Transport Management & Accessibility Plan

ESR Westlink

59-63 Abbotts Road & 290-308 Aldington Road, Kemps Creek
13/04/2022
P1323r04

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

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1 Introduction

1.1 Overview

Ason Group has been engaged by ESR Developments (Australia) Pty Ltd (ESR) to prepare a Transport Management & Accessibility Plan (TMAP) in relation to the State Significant Development (SSD) for the ESR Westlink(the Estate, SSD-9138102). The Estate is located at 59-63 Abbotts Road & 290-308 Aldington Road, Kemps Creek (the Site).

The Site is within the Mamre Road Precinct (MRP), which was rezoned in June 2020 for primarily industrial uses. The Department of Planning and Environment (DPE) adopted a precinct-wide Development Control Plan on the 19 November 2021 (herein referred to as the MRP DCP).

The proposed development relates to the provision of 6 industrial warehouse buildings and 1 café, comprising:

- Masterplan with a total building area of 150,577m^2, comprising:
  - A total of 144,482m^2 warehouse Gross Floor Area (GFA),
  - A total of 5,895m^2 of ancillary & dock office GFA and a 200m^2 café GFA,
  - 6 individual development lots; with 5 proposing warehouse buildings with associated hardstand areas, 1 including the café and a future development Lot (Lot 6);
  - 1 x detention basin;
  - Internal road layouts and road connection to Abbotts Road;
  - Provision for 658 car parking spaces; and
  - Associated site landscaping.

Full details are provided in the Environmental Impact Statement (EIS), which this TMAP accompanies.

1.2 Mamre Road Precinct Road Network Requirements

1.2.1 Strategic Road Network Requirements

The background traffic modelling to identify the required road network layout to facilitate the development of the MRP, was finalised in late 2021. The results of this modelling assessment have underpinned the road network layout detailed within the MRP DCP and considered the traffic growth associated within the wider Western Sydney area.

Ason Group worked with DPE and Transport for New South Wales (TfNSW) collectively, to deliver this assessment (herein referred to as the MRP modelling assessment).

Therefore, a key purpose of this report is to ensure that the Proposal remains consistent with the assumptions that have informed the MRP modelling assessment, which was undertaken for the future assessment years of 2031 and 2036.

As such, the key forecast year for assessment of the Proposal is 2026.

1.2.2 Interim Intersection Requirements

ESR and other land owners in the area who have significant land holdings (representing approximately 40-50% of the developable land within the Precinct), have formed the Mamre Road Precinct Land Owners Group (LOG).

A collective approach was undertaken by the LOG to identify the interim intersection requirements for 2026 required to accommodate the forecast development within the LOG sites. The key aim of this process was to facilitate the initial stages of development for the relevant Sites; while the ultimate upgrades are delivered by TfNSW. Ason Group worked on behalf of the LOG to identify these requirements, with the modelling assessment undertaken based on the methodology adopted for MRP modelling assessment but updated based on the recent data from the Land Use Strategic Traffic Forecasting Model (STFM). The key findings of the interim modelling assessment are summarised within the relevant sections of this report.

However, it is noted that through further consultation with TfNSW and DPE, it has been requested that the modelling assessment be updated to modify key assumptions adopted. One such change included the removal of the Southern Link Road (SLR), which will provide for a key east-west regional connection.

As such, Ason Group is currently working on behalf of the LOG East (LOG-E), which consists of ESR Australia as well as Frasers Property Australia and Fife Kemps Creek (SSD 10479), to update the modelling assessment of Mamre Road / Abbotts Road intersection accordingly.

LOG-E are currently proposing upgrades to the Aldington Road and Abbotts Road south from the development site located at 99-111 Aldington Road. The upgrades are currently proposed as part of the SSD process and will be delivered through a joint Voluntary Planning Agreement (VPA) between ESR, FKC and Frasers with Penrith City Council (Council) for Aldington Road and Abbotts Road and DPE for the Mamre Road / Abbotts Road intersection.

This assessment is currently ongoing; the results will be submitted to DPE, TfNSW and Council once complete, to inform the VPAs accordingly.

1.3 Assessment Objectives

The key objectives of this SSDA TMAP are as follows:

- To establish that the development of the Site further to the Proposal is compliant and consistent with the relevant access, traffic and parking requirements.
- To establish that the trip generation of the Estate can appropriately be accommodated by interim upgrades to the local road network.
- To demonstrate that there is an appropriate and sustainable provision of car parking across the Site.
- To demonstrate that the proposed access driveways, internal roads, car parks and service facilities can provide a design compliant with the relevant Australian Standards.
- To demonstrate that the construction of the Proposal can be undertaken in an efficient and safe manner, and that construction vehicles can be appropriately accommodated by completed/committed upgrades to the local road network in the short term.

From the outset, it is critical to note that the background traffic modelling to support the rezoning of the MRP (to inform the road network layout of the final MRP DCP) is currently being undertaken. Therefore, the information detailed in this report is based on the most up to date and relevant information currently publicly available.

Ason Group acknowledges the assistance provided by Transport for New South Wales (TfNSW) officers in providing updated information in regard to the MRP rezoning, and in regard to the current work being undertaken by TfNSW and others in regard to ongoing detailed planning of the MRP.

1.4 Secretary's Environmental Assessment Requirements

Secretary's Environmental Assessment Requirements (SEARs) were issued by the NSW Department of Planning, Industry & Environmental (DPIE) in September 2020 regarding the Proposal, and include both general DPE SEARs and more specific TfNSW SEARs.

The DPE SEARs relating to transport issues are outlined in Table 1 below, while the TfNSW SEARs are outlined in Table 2; in both tables, Ason Group has provided a summary response to each SEAR, and reference to the section of this TMAP providing a more detailed analysis of each SEAR.

TABLE 1: DEPARTMENT OF PLANNING, INDUSTRY & ENVIRONMENT SEARS

SEAR	Response Summary	Section
details of all traffic types and volumes likely to be generated during construction and operation, including a description of haul routes. Traffic flows are to be shown diagrammatically to a level of detail sufficient for easy interpretation.	Operational traffic flows have been determined at the key intersections of Mamre Road & Bakers Lane and Mamre Road & Abbotts Road in clear figures. Construction traffic flows cannot be determined at this time; however, anticipated the anticipated construction vehicle mix, Site access provisions and potential haul routes have been clearly identified.	6
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 SIDRA or similar traffic model. This is to include the identification and consideration of approved and proposed developments/planning proposals/road upgrades in the vicinity. The assessment needs to consider the impact on Aldington Road for the duration of the works because traffic growth in this area is expected to increase more quickly than standard growth rates.	The operation of the key Mamre Road & Abbotts Road intersection has been examined in detail utilising the SIDRA model, with Mamre Road traffic flows adopted from the Mamre Road Upgrade technical reports. It is critical to note that the broader operation of the MRP (of which the Site lies) is currently being assessed as part of the development of a Precinct specific Development Control Plan, which will identify additional network requirements further to the development of the broader MRP.	6
detailing how the proposed development connects to adjoining sites to facilitate their future development for their intended purposes.	As discussed above, TfNSW is currently developing a Mamre Precinct DCP, which includes detailed modelling of the MRP holistically, including the future road network structure and the development of sites across the MRP. The future connections between the Site and adjoining sites will be determined as part of this DCP process, though it is noted that the Proposal specifically provides for future connectivity of the internal road network through to the south.	6
plans demonstrating how all vehicles likely to be generated during construction and	Refer to detailed architectural plans.	N/A

operation and awaiting loading, unloading or servicing can be accommodated on the site to avoid queuing in the street network.		
detailed plans of the site access and proposed layout of the internal road and pedestrian network and parking on site in accordance with the relevant Australian Standards and Council's DCP.	Refer to detailed architectural plans.	N/A
swept path diagrams depicting vehicles entering, exiting and manoeuvring throughout the site.	Refer to Appendix E	Appendix E
details of travel demand management measures to minimise the impact on general traffic and bus operations, including details of a location-specific sustainable travel plan (Green Travel Plan and specific Workplace travel plan) and the provision of facilities to increase the non-car mode share for travel to and from the site.	Refer to Section 7 and Appendix C	7
details of the adequacy of existing public transport or any future public transport infrastructure within the vicinity of the site, pedestrian and bicycle networks and associated infrastructure to meet the likely future demand of the proposed development	Refer to Section 5 and 7	5, 7
measures to integrate the development with the existing/future public transport network.	As discussed above, the Proposal provides for full integration with the future public and active provisions detailed for the Mamre Road Upgrade.	5, 7
Consultation	A consultation meeting was conducted with the TfNSW assessment team on 22nd January 2021.	N/A

1.5 Reference Documents

As discussed, the Site lies with the MRP; as such, Ason Group has referenced the MRP DCP as it provides the overarching controls for the Site and the wider Precinct:

- DPE, *Western Sydney Employment Area, Mamre Road precinct, Development Control Plan*, November 2020 (MRP DCP).

Further to the above, the Site lies within the Penrith City Council Local Government Area (LGA); as such, Ason Group has referenced the following key Council controls in preparing this TMAP:

- Penrith City Council Local Environmental Plan 2010 (Penrith LEP).
- Penrith City Council Development Control Plan 2014 (Penrith DCP).

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

- Roads and Maritime Services (Roads and Maritime) Guide to Traffic Generating Developments 2002 (RMS Guide).
- Roads and Maritime Guide to Traffic Generating Developments Updated Traffic Surveys, August 2013 (RMS Guide Update).
- Department of Planning & Environment (DPE) Western Sydney Aerotropolis Land Use and Infrastructure Implementation Plan Stage 1: Initial Precincts (WSA Stage 1 Plan).
- State Environmental Planning Policy (Western Sydney Employment Area) 2009 (SEPP WSEA).
- DPE Mamre West Land Investigation Area Development Control Plan 2016 (Mamre West DCP).
- 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).

Finally, Ason Group has specifically referenced the most recent assessments available in regard to the recent rezoning of the MRP, including:

- NSW Government *Mamre Road Precinct Rezoning Exhibition Discussion Paper*, November 2019 (MRP Rezoning Paper).
- NSW Government *Mamre Road Precinct Rezoning Finalisation Report*, June 2020 (MRP Finalisation Report).
- Roads & Maritime *Mamre Road Upgrades Kerrs Road to M4 Motorway*, November 2017 (MR Upgrade Report).
- Roads & Maritime *Mamre Road Upgrade Community Consultation Report* May 2019 (MR Upgrade CC Report).
- AECOM *Western Sydney Aerotropolis Transport Planning and Modelling Stage 2 Report*, October 2020 (AECOM Report).
- Numerous reports prepared by Ason Group and others for similar industrial development within the Mamre West, Kemps Creek and Erskine Park industrial precincts.

2 The Proposal

2.1 Overview

A detailed description of the SSD Proposal is included in the Environmental Impact Statement (EIS) which this TMAP accompanies. In summary, the application relates to the construction of an industrial estate with associated hardstand and parking. The following summarises key aspects of the Proposal:

- Masterplan with a total building area of 150,577m^2, comprising:
  - A total of 144,482m^2 warehouse Gross Floor Area (GFA),
  - A total of 5,895m^2 of ancillary & dock office GFA and a 200m^2 café GFA,
  - 1 x detention basin;
  - Internal road layouts and road connection to Abbotts Road;
  - Provision for 658 car parking spaces; and
  - Associated site landscaping.

The proposed Masterplan (prepared by Nettletontribe Architects) is shown in **Figure 1**.

Figure 1: Proposed Masterplan

3 The Existing Site

3.1 Location

The Site is comprised of 3 separate allotments (refer to **Table 2**) and is legally described as Lots 13, 12 and 11 in DP253503. The Site is located approximately 4km north-west of the future Western Sydney International (Nancy-Bird Walton) Airport (WSA), 12km south-east of the Penrith CBD and 40km west of the Sydney CBD. It is located at 290-308 Aldington Road, 59-62 Abbotts Road, and 63 Abbotts Road. The land is approximately 320,000m^2 in area and is irregular in shape.

The Site is shown in its sub-regional context in **Figure 2**, as well as the broader MRP area in which it lies.

TABLE 2: SITE DESCRIPTION

Address	Title	Area (m^2)
290-308 Aldington Road	Lot 13 / DP253503	104,700
59-62 Abbotts Road	Lot 12 / DP253503	104,900
63 Abbotts Road	Lot 11 / DP253503	110,200

3.2 Current Site Land Usage

The Site currently provides for a number of rural residential properties, as well as for small scale agricultural industries businesses. The properties along the length of Aldington and Abbotts Roads can be categorised on this manner.

3.3 Site Access

The Site currently has access points onto Aldington Road and Abbotts Road through various access driveways into probate properties. Abbotts Road connects with Mamre Road to the west of the Site, and to the north, by way of Aldington Road and Bakers Lane. From Mamre Road, access is available north to the M4 Motorway, Great Western Highway, Lenore Drive and M7 Motorway; and south to Elizabeth Drive, the M7 Motorway and the future M12 Motorway.

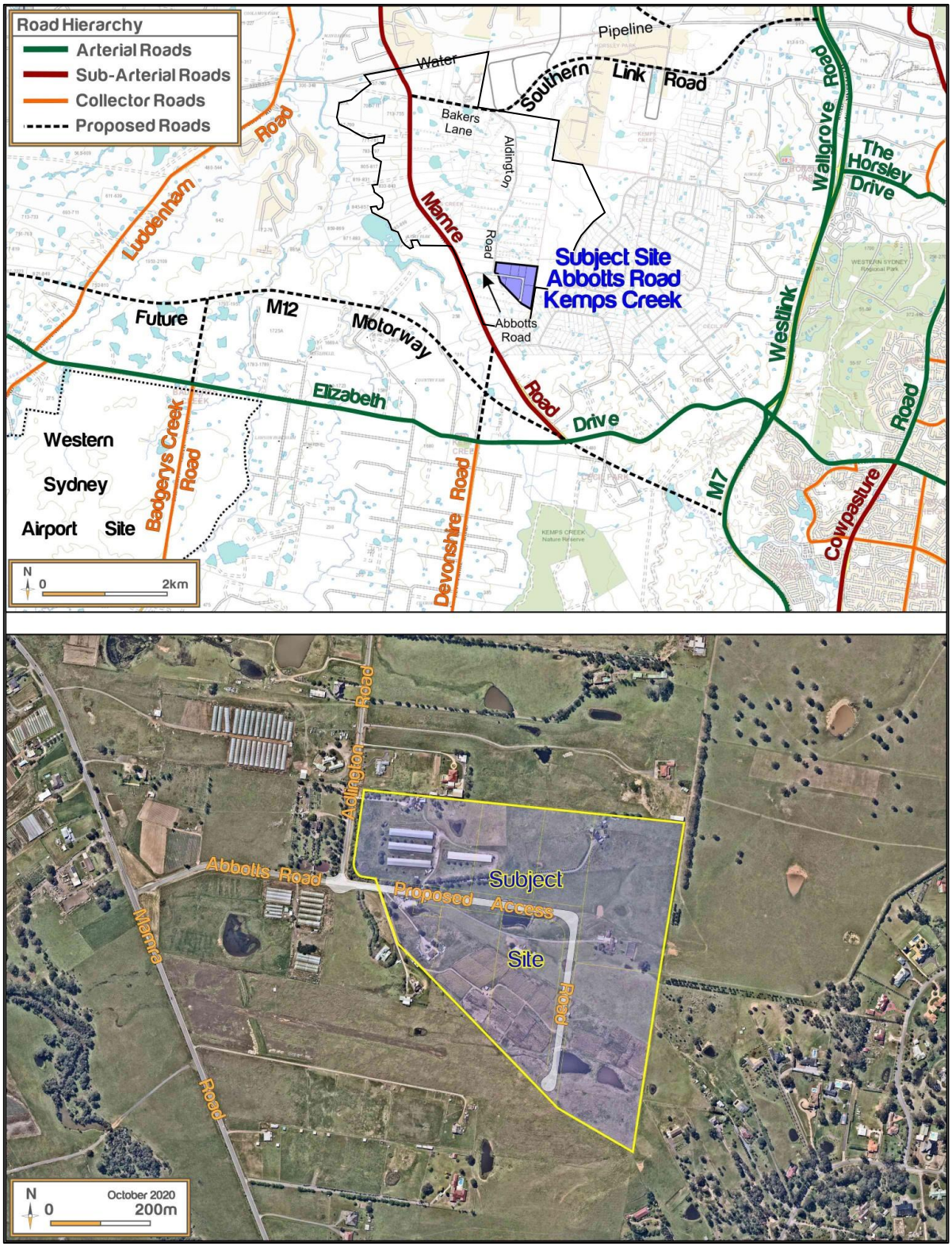

Figure 2: Site Location & Road Hierarchy

3.4 The Existing Road Network

3.4.1 Key Roads

The existing road network providing access to the Site is shown in Figure 2, and detailed further below:

- **Mamre Road** is an arterial road which runs north-south between the Great Western Highway and M4, and Elizabeth Drive respectively. In the vicinity of the Site, Mamre Road provides 1 traffic lane in each direction, and has a posted speed limit of 80km/h.
- **Erskine Park Road** is a sub-arterial road which generally runs north-south between the Great Western Highway and M4, and Mamre Road respectively; it also links east to the M7 via Lenore Drive. Erskine Park Road provides 2 traffic lanes in each direction, and has a posted speed limit of 70km/h.
- **Bakers Lane** is a local access road that runs east-west (to the east of Mamre Road) and currently provides access for a number of rural residential, educational and retirement sites. Bakers Lane provides 1 traffic lane in each direction and has a posted speed limit of 60km/h, with School Zone restrictions (40km/h during school peaks) adjacent to the Trinity Primary School and Emmaus College.
- **Abbotts Road** is a local access road that runs east-west connecting to Mamre Road (to the east of Mamre Road) and currently provides access for a number of rural residential properties. Abbotts Road provides 1 traffic lane in each direction and has a posted speed limit of 60km/h,
- **Aldington Road is a local access road that runs north-west (to the east of Mamre Road) and currently provides for a number of rural residential properties. Aldington Road provides 1 traffic lane in each direction and has a posted speed limit of 60km/hr.**
- **Elizabeth Drive** is a sub-arterial road that runs east-west between Hume Highway and M7, and Mamre Road and The Northern Road respectively. In the vicinity of Mamre Road, Elizabeth Drive provides 1 -2 traffic lanes in each direction, and has a posted speed limit of 80km/h.

3.4.2 Existing Traffic Flows

Ason Group conducted AM and PM peak period traffic surveys in Mamre Road south of Bakers Lane in 2018; based on the minimum number of traffic generating developments in the vicinity of the Site, these flows provide a good representation of current traffic flows in Mamre Road west of the Site.

The results of the surveys, and the corresponding Level of Service (LoS) for the directional flows (based on RMS Level of Service criteria (as detailed in the RMS Guide) are shown in **Table 3**.

TABLE 3: 2018 MAMRE ROAD TRAFFIC FLOWS

Peak Period	Total Volumes	Directional Volumes	Level of Service
AM	1,391	NB: 782 vph	D
		SB: 609 vph	D
PM	1,541	NB: 678 vph	D
		SB: 863 vph	D

With reference to Table 3, Mamre Road is currently operating satisfactorily but at capacity.

It is notable that the turning movements into and out of Abbotts Road from / to Mamre Road, relate largely to the small number of rural residential properties, as well as small scale agricultural industries businesses, along Aldington Road and therefore traffic flows along Aldington Road are currently not significant.

4 Mamre Road Precinct Rezoning

4.1 Overview

In June 2020, the NSW Government rezoned MRP from rural uses to IN1 General Industrial. In summary, the rezoning sought to:

- Responds to the demand for industrial land in Western Sydney, as well as the future freight, logistics and industrial needs of Greater Sydney.
- Facilitates the NSW Government's vision for the Western Parkland City.
- Facilitate the delivery of a 30-minute city as detailed in the Western City District Plan.

The rezoning provides for approximately 850 hectares of industrial land with an approximate capacity of 17,000 jobs, and the creation of new environmental conservation areas and public open space.

The Mamre Road Precinct Structure Plan (the MRP Structure Plan) is shown in **Figure 3**.

4.2 Strategic Context

4.2.1 Strategic Policies

The rezoning the MRP fits within the strategic development of the WSEA and Broader Western Sydney Employment Area (BWSEA); key planning policies and strategies relevant to the MRP rezoning include:

- **A Plan for Growing Sydney** sets out the State Government's strategies for accommodating Sydney's future population growth over the next 20 years; it provides goals, directions and actions that provide a framework for strengthening the global competitiveness of Sydney and delivering strong investment and jobs growth, particularly in Western Sydney.
- **The NSW Long Term Transport Master Plan** provides a framework for delivering an integrated, modern transport system by identifying transport actions and investment priorities across NSW for the next 20 years.
- **The NSW Freight and Ports Plan** targets specific challenges associated with the forecast doubling of the NSW freight task by 2031. Providing a road network that minimises congestion will support economic growth and productivity and encourage regional development; in this context, the F&P Strategy identifies the need to develop and maintain capacity for freight on the road network.

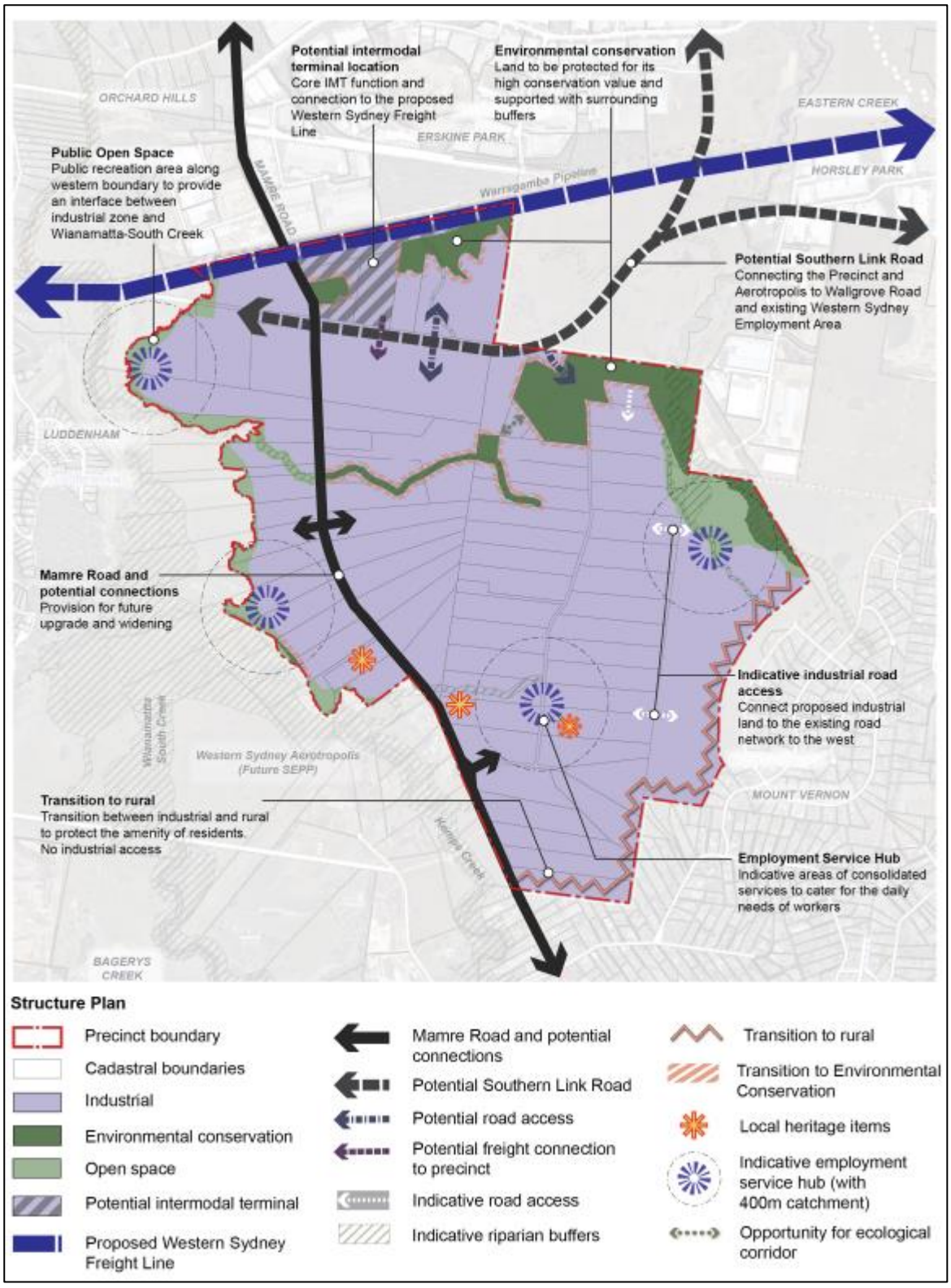

Figure 3: Mamre Road Precinct Structure Plan

Source: NSW Government

4.2.2 Strategic Constraints & Opportunities

The MRP Rezoning Paper – drawing from the policies outlined above and the broader demands on an ever-growing Western Sydney – identifies the following key constraints within the region, and the opportunities provided by the Rezoning to respond to these constraints.

- **Industrial Land Shortfall**: There is a growing demand for industrial land in Western Sydney, the provision of such which is essential, so supply is maintained despite increasing take-up rates.
- **Freight and Logistics**: The WSEA is strategically located with proximity to key freight and logistic corridors including the M4 and M7 Motorways.
- **Intermodal Terminal**: TfNSW has identified an urgent need to plan for and protect intermodal capacity within the Aerotropolis.
- **Western Sydney Airport**: Further to the above, the need for land focused on freight and logistics will be further increased once the Western Sydney Airport becomes operational. The MRP has been rezoned to provide for warehousing and logistics uses to support the development of the Western Sydney Airport (and broader Aerotropolis).
- **Western Parkland City**: The Western City District Plan has as a key objective the delivery of a 30-minute city, where people can reach their nearest metropolitan and strategic centres within 30 minutes, seven days a week by public transport, which includes expansive industrial and urban services land. The development of land within the MRP will provide for Greater Sydney's long-term freight and logistics and industrial needs and is an opportunity to deliver jobs closer to people's homes quickly and contribute to the NSW economy.

Mamre Road Precinct Transport and Movement Outcomes

4.2.3 Overview

Achieving the vision and objectives for the MRP will be dependent on the development of a coherent MRP wide transport structure, which will necessarily be underpinned by a road network with appropriate capacity and augmented by strong public and active transport networks.

In regard to identifying the relevant transport connections (including the MRP DCP road network), TfNSW have established the MRP Transport and Movement Outcomes.

4.2.4 Objectives

Noting that the development of the MRP will result in significant traffic demands, the road network is to be grounded in the core principles of integrated land use (for example, the opportunities to internalise vehicle movements generated by the future Intermodal) and the Movement and Place framework.

Adherence to these principles is anticipated to provide for the development of a MRP road network that provides:

- An interconnected, legible, urban-scale grid road pattern;
- Capacity to support demand;
- An understanding on the function of different roads, and indeed different parts of the same road, according to movement and place functions;
- Maximum safety and efficiency through design;
- Well defined public transport links;
- A permeable network for pedestrian and cyclists; and

- Ultimately, the integration of all modes of travel across the road network.

4.2.5 Key Infrastructure

- Mamre Road: Mamre Road provides a central north-west access corridor to/through the MRP (see also Section 4.3 below).
- The rezoning updated the WSEA SEPP to rezone additional land SP2 Infrastructure (Classified Road) to facilitate upgrade of Mamre Road.
- Southern Link Road: The Southern Link Road is a proposed east-west link from Wallgrove Road to Mamre Road, connecting the MRP to the existing WSEA lands (Oakdale, Eastern Creek etc).
- TfNSW is currently finalising a concept design for the Southern Link Road which.
- Future Internal Roads: the internal network for the MRP is detailed within the MRP DCP.

  The design of the Estate provides for full integration with the future internal MRP road network.
- Active & Public Transport: As discussed further below, there is very little active transport infrastructure within the MRP at this time.

  The future primary active transport corridor is expected to be designed around Mamre Road itself, with the MR Upgrade proposing a shared path along its full length, and cycle paths branching along creek lines and into the central portions of the MRP.

4.3 Mamre Road Upgrade

4.3.1 Overview

The MR Upgrade Report details the proposed MR Upgrade (the MR Upgrade) between the M4 Motorway and Kerrs Road (south of the Site, and north of Elizabeth Drive). The objectives of the MR Upgrade – which essentially mirror those of the broader MRP Rezoning Paper - are stated as:

- *Meeting the future transport demand associated with the Western Sydney Priority Growth Area and the Western Sydney Airport at Badgerys Creek;*
- *Reducing future road transport costs by improving corridor performance;*
- *Improving liveability and sustainability and support economic growth and productivity by providing road capacity for projected freight and general traffic volumes;*
- *Improving road safety in line with the NSW Road Safety Strategy;*
- *Improving quality of service, sustainability and liveability by providing facilities for walking and cycling and future public transport needs;*
- *Delivering good urban design outcomes; and*
- Minimising environmental and community impacts.

4.3.2 Mamre Road Upgrade Design Components

The MR Upgrade provides the following key infrastructure proposals:

- A typical cross section that includes:

- 2 traffic lanes in each direction with a wide central median between the M4 Motorway and Kerrs Road;
- Provisions for the central median to provide third traffic lane in each direction to meet growing demand; and
- Shared bicycle and pedestrian paths to promote active transport.

- New or upgraded intersections.

The broader MR Upgrade proposal (per the MR Upgrade Report) is shown in **Figure 4**.

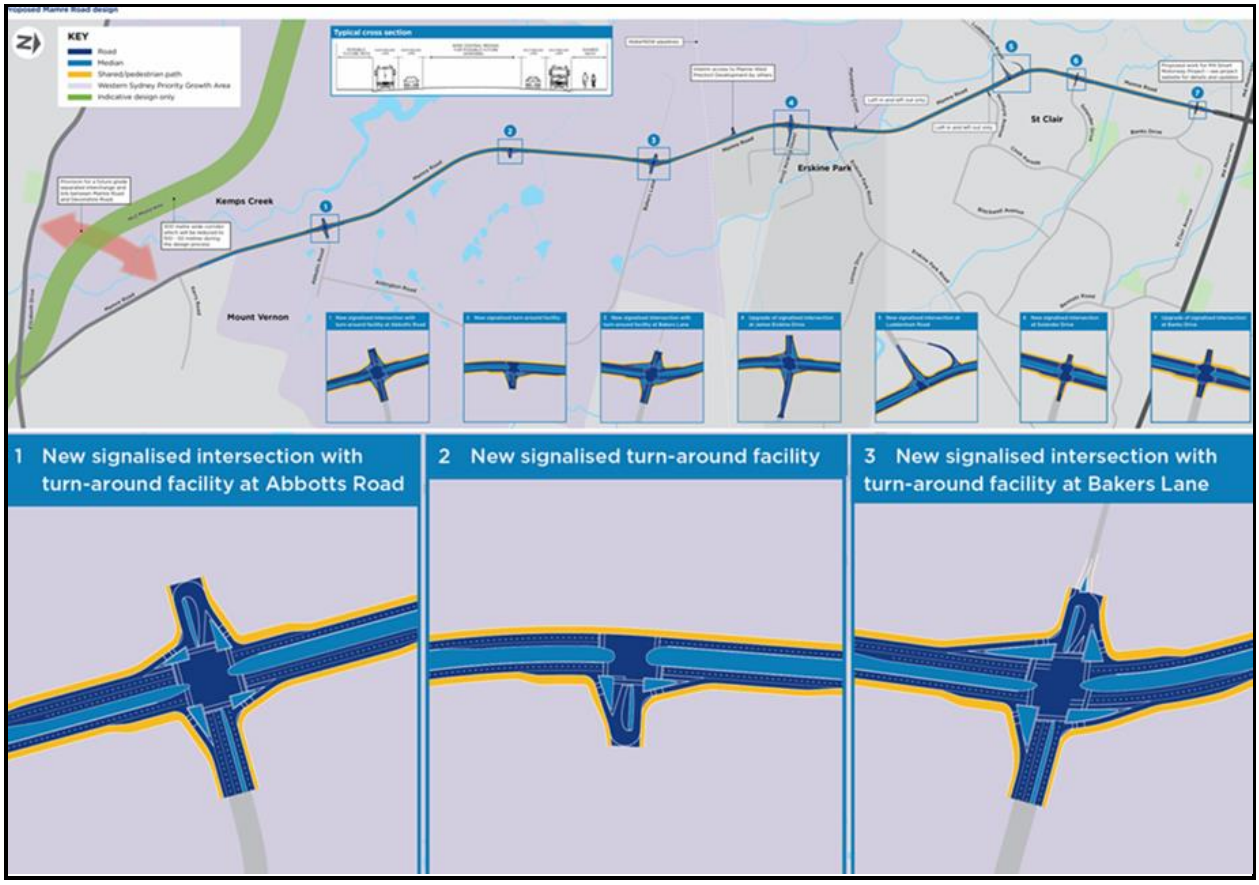

Figure 4: Mamre Road Upgrade

Source: Mamre Road Upgrade Report

4.3.3 Abbotts Road & Bakers Lane Intersection Upgrades

As discussed, the ultimate future signalised intersection capacity requirements at the Abbotts Road and Bakers Lane intersections with Mamre Road have been identified as part of the MRP modelling assessment process.

While the capacity requirements have been determined as part of the MRP modelling assessment for the future years of 2031 and 2036 (which has been confirmed as part of the finalisation of the MRP DCP), it is not currently understood what the finalised design will be.

As such, the LOG-E are proposing a staged upgrade to the intersection, approval of which is being also sought as part of the application for 200 Aldington Road (SSD 10479[2]) which was submitted in advance of this SSD. A letter of offer was submitted by the LOG-E jointly to upgrade the intersection. A VPA is currently on exhibition with the intent to go on exhibition mid-2022.

Acquisition of land is currently being facilitated by ESR to support the ultimate road upgrade per TfNSW's directive for the ultimate road network to be delivered. The ultimate intersection developed is shown by **Figure 5**.

The intersection will be delivered collectively by the LOG-E.

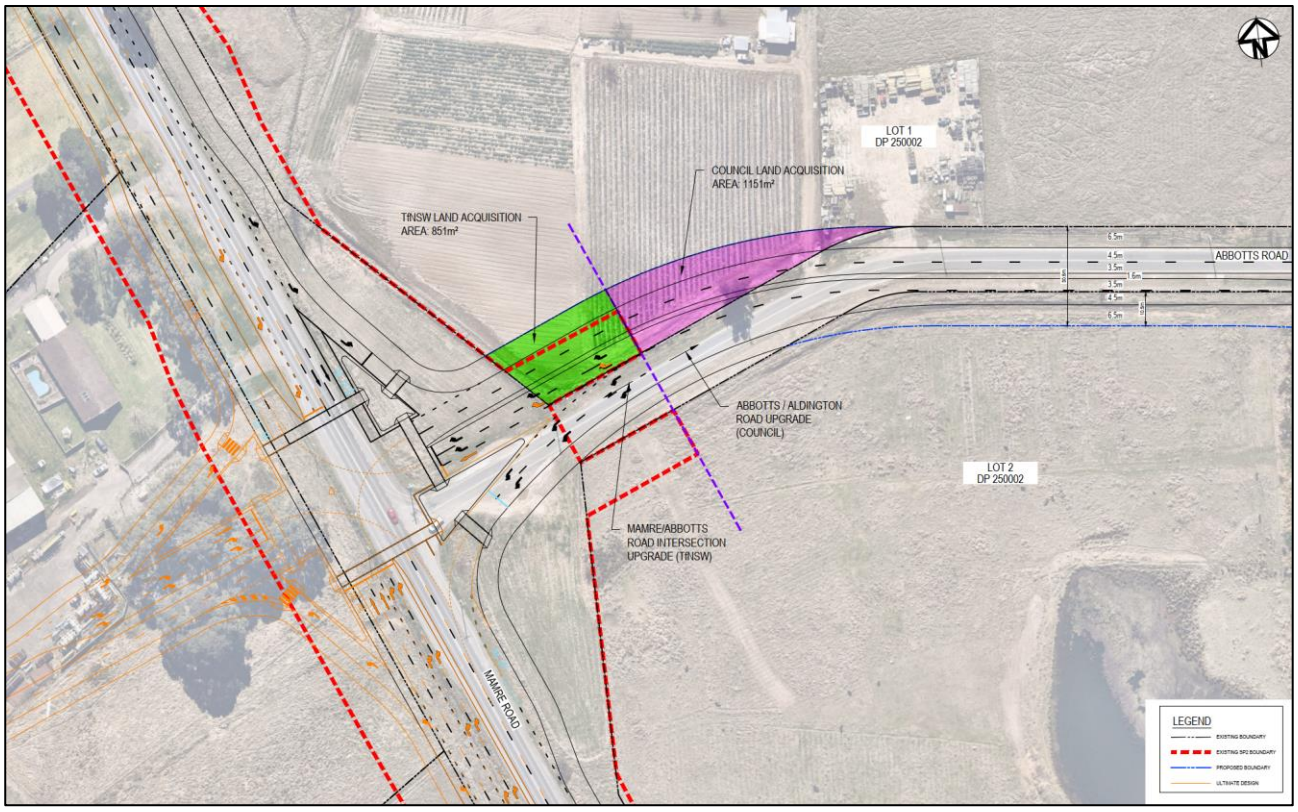

Figure 5: Abbotts Road / Mamre Road - Currently Proposed Ultimate Intersection

Further to the upgrades planned to Mamre Road / Abbotts Road, the approved development located at 657-769 Mamre Road (SSD 9522[3]) includes a requirement to upgrade the Mamre Road / Bakers Lane intersection by 2025, in advance of the delivery of the ultimate intersection. It is noted that this will form a key intersection for the MRP, with the future SLR planned to be provided along the current alignment of Bakers Lane.

The approved intersection design, to be delivered by 2025, is reproduced in **Figure 6**.

[2] https://www.planningportal.nsw.gov.au/major-projects/project/37961
[3] https://www.planningportal.nsw.gov.au/major-projects/project/10376

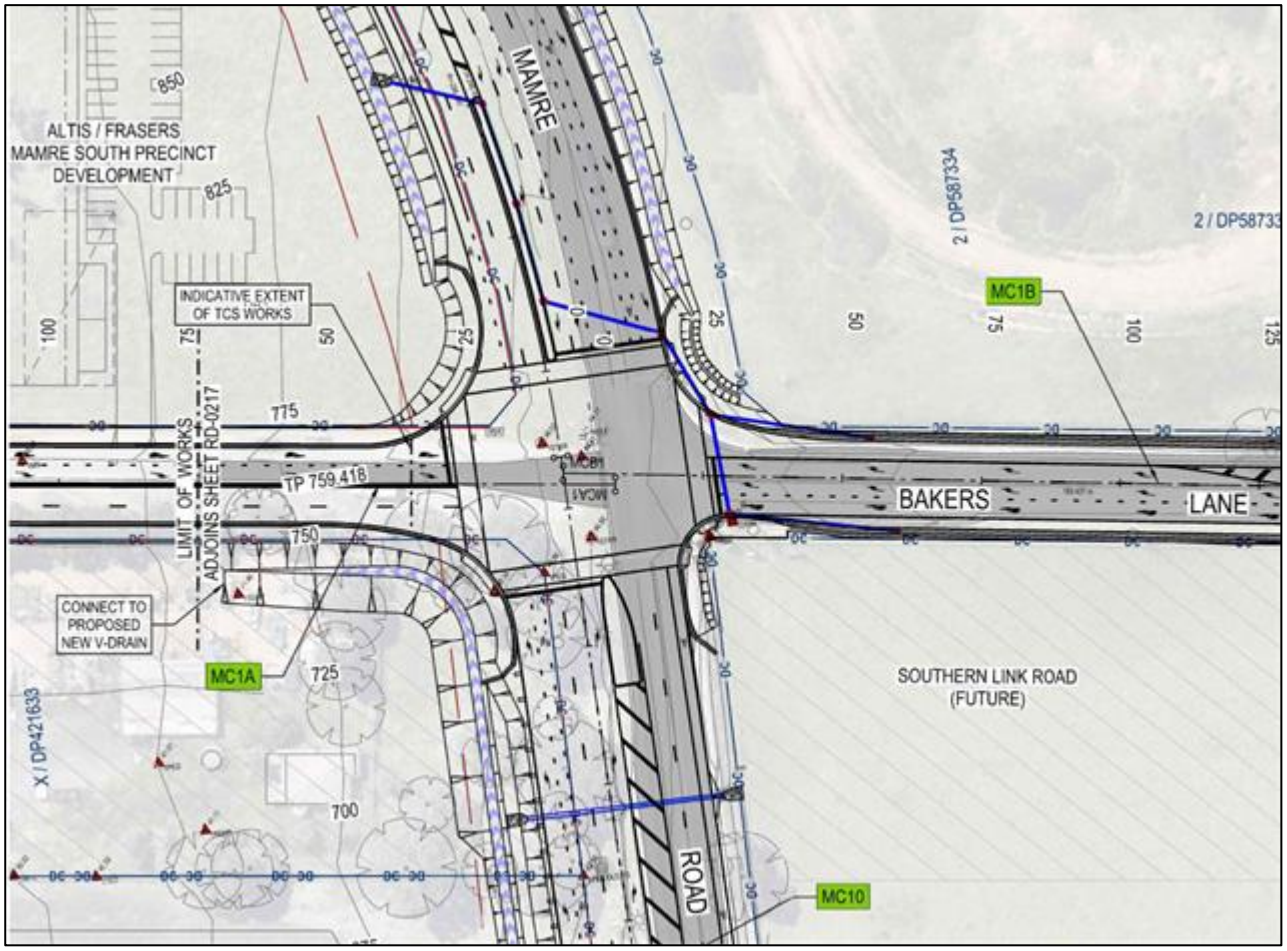

Figure 6: Approved Bakers Lane / Mamre Road Intersection

4.4 Mamre Road Development Control Plan

The MRP DCP has now been finalised and provides the planning controls for future development in the MRP including building design controls, the road network and parking requirements. The currently proposed road network is shown by **Figure 7**.

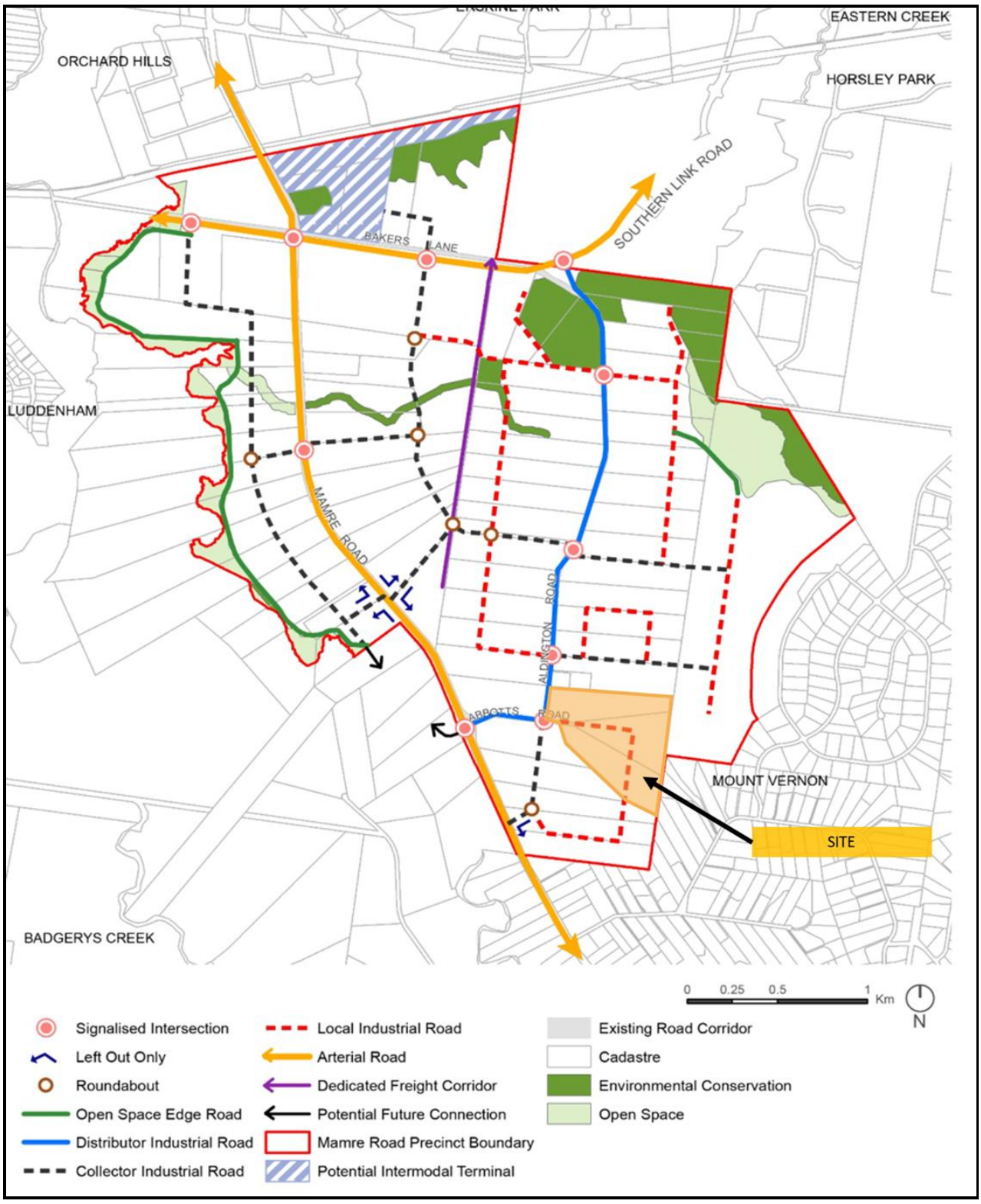

Figure 7: DCP Precinct Road Network

The final road network is subject to the outcomes of the background MRP traffic modelling being undertaken by TfNSW, with the layout shown in Figure 7 representing the preferred options being assessed.

As is shown, the existing section of Abbotts Road and Aldington Road form Distributor Roads and the internal site road would eventually form a local industrial road. The requirements for the preferred Local Industrial Road typology, as per the MRP DCP, is shown by **Figure 8**.

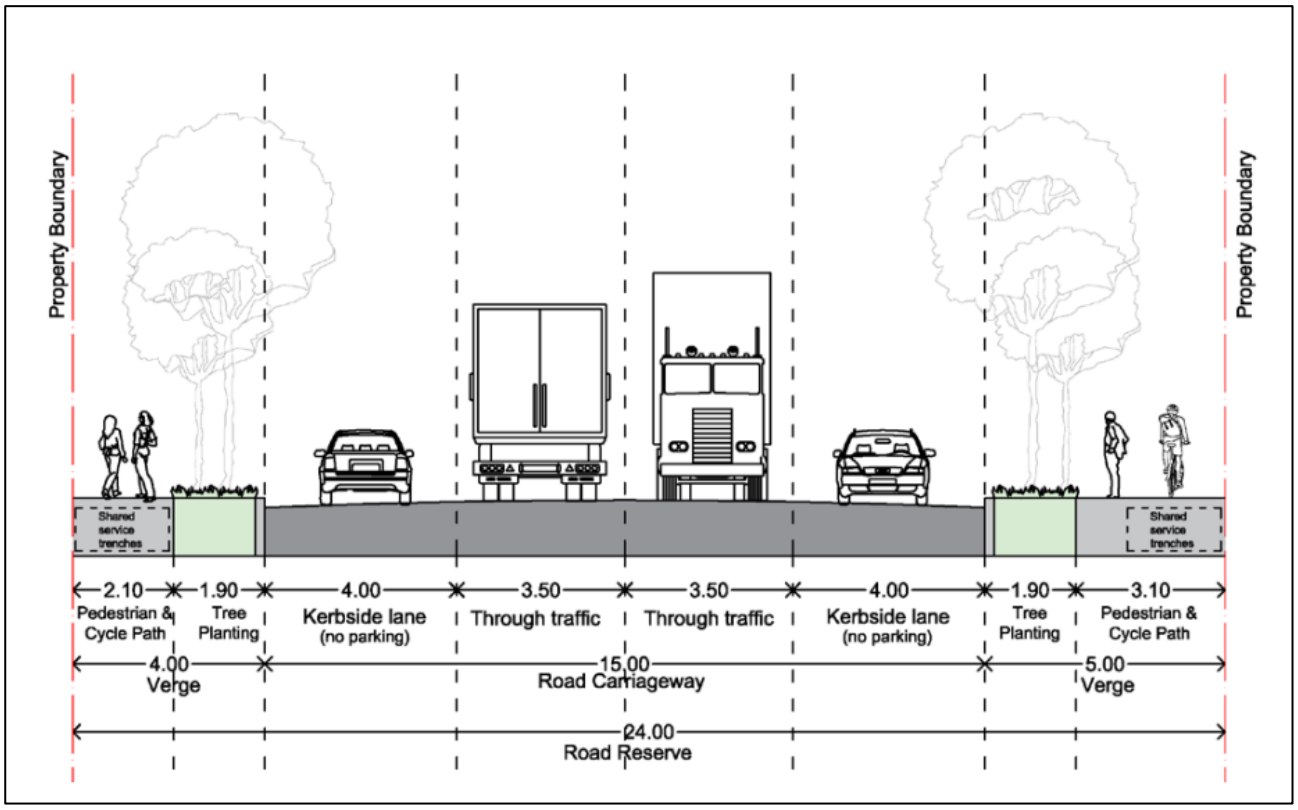

Figure 8: MRP DCP Typical Local Industrial Road

Source: Mamre Road Precinct DCP 2021

5 Public & Active Transport Opportunities

5.1 Public Transport

5.1.1 Introduction

It is evident that the Site is not directly serviced by public transport at this time (**Figure 9**); notwithstanding, opportunities for future connections have been identified, noting again that the MR Upgrade specifically provides for new bus stops along its entire route.

The planning of bus services in Sydney is governed by the NSW Service Planning Guidelines, which aim to establish Strategic Transport Corridors and a hierarchy of bus route types that:

- Link to regional centres (such as Penrith and Mt Druitt);
- Pass through patronage generators such as district centres, TAFE colleges, hospitals and universities;
- Connect with other transport modes (trains, ferries and other buses);
- Are multifunctional (serving journeys to work, education, shopping and recreation);
- Are direct and frequent; and
- Meet the network planning principles.
- It is also the case that the establishment of public transport services as early as possible in the development stages of the MRP is important to achieve a culture of public transport use from the outset. To make public transport a viable choice in the study area, the services will ideally:
- Integrate with existing bus services in the area;
- Connect to regional centres of Penrith, Mt Druitt and Blacktown; and
- In the long term, connect to areas such as Leppington in the South West Growth Centre, Prairiewood and the Liverpool to Parramatta T-Way.

The internal MRP roads would already provide greater width to accommodate heavy vehicle movements; as such, they would also therefore be bus capable. There are significant opportunities therefore to provide sub-regional services along Mamre Road, as well as services within the MRP itself to maximise the number of sites that lies within 400m of a viable bus service.

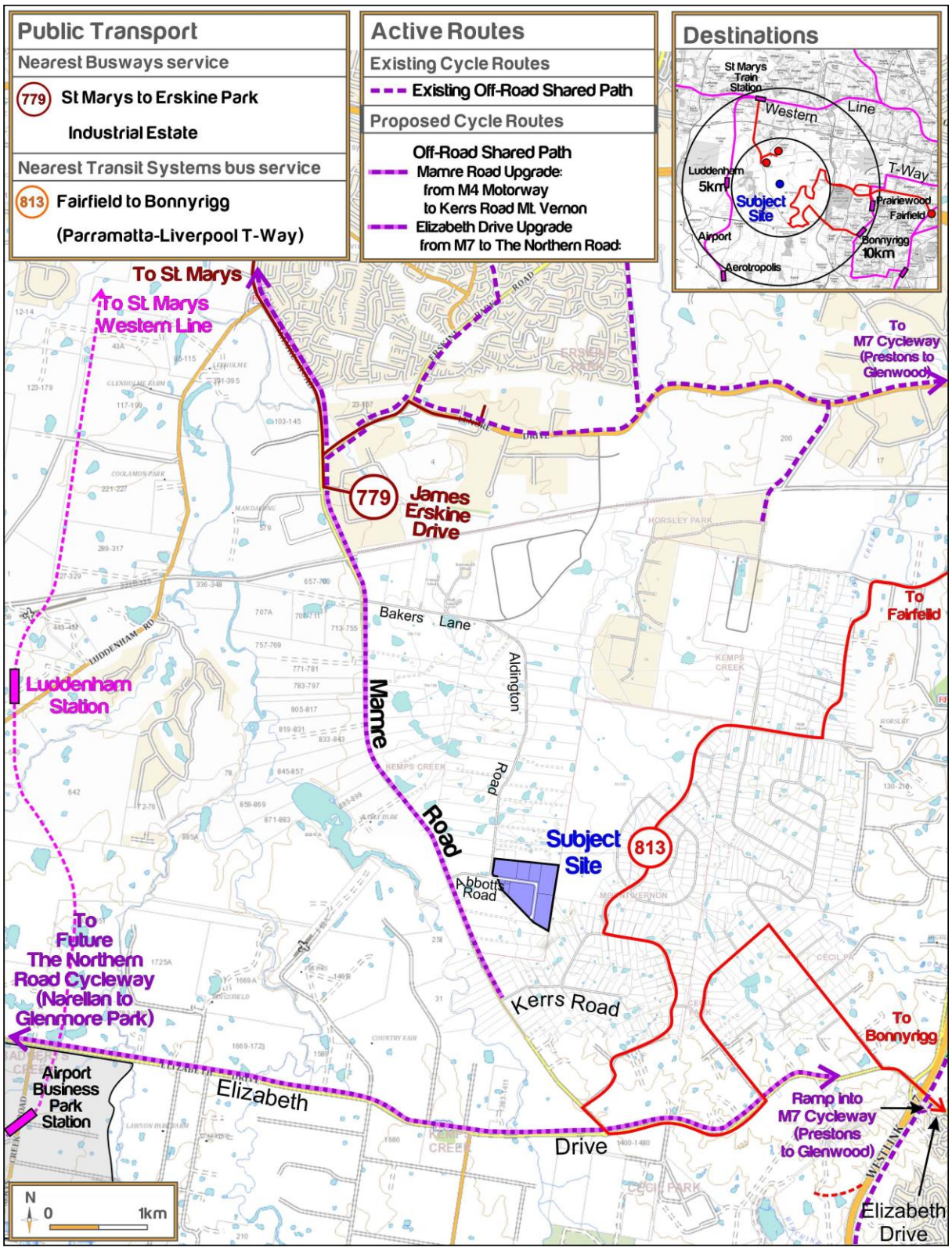

Figure 9: Public & Active Transport Network

Key bus routes identified in the BWSEA Structure Plan are shown in **Figure 10**.

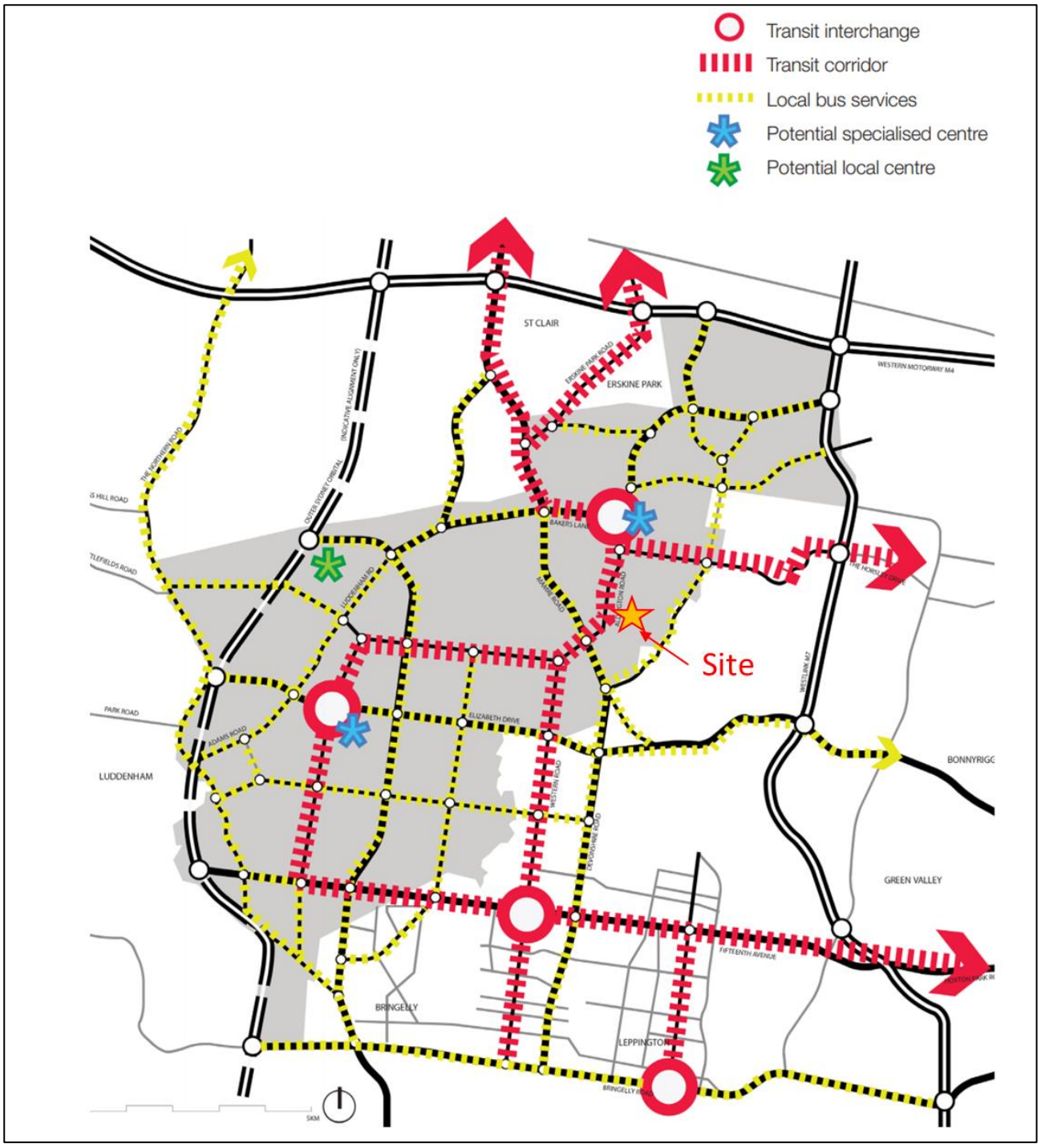

Figure 10: BWSEA Public Transport Structure

Source: BWSEA Structure Plan

5.1.2 Train Services – Metro Western Sydney Airport

The closest train station to the Site is currently some 10km away. However, the Metro Western Sydney Airport will provide 23 kilometres of new railway to link residential areas with jobs hubs and the rest of Sydney's public transport network.

The alignment of the Metro is shown by **Figure 11**. While the closest station to the Site will likely be Luddenham Station, located approximately 4km west of the Site, it will undoubtedly improve public transport

accessibility to the wider area. This provides an opportunity for bus services to combine with the Metro to improve connectivity to/from the residential areas to the north of the Site.

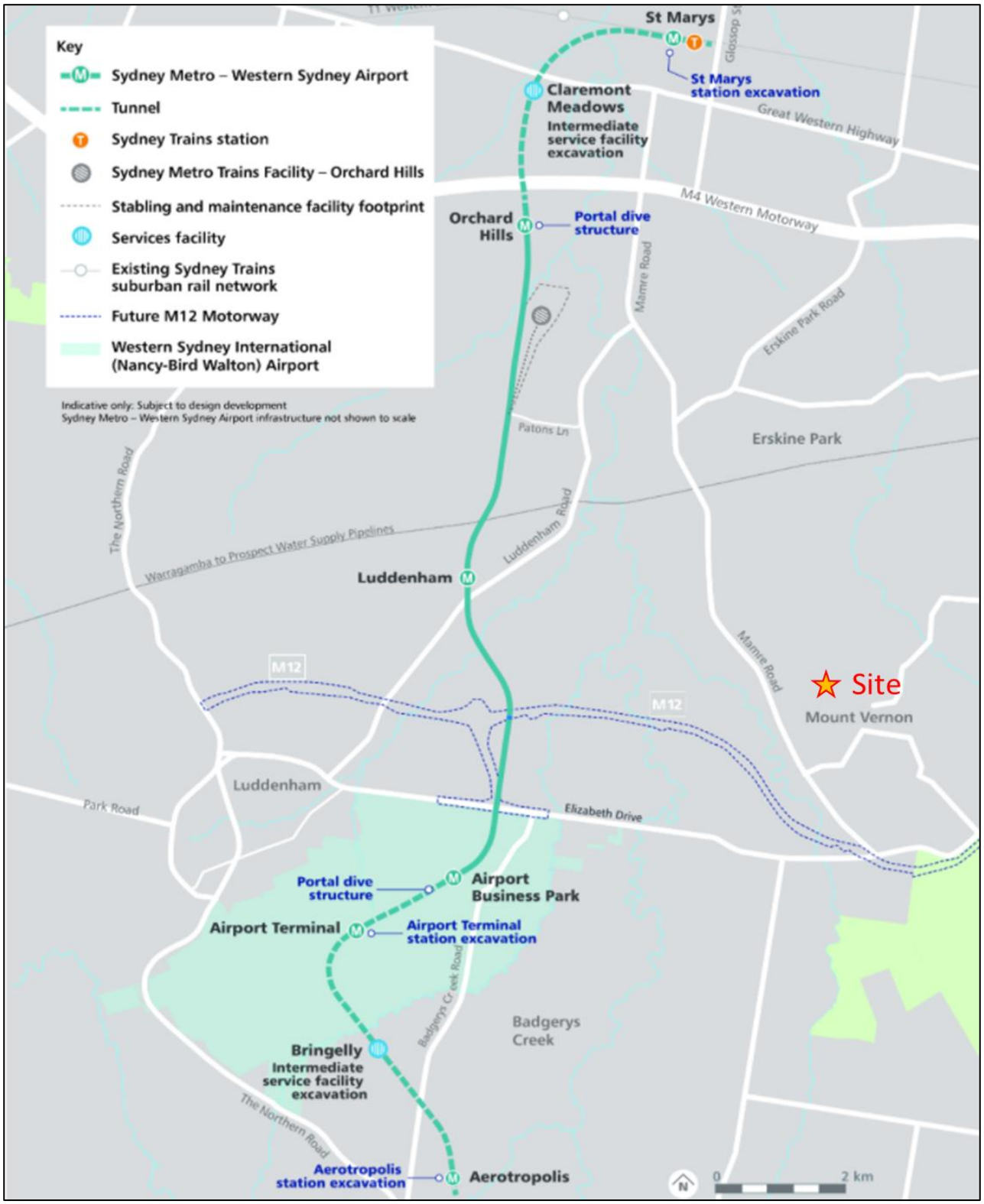

Figure 11: Metro Western Sydney Airport Alignment

5.1.3 Bicycle Network

At present, shared paths (pedestrian and cycle) are provided along Erskine Park Road and sections of Mamre Road to the north of the Site, but there is little cycling (or pedestrian) infrastructure with the MRP.

The BWSEA Structure Plan provides a detailed outline of future active transport objectives and strategies, acknowledging that the provision of such will be essential to encourage the use of active transport from the outset. In this regard, the BWSEA provides the following key objectives:

- *Provide quality pedestrian and cycling environments around transit corridors and facilities.*
- *Understand the key walking and cycling needs in the region and the need for the separation of pedestrians and cyclists from motor vehicle traffic.*
- *Recognise that all trips involve walking at either the beginning or end of the journey, resulting in the need for connections between parking and public transport areas and destinations.*
- *Recognise that walking and cycling paths can form key routes between destinations.*
- *Understand that walking and cycling trips perform a variety of functions, not only travel from an origin to a destination, but such trips are also undertaken for recreation and/or health benefits, which can be influenced by the amenity of the route*.

Key active transport routes identified in the BWSEA Structure Plan are shown in **Figure 12**, noting again that the Mamre Road upgrade Project will provide shared paths along at least one side of the road for its entire length.

Further, the MRP DCP requires internal roads to provide a footpath of 1.5m on one side (minimum) and shared path of 2.5m (minimum) on the opposing side of the road. It also requires roads to be provided with shared cycle and footpaths.

5.1.4 Pedestrian Connectivity

Due to the current largely undeveloped nature of the land immediately surrounding the Site, pedestrian infrastructure is currently non-existent. Key pedestrian desire lines in the vicinity of the Site would be triggered by connections to future public transport infrastructure, noting the nature of the area being largely industrial and therefore not representing key destinations and attractions for people to walk to.

In this regard, it is noted that the upgraded Mamre Road will include shared cycle and pedestrian pathways along its length. Further, the MRP DCP requires internal roads to provide a footpath of 1.5m on one side (minimum) and shared path of 2.5m (minimum) on the opposing side of the road. It also requires roads to be provided with shared cycle and footpaths.

Figure 12: BWSEA Cycle Routes

Source: BWSEA Structure Plan

6 Traffic Impact Assessment

6.1 Trip Rates

The assessment of industrial development within Western Sydney has generally – in recent years – referenced the trip generation rates provided in the RMS Guide Update, and specifically sites displaying the similar characteristics of (large scale) industrial development, including the Erskine Park Industrial Estate, and the Wonderland Business Park, Eastern Creek Roads & Maritime survey sites (as detailed in the RMS Guide Update).

However, for the purposes of the background MRP modelling assessment trip rates were provided by TfNSW and DPE for adoption in the assessment of warehouse developments in the MRP, as shown by **Table 5**. To ensure consistency with the completed background MRP assessment, these rates have been adopted for the purposes of this assessment.

TABLE 4: TFNSW AGREED TRIP RATES

Time Period	Rate per 100m^2
Daily Trips	2.91
Local Road AM Peak (7am – 8am)	0.23
Local Road PM Peak (4pm – 5pm)	0.24
Site Maximum Generation Rate (All Vehicles)	0.26
Site Maximum Generation Rate (Heavy Vehicles)	0.07

6.2 Traffic Generation

Further to the adoption of the trip rate as described above, **Table 5** provides a summary of the Site's traffic generation further to the Proposal. A breakdown of the Site's daily traffic profile, based on the survey data available, is shown in **Appendix A**; it is noted that there are minor differences between the peak hour volumes reported in **Table 5** and those reported in Appendix A further to minor rounding changes.

TABLE 5: MASTERPLAN TRAFFIC GENERATION

Time Period	GFA	Rate per 100m^2	Trips
Daily Trips	150,377*	2.91	4,376
Local Road AM Peak (7am – 8am)		0.23	346
Local Road PM Peak (4pm – 5pm)		0.24	361
Site Maximum Generation Rate (All Vehicles)		0.26	391
Site Maximum Generation Rate (Heavy Vehicles)		0.07	105

**Excludes café GFA*

6.3 Traffic Assessment – Ultimate Road Network

With regard to the ultimate road layout and intersection configuration, it is notable that development of the Site was considered within the MRP modelling assessment.

It is understood that the assumptions that underpinned this modelling assessment was as follows:

- The majority of land use will take the form of a large format industrial warehousing;
- The land was separated into smaller land parcels for the purposes of identifying any constraints which will impact the developable GFA;
- The sub-precinct in which the Site lies was assumed to be able to accommodate a GFA which represented 55% of the total site area; and
- Trips rates adopted (detailed in Table 4), included a level of conservatism to allow for more intensive uses that may be located in the MRP, which are permissible under the land use zoning.

Of particular note to the Proposal is the assumption that 55% of the Site area represented developable GFA. With a Site area of 320,000m^2, this equates to a GFA of 176,000m^2. However, it is noted that, following allocation of the required road reserves and the E2 riparian zone, only 296,000m^2 of the Site provides for developable area.

As such, the current Proposal achieves a GFA 150,577m^2, which represents 47% of the total Site area. Therefore, it is clear that the Proposal is, not only consistent with the MRP modelling assessment, but it actually represents a less intensive development than was previously assumed could be achieved. As such, the traffic impact of the Site will be less than previously assessed for the MRP DCP.

It has been demonstrated that the Proposal aligns with the MRP modelling assessment. The assessment undertaken for the MRP DCP has already determined the road layout and intersection capacity requirements for the assessment years of 2031 and 2036, on the basis of a precinct-wide cumulative assessment. As such, further assessment of the Site with consideration to the ultimate road network, is not deemed necessary.

6.4 Interim Modelling Assessment

As discussed in Section 1.2.2, the interim modelling assessment is currently being updated as a result of consultation with TfNSW and DPE following refinement of the assumptions adopted. As such, the following summarises the previous assessment undertaken, on the basis of the previous assumptions. The modified assessment will be submitted once complete.

6.4.1 Trip Distribution

The arrival and departure distribution of trips to and from the Site during the AM and PM peak periods has been based on that agreed with TfNSW as part of the MRP modelling assessment. The methodology to identify the distribution includes surveys of local industrial sites and, the 2019 Land Use Strategic Traffic Forecasting Model (STFM). An Aimsun Subnetwork Assessment was also undertaken to understand the distribution of traffic volumes within the MRP road network. The turn volumes have been extracted from the peak hour to undertake a SIDRA Intersection assessment for the 2026 interim intersections requirements.

Further to this analysis, the following arrival and departure distribution has been adopted, based on surveys conducted by Ason Group and adopted for the MRP modelling assessment:

- AM Peak Hour:
  - 70% arrival; and
  - 30% departure.
- PM Peak Hour:
  - 30% arrival; and
  - 70% departure.

With regard to access to and from Mamre Road, the key intersection with regards to the Site is the Abbotts Road / Mamre Road intersection.

The Mamre Road / Bakers Lane intersection will potentially form one of the key intersections for the MRP following the upgrade of Bakers Lane to the SLR. Further, this intersection currently also forms the key access intersection into the development site currently known as the Mamre South Precinct (subject to SSD-9522).

While there are many other developments influencing the intersection requirements for the Mamre Road / Bakers Lane intersection, including that within the LOG development sites, the key intersection with regard to the Site is clearly the Abbotts Road intersection with Mamre Road.

Therefore, the remainder of this assessment focuses on the interim upgrades required to the Mamre Road / Abbotts Road intersection to support the initial development of the Site by 2026.

Forecast traffic flows generated by the Site by the forecast year of 2026 and full development flows are shown by **Appendix B**.

6.4.2 Adjacent Sites – Cumulative Assessment

The relevant sites within the MRP that were adopted for the interim 2026 assessment undertaken for the LOG, and the forecast GFA adopted for the purposes of the modelling assessment are provided within **Table 6** and **Figure 13**. These GFAs represent 75% of each of the relevant sites. This reduced figure represents the assumed take up rates of development on those LOG sites by that time.

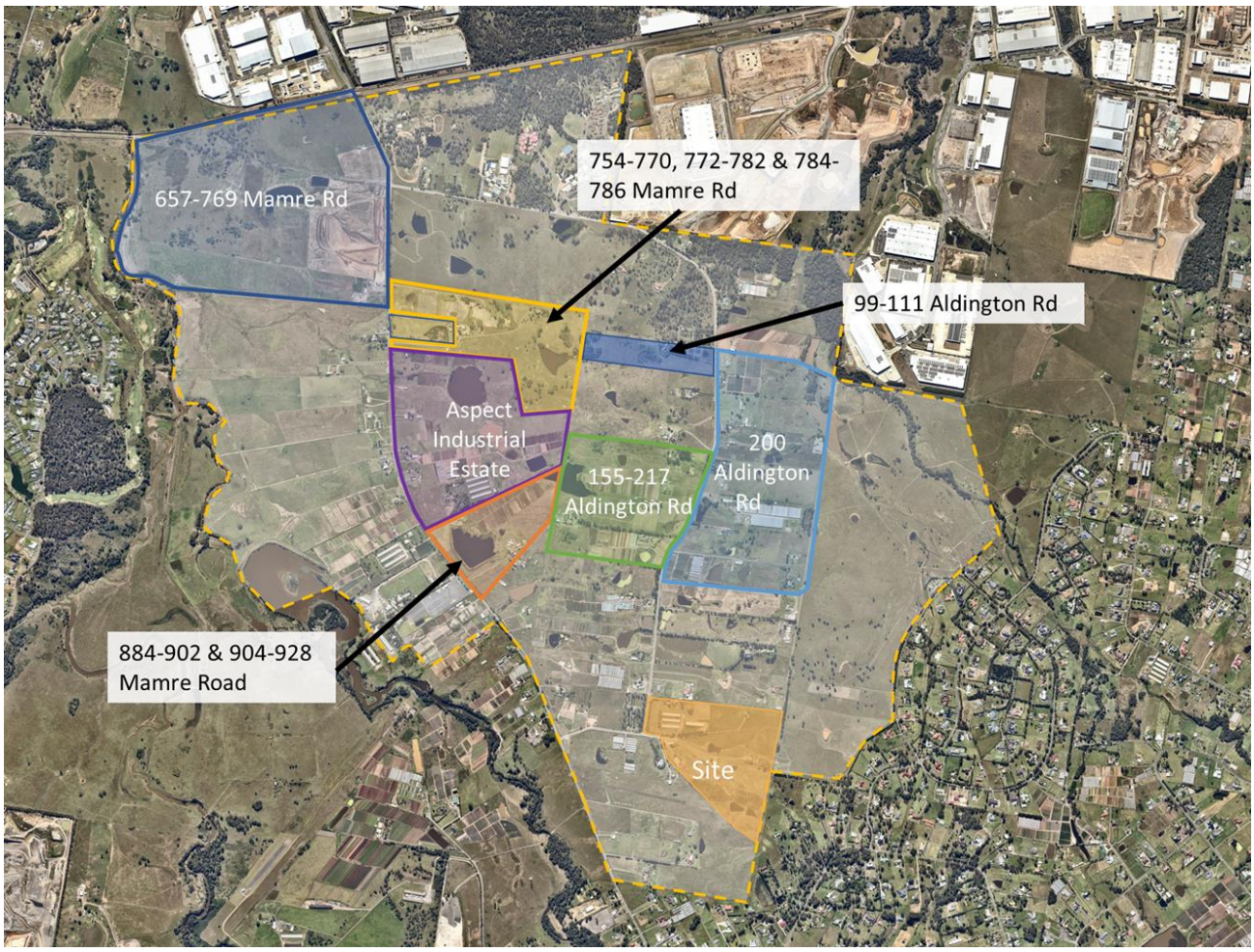

Figure 13: Sites Adopted for 2026 Interim Modelling Assessment

TABLE 6: CUMULATIVE LOG SITES GFA

ID	Site Address	Reference	GFA (m^2) by 2026
1	**657-769 Mamre Rd**	**SSD-9522**	242,488
2	**754-770, 772-782 & 784-786 Mamre Rd**	**SSD-10272349 plus 772-782 Mamre Rd**	131,460
3	**788-804, 806-824, 826-842, 844-862, & 864-882 Mamre Rd**	**SSD-10448**	186,684
4	**884-902 & 904-928 Mamre Rd**	**SSD-17647189**	61,158
5	**59-63 Abbotts Rd & 290-308 Aldington Rd**	**Site - SSD-9138102**	118,601
6	**99-111 Aldington Rd**	-	25,806
7	**155-217 Aldington Rd**	**SSD-17552047**	141,699
8	**200 Aldington Rd**	**SSD-10479**	281,816
	Total	-	**1,189,712**

This assumes a total GFA of 1,189,712m^2 to be complete by 2026 across the Precinct. On the basis of the trips rates agreed with TfNSW for the purposes of the Precinct modelling assessment this equates to the following:

- 2,736 AM peak hour trips; and
- 2,855 PM peak hour trips.

6.4.3 SIDRA Intersection Model

The future operation of the proposed signalised intersection of Mamre Road and Abbotts Road has been assessed using the Roads & Maritime 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 7 provides the SIDRA recommended criteria for the assessment of intersections with reference to the RMS Guide.

TABLE 7: 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.

6.4.4 2026 Intersection Operations

The proposed interim intersection layouts that have been assessed are shown by **Figure 14** and **Figure 15**.

The operation of the key intersections in 2026 on the basis of the above traffic generation is summarised in **Table 8**.

TABLE 8: INTERSECTION OPERATIONS

Intersection	Configuration	Period	AVD	LOS
Mamre Road / Abbotts Road	Signals	AM	10.3	A
		PM	25.1	B
Abbotts Road / Aldington Road	Signals	AM	30.2	C
		PM	31.6	C

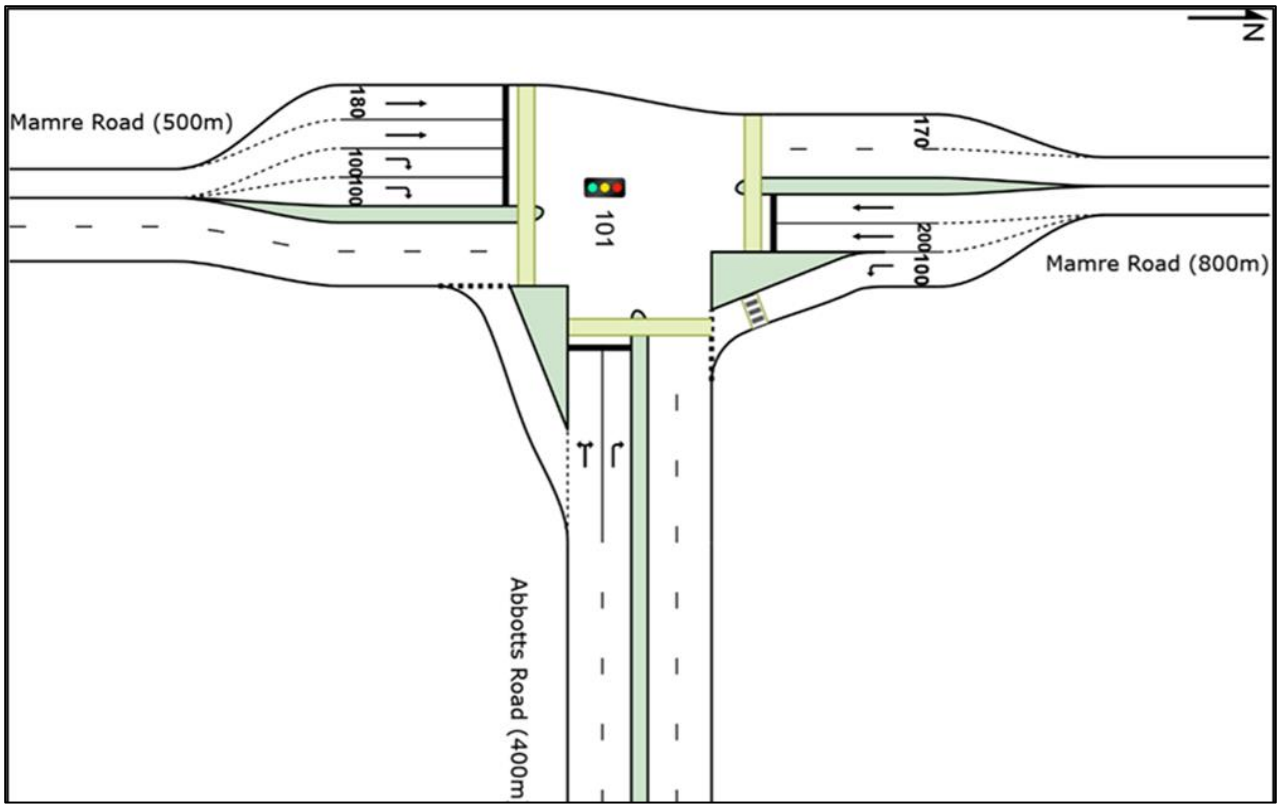

Figure 14: Interim 2026 SIDRA Intersection Layout – Mamre Road / Abbotts Road

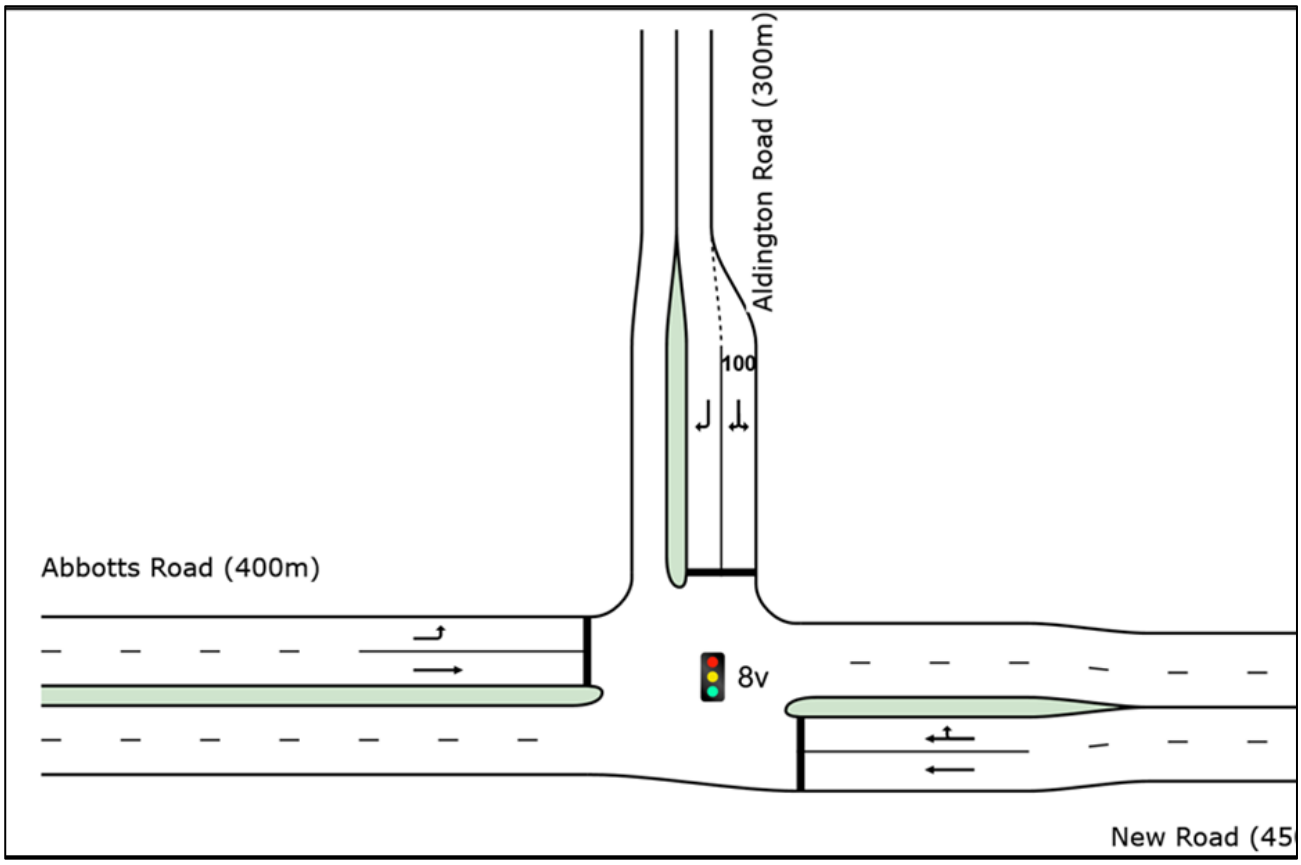

Figure 15: Interim 2026 SIDRA Intersection Layout – Abbotts Road / Aldington Road

With reference to Table 8, the SIDRA analysis indicates that the proposed intersections can accommodate the traffic generation associated with 75% of the traffic associated with the initial development of the relevant LOG sites.

Therefore, the assessment has demonstrated that the proposed interim arrangements are sufficient to accommodate the initial stages of development, anticipated by 2026 as a minimum.

7 Transport Assessment

7.1 Existing Travel Patterns

7.1.1 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) have been referenced to understand the baseline travel characteristics of the Site.

A summary of key travel modes for those travelling to the locality for work have been reviewed with regard for the surrounding Destination Zone 115184210, within the Horsley Park – Kemps Creek statistical area. The travel modes are presented in **Table 9**.

TABLE 9: TRAVEL MODE SUMMARY (JOURNEY TO WORK)

Travel Mode	Mode Share of Employees
Car as driver	92%
Train	0%
Bus	2%
Walked only	1%
Car as passenger	3%
Motorbike/Scooter	0%
Bicycle	0%
Taxi	1%
Other Modes	1%

With reference to Table 9, it is evident that the private vehicle (car) is the overwhelming preferred mode of choice for commuters travelling to work in in the area. The data indicates that 95% travel to work by car with 92% as the driver and 3% as passenger i.e. car-pooling.

This is reflective of the current nature of the area, which accommodates rural residential properties and agricultural businesses only. However, noting the future land use of the Site as industrial in nature, it is expected that the JTW data accurately reflects the current trends for travel to places of work at industrial sites.

The RMS Guide Update itself provides details in relation to the principal mode of travel used by staff at the Erskine Park and Eastern Creek warehouses surveyed by TfNSW. These surveys indicate that 90% of all workers would travel via private vehicles, with 8% travelling as passengers. Therefore, the existing census data is reflective of existing travel patterns of industrial development.

7.2 Measures to Reduce Private Vehicle Use

7.2.1 Delivering the Vision of the Aerotropolis

The MRP forms of one of the initial precincts of the Aerotropolis (although not included within SEPP WSA), the background studies provide some context with regards to travel demand management.

The AECOM Report is one of the technical reports supporting the delivery of the Draft Aerotropolis Precinct Plan (November 2020) vision, which aims to create "*Sustainable urban connections including efficient and accessible public transport links, walking and cycling facilities*". The AECOM Report provides 2 key "enablers" being "*Transport Policies and Strategies*", which includes travel demand strategies; and "*Transport Infrastructure and Services*" which requires planning of a multi-modal, connected network.

Of most relevance to the Site are the following objectives identified for Travel Demand Strategies:

- Provide excellent travel choices and encourage walking, cycling and public transport trips;
- Limit unnecessary car trips, particularly for shorter trips;
- Promote alternatives to vehicle ownership;
- Reduce the need to travel, especially in peak periods;
- Facilitate the efficient use of land, through road space allocation and proximity of jobs and services to people; and
- Create a liveable community, with excellent local environmental quality and community cohesion.

Measures include implementation of Travel Plans and provision of adequate bicycle parking and End of Trip Facilities.

7.2.2 Implementation at Subject Site

A Framework Sustainable Travel Plan (FSTP) has been prepared that will inform future site-specific travel plans, expected to be implemented for each of the warehouse sites within the Estate (refer to **Appendix C**). Each of the end users within the Estate will have slightly different travel characteristics and therefore individual travel plans will be prepared to address the specific needs of the occupier.

A travel plan is a package of measures to assist in managing the transport needs of an organisation. It promotes the uptake of realistic choices of sustainable travel modes to and from a site, thereby reducing reliance upon single occupancy car travel. The travel plans will set targets, a series of measures to meet these targets and the process for monitoring and reviewing the travel plan, including the allocation of a Travel Plan Coordinator.

Each of the end users within the Estate will have slightly different travel characteristics and therefore individual travel plans will be prepared by the future occupiers on site to address their own specific needs.

7.2.3 Future Travel Patterns

The FSTP within Appendix C has identified an initial 5-year target for reducing travel by private vehicle on the Site.

These will be subject to review, prior to finalisation of any travel plan. Nevertheless, **Table 10** presents the relevant mode share details and the results of the application of these target percentages to the Proposal.

With regards to understanding the number of employees on the Site, at this stage in the development it is not clear how many employees the Site would accommodate. However, to inform this assessment, it is understood that the approximate 850 hectares of industrial land within the MRP could accommodate an approximate capacity of 17,000 jobs, based on information provided by DPIE. The developable land within the Estate totals 29 hectares. On this basis therefore, it is assumed that the Site could accommodate approximately 580 employees.

TABLE 10: SITE TRAVEL MODE TARGETS & PERSON ONE-WAY TRIPS BY 2026

Travel Mode	Mode Share Target	Daily
Car as driver	88%	510
Car as passenger	3%	17
Train	0%	0
Bus	4%	23
Walked only	1%	6
Motorbike/Scooter	1%	6
Bicycle	1%	6
Taxi	1%	6
Other Modes	1%	6

The analysis indicates that 23 persons would use bus to access the Estate during peak hours, or trips when accounting for arrivals and departures.

While these targets are not set, and while the bus services for the MRP are still being planned, it is not anticipated that this level of public transport travel would not be able to be accommodated. It would be recommended to try to exceed the level of bus travel to the Estate; however, this would be subject to the implementation of appropriate services, which would be facilitated by TfNSW as the MRP develops and becomes better connected to the wider network.

8 Parking Assessment

8.1 Car Parking

8.1.1 Precinct Parking Rates

Parking rates from the MRP DCP have been adopted to assess the parking requirements of the Proposal. The requirements are provided within **Table 11**.

TABLE 11: DCP PARKING RATES

Land Use	Minimum Parking Rate
Warehouse	1 space per 300m^2 or 1 space per 4 employees, whichever is the greater.
Factory	1 space per 200m^2 of gross floor area or 1 space per 2 employees, whichever is the greater
Office	1 space per 40m^2
Neighbourhood Shops	1 space per 40m^2

8.1.2 Parking Requirements & Provision

Table 12 details the requirements for Proposal, based on the parking rates detailed in **Table 11**.

TABLE 12: CAR PARKING REQUIREMENTS & PROPOSED PROVISION

Lot	Land Use	GFA (m^2)	Requirement	Proposed
1	Warehouse	57,062	191	226
	Office	1,345	35	
	Sub Total	**58,407**	**226**	
1a	Warehouse	25,560	86	113
	Office	1,500	27	
	Sub Total	**26,610**	**113**	
1b	Warehouse	21,880	73	102
	Office	1,100	28	
	Sub Total	**22,980**	**101**	
2	**Cafe**	**200**	**5**	12
3	Warehouse	12,520	42	56
	Office	550	14	
	Sub Total	**13,070**	**56**	
4	Warehouse	17,030	57	100
	Office	1,300	33	
	Sub Total	**18,330**	**90**	
5	Warehouse	10,430	35	49
	Office	550	14	
	Sub Total	**10,980**	**49**	
Total	-	150,577	640	658

As per Table 12, the Proposal requires 640 parking spaces and 658 parking spaces are provided, exceeding the requirements. Therefore, the Proposal can provide full compliance with the adopted rates.

8.1.3 Accessible Parking

The MRP DCP provides the following in regard to accessible parking:

Accessible parking should be in accordance with the Access to Premises Standards, Building Code of Australia and AS2890.

In this regard, 2 accessible parking spaces are to be provided per every 100 spaces; therefore, providing compliance with the Disability (Access to Premises – Buildings) Standards 2010 from the BCA, as well as the accessible parking requirements provided in Appendix B of AS 2890.6.

8.1.4 Electric Vehicle Parking

Section 4.6.1(8) of the MRP DCP notes the following:

Parking areas should incorporate dedicated parking bays for electric vehicle charging

However, it does not provide for guidance on the specific number of bays. Therefore, it is proposed that a total of 5% of the parking provision be designated as electric vehicle charging bays.

8.2 Bicycle Parking

Bicycle parking rates from the MRP DCP have been adopted to assess the parking requirements of the Proposal.

The requirements of the MRP DCP are provided within **Table 13**.

TABLE 13: MRP DCP CYCLE PARKING RATES

Land Use	**Minimum Parking Rate**
Warehouse	1 space per 1000m^2 of gross floor area of industrial activities (over 2000m^2 gross floor area)
Office	1 space per 600m^2 of gross floor area of office and retail space (over 1200m^2 gross floor area)

Table 13 details the requirements for Proposal, based on the parking rates detailed in **Table 14**. As shown, the Proposal is required to provide a total of 155 bicycle parking spaces.

It is anticipated that this could be ensured via a suitable Condition of Consent.

TABLE 14: BICYCLE PARKING REQUIREMENTS

Lot	Land Use	GFA (m^2)	Requirement
1	**Warehouse**	57,062	58
	Office	1,345	4
	Sub Total	**58,407**	**62**
1a	**Warehouse**	25,560	26
	Office	1,500	N/A
	Sub Total	**26,610**	**26**
1b	**Warehouse**	21,880	22
	Office	1,100	N/A
	Sub Total	**22,980**	**22**
3	**Warehouse**	12,520	13
	Office	550	N/A
	Sub Total	**13,070**	**13**
4	**Warehouse**	17,030	21
	Office	1,300	3
	Sub Total	**18,330**	**25**
5	**Warehouse**	10,430	11
	Office	550	N/A
	Sub Total	**10,980**	**11**
Total	-	150,377	155

Additionally, the MRP DCP also references the following rates for End of Trip (EoT) facilities:

TABLE 15: END-OF-TRIP PARKING RATES

Land-Use	Requirement
Office	For ancillary office and retail space with a gross floor area over 2500m^2, at least 1 shower cubicle with ancillary change rooms
Warehouse	For industrial activities with a gross floor area over 4000m^2, at least 1 shower cubicle with ancillary change rooms

Having regard for the Proposal, **Table 16** demonstrates the provision of EoT facilities for the Site against the outlined MRP DCP rates. It is anticipated that provision of these EoT facilities could be ensured via a suitable Condition of Consent.

TABLE 16: BICYCLE PARKING REQUIREMENTS

Lot	Land Use	GFA (m^2)	Requirement
1	**Warehouse**	57,062	1
1a	**Warehouse**	25,560	1
1b	**Warehouse**	21,880	1
3	**Warehouse**	12,520	1
4	**Warehouse**	17,030	1
5	**Warehouse**	10,430	1
Total	-	**144,482**	**6**

Access Parking and Servicing Design

Design Standards

The Site's access, car park and loading areas have been generally designed with reference to the following Australian Standards:

- Australian Standard 2890.1:2004: Parking Facilities – Off Street Car Parking (AS 2890.1)
- Australian Standard 2890.2:2018 Parking Facilities – Off Street Commercial Vehicle Facilities (AS 2890.2)
- Australian Standard 2890.3:2015: Parking Facilities – Bicycle Parking (AS 2890.3);
- Australian Standard 2890.5:2020: Parking Facilities – On Street Parking (AS2890.5)
- Australian Standard 2890.6:2009 Parking Facilities – Off Street Parking for People with Disabilities (AS 2890.6); and
- Penrith Council Development Control Plan 2014
- NSW Department of Planning, Industry and Environment, Mamre Road Precinct Draft Development Control Plan, November 2020
- PCC Engineering Construction Specification for Civil works (Engineering Specifications);
- PCC Design Guidelines for Engineering Works for Subdivisions and Developments (Engineering Guidelines); and
- Austroads Guide to Road Design Part 3: Geometric Design (Edition 3.3, 23 April 2020)
- Fire + Rescue NSW, Fire Safety Guideline: Access for fire brigade vehicles and firefighters, Version 05, 4 October 2019 (NSW Fire Safety Guidelines)

8.3 Design Vehicles

The design vehicle adopted for the development is a 20m long articulated vehicle for each of the lots proposed.

The check vehicle adopted for the development is a 30m long PBS Type 2 vehicle for each of the lots proposed.

The 12.5 metre Heavy Rigid Vehicle has been adopted for the design of fire access trails in accordance with the NSW Fire + Rescue Guidelines.

The proposed car parking area has been designed to accommodate B99 Vehicles as per AS2890.1:2004.

8.4 Access Driveways

All access driveways (to the proposed road network within the MRP) have been, and shall be, designed with reference to AS 2890.1, AS 2890.2, and any other relevant published road design / road engineering guidelines.

Truck access driveways shall be designed to provide for vehicles up to and including a 30m long PBS Type 2 with maximum gradients, maximum rates of change of grades, and maximum crossfalls in accordance with relevant standards applicable at the time when Construction Certification drawings are prepared and/or in accordance with standards applicable at the time of construction.

Car access driveways shall be designed to provide for B99 vehicles, assuming simultaneous movements in accordance with AS 2890.1 and any other relevant Council Engineering Guidelines.

It is anticipated that full access driveway design compliance with AS 2890.1 and AS 2890.2 would form a standard Condition of Consent further to approval.

8.5 Parking Areas

All parking areas, including access aisles and parking modules shall be designed with reference to AS 2890.1 and AS 2890.6. It is anticipated that full parking area design compliance with AS 2890.1 and AS 2890.6 would form a standard Condition of Consent further to approval.

8.6 Service Areas

All service areas shall be designed with reference to AS 2890.2, and again provide for the movement of vehicles up to and including a 30m long PBS Type 2 as check vehicle, and 20m Articulated Vehicle as design vehicle.

It is anticipated that service area design compliance with AS 2890.2 would form a standard Condition of Consent further to approval.

9 Conclusions

Ason Group has been engaged by ESR Developments (Australia) Pty Ltd (ESR) to prepare a Transport & Accessibility Management Plan in relation to the State Significant Development for an industrial development located on Abbotts Road, Kemps Creek (the Site). Further to a detailed assessment of all relevant traffic and transport issues, Ason Group provides the following conclusions:

- The Site is well located for industrial development, with excellent existing and future connections to the sub-regional and regional network, as well as key growth centres across Western Sydney.
- Access to the Site will be provided via a roundabout intersection at Abbotts Road and Aldington Road, with access to the wider road network provided via Mamre Road, which itself will be upgraded in accordance with the TfNSW MR Upgrade project.
- The trip generation rate adopted for the assessment are consistent with the rates being adopted for the MRP background modelling, being undertaken by TfNSW.
- SIDRA analysis has identified the required interim configuration of the future intersection for Mamre Road & Abbotts Road to facilitate the early stages in development of the Proposal by 2026, alongside a proportion of surrounding development, within the wider MRP. The analysis indicates that an interim signalised intersection design would more than provide for the development of the Proposal by 2026.

  The detailed design requirements for the ultimate intersection will be confirmed as part of the wider MRP road network planning being undertaken by TfNSW.
- SIDRA analysis has also confirmed that an appropriate intersection at the Site access point can be provided for 2026 assessment years.
- All internal Lots circulation, hardstand and parking areas have been designed with reference to the Australian Standards and provide for vehicles up to and including a 30m long PBS Type 2, as required by the MRP DCP.
- Parking has been provided in accordance with the rates detailed in the MRP DCP, and includes an appropriate allocation of accessible parking spaces.
- All future operators will be encouraged to maximise the use of public and active transport, noting the future pedestrian, cycle and bus provisions included in the MR Upgrade design.
- All access driveways, parking areas and service areas have been designed with reference to the appropriate Australian Standards. It is anticipated that full design compliance with the relevant Australian Standards would form a standard Condition of Consent further to approval, which will also provide for any design changes if required.

Appendix A. Hourly Traffic Generation

Start Time	All Vehicle	Light Vehicle	Heavy Vehicle	Rigid	Semi-trailer	B-double	A-double
0:00	36	25	11	7	1	0	3
1:00	32	21	11	7	1	0	3
2:00	35	24	11	8	1	0	3
3:00	39	30	9	6	1	0	2
4:00	123	102	21	14	1	0	5
5:00	236	189	47	31	3	1	12
6:00	319	253	66	44	4	1	17
7:00	316	238	79	52	5	1	20
8:00	293	202	90	60	6	2	23
9:00	254	155	99	66	7	2	25
10:00	238	142	96	63	6	2	24
11:00	249	152	97	64	7	2	25
12:00	272	184	88	58	6	1	22
13:00	327	238	89	59	6	2	23
14:00	357	277	80	53	5	1	20
15:00	305	235	70	46	5	1	18
16:00	253	197	56	37	4	1	14
17:00	209	162	47	31	3	1	12
18:00	125	92	33	22	2	1	8
19:00	74	54	20	13	1	0	5
20:00	55	39	16	11	1	0	4
21:00	72	59	12	8	1	0	3
22:00	91	77	14	10	1	0	4
23:00	64	52	13	8	1	0	3
Total	**4,376**	**3,199**	**1,177**	**779**	**80**	**20**	**299**

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

Appendix B. Development Traffic Flows

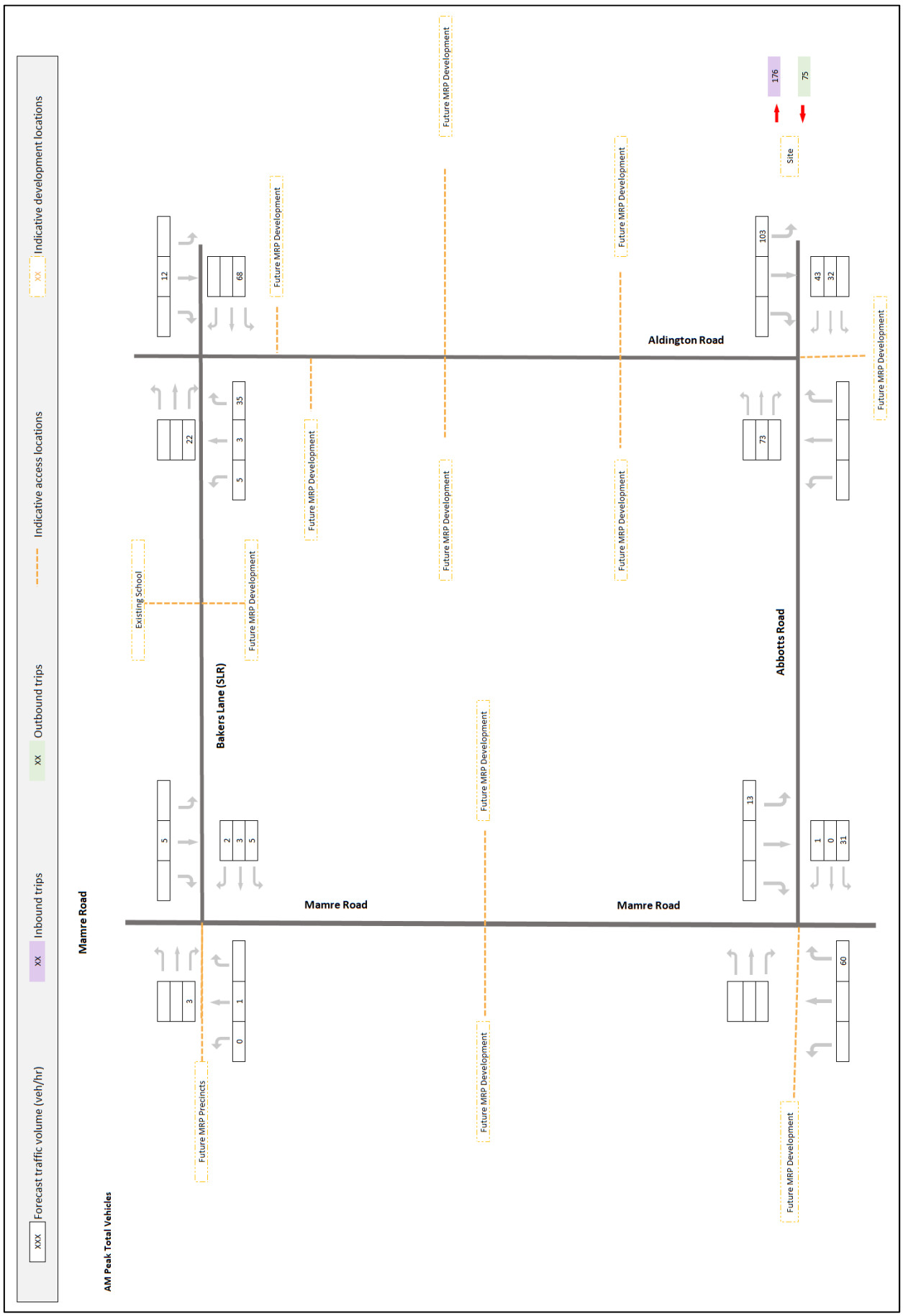

Figure 16: 2026 Development Traffic Flows, AM Peak

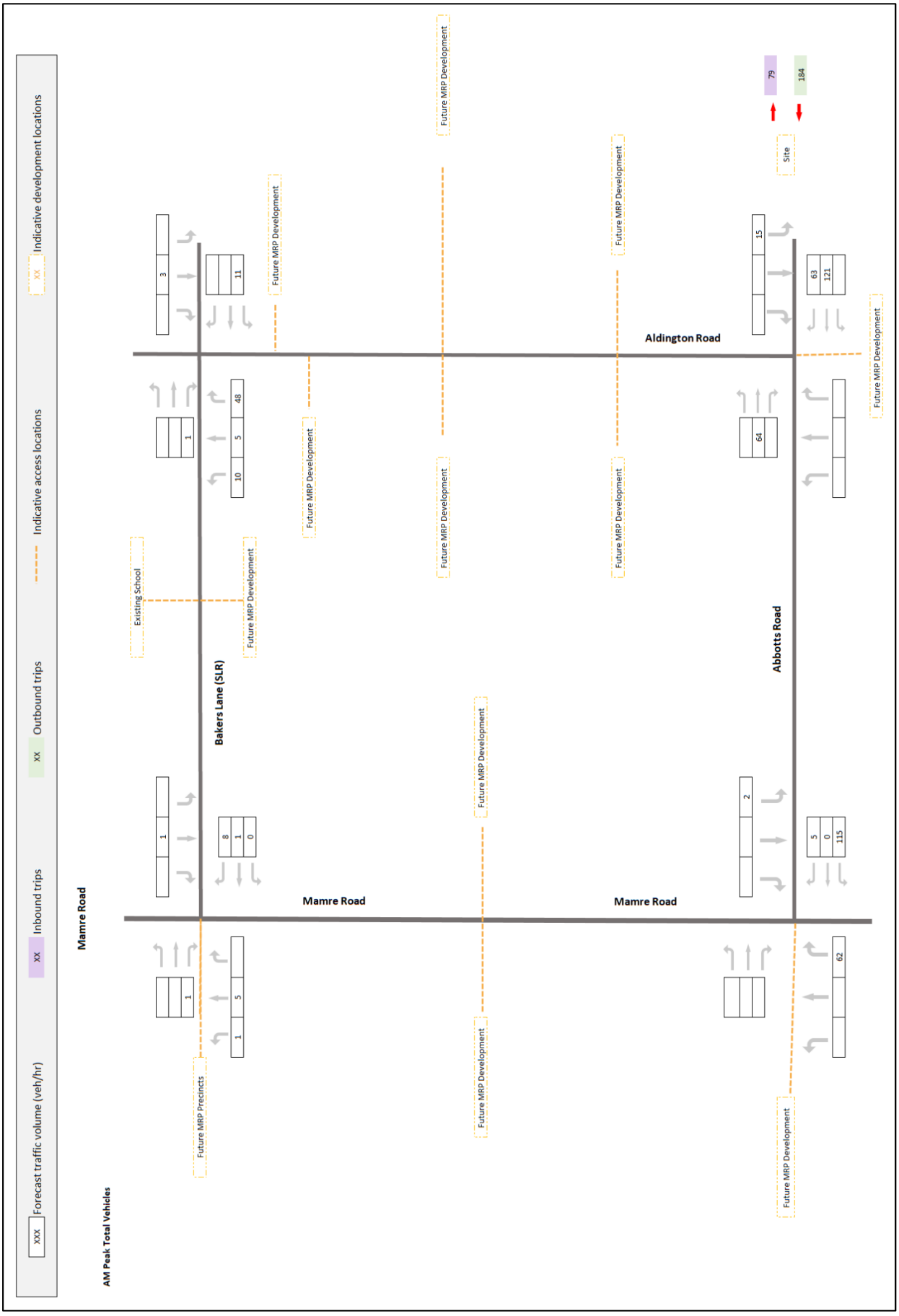

Figure 17: 2026 Development Traffic Flows, PM Peak

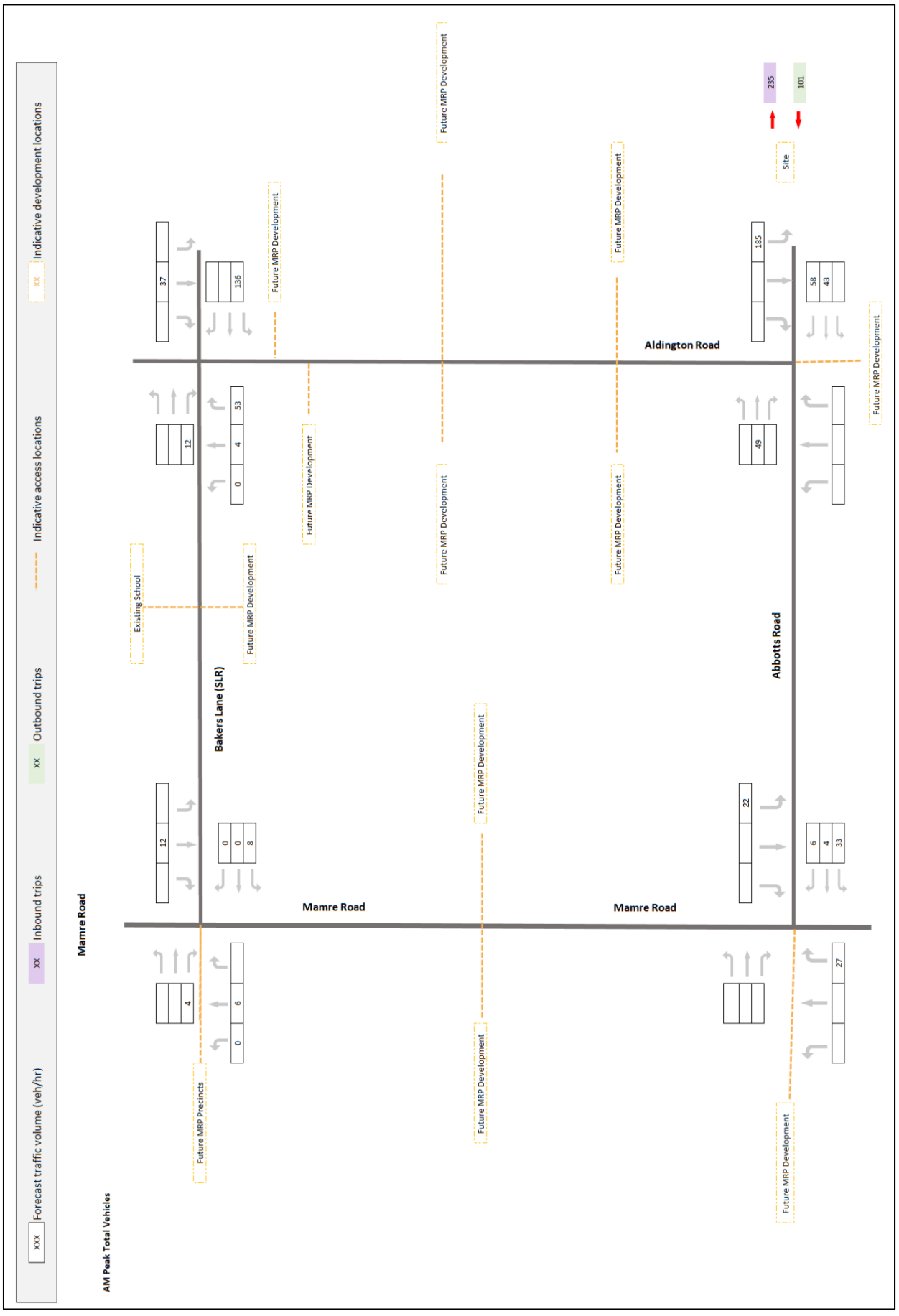

Figure 18: Full Development Traffic Flows, AM Peak

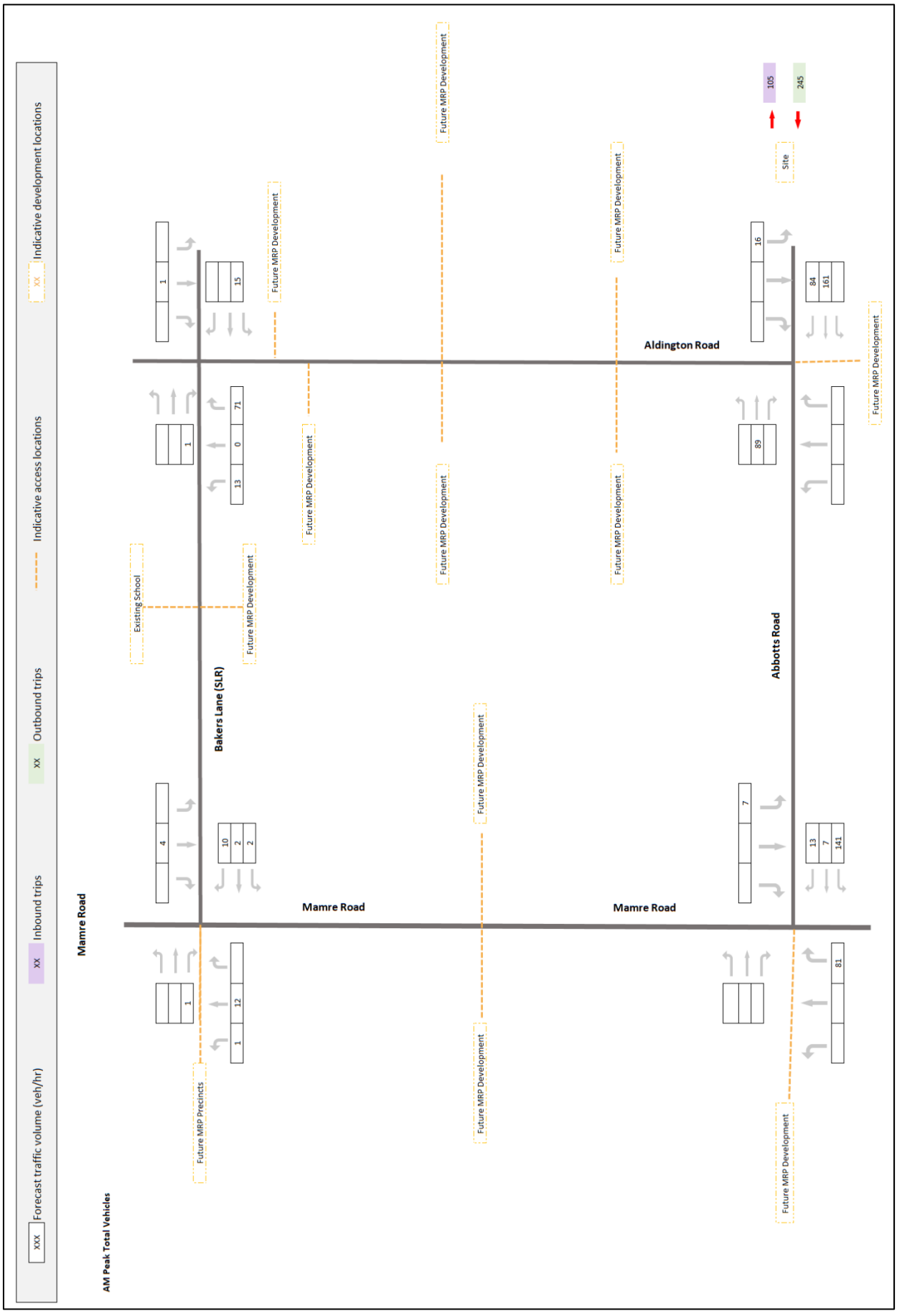

Figure 19: Full Development Traffic Flows, PM Peak

Appendix C. Framework Sustainable Travel Plan

Framework Sustainable Travel Plan

ESR Westlink

59-63 Abbotts Road & 290-308 Aldington Road, Kemps Creek
13/04/2022
P1323r05

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

Document Control

Project No	1323
Project	ESR Kemps Creek Industrial Estate, Abbotts Road, Kemps Creek
Client	ESR Investment Management 2 (Australia) Pty Ltd ATF KC Trust No. 1
File Reference	P1323r05v3 FTP Westlink, Issue

Revision History

Revision No.	Date	Details	Author	Approved by
-	11/05/2021	Draft	A. Tan	R. Butler-Madden
I	18/05/2021	Issue	A. Tan	R. Butler-Madden
II	18/11/2021	Issue	A. Tan	R. Butler-Madden
II	12/04/2022	Issue	R. Butler-Madden	R. Butler-Madden
II	13/04/2022	Issue	J.Wu	R. Butler-Madden

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APPENDICES

1 Introduction

1.1 Context

This Framework Sustainable Travel Plan (FSTP) has been developed to support the State Significant Development Application (SSDA) in relation to the proposed ESR Westlink (the Estate) (SSD- 9138102). The Estate is located at 59-63 Abbotts Road & 290-308 Aldington Road, Kemps Creek (the Site) and is located to the east of the Abbotts Road / Aldington Road intersection, within the Penrith Local Government Area (LGA).

The Site is within the Mamre Road Precinct (MRP), which was rezoned in June 2020 for primarily industrial uses. The Department of Planning and Environment (DPE) adopted a precinct-wide Development Control Plan on the 19 November 2021 (herein referred to as the MRP DCP).

The land which forms the MRP is largely made up of rural residential properties, as well as small scale agricultural industry businesses, at present. Consequently, the Site itself is therefore not currently well connected by travel modes other than the private vehicle. However, the MRP DCP outlines a number of objectives to ensure that, as the MRP develops, an integrated public and active transport network also develops to service future development such as the subject site.

The purpose of this FSTP is therefore to complement the intent the of the MRP DCP, by outlining the overarching requirements for a future Sustainable Travel Plan package for the Estate. This FSTP will inform the future site-specific Plans, expected to be implemented as part of a Condition of Consent relating to any detailed development approval.

1.2 Background

The MRP forms one of the initial precincts of the broader Western Sydney Aerotropolis. However, as the land has already been rezoned and incorporated into the controls of the WSEA SEPP, it is not covered by the State Environmental Planning Policy (Western Sydney Aerotropolis) 2020 or the background policy which establishes the strategic direction for the Aerotropolis.

Nevertheless, the background studies provide some 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), which is currently on exhibition. 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 FSTP, are the mode share targets set by the AECOM Report for each of the Aerotropolis precincts, the most comparable precinct to the MRP being the Badgerys Creek Precinct . Of the 5 Aerotropolis Precincts covered, Badgerys Creek has the lowest mode share target (by 2056) to non-car travel of 20% (as shown by Figure 1).

This reflects the planned land uses, which are anticipated to support warehousing and logistics, as noted by the AECOM Report. This is a long-term target, which is ambitious but achievable based on the policy framework, actions, initiatives, infrastructure and services defined through the precinct planning process. These targets have been given consideration in setting targets for this FSTP.

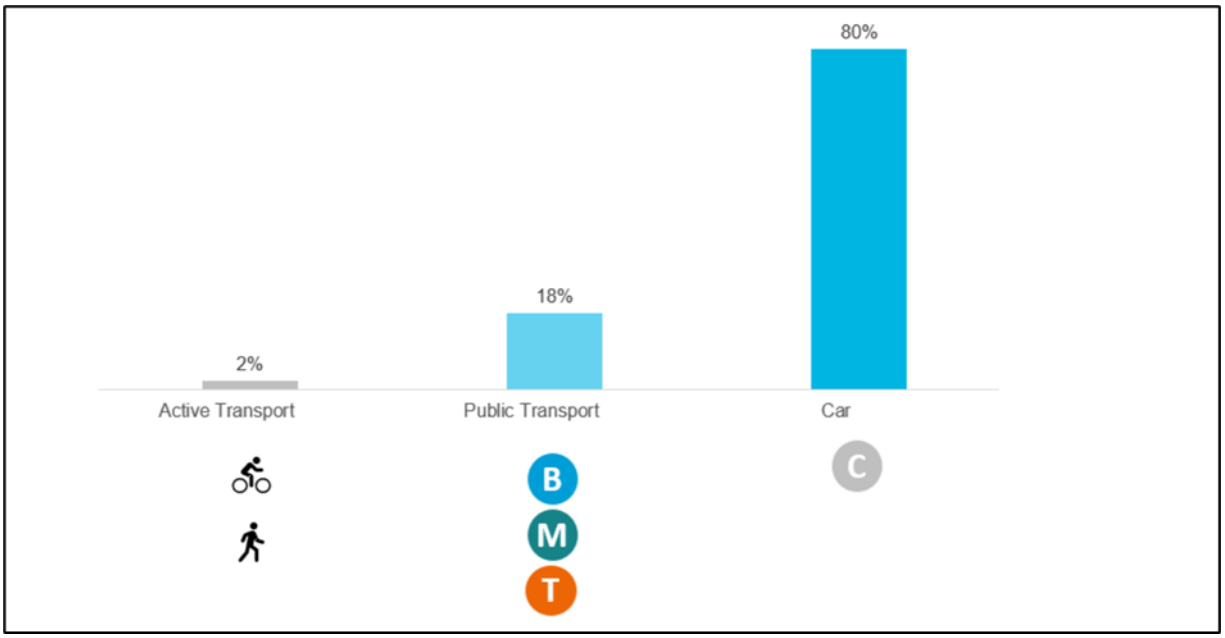


Figure 1: 2056 Badgerys Creek Mode Share Targets

Source: AECOM Report

1.3 Goals

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

a. 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 site-specific Plans;
b. Suggest specific tools and actions to help achieve the objectives and mode share targets;
c. Suggest measures to promote and support the implementation of the plan, including financial and human resource requirements, roles and responsibilities for relevant employees involved in the implementation of the future site-specific Plans;
d. Suggest a methodology and monitoring/review program to measure the effectiveness of the objectives and mode share targets of the future STP, including the frequency of monitoring and the requirement for travel surveys to identify travel behaviours at appropriate times.

1.4 Objectives

Underpinning this FSTP 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 FSTP will be to:

- Reduce the environmental footprint of the Estate.
- 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 site-specific Plan, and at appropriate times as the MRP developed, during period of review. The audit should consider the following:

Site conditions, once the Estate is complete;

- 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 comprises of 3 separate allotments (refer to **Table 1**) and is legally described as Lots 13, 12 and 11 in DP253503. The Site is located approximately 4km north-west of the future Western Sydney International (Nancy-Bird Walton) Airport (WSA), 12km south-east of the Penrith CBD and 40km west of the Sydney CBD. It is located at 290-308 Aldington Road, 59-62 Abbotts Road, and 63 Abbotts Road. The land is approximately 319,800m^2 in area and is irregular in shape.

Its sub-regional context is shown in **Figure 2** as well as the broader MRP Structure Plan area in which the Site lies.

It currently provides for a number of rural residential properties, as well as for small scale agricultural industries businesses.

TABLE 1: SITE DESCRIPTION

Address	Title	Area (m^2)
290-308 Aldington Road	Lot 13 / DP253503	104,700
59-62 Abbotts Road	Lot 12 / DP253503	104,900
63 Abbotts Road	Lot 11 / DP253503	110,200

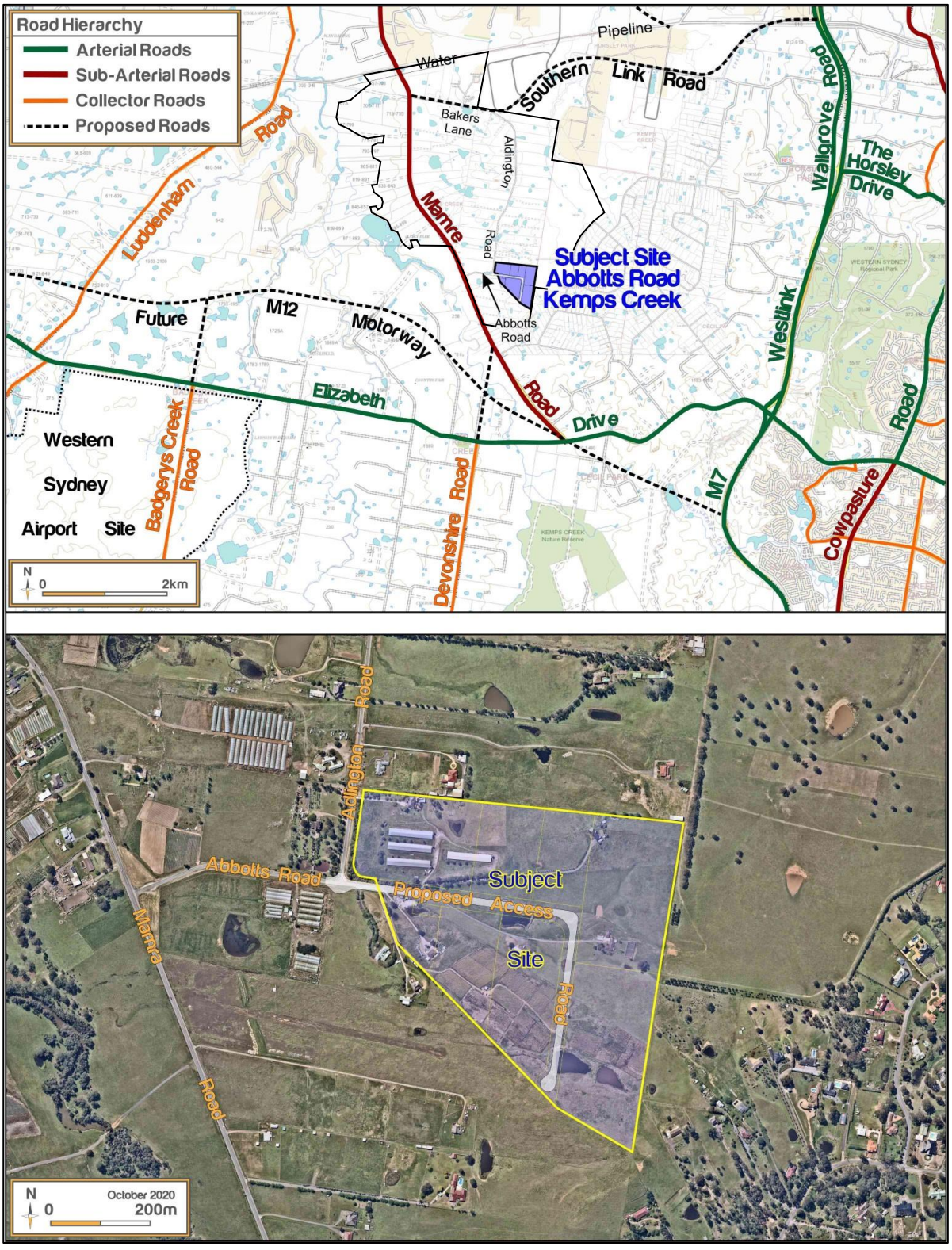


Figure 2: Site Location & Road Hierarchy

2.3 Proposed Development

associated hardstand and parking. The following summarises key aspects of the Proposal:

- Masterplan with a total building area of 150,577m^2, comprising:
  - A total of 144,482m^2 warehouse Gross Floor Area (GFA),
  - A total of 5,895m^2 of ancillary & dock office GFA and a 200m^2 café GFA,
  - 1 x detention basin;
  - Internal road layouts and road connection to Abbotts Road;
  - Provision for 658 car parking spaces; and
  - Associated site landscaping.

The proposed Masterplan (prepared by Nettletontribe Architects) is shown in **Figure 3**.

Figure 3: Proposed Masterplan

2.4 Public & Active Transport Opportunities

2.4.1 Introduction

The Site is limited with the current public transport service offering, as shown in **Figure 4**. Therefore, for this Site Audit, the public & active transport opportunities have been identified, noting that there are a number of projects and plans which relate to the strategic development of the MRP and more broadly the Western Sydney Employment Area (WSEA) and Broader Western Sydney Employment Area (BWSEA).

One such project is the Mamre Road Upgrade Project, which will see Mamre Road upgraded between the M4 Motorway and Kerrs Road (south of the Site, and north of Elizabeth Drive). The upgrade specifically provides for new bus stops along its entire route, with bus jump lanes at intersections also included in the strategic design.

This section will need to be updated prior to the finalisation of any future STP, and accordingly as part of the review process, as the wider area develops.

2.4.2 Bus Services

The planning of bus services in Sydney is governed by the NSW Service Planning Guidelines, which aim to establish Strategic Transport Corridors and a hierarchy of bus route types that:

Link to regional centres (such as Penrith and Mt Druitt);

- Pass through patronage generators such as district centres, TAFE colleges, hospitals and universities;
- Connect with other transport modes (trains, ferries and other buses);
- Are multifunctional (serving journeys to work, education, shopping and recreation);
- Are direct and frequent; and
- Meet the network planning principles.

It is also the case that the establishment of public transport services as early as possible in the development stages of the MR Precinct is important to achieve a culture of public transport use from the outset. To make public transport a viable choice in the study area, the services will ideally:

- Integrate with existing bus services in the area;
- Connect to regional centres of Penrith, Mt Druitt and Blacktown; and
- In the long term, connect to areas such as Leppington in the South West Growth Centre, Prairiewood and the Liverpool to Parramatta T-Way.

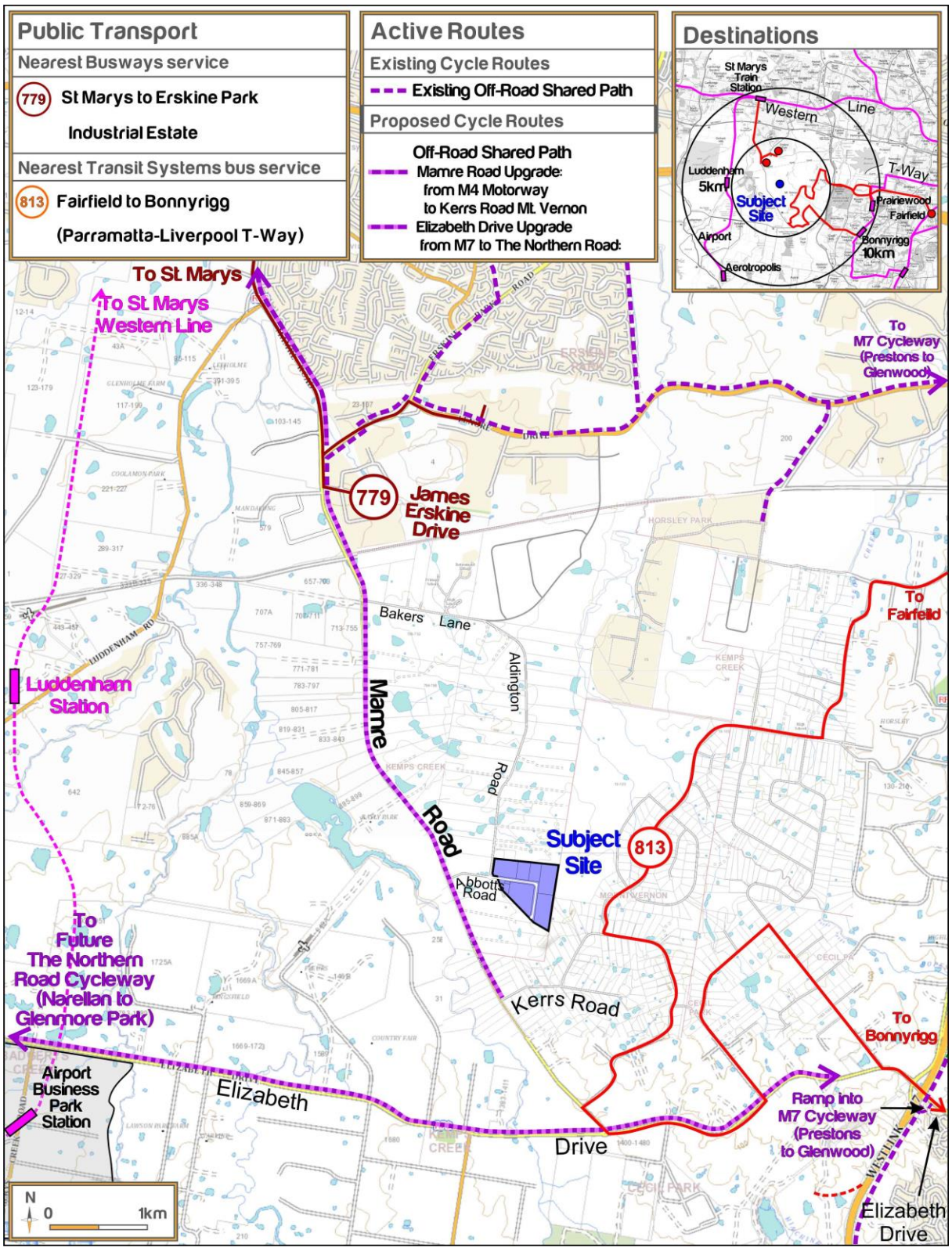


Figure 4: Existing Public and Active transport Network

It is clear from the intent of the objectives contained within the MRP DCP that a connected bus network will be provided. As per the MRP DCP, as all internal roads will accommodate heavy vehicles, they would also be capable of accommodating bus services. Therefore, there are significant opportunities to provide sub-

regional services along Mamre Road, as well as services within the MRP itself to maximise the number of sites that lie within 400m of a viable bus service.

Noting that TfNSW Guidelines state that bus services influence the travel mode choices of sites within 400m (approximately 5 minutes' walk) of a bus stop, access to bus services will be a key factor in influencing travel behaviour.

Key bus routes identified in the BWSEA Structure Plan are shown in **Figure 5.**

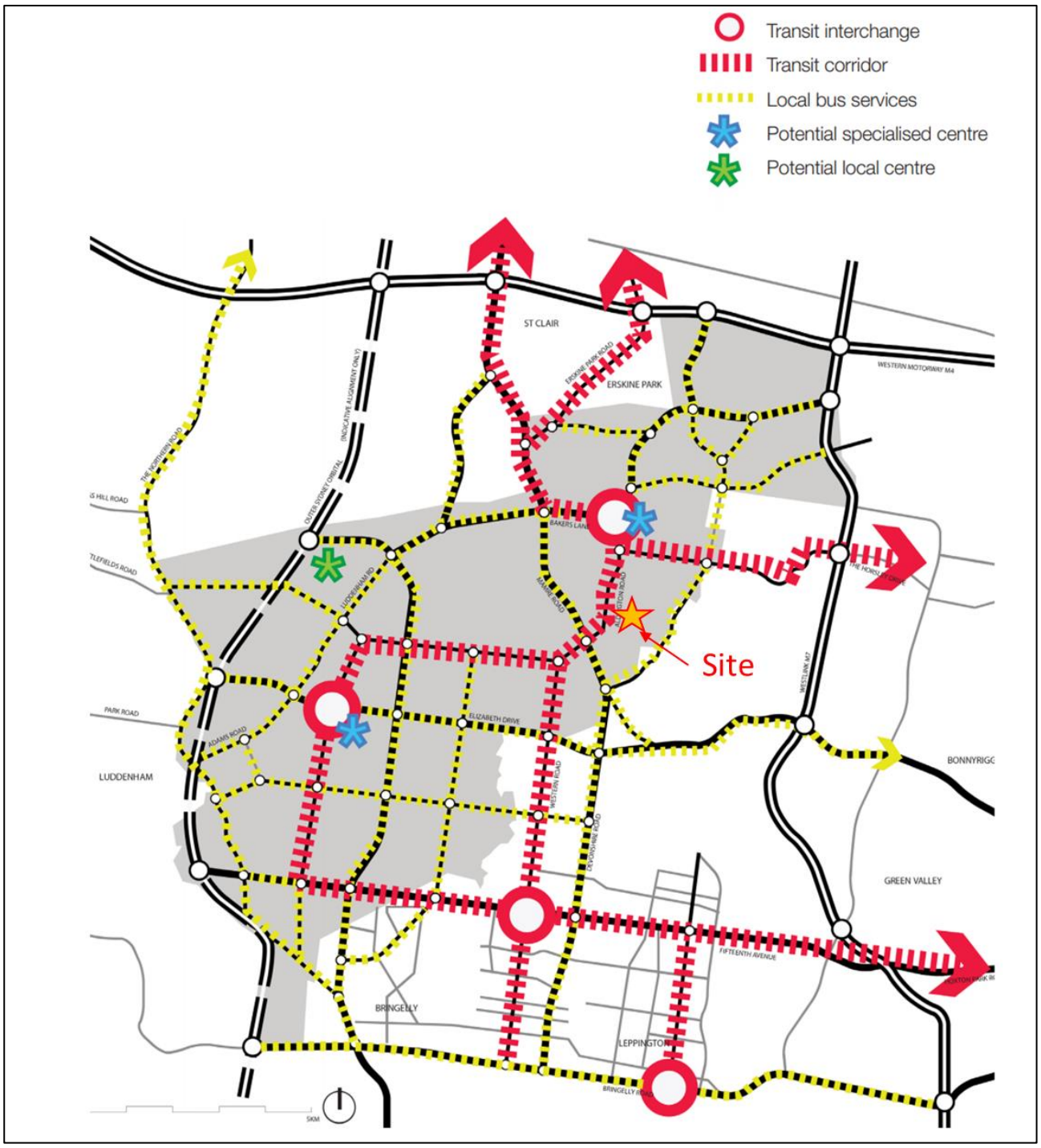


Figure 5: BWSEA Public Transport Structure

Source: BWSEA Structure Plan

2.4.3 Train Services – Metro Western Sydney Airport

The closest train station to the Site is currently some 10km away. However, the Metro Western Sydney Airport will provide 23 kilometres of new railway to link residential areas with jobs hubs and the rest of Sydney's public transport network.

The alignment of the Metro is shown by **Figure 6**. While the closest station to the Site will likely be Luddenham Station, located approximately 4km to the west of the Site, it will undoubtedly improve public transport accessibility to the wider area. This provides an opportunity for bus services to combine with the Metro to improve connectivity to/from the residential areas to the north of the Site.

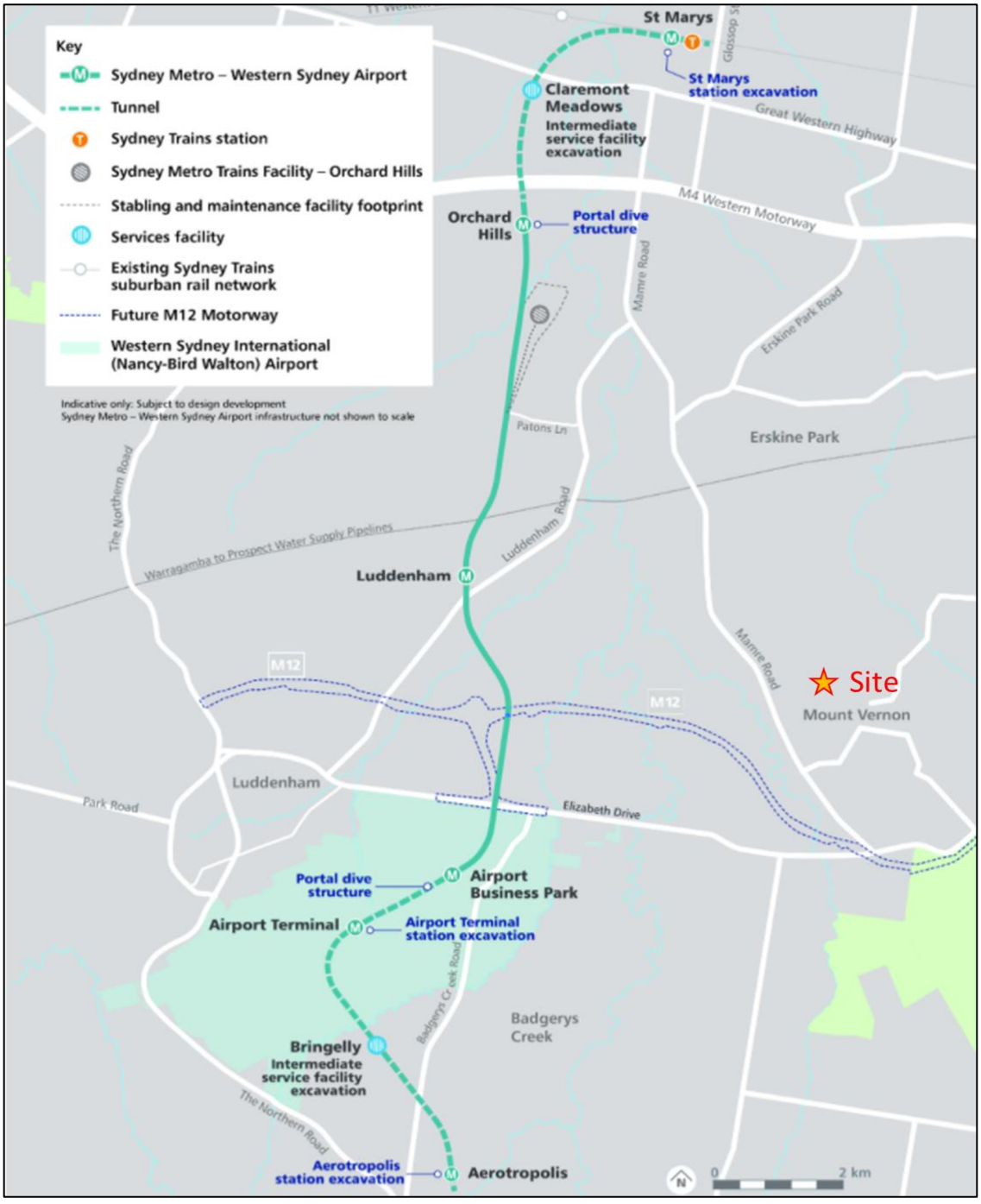


Figure 6: Metro Western Sydney Airport Alignment

2.4.4 Bicycle Network

At present, shared paths (pedestrian and cycle) are provided along Erskine Park Road and sections of Mamre Road to the north of the Site, but there is little cycling (or pedestrian) infrastructure in Mamre Road between Distribution Drive to the north and Elizabeth Drive to the south.

The BWSEA Structure Plan provides a detailed outline of future active transport objectives and strategies, acknowledging that the provision of such will be essential to encourage the use of active transport from the outset. In this regard, the BWSEA provides the following key objectives:

- Provide quality pedestrian and cycling environments around transit corridors and facilities.
- Understand the key walking and cycling needs in the region and the need for the separation of pedestrians and cyclists from motor vehicle traffic.
- Recognise that all trips involve walking at either the beginning or end of the journey, resulting in the need for connections between parking and public transport areas and destinations.
- Recognise that walking and cycling paths can form key routes between destinations.
- Understand that walking and cycling trips perform a variety of functions, not only travel from an origin to a destination, but such trips are also undertaken for recreation and/or health benefits, which can be influenced by the amenity of the route.

Key active transport routes identified in the BWSEA Structure Plan are shown in **Figure 7**, noting again that the Mamre Road upgrade Project will provide shared paths along at least one side of the road for its entire length.

Figure 7: BWSEA Cycle Routes

Source: BWSEA Structure Plan

2.4.5 Pedestrian Connectivity

Due to the current largely undeveloped nature of the land immediately surrounding the Site, pedestrian infrastructure is currently non-existent. Key pedestrian desire lines in the vicinity of the Site would be triggered by connections to future public transport infrastructure, noting the nature of the area being largely industrial and therefore not representing key destinations and attractions for people to walk to.

In this regard, it is noted that the upgraded Mamre Road will include shared cycle and pedestrian pathways along its length. Further, the MRP DCP requires internal roads to provide a footpath of 1.5m on one side (minimum) and shared path of 2.5m (minimum) on the opposing side of the road. Further, the MRP DCP requires roads to be provided with shared cycle and footpaths.

2.5 On Demand Services

2.5.1 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.

One of the prominent providers of car sharing in NSW is GoGet. GoGet provides a car share service allowing members to book cars for private use. Each vehicle has a home location which is referred to as a 'pod'. These are typically located in a parking lot or on-street and generally in a highly populated urban neighbourhood.

As a future industrial area, it is not anticipated that car shares such as GoGet would be particularly successful. Nonetheless, given the benefits to reducing the need for a private vehicle, it will be worth considering its appropriateness as the area develops.

2.6 Existing Travel Patterns

2.6.1 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.

A summary of key travel modes for those travelling to the locality for work have been reviewed with regard for the surrounding Destination Zone 115184210, within the Horsley Park – Kemps Creek statistical area.

The travel modes are presented in **Table 2**.

TABLE 2: TRAVEL MODE SUMMARY (JOURNEY TO WORK)

Travel Mode	Mode Share of Employees
Car as driver	92%
Train	0%
Bus	2%
Walked only	1%
Car as passenger	3%
Motorbike/Scooter	0%
Bicycle	0%
Taxi	1%
Other Modes	1%

With reference to Table 2, it is evident that the private vehicle (car) is the overwhelming preferred mode of choice for commuters travelling to work in in the area. The data indicates that 95% travel to work by car with 92% as the driver and 3% as passenger i.e. car-pooling

3 Development, Scope, and Implementation of the Plan

3.1 Introduction

This section sets out in broad terms how the FSTP will be developed into site-specific STPs and the scope of the FSTP.

3.2 Responsibility

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

3.3 FSTP Scope

The future STP 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 STPs 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 Coordinator (TPC) should be appointed to act as the primary point of contact for enquiries relating to the progress of the future Plans. It is recommended that a consistent TPC be appointed for the Estate so as to achieve a coordinated approach across the Site. However, as the individual sites will be responsible for implementing their own STPs, this will be at the discretion of site management. The TPC will manage all aspects of the STP, including the co-ordination and joint working practices between those on-site.

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

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

The main duties of the TPC are envisaged to be:

- Overseeing final development and implementation of the STP.
- Internal liaison to promote awareness of the STP amongst businesses and staff within the Estate.

- Liaison with outside bodies, such as Penrith City Council (Council) and local bus operators, as required regarding the operation of the STP.
- Providing updated travel information to staff and visitors, as necessary.
- Monitoring, review and (if necessary) updates to the STP.

3.5 Consultation

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

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

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

4 Travel Mode Targets

4.1 Introduction

Based on the existing travel mode splits identified in Section 2.6, 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 accommodates rural residential properties and agricultural businesses.

However, noting the future land use of the Site as industrial in nature, it is expected that the JTW data accurately reflects the current trends for travel to places of work at industrial sites. The RMS Guide to Traffic Generating Developments – Updated Traffic Surveys itself provides details in relation to the principal mode of travel used by staff at the Erskine Park and Eastern Creek warehouses surveyed 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 Travel Plan; the targets are to be reviewed to align with the most up-to-date information.

The implemented STPs are 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.

4.2 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 the MRP should reflect a similar target. While at least maintaining the existing carpooling mode share of 3% (Table 2), this represents a decrease in travel by car (as a driver) by 15% by 2056.

Further, it should be recognised that during the earlier stages in development of the MRP, it would be anticipated that change in travel behaviour will be slower than in other areas, while the public and active transport networks are still being integrated.

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 3**, which represents a 5-year target to coincide with the minimum 5 years of monitoring and review.

TABLE 3: PRELIMINARY 2026 MODE SHARE TARGETS

Travel Mode	Mode Share of Existing Employees	Proposed Targets	Relative Change
Car as driver	92%	88%	-4%
Train	0%	0%	–
Bus	2%	4%	+2%
Walked only	1%	1%	–
Car as passenger	3%	3%	–
Motorbike/Scooter	0%	1%	+1%
Bicycle	0%	1%	+1%
Taxi	1%	1%	–
Other Modes	1%	1%	–

5 Measures and Action Strategies

5.1 Measures

The below is a range of measures which could achieve the objectives of this FSTP . It is critical to note that these are suggested measures and are not necessarily likely to be applicable in the early stages of development in the MRP.

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

- An introduction to the STP 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).
- 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.

5.2 Strategies

Strategies and the actions required for each are to be identified as part of the future STP. The specific actions are to be implemented as part of a future site-specific STP (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, the document is classed as a living document and subject to regular review.

5.3 Communications Strategy

5.3.1 Welcome Packs

New staff shall be provided with a ‘welcome pack’ as part of the on-site induction process which includes a STP Pamphlet and other information in relation to sustainable transport choices. This pack shall include an electronic copy of the STP 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.

6 Monitoring Strategy

6.1 Plan Maintenance

This Plan shall be subject to ongoing reviews and will be updated accordingly. Regular reviews will be undertaken by the TPC. As a minimum, a review of the STP would occur every 1-2 years.

The key considerations when reviewing or monitoring the STP 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.

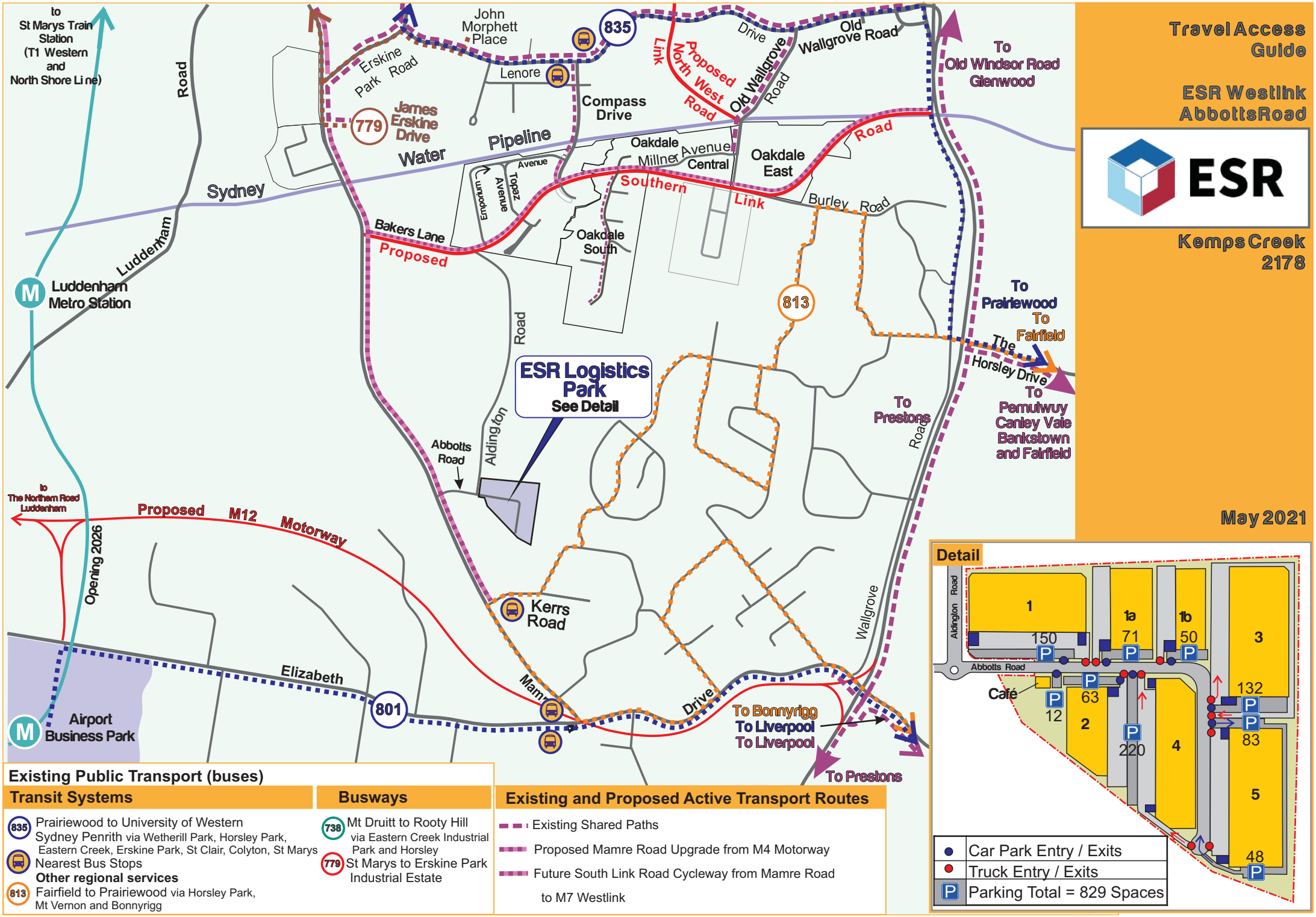
6.2 Monitoring

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

The STP 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 STP will be reviewed, new measures introduced and would be reassessed at the next monitoring stage.

Appendix A. Travel Access Guide


Travel Access Guide
ESR Westlink AbbottsRoad
ESR
Kemps Creek 2178
May 2021
to St Marys Train Station (T1 Western and North Shore Line)
Luddenham Road
Luddenham Metro Station
Sydney
Erskine Park Road
John Morphett Place
835
Lenore
Compass Drive
779
James Erskine Drive
Water Pipeline
Proposed North West Link Road
Old Wallgrove Road Drive
Old Wallgrove Road
To Old Windsor Road Glenwood
Oakdale Millner Avenue
Oakdale Central
Oakdale East
Oakdale South
Topaz Avenue
Emporium Avenue
Southern Link Road
Burley Road
Bakers Lane
Proposed
813
To Prairiewood
To Fairfield
The Horsley Drive
To Pemulwuy Canley Vale Bankstown and Fairfield
ESR Logistics Park
See Detail
Aldington Road
Abbotts Road
To Prestons Road
to The Northern Road Luddenham
Proposed M12 Motorway
Opening 2026
Kerrs Road
Wallgrove
Elizabeth
Mamre
801
Drive
Airport Business Park
To Bonnyrigg
To Liverpool
To Liverpool
To Prestons
Detail
Aldington Road
Abbotts Road
Café
1
150
1a
71
1b
50
3
132
83
48
2
12
63
4
220
5
Car Park Entry / Exits
Truck Entry / Exits
Parking Total = 829 Spaces
Existing Public Transport (buses)
Transit Systems
835 Prairiewood to University of Western Sydney Penrith via Wetherill Park, Horsley Park, Eastern Creek, Erskine Park, St Clair, Colyton, St Marys
Nearest Bus Stops
Other regional services
813 Fairfield to Prairiewood via Horsley Park, Mt Vernon and Bonnyrigg
Busways
738 Mt Druitt to Rooty Hill via Eastern Creek Industrial Park and Horsley
779 St Marys to Erskine Park Industrial Estate
Existing and Proposed Active Transport Routes
Existing Shared Paths
Proposed Mamre Road Upgrade from M4 Motorway
Future South Link Road Cycleway from Mamre Road to M7 Westlink

Appendix B. Sample Questionnaire

Instructions for Surveyor(s)

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

Travel Mode Questionnaire Survey Form

Date: **Approximate Time:**

Q1. Are you one of the following?

☐ Warehouse staff

☐ Office staff

☐ Courier / office delivery

☐ Casual contractor

☐ Company driver / sub-contractor

☐ Other (Please specify) ……..

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

☐ Walked only

☐ Bicycle only

☐ Train

☐ Bus

☐ Taxi

☐ Car share vehicle

☐ Motorcycle / scooter

☐ Car (as passenger)

☐ Car (as driver)

☐ Other (Please specify) ……..

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

☐ Not applicable – did not drive

☐ On-site car park

☐ On-site within truck hardstand

☐ Other (Please specify) ……

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Appendix D. SIDRA Output Summaries

MOVEMENT SUMMARY

Site: 8v [[ID: 8] (AM) Aldington Road / Abbotts Road - 2026 (Site Folder: 2026 - AM)]

[ID: 8] Aldington Road / Abbotts Road Roundabout
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 140 seconds (Site User-Given Cycle Time)

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: New Road (450m)															
5	T1	34	16	36	47.1		0.053	16.9	LOS B	1.2	12.6	0.51	0.39	0.51	42.1
6	R2	47	28	49	59.6		0.162	30.0	LOS C	2.0	24.0	0.62	0.70	0.62	29.4
Approach		81	44	85	54.3		0.162	24.5	LOS B	2.0	24.0	0.58	0.57	0.58	34.0
North: Aldington Road (300m)															
7	L2	79	17	83	21.5		0.288	37.6	LOS C	7.5	66.8	0.73	0.77	0.73	30.6
9	R2	219	58	231	26.5	*	0.288	37.6	LOS C	7.5	66.8	0.73	0.77	0.73	30.7
Approach		298	75	314	25.2		0.288	37.6	LOS C	7.5	66.8	0.73	0.77	0.73	30.7
West: Abbotts Road (400m)															
10	L2	201	54	212	26.9	*	0.288	25.4	LOS B	7.9	73.0	0.59	0.74	0.59	34.5
11	T1	66	15	69	22.7		0.084	18.3	LOS B	2.3	20.0	0.52	0.51	0.52	41.2
Approach		267	69	281	25.8		0.288	23.6	LOS B	7.9	73.0	0.58	0.69	0.58	36.1
All Vehicles		646	188	680	29.1		0.288	30.2	LOS C	7.9	73.0	0.65	0.71	0.65	33.2

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.

MOVEMENT SUMMARY

Site: 8v [[ID: 8] (PM) Aldington Road / Abbotts Road - 2026 (Site Folder: 2026 - PM)]

[ID: 8] Aldington Road / Abbotts Road Roundabout
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 140 seconds (Site User-Given Cycle Time)

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: New Road (450m)															
5	T1	105	13	111	12.4		0.134	22.0	LOS B	4.2	33.7	0.60	0.49	0.60	39.4
6	R2	55	8	58	14.5		0.199	39.4	LOS C	2.8	25.7	0.74	0.73	0.74	29.0
Approach		160	21	168	13.1		0.199	28.0	LOS B	4.2	33.7	0.64	0.57	0.64	35.4
North: Aldington Road (300m)															
7	L2	26	19	27	73.1		0.395	34.7	LOS C	10.6	103.8	0.72	0.78	0.72	31.3
9	R2	426	99	448	23.2	*	0.395	34.0	LOS C	11.2	103.8	0.72	0.78	0.72	32.1
Approach		452	118	476	26.1		0.395	34.0	LOS C	11.2	103.8	0.72	0.78	0.72	32.1
West: Abbotts Road (400m)															
10	L2	252	59	265	23.4	*	0.401	31.6	LOS C	11.7	107.8	0.70	0.78	0.70	32.0
11	T1	58	10	61	17.2		0.081	22.6	LOS B	2.2	19.4	0.58	0.54	0.58	39.0
Approach		310	69	326	22.3		0.401	29.9	LOS C	11.7	107.8	0.67	0.73	0.67	33.3
All Vehicles		922	208	971	22.6		0.401	31.6	LOS C	11.7	107.8	0.69	0.73	0.69	33.1

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.

MOVEMENT SUMMARY

Site: 101 [[ID: 13] (AM) Abbotts Road / Mamre Road - 2026 (Site Folder: 2026 - AM)]

Abbotts Road / Mamre Road
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 140 seconds (Site User-Given Cycle Time)
Variable Sequence Analysis applied. The results are given for the selected output sequence.

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
South: Mamre Road (500m)															
2	T1	1038	137	1093	13.2		0.390	1.6	LOS A	1.2	10.0	0.03	0.03	0.03	79.5
3	R2	215	64	226	29.8	*	0.487	65.5	LOS E	7.2	67.4	0.95	0.80	0.95	28.7
Approach		1253	201	1319	16.0		0.487	12.6	LOS A	7.2	67.4	0.19	0.16	0.19	65.0
East: Abbotts Road (400m)															
4	L2	238	69	251	29.0		0.466	8.3	LOS A	3.8	35.4	0.30	0.64	0.30	49.6
6	R2	14	5	15	35.7	*	0.254	81.8	LOS F	1.1	9.7	1.00	0.70	1.00	29.3
Approach		252	74	265	29.4		0.466	12.4	LOS A	3.8	35.4	0.34	0.65	0.34	47.2
North: Mamre Road (800m)															
7	L2	55	5	58	9.1		0.041	8.9	LOS A	0.5	3.9	0.19	0.64	0.19	61.9
8	T1	964	149	1015	15.5	*	0.488	6.8	LOS A	8.8	74.5	0.28	0.25	0.28	71.7
Approach		1019	154	1073	15.1		0.488	7.0	LOS A	8.8	74.5	0.28	0.27	0.28	71.2
All Vehicles		2524	429	2657	17.0		0.488	10.3	LOS A	8.8	74.5	0.24	0.26	0.24	65.5

MOVEMENT SUMMARY

Site: 101 [[ID: 13] (PM) Abbotts Road / Mamre Road - 2026 (Site Folder: 2026 - PM)]

Abbotts Road / Mamre Road
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 140 seconds (Site User-Given Cycle Time)
Variable Sequence Analysis applied. The results are given for the selected output sequence.

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
South: Mamre Road (500m)															
2	T1	1199	128	1262	10.7		0.443	2.3	LOS A	1.5	12.0	0.04	0.03	0.04	79.4
3	R2	292	62	307	21.2	*	0.514	54.8	LOS D	7.9	70.9	0.93	0.88	0.93	31.7
Approach		1491	190	1569	12.7		0.514	12.6	LOS A	7.9	70.9	0.21	0.20	0.21	65.2
East: Abbotts Road (400m)															
4	L2	490	103	516	21.0		0.865	55.4	LOS D	30.5	275.1	0.99	1.11	1.12	29.7
6	R2	38	8	40	21.1	*	0.428	78.1	LOS F	2.8	24.9	1.00	0.74	1.00	29.1
Approach		528	111	556	21.0		0.865	57.0	LOS E	30.5	275.1	0.99	1.08	1.11	29.6
North: Mamre Road (800m)															
7	L2	7	5	7	71.4		0.010	10.5	LOS A	0.1	1.1	0.20	0.62	0.20	58.5
8	T1	1495	167	1574	11.2	*	0.870	26.4	LOS B	43.6	350.1	0.82	0.79	0.87	55.4
Approach		1502	172	1581	11.5		0.870	26.3	LOS B	43.6	350.1	0.82	0.79	0.86	55.4
All Vehicles		3521	473	3706	13.4		0.870	25.1	LOS B	43.6	350.1	0.59	0.59	0.62	53.5

Appendix E. Swept Path Analysis

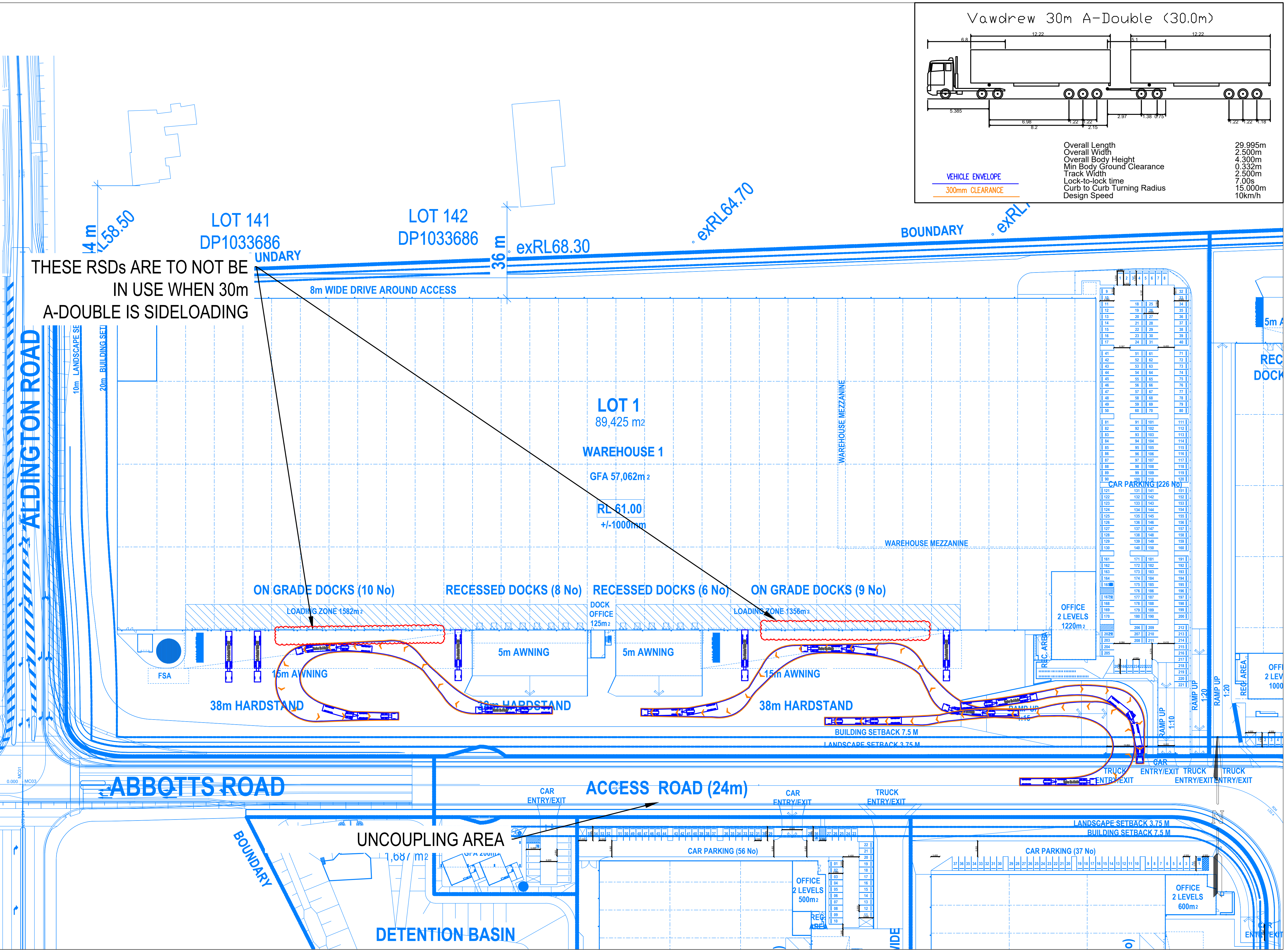
1. CLOCKWISE ONE-WAY CIRCULATION AROUND WAREHOUSE 1 HAS BEEN ASSUMED VEHICLES UNDER 20 METRES.

2. 30m A-DOUBLE TRUCKS CAN SIDE LOAD INTO WAREHOUSE 1 AND WILL PERFORM U-TURN MANOEUVRE TO EXIT. SOME RSDs SHALL NOT BE IN USE WHEN 30.0m A-DOUBLE TRUCKS ARE SIDE LOADING. TO BE MANAGED BY A SUITABLE LOADING DOCK MANAGEMENT PLAN.

3. FINAL DRIVEWAYS SUBJECT TO SEPARATE APPLICATION FOR CROSSOVER WORKS DETAIL, TO BE PROVIDED IN COMPLIANCE WITH AS2890.2:2018

4. STAFF CAR PARKING DESIGN TO BE IN COMPLIANCE WITH REGARDS TO THE MINIMUM USER CLASS 1A AND, CAFE CAR PARKING DESIGN HTO BE IN COMPLIANCE THE MINIMUM USER CLASS 3A, AS PER AS2890.1:2004 REQUIREMENTS.

5. FIRE TRUCKS WILL BE ABLE TO TURN AROUND LOT 1 IN BOTH A CLOCKWISE AND COUNTER CLOCKWISE DIRECTION.
   5.1. FIRE TRUCK STANDING AREA NEEDS FURTHER CONSIDERATION DURING DETAILED DESIGN PHASE TO DETAIL OUTLET CONNECTION. IT IS UNDERSTOOD THAT THE CONNECTION MUST BE ORIENTED SUCH THAT A MAXIMUM OF A 45 DEGREE CONNECTION IS MADE TO THE CENTRELINE OF THE TRUCK. FURTHER DETAIL SHOULD BE CONFIRMED WITH RELEVANT FIRE CONSULTANT.



GENERAL NOTES

This drawing is provided for information purposes only and should not be used for construction.
Base Plan prepared by Nettletontribe, received 06.04.2022.
Swept path assessments completed at 10 km/h and 300mm clearance.

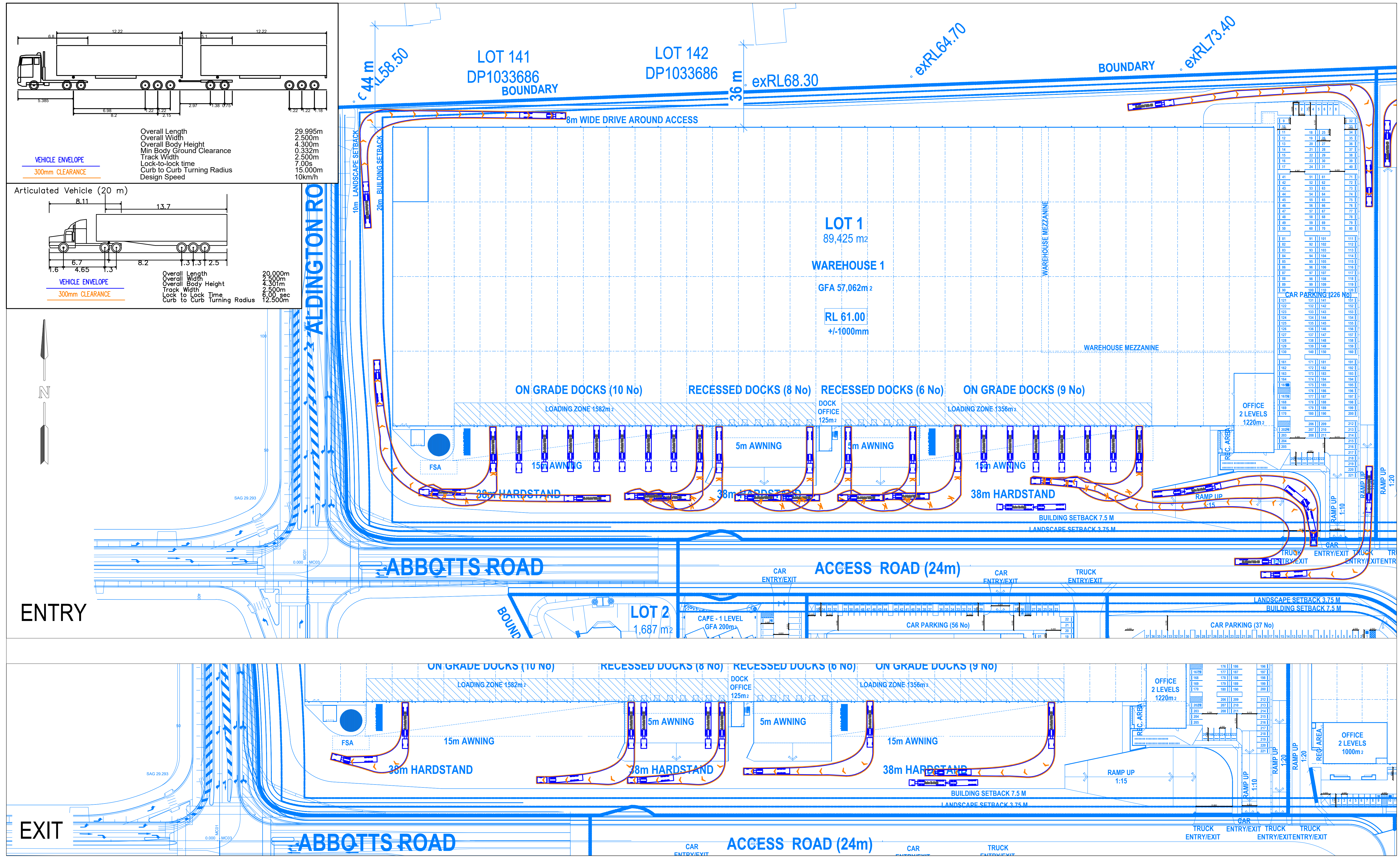
DESIGNED	PAPER SIZE	CLIENT
RebeccaBMadden	A3	ESR Group
APPROVED BY	DATE	PROJECT
X.XXXX	16.03.2022	1323
SCALE		
1:1500	NTS	Abbotts Road, Kemps Creek

DOCUMENT INFORMATION

SWEPT PATH ASSESSMENT

FILE NAME	SHEET
AG1323-01-v06.dwg	AG01

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.

DESIGNED: RebeccaBMadden	PAPER SIZE: A3	CLIENT: ESR Group	DOCUMENT INFORMATION: SWEPT PATH ASSESSMENT
APPROVED BY: X.XXXX	DATE: 16.03.2022	PROJECT: 1323	
SCALE: 1:1500	NTS	Abbotts Road, Kemps Creek	FILE NAME: AG1323-01-v06.dwg; SHEET: AG02

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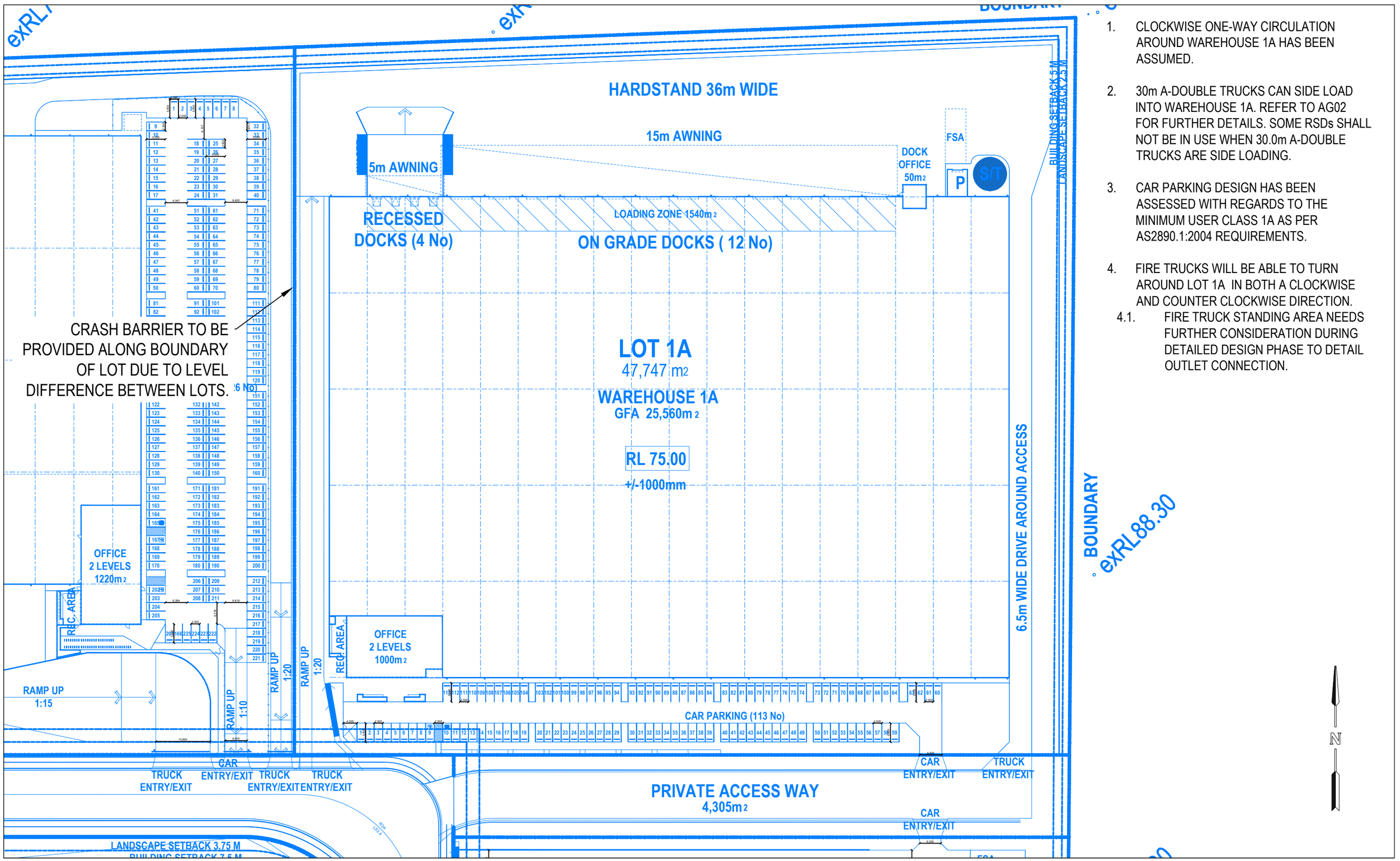
Sydney NSW 2000
info@asongroup.com.au



1. CLOCKWISE ONE-WAY CIRCULATION AROUND WAREHOUSE 1A HAS BEEN ASSUMED.

2. 30m A-DOUBLE TRUCKS CAN SIDE LOAD INTO WAREHOUSE 1A. REFER TO AG02 FOR FURTHER DETAILS. SOME RSDs SHALL NOT BE IN USE WHEN 30.0m A-DOUBLE TRUCKS ARE SIDE LOADING.

3. CAR PARKING DESIGN HAS BEEN ASSESSED WITH REGARDS TO THE MINIMUM USER CLASS 1A AS PER AS2890.1:2004 REQUIREMENTS.

4. FIRE TRUCKS WILL BE ABLE TO TURN AROUND LOT 1A IN BOTH A CLOCKWISE AND COUNTER CLOCKWISE DIRECTION.
   4.1. FIRE TRUCK STANDING AREA NEEDS FURTHER CONSIDERATION DURING DETAILED DESIGN PHASE TO DETAIL OUTLET CONNECTION.

GENERAL NOTES

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Base Plan prepared by Nettletontribe, received 06.04.2022.
Swept path assessments completed at 10 km/h and 300mm clearance.

DESIGNED: RebeccaBMadden	PAPER SIZE: A3	CLIENT: ESR Group	DOCUMENT INFORMATION: GENERAL NOTES
APPROVED BY: X.XXXX	DATE: 16.03.2022	PROJECT: 1323 Abbotts Road, Kemps Creek	
SCALE: 1:1000	0 10 20		FILE NAME: AG1323-01-v06.dwg / SHEET: AG04

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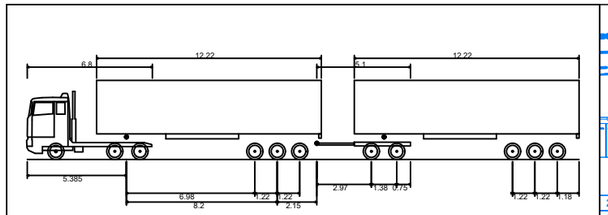
Sydney NSW 2000
info@asongroup.com.au



Overall Length	29.995m
Overall Width	2.500m
Overall Body Height	4.300m
Min Body Ground Clearance	0.332m
Track Width	2.500m
Lock-to-lock time	7.00s
Curb to Curb Turning Radius	15.000m
Design Speed	10km/h

VEHICLE ENVELOPE
300mm CLEARANCE

UNCOUPLING AREA

Vawdrew 30m A-Double (30.0m)

HARDSTAND 36m WIDE

15m AWNING

5m AWNING

DOCK OFFICE 50m2

FSA

P

RECESSED DOCKS (4 No)

LOADING ZONE 1540m2

ON GRADE DOCKS (12 No)

THESE RSDs ARE TO NOT BE IN USE WHEN 30m A-DOUBLE IS SIDELOADING

LOT 1A
47,747 m2

WAREHOUSE 1A
GFA 25,560m 2

RL 75.00
+/-1000mm

BUILDING SETBACK 5M
LANDSCAPE SETBACK 2.5 M

6.5m WIDE DRIVE AROUND ACCESS

BOUNDARY

exRL88.30

LOT 4132
DP857093

EHOUSE MEZZANINE

CAR PARKING (226 No)

OFFICE
2 LEVELS
1220m2

REC. AREA

OFFICE
2 LEVELS
1000m2

REC AREA

RAMP UP
1:15

RAMP UP
1:10

RAMP UP
1:20

RAMP UP
1:20

7.5 M

3.75 M

CAR PARKING (113 No)

TRUCK ENTRY/EXIT

CAR ENTRY/EXIT

TRUCK ENTRY/EXIT

TRUCK ENTRY/EXIT

PRIVATE ACCESS WAY
4,305m2

CAR ENTRY/EXIT

TRUCK ENTRY/EXIT

CAR ENTRY/EXIT

LANDSCAPE SETBACK 3.75 M

BUILDING SETBACK 7.5 M

CAR PARKING (37 No)

CAR PARKING (55 No)

FSA

78.30

N

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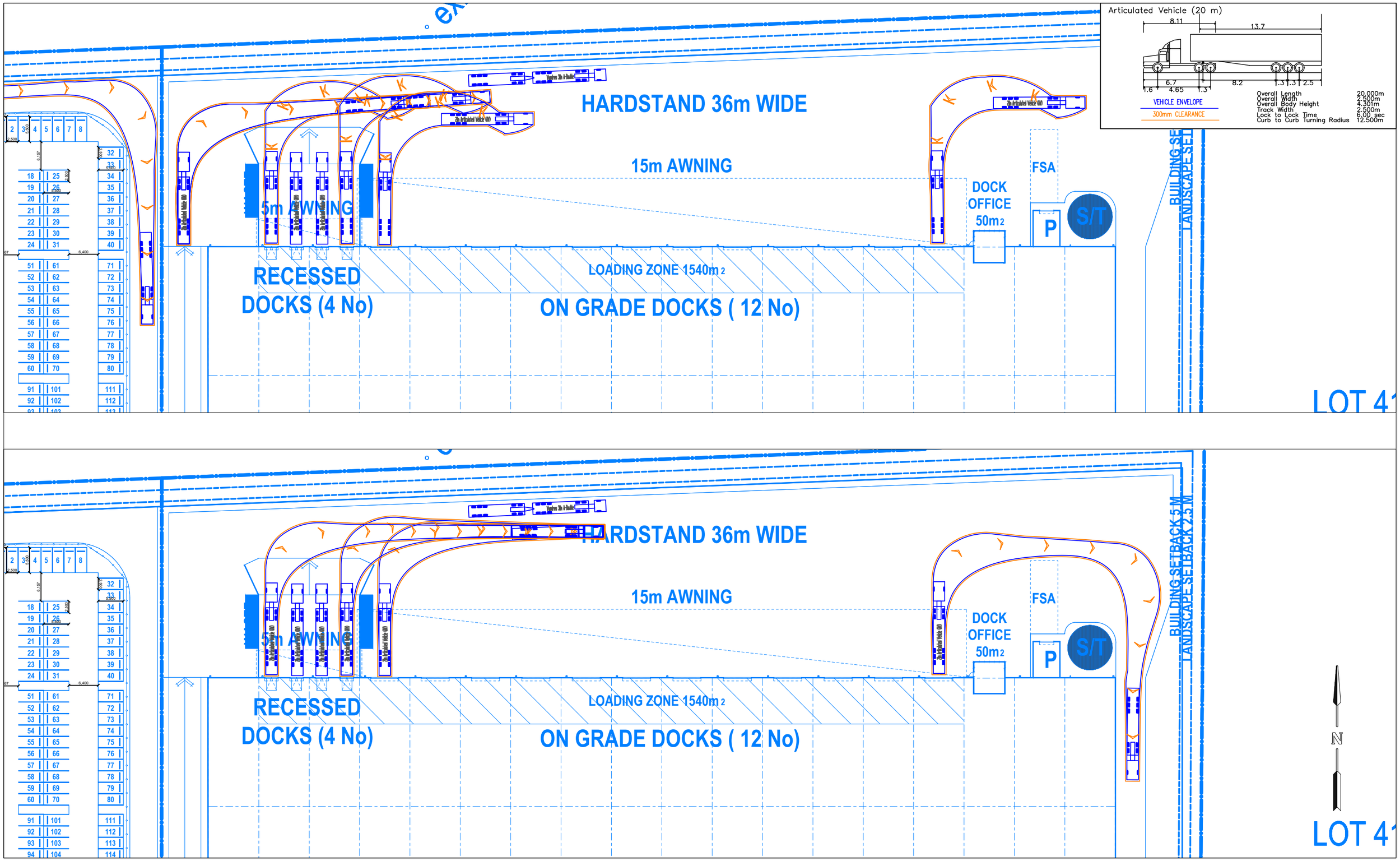
Swept path assessments completed at 10 km/h and 300mm clearance.

DESIGNED: RebeccaBMadden	PAPER SIZE: A3	CLIENT: ESR Group	DOCUMENT INFORMATION: SWEPT PATH ASSESSMENT
APPROVED BY: X.XXXX	DATE: 16.03.2022	PROJECT: 1323 Abbotts Road, Kemps Creek	
SCALE: 1:1000	0 10 20	FILE NAME: AG1323-01-v06.dwg	SHEET: AG05

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 Nettletontribe, received 06.04.2022.
Swept path assessments completed at 10 km/h and 300mm clearance.

DESIGNED: RebeccaBMadden	PAPER SIZE: A3
APPROVED BY: X.XXXX	DATE: 16.03.2022
SCALE: 1:750	NTS

CLIENT: ESR Group

PROJECT: 1323 — Abbotts Road, Kemps Creek

DOCUMENT INFORMATION: SWEPT PATH ASSESSMENT

FILE NAME: AG1323-01-v06.dwg

SHEET: AG06

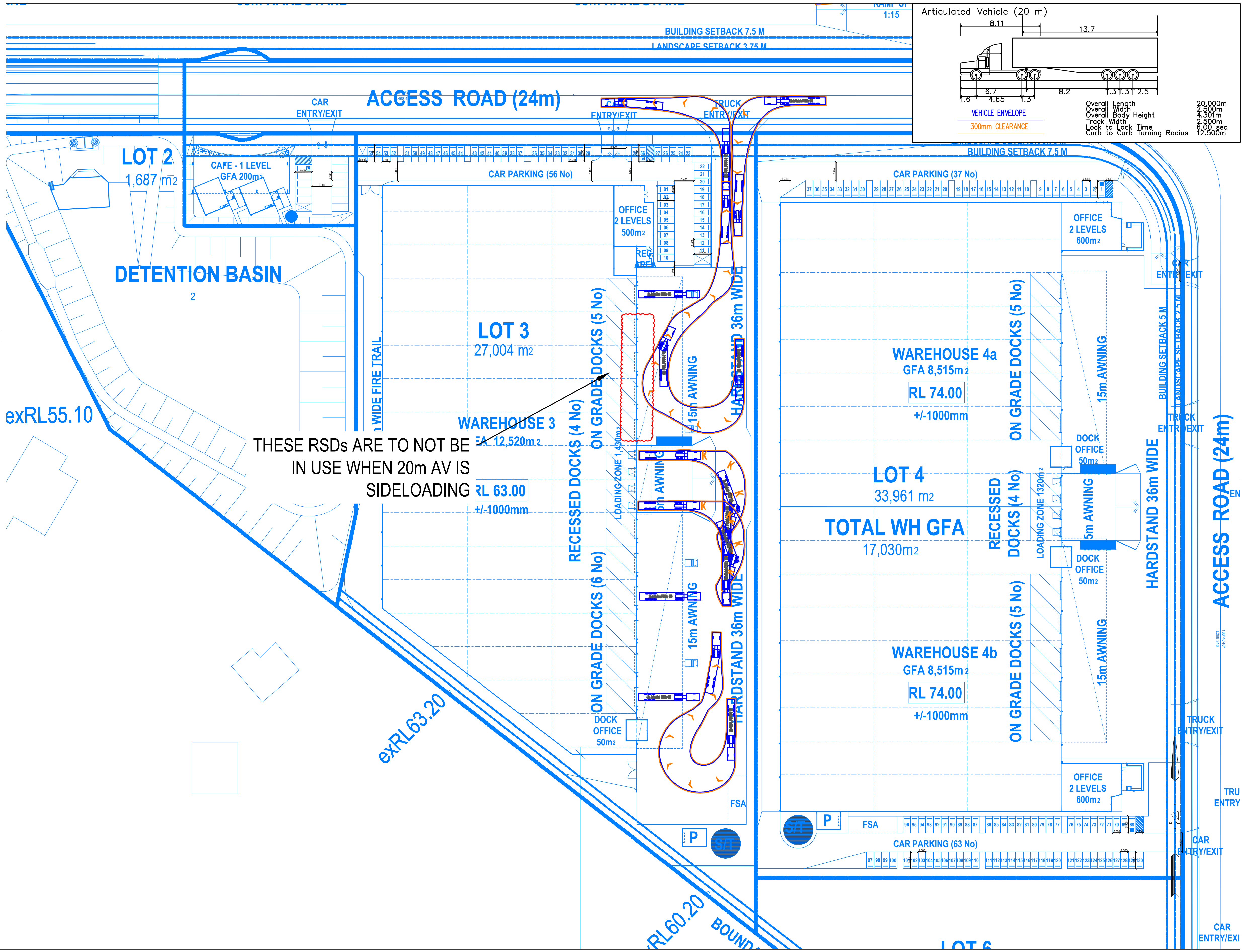
asongroup
Suite 17.02, Level 17, 1 Castlereagh St
Sydney NSW 2000
info@asongroup.com.au

1. FOR LOT 3, THE MAXIMUM DESIGN VEHICLE HAS BEEN ASSUMED TO BE A 20.0m AV TRUCK AS PER MRP DCP MINIMUM DESIGN VEHICLE REQUIREMENTS FOR INDUSTRIAL DEVELOPMENTS EQUAL OR UNDER 20,000 sqm.

2. 20m AVs CAN SIDE LOAD INTO WAREHOUSE 3. SOME RSDs SHALL NOT BE IN USE WHEN 30.0m A-DOUBLE TRUCKS ARE SIDE LOADING.

3. CAR PARKING DESIGN HAS BEEN ASSESSED WITH REGARDS TO THE MINIMUM USER CLASS 1A AS PER AS2890.1:2004 REQUIREMENTS.
   3.1. USER CLASS 1A PARKING SPACES ARE TO HAVE A MINIMUM WIDTH OF 2.4m AND LENGTH OF 5.4m, WITH A MINIMUM AISLE WIDTH OF 5.8m (EXCLUDING REQUIRED CLEARANCES).

4. FIRE TRUCKS WILL BE ABLE TO TURN AROUND WAREHOUSE 3 IN BOTH A CLOCKWISE AND COUNTER CLOCKWISE DIRECTION.
   4.1. FIRE STANDING AREA SHALL BE CLEAR OF GENERAL CIRCULATION.
   4.2. FIRE TRUCK STANDING AREA NEEDS FURTHER CONSIDERATION DURING DETAILED DESIGN PHASE TO DETAIL OUTLET CONNECTION.



GENERAL NOTES	DESIGNED	PAPER SIZE	CLIENT	DOCUMENT INFORMATION	
This drawing is provided for information purposes only and should not be used for construction. Base Plan prepared by Nettletontribe, received 06.04.2022. Swept path assessments completed at 10 km/h and 300mm clearance.	RebeccaBMadden	A3	ESR Group	SWEPT PATH ASSESSMENT	
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	1:1250			AG1323-01-v06.dwg	AG07

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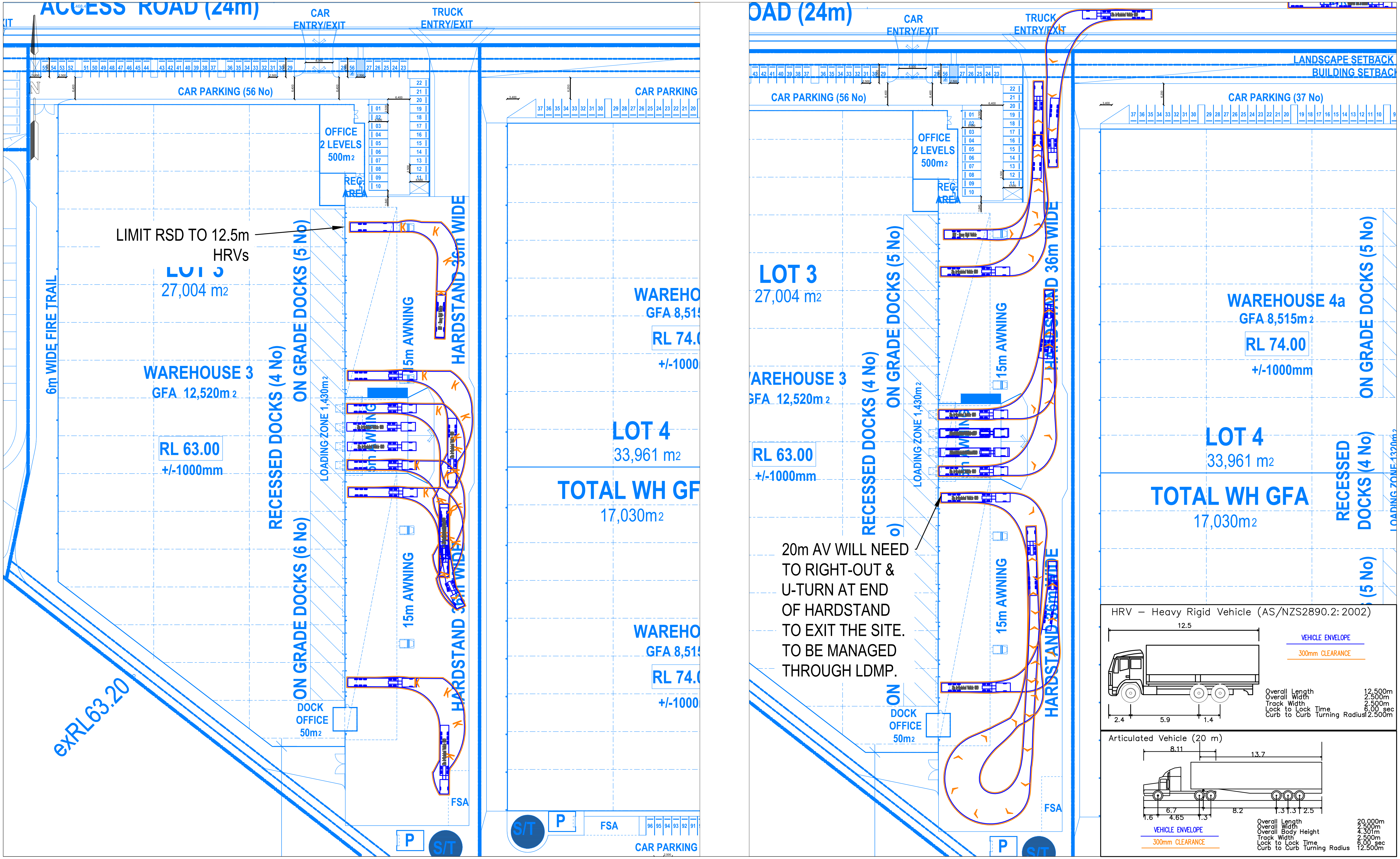

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1. FOR LOT 4, THE MAXIMUM DESIGN VEHICLE HAS BEEN ASSUMED TO BE A 20.0m AV TRUCK AS PER MRP DCP MINIMUM DESIGN VEHICLE REQUIREMENTS FOR INDUSTRIAL DEVELOPMENTS.

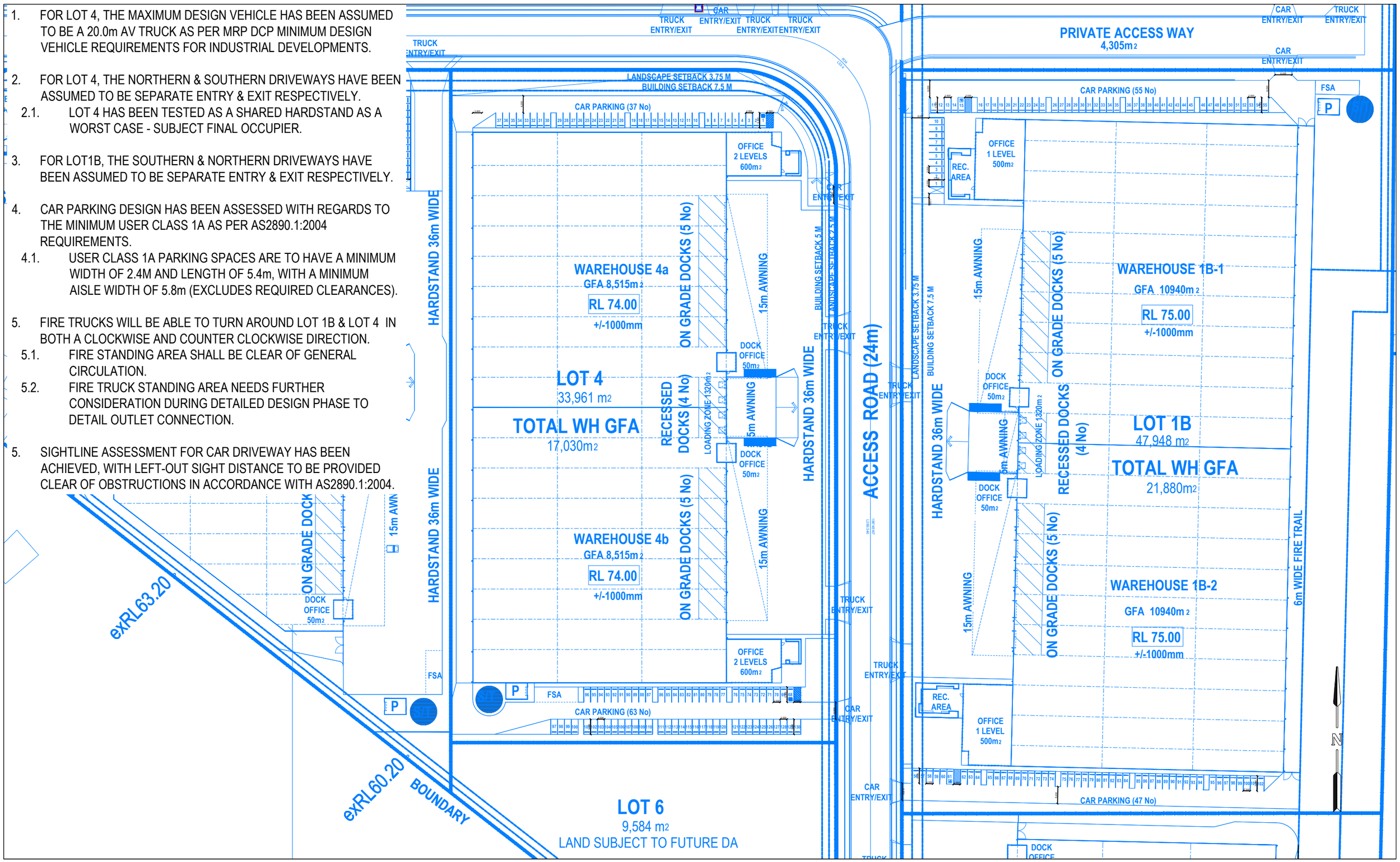
2. FOR LOT 4, THE NORTHERN & SOUTHERN DRIVEWAYS HAVE BEEN ASSUMED TO BE SEPARATE ENTRY & EXIT RESPECTIVELY.
   2.1. LOT 4 HAS BEEN TESTED AS A SHARED HARDSTAND AS A WORST CASE - SUBJECT FINAL OCCUPIER.

3. FOR LOT1B, THE SOUTHERN & NORTHERN DRIVEWAYS HAVE BEEN ASSUMED TO BE SEPARATE ENTRY & EXIT RESPECTIVELY.

4. CAR PARKING DESIGN HAS BEEN ASSESSED WITH REGARDS TO THE MINIMUM USER CLASS 1A AS PER AS2890.1:2004 REQUIREMENTS.
   4.1. USER CLASS 1A PARKING SPACES ARE TO HAVE A MINIMUM WIDTH OF 2.4M AND LENGTH OF 5.4m, WITH A MINIMUM AISLE WIDTH OF 5.8m (EXCLUDES REQUIRED CLEARANCES).

5. FIRE TRUCKS WILL BE ABLE TO TURN AROUND LOT 1B & LOT 4 IN BOTH A CLOCKWISE AND COUNTER CLOCKWISE DIRECTION.
   5.1. FIRE STANDING AREA SHALL BE CLEAR OF GENERAL CIRCULATION.
   5.2. FIRE TRUCK STANDING AREA NEEDS FURTHER CONSIDERATION DURING DETAILED DESIGN PHASE TO DETAIL OUTLET CONNECTION.

5. SIGHTLINE ASSESSMENT FOR CAR DRIVEWAY HAS BEEN ACHIEVED, WITH LEFT-OUT SIGHT DISTANCE TO BE PROVIDED CLEAR OF OBSTRUCTIONS IN ACCORDANCE WITH AS2890.1:2004.



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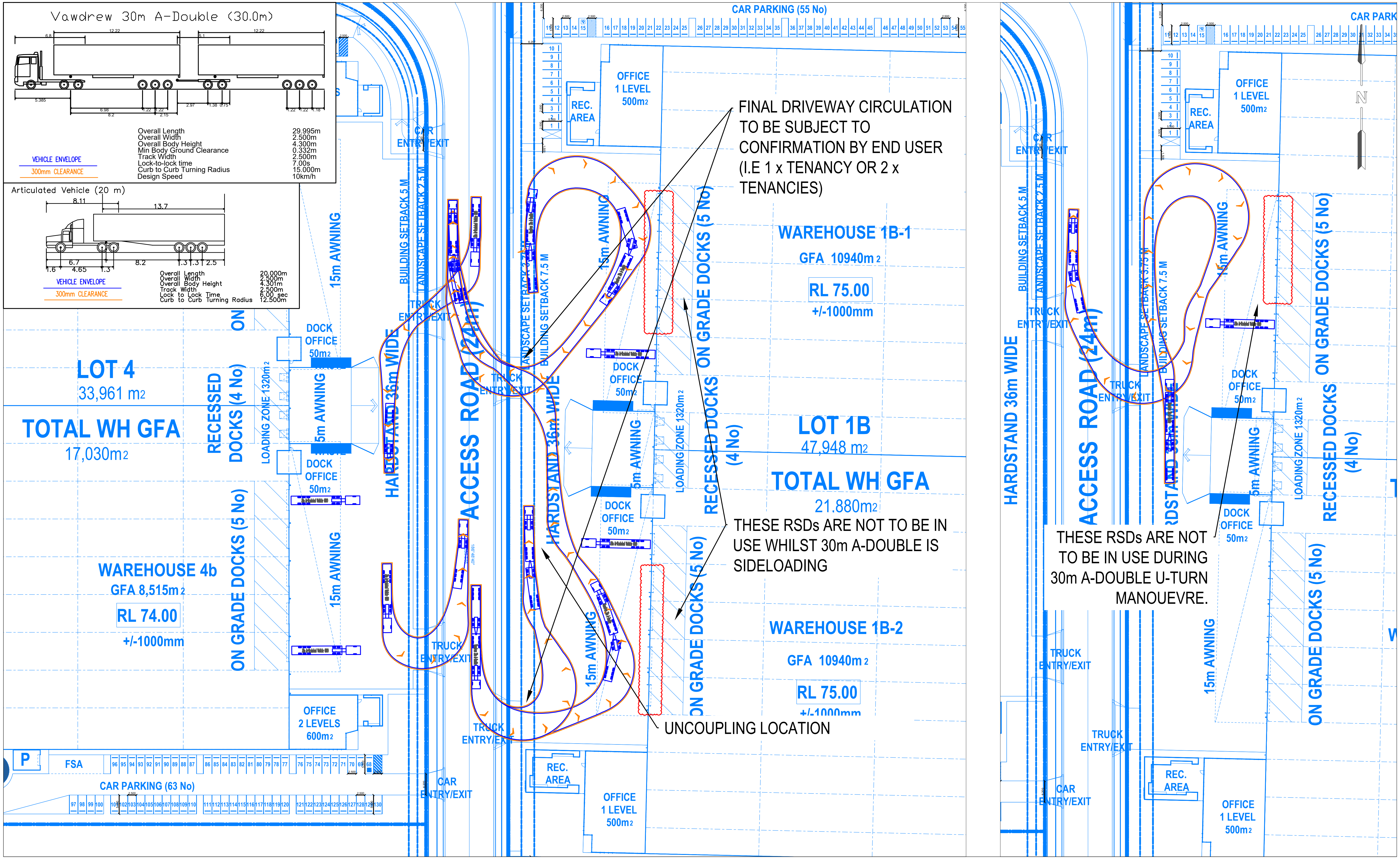

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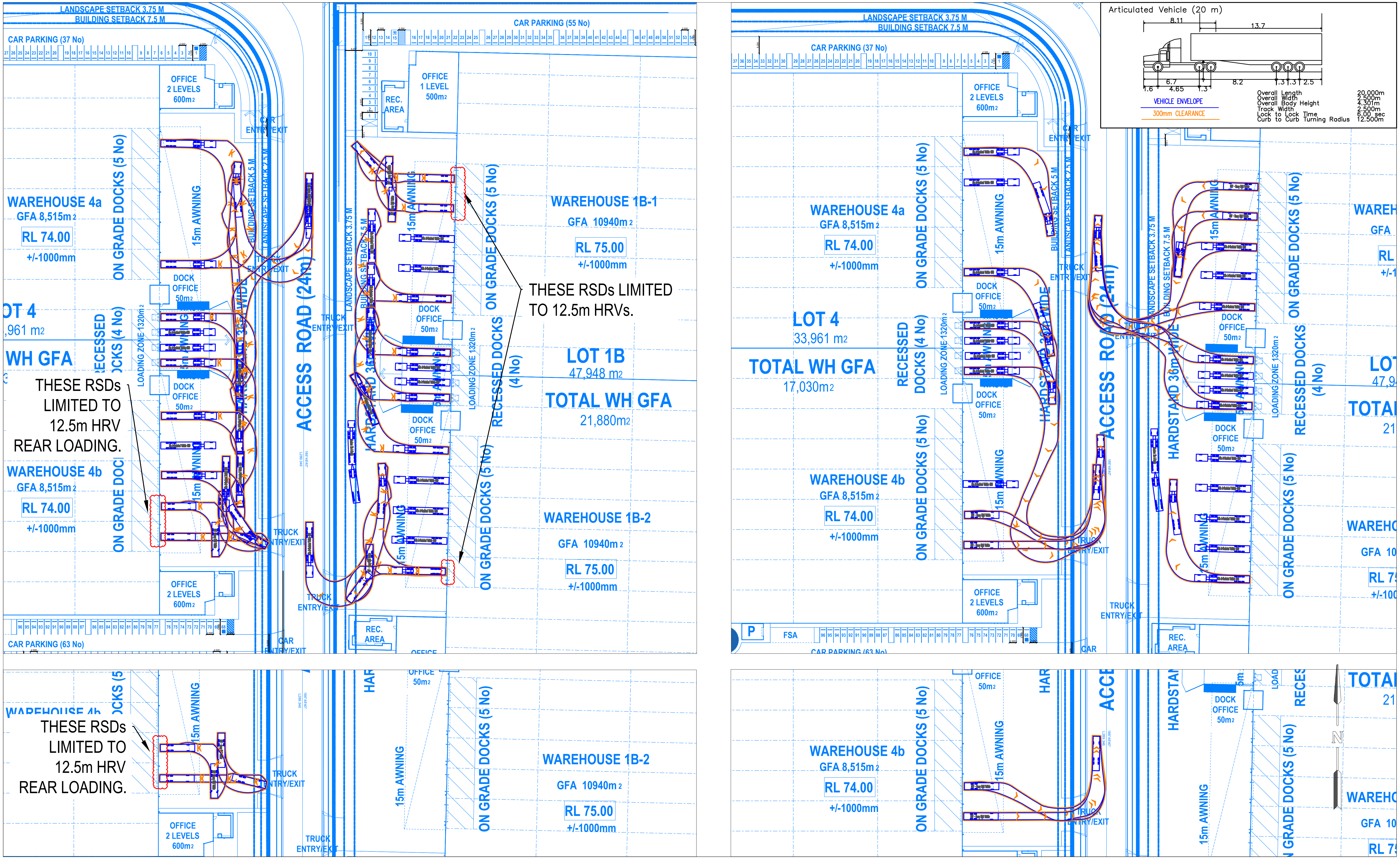
Articulated Vehicle (20 m)
VEHICLE ENVELOPE
300mm CLEARANCE
Overall Length 20.000m
Overall Width 2.500m
Overall Body Height 4.301m
Track Width 2.500m
Lock to Lock Time 6.00 sec
Curb to Curb Turning Radius 12.500m
LANDSCAPE SETBACK 3.75 M
BUILDING SETBACK 7.5 M
CAR PARKING (37 No)
CAR PARKING (55 No)
CAR PARKING (63 No)
OFFICE 2 LEVELS 600m2
OFFICE 1 LEVEL 500m2
REC. AREA
CAR ENTRY/EXIT
TRUCK ENTRY/EXIT
WAREHOUSE 4a
GFA 8,515m2
RL 74.00
+/-1000mm
WAREHOUSE 4b
GFA 8,515m2
RL 74.00
+/-1000mm
LOT 4
33,961 m2
TOTAL WH GFA
17,030m2
ON GRADE DOCKS (5 No)
RECESSED DOCKS (4 No)
LOADING ZONE 1320m2
15m AWNING
DOCK OFFICE 50m2
ACCESS ROAD (24m)
HARDSTAND 38m WIDE
WAREHOUSE 1B-1
GFA 10940m2
RL 75.00
+/-1000mm
WAREHOUSE 1B-2
GFA 10940m2
RL 75.00
+/-1000mm
LOT 1B
47,948 m2
TOTAL WH GFA
21,880m2
THESE RSDs LIMITED TO 12.5m HRVs.
THESE RSDs LIMITED TO 12.5m HRV REAR LOADING.
THESE RSDs LIMITED TO 12.5m HRV REAR LOADING.
FSA
N

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APPROVED BY: X.XXXX	DATE: 16.03.2022	
SCALE: 1:1250	NTS	

CLIENT
ESR Group

PROJECT
1323
Abbotts Road, Kemps Creek

DOCUMENT INFORMATION
SWEPT PATH ASSESSMENT
ADDITIONAL INFORMATION

FILE NAME: AG1323-01-v06.dwg
SHEET: AG11

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Sydney NSW 2000
info@asongroup.com.au

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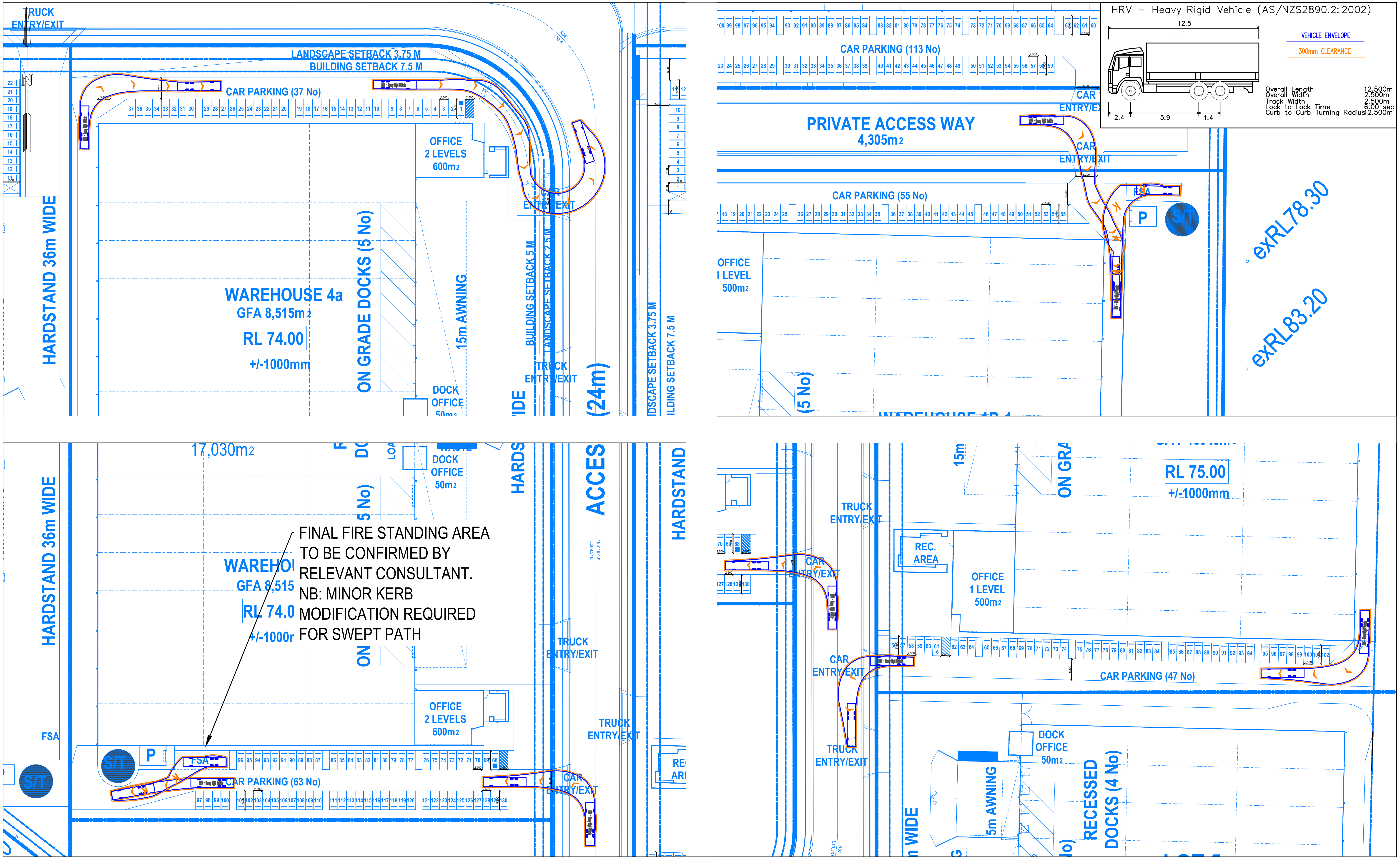

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APPROVED BY: X.XXXX	DATE: 16.03.2022	PROJECT: 1323	WORK TYPE
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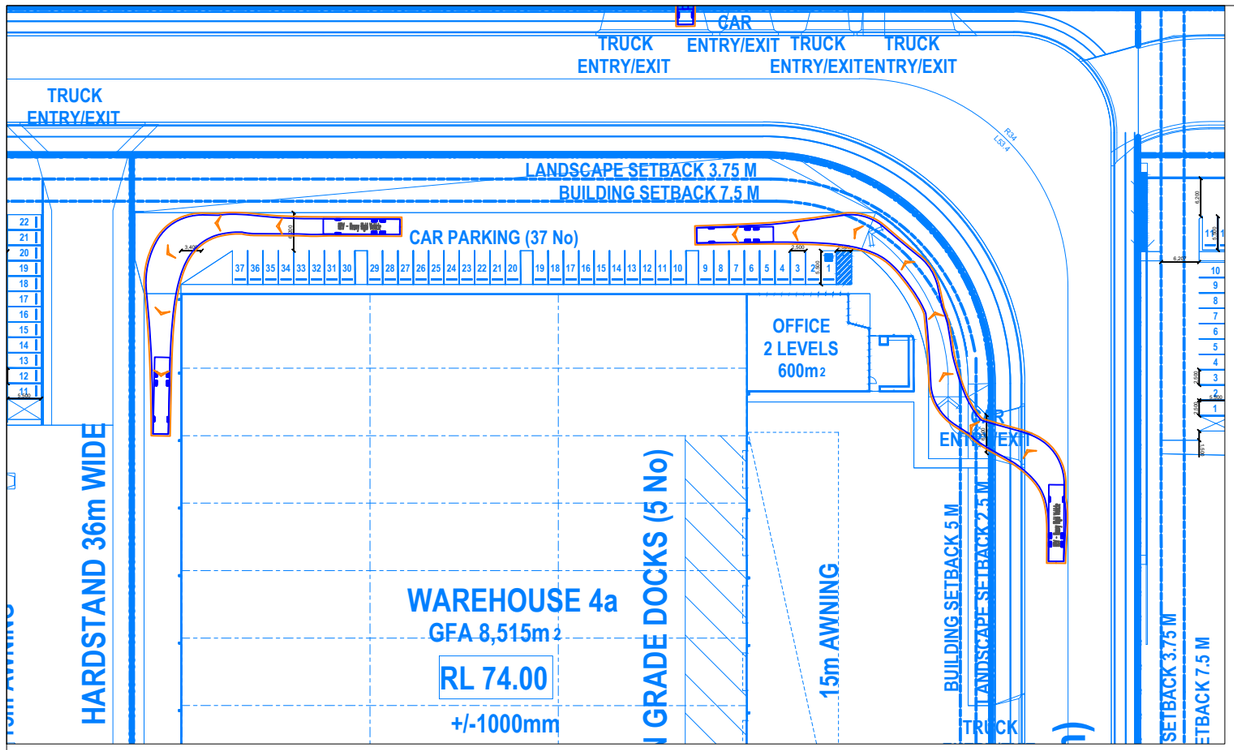

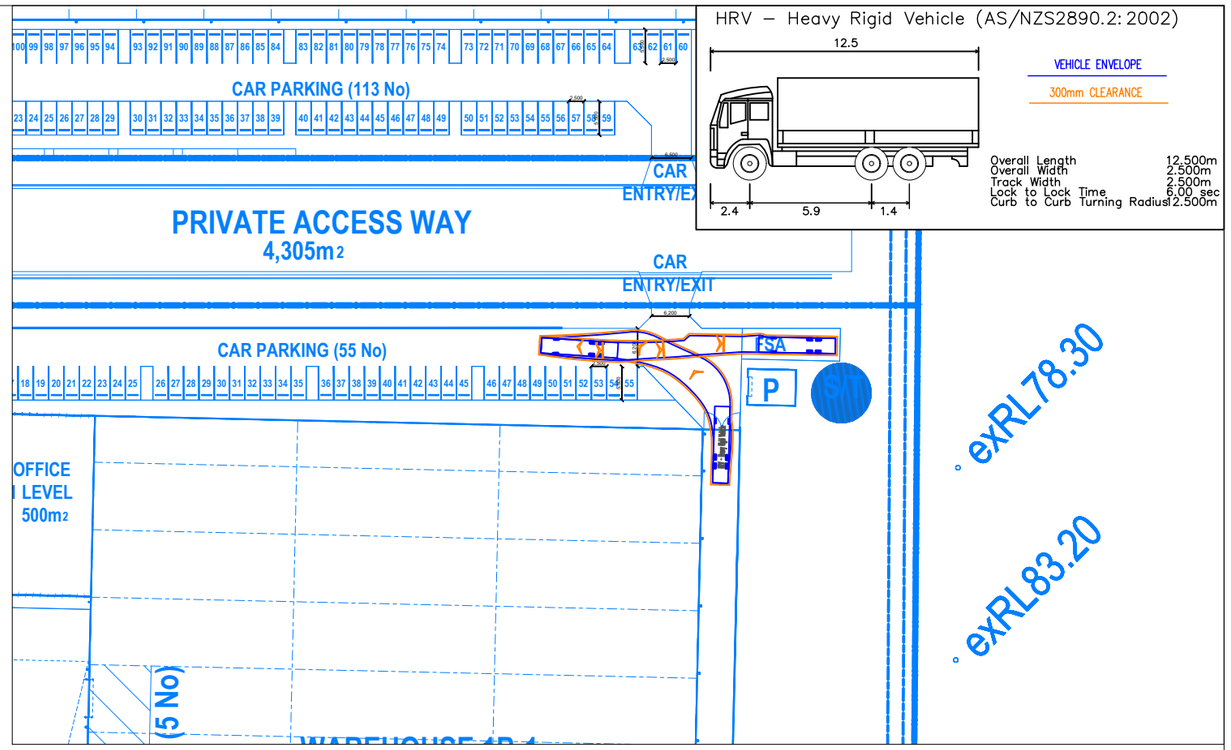

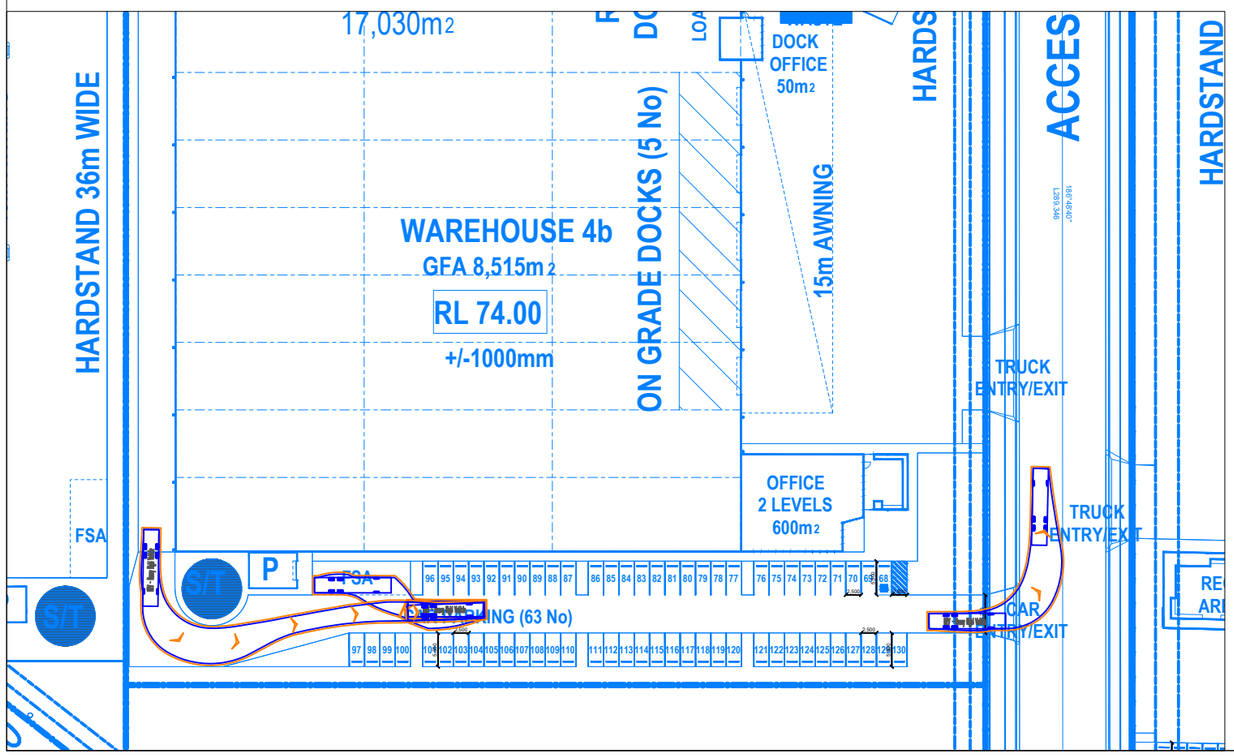

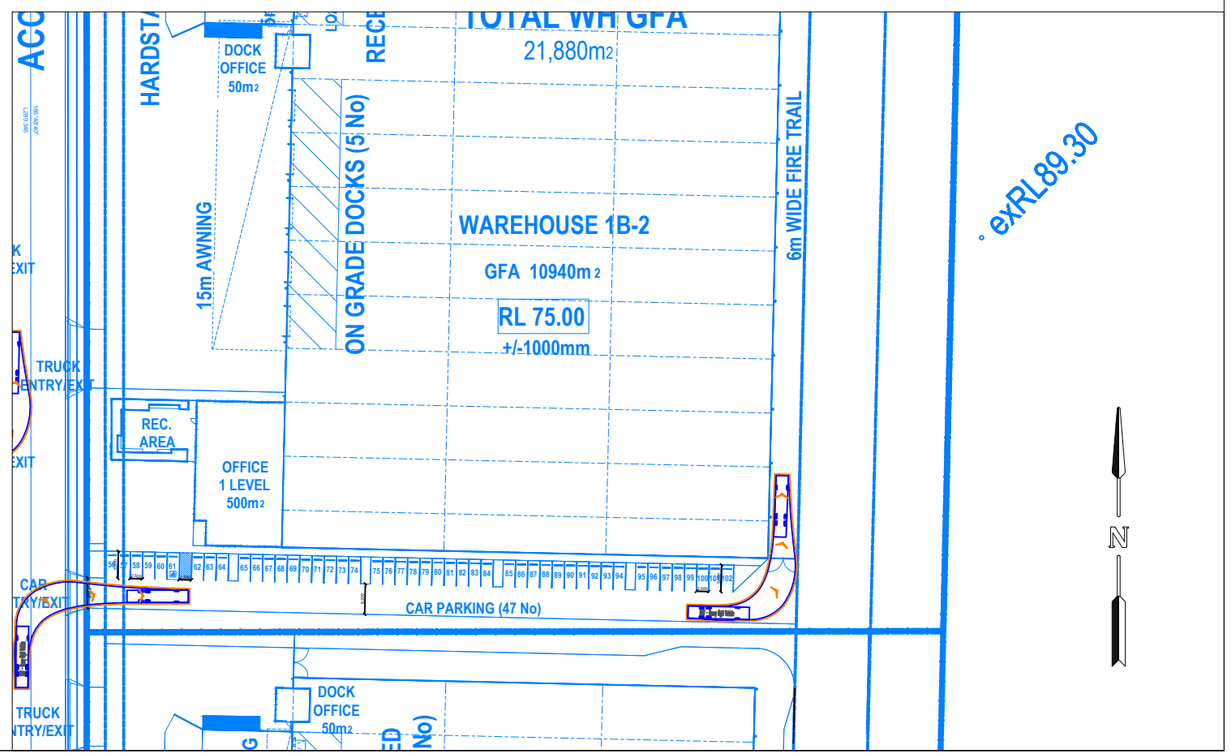

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APPROVED BY: X.XXXX	DATE: 16.03.2022	PROJECT: 1323	ADDITIONAL INFORMATION
SCALE: 1:1000	0 10 20	Abbotts Road, Kemps Creek	FILE NAME: AG1323-01-v06.dwg / SHEET: AG13

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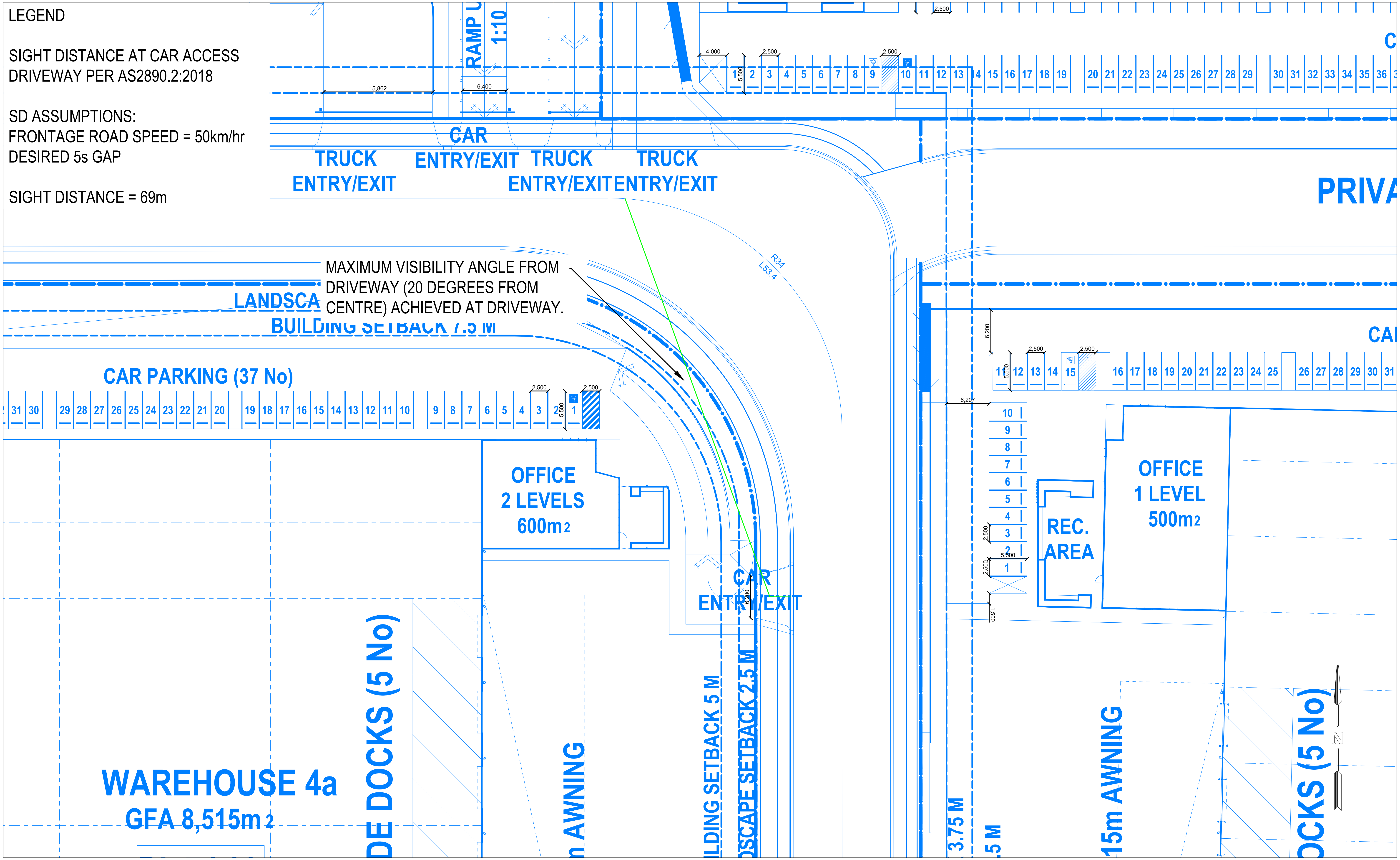
LEGEND

SIGHT DISTANCE AT CAR ACCESS DRIVEWAY PER AS2890.2:2018

SD ASSUMPTIONS:
FRONTAGE ROAD SPEED = 50km/hr
DESIRED 5s GAP

SIGHT DISTANCE = 69m



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X.XXXX	16.03.2022
SCALE	0 5 10
1:500	

CLIENT
ESR Group

PROJECT
1323
Abbotts Road, Kemps Creek

DOCUMENT INFORMATION
SIGHTLINE ASSESSMENT
ADDITIONAL INFORMATION

FILE NAME	SHEET
AG1323-01-v06.dwg	AG14

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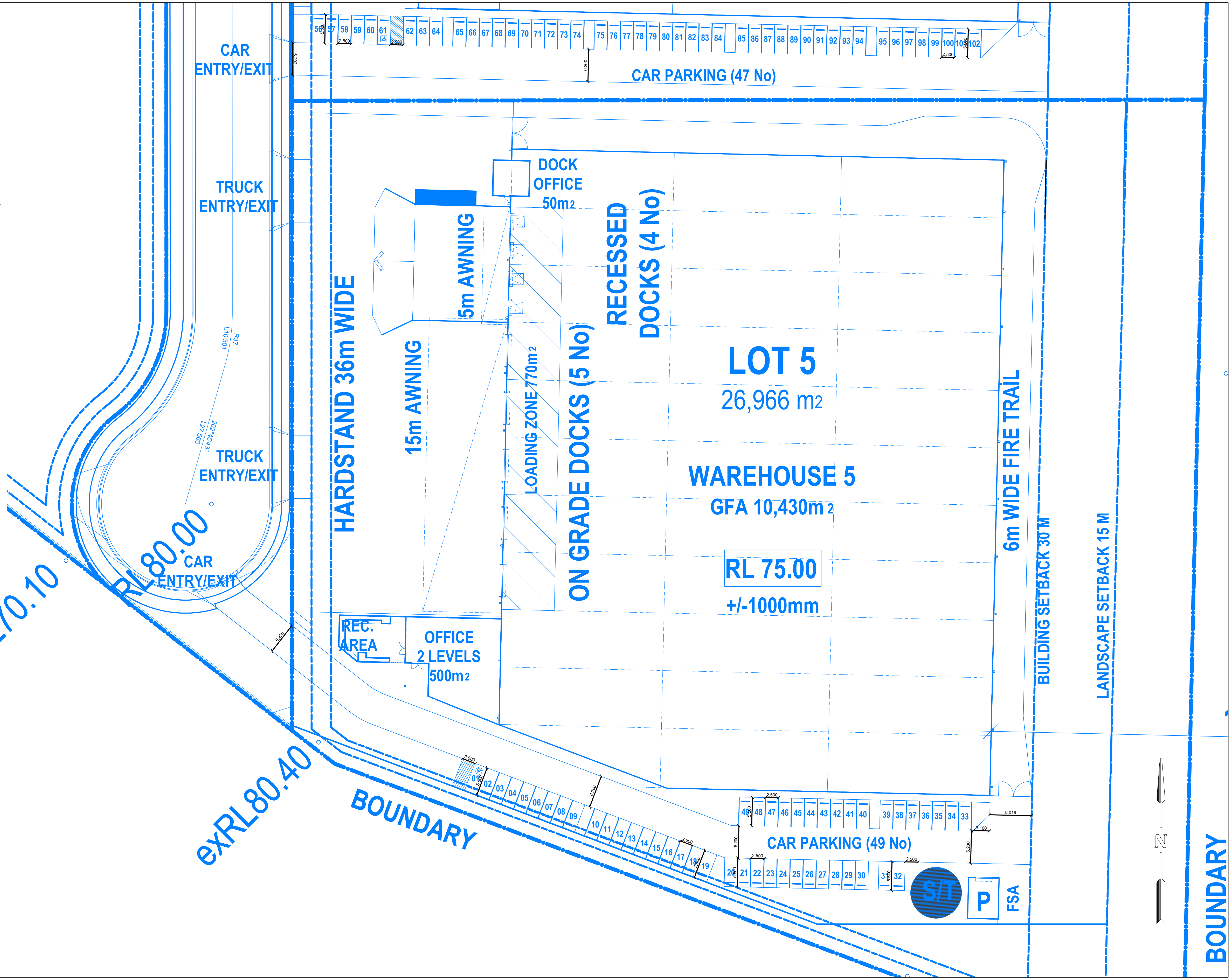
1. FOR LOT 5, THE MAXIMUM DESIGN VEHICLE HAS BEEN ASSUMED TO BE A 20.0m AV TRUCK AS PER MRP DCP MINIMUM DESIGN VEHICLE REQUIREMENTS FOR INDUSTRIAL DEVELOPMENTS.

2. FURTHER CONSIDERATION REQUIRED TO DRIVEWAY LOCATION UPON CONNECTION OF ROAD SOUTH OF THE SITE

3. CAR PARKING DESIGN HAS BEEN ASSESSED WITH REGARDS TO THE MINIMUM USER CLASS 1A AS PER AS2890.1:2004 REQUIREMENTS.
   3.1.1. USER CLASS 1A PARKING SPACES ARE TO HAVE A MINIMUM WIDTH OF 2.4M AND LENGTH OF 5.4m, WITH A MINIMUM AISLE WIDTH OF 5.8m (EXCLUDES REQUIRED CLEARANCES).

4. FIRE TRUCKS WILL BE ABLE TO TURN AROUND LOT 5 IN BOTH A CLOCKWISE AND COUNTER CLOCKWISE DIRECTION.
   4.1. MINOR AMENDMENTS TO THE FIRE TRAIL DRIVEWAY ARE REQUIRED TO FACILITATE 12.5m HRV CIRCULATION.
   4.2. FIRE TRUCK STANDING AREA NEEDS FURTHER CONSIDERATION DURING DETAILED DESIGN PHASE TO DETAIL OUTLET CONNECTION. FURTHER DETAIL SHOULD BE CONFIRMED WITH RELEVANT FIRE CONSULTANT.



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SCALE 1:750	NTS	Abbotts Road, Kemps Creek	FILE NAME AG1323-01-v06.dwg — SHEET AG15

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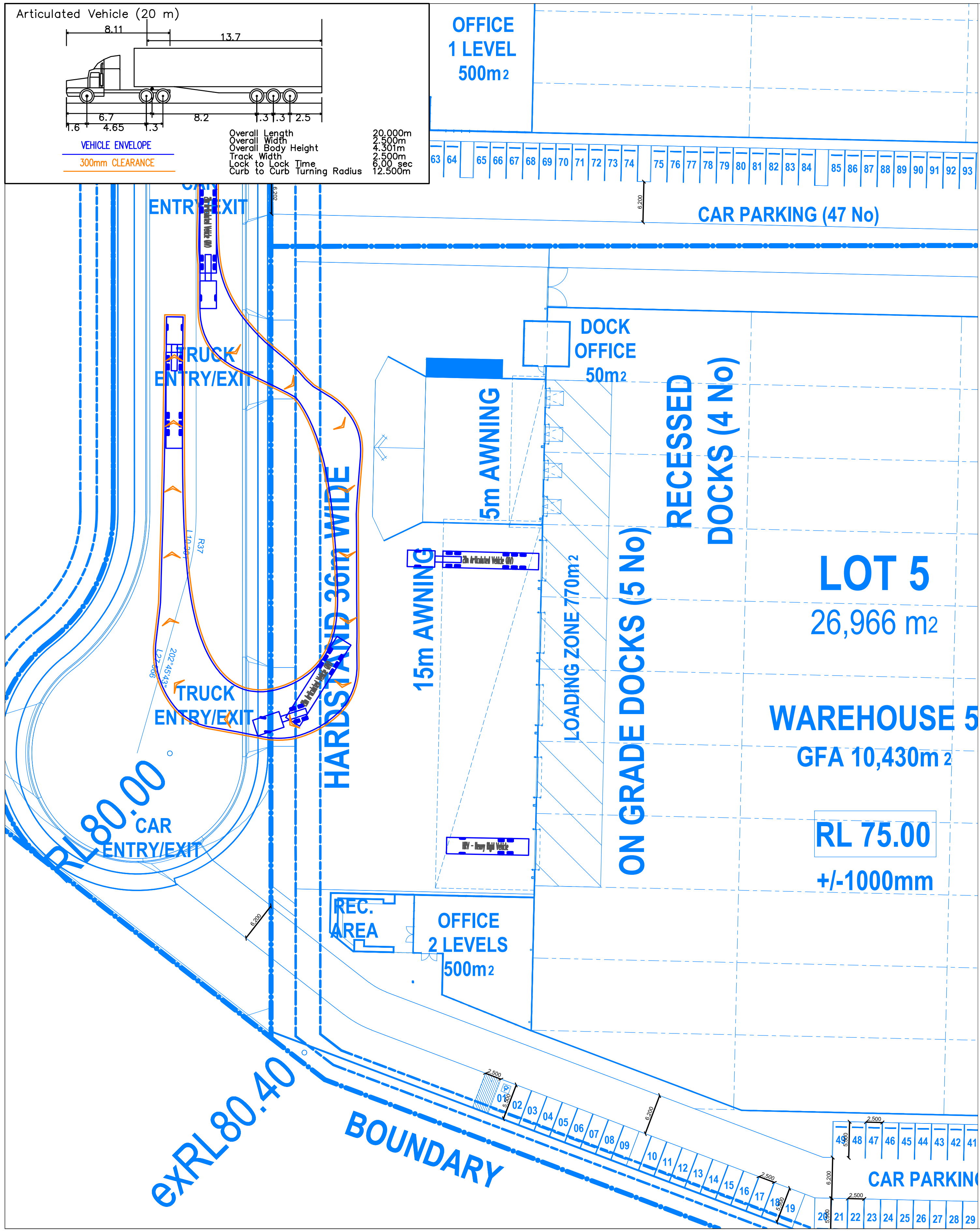

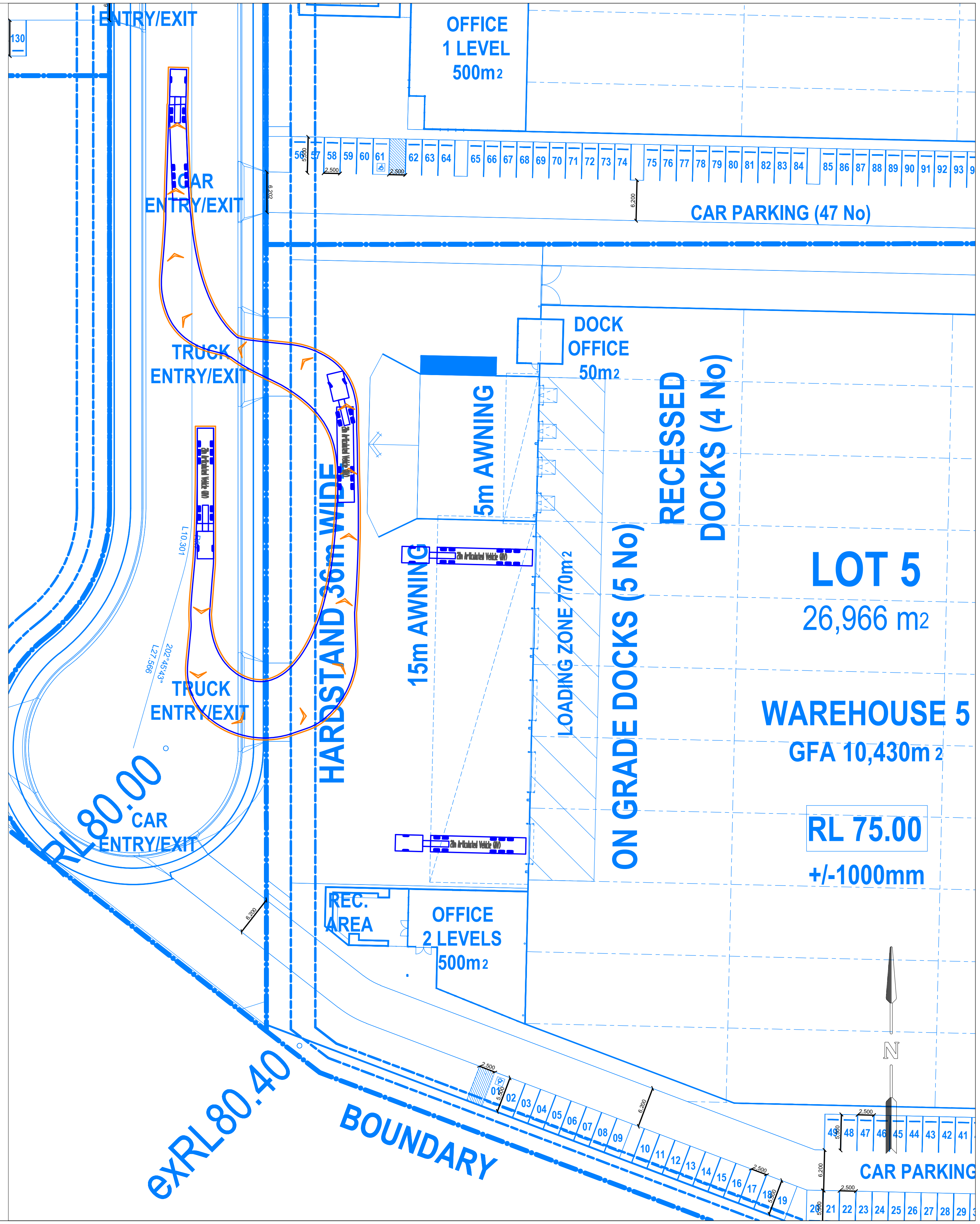

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APPROVED BY: X.XXXX	DATE: 16.03.2022	PROJECT: 1323	
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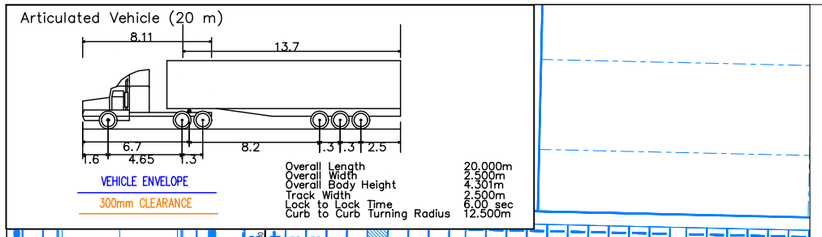

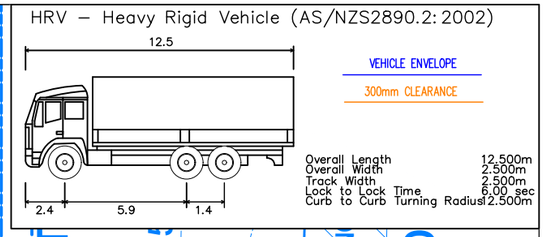

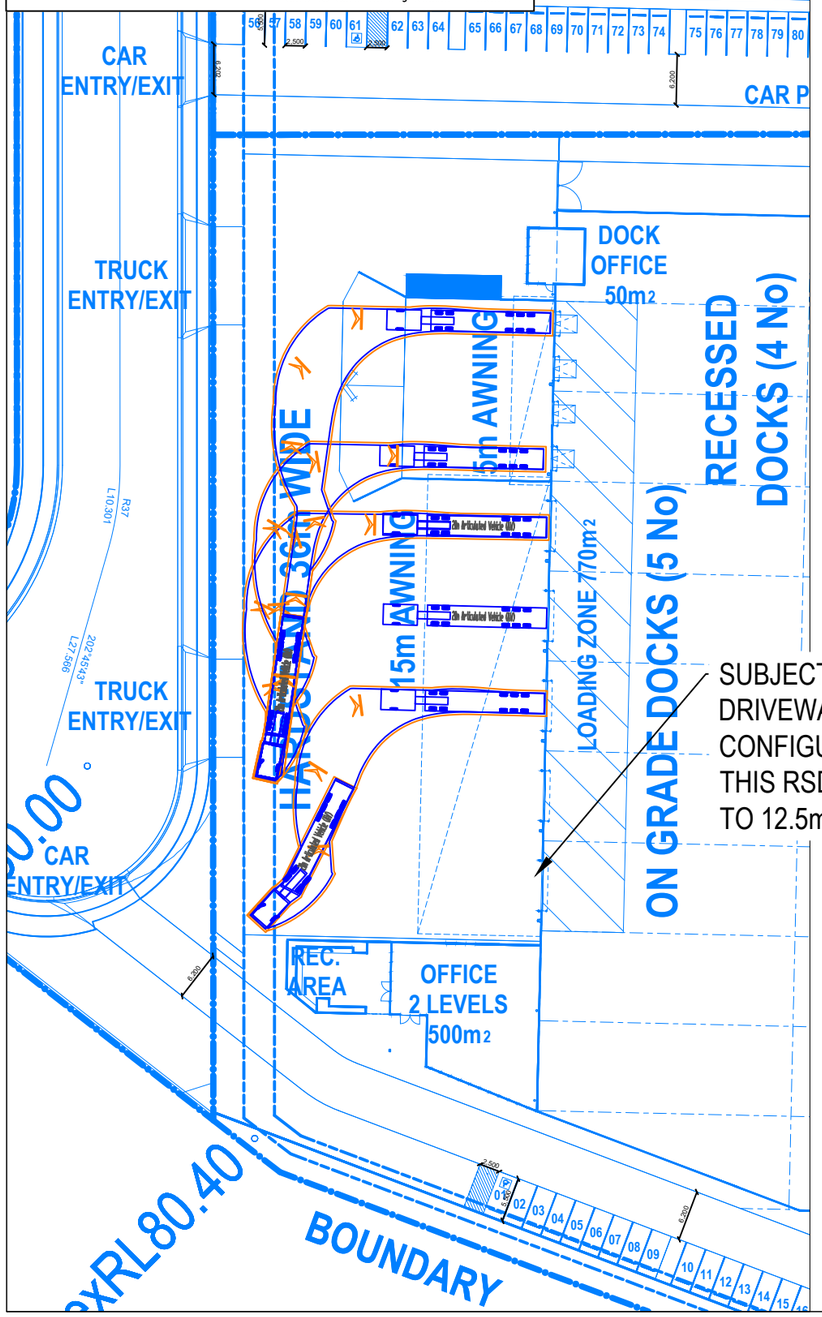

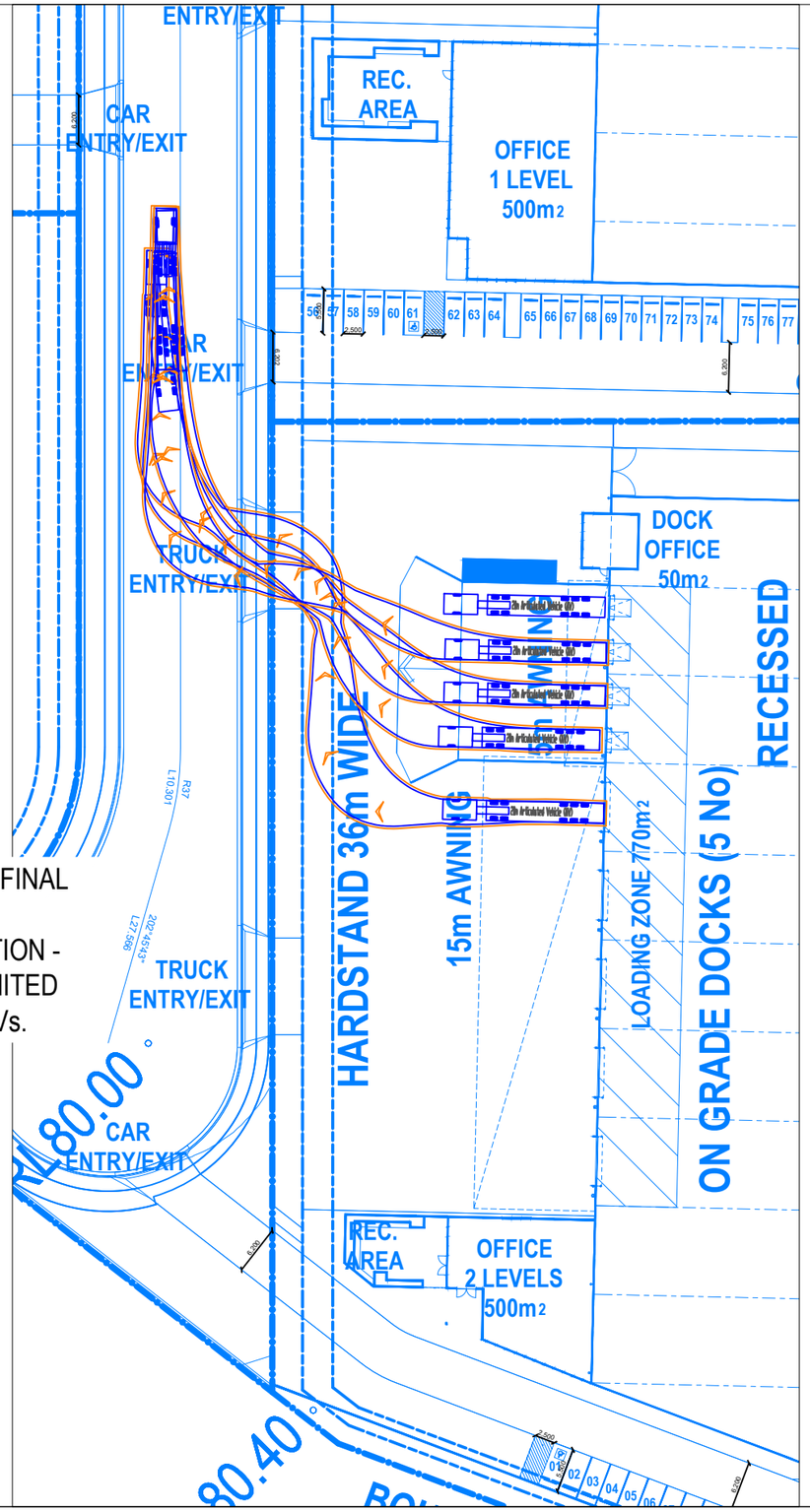

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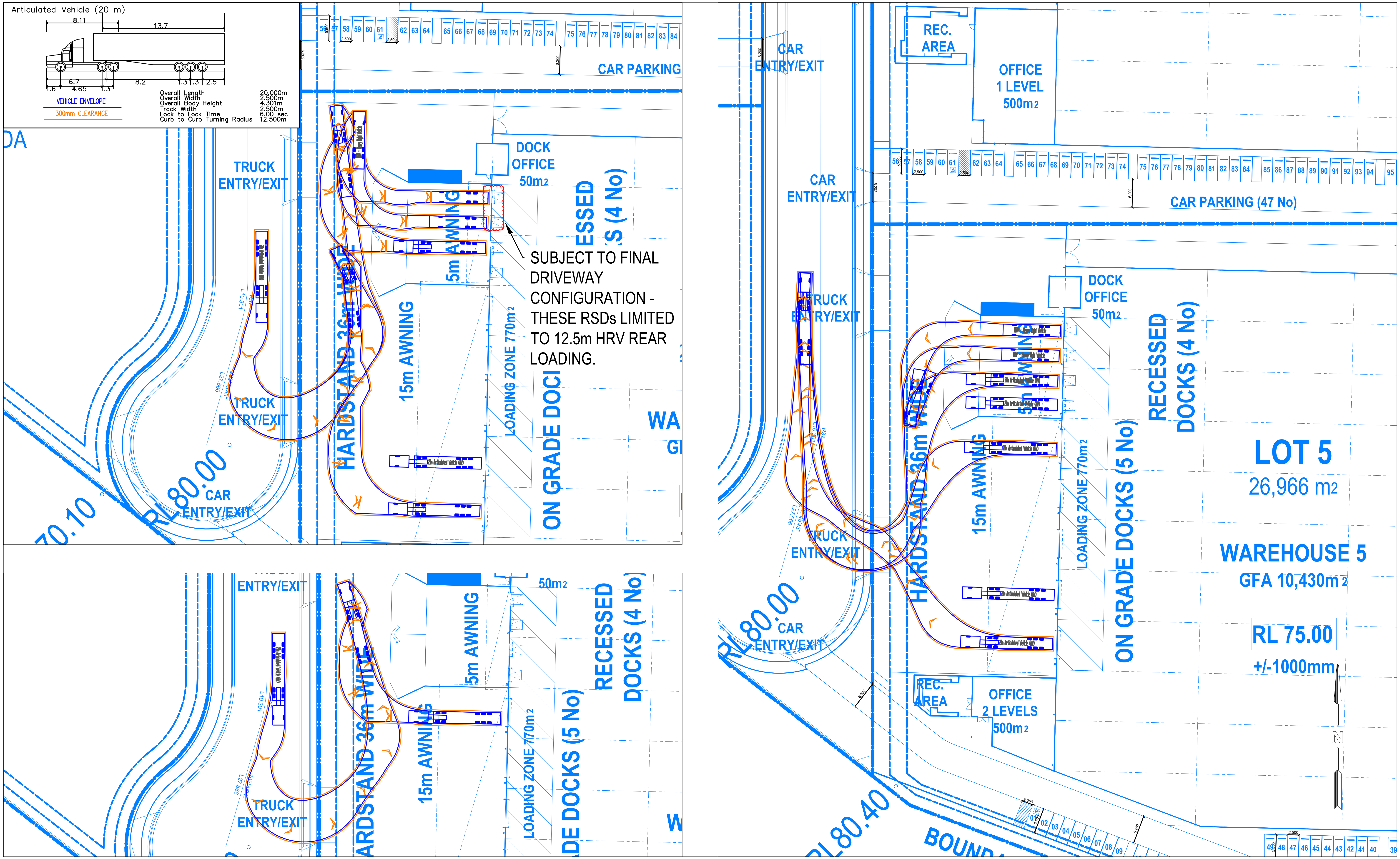

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X.XXXX	16.03.2022
SCALE	
1:750	NTS

CLIENT
ESR Group

PROJECT
1323
Abbotts Road, Kemps Creek

DOCUMENT INFORMATION
SWEPT PATH ASSESSMENT
RELOCATED DRIVEWAY WH5

FILE NAME	SHEET
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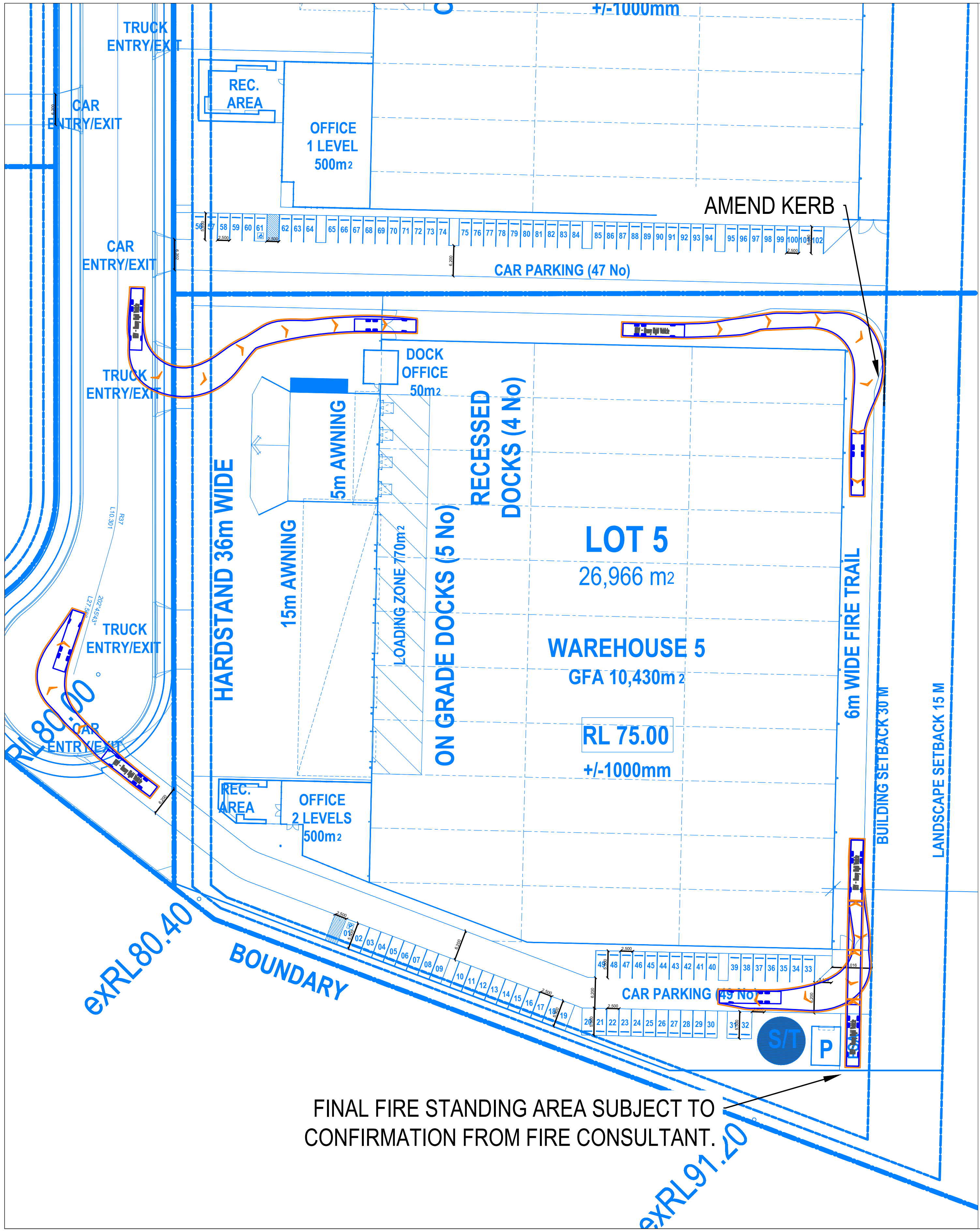
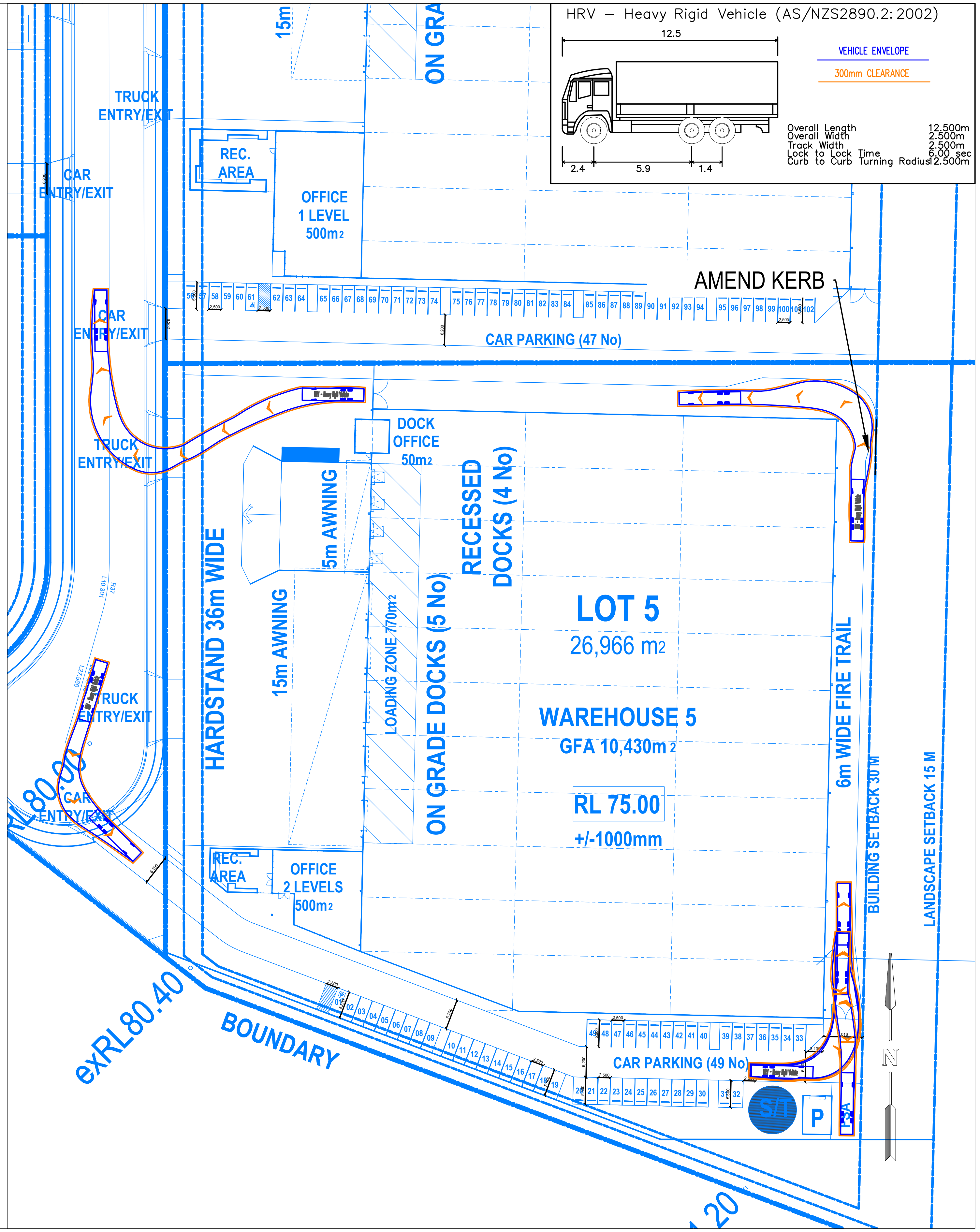
Sydney NSW 2000
info@asongroup.com.au





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APPROVED BY	DATE	PROJECT	
X.XXXX	16.03.2022	1323	
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1:1000			

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

Appendix F. Draft Construction Traffic Management Plan

Prepared for

ESR AUSTRALIA

Preliminary Construction Traffic Management Plan

ESR Westlink, Abbotts Road, Kemps Creek

Ref: 1323r03
13/04/2022

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

Document Control

Project No: 1323

Project: ESR Westlink, Abbotts Road, Kemps Creek

Client: ESR Developments (Australia) Pty Ltd

File Reference: 1323r03v3 Draft CTMP_Westlink, Issue

Revision History

Revision	Date	Details	Author	Approved by
-	17/12/2020	Draft	V. Cheng	R. Butler-Madden
I	22/12/2020	Issue	V. Cheng	R. Butler-Madden
II	18/05/2021	Issue	V. Cheng	R. Butler-Madden
III	12/04/2022	Issue	R. Butler-Madden	R. Butler-Madden
IV	13/04/2022	Issue	J.Wu	R. Butler Madden

Table of Contents

Appendices

1 Introduction

1.1 Overview

Ason Group has been engaged by ESR Developments (Australia) Pty Ltd (ESR) to prepare a Draft Construction Traffic Management Plan (CTMP) in regard to the future construction of industrial development known as the ESR Westlink, at Abbotts Road, Kemps Creek (the Site).

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

From the outset, it is noted that the this CTMP is designed to be updated over time as additional details in regard to the construction proposal are revised / finalised as is standard in any major construction project, noting that all such updates would be completed in consultation with Penrith 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 Draft CTMP, which has been prepared with reference to all available information in regard to the construction program, and all relevant CTMP preparation guidelines. The implementation of the recommendations and strategies detailed in this CTMP are the strict responsibility of ESR Australia and / or the designated construction Project Manager.

1.2 Proposed Development

The proposed development relates to a State Significant Development (SSD) for an industrial development Masterplan. The SSD generally provides for:

- Masterplan with a total building area of 150,577m^2, comprising:
  - A total of 144,482m^2 warehouse GFA,
  - A total of 5,895m^2 of ancillary office GFA and 200m^2 café GFA,
  - 1 xdetention basin;
  - Internal road layouts and road connection to Abbotts Road;
  - Provision for 658 car parking spaces; and
  - Associated site landscaping.

Full details of the Proposal are provided in the Environmental Impact Statement (EIS) prepared by Ethos Urban, which this CTMP accompanies.

2 The Site

2.1 Site Location

The Site is comprised of 3 separate allotments with a total area of approximately 319,800m^2 and is legally described as Lots 13, 12 and 11 in DP253503. The Site is located approximately 4km north-west of the future Western Sydney International (Nancy-Bird Walton) Airport (WSA), 12km south-east of the Penrith CBD and 40km west of the Sydney CBD. It is located at 290-308 Aldington Road, 59-62 Abbotts Road, and 63 Abbotts Road.

The Site in its sub-regional context is shown in **Figure 1**, as well as the broader Mamre Road Precinct as designated by DPIE.

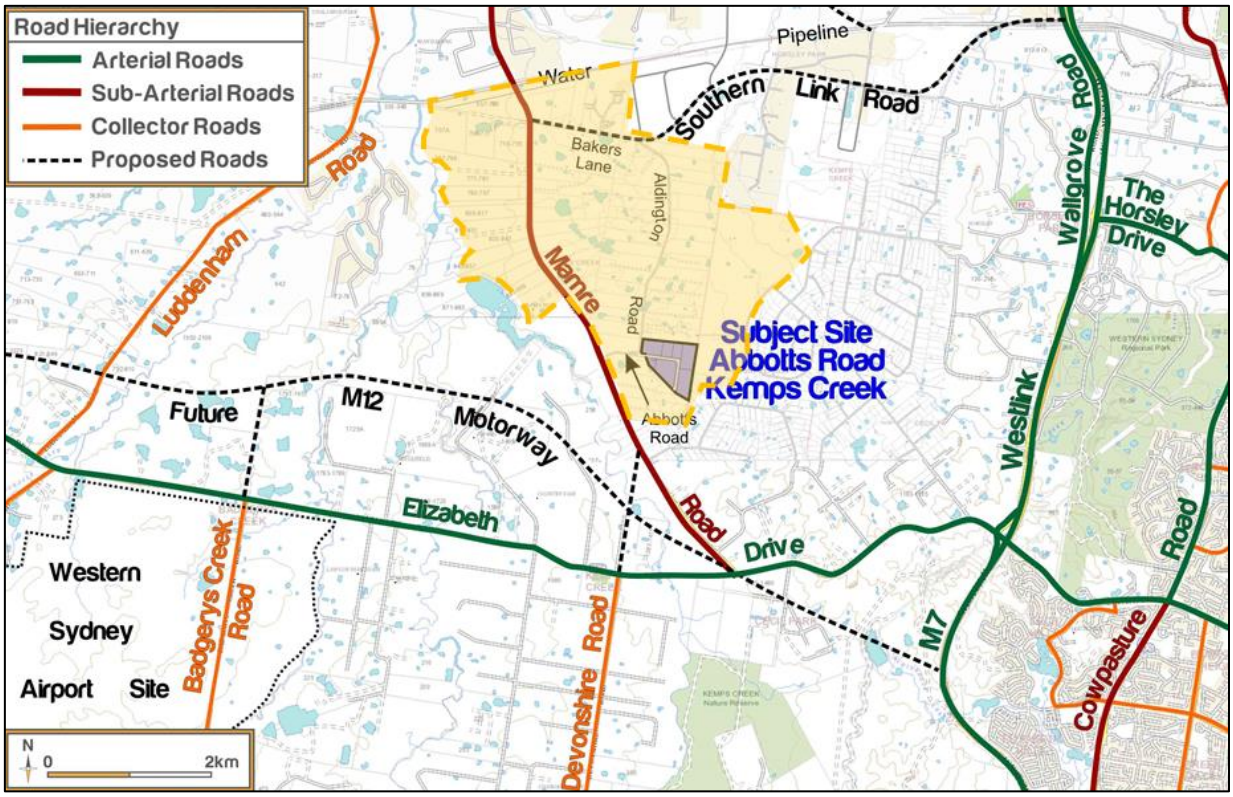


Figure 1: Site Location

2.2 Road Network

Key roads in the vicinity of the Site are shown in **Figure 1**, and include:

- **Westlink M7 Motorway:** M7 Motorway is a high capacity road link of state significance and was built to accommodate future traffic growth in the Western Sydney region. It provides a key north-south link between the M2 Motorway to the north and the M5 Motorway to the south as part of the Sydney orbital road network. A major interchange between the M7 Motorway and M4 Western

Motorway is located approximately 3.5 km north of the Site, which connects the Sydney CBD and western Sydney suburbs. The M7 Motorway provides 4 lanes (2 lanes per direction, divided carriageway) and has a posted speed limit of 100 km/h

- **(Future) M12 Motorway**: A proposed 16km motorway generally running in an east-west between the existing M7 motorway and the Northern Road. It is expected to run in parallel with Elizabeth Drive and is to have 2 lanes in each direction separated by a central median. Construction is expected to commence in 2020.
- **Wallgrove Road:** Wallgrove Road is an arterial road that runs in a north-south direction to the east of the Site and parallel (to the west of) the M7, functioning as a service road. The 2-lane, two-way road provides a link between the Great Western Highway to the north and Elizabeth Drive to the south. As with the M7, Wallgrove Road connects to the M4 motorway approximately 2.5 kilometres to the north of the Site.
- **Elizabeth Drive:** An TfNSW classified main road (MR 535) that runs in an east-west direction to the south of the site. Elizabeth Drive in the vicinity of the site generally provides 2 lanes (1 lane per direction) and has a posted speed limit of 80km/h. This road forms the Site's southern frontage and provides a vital link between Westlink M7 Motorway and The Northern Road.
- **The Northern Road:** The Northern Road is TfNSW classified main road (MR 154) that runs in a north-south direction to the west of the site. The Northern Road section near the vicinity of the site generally provides 3 lanes (1 to 2 lanes per direction) and has a posted speed limit of 80km/h. Currently, The Northern Road is undergoing multiple stages of road upgrades by RMS, including a realignment of the road in the south. The road upgrades between The Old Northern Road, Narellan and Peter Brock Drive, Oran Park, has been completed.
- **Mamre Road:** Mamre Road is an arterial road servicing traffic between the Great Western Highway and M4 to the north and Elizabeth Drive to the south. In the vicinity of the Site, Mamre Road generally provides 2 lanes for two-way traffic, with additional through movement and turning infrastructure at key intersections to the north through the Erskine Park and Mamre West industrial precincts, and at Elizabeth Drive to the south. Mamre Road has a posted speed limit of 80km/h in the vicinity of the Site. TfNSW has confirmed road upgrades will be undertaken for Mamre Road between Elizabeth Drive and Luddenham Road.

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, as shown in **Figure 2** with specific reference to the current TfNSW Restricted Access Vehicle (RAC) routes, which allow for up to 25m/26m B-Double combinations.

Figure 2: 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, for the purposes of the Draft CTMP, staging and duration of works has been based on similar developments in the area. Based on this, it is anticipated that construction works for the preliminary stages would commence in 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 set 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 will 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 Mamre Road via Abbotts Road and not Bakers Lane, to avoid conflict with the School peak periods. The existing Site access, to the east of Abbotts Road, would be utilised for vehicle access during construction.

It is anticipated that the largest vehicle accessing the Site would be a 19.6m Truck & Dog combination, which the temporary access driveway will be designed for.

The following **Figure 3** shows the indicative Site access location and **Figure 4** details the likely key access strategy into the routes between the Site and the regional road network.

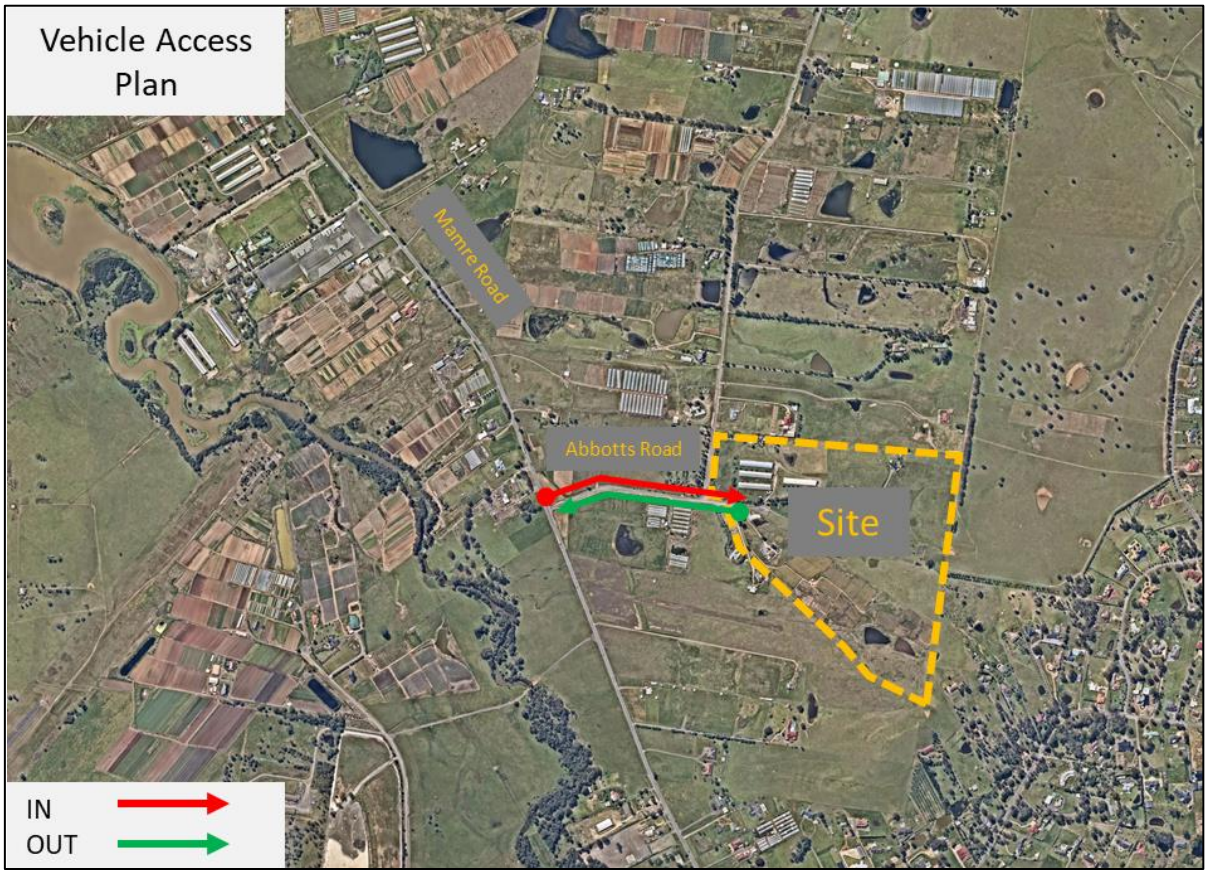


Figure 3: Indicative Vehicle Access Plan

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 amenities or footpaths along Abbotts Road adjacent to the Site. However, the grassed verge on both sides of the road remains usable for any pedestrian that may wish to walk along Abbotts Road.

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 temporary 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 Abbotts Road.

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

- Arrival Trips:
  - Route 1: From M4 Western Motorway, southbound along Mamre Road and left into Abbotts Road.
  - Route 2: From Westlink M7, westbound on Old Wallgrove Road, Lenore Drive and Erskine Park Road, then south along Mamre Road and left into Abbotts Road.
- Departure Trips:
  - Route 1: From the Site, onto Abbotts Road then south on Mamre Road to Elizabeth Drive and left to the M7 Motorway and sub-regional routes to the east.
  - Route 2: From the Site, onto Abbotts Road then south on Mamre Road to Elizabeth Drive and right to Badgerys Creek and The Northern Road to the west.

These routes are shown in **Figure 4**.

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 Roads and Maritime Services 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.

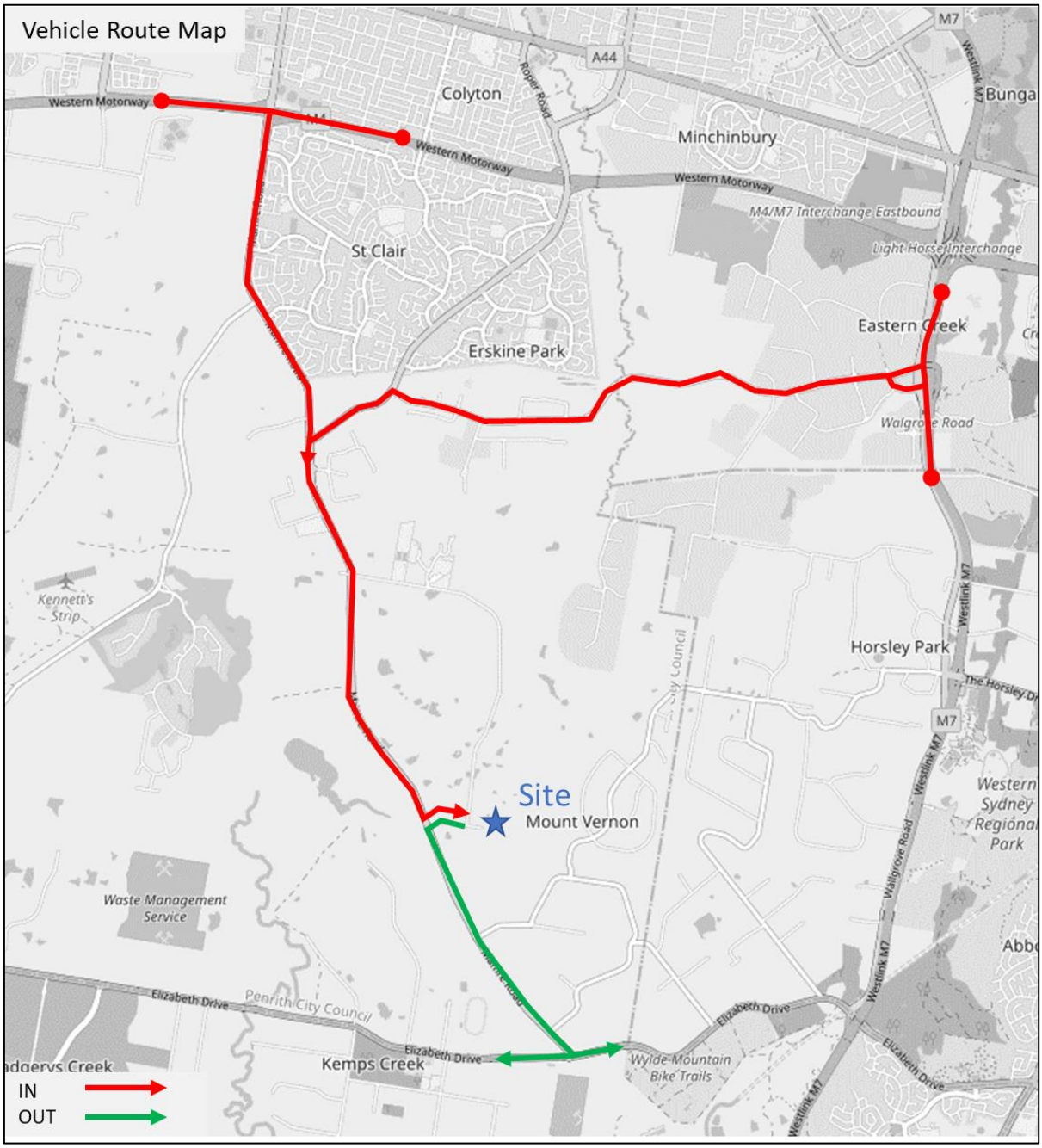


Figure 4: Construction Vehicle Routes

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 temporary 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. Abbotts Road) then prior approval shall be sought and obtained from the appropriate authorities.

3.7 Additional Site Management

Although it is not expected, in the event that any Site construction traffic management outside of that described in this 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

The potential exists for future road occupancy requirements to facilitate the construction of the temporary driveway, and then any further upgrades to the intersection of Aldington Road. Road occupancy permits will necessarily be procured prior to starting intersection construction works, while a detailed intersection-specific CTMP would be prepared in consultation with Council and Roads & Maritime to ensure traffic along Aldington Road would continue to operate adequately during any such occupancy period.

3.9 CTMP – Monitoring & Review Process

This CTMP has been prepared referencing the existing Site conditions. Consultation with Council, Roads and Maritime and neighbouring developments will continue to be undertaken to ensure that the cumulative traffic impacts of construction within the area do not adversely impact the operations of the neighbouring developments or the local road network.

4 Assessment of Traffic & Transport Impacts

4.1 Construction Vehicle Traffic Generation

Table 1 provides a breakdown of potential vehicle movements throughout the proposed works (to be confirmed by Contractor once appointed, based on similar projects in area):

Table 1: Movement Overview

Stage	Demolition	Excavation	General Construction
Worker Numbers (Maximum on-site at any one time)	50 - 100	50 – 200	50 – 400
Truck Frequency (Maximum movements per day)	100 (50 in / 50 out)	600 (300 in / 300 out)	600 (300 in / 300 out)
Peak Hour Heavy Vehicle Movements	50 (25 in / 25 out)	120 (60 in / 60 out)	120 (60 in / 60 out)
Largest Vehicle Size	Truck & Dog	Truck & Dog	Truck & Dog

4.1.1 Light Vehicle Movements

It is anticipated that a peak construction workforce of up to 400 workers on-site at any one time (based on the specific constructions tasks being undertaken). Light vehicle traffic generation would generally be associated with construction staff movements to and from the Site, including Project Managers, trade and general employees.

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, these movements would occur outside of the existing (commuter) peak periods in the local network.

4.1.2 Heavy Vehicle Movements

As indicated in **Table 1**, the construction works are estimated to generate a peak demand for up to 600 truck movements per day (300 vehicles arriving / 300 vehicles departing). To provide a conservative assessment of intersection operations, a peak hour truck generation of up to 120 movements (60 vehicles arriving / 60 vehicles departing) has been assigned; on average, it is expected there would be approximately 60 truck movements per hour (30 vehicles arriving / 30 vehicles departing).

4.2 Vehicle Management – 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 Aldington Road. The responsibility of the driver to ensure that the Shaker Grid is driven over would be included as part of the Driver Code of conduct; this requirement, and indeed all driver requirements, will be detailed during an induction process for all drivers prior to commencing work at the Site, and will be further detailed in the Driver Code of Conduct, a copy of which included in **Appendix A**.

4.3 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 control plans (TCPs) 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.

With regard to the proposed temporary access road, a site-specific version of TCP 195 (as shown in **Appendix B**) would be implemented for the duration of the works.

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 and 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 Stage 1 works.
- The identification of any shortfalls in the CTMP, and the development of revised strategies / action plans to address such issues.
- Ensuring that all TCPs 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.

7 Summary

This CTMP has been prepared to ensure appropriate traffic management is undertaken during the proposed industrial development.

Ultimately, this CTMP report has been prepared with regard to the management principles outlined in the RMS Traffic Control at Worksites Manual (2018) and AS1742.3, and per the detailed strategies outlined in the CTMP is recommended for adoption at the Site.

In summary though – and further to a determination that the proposal's construction traffic will not impact the local road network - the following measures are recommended to minimise the potential traffic impacts associated with the proposal:

- Traffic control would be required to manage and regulate construction vehicle traffic movements to and from the Site during construction.
- All vehicles transporting loose materials will have the load covered and/or secured to prevent any items depositing onto the roadway during travel to and from the Site.
- All vehicles are to enter and depart the Site in a forward direction, with reverse movements to occur only within the Site boundary.
- All contractor parking is to be contained wholly within the Site, and.
- Pedestrian and cyclist traffic along the Site frontage will be managed appropriately at all times.

In summary, the CTMP report is proposed in accordance with the RMS TCAW.

Appendix A

Driver Code of Conduct

- Driver Code of Conduct -

Drivers Code of Conduct

Safe Driving Policy for the ESR Westlink, Abbotts Road.

Objectives of the Drivers Code of conduct

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

Code of Conduct

All vehicle operators accessing the site must:

- Take reasonable care for his or her own personal health and safety.
- Not adversely, by way of actions or otherwise, impact on the health and safety of other persons.
- Notify their employer if they are not fit for duty prior to commencing their shift.
- Obey all applicable road rules and laws at all times.
- In the event an emergency vehicle behind your vehicle, pull over and allow the emergency vehicle to pass immediately.
- Obey the applicable driving hours in accordance with legislation and take all reasonable steps to manage their fatigue and not drive with high levels of drowsiness.
- Obey all on-site signposted speed limits and comply with directions of traffic control supervisors in relation to movements in and around temporary or fixed work areas.
- Ensure all loads are safely restrained, as necessary.
- Drive over cattle grids – located at the Site's access – to vibrate off any loose material attached to construction vehicles.
- Operate their vehicles in a safe and professional manner, with consideration for all other road users.
- Hold a current Australian State or Territory issued driver's licence.
- Notify their employer or operator immediately should the status or conditions of their driver's license change in any way.

- Comply with other applicable workplace policies, including a zero tolerance of driving while under the influence of alcohol and/or illicit drugs.
- Not use mobile phones when driving a vehicle or operating equipment. If the use of a mobile device is required, the driver shall pull over in a safe and legal location prior to the use of any mobile device.
- Advise management of any situations in which you know, or think may, present a threat to workplace health and safety.
- Drive according to prevailing conditions (such as during inclement weather) and reduce speed, if necessary.
- Have necessary identification documentation at hand and ready to present to security staff on entry and departure from the site, as necessary, to avoid unnecessary delays to other vehicles.

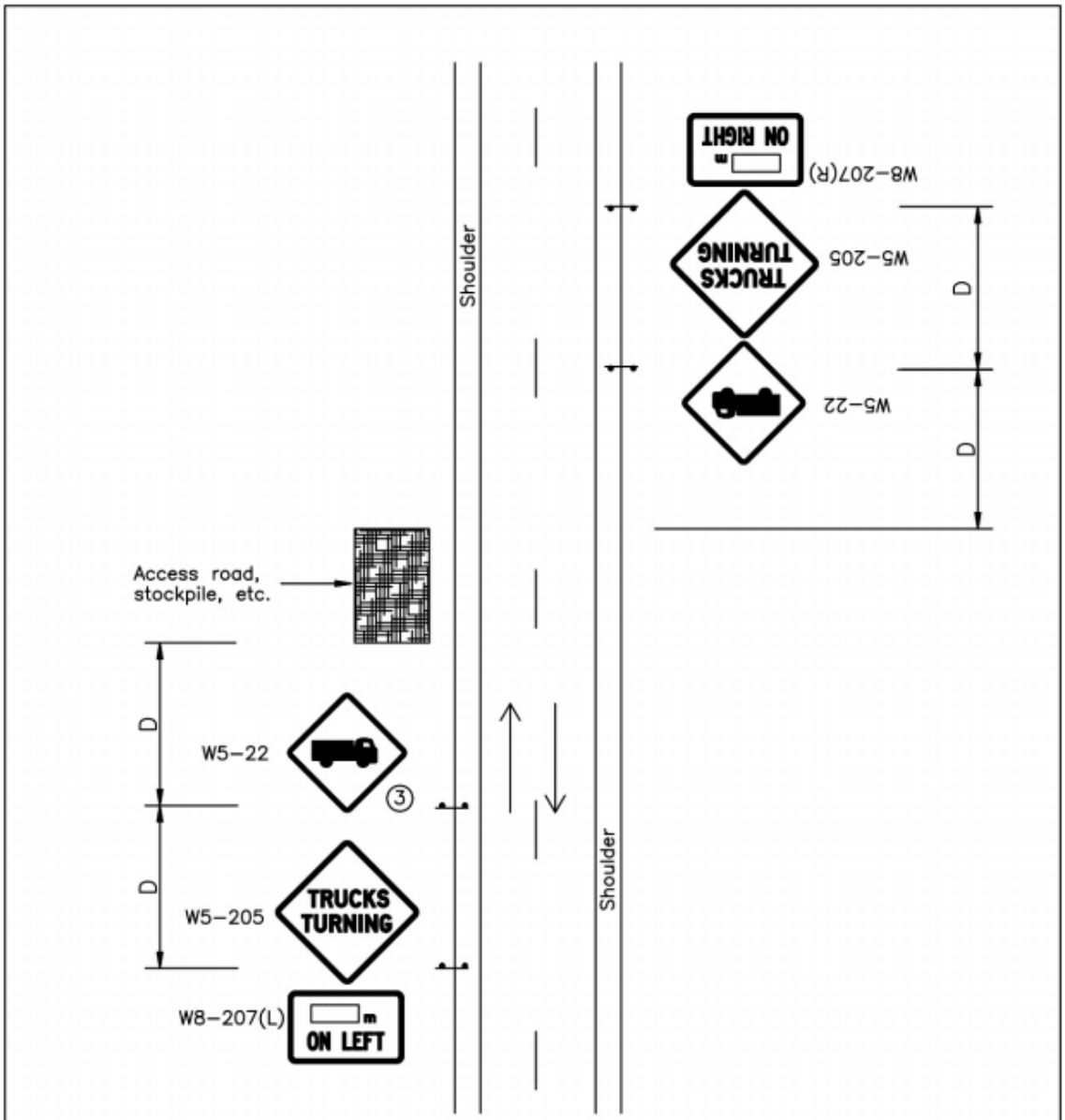
Crash or incident Procedure

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

Appendix B

Traffic Control Plan(s)

TCP 195



NOTE:

① For use where roadside is generally undeveloped, ADT is more than 1,500 vehicles per day, sight distance is restricted and there are more than 20 truck movements per shift.

② See ***Traffic control at work sites,*** Section 7.7, ***Signs for depots, stockpiles, quarries, gravel pits etc.***

③ For short term works use T2–25.

ACCESS TO DEPOT, STOCKPILE, QUARRY, GRAVEL PIT ETC.
ALL ROADS
LONG TERM USE

T000195