Transport Assessment

Development Application

Lot 3C, 5A & 5B – Oakdale West Industrial Estate
2/11/2022
Ref: 1959r01v03

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

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Project	Lot 3C, 5A & 5B, Oakdale West Industrial Estate
Client	Goodman Property Services (Aust) Pty Ltd
File Reference	P1959r01v03 DA TA_Lot 3C, 5A & 5B, Oakdale West Industrial Estate

Revision History

Revision No.	Date	Details	Author	Approved by
-	17/03/2022	Draft	J. Wong / O. Hashmi	A. Rasouli
1	13/04/2022	Issue I	E. Ye	E. Ye
2	20/10/2022	Issue II	J. Wong	A. Rasouli
3	02/11/2022	Issue III	J. Wong	A. Rasouli

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Glossary

Acronym	Description
CC	Construction Certificate
Council	Penrith City Council
DA	Development Application
DCP	Development Control Plan
DoS	Degree of Saturation
DPE	Department of Planning and Environment
GFA	Gross Floor Area
HRV	Heavy Rigid Vehicle (as defined by AS2890.2:2018)
LEP	Local Environmental Plan
LGA	Local Government Area
LoS	Level of Service
MOD	Section 4.55 Modification (also referred as a S4.55)
MRV	Medium Rigid Vehicle (as defined by AS2890.2:2018)
RMS Guide	Transport for NSW (formerly Roads and Traffic Authority), Guide to Traffic Generating Developments, 2002
S4.55	Section 4.55 Modification (also referenced as MOD)
TDT 2013/04a	TfNSW Technical Direction, Guide to Traffic Generating Developments – Updated traffic surveys, August 2013
TfNSW	Transport for New South Wales
TA	Transport Assessment
veh/hr	Vehicle movements per hour (1 vehicle in & out = 2 movements)

1 Introduction

1.1 Summary

The proposed development seeks approval for construction, operation, use and fit-out of Lot 3C and Lot 5A & 5B at Goodman's Oakdale West Industrial Estate (OWE).

Both developments are compliant under the concept plan approval and the Urban design report.

A revised concept plan approval has been approved with the Department of Planning and Environment (DPE) since 17 August 2022, known as Modification 10 (MOD 10) which includes the revised building layout design to accommodate the below changes.

Key details of the developments are outlined as follows.

- **Lot 3C**
  - Building 3C1
    - Warehouse spanning 4,270m^2;
    - Two level office spanning 400m^2;
    - 4x on grade doors with 20m awning;
    - 2x recessed docks with 3m awning;
    - 36m hardstand for truck manoeuvring; and
    - Separate car and truck entry / exit.
  - Building 3C2
    - Warehouse spanning 15,000m^2;
    - Two level office 1,000m^2;
    - 7x on grade doors with 20m awning;
    - 4x recessed docks with 3m awning;
    - 40m hardstand for truck manoeuvring; and
    - Separate car and truck entry / exit.

The development includes a total of 19,270m^2 of warehouse space and 1,400m^2 of office space, totalling 20,670m^2. To facilitate the above development, minor modifications are required to the eastern retaining wall on the Site.

- **Lot 5A & 5B**
  - Building 5A
    - Warehouse spanning 25,915m^2;
    - Two level office spanning 614m^2;
    - 2x dock offices (200m^2);
    - 2x gate houses (40m^2);
    - 16x on grade docks with 20m awning;
    - 16x recessed docks with 3m awning;
    - 38m hardstand for truck manoeuvring; and
    - Separate car and truck entry / exit.
  - Building 5B
    - Warehouse spanning 4,661m^2;

- Two level office spanning 400m^2;
- 3x on grade doors with 20m awning;
- 2x recessed docks with 3m awning;
- 58m hardstand for truck manoeuvring; and
- Separate car and truck entry / exit.

As part of the development, retaining walls will need to be installed around Building 5B and to the north east and north west corner of Building 5A.

1.2 Overview

Ason Group has been engaged by Goodman Property Services (Aust) Pty Ltd to prepare a Transport Assessment (TA) relating to the proposed warehouse development known as Buildings 3C1 & 3C2 within Precinct 3 and Buildings 5A & 5B within Precinct 5. Both precincts form part of the wider Oakdale West Industrial Estate (OWE).

Located within the Penrith City Council LGA, the Site is subject to that Council's controls as well as the site-specific controls implemented for the wider Estate as included under the state significant development approval for the Concept Plan accompanying the original application (SSD-7348).

This TA provides an assessment of the relevant traffic, transport, and parking implications of the Proposal.

1.3 Key References

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

- Penrith City Council Development Control Plan (DCP 2014);
- Penrith City Council Local Environmental Plan (LEP 2010); and
- State Significant Development – Oakdale West Estate (SSD 7348).

This TA also references general access, traffic and parking guidelines, including:

- Roads and Maritime Services, *Guide to Traffic Generating Developments* (RMS Guide 2002);
- 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); and
- Australian Standard 2890.6:2009 – Parking Facilities – Off Street Parking for People with Disabilities.

In addition to the above references, this TA intends to build upon the wider Oakdale West Industrial Estate, with reference to the previously **APPROVED** Modification 7 traffic report with other similar traffic reports for DAs in OWE including:

- Ason Group, Transport Statement – Oakdale West Industrial Estate – SSD 7348 Modification 7, dated 31 May 2021 (MOD 7 Report);
- Ason Group, Transport Assessment – Oakdale West Industrial Estate – Development Application – Lot 3A, dated 6 November 2020 (Lot 3A Report); and
- Ason Group, Transport Assessment – Oakdale West Industrial Estate – Development Application – Lot 3B, dated 18 June 2021 (Lot 3B Report).
- Ason Group, Transport Assessment – Oakdale West Industrial Estate – Development Application – Lot 3C & 5, dated 13 April 2022 (P1959r01v01)

1.4 Stakeholder Engagement

1.4.1 Council Comments

Since the submission of our original traffic report (P1959r01v01), Council has issued preliminary comments and were provided to Ason Group via email dated 26 September 2022. The comments are in relation to Lot 5A & 5B of OWE Modification 10 (MOD 10).

The comments predominantly relate to the internal vehicle manoeuvrability and pedestrian safety associated with the Lot 5A & 5B plan contained in P1959r01v01.

As such, Ason Group's responses to these Council's comments are addressed in the **Table 1** with reference to the latest Lot 5A & 5B plan (revision N) prepared by SBA Architects.

TABLE 1 RESPONSE TO PRELIMINARY COMMENTS

Item	Authority's Comments	Ason Group's Response
Internal Vehicle Manoeuvrability and Pedestrian Safety		
1	Heavy vehicle manoeuvring including reversing movements are proposed across the pedestrian crossing and within car parking aisles. This is particularly evident for the on-grade loading dock east of the main office on the southern side of Warehouse 5A, and the on-grade loading dock east of the gatehouse on the northern side of Warehouse 5A. This present significant safety concerns and cannot be supported. Additional swept paths shall therefore be provided ensuring pedestrian safety, car parking and the proposed boom gate / traffic light signals are not compromised, noting additional safety measures (e.g bollards etc) may be required. Please note, pedestrian movements and visitor / staff parking must be segregated from heavy vehicles as per AS2890.2.	The Site plan has been updated to have Building 5A's carpark adjacent to its office/warehouse components. This modification separates pedestrian and heavy vehicle movements, hence, increases safety. As a result, a boom gate with traffic signals for pedestrians is not required. Swept paths included within **Appendix B** demonstrate that all heavy movements will only be contained within the hardstand area while pedestrian movements will be segregated from heavy vehicles. Accordingly, the revised site plan has addressed this comment.
Additional Matters		
2	The proposed GFA in Table 5 of the Statement of Environmental Effects and Table 2 of the Traffic Assessment report differ. Clarification is requested in this regard, noting amended reports may be required to address the discrepancy.	This report has been updated to reflect the GFAs of the latest plan (revision N) by SBA Architects.
3	A dimension plan of the proposed parking areas shall be provided to demonstrate compliance with the requirements of AS2890.	A design review based on the updated scheme has been completed and is included within **Appendix B**. This includes a review of the light vehicle parking spaces, as required by AS2890.1:2004 series.

As such, the proposed and updated Buildings 5A and 5B site plans sufficiently address Council comments outlined in this section.

2 Overview of Proposal

2.1 Summary

A detailed description of the proposal is included in the Statement of Environmental Effects that this assessment accompanies. The proposed development comprises the construction of Buildings 3C1 & 3C2 within Precinct 3 and Buildings 5A & 5B within Precinct 5 of the Oakdale West Estate. The Proposal also includes fit out and use as a warehouse and distribution centre for four (4) tenancies. The Proposal includes ancillary office space, car parking, truck parking, loading bays, landscaping, solar panels and signage for each tenancy. The proposed development will facilitate warehouse and distribution uses consistent with the IN1 General Industrial zone under the State Environmental Planning Policy (Western Sydney Employment Area) 2009. In summary, the Proposal consists of the following characteristics (as shown in **Table 2** and **Table 3**):

TABLE 2 PROPOSAL YIELD FOR LOT 3C

Component	Building 3C1	Building 3C2	Total
Warehouse GFA (m^2)	4,270	15,000	19,270
Office GFA (m^2)	400	1000	1,400
Total GFA (m^2)	4,670	16,000	20,670
Loading Dock Provision	6[1]	11[2]	17
Car Parking Provision (Spaces)	48	52	100[3]

Note: 1) This provision includes 2 recessed docks and 4 Roller Shutter Doors (RSDs).
2) This provision includes 4 recessed docks and 7 RSDs.
3) This provision includes 2 accessible spaces and 6 Electric Vehicle Charging stations.

TABLE 3 PROPOSAL YIELD FOR LOT 5A & 5B

Component	Building 5A	Building 5B	Total
Warehouse GFA (m^2)	25,955	4,661	30,616
Office GFA (m^2)	814	400	1,214
Total GFA (m^2)	26,769	5,061	31,830
Loading Dock Provision	32[1]	5[2]	37
Car Parking Provision (Spaces)	107[3]	27[4]	134

Note: 1) This provision includes 16 recessed docks and 16 RSDs.
2) This provision includes 2 recessed docks and 3 RSDs.
3) This provision includes 3 accessible spaces and 6 Electric Vehicle Charging stations.
4) This provision includes 1 accessible space and 2 Electric Vehicle Charging stations.

Detailed architectural plans have been prepared by SBA Architects and accompany the submission. For reference, the proposed Site plans for Lot 3C and Lot 5A & 5B are provided in **Figure 1** and **Figure 2**at a reduced scale.

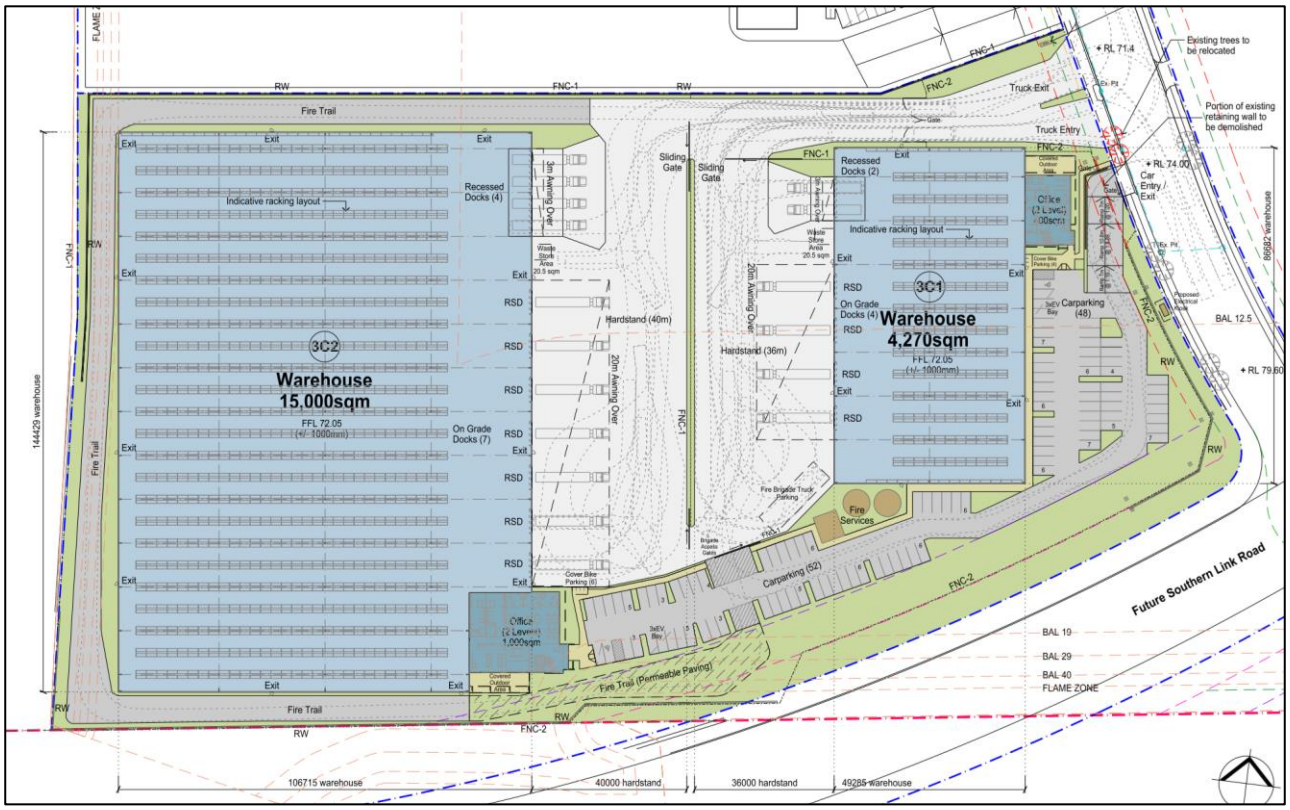


Figure 1: Reduced Lot 3C Site Plan

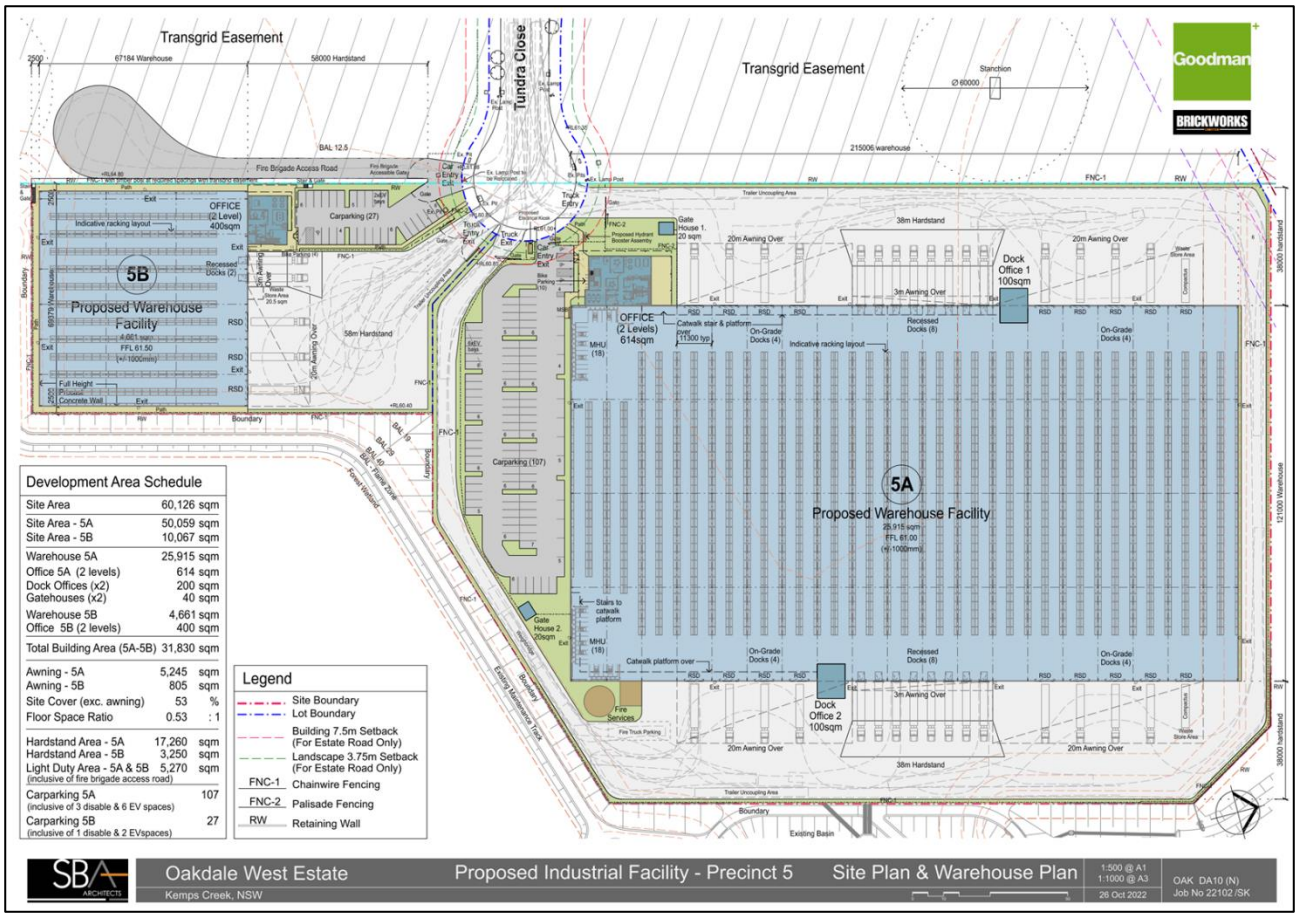


Figure 2: Reduced Lot 5A & 5B Site Plan

2.2 Vehicular Access Strategies

The proposed vehicular access to Buildings 3C1 and 3C2 will be shared. Both Buildings have a separate car entry / exit point, truck entry point and truck exit point on Emporium Avenue (previously referred to as Estate Road 01 / 03). **Figure 3** demonstrates the proposed vehicular access strategy for the Proposal.

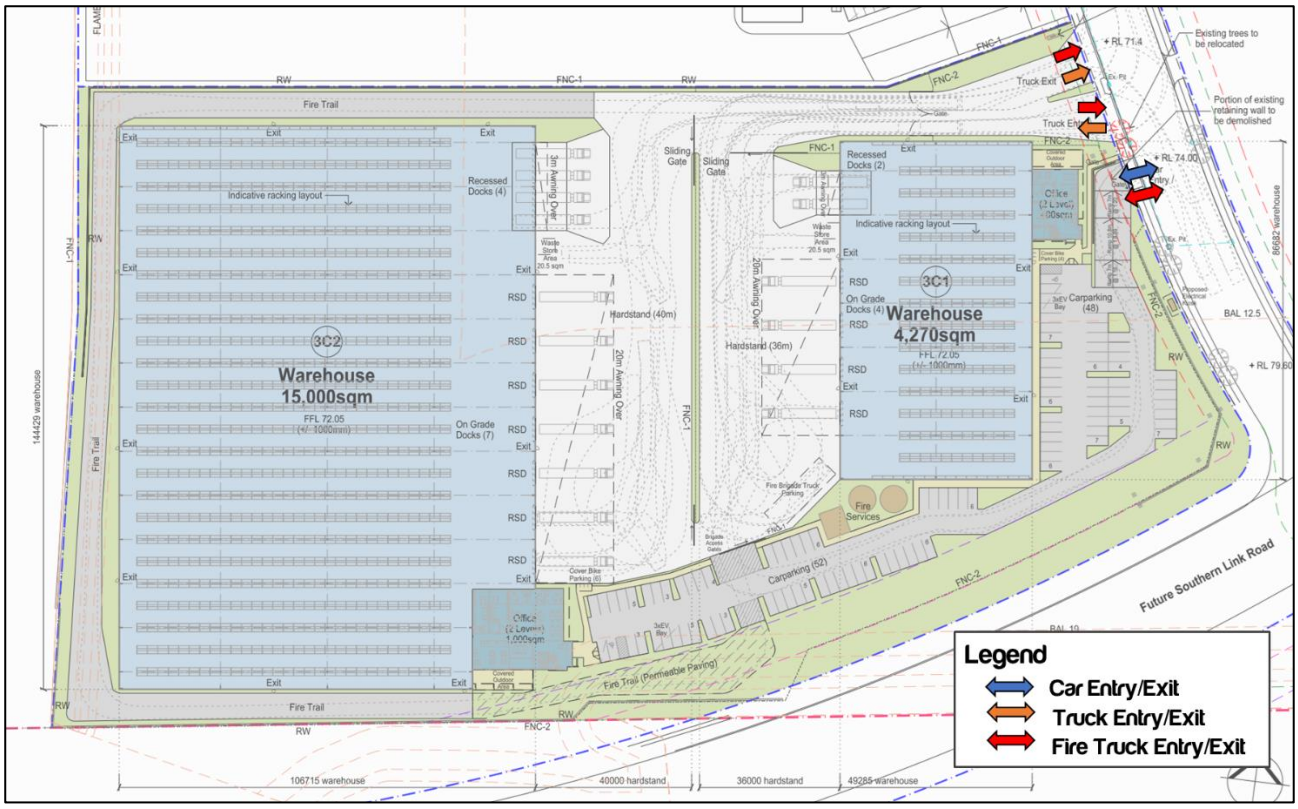


Figure 3: Proposed Vehicular Access Strategy – Lot 3C

The proposed vehicular access to Buildings 5A and 5B will be separate. Both Buildings have separate car and truck entry / exit points on the cul-de-sac of Tundra Close. **Figure 4** demonstrates the proposed vehicular access strategy for the Proposal.

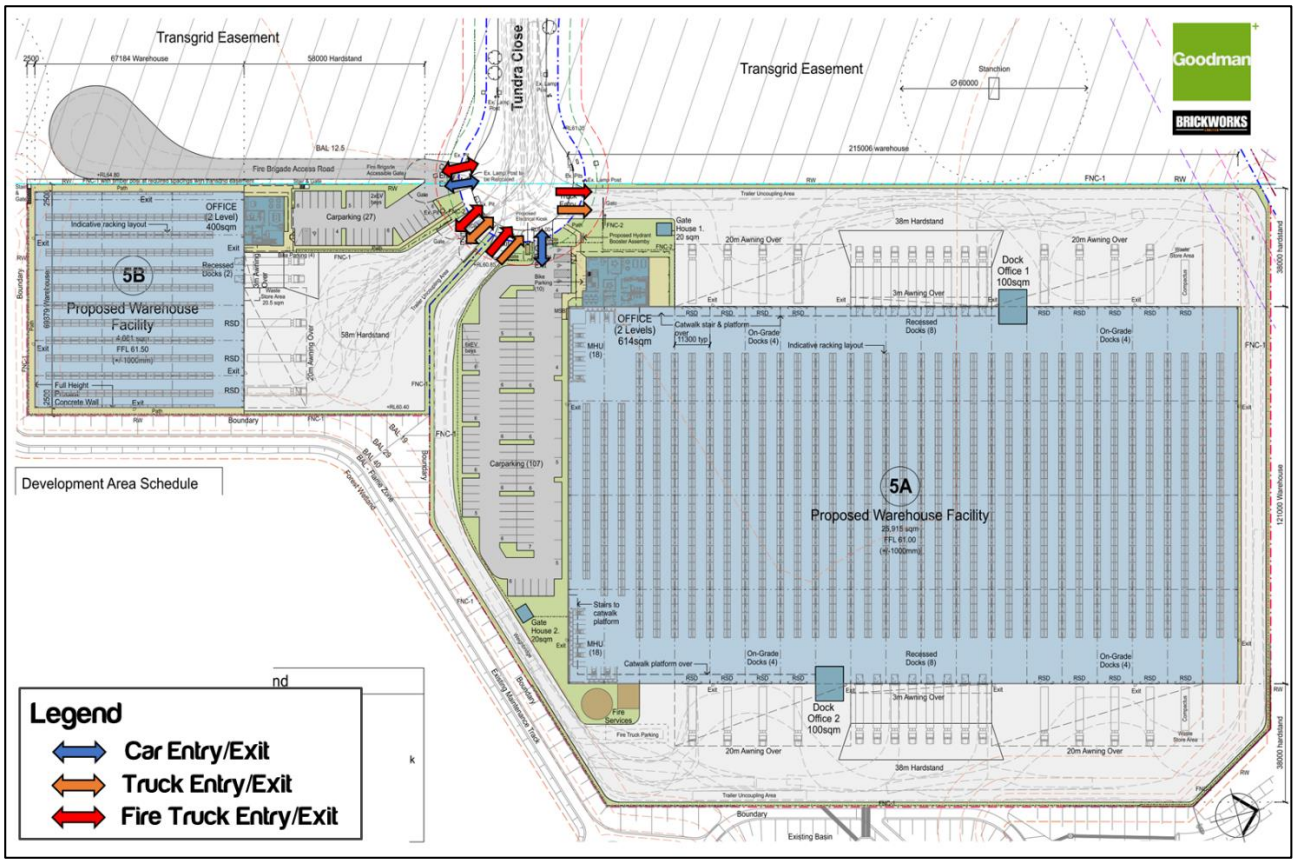


Figure 4: Proposed Vehicular Access Strategy – Lot 5A & 5B

2.3 Planning Context – Oakdale West Industrial Estate

2.3.1 Concept Plan Approval

The original SSD approval for the Oakdale West Industrial Estate (SSD 7348) was granted on 13 September 2019 and envisaged a total GFA of approximately 475,269m^2 across the entire Estate spanning 5 precincts. Since that approval, the Estate has gone through several modifications, some of which are discussed further below to provide more context to this TA.

2.3.2 Approved Modification 3

MOD 3 to the SSD 7348 (approved on 3 April 2020) involved major changes to the built form of Precincts numbers 2 to 5 within the approved concept plan at OWE, with some moderate changes to the GFAs of Precinct numbers 4 and 5. Ason Group has previously undertaken detailed traffic assessment and SIDRA modelling for MOD 3. The following tables provides a comparison between the approved GFA from the concept approval to the approved MOD 3.

TABLE 4 APPROVED MOD 7 YIELD	
Original Application SSD-7348 Approved GFA	**Approved MOD 3 Total GFA**
475,269m^2	595,765m^2

2.3.3 Approved MOD 7

MOD 7 for OWE was formally lodged in July 2021 and subsequently approved in October 2021. The modification primarily related to changes in the configurations and built form of Precincts 3 and 4. **Table 5** broadly refers the uplift in GFA for MOD 7 against the approved Concept Plan.

TABLE 5 APPROVED MOD 7 YIELD	
Original Application SSD-7348 Approved GFA	**Approved MOD 7 Total GFA**
475,269m^2	599,455m^2

It should be considered that the construction of the proposed Buildings 3C1 & 3C2 and Buildings 5A & 5B – subject of this TA – does not deviate or seek substantial change to the configuration and built form of Precincts 3 and 5 (as approved) as part of MOD 7 and that the DA application should be considered separately from previous applications. The latest traffic assessment (prepared by Ason Group) was completed for the approved MOD 7.

2.3.4 Approved MOD 9

MOD 9 for OWE was formally lodged in November 2021 and subsequently approved in December 2021. The modification primarily related to amendments to the layout of Buildings 2A, 2C and 2D and increased height of Building 2C. **Table 6** outlines the total GFA changes for MOD 9 against the approved Concept Plan.

TABLE 6 APPROVED MOD 9 YIELD	
Original Application SSD-7348 Approved GFA	**Approved MOD 9 Total GFA**
475,269m^2	599,455m^2

Note that the total GFA is identical between MOD 7 and MOD 9. There are, however, differences in the GFA distribution between the two MODs across each Precinct. As it relates specifically to this application for Buildings 3C1, 3C2, 5A and 5B, the comparison is shown in **Table 7**.

TABLE 7 MOD 7 AND MOD 9 COMPARISON FOR PRECINCTS 3 AND 5

Precinct	MOD 7 GFA	MOD 9 GFA	Difference
3	56,704m^2	54,460m^2	-2,244m^2
5	35,640m^2	35,640m^2	0m^2

2.3.5 Approved MOD 10

MOD 10 is the latest modification for OWE which seeks to update Precinct 1 signage plans, including façade signage, and was approved on 17 August 2022. It is noted that this modification is not necessarily traffic / transport related, hence, does not really impact this DA.

2.3.6 MOD 11

It is noted that MOD 11 has been lodged for review with DPE for the updated Lot 3C and Lot 5A & 5B design.

3 Existing Conditions

3.1 Local Context

OWE is located within the Penrith City Council (Council) Local Government Area (LGA) and forms part of the broader Oakdale Industrial Estate (the Oakdale Estate), which is approximately 421 hectares of industrial zoned land within the Western Sydney Employment Area (WSEA). The OWE itself provides approximately 154 hectares of industrial zoned land with a developable area of approximately 89 hectares.

The OWE is bordered by the Water NSW Pipeline to the north; Oakdale East Estate (OEE) and Oakdale South Estate (OSE) to the east and south-east respectively; and rural land to the south and west (Kemps Creek), though it is noted that these areas are expected to be rezoned for future industrial use further to the finalisation of a Structure Plan for the Broader Western Sydney Employment Area (BWSEA).

The OWE is shown in its local context in **Figure 5** while the Oakdale Estate is shown in its sub-regional context (within the BWSEA) in **Figure 6**.

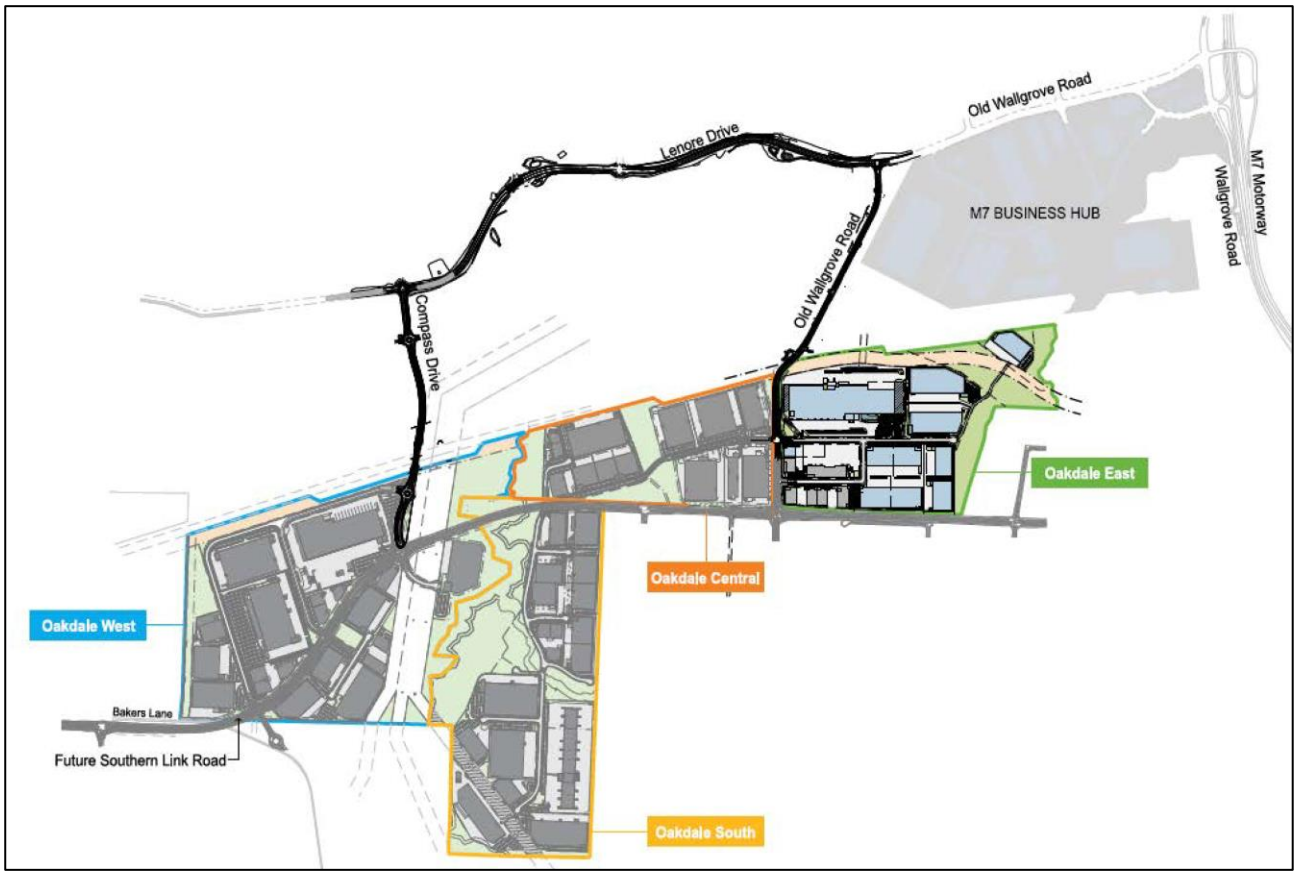


Figure 5: Oakdale West Estate Local Context (Source: SBA Architects)

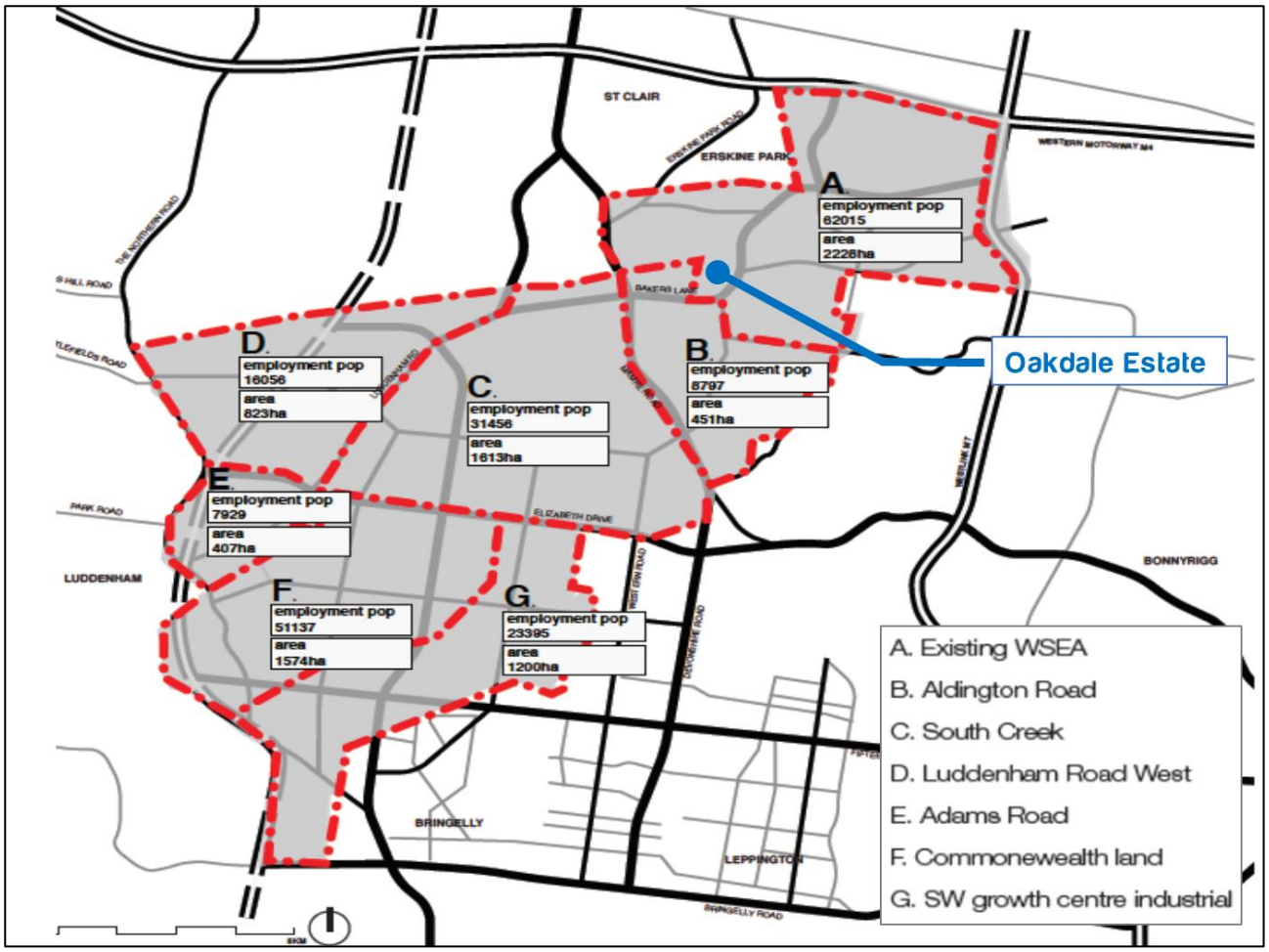


Figure 6: BWSEA Precinct Plan (Source: GHD (June 2013))

3.2 Site Location

The location of the Site and the surrounding road network is shown in **Figure 7**.

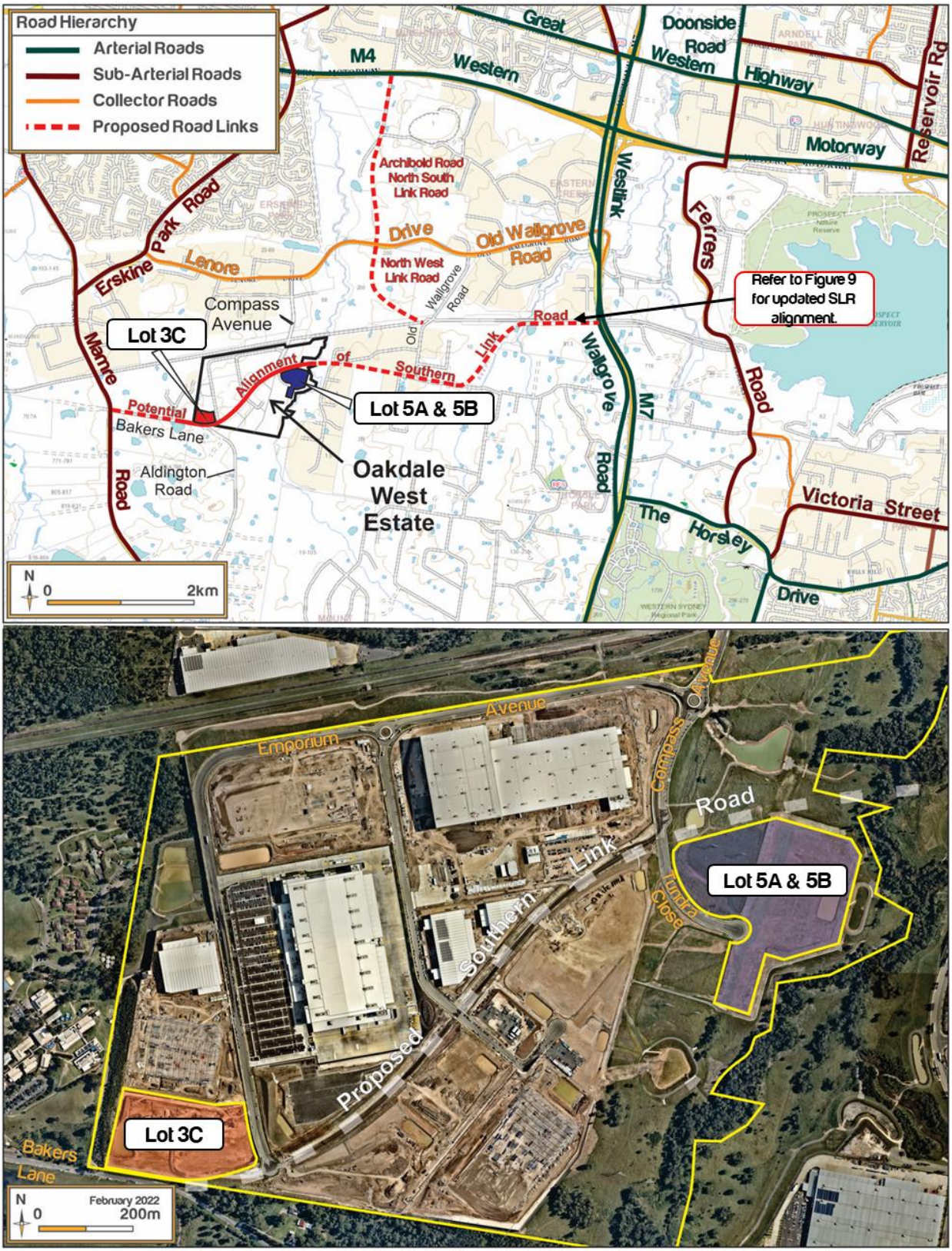


Figure 7: Site Location and Road Hierarchy

3.3 Access Road Network

The existing and proposed road network which will provide access for the OWE is shown in **Figure 8** and detailed further in sections below.

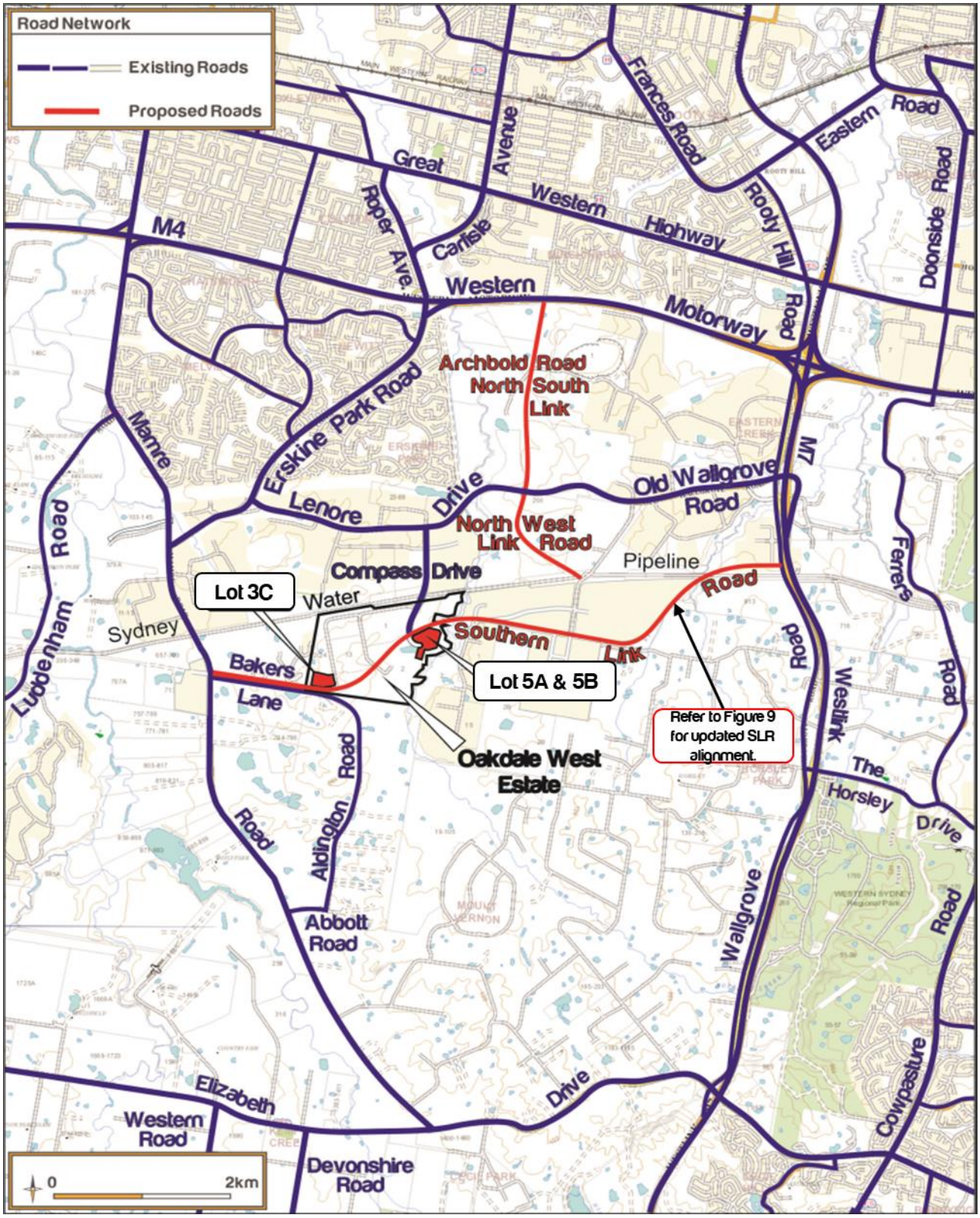


Figure 8: Existing and Future Road Network

3.3.1 Existing Key Roads

The existing key roads providing access for the OWE are summarised in the table below:

TABLE 8 KEY ROAD DESCRIPTIONS

Road Name	Road Classification	Posted Speed Limit (km/h)	On-street Parking Opportunities	Notes
M7 Motorway	Freeway (MR 6004)	100	No on-street parking opportunities on both sides	Provides 2 traffic lanes in each direction separated by a landscaped central median.
Wallgrove Road	State road (MR 515)	80	No on-street parking opportunities on both sides	Provides 2 traffic lanes in each direction. Medians are provided at the respective intersections and from Roussell Road to the Great Western Highway.
Old Wallgrove Road	Local collector road	60	No on-street parking opportunities on both sides	Provides 2 traffic lanes in each direction separated by a landscaped central median.
Lenore Drive	Local collector road	80	No on-street parking opportunities on both sides	Provides 2 traffic lanes in each direction separated by a landscaped central median.
Compass Drive	Local road	60	No on-street parking opportunities on both sides	Provides 2 traffic lanes in each direction separated by a landscaped central median.
Emporium Avenue	Local road	60	On-street parking opportunities on both sides	Provides 1 lane in each direction.
Tundra Close	Local road	50	On-street parking opportunities on both sides	Provides 1 lane in each direction.

3.3.2 Future Key Road

A future key road which has been proposed near the Site is the Southern Link Road (SLR). The SLR network would provide the additional road infrastructure to accommodate travel demand generated by employment areas south of the Sydney Water Pipeline (including the OWE and broader Oakdale Estate). The indicative route for the SLR and future connections was initially identified in SEPP (WSEA) 2009 and has since been refined to the current alignment (as shown in **Figure 9**). It is noted that the SLR network planning and development process is ongoing and is therefore potentially subject to change due to further refinement of the route alignment and access arrangements. Importantly, the development of the OWE is not dependent on the SLR itself.

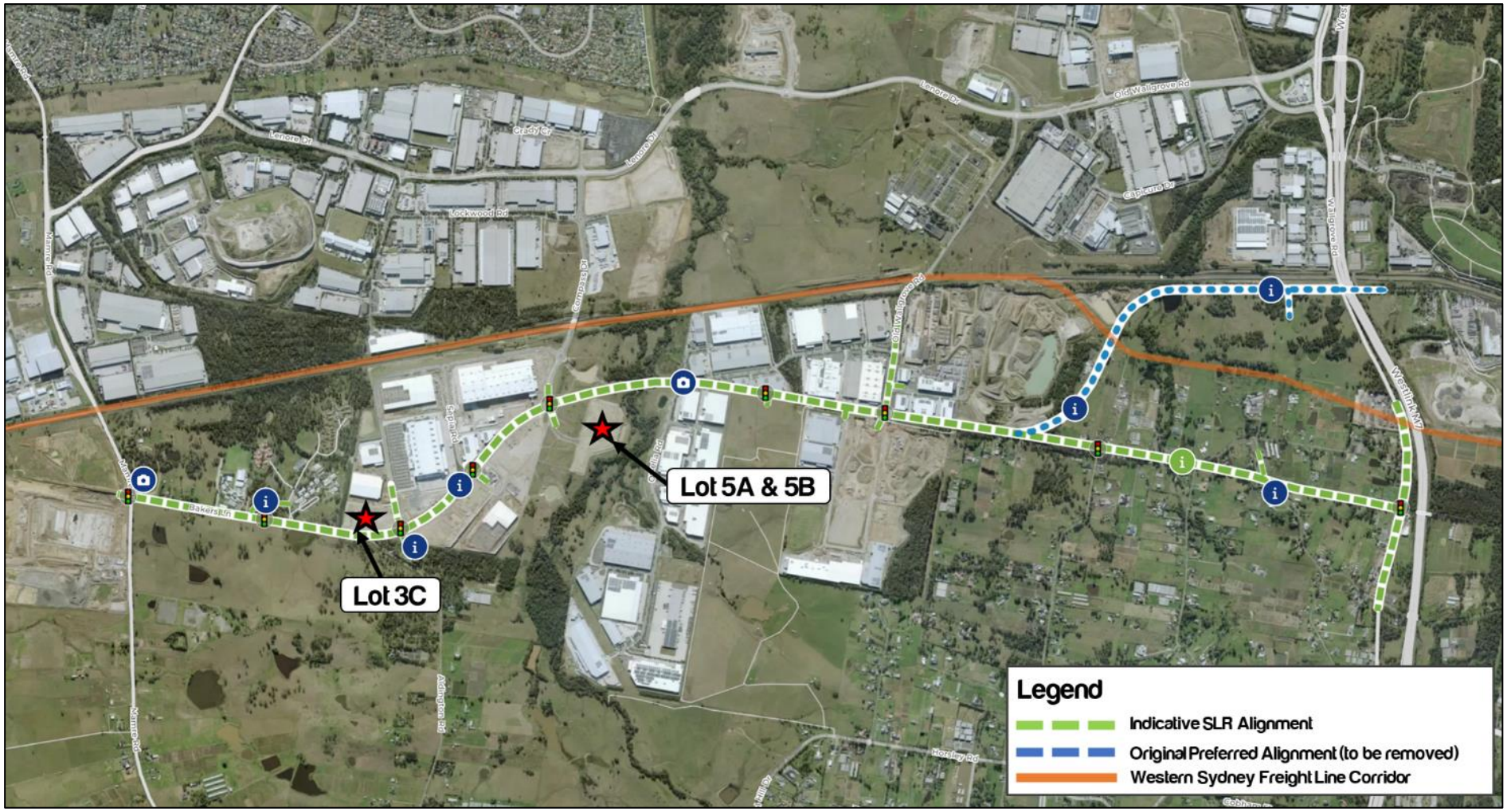


Figure 9: Proposed Southern Link Road Network and Alignment (Source: TfNSW (2022))

3.3.3 Key Intersections

The key intersections providing access for the OWE include:

- **Lenore Drive & Compass Drive & Grady Crescent:** A signalised intersection with Lenore Drive, providing access to the regional road network and a local connection to an extended Grady Crescent to accommodate future industrial development to the north.
- **Compass Drive & Lockwood Road:** A roundabout intersection providing a local connection between Compass Drive and Templar Road, as well as providing a connection for a local road supporting development to the east, comprising the balance of Fitzpatrick lands.
- **Compass Drive & Emporium Avenue:** A roundabout intersection providing primary access to the OWE prior to the completion of the SLR.
- **Compass Drive & SLR:** A potential future signalised intersection completing the north-south connection between Lenore Drive and SLR. This intersection will also provide access to Precinct 5 of the OWE via Tundra Close (Estate Road 08) to the south of the intersection.

The design of the key intersections listed above have been developed to ensure appropriate intersection operations through a forecast year 2036.

The intersections of Lenore Drive & Compass Drive & Grady Crescent, Compass Drive & Lockwood Road and Compass Drive & Emporium Avenue have been recently constructed in accordance with the approved 2026 interim scenario as part of OWE original concept approval and MOD 3 approval, as indicated from **Figure 10** to **Figure 12**. The approved intersection design of the Compass Drive & SLR intersection under 2026 interim scenario is provided in **Figure 13**.

Furthermore, it should be noted that the approved 2036 ultimate scenario includes further upgrades at the intersection of Lenore Drive & Compass Drive & Grady Crescent, as shown in **Figure 14**.

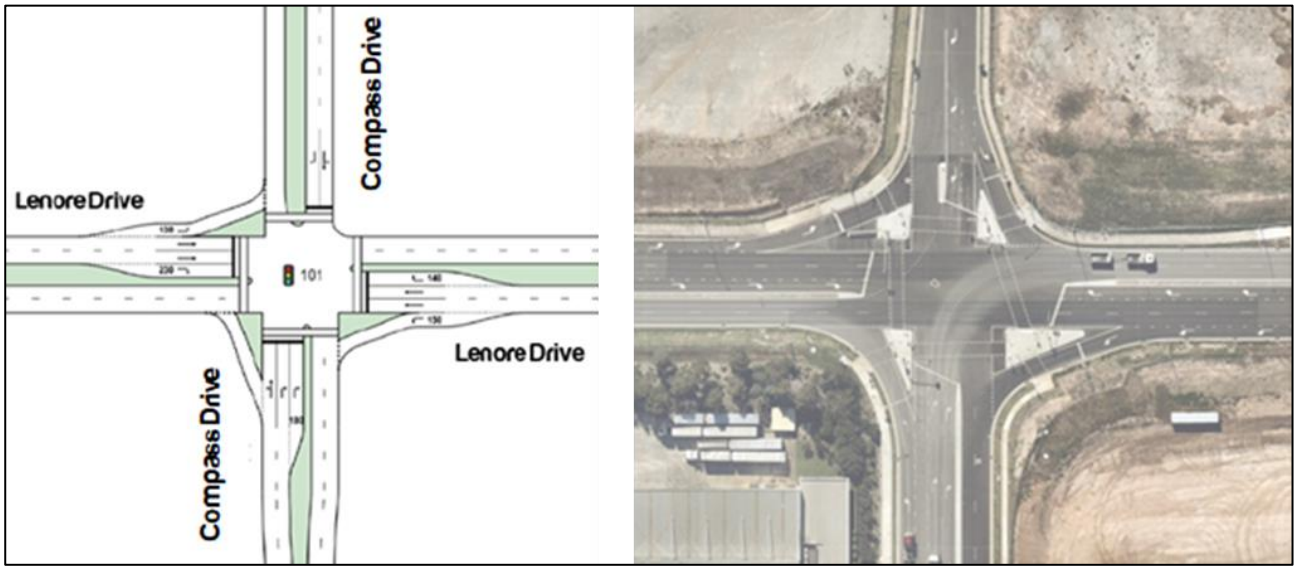


Figure 10: Intersection Layout of Lenore Drive & Compass Drive

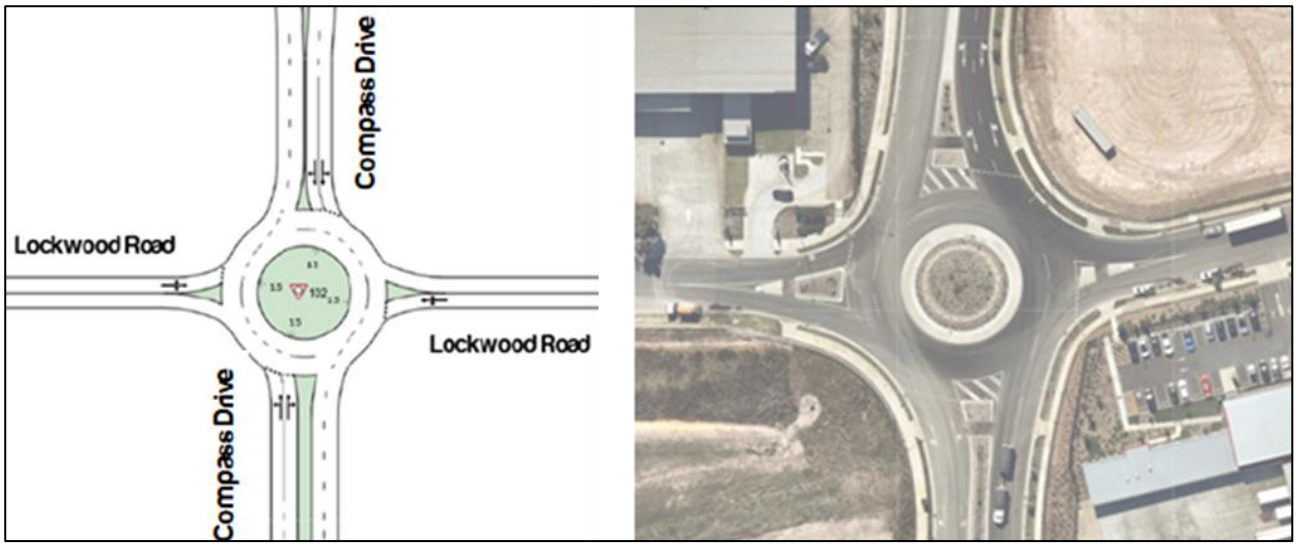


Figure 11: Intersection Layout of Compass Drive & Lockwood Road

Figure 12: Intersection Layout of Compass Drive & Emporium Avenue

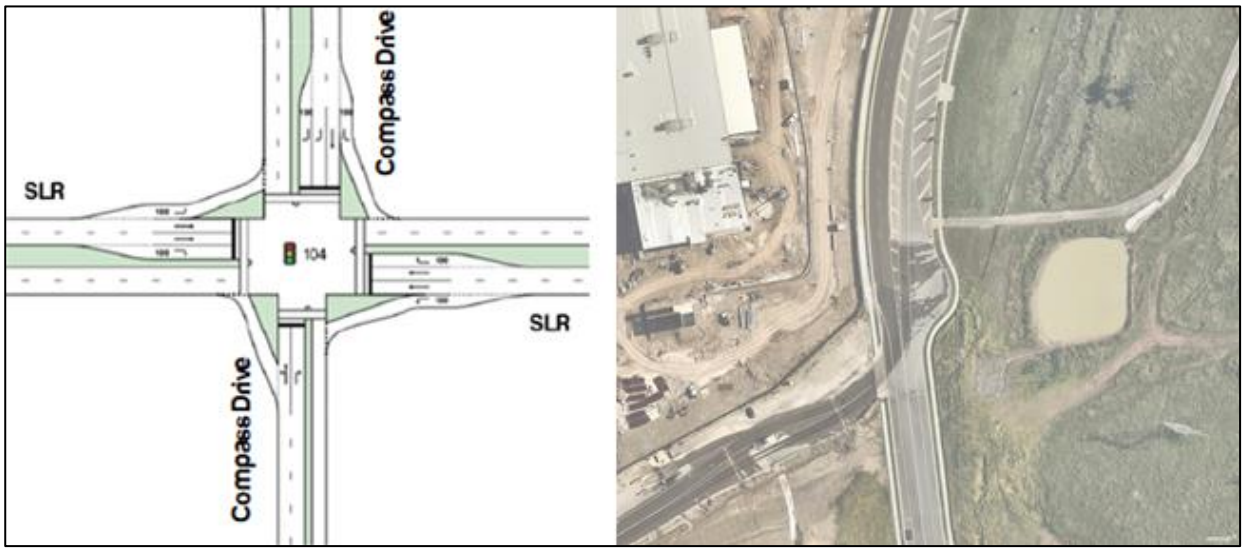


Figure 13: Intersection Layout of Compass Drive & SLR (2026 Interim Scenario – to be constructed)

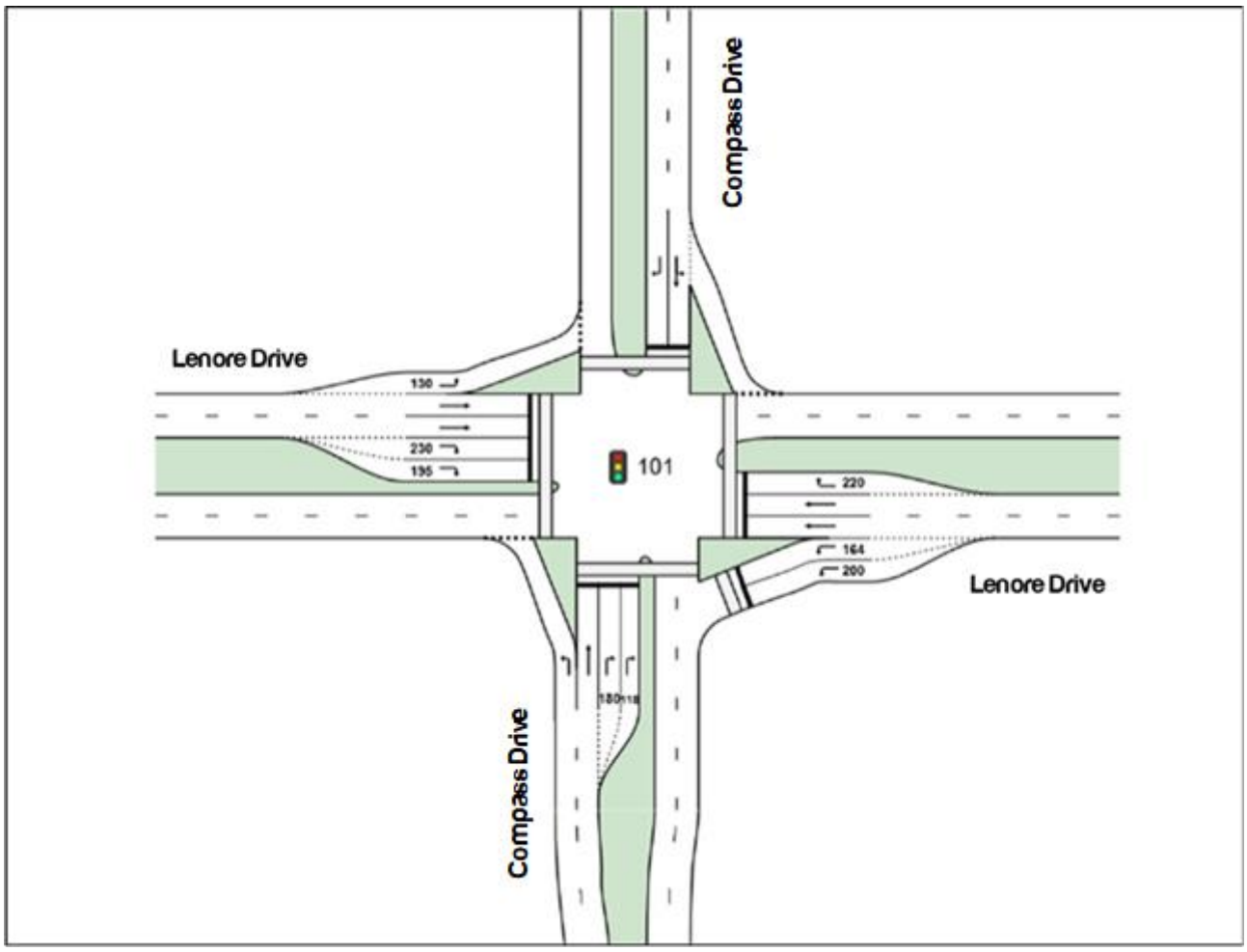


Figure 14: Intersection Layout of Lenore Drive & Compass Drive (2036 Ultimate Scenario)

3.4 Public Transport Services

3.4.1 Existing Bus Services

The introduction of a new bus route is confirmed to provide additional access for workers / visitors within OWE. This new bus service commenced from 24 October 2021 and will provide direct access to and from the St Marys Train Station. This introduction of a direct connection with the St Marys Train Station increases the accessibility of the Site via public transport services. The existing bus services are shown below in **Figure 15** overleaf.

The timetable of bus route 779 has also been attached within **Appendix A** for reference.

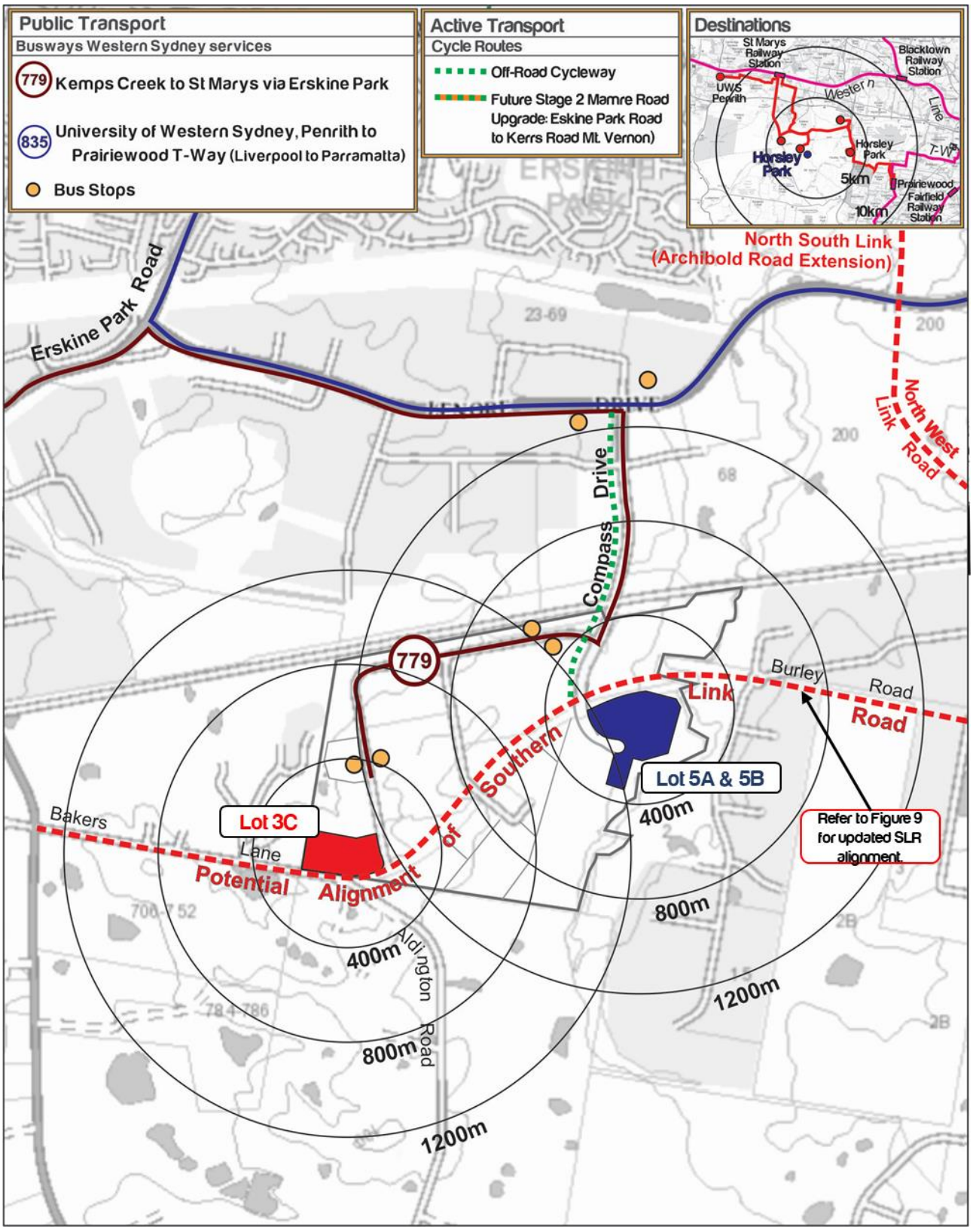


Figure 15: Existing Public Transport and Cycle Links

3.5 Active Transport

Lenore Drive and Compass Drive has been designed to provide appropriate cycle infrastructure, linking to the east (to the M7 cycleway) and the west (from the existing Mamre Road cycle path) with the potential for future augmentation via existing and proposed sub-regional links.

Furthermore, the Compass Drive includes a 2 to 2.5 metre shared footpath (on both sides) providing access to both pedestrians and cyclists. This is an essential link to encourage the uptake of alternative transport modes such as cycling as opposed to the historic dominance of private vehicle travel.

Finally, the provision of appropriate cycle facilities for Buildings 3C1 & 3C2 and 5A & 5B, such as bicycle storage, lockers and shower facilities will further encourage the use of the existing networks, again assisting in the reduction of private vehicle travel when journeying to work.

4 Parking Provisions

4.1 Car Parking

Parking rates for the wider Estate have been provided in accordance with Condition B13 of the 2019 SSD approval. The rates are as shown below in **Table 9**:

TABLE 9 APPROVED CAR PARKING RATES

Source	Land Use	Minimum Car Parking Rate
RMS Guide (OWE Masterplan)	Warehousing / Distribution	1 space per 300 m^2 GFA
	Office (Ancillary)	1 space per 40 m^2 GFA

Application of above rates to the Proposed Building 3C1 & 3C2 results in the following as shown below in **Table 10**:

TABLE 10 PARKING REQUIREMENT & PROVISION FOR BUILDINGS 3C1 & 3C2

Building	GFA (m^2)		Car Parking Required			Car Parking Provided
	Warehouse	Office	Warehouse	Office	Total	
3C1	4,270	400	15	10	25	48
3C2	15,000	1,000	50	25	75	52
Total	**19,270**	**1,400**	**65**	**35**	**100**	**100**

Application of the approved rates to the proposed development results in the requirement of 100 spaces. In response, the proposal provides 100 on-site car parking spaces, and thus satisfying requirements.

Application of above rates to the Proposed Building 5A & 5B results in the following as shown in **Table 11:**

TABLE 11 PARKING REQUIREMENT & PROVISION FOR BUILDINGS 5A & 5B

Building	GFA (m^2)		Car Parking Required			Car Parking Provided
	Warehouse	Office	Warehouse	Office	Total	
5A	25,955[1]	814[2]	87	20	107	107
5B	4,661	400	16	10	26	27
Total	**30,616**	**1,214**	**103**	**30**	**133**	**134**

Notes: 1) Includes 40m^2 of Guardhouse GFA
2) Includes 200m^2 of Dock Office GFA

Application of the approved rates to the proposed development results in the requirement of 133 spaces. In response, the proposal provides 134 on-site car parking spaces, indicating a surplus of 1 car parking space and thus satisfying and exceeding requirements.

4.1.1 Accessible Parking

Condition B13(i) of the SSD specifies the following requirements for accessible parking spaces:

- 2 spaces for people with disabilities for every 100 car parking spaces.

This equates to a required provision of 2 spaces for Lot 3C and 4 spaces for Lot 5A & 5B. In response, 2 spaces have been provided for Lot 3C and 4 spaces have been provided for Lot 5A & 5B, satisfying the SSD requirement.

4.2 Bicycle Parking

Council's DCP refers to the Planning Guidelines for Walking and Cycling, which requires bicycle parking to be provided at a rate of 3-5% of staff numbers (for long-term use) and 5-10% of staff numbers (for short-term use).

It is noted that the detailed staff numbers for Buildings 3C1 & 3C2 and 5B are not available at the time of preparation of this TA. Therefore, for the purpose of this assessment, it has been assumed that the maximum number of staff on Site is equal to the car parking required for Buildings 3C1, 3C2 and 5B. For Building 5A, there would be a maximum of 95 warehouse staff and 15 office staff across different shifts based on Goodman's advice. It is noted that Ason Group is not aware of any shift changes at this point in time.

Based on the above assumptions, the following bicycle parking requirements are estimated:

TABLE 12 BICYCLE PARKING REQUIREMENTS

Buildings	Estimated Staff Numbers	Bicycle Parking Requirements (Spaces)
3C1	25	Staff: 2-3 Visitor: 1-2
3C2	75	Staff: 4-8 Visitor: 3-4
5A	110	Staff: 6-11 Visitor: 4-6
5B	26	Staff: 2-3 Visitor: 1-2

Additionally, the Planning Guidelines for Walking and Cycling also provides the following minimum requirements of End of Trip (EoT) facilities on-site.

TABLE 13 EOT FACILITIES REQUIREMENTS

Staff Numbers	Lockers	Showers	Change Rooms
13 – 49	1 per 3 racks	2 (1 male and 1 female)	2 (1 male and 1 female)
50 – 149	1 per 3 racks	4 (2 male and 2 female)	2 (1 male and 1 female)

In response, the provision of bicycle parking spaces and EoT facilities for Buildings 3C1 & 3C2 and Buildings 5A & 5B is summarised in the table below.

TABLE 14 BICYCLE PARKING SPACES AND EOT FACILITIES PROVISION

Buildings	Bicycle Parking Spaces	Lockers	Showers	Change Rooms
3C1	4	24	3 (1 male, 1 female, 1 accessible)	2 (1 male and 1 female)
3C2	6	48	5 (2 male, 2 female, 1 accessible)	2 (1 male and 1 female)
5A	10	96	4 (1 male, 1 female, 2 accessible)	2 (1 male and 1 female)
5B	4	12	3 (1 male, 1 female, 1 accessible)	2 (1 male and 1 female)

The provision of bicycle spaces and EoT facilities comply with and exceed the minimum requirements set out in the Planning Guidelines for Walking and Cycling.

5 Traffic Assessment

Having regard for the traffic generation rates established and approved in the OWE masterplan, the applicable trip generation rates relevant to the land use are as follows:

- 0.163 peak hour vehicle trips per 100 m^2 of industrial GFA including ancillary office floor space; and
- 1.892 daily vehicle trips per 100 m^2 of industrial GFA including ancillary office floor space.

5.1 Traffic Generation

For Building 3C1 & 3C2, application of the abovementioned traffic generation rates to the proposed development indicatively results in the following, as shown in **Table 15**:

TABLE 15 BUILDINGS 3C1 & 3C2 TRAFFIC GENERATION

Building	Total GFA (m^2)	Period	Traffic Generation
3C1	4,670	AM / PM Hourly Peak	8
		Total Daily (24-Hour)	88
3C2	16,000	AM / PM Hourly Peak	26
		Total Daily (24-Hour)	303
Total	**20,670**	**AM / PM Hourly Peak**	**34**
		Total Daily (24-Hour)	**391**

For Building 5A & 5B, application of the abovementioned traffic generation rates to the proposed development indicatively results in the following, as shown in **Table 16:**

TABLE 16 BUILDINGS 5A & 5B TRAFFIC GENERATION

Building	Total GFA	Period	Traffic Generation
5A	26,769	AM / PM Hourly Peak	44
		Total Daily (24-Hour)	507
5B	5,061	AM / PM Hourly Peak	9
		Total Daily (24-Hour)	96
Total	**31,830**	**AM / PM Hourly Peak**	**53**
		Total Daily (24-Hour)	**603**

5.2 Traffic Impact Assessment

5.2.1 Precinct 3

The previous traffic assessment for the Site has been undertaken at a Precinct-wide level, with reference to the wider assessment associated with previous modifications. To provide context for traffic generation of the Site, **Table 17** demonstrates the approved trip generation for Precinct 3 (which is relevant for Buildings 3C1 and 3C2) under MOD 7 (the most recent traffic assessment for the Estate). This has been adjusted to account for the reduction in the Precinct 3 GFA between MOD 7 and MOD 9 (refer to **Section 2.3.4**):

TABLE 17 APPROVED MOD 7 TRIP GENERATION – PRECINCT 3 (WITH MOD 9 ADJUSTMENT)

Precinct No.	Approved GFA (m^2)	Traffic Generation		
		AM (trips per hour)	PM (trips per hour)	Daily (trips per day)
3	54,460	89	89	1,030

Further to the above, two out of three of the lots within Precinct 3 (Lot 3A and 3B) have since been approved by Penrith City Council. A summary of the GFA and traffic generation for these two lots is shown in **Table 18**.

TABLE 18 APPROVED LOTS 3A AND 3B TRIP GENERATION

Lot No.	Approved GFA (m^2)	Traffic Generation		
		AM (trips per hour)	PM (trips per hour)	Daily (trips per day)
3A	10,506	17	17	199
3B	21,500	35	35	407
Total	32,006	52	52	606

Subtracting the approved GFA of Lots 3A and 3B from the approved Precinct 3 GFA, provides the GFA 'cap' (and hence traffic generation) that Lot 3C (i.e. Buildings 3C1 and 3C2) can achieve without exceeding the previously assessed traffic thresholds (of MOD 9). This is shown in **Table 19**.

TABLE 19 QUANTIFICATION OF REMAINING GFA

Precinct / Lot No.	Approved GFA (m^2)	Traffic Generation		
		AM (trips per hour)	PM (trips per hour)	Daily (trips per day)
Approved Precinct 3	54,460	89	89	1,030
Approved Lots 3A and 3B	32,006	52	52	606
Balance of GFA / traffic generation	22,454	37	37	425
Proposed Buildings 3C1 and 3C2	20,670	34	34	391

As seen, the proposed Buildings 3C1 and 3C2 GFA (and subsequently traffic generation) is lower than the balance of GFA remaining in Precinct 3 after subtracting out the approved 3A and 3B developments. Therefore, no additional traffic impacts are expected from Buildings 3C1 and 3C2 beyond that previously assessed and approved as part of SSD 7348 and subsequent modifications up to MOD 9.

5.2.2 Precinct 5

With regards to Precinct 5 and to provide context for traffic generation of the Site, **Table 20** demonstrates the approved trip generation for Precinct 5 (which is relevant for Buildings 5A and 5B) under MOD 7 (and MOD 9, as the GFA for Precinct 5 is unchanged between the two MODs):

TABLE 20 APPROVED MOD 7 TRIP GENERATION – PRECINCT 5

Precinct No.	Approved GFA (m^2)	Traffic Generation		
		AM (trips per hour)	PM (trips per hour)	Daily (trips per day)
5	35,640	58	58	674

The GFA and estimated peak hour and daily traffic generations for Buildings 5A and 5B (53 AM/PM peak hour trips and 603 daily trips, as indicated in **Table 20**) is within the threshold established in the previous traffic assessment undertaken for the approved MOD 7 traffic report and hence will not have any additional traffic impact beyond what has been approved as part of MOD 7 (and likewise, for MOD 9).

Therefore, there would be no additional traffic impacts beyond what has been approved as part of MOD 7 and 9 for Lots 3C, 5A and 5B. Thus, the proposed development is supportable on traffic generation grounds.

6 Design Commentary

6.1 Relevant Design Standards

The revised elements of Buildings 3C1 & 3C2 and Buildings 5A & 5B demonstrate general compliance for Site access, car parking and loading procedures in line with the following relevant Australian Standards:

- AS/NZS 2890.1:2004 for car parking spaces;
- AS2890.2:2018 for commercial vehicle loading areas; and
- AS/NZS2890.6:2009 for accessible spaces.

It is expected that any detailed construction plans would comply with these Standards. Furthermore, compliance with the above Standards would be expected to form a standard condition of consent to the development approval.

6.2 Design Vehicles

Buildings 3C1 & 3C2 and Building 5B can readily accommodate 30.0m Super B-Doubles limited to side loading and up to 20.0m Articulated Vehicles for rear loading at recessed docks and RSD positions.

Building 5A can readily accommodate 36.5m A-Doubles limited to side loading and up to 20.0m Articulated Vehicles for rear loading at recessed docks and RSD positions.

6.3 Commercial Hardstand Area

The design review indicates that access and egress to recessed docks and RSDs can generally occur noting that hardstand operational management would effectively facilitate the movements of trucks within the hardstand area.

All commercial vehicles can enter and exit the site in a forward direction. In this regard, consideration shall be given to the design commentary and dock limitations included in **Appendix B**.

6.4 Operational Management

To accommodate 30m Super B-Double circulation within Buildings 3C1 & 3C2, 4 RSDs will need to be vacant for each building. 2 RSDs in Building 3C2 will need to be restricted to 12.5m Heavy Rigid Vehicles (HRVs) to accommodate vehicle swept paths.

For Buildings 5A & 5B, up to 15 RSDs will need be vacant for Building 5A and 3 RSDs will need to be vacant for Building 5B to facilitate side loading.

Refer to the design commentary and dock limitations included in **Appendix B**.

6.5 Car Parking Design

Staff and visitor parking – situated in proximity to tenancies – is demonstrated to generally comply with AS2890.1:2004 in line with User Class 2 which is superior to the minimum User Class 1/1A required for staff parking. Accessible spaces generally comply with AS2890.6:2009.

6.6 Fire Service Appliance Circulation

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

7 Preliminary Green Travel Plan

7.1 Purpose

This plan sets out objectives and strategies to assist Penrith City Council in achieving their goals to improve sustainability of work trips for the proposal. This preliminary Green Travel Plan (GTP) includes a review of the existing transport choices and sets targets so that the effective implementation of the GTP can be assessed. These targets are intended to be realistic but ambitious enough to initiate substantiative behavioural change to achieve the desired outcomes, given existing and future multi-modal transport networks.

This preliminary GTP is expected to be coordinated with the Site tenants or their representatives. It shall be reviewed and updated regularly as part of an ongoing review to ensure it remains relevant and reflective of current conditions.

7.2 Travel Mode Share Analysis

It should be noted that the OWE is still in development and as such existing travel patterns cannot be ascertained at this time. Notwithstanding, for the purposes of the GTP, a neighbouring travel zone with existing development, DZN114695449, has been identified and assessed.

Existing travel patterns of employees within the surrounding area have been surveyed in the 2016 Census and presented in the Journey to Work (JTW) dataset provided by TfNSW. The JTW information for the Site and surrounding locality is presented in **Figure 16** shown overleaf.

The area experiences a high proportion of private vehicle trips (inclusive of vehicle driver and vehicle passenger modes) and a low proportion of public and active transport modes. The mode share analysis indicates a high likelihood for staff associated with the development to use private vehicles as the primary mode of transport.

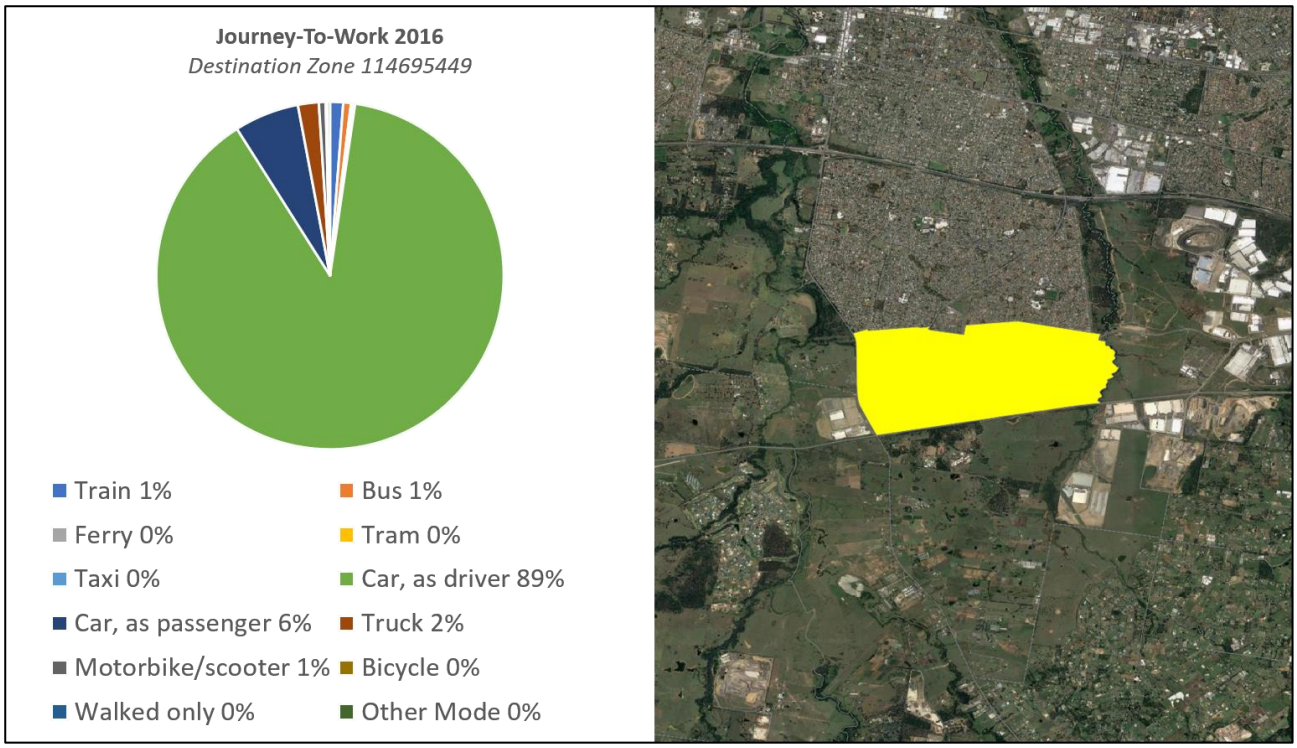


Figure 16: Journey-To-Work 2016 Profile

7.3 Strategic Context

7.3.1 Western Sydney Employment Area

The Oakdale Precinct is located within the WSEA, part of the Western Sydney Priority Growth Area – planning for which is being driven by the DPE. A key outcome of the project involves providing land opportunity for industry and employment, including improvements in connectivity to benefit transport, logistics, warehousing and office space of the area. The project aims to support the urban growth of the Badgerys Creek Aerotropolis and Western Sydney Airport.

7.3.2 North South Rail Link

The North South Rail Link is a proposed rail access corridor supporting the urban growth and employment through the Western Sydney Priority Growth Area providing a connection between the northern growth centres, through the Badgerys Creek and southwards. The corridor study identifies St Marys Station and Schofields Road as junction points for the corridor, passing through the WSEA site and towards the Western Sydney airport. This rail link will provide additional connectivity to Erskine Park and Orchard Hills from the north and south, widening the potential catchment area of employment and improving workplace accessibility for public transport modes.

7.4 Surrounding Public Transport Services

7.4.1 Railway Services

The *Integrated Public Transport Service Planning Guidelines, Sydney Metropolitan Area* (Transport for NSW, December 2013) states that rail services influence the travel mode choices of areas within 800 metres (approximately 10 minutes' walk) of a railway station. The closest railway station to the Oakdale West Precinct is Mt Druitt Station, is approximately 7 kilometres north of the Site. This would imply that commuting by rail would have minimal influence on workplace travel.

It should be noted that several studies conducted for the Broader Western Sydney Employment Area (BWSEA) reference the potential development of connecting freight or passenger corridor to the Site's west, connecting the T1, T2 and T5 lines to Badgerys Creek Airport[1,2].

7.4.2 Bus Services

Having regard to the standard bus travel, the *Integrated Public Transport Service Planning Guidelines* state that bus services influence the travel mode choices of sites within 400 metres (approximately 5 minutes) of a bus stop. As there are limited existing bus services within close proximity of the Site, this implies that bus commuting would have minimal influence on workplace travel.

As outlined in the WSEA, a new regional road network is being developed interlinking the industrial precincts within the region to support the growth and continued development of the area. This presents the potential for an accompanying expansion in the bus service network to connects places of employment within the region.

Notwithstanding, the introduction of a new bus route is confirmed to provide additional access for workers / visitors within OWE. This new bus service commenced from 24 October 2021 and will provide direct access to and from the St Marys Train Station. This introduction of a direct connection with the St Marys Train Station increases the accessibility of the Site via public transport services.

The timetable of bus route 779 has also been attached within **Appendix A** for reference.

[1] Source: Department of Infrastructure, *Regional Development and Cities, Western Sydney Rail Needs Scoping Study* 2018, https://www.transport.nsw.gov.au/projects/current-projects/western-sydney-rail-needs-scoping-study

[2] Source: NSW Planning & Infrastructure, *Broader Western Sydney Employment Area – Draft Structure Plan* 2013, https://www.planning.nsw.gov.au/-/media/Files/DPE/Reports/broader-western-sydney-employment-area-draft-structure-plan-community-guide-2013-06.pdf

7.5 Objectives and Targets

7.5.1 Objectives

The primary objectives of this GTP are to:

- Reduce the environmental footprint of the development;
- Promote the use of 'active transport' modes such walking and cycling, particularly for short-medium distance journeys;
- Reduce reliance on the use of private vehicles for all journeys; and
- Encourage a healthier, happier and more active social culture.

Having regard for the above, this Plan (as shown in **Figure 17**) adopts the following movement hierarchy with priority given to 'active transport' followed by mass public transport and lastly the use of cars and other private vehicles.

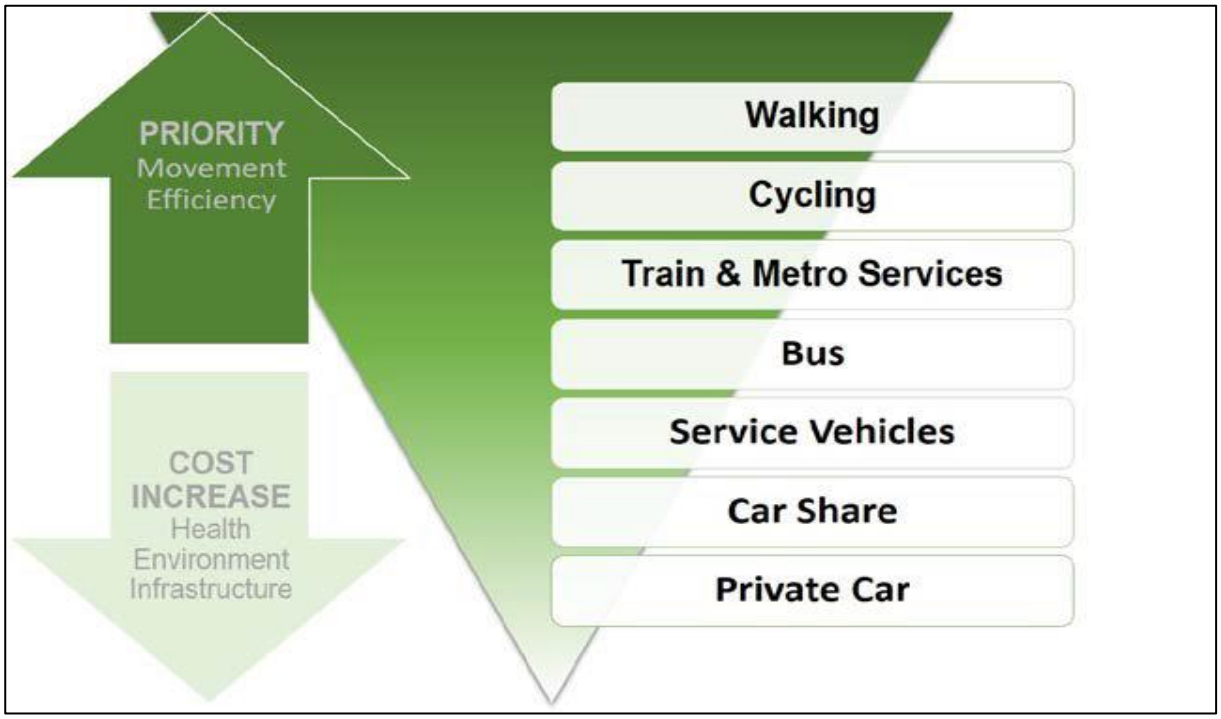


Figure 17: Movement Hierarchy

In a broad sense, this preliminary GTP is intended to encourage the use of active transport thereby reducing the overall distance travelled by private vehicles associated with Buildings 3C1 & 3C2 and Buildings 5A & 5B.

It is noted that the above hierarchy applies to staff and visitor (i.e. car) movements. Given the nature of the development for warehouse and industrial purposes, it is acknowledged that there is limited ability to reduce the number of commercial vehicle movements without compromising Site operations.

7.5.2 Mode Share Targets

With the above objectives in mind, the mode share targets outlined in **Table 21** are proposed, based on the JTW Profile for the destination zone.

TABLE 21 MODE SHARE TARGETS (PRIMARY MODE OF TRAVEL)

Travel Mode	Existing – DZN 114695449	Proposed	Relative Change
Walking	0%	0%	0%
Cycling	0%	5%	+ 5%
Train[1]	1%	5%[2]	+ 4%
Bus[1]	1%	10%	+ 9%
Vehicle Passenger	6%	10%	+ 4%
Vehicle Driver	90%	68%	- 22%
Other/Mode Not Stated	2%	2%	0%

Note: 1) Key opportunity in future with provision of further regional infrastructure

2) The JTW classifies multi-modal journeys by indicating the 'primary' mode only and is considered in this proposition.

Given the limited options for modal availability in the area, it is difficult to quantify the degree of modal shift from private vehicular usage to public and active transport modes. However, in the context of the development outlined in the above sections, it is evident that there is clear direction in a strategic context for the expansion of public and active transport networks to serve the western Sydney area.

In this context, the mode share targets identified in **Table 21** can be considered with a focus on 20% for public and active transport and 80% on private car usage. This ratio is reflective of travel zones observed to have higher degrees of road network connectivity and limited access to rail facilities. It shall be necessary to adjust these mode share targets as future developments and planned transport infrastructure are realised, allowing for more ambitious targets to be set.

The changes made to cycling, train and bus travel modes are specifically reliant on the improvement of connectivity and additional infrastructure to facilitate them, which is anticipated to occur through several developments and initiatives associated with the broader WSEA.

7.6 Action Plan

7.6.1 Action Plan Measures

The following specific actions have been identified to aid achievement of the targets outlined in **Section 7.5.2.** It is anticipated that relevant actions in **Table 22** should be conveyed to the tenants at the time of tenancy agreement.

Identified strategies include promotion of some event or day-specific activities. In isolation, these may not dramatically alter the day-to-day travel of staff. However, there are benefits of such activities whereby participation can increase awareness of alternative modes of travel that can then form the basis of future travel choices.

TABLE 22 ACTION PLAN MEASURES

Item No.	Action / Description	Responsibility
1. General		
1.1	Establish a centralised Travel Plan Coordinator (TPC) which is to take responsibility for the ongoing review and monitoring of this Plan. This person(s) shall also provide direction to tenants in relation to tenant-specific requirements arising from the GTP.	Landowner / Strata Manager
1.2	Establish and maintain a transport coordinator to engage with the overall transport coordinator above.	Tenant
1.3	Provide 'Travel Welcome Pack' for newly employed staff, highlighting alternate modes of transport other than use of a private vehicle.	TPC / Tenant
1.4	Review of GTP as a regular item on the agenda for the Tenant / Landowner meetings.	TPC
1.5	Encourage flexible work hours, where practicable. Whilst not reducing mode share, this can permit travel outside of peak periods which has other positive benefits.	Tenant
1.6	Preparation of a Transport Access Guide (TAG) – refer to **Appendix C**.	TPC
2. Walking and Cycling		
2.1	Lobby Council / DPE for improved cycle connections in the broader area.	TPC
2.2	Promote participation in the National Ride2Work Day activity.	Tenant
2.3	Promote participation in Walk to Work Day+ (and other) events.	Tenant
2.4	Provide and maintain clearly signposted bicycle parking within the Site.	Developer / Landowner
2.5	In accordance with the 5% cycling mode share target, sufficient secure parking spaces and 'EoT' facilities shall be provided and maintained. (NOTE: this can be staged to reflect realised demand)	Developer / Landowner
3. Public Transport		
3.1	Advocate for TfNSW to improve public transport services in response to increased development within the surrounding area.	Landowner / TPC
3.2	Update the GTP to reflect changes to any bus routes and service times.	TPC
3.3	Undertake a review to promote initiatives for staff using public transport.	TPC / Tenant
4. Shared Vehicles		

4.1	Review initiatives for staff to promote car-pooling. This may include (but not limited to) the provision of online services or forums to facilitate ease of finding carpooling scheme participants.	TPC / Tenant
4.2	In longer term, engage with Car Share operators to encourage provision of Car Share pods in proximity to the site. This transport option – for miscellaneous travel throughout the day – can then alleviate pressure for staff to drive as part of the primary mode of travel to work.	TPC

Bicycle parking spaces and End of Trip facilities are expected to be provided on-site to support the above Action Plan. Additional bicycle parking spaces may be recommended in the future; however, this would be subject to further review as part of the ongoing GTP maintenance which is discussed further below.

7.7 Communications Strategy

New staff shall be provided with a 'welcome pack' as part of the on-site induction process which includes the GTP and other information in relation to sustainable transport choices. This pack shall include a copy of the Travel Access Guide (TAG) as well as general information regarding the health and social benefits of active transport. Advice on where to find further information should also be included such as links to Sydney Cycleways website (http://www.sydneycycleways.net).

7.8 Governance and Support

7.8.1 Travel Plan Coordinator

A person(s) shall be nominated as the Travel Plan Coordinator (TPC) and be responsible for:

- Engagement with the future tenants on-site;
- Implementation and promotion of the GTP actions;
- Monitoring the effectiveness of the GTP (refer to monitoring requirements outlined in **Section 7.6**) and ongoing maintenance of the Plan;
- Provide advice in relation to transport-related subjects to staff, tenancy management and visitors, as required; and
- Liaise with external parties (i.e. Council, public transport and car share operators) in relation to Travel Plan matters.

This role does not necessarily require a full-time position; however, it should be clearly designated among the key responsibilities of the building management group.

This may include financial incentives for staff to use active transport and public transport to travel to work. However, this is not a mandatory requirement and would be subject to the management discretion.

7.8.2 Resourcing

It is not anticipated that the maintenance of this GTP will have significant ongoing cost implications and shall be reviewed on an annual basis by the TPC in order for the best outcome.

7.8.3 Plan Maintenance

This Plan shall be subject to ongoing review and will be updated accordingly. Regular reviews – ideally on annual basis – will be undertaken by the TPC, as required. Key considerations regarding the review of the GTP shall be:

- Updating 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. In this regard, review of the GTP may be undertaken on a more frequent basis;
- Tracking progress against proposed travel mode targets;
- To identify any shortfalls and develop an updated action plan to address issues;
- To ensure travel mode targets are updated (if necessary) and to ensure they remain realistic but also ambitious; and
- To revise mode share targets and develop strategies that encourage the use of public and active transport and that discourage single occupant car travel to the site, as future public and active transport improvements around the development Site occur.

7.8.4 Travel Mode Audit Requirements

Travel mode surveys will be undertaken to 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. This survey may be undertaken online or in-person at the discretion of the TPC. A sample of a typical travel mode questionnaire form is included in **Appendix D**.

8 Summary and Conclusions

8.1 Key Findings

The key findings of this TA are:

- The Application relates to the proposed warehouse development of Buildings 3C1 & 3C2 and Buildings 5A & 5B, which forms part of the wider Oakdale West Industrial Estate (OWE) precinct. A detailed description of the proposal is included in the Statement of Environmental Effects that this assessment accompanies. In summary, the proposal relates exclusively to the proposed Buildings 3C1 & 3C2 and Buildings 5A & 5B and consists of the following characteristics (indicated in **Table 23** and **Table 24**):

TABLE 23 SUMMARY OF CHARACTERISTICS FOR LOT 3C

Component	Building 3C1	Building 3C2	Total
Warehouse GFA (m^2)	4,270	15,000	19,270
Office GFA (m^2)	400	1000	1,400
Total GFA (m^2)	4,670	16,000	20,670
Loading Dock Provision	6[1]	11[2]	17
Car Parking Provision (Spaces)	48	52	100[3]

Note: 1) This provision includes 2 recessed docks and 4 Roller Shutter Doors (RSDs).
2) This provision includes 4 recessed docks and 7 RSDs.
3) This provision includes 3 accessible spaces and 6 Electric Vehicle Charging stations.

TABLE 24 SUMMARY OF CHARACTERISTICS FOR LOT 5A & 5B

Component	Building 5A	Building 5B	Total
Warehouse GFA (m^2)	25,955	4,661	30,616
Office GFA (m^2)	814	400	1,214
Total GFA (m^2)	26,769	5,061	31,830
Loading Dock Provision	32[1]	5[2]	37
Car Parking Provision (Spaces)	107[3]	27[4]	134

Note: 1) This provision includes 16 recessed docks and 16 RSDs.
2) This provision includes 2 recessed docks and 3 RSDs.
3) This provision includes 3 accessible spaces and 6 Electric Vehicle Charging stations.
4) This provision includes 1 accessible space and 2 Electric Vehicle Charging stations.

- A public transport study of the locale demonstrates that currently, the Site and surrounding area is serviced by an existing bus route, 779, within very close proximity. Notwithstanding, the future context of local and

main roads, in consideration of major upgrades, proposes further opportunity for connectivity within the area in both the shorter and longer term.

- An assessment of parking with regards to the SSD approval for the wider masterplan indicates that the proposed provision of 100 spaces for Buildings 3C1 & 3C2 and 134 spaces for Buildings 5A and 5B satisfy and exceed the relevant requirements.
- Adopting the approved traffic generation rates for the wider masterplan, Buildings 3C1 & 3C2 are estimated to result in a total hourly traffic generation of 34 vehicle trips during AM and PM Peak periods (inbound + outbound movements) and a total of 391 vehicle trips throughout the day (inbound + outbound movements). Buildings 5A & 5B are estimated to result in a total hourly traffic generation of 53 vehicle trips during the AM and PM peak periods (inbound + outbound movements) and a total of 603 vehicle trips throughout the day (inbound + outbound movements).
- It should be noted that the above estimated peak hour and daily traffic generations for Buildings 3C1 & 3C2 and Buildings 5A & 5B have undergone a cumulative assessment as part of the MOD 7 TA report and of MOD 9 approval of the Estate SSD (SSD 7348).
- In this regard, it should be considered that the peak hourly traffic generation for the Site is consistent with the previous wider Estate assessment and would not have any material traffic impacts to the road network beyond what has already been approved.
- Site accesses, car parking and commercial vehicle service areas have generally been designed having regard for the relevant Australian Standards (AS2890 series). It is expected that a detailed review of compliance with the AS2890 series will be undertaken as part of a detailed Construction Certificate documentation.
- A preliminary GTP has been included in this TA, which sets out objectives and strategies to assist Penrith City Council in achieving their goals to improve sustainability of work trips for the Proposal. This preliminary GTP includes a review of the existing transport choices and sets targets so that the effective implementation of the GTP can be assessed. These targets are intended to be realistic but ambitious enough to initiate substantiative behavioural change to achieve the desired outcomes, given existing and future multi-modal transport networks.
- This preliminary GTP is expected to be coordinated with the Site tenants or their representatives. It shall be reviewed and updated regularly as part of an ongoing review to ensure it remains relevant and reflective of current conditions.

8.2 Conclusions

In summary, the proposed Buildings 3C1 & 3C2 and Buildings 5A & 5B warehouse developments are deemed supportable on traffic and transport planning grounds and will not result in any adverse impacts on the surrounding road network or the availability of on-street parking.

Appendix A. Timetable of Existing Bus Route 779

779 Kemps Creek to St Marys via Erskine Park

B

How to use this timetable

This timetable provides a snapshot of service information in 24-hour time (e.g. 5am = 05:00, 5pm = 17:00). Information contained in this timetable is subject to change without notice. Please note that timetables do not include minor stops, additional trips for special events, short term changes, holiday timetable changes, real-time information or any disruption alerts.

For the most up-to-date times, use the Trip Planner or Departures at **transportnsw.info**

Real-time planning

You can plan your trip with real-time information using the Trip Planner or Departures at **transportnsw.info** or by downloading travel apps on your smartphone or tablet.

The Trip Planner, Departures and travel apps offer various features:

- favourite your regular trips
- see where your service is on the route
- get estimated pick-up and arrival times
- receive service updates
- find nearby stations, stops, wharves and routes
- check accessibility information.

Find the latest apps at **transportnsw.info/apps**

Accessible services

All new buses are wheelchair-accessible with low-level floors and space for wheelchairs, prams or strollers. Look for the ♿ symbol in this timetable. Some older buses may not have all the features you need. There will be more accessible services as older buses are replaced.

Who is providing my bus services?

The bus services shown in this timetable are run by Busways Western Sydney.

Fares

In Sydney and surrounding regions, fares are based on:

- the distance you travel from tap on to tap off
- the mode of transport you choose
- whether you're eligible for a concession fare or free travel
- any Opal benefits such as discounts and capped fares that apply.

You can use an Opal card or a contactless payment to pay for your travel.

Opal cards

An Opal card is a smartcard you keep and reuse. Add value before you travel, and tap on and tap off to pay your fares throughout Sydney, the Blue Mountains, the Central Coast, the Hunter and the Illawarra.

Which Opal card is right for you?

Adult – Customers 16 years or older who are not entitled to any concessions and normally pay full fare.

Child/Youth – For customers aged 4-15 (inclusive), or customers 16 years or older who hold a NSW/ACT Senior Secondary Student Concession Card.

Gold Senior/Pensioner – For eligible NSW and interstate seniors, pensioners, war widows/ers and asylum seekers.

Concession – For eligible tertiary students, job seekers, apprentices and trainees.

How to get an Opal card

You can get an Adult or Child/Youth Opal card over the counter at Opal retailers that display the Opal sign. To find your nearest retailer visit **transportnsw.info/opal**.

If you are eligible to travel with concession fares, you can apply for a Gold Senior/Pensioner or Concession Opal card online. Visit **transportnsw.info/opal** for more information.

Contactless payments

If you have an American Express, Mastercard, Visa card or linked device, you can use it to pay for all public transport on the Opal network. Just make sure to tap on and tap off at Opal readers at the beginning and end of your trip.

Always separate your cards when you tap on and tap off so your preferred card is charged.

You will receive the same travel benefits of an Adult Opal card when you tap on and tap off consistently with the same credit card, debit card or linked device. This includes daily, weekly and weekend travel caps, and a $2 transfer discount when you change between metro/train, ferry, bus and light rail services within 60 minutes. Adult Opal fare pricing applies.

Find out more at **transportnsw.info/contactless**

Explanation of definitions and symbols

♿ Wheelchair Accessible

NSW GOVERNMENT | Transport

779 St Marys to Kemps Creek via Erskine Park

B

Valid from: 10 Oct 2022

Creation date: 20 Oct 2022
NOTE: Information is correct on date of download.

Monday to Friday	♿			♿					
Amazon, Emporium Ave, Kemps Creek	04:45	05:15	05:45	06:15	09:15	09:45	10:15	11:15	12:15
Lenore Dr after John Morphett Pl, Erskine Park	04:52	05:22	05:52	06:23	09:23	09:52	10:22	11:22	12:22
James Erskine before Dr Quarry Rd, Erskine Park	04:57	05:27	05:57	06:29	09:29	09:57	10:27	11:27	12:27
Mamre Rd near Banks Dr, St Clair	05:08	05:38	06:08	06:40	09:40	10:08	10:38	11:38	12:38
St Marys RSL Mamre Rd, St Marys	05:12	05:42	06:12	06:45	09:45	10:12	10:42	11:42	12:42
St Marys Station	05:21	05:51	06:21	06:55	09:55	10:21	10:51	11:51	12:51

Monday to Friday									
Amazon, Emporium Ave, Kemps Creek	13:15	14:15	15:45	16:15	16:45	17:15	17:45	18:15	18:45
Lenore Dr after John Morphett Pl, Erskine Park	13:22	14:22	15:53	16:23	16:53	17:23	17:53	18:23	18:53
James Erskine before Dr Quarry Rd, Erskine Park	13:27	14:27	15:59	16:29	16:59	17:29	17:59	18:29	18:59
Mamre Rd near Banks Dr, St Clair	13:38	14:38	16:10	16:40	17:10	17:40	18:10	18:40	19:10
St Marys RSL Mamre Rd, St Marys	13:42	14:42	16:15	16:45	17:15	17:45	18:15	18:45	19:15
St Marys Station	13:51	14:51	16:25	16:55	17:25	17:55	18:25	18:55	19:25

Monday to Friday	
Amazon, Emporium Ave, Kemps Creek	19:15
Lenore Dr after John Morphett Pl, Erskine Park	19:23
James Erskine before Dr Quarry Rd, Erskine Park	19:29
Mamre Rd near Banks Dr, St Clair	19:40
St Marys RSL Mamre Rd, St Marys	19:45
St Marys Station	19:55

Saturday	♿	♿	♿	♿	♿	♿	♿	♿	♿
Amazon, Emporium Ave, Kemps Creek	07:30	08:30	09:30	10:30	11:30	12:30	13:30	14:30	15:30
Lenore Dr after John Morphett Pl, Erskine Park	07:37	08:37	09:37	10:37	11:37	12:37	13:37	14:37	15:37
James Erskine before Dr Quarry Rd, Erskine Park	07:42	08:42	09:42	10:42	11:42	12:42	13:42	14:42	15:42
Mamre Rd near Banks Dr, St Clair	07:53	08:53	09:53	10:53	11:53	12:53	13:53	14:53	15:53
St Marys RSL Mamre Rd, St Marys	07:57	08:57	09:57	10:57	11:57	12:57	13:57	14:57	15:57
St Marys Station	08:06	09:06	10:06	11:06	12:06	13:06	14:06	15:06	16:06

Saturday	♿	♿	♿	♿
Amazon, Emporium Ave, Kemps Creek	16:30	17:30	18:30	19:30
Lenore Dr after John Morphett Pl, Erskine Park	16:37	17:37	18:37	19:37
James Erskine before Dr Quarry Rd, Erskine Park	16:42	17:42	18:42	19:42
Mamre Rd near Banks Dr, St Clair	16:53	17:53	18:53	19:53
St Marys RSL Mamre Rd, St Marys	16:57	17:57	18:57	19:57
St Marys Station	17:06	18:06	19:06	20:06

Sunday & Public Holidays	♿	♿	♿	♿	♿	♿	♿	♿	♿
Amazon, Emporium Ave, Kemps Creek	07:30	08:30	09:30	10:30	11:30	12:30	13:30	14:30	15:30
Lenore Dr after John Morphett Pl, Erskine Park	07:37	08:37	09:37	10:37	11:37	12:37	13:37	14:37	15:37
James Erskine before Dr Quarry Rd, Erskine Park	07:42	08:42	09:42	10:42	11:42	12:42	13:42	14:42	15:42
Mamre Rd near Banks Dr, St Clair	07:53	08:53	09:53	10:53	11:53	12:53	13:53	14:53	15:53
St Marys RSL Mamre Rd, St Marys	07:57	08:57	09:57	10:57	11:57	12:57	13:57	14:57	15:57
St Marys Station	08:06	09:06	10:06	11:06	12:06	13:06	14:06	15:06	16:06

Sunday & Public Holidays	♿	♿	♿	♿
Amazon, Emporium Ave, Kemps Creek	16:30	17:30	18:30	19:30
Lenore Dr after John Morphett Pl, Erskine Park	16:37	17:37	18:37	19:37
James Erskine before Dr Quarry Rd, Erskine Park	16:42	17:42	18:42	19:42
Mamre Rd near Banks Dr, St Clair	16:53	17:53	18:53	19:53
St Marys RSL Mamre Rd, St Marys	16:57	17:57	18:57	19:57
St Marys Station	17:06	18:06	19:06	20:06

779 Kemps Creek to St Marys via Erskine Park

B

Monday to Friday									
St Marys Station	04:30	05:00	05:30	06:00	06:30	08:30	09:00	09:30	10:30
St Marys RSL Mamre Rd, St Marys	04:34	05:04	05:34	06:05	06:35	08:35	09:05	09:34	10:34
Mamre Rd near Banks Dr, St Clair	04:37	05:07	05:37	06:08	06:38	08:38	09:08	09:37	10:37
James Erskine before Dr Quarry Rd, Erskine Park	04:46	05:16	05:46	06:17	06:47	08:47	09:17	09:46	10:46
Lenore Dr before John Morphett Pl, Erskine Park	04:54	05:24	05:54	06:26	06:56	08:56	09:26	09:54	10:54
Amazon, Emporium Ave, Kemps Creek	05:06	05:36	06:06	06:40	07:10	09:10	09:40	10:06	11:06

Monday to Friday									
St Marys Station	11:30	12:30	13:30	15:00	16:30	17:00	17:30	18:00	18:30
St Marys RSL Mamre Rd, St Marys	11:34	12:34	13:34	15:05	16:35	17:05	17:35	18:05	18:35
Mamre Rd near Banks Dr, St Clair	11:37	12:37	13:37	15:08	16:38	17:08	17:38	18:08	18:38
James Erskine before Dr Quarry Rd, Erskine Park	11:46	12:46	13:46	15:17	16:47	17:17	17:47	18:17	18:47
Lenore Dr before John Morphett Pl, Erskine Park	11:54	12:54	13:54	15:26	16:56	17:26	17:56	18:26	18:56
Amazon, Emporium Ave, Kemps Creek	12:06	13:06	14:06	15:40	17:10	17:40	18:10	18:40	19:10

Monday to Friday	
St Marys Station	19:00
St Marys RSL Mamre Rd, St Marys	19:05
Mamre Rd near Banks Dr, St Clair	19:08
James Erskine before Dr Quarry Rd, Erskine Park	19:17
Lenore Dr before John Morphett Pl, Erskine Park	19:26
Amazon, Emporium Ave, Kemps Creek	19:40

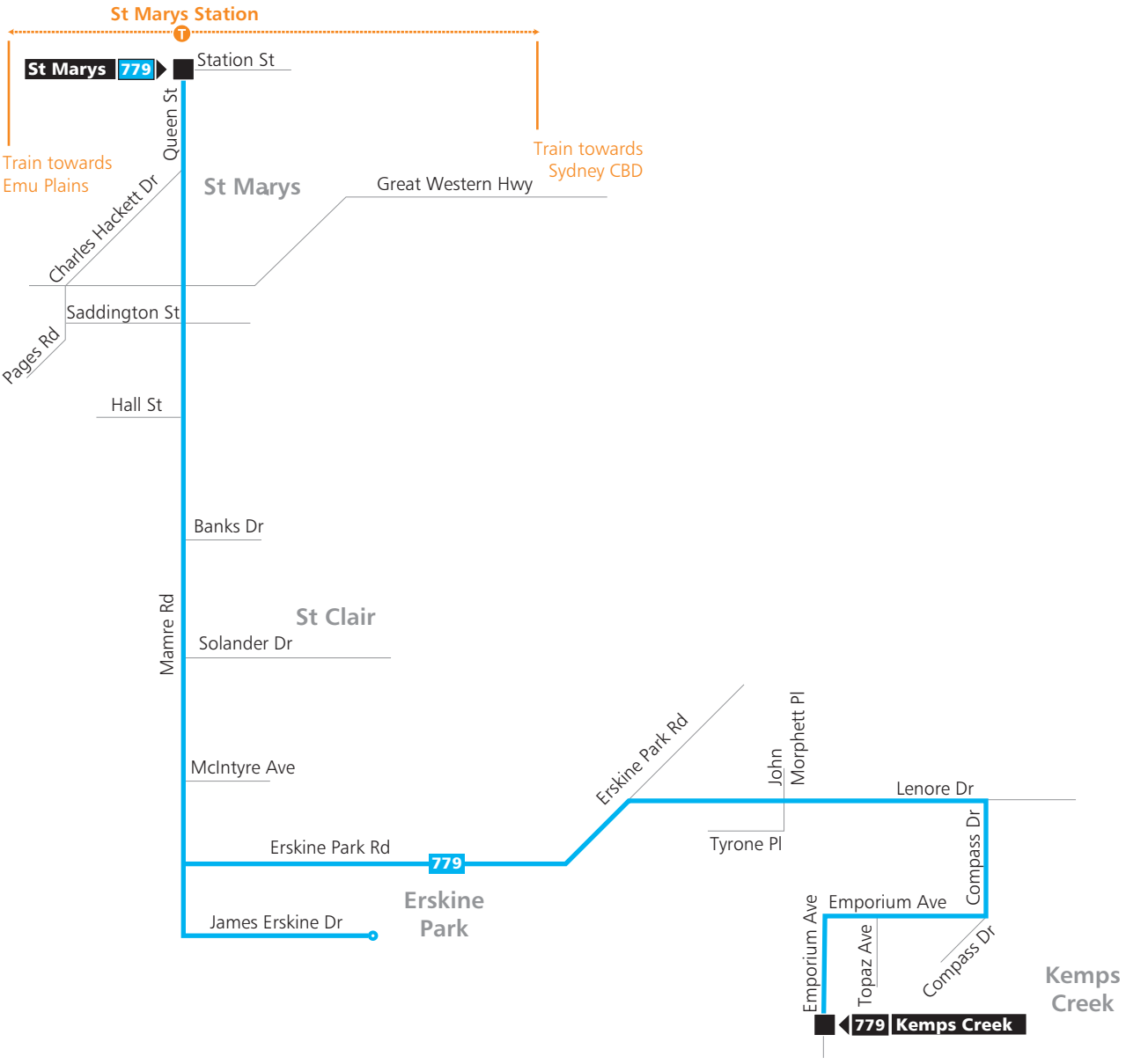
Saturday									
St Marys Station	06:30	07:30	08:30	09:30	10:30	11:30	12:30	13:30	14:30
St Marys RSL Mamre Rd, St Marys	06:34	07:34	08:34	09:34	10:34	11:34	12:34	13:34	14:34
Mamre Rd near Banks Dr, St Clair	06:37	07:37	08:37	09:37	10:37	11:37	12:37	13:37	14:37
James Erskine before Dr Quarry Rd, Erskine Park	06:46	07:46	08:46	09:46	10:46	11:46	12:46	13:46	14:46
Lenore Dr before John Morphett Pl, Erskine Park	06:54	07:54	08:54	09:54	10:54	11:54	12:54	13:54	14:54
Amazon, Emporium Ave, Kemps Creek	07:06	08:06	09:06	10:06	11:06	12:06	13:06	14:06	15:06

Saturday				
St Marys Station	15:30	16:30	17:30	18:30
St Marys RSL Mamre Rd, St Marys	15:34	16:34	17:34	18:34
Mamre Rd near Banks Dr, St Clair	15:37	16:37	17:37	18:37
James Erskine before Dr Quarry Rd, Erskine Park	15:46	16:46	17:46	18:46
Lenore Dr before John Morphett Pl, Erskine Park	15:54	16:54	17:54	18:54
Amazon, Emporium Ave, Kemps Creek	16:06	17:06	18:06	19:06

Sunday & Public Holidays									
St Marys Station	06:30	07:30	08:30	09:30	10:30	11:30	12:30	13:30	14:30
St Marys RSL Mamre Rd, St Marys	06:34	07:34	08:34	09:34	10:34	11:34	12:34	13:34	14:34
Mamre Rd near Banks Dr, St Clair	06:37	07:37	08:37	09:37	10:37	11:37	12:37	13:37	14:37
James Erskine before Dr Quarry Rd, Erskine Park	06:46	07:46	08:46	09:46	10:46	11:46	12:46	13:46	14:46
Lenore Dr before John Morphett Pl, Erskine Park	06:54	07:54	08:54	09:54	10:54	11:54	12:54	13:54	14:54
Amazon, Emporium Ave, Kemps Creek	07:06	08:06	09:06	10:06	11:06	12:06	13:06	14:06	15:06

Sunday & Public Holidays				
St Marys Station	15:30	16:30	17:30	18:30
St Marys RSL Mamre Rd, St Marys	15:34	16:34	17:34	18:34
Mamre Rd near Banks Dr, St Clair	15:37	16:37	17:37	18:37
James Erskine before Dr Quarry Rd, Erskine Park	15:46	16:46	17:46	18:46
Lenore Dr before John Morphett Pl, Erskine Park	15:54	16:54	17:54	18:54
Amazon, Emporium Ave, Kemps Creek	16:06	17:06	18:06	19:06

Route 779



Legend

- Bus route
- 779 Bus route number
- Bus route start/finish
- Train line/station

Diagrammatic Map
Not to Scale
North

NSW GOVERNMENT
Transport

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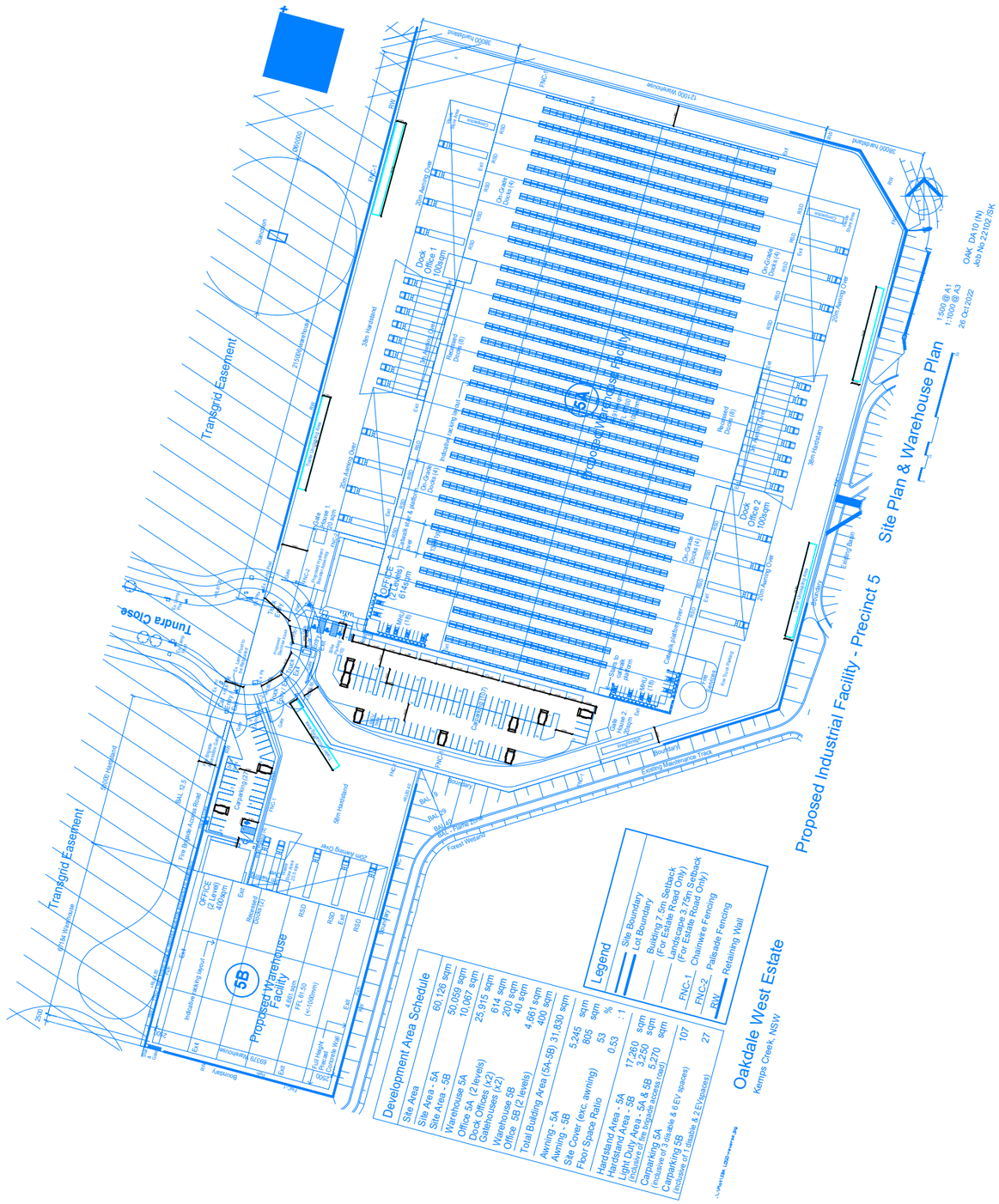
Appendix B. Swept Path Analysis and Design Commentary

NOTE:

- HARDSTANDS SHOWN ON THIS SITE PLAN HAVE BEEN REVIEWED AND WE NOTE:
  - WAREHOUSE 5A HARDSTAND AREA HAS BEEN REVIEWED FOR THE LARGEST VEHICLE, 36.5m A-DOUBLE. WAREHOUSE 5B HARDSTAND AREA HAS BEEN REVIEWED FOR THE LARGEST VEHICLE 30m SUPER B-DOUBLE.
  - RECESSED DOCKS AND RSDs HAVE BEEN TESTED FOR REAR LOADING 20.0m AVs.
  - CIRCULATE TRUCKS IN A ONE WAY CLOCKWISE DIRECTION FOR WAREHOUSE 5A AND 5B.
  - UNCOUPLING AREAS FOR WAREHOUSE 5A AND 5B HAVE BEEN IDENTIFIED, AG04 AND AG11.
  - FIRE TRUCK ASSESSMENT IS SHOWN ON AG07, AG08 AND AG14.
- CAR PARKING AREAS HAVE BEEN REVIEWED AGAINST AS2890.1:2004 AND WE NOTE:
  - CAR PARKING SPACES (2.5m X 5.5m) ARE SUPERIOR TO USER CLASS 2 (2.5m X 5.4m).
  - BLIND AISLE EXTENSIONS ARE 1m IN LENGTH.



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Swept path assessments completed at 10 km/h and 300mm clearance.
Design vehicle: 36.5m A-Double

DESIGNED	PAPER SIZE
Jasmine Wong	A3
APPROVED BY	DATE
X.XXXX	02.11.2022
SCALE	
1:2000	NTS

CLIENT
GOODMAN

PROJECT
1959
OAKDALE WEST ESTATE

DOCUMENT INFORMATION
DESIGN REVIEW
SITE OVERVIEW

FILE NAME	SHEET
AG1959-04-v09.dwg	AG01

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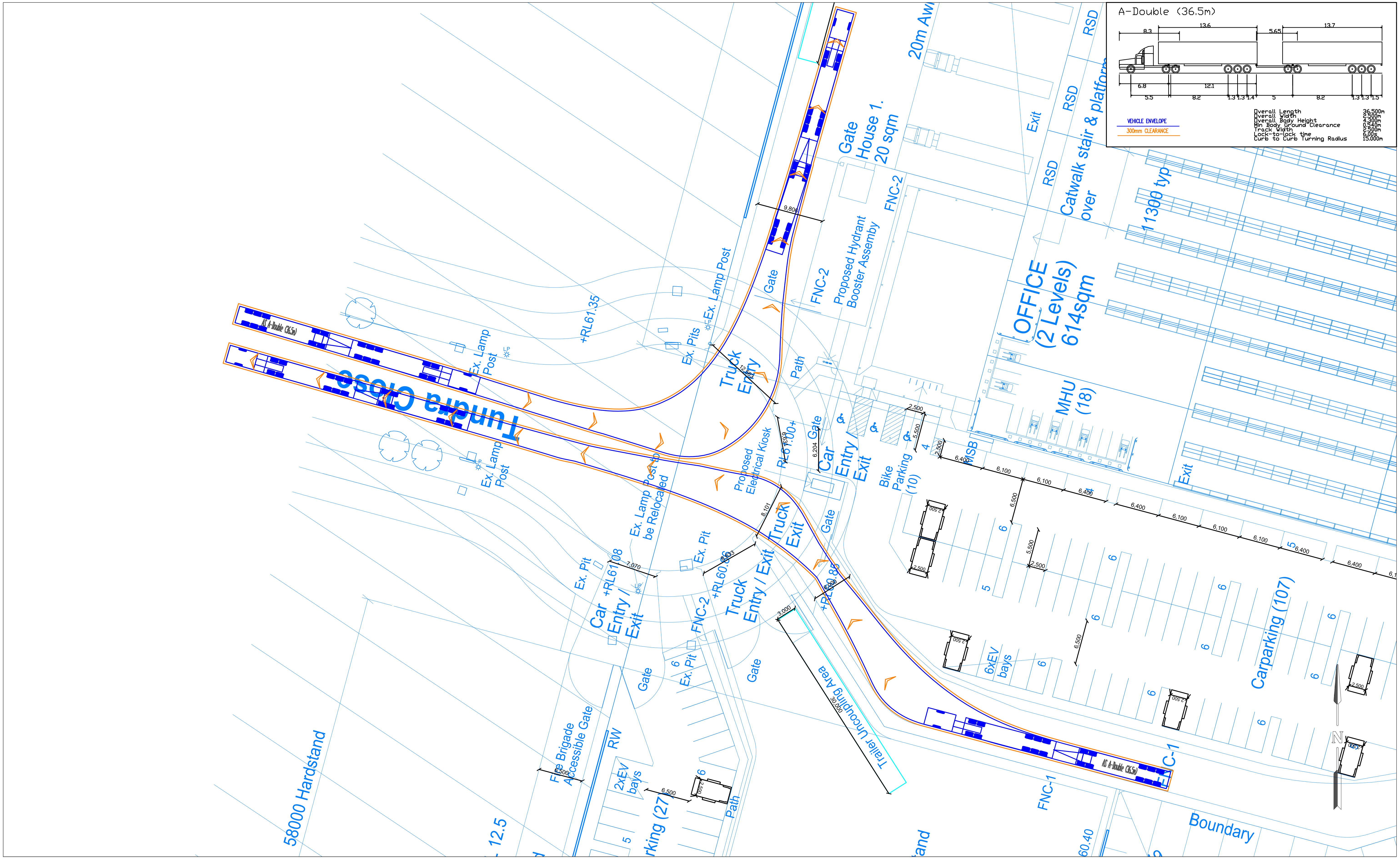

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Swept path assessments completed at 10 km/h and 300mm clearance.
Design vehicle: 36.5m A-Double

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APPROVED BY: X.XXXX	DATE: 02.11.2022	PROJECT: 1959	ACCESS - 5A
SCALE: 1:500	0 5 10	OAKDALE WEST ESTATE	FILE NAME: AG1959-04-v09.dwg — SHEET: AG02

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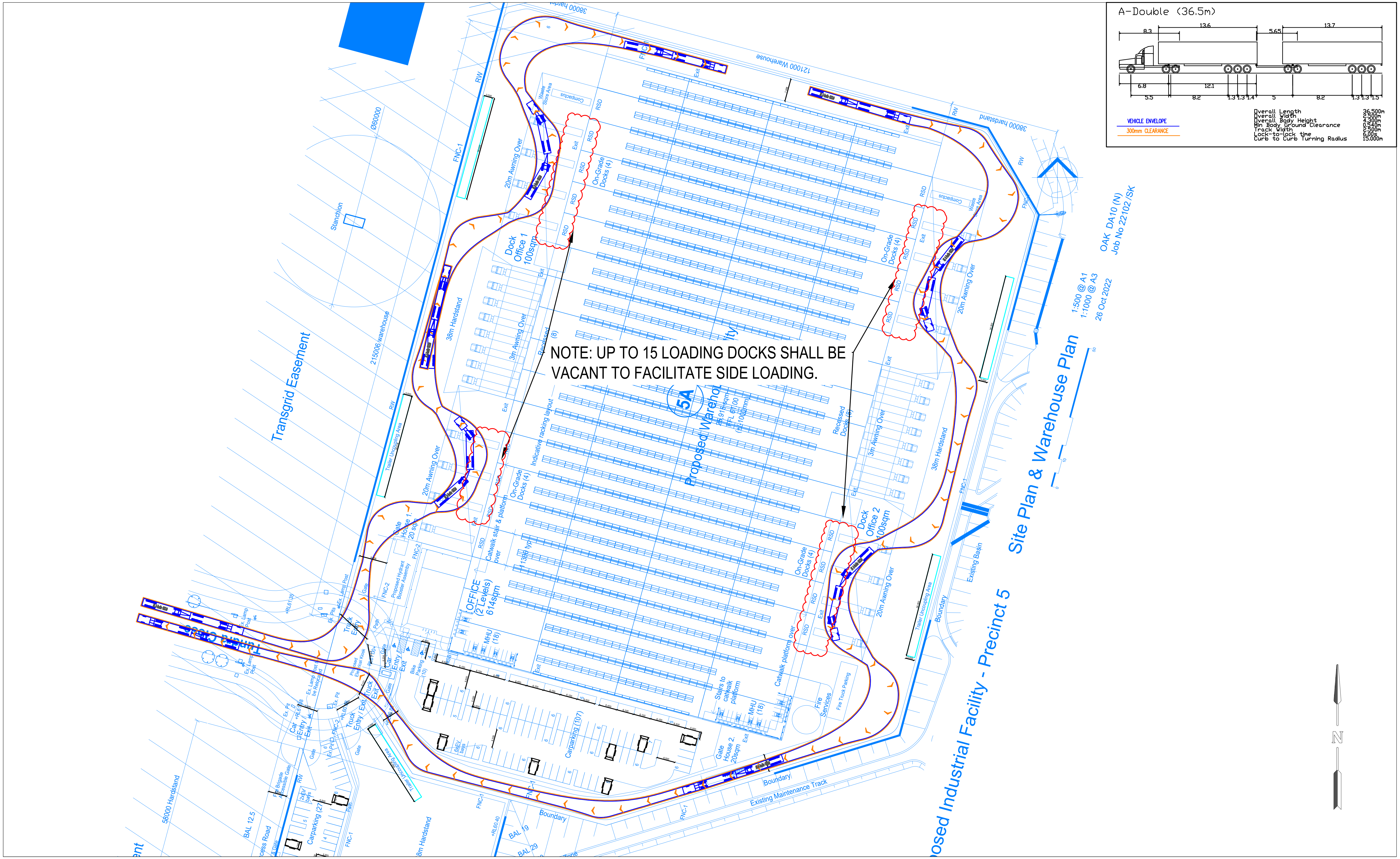

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Swept path assessments completed at 10 km/h and 300mm clearance.
Design vehicle: 36.5m A-Double

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SCALE: 1:1200	NTS	OAKDALE WEST ESTATE	FILE NAME: AG1959-04-v09.dwg — SHEET: AG03

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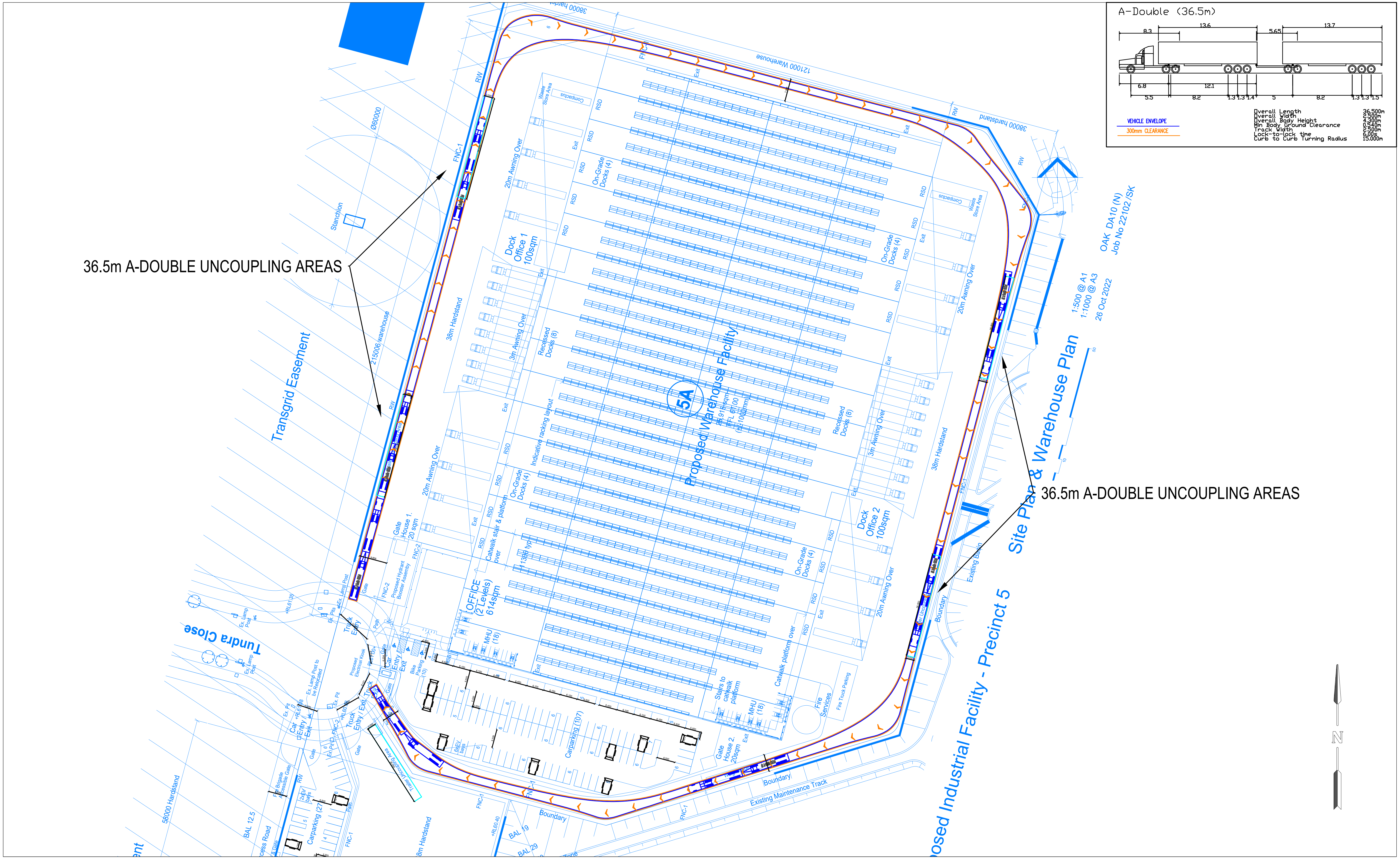

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Base Plan prepared by SBA Architects, received 01.11.2022.
Swept path assessments completed at 10 km/h and 300mm clearance.
Design vehicle: 36.5m A-Double

DESIGNED: Jasmine Wong	PAPER SIZE: A3	CLIENT: GOODMAN	DOCUMENT INFORMATION: DESIGN REVIEW
APPROVED BY: X.XXXX	DATE: 02.11.2022	PROJECT: 1959	36.5m A-DOUBLE SWEPT PATHS (UNCOUPLING) - 5A
SCALE: 1:1200	NTS	OAKDALE WEST ESTATE	FILE NAME: AG1959-04-v09.dwg — SHEET: AG04

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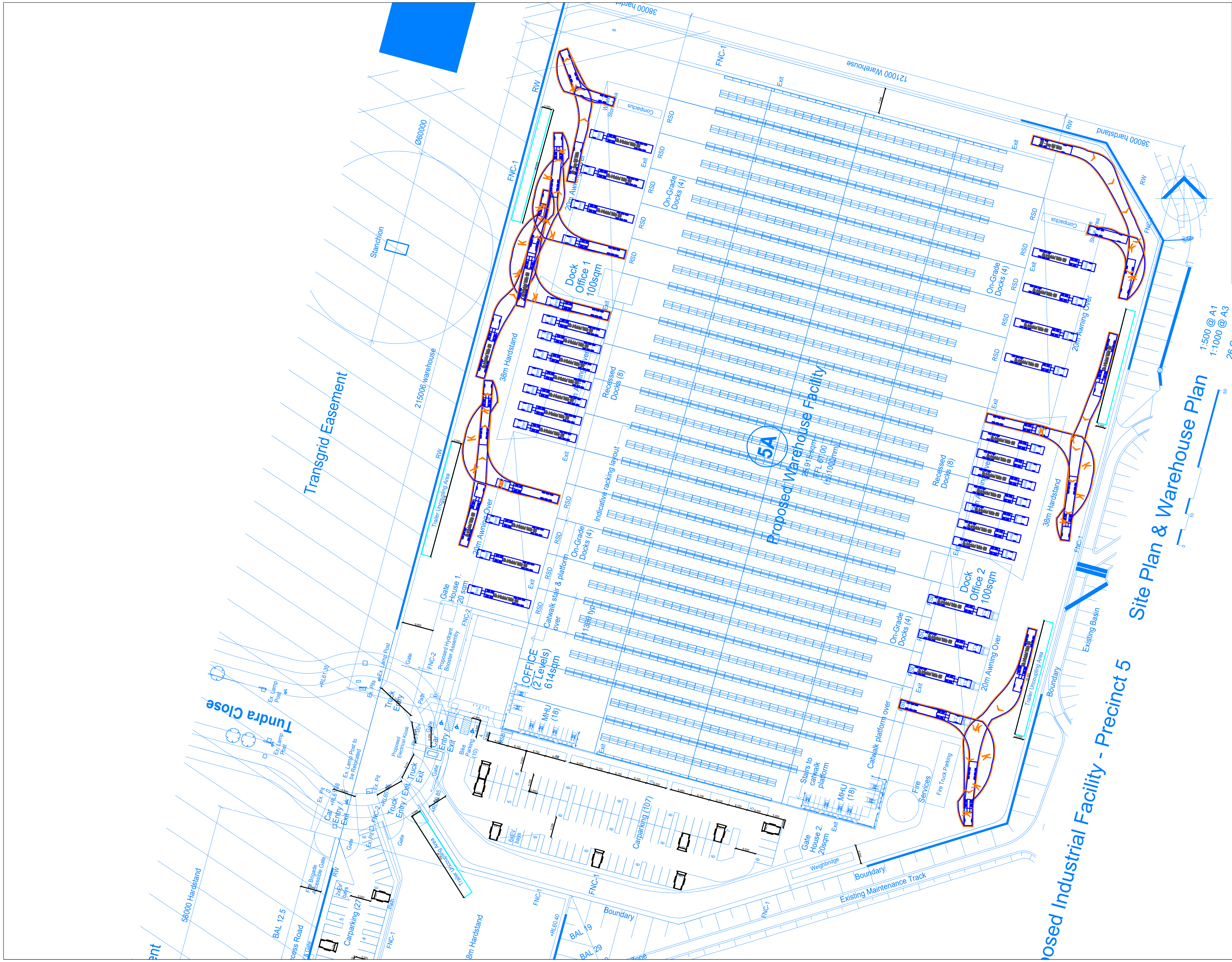

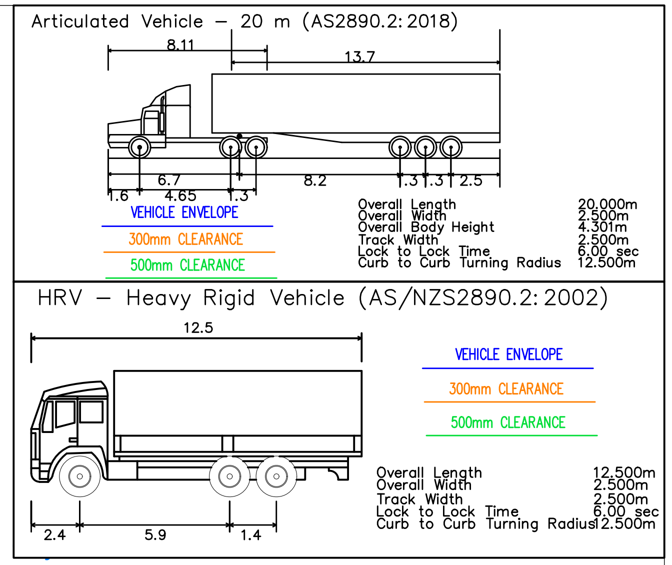

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Swept path assessments completed at 10 km/h and 300mm clearance.
Design vehicle: 36.5m A-Double

DESIGNED: Jasmine Wong	PAPER SIZE: A3
APPROVED BY: X.XXXX	DATE: 02.11.2022
SCALE: 1:1200	NTS

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PROJECT
1959
OAKDALE WEST ESTATE

DOCUMENT INFORMATION
DESIGN REVIEW
20m AV AND 12.5m HRV SWEPT PATHS - 5A

FILE NAME	SHEET
AG1959-04-v09.dwg	AG05

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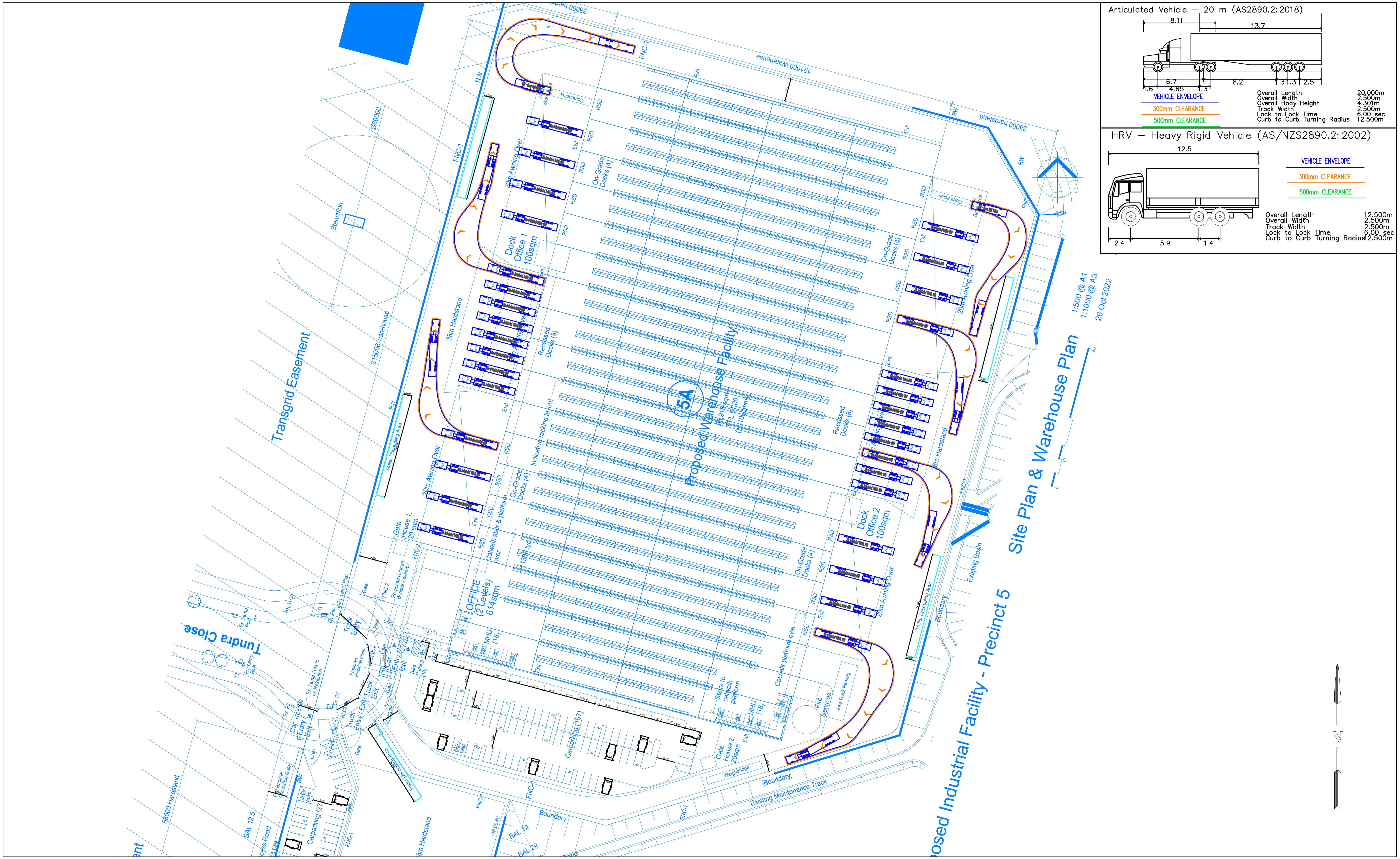

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Swept path assessments completed at 10 km/h and 300mm clearance.
Design vehicle: 36.5m A-Double

DESIGNED Jasmine Wong	PAPER SIZE A3	CLIENT GOODMAN	DOCUMENT INFORMATION DESIGN REVIEW
APPROVED BY X.XXXX	DATE 02.11.2022	PROJECT 1959	20m AV AND 12.5m HRV SWEPT PATHS - 5A
SCALE 1:1200	NTS	OAKDALE WEST ESTATE	FILE NAME AG1959-04-v09.dwg / SHEET AG06

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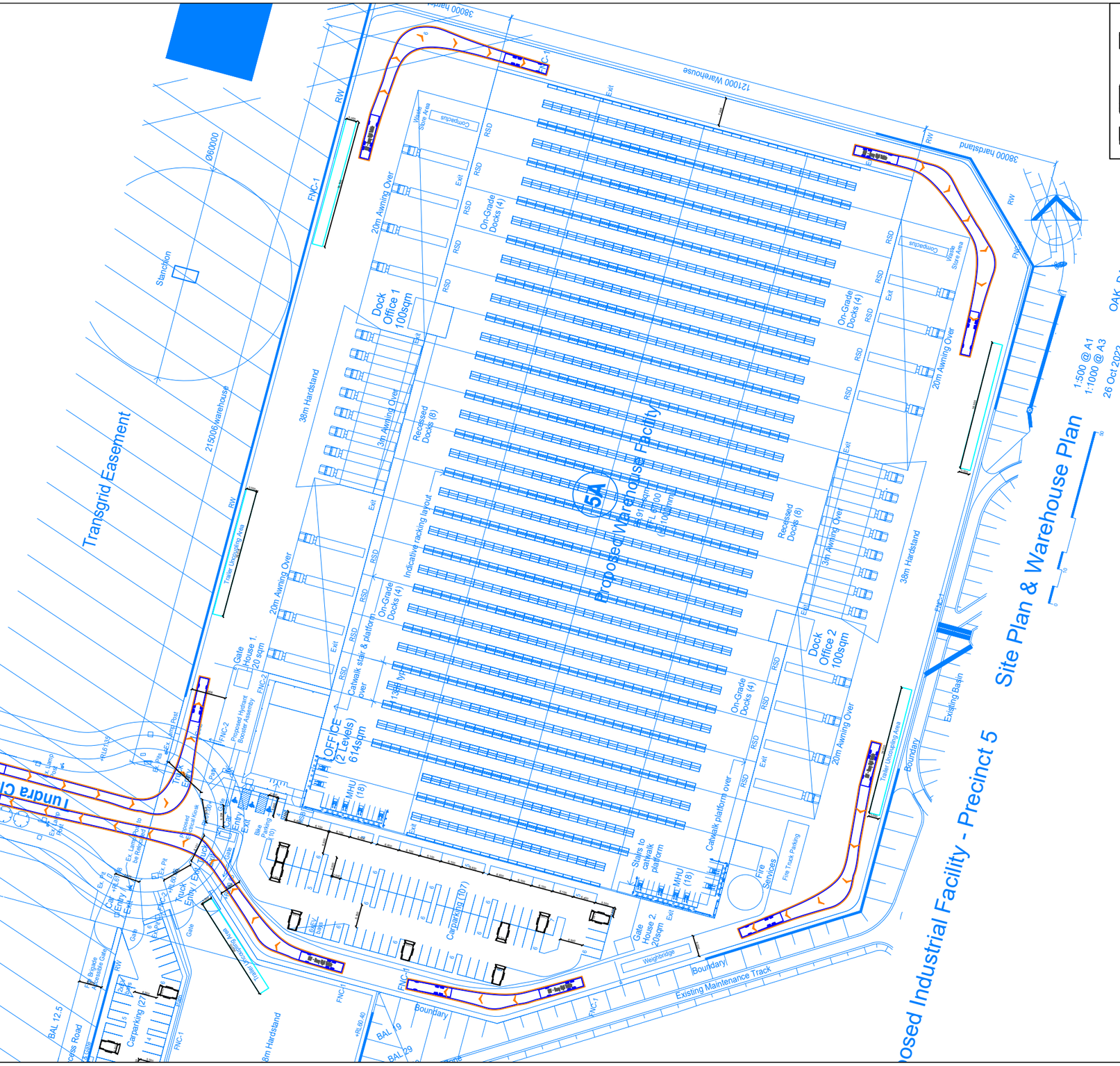

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Swept path assessments completed at 10 km/h and 300mm clearance.
Design vehicle: 36.5m A-Double

DESIGNED Jasmine Wong	PAPER SIZE A3
APPROVED BY X.XXXX	DATE 02.11.2022
SCALE 1:1200	NTS

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GOODMAN

PROJECT
1959
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DOCUMENT INFORMATION
DESIGN REVIEW

FIRE TRUCK SWEPT PATHS - 5A

FILE NAME	SHEET
AG1959-04-v09.dwg	AG07

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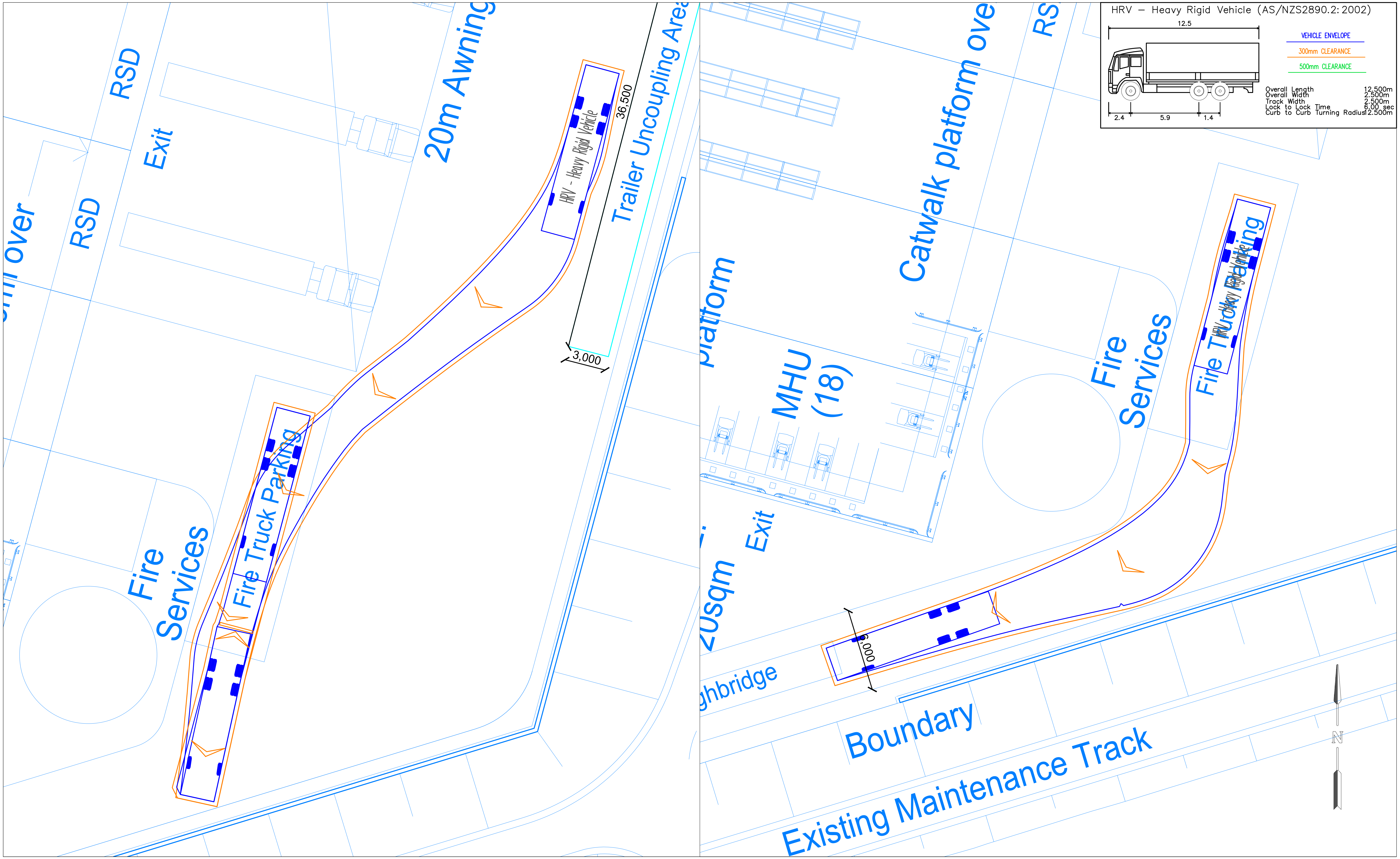

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Swept path assessments completed at 10 km/h and 300mm clearance.
Design vehicle: 36.5m A-Double

DESIGNED	Jasmine Wong
PAPER SIZE	A3
APPROVED BY	X.XXXX
DATE	02.11.2022
SCALE	1:250 (0 2.5 5)
CLIENT	GOODMAN
PROJECT	1959 OAKDALE WEST ESTATE
DOCUMENT INFORMATION	DESIGN REVIEW FIRE STANDING AREA - 5A
FILE NAME	AG1959-04-v09.dwg
SHEET	AG08

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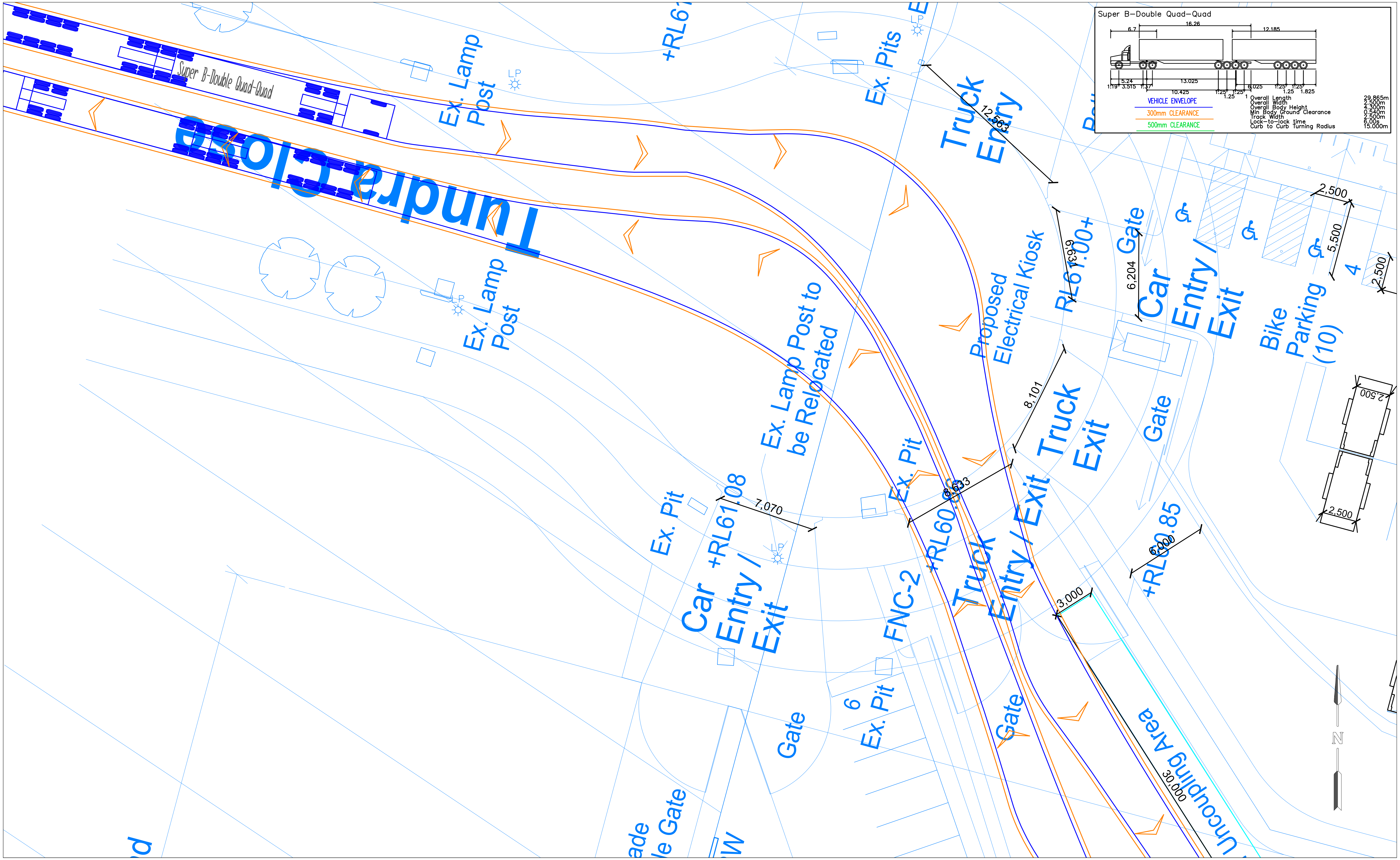

GENERAL NOTES

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Base Plan prepared by SBA Architects, received 01.11.2022.
Swept path assessments completed at 10 km/h and 300mm clearance.
Design vehicle: 36.5m A-Double

DESIGNED: Jasmine Wong	PAPER SIZE: A3	CLIENT: GOODMAN	DOCUMENT INFORMATION: DESIGN REVIEW
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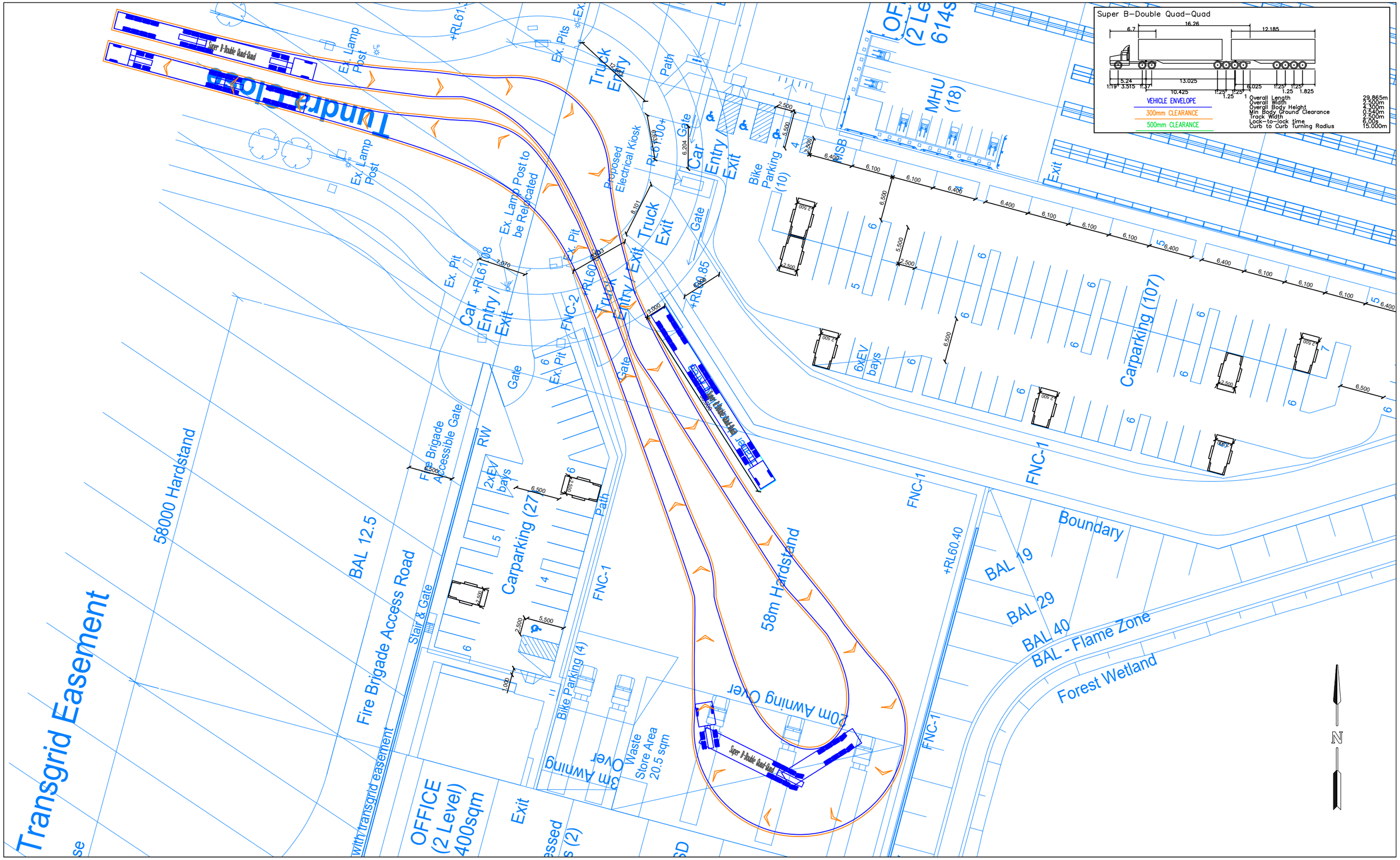

GENERAL NOTES

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Base Plan prepared by SBA Architects, received 01.11.2022.
Swept path assessments completed at 10 km/h and 300mm clearance.
Design vehicle: 36.5m A-Double

DESIGNED	Jasmine Wong
PAPER SIZE	A3
APPROVED BY	X.XXXX
DATE	02.11.2022
SCALE	1:500
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CLIENT: GOODMAN

PROJECT: 1959 — OAKDALE WEST ESTATE

DOCUMENT INFORMATION

DESIGN REVIEW

30m SUPER B-DOUBLE (SIDELOADING) - 5B

FILE NAME	SHEET
AG1959-04-v09.dwg	AG10

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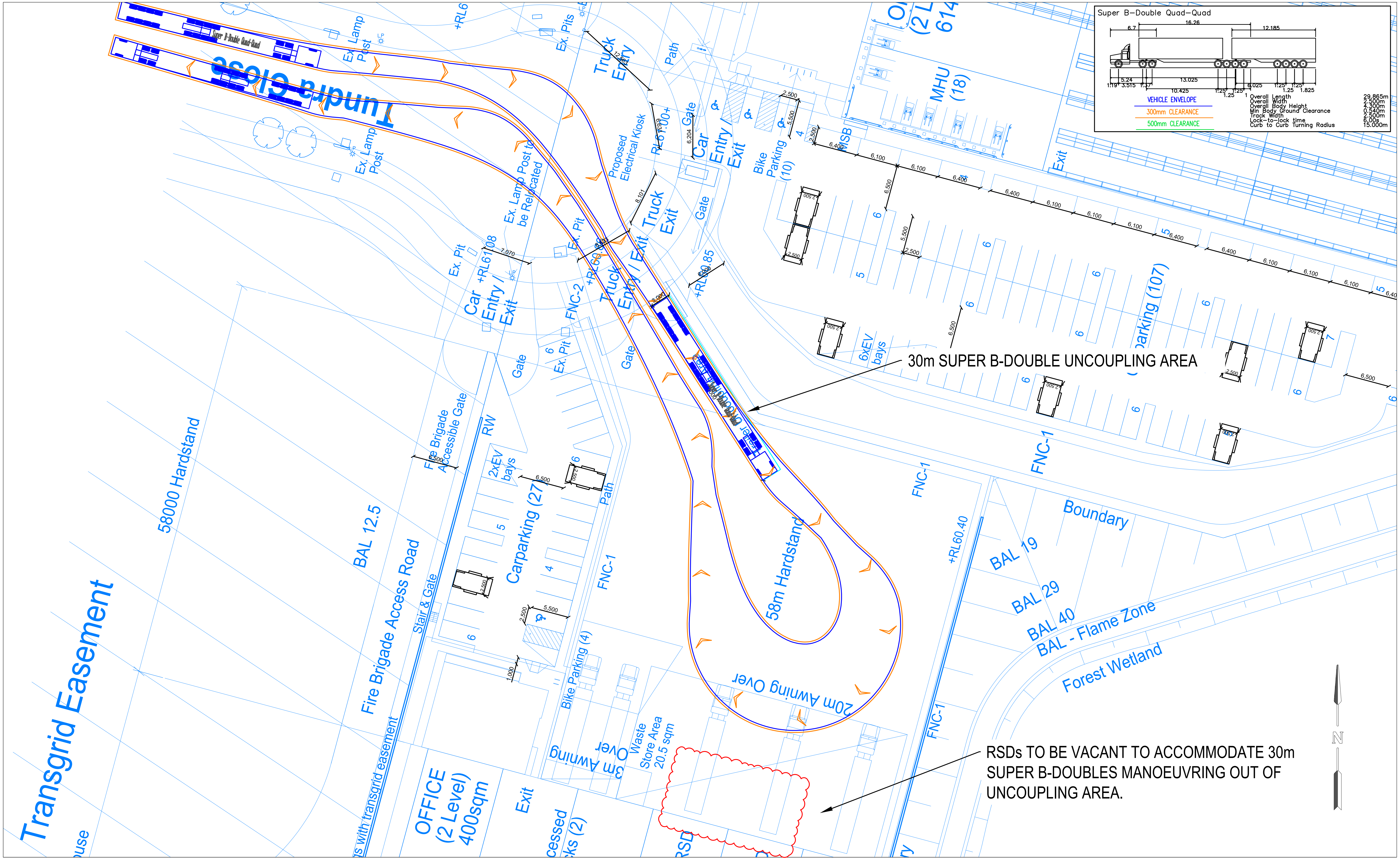
info@asongroup.com.au



GENERAL NOTES

This drawing is provided for information purposes only and should not be used for construction.
Base Plan prepared by SBA Architects, received 01.11.2022.
Swept path assessments completed at 10 km/h and 300mm clearance.
Design vehicle: 36.5m A-Double

DESIGNED	PAPER SIZE	CLIENT	DOCUMENT INFORMATION
Jasmine Wong	A3	GOODMAN	DESIGN REVIEW
APPROVED BY	DATE	PROJECT	
X.XXXX	02.11.2022	1959	30m SUPER B-DOUBLE (UNCOUPLING) - 5B
SCALE	0 5 10	OAKDALE WEST ESTATE	FILE NAME: AG1959-04-v09.dwg / SHEET: AG11
1:500			

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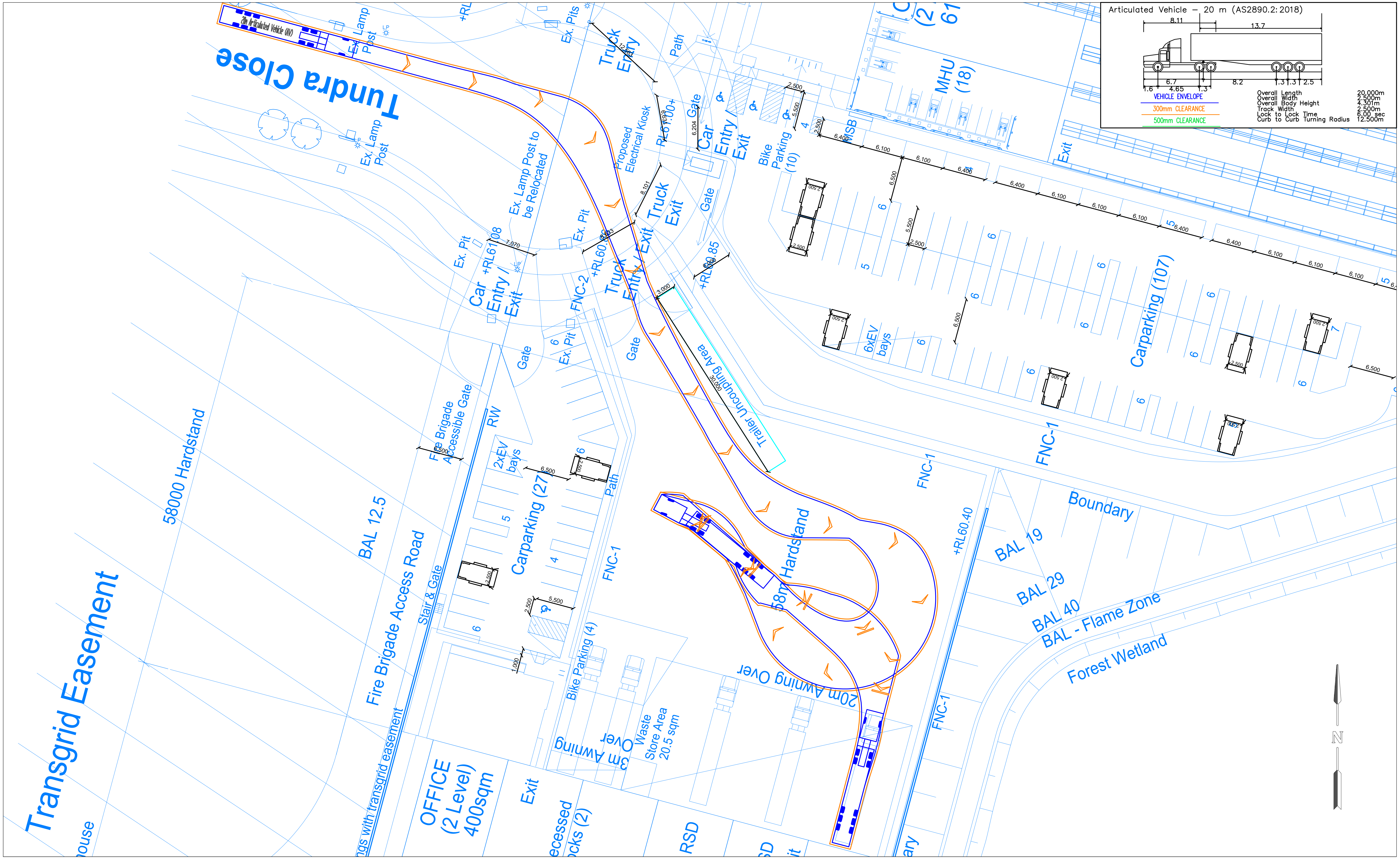
PLOT DATE: 2/11/2022 10:08:21 AM | CAD REFERENCE: C:\Users\Jasmine Wong\OneDrive - Ason Group\Documents\project\1959 - Lot 3 And 5\AG1959-04-v09.dwg | Jasmine Wong |



GENERAL NOTES

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Base Plan prepared by SBA Architects, received 01.11.2022.
Swept path assessments completed at 10 km/h and 300mm clearance.
Design vehicle: 36.5m A-Double

DESIGNED: Jasmine Wong	PAPER SIZE: A3	CLIENT: GOODMAN	DOCUMENT INFORMATION: DESIGN REVIEW
APPROVED BY: X.XXXX	DATE: 02.11.2022	PROJECT: 1959	20m AV SWEPT PATHS - 5B
SCALE: 1:500	0 5 10	OAKDALE WEST ESTATE	FILE NAME: AG1959-04-v09.dwg / SHEET: AG12

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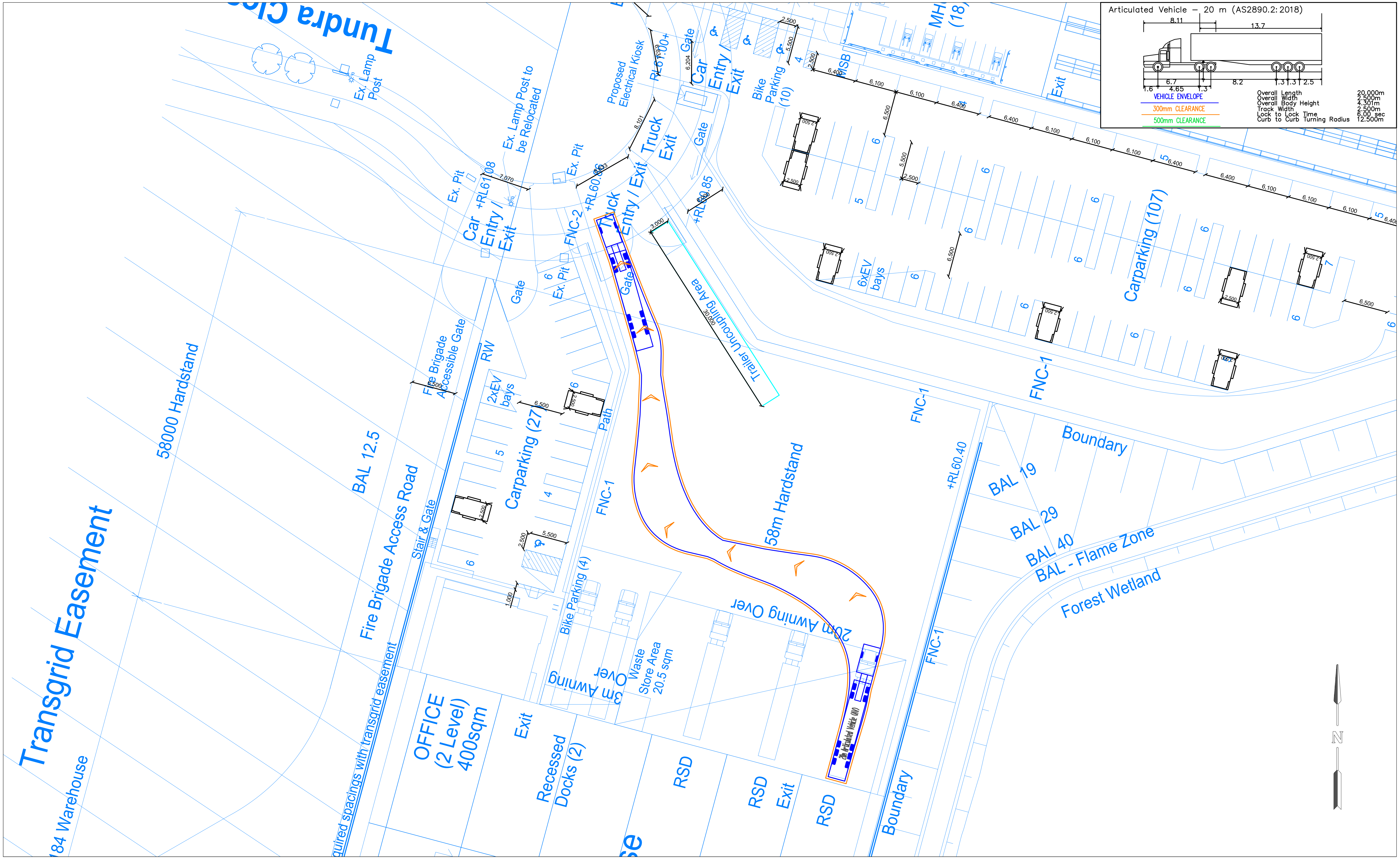

Articulated Vehicle - 20 m (AS2890.2:2018)
VEHICLE ENVELOPE
300mm CLEARANCE
500mm CLEARANCE
Overall Length 20.000m
Overall Width 2.500m
Overall Body Height 4.301m
Track Width 2.500m
Lock to Lock Time 6.00 sec
Curb to Curb Turning Radius 12.500m
Tundra Close
Transgrid Easement
58000 Hardstand
Fire Brigade Access Road
BAL 12.5
58m Hardstand
20m Awning Over
3m Awning Over
Waste Store Area 20.5 sqm
Carparking (107)
Carparking (27)
Trailer Uncoupling Area
Truck Entry / Exit
Truck Exit
Car Entry / Exit
Proposed Electrical Kiosk
Bike Parking (10)
Bike Parking (4)
OFFICE (2 Level) 400sqm
Recessed Docks (2)
RSD
Exit
Boundary
BAL 19
BAL 29
BAL 40
BAL - Flame Zone
Forest Wetland
6xEV bays
2xEV bays
Fire Brigade Accessible Gate
Stair & Gate
Ex. Lamp Post
Ex. Lamp Post to be Relocated
Ex. Pit
Gate
FNC-1
FNC-2
+RL60.40
184 Warehouse

GENERAL NOTES

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Base Plan prepared by SBA Architects, received 01.11.2022.
Swept path assessments completed at 10 km/h and 300mm clearance.
Design vehicle: 36.5m A-Double

DESIGNED	PAPER SIZE
Jasmine Wong	A3
APPROVED BY	DATE
X.XXXX	02.11.2022
SCALE	0 5 10
1:500	

CLIENT
GOODMAN

PROJECT
1959
OAKDALE WEST ESTATE

DOCUMENT INFORMATION
DESIGN REVIEW
20m AV SWEPT PATHS - 5B

FILE NAME	SHEET
AG1959-04-v09.dwg	AG13

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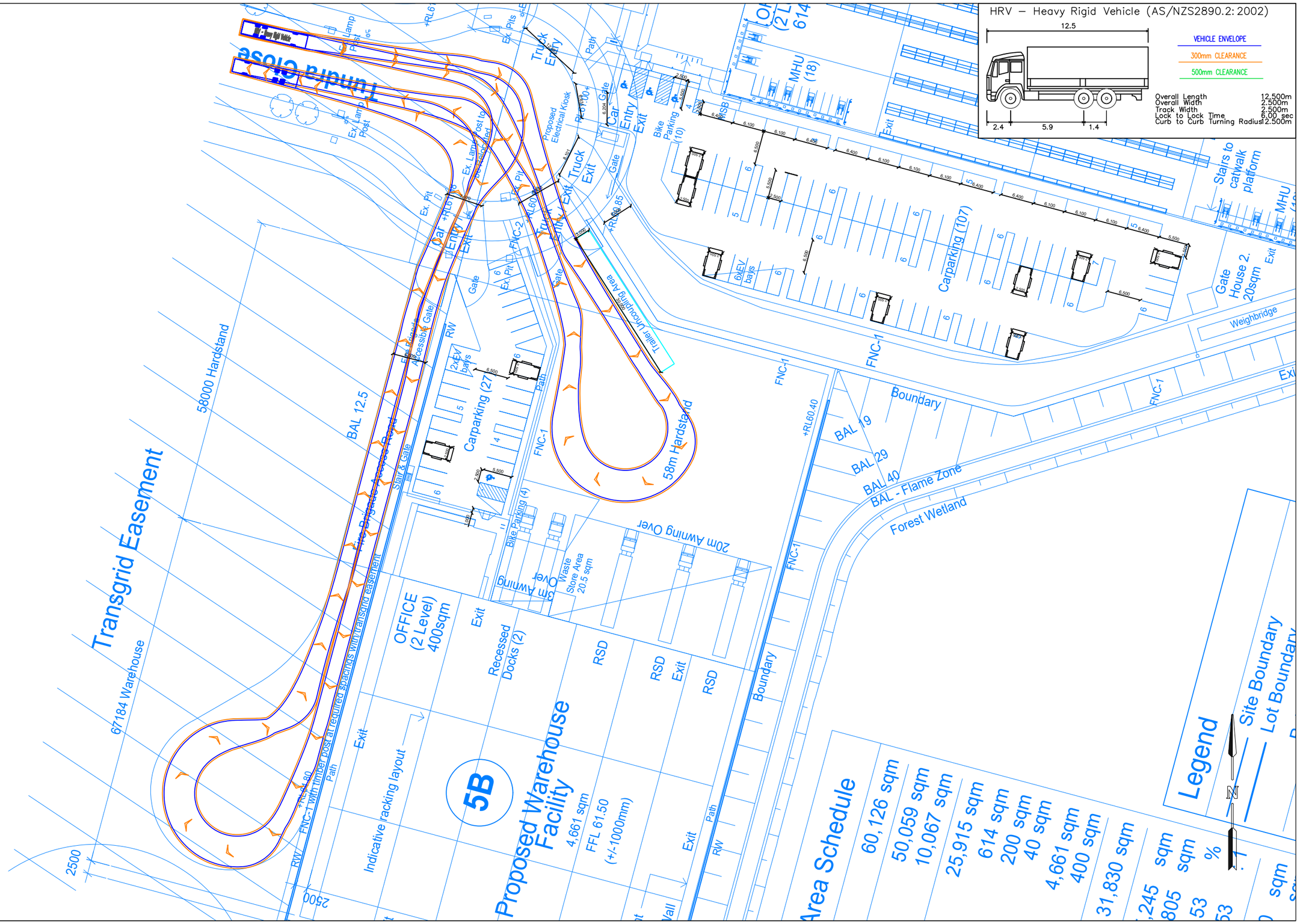
PLOT DATE: 2/11/2022 10:08:31 AM | CAD REFERENCE: C:\Users\Jasmine Wong\OneDrive - Ason Group\Documents\project\1959 - Lot 3 And 5\AG1959-04-v09.dwg | Jasmine Wong |



GENERAL NOTES

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Base Plan prepared by SBA Architects, received 01.11.2022.
Swept path assessments completed at 10 km/h and 300mm clearance.
Design vehicle: 36.5m A-Double

DESIGNED	Jasmine Wong
PAPER SIZE	A3
APPROVED BY	X.XXXX
DATE	02.11.2022
SCALE	1:700
	NTS

CLIENT
GOODMAN

PROJECT
1959
OAKDALE WEST ESTATE

DOCUMENT INFORMATION
DESIGN REVIEW
FIRE TRUCK SWEPT PATHS - 5B

FILE NAME	SHEET
AG1959-04-v09.dwg	AG14

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Sydney NSW 2000
info@asongroup.com.au

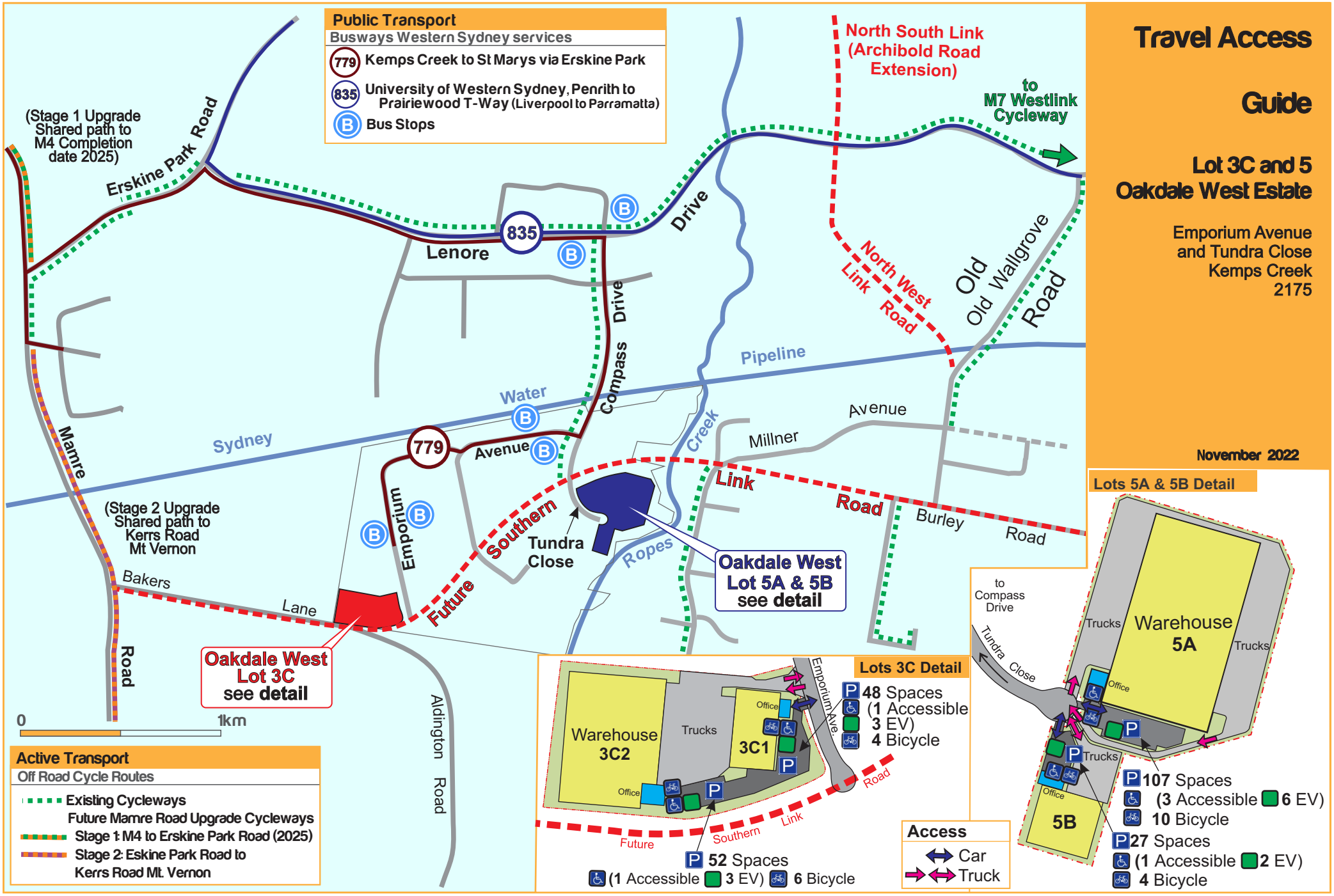
Appendix C. Transport Access Guide (TAG)

Travel Access Guide

Lot 3C and 5 Oakdale West Estate

Emporium Avenue
and Tundra Close
Kemps Creek
2175

November 2022



Appendix D. Sample Travel Mode Questionnaire

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Instructions for Surveyor(s)

- The Survey Form (over page) should be completed by EVERY PERSON attending the site on a particular day.
- 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?

☐ Office staff
☐ Company driver / sub-contractor
☐ Courier / office delivery
☐ Warehouse ground staff
☐ Casual contractor
☐ Other (Please specify).

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

☐ Walked only
☐ Car share vehicle
☐ Bicycle only
☐ Motorcycle / scooter
☐ Train
☐ Car (as passenger)
☐ Bus
☐ Car (as driver)
☐ Taxi
☐ 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

☐ On-street

☐ In other nearby off-street car park

☐ Other (Please specify)

Q4. What is your Residential Postcode?