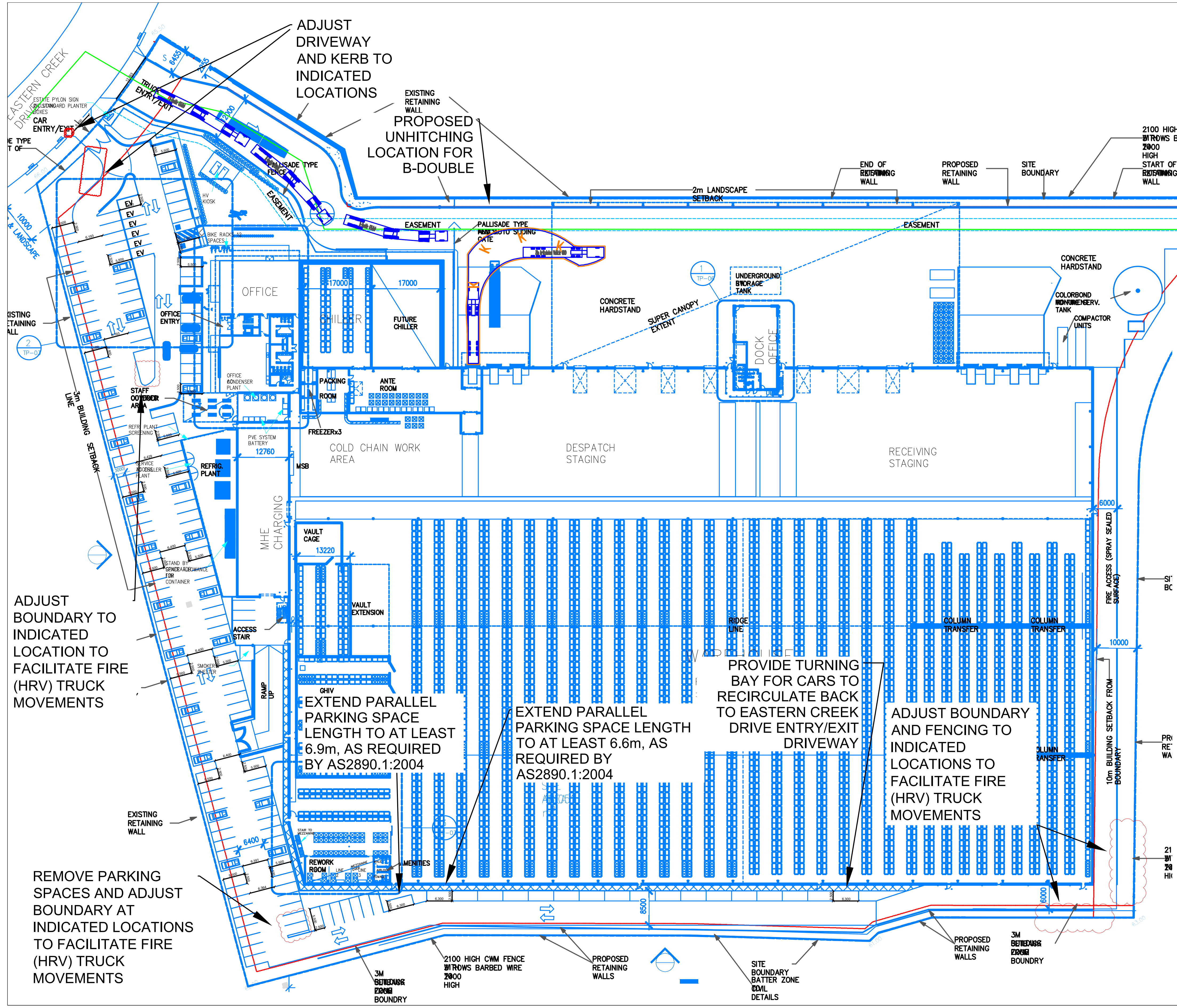
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

Appendix C. Swept Paths


ADJUST DRIVEWAY AND KERB TO INDICATED LOCATIONS
PROPOSED UNHITCHING LOCATION FOR B-DOUBLE
ADJUST BOUNDARY TO INDICATED LOCATION TO FACILITATE FIRE (HRV) TRUCK MOVEMENTS
EXTEND PARALLEL PARKING SPACE LENGTH TO AT LEAST 6.9m, AS REQUIRED BY AS2890.1:2004
EXTEND PARALLEL PARKING SPACE LENGTH TO AT LEAST 6.6m, AS REQUIRED BY AS2890.1:2004
PROVIDE TURNING BAY FOR CARS TO RECIRCULATE BACK TO EASTERN CREEK DRIVE ENTRY/EXIT DRIVEWAY
ADJUST BOUNDARY AND FENCING TO INDICATED LOCATIONS TO FACILITATE FIRE (HRV) TRUCK MOVEMENTS
REMOVE PARKING SPACES AND ADJUST BOUNDARY AT INDICATED LOCATIONS TO FACILITATE FIRE (HRV) TRUCK MOVEMENTS
EASTERN CREEK DRIVE
HONEYCOMB DRIVE
OFFICE
DOCK OFFICE
COLD CHAIN WORK AREA
DESPATCH STAGING
RECEIVING STAGING
MHE CHARGING
TRUCK ENTRY/EXIT
CAR ENTRY/EXIT
EASEMENT
2m LANDSCAPE SETBACK
SUPER CANOPY EXTENT
CONCRETE HARDSTAND
UNDERGROUND STORAGE TANK
VAULT CAGE
VAULT EXTENSION
FIRE ACCESS (SPRAY SEALED SURFACE)
10m BUILDING SETBACK FROM BOUNDARY
3m BUILDING SETBACK LINE

1. SITE ACCESS: REFER TO IMAGE FOR ASSUMED CIRCULATION
   1.1. TRUCK ENTRY VIA EASTERN CREEK DRIVE
   1.2. TRUCK EGRESS VIA HONEYCOMB DRIVE
   1.3. CAR ENTRY & EXIT VIA EASTERN CREEK DRIVE
   1.4. ACCESS DOES NOT CATER FOR SIMULATENOUS ENTRY & EXIT WITH A 30m A-DOUBLE.
2. DETAIL REQUIRED AT FIRE STANDING AREA REGARDING FIRE BOOSTER CONNECTION POINT IMPACT
3. 12.5m HRV FIRE TRUCKS ARE ABLE TO ACCESS THE WAREHOUSE FROM ALL DRIVEWAYS ON EASTERN CREEK DRIVE AND HONEYCOMB DRIVE.
4. KERB AND BOUNDARY ADJUSTMENTS MENTIONED IN AG04, AG05, AG06, AG07 & AG08 HAVE BEEN INDICATED TO PROVIDE CLOCKWISE & ANTI-CLOCKWISE FIRE TRUCK CIRCULATION THROUGHOUT THE SITE. THE FOLLOWING OPTIONS APPLY TO THE REAR FIRE TRACK:
   4.1. CUTS TO FENCING & LANDSCAPE AS PER AG04 & AG05
   4.2. CUTS TO WAREHOUSE GFA & KERB AS PER AG06 & AG07
5. REGARDING THE CAR DRIVEWAY AREA, IT IS RECOMMENDED TO SPLAY THE DRIVEWAY, FENCING AND VEGETATION AS SEEN IN THIS SHEET AND IN DETAIL ON AG04-AG07 TO PROVIDE FIRE TRUCK EGRESS.
   5.1. AN ALTERNATIVE CUT OPTION IS SHOWN IN AG08.
6. THE CLASS OF CAR PARKING SPACES HAS BEEN ASSESSED AND IDENTIFIED AS USER CLASS 2 (GREATER THAN USER CLASS 1/1A AS REQUIRED BY AS2890.1:2004).
7. CAR PARKING SPACES INDICATED ON THIS SHEET ARE TO BE REMOVED TO ACCOMODATE FIRE TRUCK CIRCULATION.
8. OBSTRUCTED END PARALLEL PARKING SPACES AT REAR PARKING TO BE EXTENDED BY 0.3m AND 0.6m ACCORDINGLY, AS REQUIRED BY AS2890.1:2004.

GENERAL NOTES

This drawing is provided for information purposes only and should not be used for construction.
Base Plan prepared by Quanstruct received 04.04.2022.
Swept path assessments completed at 10 km/h and 300mm clearance.

DESIGNED	PAPER SIZE
RebeccaBMadden	A3
APPROVED BY	DATE
X.XXXX	04.03.2022
SCALE	0 1 2
1:1000	

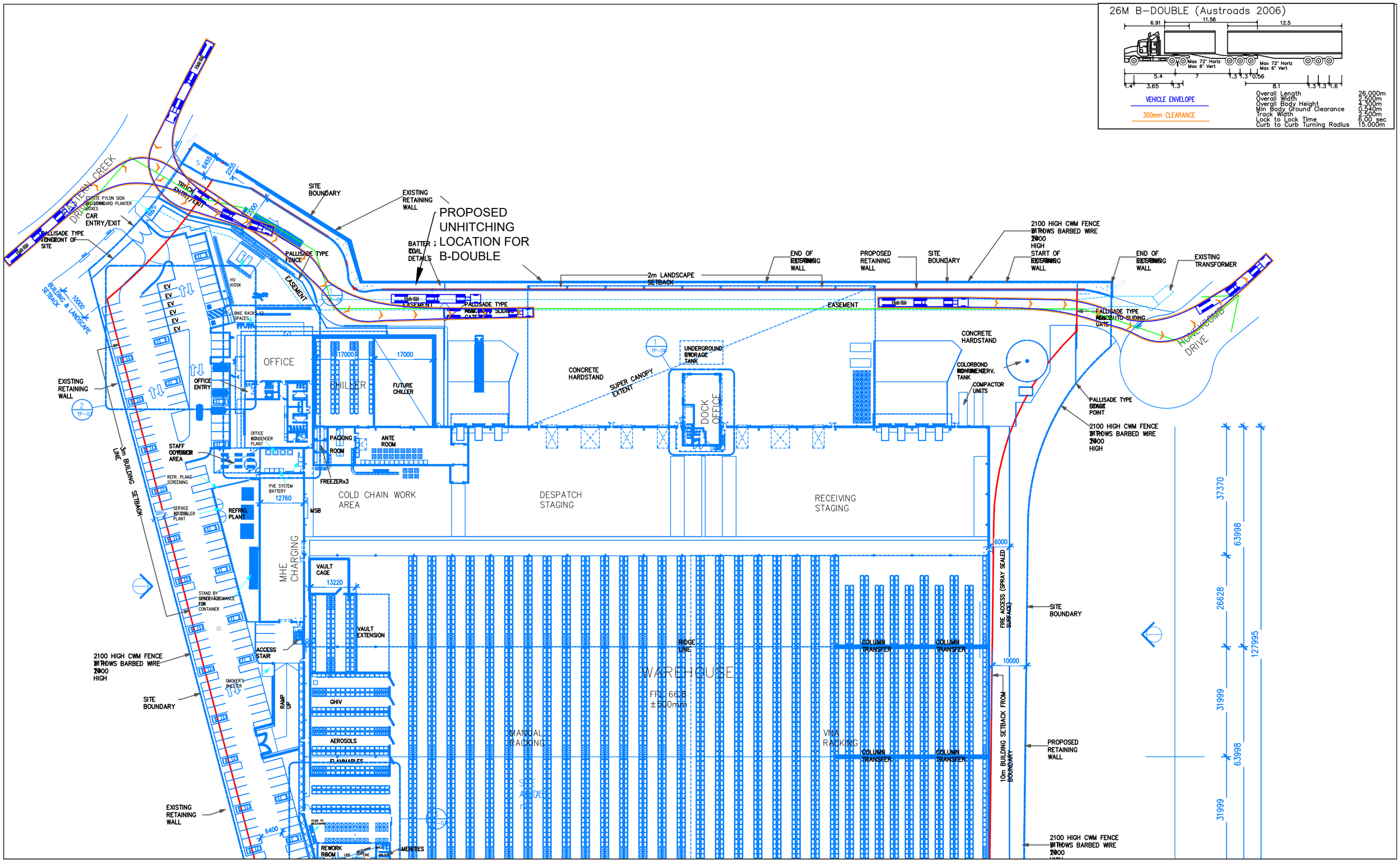
CLIENT
Charter Hall

PROJECT
1570
Lot 1 Eastern Creek Dr, Eastern Creek

DOCUMENT INFORMATION
GENERAL COMMENTS

FILE NAME	SHEET
AG1570-05-v01.dwg	AG01

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



GENERAL NOTES

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Base Plan prepared by Quanstruct received 04.04.2022.
Swept path assessments completed at 10 km/h and 300mm clearance.

DESIGNED	RebeccaBMadden
PAPER SIZE	A3
APPROVED BY	X.XXXX
DATE	10.02.2022
SCALE	1:1000
0 1 2	

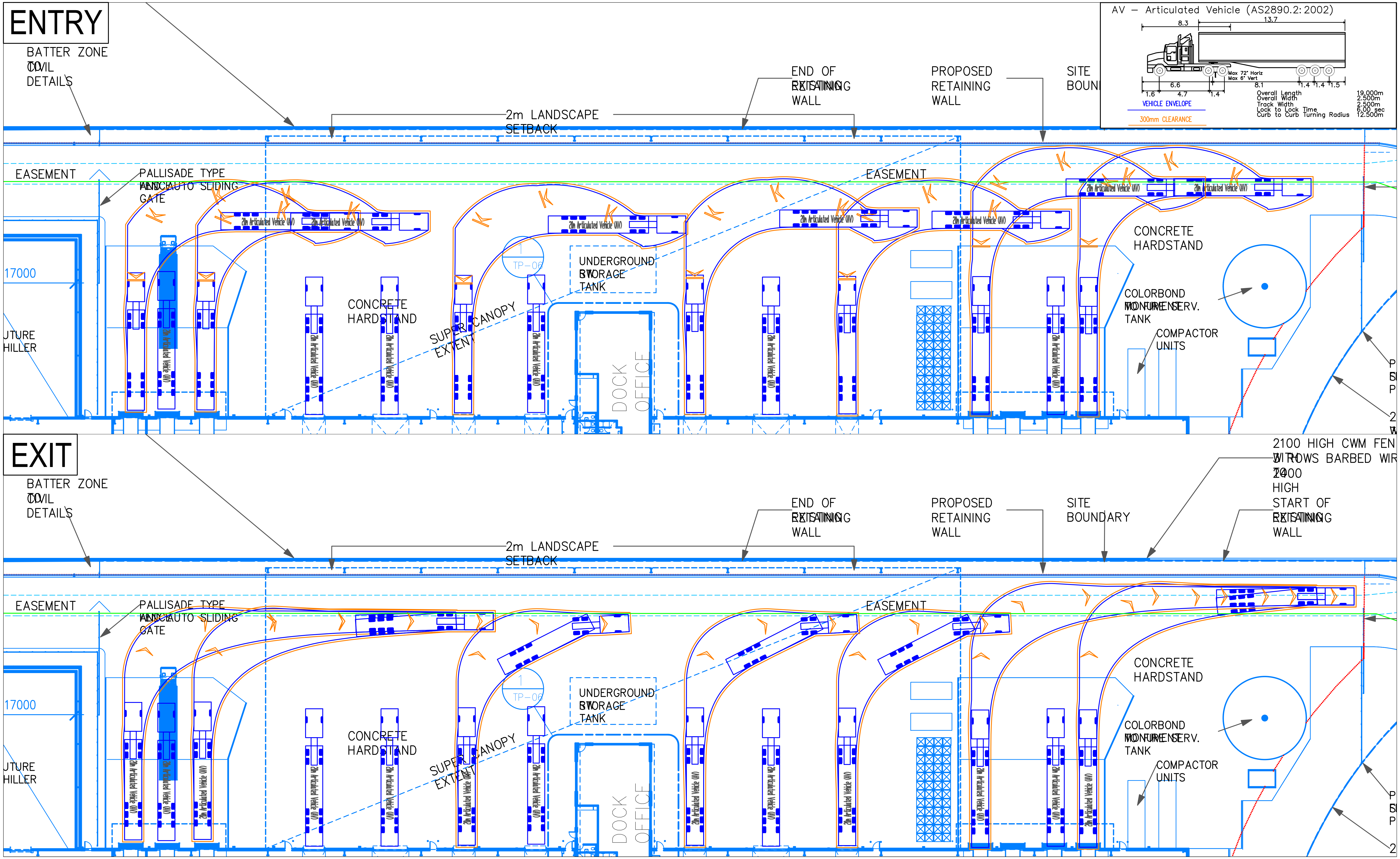
CLIENT
Charter Hall

PROJECT
1570
Lot 1 Eastern Creek Dr, Eastern Creek

DOCUMENT INFORMATION
SWEPT PATH ASSESSMENT
30m A-DOUBLE

FILE NAME	SHEET
AG1570-05-v01.dwg	AG02

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



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

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RebeccaBMadden	A3
APPROVED BY	DATE
X.XXXX	10.02.2022
SCALE	0 1 2
1:500	

CLIENT
Charter Hall

PROJECT
1570
Lot 1 Eastern Creek Dr, Eastern Creek

DOCUMENT INFORMATION
SWEPT PATH ASSESSMENT
20m Articulated Vehicle

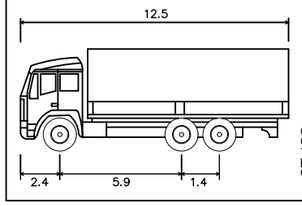
FILE NAME	SHEET
AG1570-05-v01.dwg	AG03

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

CLOCKWISE

MINOR KERB ADJUSTMENTS REQUIRED TO INDICATED LOCATIONS. TO BE DONE DURING DETAILED DESIGN PRIOR TO CONSTRUCTION.

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



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

GENERAL NOTES

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

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APPROVED BY	X.XXXX
DATE	10.02.2022
SCALE	1:1000

0 1 2

CLIENT
Charter Hall

PROJECT
1570
Lot 1 Eastern Creek Dr, Eastern Creek

DOCUMENT INFORMATION
SWEPT PATH ASSESSMENT
12.5m HRV FIRE TRUCK

FILE NAME	SHEET
AG1570-05-v01.dwg	AG04

asongroup
Suite 17.02, Level 17, 1 Castlereagh St
Sydney NSW 2000
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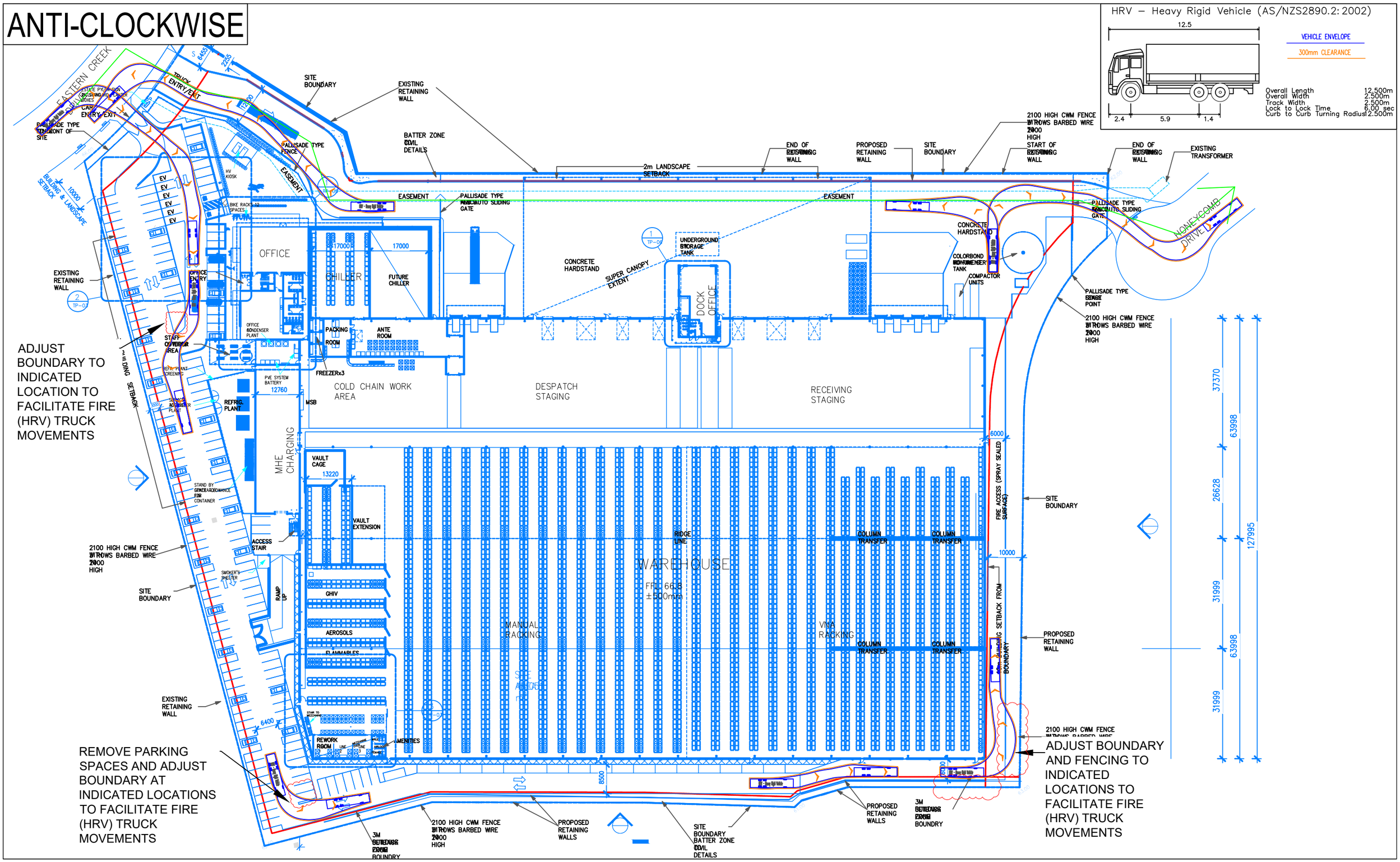
ANTI-CLOCKWISE



ADJUST BOUNDARY TO INDICATED LOCATION TO FACILITATE FIRE (HRV) TRUCK MOVEMENTS

REMOVE PARKING SPACES AND ADJUST BOUNDARY AT INDICATED LOCATIONS TO FACILITATE FIRE (HRV) TRUCK MOVEMENTS

ADJUST BOUNDARY AND FENCING TO INDICATED LOCATIONS TO FACILITATE FIRE (HRV) TRUCK MOVEMENTS

GENERAL NOTES

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APPROVED BY: X.XXXX	DATE: 10.02.2022
SCALE: 1:1000	0 1 2

CLIENT
Charter Hall

PROJECT
1570
Lot 1 Eastern Creek Dr, Eastern Creek

DOCUMENT INFORMATION
SWEPT PATH ASSESSMENT
12.5m HRV FIRE TRUCK

FILE NAME	SHEET
AG1570-05-v01.dwg	AG05

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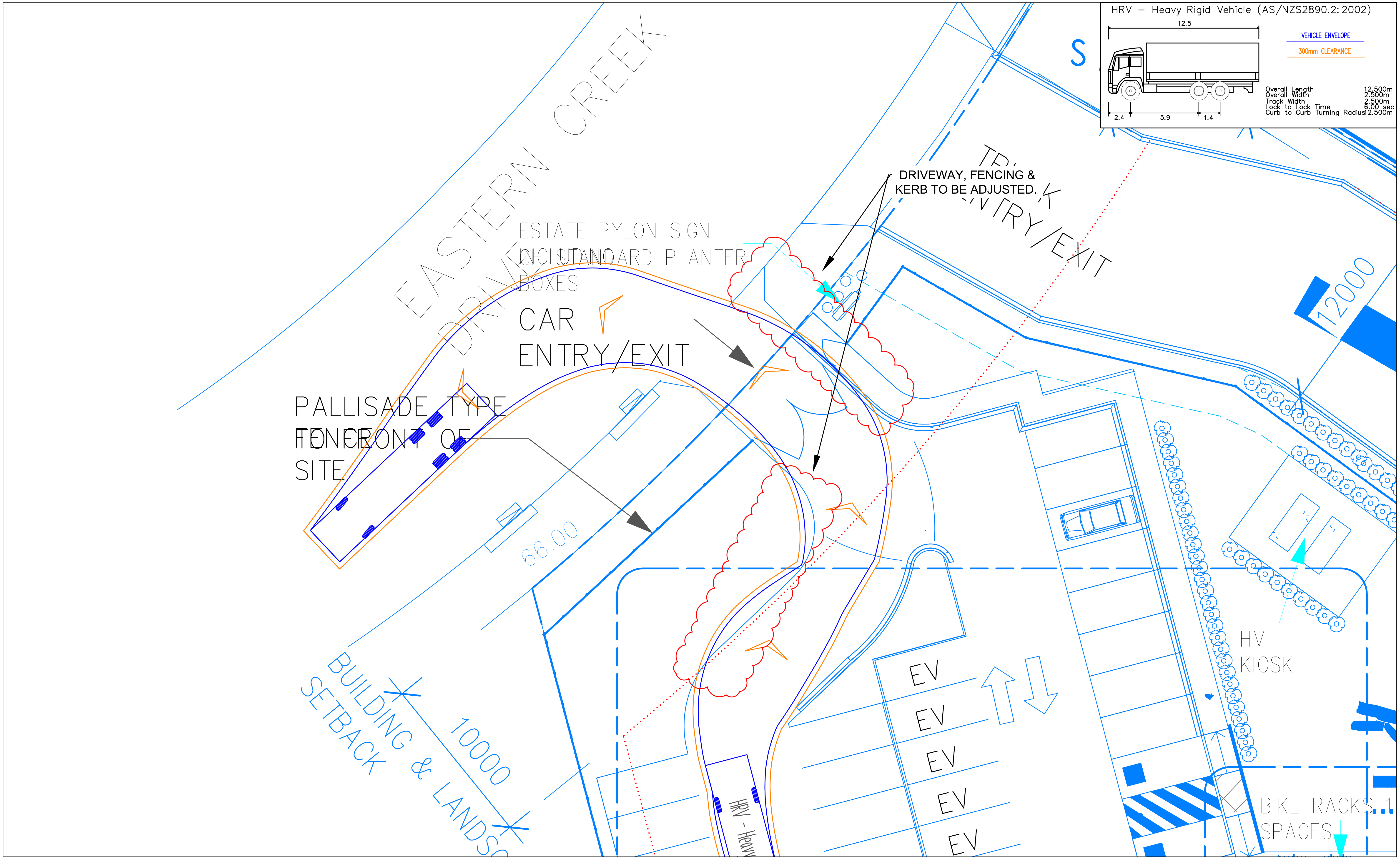

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X.XXXX	10.02.2022
SCALE	
1:200	0 1 2

CLIENT
Charter Hall

PROJECT
1570
Lot 1 Eastern Creek Dr, Eastern Creek

DOCUMENT INFORMATION
SWEPT PATH ASSESSMENT
12.5m HRV FIRE TRUCK

FILE NAME	SHEET
AG1570-05-v01.dwg	AG06

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Appendix D. Green Travel Plan

Framework Green Travel Plan

Compass 2 Warehouse & Distribution Centre
Lot 1 Eastern Creek Drive, Eastern Creek

10/02/2022
P1570r01

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+61 2 9083 6601
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Sydney, NSW 2000

Document Control

Project No	1570
Project	Compass 2 Warehouse & Distribution Centre, Eastern Creek
Client	Charter Hall
File Reference	P1570r04v1 GTP Compass 2 Warehouse & Distribution Centre, Eastern Creek, Issue

Revision History

Revision No.	Date	Details	Author	Approved by
-	07/12/2021	Draft	S. Bandaranayake	R. Butler-Madden
I	10/02/2022	Issue	S. Bandaranayake	R. Butler-Madden

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contents continued

Figures

Tables

APPENDICES

1 Introduction

1.1 Context

This Framework Green Travel Plan (GTP) has been developed to support the application in relation to State Significant Development (SSD) 30927029. The SSD relates to a proposed industrial development known as Compass 2 Warehouse & Distribution Centre, located on Lot 1 Eastern creek Drive, Eastern Creek (the Site), within the Blacktown City Council (LGA).

1.2 Background

The Site forms part of the Eastern Creek Precinct (ECP) and is situated some 14km from the broader Western Sydney Aerotropolis. While the ECP and Wester Sydney Aerotropolis are subject to different controls, (being the *State Environmental Planning Policy (Western Sydney Employment Area) 2009*; and the *State Environmental Planning Policy (Western Sydney Aerotropolis) 2020* respectively), the background studies provide some more up to date context with regards to travel demand management, specifically the following report:

- AECOM *Western Sydney Aerotropolis Transport Planning and Modelling Stage 2 Report*, October 2020 (AECOM Report).

The AECOM Report is one of the technical reports supporting the delivery of the Draft Aerotropolis Precinct Plan (November 2020), of which the exhibition period has recently been completed. One of the key "enablers" detailed in the AECOM Report includes *the implementation of transport policies and strategies which foster a mode shift to sustainable transport*: and recommends the inclusion of Travel Plans for new development applications within the future Aerotropolis Development Control Plan.

As detailed in the AECOM Report Travel Plans should include the following:

- Baseline travel data on the existing modal share.
- Targets.
- Action plan to achieve targets.
- Commitment to on-going review of the Travel Plan.
- Monitoring and review strategy.

Of particular relevance to this GTP, are the mode share targets set by the AECOM Report for each of the Aerotropolis precincts, the most comparable precinct to the Site being the Badgerys Creek and Agribusiness Precincts. Of the 5 Aerotropolis Precincts covered, Badgerys Creek and Agribusiness have the lowest sustainable mode share targets (by 2056) of 20% and 18% respectively (the Badgerys Creek Precinct is shown by **Figure 1**).

This reflects the planned land uses, which are anticipated to support warehousing and logistic uses. These targets are long-term target, with an intent to be ambitious but achievable based on the policy framework, actions, initiatives, infrastructure and services defined through the precinct planning process. On this basis, the targets of the Badgerys Creek Precinct have informed the targets for this GTP.

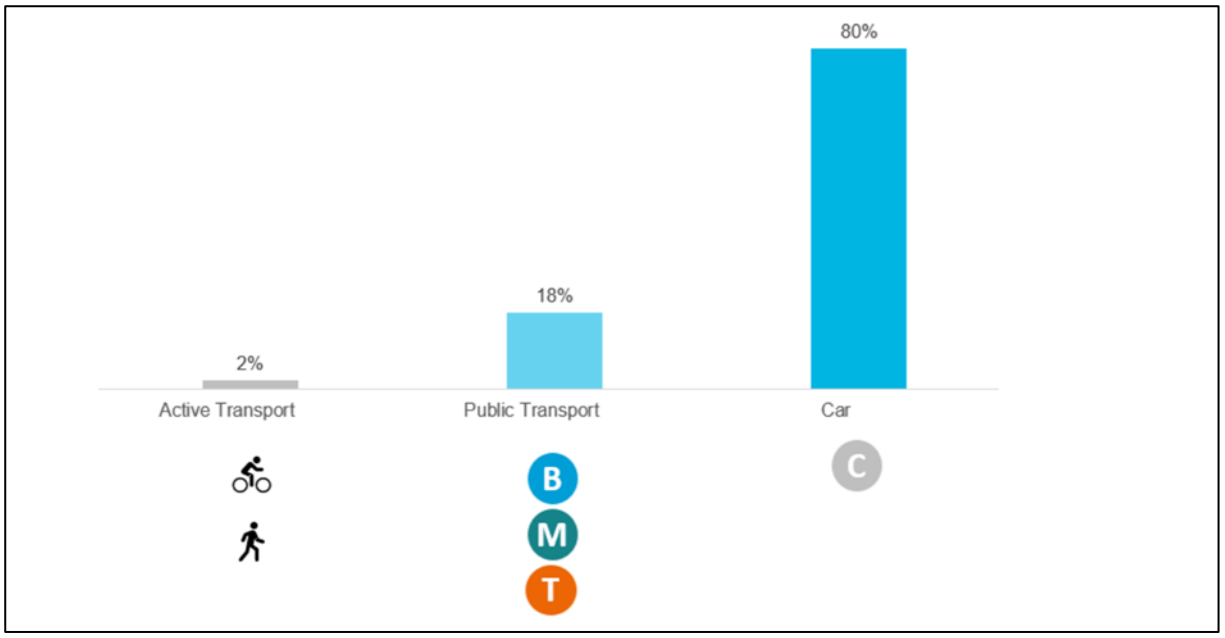


Figure 1: 2056 Badgerys Creek Mode Share Targets

Source: AECOM Report

1.3 Goals

This GTP has specifically been prepared to achieve the following key goals:

1. Identify objectives and modes share targets (i.e., site and land use specific, measurable and achievable and timeframes for implementation) to define the direction and purpose of the future GTP;
2. Suggest specific tools and actions to help achieve the objectives and mode share targets;
3. Suggest measures to promote and support the implementation of the GTP, including financial and human resource requirements, roles and responsibilities for relevant employees involved in the implementation of the future GTP;
4. Suggest a methodology and monitoring/review program to measure the effectiveness of the objectives and mode share targets of the future GTP, including the frequency of monitoring and the requirement for travel surveys to identify travel behaviours at appropriate times.

1.4 Objectives

Underpinning this GTP comprises a package of measures which could be adopted and designed to address the specific travel needs of the Site. In this regard, the overall intention is to encourage and facilitate the use of alternative and sustainable modes of transport and to reduce single-occupancy car travel for journeys to and from the Site.

The primary objectives of the future GTP will be to:

- Reduce the environmental footprint of Compass 2 Warehouse & Distribution Centre.
- Set future staff travel mode share targets.

- Improve access, amenity, convenience, and safety of sustainable transport modes to/from the Site.
- Promote the use of ‘active transport’ modes such as walking and cycling, particularly for short-medium distance journeys.
- Reduce reliance on the use of private vehicles for all journeys.
- Encourage a healthier, happier and more active & public transport use culture.

2 Site Audit

2.1 Introduction

An audit of the Site is required to determine the existing facilities in the area and review existing transport choices. This section will need to be updated prior to implementation of any future Plan, and should be updated regularly, to ensure that it remains as up to date as possible. The audit considers the following:

- Public transport services in the area, including proximity to the Site, frequency of services and accessibility;
- Bicycle and pedestrian facilities, including accessibility, connectivity and safety; and
- Mode-split data for the Site and local area.

2.2 Development Site

2.2.1 Location & Description

The Site is comprised of a single Lot (refer to **Table 1**) and is located at Lot 1 Eastern Creek Road, Eastern Creek.

The Site is shown in its sub-regional context in **Figure 2.**

TABLE 1: SITE DESCRIPTION

Address	Title	Area (Ha)
Lot 1	Lot 1 / DP 1274322	4.81

The Site currently has an access point onto Eastern Creek Drive. An additional vehicular access will also be provided by way of Honeycomb Drive once the development is delivered. Eastern Creek Drive connects to Old Wallgrove Road, to the south of the Site. From Old Wallgrove Road, access is available east to the Westlink M7 Motorway, and Wallgrove Road; subsequently leading to the M4 motorway and Great Western Highway to the north.

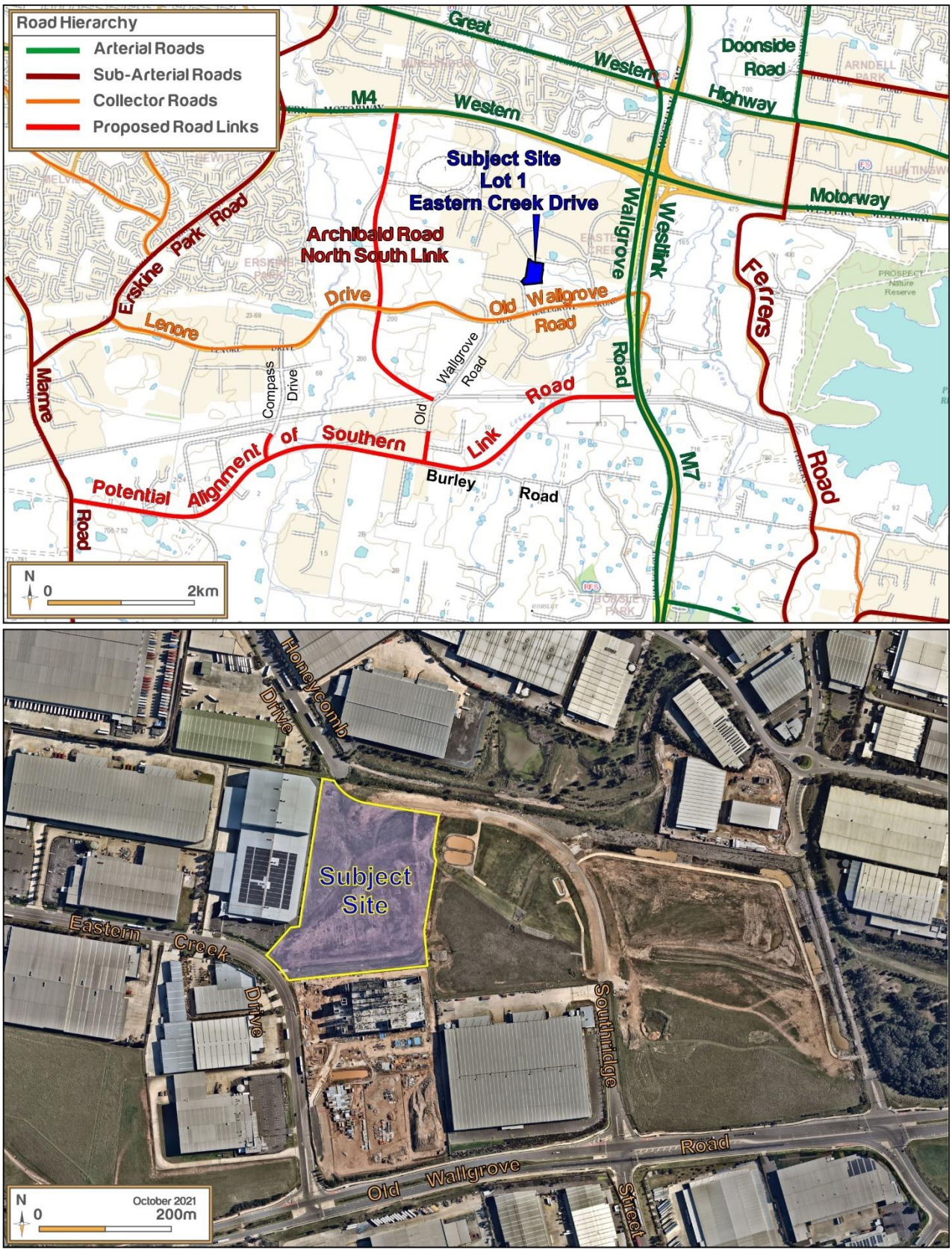


Figure 2: Site Context and Road Hierarchy

2.2.2 Proposed Development

In summary, the application relates to the construction and 24/7 operation of a warehouse and distribution centre at Lot 1 Eastern Creek Drive, Eastern Creek, comprising:

- Minor earthworks involving cut and fill works;
- Site preparation works and servicing;
- Warehouse, main office, ancillary office, dock office, loading docks, carparking, forklift charging room;
- External hardstands and landscaping.

The SSD Proposal is reproduced at a reduce scale in **Figure 3**. It provides for bicycle parking and the relevant End of Trip Facilities in compliance with the required standards, as well as providing for Electric Vehicle charging bays.

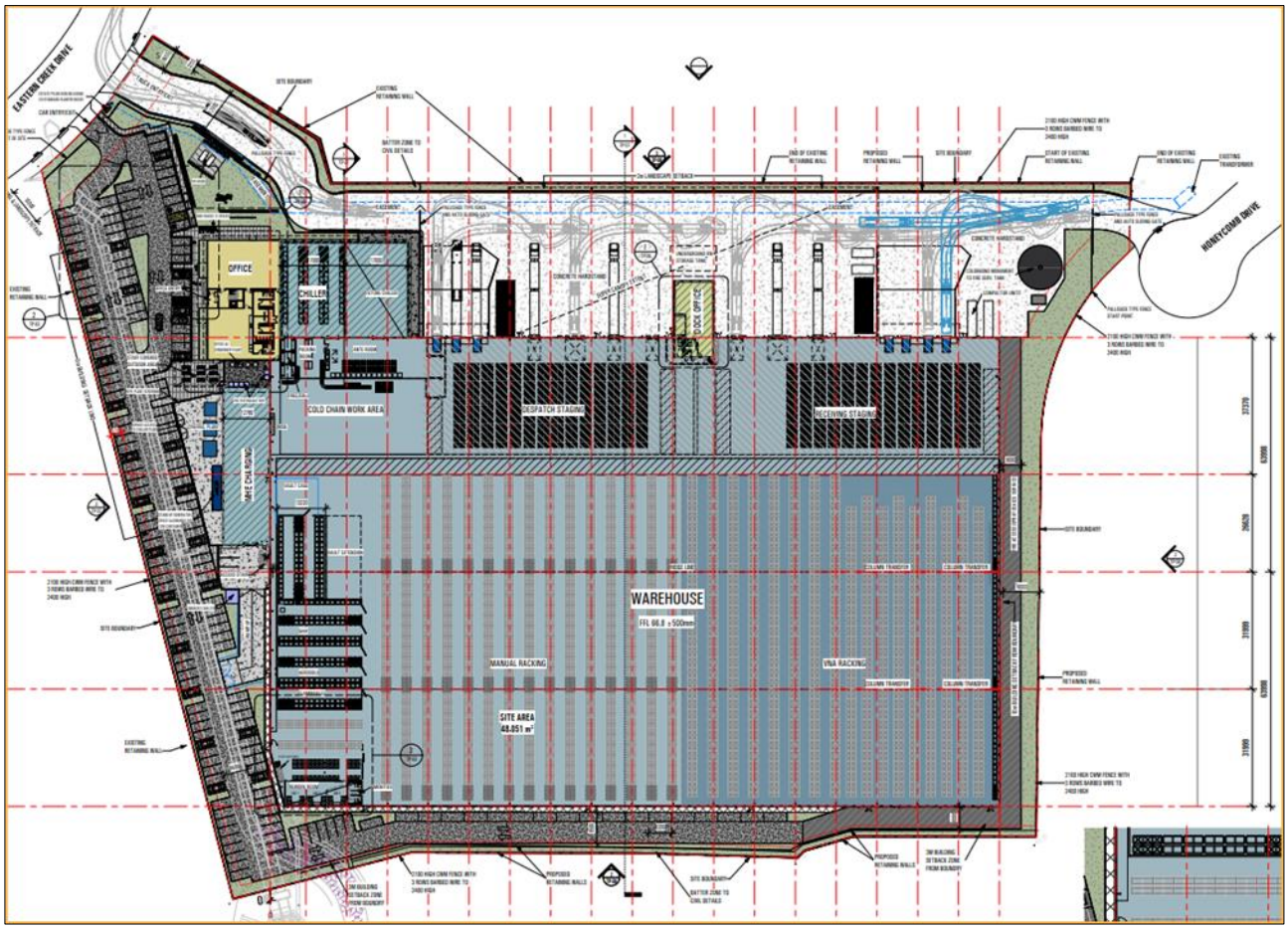


Figure 3: SSD Proposal

2.3 Existing Public & Active Transport

2.3.1 Introduction

The Site is limited with the current public transport service offering, as shown in **Figure 4**. A summary of existing public transport services is provided below.

2.3.2 Bus Services

TfNSW Guidelines state that bus services influence the travel mode choices of sites within 400m (approximately 5 minutes' walk) of a bus stop.

Accordingly, the Site is serviced by a number of bus stops, as shown by Figure 4. These bus stops are within walkable accessibility by bus services operating along Old Wallgrove Road.

Details of each service that stops within 400m walking distance are presented in **Table 2**. The table provides details around each route number, route description and service frequencies during the morning, evening and off-peak periods. It is to be updated as part of the review process of the implemented GTP.

TABLE 2: BUS SERVICES

Route No.	Route Name	Stops	Frequency
723	Mt Druitt to Blacktown	Mt Druitt, Rooty Hill, Eastern Creek, Minchinbury, Huntingwood, Arndell Park, Blacktown	AM Peak: 15-20 minutes PM Peak: 20 minutes Off Peak: 60 minutes
738	Mt Druitt Station to Rooty Hill	Mt Druitt, Rooty Hill, Eastern Creek, Horsley Park, Minchinbury, Rooty Hill	AM Peak: 20 minutes PM Peak: 20 minutes Off Peak: 30 minutes
835	Western Sydney University to Prairiewood	Penrith, St Marys, St Clair, Eastern Creek, Horsley Park, Bossley Park	AM Peak: 30 minutes PM Peak: 30 minutes Off Peak: 30 minutes

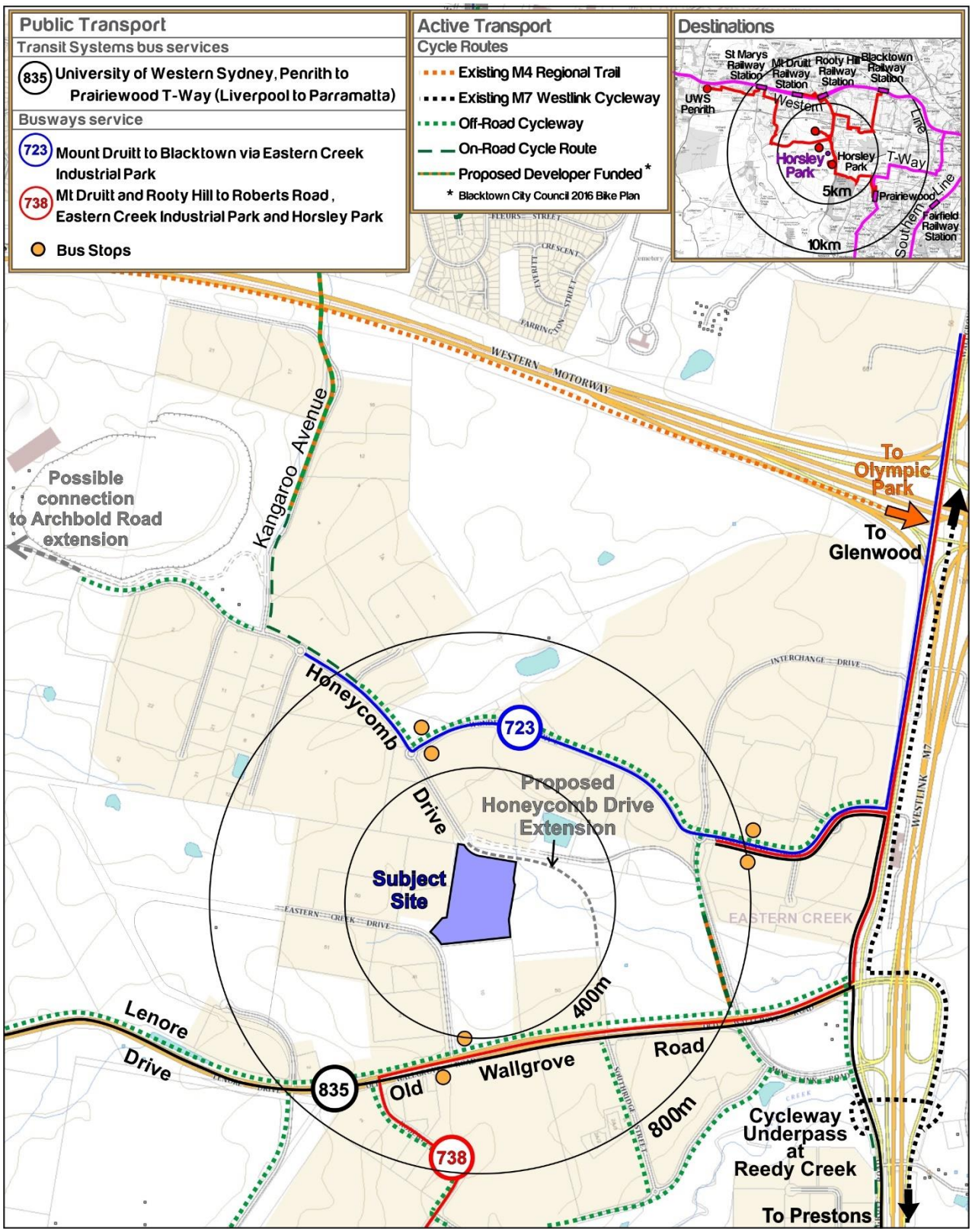


Figure 4: Public & Active Transport Network

2.3.3 Train Services

With regard for accessibility to the existing rail network, the Site is not situated within walking distance of a train station. However, with reference to Figure 4, Rooty Hill station serves as the closest in proximity to the Site, some 7km away with buses 723 and 738 (Table 6) providing access.

Serviceably details are provided in **Table 3** below.

TABLE 3: TRAIN FREQUENCIES

Station - Line	To City	From City	Total
Rooty Hill Station - via Main Western line			
Morning Peak Hour (8-9AM)	4	4	8
Off Peak Hour	4	4	8
Afternoon Peak Hour (5-6PM)	4	6	10

2.3.4 Active Transport

Pedestrian infrastructure is not available on either side of Eastern Creek Drive, as such liaising with Council to provide footpaths to increase active transport could be included as a GTP measure. There are however shared paths along the northern side of Old Wallgrove Road; these shared paths connect with the Westlink M7 Shared Path, that extend along the western side of the Westlink M7 Motorway. In addition, the cycle lanes on the M4 cater for regional bicycle travel.

To the southern side of Old Wallgrove Road, footpaths are provided which are connected by a signalised crossing at the intersection with Eastern Creek Drive. Signalised pedestrian crossings are also provided at the slip lanes on Eastern Creek Drive.

2.4 On Demand Services

2.4.1 Car Share

Car sharing has emerged as a cost effective, flexible alternative to private vehicle ownership. Provision of car share in the area could facilitate intermittent work trips that may need to be made by car such that staff can commute by other modes.

Prior to the commencement of car share providers, it is proposed to consider schemes such as provision of car share priority parking spaces, to actively encourage car sharing amongst staff.

2.5 Existing Travel Patterns

2.5.1 Journey to Work Data Analysis

Journey-to-Work (JTW) data from the Australian Bureau of Statistics (ABS) 2016 Census and specifically aggregated Destination Zones (DZ) has been referenced to understand the baseline travel characteristics of

the Site. This data informs the initial targets and should be refined and updated as part of the monitoring process through the use of travel survey data of the operational development.

A summary of key travel modes for those travelling to the locality for work have been reviewed with regard for the surrounding Destination Zone 116031318, within the Prospect Reservoir – Eastern Creek SA2 level statistical area.

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

TABLE 4: TRAVEL MODE SUMMARY (JOURNEY TO WORK)

Travel Mode	Mode Share of Employees
Car as driver	90%
Train	2%
Bus	1%
Walked only	0%
Car as passenger	6%
Motorbike/Scooter	1%
Bicycle	0%
Taxi	0%
Other Modes	0%

With reference to Table 4, it is evident that the private vehicle (car) is the overwhelming preferred mode of choice for commuters travelling to work in the area. The data indicates that 96% travel to work by car with 90% as the driver and 6% as passenger i.e. car-pooling.

3 Development, Scope & Implementation

3.1 Introduction

This section sets out in broad terms how the GTP will be developed, the scope of the GTP and the objectives.

3.2 Responsibility

The responsibility for the future GTP will lie with site management and should form part of organisational policies. The future GTP should include a statement on company policy in relation to travel and should be endorsed by senior management.

3.3 GTP Scope

The future GTP should address the following types of travel generated by the development:

- Commuter journeys by staff;
- Visitor journeys;
- Business travel; and
- Site related deliveries from contractors etc.

The future GTPs are expected to have most effect on commuter journeys by staff. While the operator will aim to encourage sustainable travel by visitors, ultimately staff travel is easier to influence.

The aim is to develop practical measures that are effective in reducing car use for all journeys to the Site.

3.4 Implementation

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

The TPC will promote participation in and commitment to the GTP from those on the Site and will work in partnership with all stakeholders to deliver the GTP strategies and actions.

The TPC should be appointed before the Site becomes occupied, or within 1 month of the site becoming occupied. Details for the TPC role and responsibilities associated with the GTP are provided below. The main duties of the TPC are envisaged to be:

- Overseeing final development and implementation of the GTP.
- Internal liaison to promote awareness of the GTP amongst staff within the Site.
- Liaison with outside bodies, such as Blacktown City Council (Council) and local bus operators, as required regarding the operation of the GTP.

- Providing updated travel information to staff and visitors, as necessary.
- Monitoring, review and (if necessary) updates to the GTP.

3.5 Consultation

It is essential that any parties that may play a part in the future GTP's and its actions are aware and have an opportunity to discuss. This would enable equitable input and feedback as well maximising the overall efficacy of the GTP. For this reason, consultation with the following individuals and organisations are recommended:

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

Other organisations may be added to this list as the Plan evolves.

3.6 Travel Mode Targets

3.6.1 Introduction

Based on the existing travel mode splits identified in Section 2.5, the Site and the surrounding areas are considered to have a low dependency on public and active transport. This is reflective of the current nature of the area, which is largely industrial developments (or other large scale agribusinesses / residential developments).

As such, it is expected that the JTW data accurately reflects the current trends for travel to places of work at industrial sites. For example, the TfNSW *Guide to Traffic Generating Developments – Updated Traffic Surveys* (2013) itself provides details in relation to the principal mode of travel used by staff at Erskine Park and Eastern Creek warehouses, as found by surveys undertaken by TfNSW. These surveys indicate that 90% of all workers would travel via private vehicles with 8% travelling as passengers.

This section therefore sets out the targets for the reduction in car journeys associated with the Site, with consideration to the future land use in the area. 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 will be conducted in the future that will form the updated travel mode baseline to further develop site-specific targets. The first surveys will be undertaken shortly after occupation. These surveys will be repeated at a suitable time to assess the effectiveness of the implemented GTP; 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 every 1-2 years, for a minimum of 5 years.

3.6.2 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.

As per Section 1.2, the AECOM Report provides a mode share target for public & active transport of 20% and by car of 80% by 2056 for the nearby Badgerys Creek Precinct. Sites within Eastern Creek should reflect a similar target. While at least maintaining the existing carpooling mode share of 6% (Table 4), this represents a decrease in travel by car (as a driver) of 7% by 2026.

The targets should therefore be revisited and updated after the opening of the relevant development as part of the monitoring process. The preliminary targets are nominated in **Table 5**, which represents a 5-year target to coincide with the minimum 5 years of monitoring and review. Noting the lack of direct train connectivity to the Site, the preliminary targets seek to maintain the existing share for this particular mode.

TABLE 5: PRELIMINARY 2026 MODE SHARE TARGETS

Travel Mode	Mode Share of Employees	Proposed Targets	Relative Change
Car as driver	90%	83%	-7%
Train	2%	2%	-
Bus	1%	5%	+4%
Walked only	0%	1%	+1%
Car as passenger	6%	7%	+1%
Motorbike/Scooter	1%	1%	-
Bicycle	0%	1%	+1%
Taxi	0%	0%	-
Other Modes	0%	0%	-

4 Measures and Action Strategies

4.1 Measures

The below is a range of measures which could achieve the objectives of this GTP.

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

- An introduction to the GTP 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.

4.2 Strategies

Seven main strategies are identified and the actions required for each are detailed in **Table 6**. The table details specific actions that could be implemented as part of the future GTP (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 inhabitants of the development.

TABLE 6: PROPOSED GTP 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	Tenant / Business Owner

STRATEGY	HOW IT WORKS	RESOURCES / RESPONSIBILITY	TIMELINE	FUNDING
			specific GTP to be developed and forwarded to Council prior to building occupation.	
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 schemes for public transport travel through pre-paid credit cards	Company may consider subsidising staff public transport travel. 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.	Tenant / Business Owner / TPC	Subject to employer. Can be implemented at building occupation	Tenant / Business Owner
2.2 Maximise Bus Service Frequency	• Meet or exceed Transport NSW bus planning guidelines. • Decrease headway where possible, especially during peak periods. • Report back to TfNSW on perception of bus service adequacy.	TfNSW	Developer to hold on-going discussions with TfNSW after each annual review of GTP and report on relevant findings	TfNSW
2.3 Provide bus stops with shelter facilities	Ensuring provision of bus stops suitable for waiting areas for commuters – Developer to recommend improvements to the proposed / implemented bus stops along Aldington Road to TfNSW.	TfNSW	Subject to discretion of TfNSW. Advisable to be prior to the opening of the development	TfNSW
2.4 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

STRATEGY	HOW IT WORKS	RESOURCES / RESPONSIBILITY	TIMELINE	FUNDING
2.5 Lobby for Precinct wide shuttle service	Shuttle service initiative that would transport staff to / from the MRP to the Railway Station.	TPC to lobby Estate Manager / Owner	Ongoing in the workplace. Updates can be made to organisation as appropriate	Estate Owner / Manager
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. As a minimum, the establishment of the BUGs should be promoted as Precinct wide initiative.	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 reviewed as part of the GTP monitoring process to meet any increase in demand.	Developer / Estate &/or warehouse Owner / Manager	To be provided at sports complex completion	Developer / Estate &/or warehouse Owner / Manager

STRATEGY	HOW IT WORKS	RESOURCES / RESPONSIBILITY	TIMELINE	FUNDING
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 and the wider precinct.	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
5.4 Provide footpaths	Lobbying of Council regarding provision of footpaths.	Council	To be provided at completion of development	Council

STRATEGY	HOW IT WORKS	RESOURCES / RESPONSIBILITY	TIMELINE	FUNDING
6 Reducing Parking				
6.1 Limited parking allocation on site	Parking availability will inherently generate vehicle trips. By restricting parking supply, you can discourage non-essential car use	Site Management	To be an ongoing consideration.	Tennant / 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

4.3 Communications Strategy

4.3.1 Welcome Packs

New staff shall be provided with a 'welcome pack' as part of the on-site induction process which includes a GTP Pamphlet and other information in relation to sustainable transport choices. This pack shall include copy of the GTP and a Travel Access guide (TAG) as provided in **Appendix A**, 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.

4.3.2 Accurate Transport Information

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

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

5 Monitoring Strategy

5.1 Plan Maintenance

The future GTP 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 every 1-2 years.

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.

5.2 Monitoring

So as to record the overall success, as well as the effectiveness of the individual measures, monitoring and review of the future 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 around every 1-2 years, with the first survey being carried out shortly 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 B**.

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.

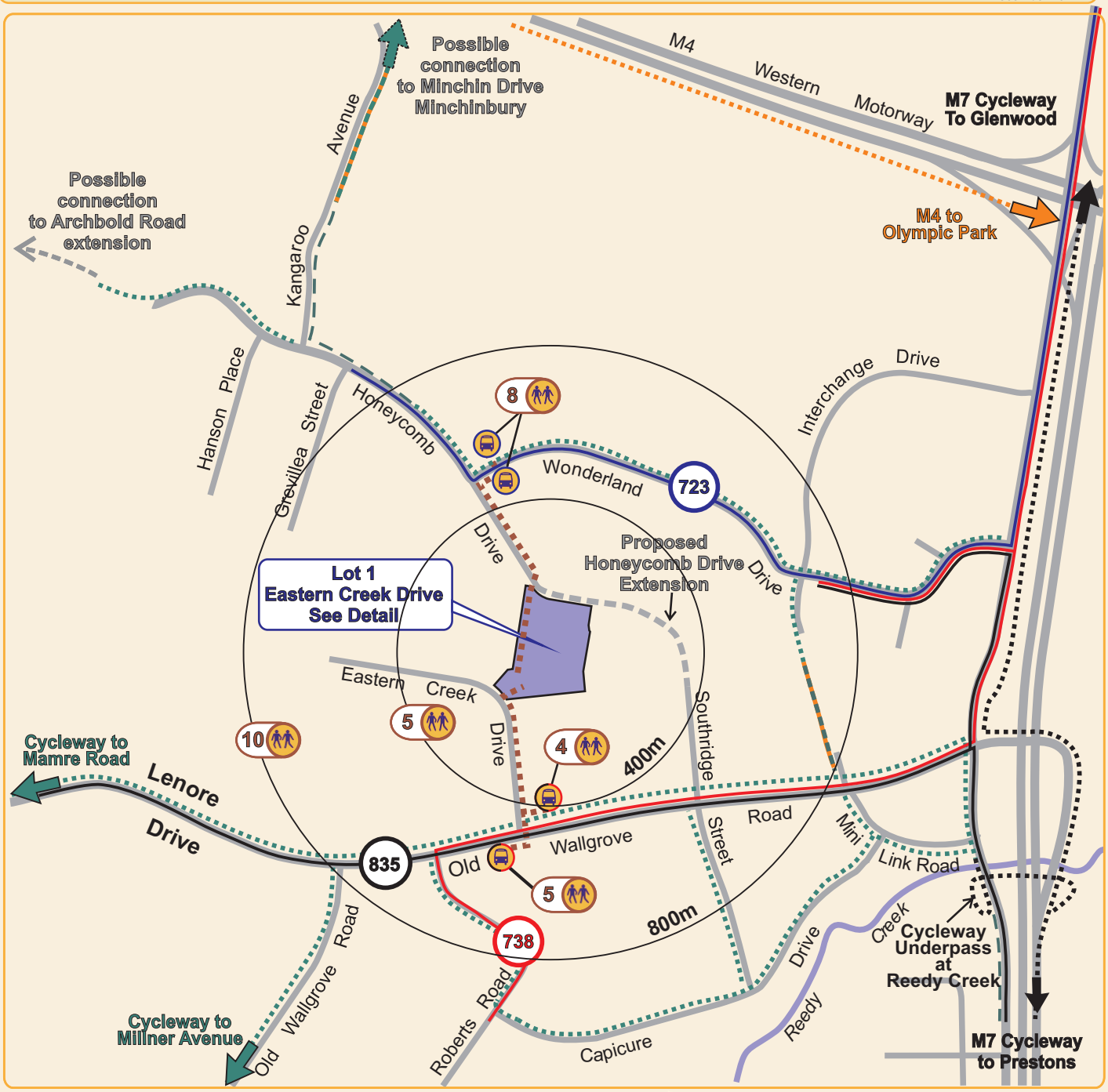
Appendix A. Travel Access Guide

Appendix B. Sample Questionnaire

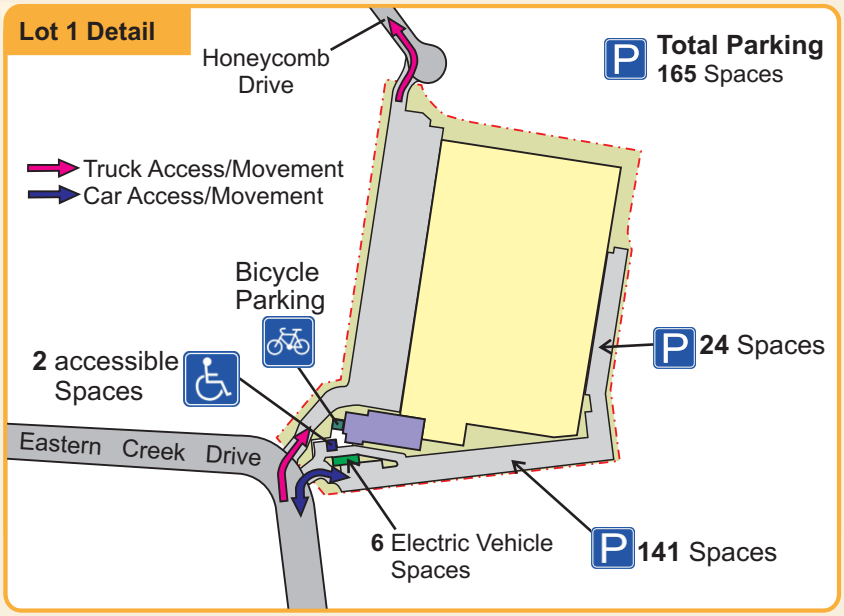
Travel Access Guide
Lot 1 Eastern Creek Drive
Eastern Creek NSW 2766

Prepared by asongroup
info@asongroup.com.au | +612 9083 6601 | Suite 5.02, Level 5, 1 Castlereagh Street, Sydney NSW 2000

December 2021



Lot 1 Detail



Existing Public Transport Routes

Transit Systems

835 Sydney Penrith via Wetherill Park, Horsley Park, Eastern Creek, Erskine Park, St Clair, Colyton & St Marys

Busways

723 Mount Druitt to Blacktown via Eastern Creek Industrial Park

738 Mt Druitt and Rooty Hill to Roberts Road , Eastern Creek Industrial Park and Horsley Park

Bus stops: Old Wallgrove Road / Wonderland Drive

Active Transport

- Existing M4 Regional Trail
- Existing M7 Westlink Cycleway/Connection
- Off-Road Cycleway
- On-Road Cycle Route
- Proposed Developer Funded (Blacktown City Council 2016 Bike Plan)
- Walking routes to bus stops
- 4 Approximate distance in minutes

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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Appendix E. Construction Traffic Management Plan

Preliminary Construction Traffic Management Plan

Compass 2 Warehouse & Distribution Centre, Eastern Creek

10/02/2022
P1570r01

info@asongroup.com.au
+61 2 9083 6601
Suite 17.02, Level 17,
1 Castlereagh Street,
Sydney, NSW 2000

Document Control

Project No	1570
Project	Compass 2 Warehouse & Distribution Centre, Eastern Creek
Client	Charter Hall
File Reference	P1570r05v1 Prelim CTMP_Compass 2 Warehouse & Distribution Centre, Eastern Creek

Revision History

Revision No.	Date	Details	Author	Approved by
-	07/12/2021	Draft	S. Bandaranayake	R. Butler-Madden
I	10/02/2022	Issue	S. Bandaranayake	R. Butler-Madden

contents

contents continued

Figures

Tables

1 Introduction

1.1 Overview

Ason Group has been engaged by Charter Hall to prepare this Preliminary Construction Traffic Management Plan (CTMP) to support the application in relation to State Significant Development (SSD) 30927027. The SSD relates to a proposed industrial development named Compass 2 Warehouse & Distribution Centre, located at Lot 1 (DP1274322) Eastern Creek Drive, Eastern Creek (the Site).

This Preliminary CTMP details the proposed construction management strategies to provide for the safe and efficient completion of the works while minimising construction traffic impacts on the surrounding road network and public road network users.

From the outset, it is noted that the future CTMP, once implemented, will be designed to be updated over time as additional details in regard to the construction methodologies are revised / finalised as is standard in any major construction project. All such updates would be completed in consultation with Blacktown City Council (Council) in whose Local Government Area (LGA) the Site lies; and / or with the relevant authorities such as Transport for NSW (TfNSW) where special road occupancy or the like are required.

Importantly, Ason Group has been responsible for the preparation of this Preliminary CTMP, which has been prepared with reference to all available information in regard to the project, and all relevant CTMP preparation guidelines. The implementation of the recommendations and strategies detailed in this CTMP are the strict responsibility of the future Builder and / or the designated construction Project Manager once appointed.

1.2 Proposed Development and Staging

In summary, the application relates to the construction and 24/7 operation of a warehouse and distribution centre at Lot 1 Eastern Creek Drive, Eastern Creek, comprising:

- minor earthworks involving cut and fill works;
- site preparation works and servicing;
- warehouse, main office, ancillary office, dock office, loading docks, carparking, forklift charging room;
- external hardstands and landscaping;

The SSD Proposal is reproduced at a reduce scale in **Figure 1**.

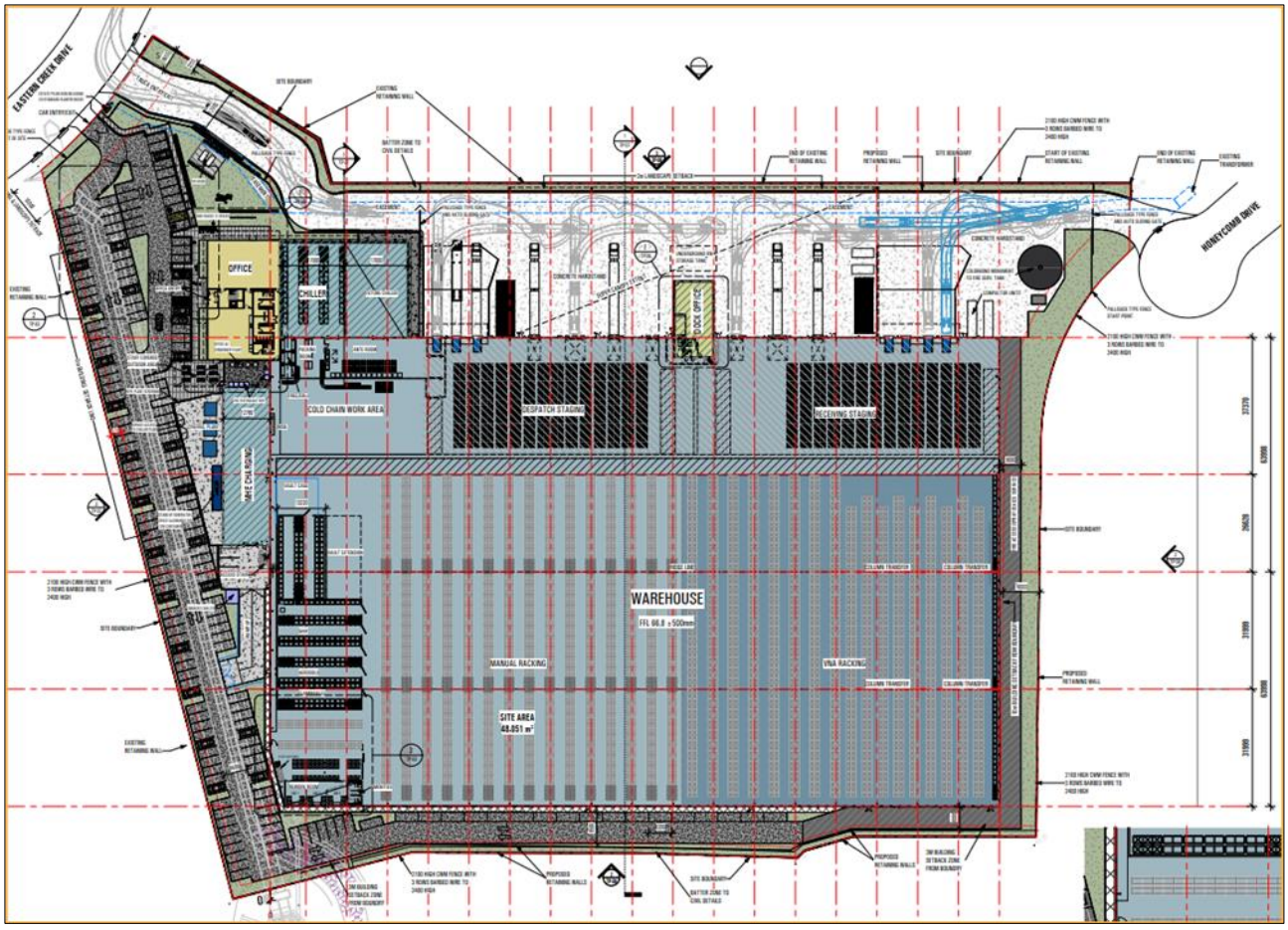

Figure 1: SSD Proposal

2 The Site

2.1 Site Location

The Site is comprised of a single Lot (refer to **Table 1**) and is located at Eastern Creek Drive, Eastern Creek.

TABLE 1: SITE DESCRIPTION

Address	Title	Area (Ha)
Lot 1	Lot 1 / DP 1274322	4.81

The Site is shown in its sub-regional context in **Figure 2**.

Currently, the site has access points onto Eastern Creek Drive. Eastern Creek Drive connects to Old Wallgrove Road, to the south of the Site. From Old Wallgrove Road, access is available east to the Westlink M7 Motorway, and Wallgrove Road; subsequently leading to the M4 motorway and Great Western Highway to the north.

2.2 Road Network

Key roads in the vicinity of the Site are shown in Figure 2 and summarised below:

TABLE 2: ROAD NETWORK

Road Name	Jurisdiction	Road Classification	Number of Lanes	Speed Limit
Eastern Creek Drive	Council	Local Road	2 undivided	50km/h
Wonderland Drive	Council	Local Road	2 divided	50km/h
Honeycomb Drive	Council	Local Road	2 divided	50km/h
Old Wallgrove Road	TfNSW	Collector Road	4 divided	80km/h
Wallgrove Road	TfNSW	Collector Road	4 divided	70km/h
Westlink M7 Motorway	TfNSW	Arterial Road	4 divided	100km/h
M4 Motorway	TfNSW	Arterial Road	8 divided	100km/h

Further to the above, it is clear that the Site is well located in regard to immediate access to the local and sub-regional road network. **Figure 3** shows the Site context with specific reference to the current TfNSW Restricted Access Vehicle (RAV) routes, which allow for up to 25m/26m B-Double combinations.

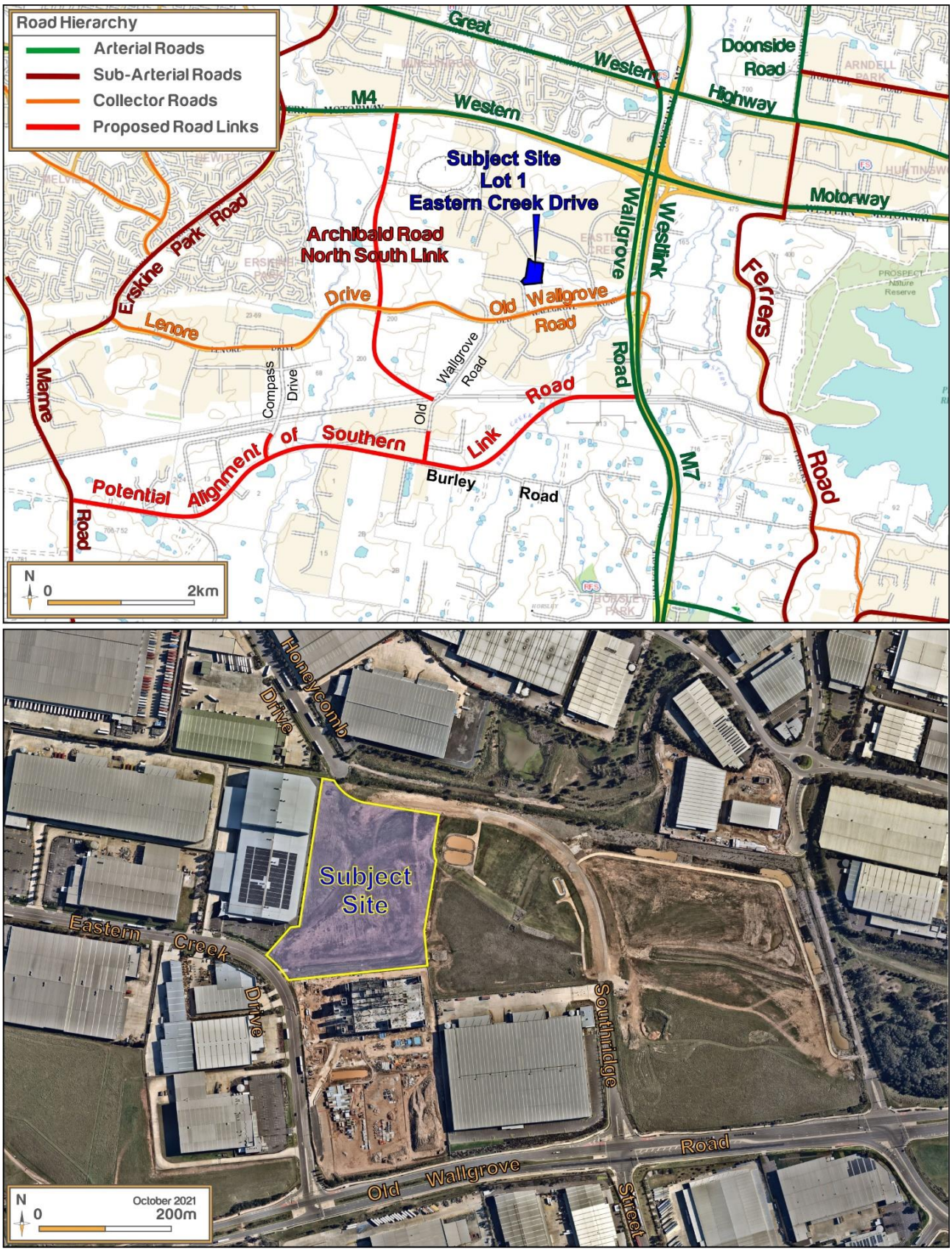

Figure 2: Site context and Road Hierarchy

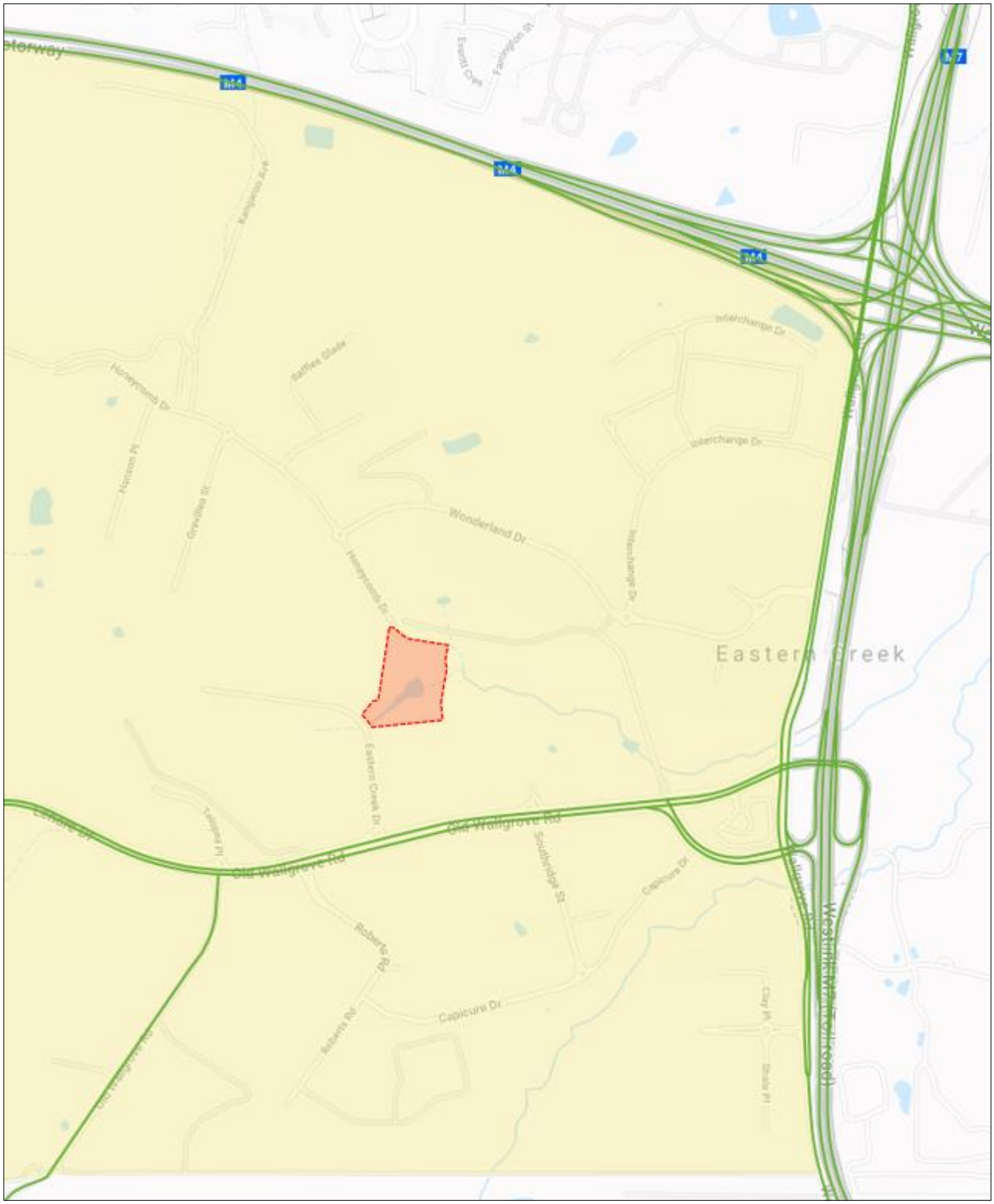

Figure 3: TfNSW Approved 25/26m B-Double Routes

3 Overview of Construction Works

3.1 Staging and Duration of Works

While there is no Contractor engaged for the project, the staging and duration of works has been based on similar developments in the wider area, for the purposes of the Prelim CTMP. Based on this, it is anticipated that construction works for the preliminary stages would commence in mid-2022 and be completed over a duration between 1-2 years, subject to authority approvals and inclement weather delays.

The following summarises key aspects of the construction phases:

- Demolition works are anticipated to have a duration for 6-10 weeks.
- Excavation activities would continue for 6-12 months.
- General Construction works are estimated to continue concurrently to excavation activities for 12 months.

3.2 Construction Hours

The type of work being undertaken will remain consistent throughout the duration of construction and associated activities. All works are expected to be undertaken within the following hours:

- Monday to Friday (other than Public Holidays): 7:00am – 6:00pm.
- Saturday: 8:00am – 1:00pm
- Sunday & 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.

3.3 Site Access

3.3.1 Construction Vehicle Access

All construction vehicles will enter and depart the Site from / to Eastern Creek Drive by way of Old Wallgrove Road to the south of the Site.

It is anticipated that the largest vehicle accessing the Site would be a 19.6m Truck & Dog combination.

The following **Figure 4** shows the indicative Site access location and **Figure 5** details the likely key access strategy into the routes between the Site and the regional road network.

Figure 4: Indicative Vehicle Access Plan

3.3.2 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; emergency protocols during the works will be developed by the Project Manager for inclusion within the final CTMP.

3.3.3 Pedestrian Access

There are currently no pedestrian facilities or footpaths along Eastern Creek Drive adjacent to the Site. However, the grassed verge on both sides of the road remains usable for any pedestrian that may wish to use it.

Further to the above, while there is no expectation of pedestrians crossing the future construction access road, pedestrian safety will be managed through the provision of appropriate signage and pedestrian barriers. Construction personnel will also be able to access the Site by foot via a secure access gate along the access road, though with all construction staff (and vehicle) parking to be provided within the Site there is again little potential for such pedestrian demand.

3.4 Construction Vehicle Access Routes

As discussed, all construction vehicles will enter and exit the Site via Eastern Creek Drive.

It is anticipated that all heavy vehicles will access Site via the following routes:

- Arrival Trips:
  - Route 1: From Wallgrove Road, westbound along Old Wallgrove Road and right into Eastern Creek Drive, continue along Eastern Creek Drive and right into the Site.
  - Route 2: From Westlink M7 Motorway, westbound along Old Wallgrove Road and right into Eastern Creek Drive, continue along Eastern Creek Drive and right into the Site.
  - Route 3: From M4 Motorway, southbound along Wallgrove Road, right into Old Wallgrove Road and right into Eastern Creek Drive, continue along Eastern Creek Drive and right into the Site.
- Departure Trips:
  - Route 1: From the Site, left onto Eastern Creek Drive, then left onto Old Wallgrove Road then left to travel north or right to travel south on Wallgrove Road.
  - Route 2: From the Site, left onto Eastern Creek Drive, then left onto Old Wallgrove Road then right onto Westlink M7 Motorway to travel south, or right onto Mini Link Road and left onto Westlink M7 Motorway to travel north.
  - Route 3: From the Site, left onto Eastern Creek Drive, left onto Old Wallgrove Road, then left to onto Wallgrove Road, turn left to continue west or turn right to continue east on M4 motorway.

These routes are shown in **Figure 5**.

A copy of the approved routes will be distributed by the Project Manager to all drivers as part of their induction process.

In the event that an oversized or over-mass vehicles is required to travel to and / or from the Site, a permit from TfNSW and / or the National Heavy Vehicle Register (NHVR) will be required prior to arrival to the site. Notwithstanding, this CTMP relates to general construction which does not seek the use of oversize vehicles; a separate application would be submitted if such access is required.

3.5 Fencing Requirements

Security fencing will be erected along the entire boundary of the Site and will be maintained for the duration of the construction works to ensure that unauthorised persons are kept out of the Site. The fencing will either be ATF or 2.4m chain wires.

Site access gates would be provided at the access driveway which would remain closed at all times outside of the permitted construction hours.

3.6 Materials Handling

All material loading will be undertaken wholly within the Site, and all construction equipment, materials and waste will similarly be strictly kept within the Site.

While not anticipated, should any materials handling (or other constructed related activity) be required from the public roadway (i.e. Eastern Creek Drive or Honeycomb Drive) then prior approval shall be sought and obtained from the appropriate authorities.

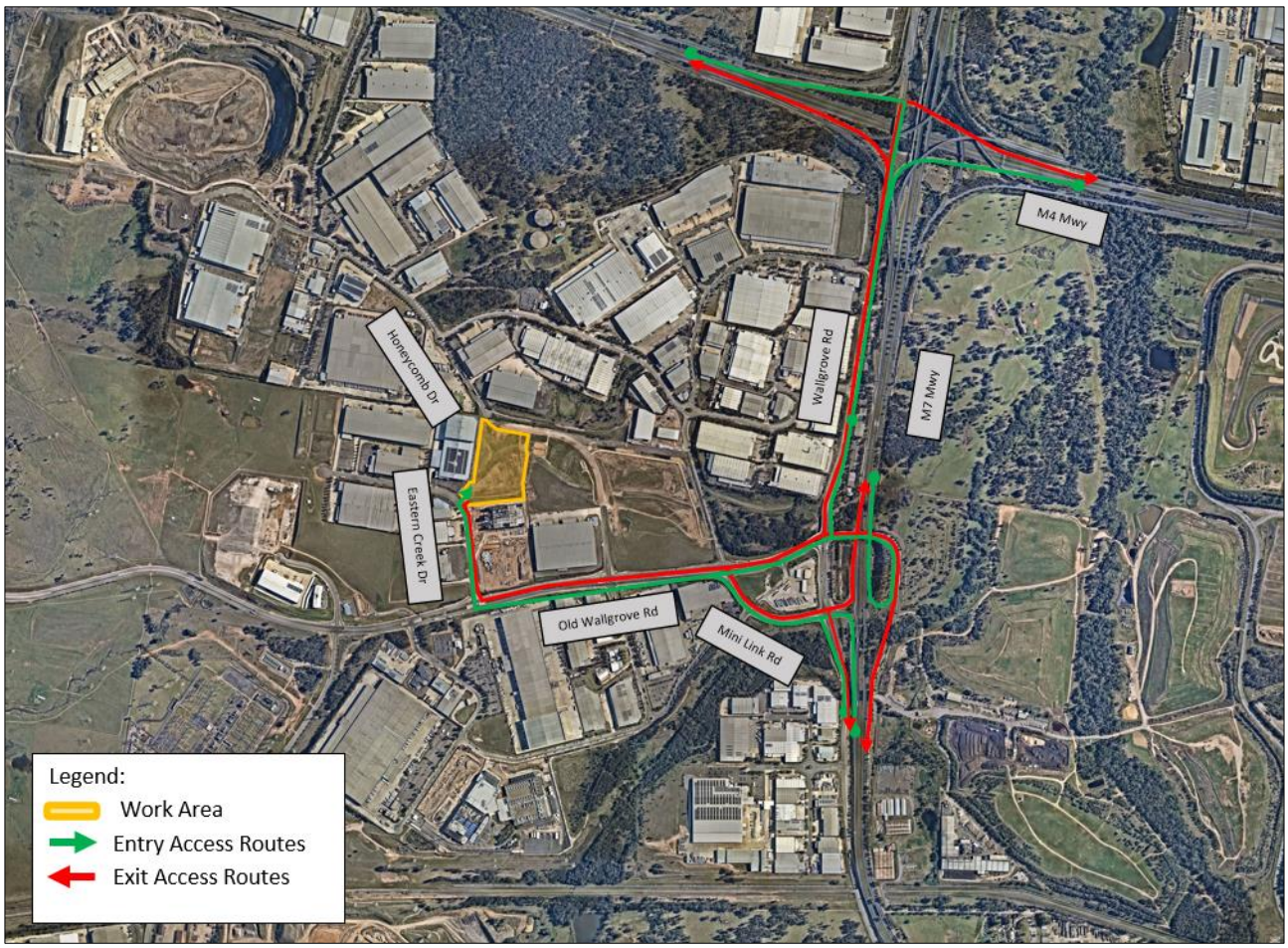

Figure 5: Construction Vehicle Routes

3.7 Additional Site Management

Although it is not expected, in the event that any Site construction traffic management outside of that described in the implemented CTMP is required, the Project Manager will be required to notify adjacent properties of any temporary traffic restrictions (or the like) at least fourteen (14) days in advance.

3.8 Road Occupancy

It is anticipated that some road occupancy will be required to facilitate construction of site access crossovers.

Road occupancy permits will necessarily be procured prior to starting construction works, while a detailed site-specific Traffic Guidance Scheme (TGS) would be prepared in consultation with Council and TfNSW to ensure traffic along Eastern Creek Drive would continue to operate adequately during any such occupancy period.

4 Assessment of Traffic & Transport Impacts

4.1 Construction Vehicle Traffic Generation

4.1.1 Heavy Vehicles

In lieu of a Contractor being onboard at this early stage, the specific construction requirements are not fully understood. Therefore, this section will need to be updated prior to implementation of the future CTMP. However, for the purposes of this assessment it is anticipated that the SSD Proposal would generate less traffic volumes than the Proposal itself once operational.

4.1.2 Light Vehicle Movements

With respect to the potential impacts of light vehicle traffic, the overwhelming majority of trips would occur in the short workforce arrival and departure periods, being (based on the proposed construction hours) 6:30am – 7:00am and 6:00pm – 6:30pm respectively; as such, any light vehicle movements would occur outside of the existing (commuter) peak periods in the local network. while unknown at this stage, it likely that a Site of this size could require up to a maximum of 50 staff onsite at any one time.

4.2 Vehicle Management

4.2.1 Principles

In accordance with TfNSW requirements, all vehicles transporting loose materials would 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.

Further to covering/securing the load to prevent deposits onto the roadway, a Shaker Grid is proposed and installed at the point of vehicle egress to minimise the risk of dirt tracking out onto Eastern Creek Drive.

4.2.2 Construction Staff Parking

All construction staff and contractors will be required to park wholly within the Site, noting that there will be significant area available (at all times) to meet the peak parking demand.

5 Traffic Control

5.1 Traffic Control

The RMS guide “Traffic Control at Worksites” (TCAW) manual contains standard traffic guidance schemes (TGS) for a range or work activities. The manual’s objective is to maximise safety by ensuring traffic control at worksites complies with best practice.

The RMS TCAW outlines the requirements for a Vehicle Movement Plan (VMP) for construction works such as proposed; a VMP is a diagram showing the preferred travel paths for vehicles associated with a work site entering, leaving or crossing the through traffic stream. A VMP should also show travel paths for trucks at key points on routes remote from the work site such as places to turn around, accesses, ramps and side roads.

Regarding construction work on roads with an average daily total (ADT) in excess of 1,500 vehicles, approach speeds of between 60 km/hr and 80 km/hr, with truck movements > 20 veh/shift, and sight distance is less than 2d, (where d equals the posted speed limit and in this instance the sight distance is required to be up to 120 metres), it would be expected for the following to be required by the RMS TCAW:

- A detailed Traffic Control Plan (TCP) with Traffic controllers.
- A VMP.
- Warning Signs required during shifts.

5.2 Authorised Traffic Controller

An authorised Traffic Controller(s) is to be present on-site throughout the proposed works. Responsibilities of the Traffic Controller will include:

- The supervision of all construction vehicle movements into and out of site at all times,
- The 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.

6 Monitoring & Communication Strategies

6.1 Development of Monitoring Program

The development of a program to monitor the effectiveness of this CTMP shall be established by the Project Manager and should consider scheduled reviews as well as additional reviews should construction characteristics be substantially changed (from those outlined in the Final CTMP). All and any reviews of the CTMP should be documented, with key considerations expected to include:

- Tracking heavy vehicle movements against the estimated heavy vehicle flows during the works.
- The identification of any shortfalls in the CTMP, and the development of revised strategies / action plans to address such issues.
- Ensuring that all 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 to ensure all loads are departing the Site covered as outlined within this CTMP.

6.2 Communications Strategy

A Communications Strategy shall be established by the Project Manager for implementation throughout the construction works; this strategy will outline the most effective communication methods to ensure adequate information within the community and assist the Project Team to ensure the construction works have minimal disruption on the road network. The Communications Strategy will include:

- The erection of appropriate signage providing advanced notice of works and any traffic control measures to be implemented.
- Written notices to surrounding landowners (and tenants) likely to be directly affected by the works, prior to commencement.

Ongoing communication is also required so that all stakeholders are kept up to date of works and potential impacts.