

## Transport Assessment

ESR Horsley Logistics Park – SSD 10436  
327-355 Burley Road, Horsley Road (Lots 201–204)

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## Document Control

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# 1 Introduction

## 1.1 Overview

Ason Group has been engaged by ESR to prepare a Transport Assessment (TA) to support a State Significant Development Application (SSDA 10436) for the proposed ESR Horsley Logistics Park (the Proposal) at 327-355 Burley Road (Lots 201-204), Horsley Park (the Site). The Site is located within the Fairfield City Council Local Government Authority (LGA).

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

## 1.2 Reference Material

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

- Western Sydney Employment Area – Fairfield Development Control Plan 2016 (WSEA FDCP 2016).
- Southern Link Road / WSEA RNS – Key Stakeholder Briefing (Roads & Maritime Services, 10 July 2019).
- Ason Group, *Traffic Impact Assessment Report, Oakdale East Industrial Precinct (0743r01v1)*, 03/10/2018 (the approved [DCP report](#)).
- Ason Group, *Transport Assessment Report, Proposed Oakdale East Industrial Estate (0771r01v2)*, 8/03/2019 (the approved [OEIE report](#)).
- P0843r01v01 DA TA\_ 327-335 Burley Road, Horsley Park – Transport Assessment (Ason Group, 2019) – the Nu-Pure TA.

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

- Roads and Maritime Services, *Guide to Traffic Generating Developments* (RMS Guide)
- Australian Standard 2890.1: Parking Facilities – Off Street Car Parking (AS 2890.1)
- Australian Standard 2890.2: Parking Facilities – Off Street Commercial Vehicle Facilities (AS 2890.2)
- Australian Standard 2890.6: Parking Facilities – Off Street Parking for People with Disabilities (AS 2890.6)

## 2 Response to SEARs

This report also aims to address key requirements of the Secretary’s Environmental Assessment Requirements (SEARs) in relation to traffic and transport elements of the SSD 10436, dated on 26 March 2020. A copy of the relevant requirements are extracted from the document and are presented in **Table 1** below.

**Table 1: Ason Group Response to SEARs**

Element	SEARs - Traffic and Transport	Ason Group Response
1	<p>A traffic impact assessment detailing:</p> <ul style="list-style-type: none"> <li>a) all daily and peak traffic and transport movements likely to be generated (vehicle, public transport, pedestrian and cycle trips) during construction and operation of the development,</li> <li>b) including a description of vehicle access routes for both construction and operational vehicles and</li> <li>c) the impacts on local and regional road network and nearby intersections;</li> </ul>	<p>Noted. Accordingly, this Traffic Impact Assessment (TIA) addresses the requested information as outlined in the SEAR’s in the following sections:</p> <ul style="list-style-type: none"> <li>a) Details of daily and peak traffic and transport movements to be generated during operation is presented in Section 8. Reference is made to a conducted Journey-to-Work 2016 to provide a general perspective of anticipated operational travel patterns between private vehicles, public transport and active modes in the absence of anticipated staff numbers.</li> </ul> <p>High level assessment for construction traffic is referred in Section 9. However, it should be noted that the total construction volumes are anticipated to be less than overall operational traffic – thus, the traffic assessment undertaken for operational traffic is sufficient to demonstrate that the lower volume of construction traffic would warrant lower levels of impact. It is noteworthy that a detailed CTMP is expected to be provided post DA approval and in response to a suitable condition of consent. By that time it is expected that more detailed information regarding construction program will be available.</p> <ul style="list-style-type: none"> <li>b) Descriptions of vehicle access routes for both construction and operation are referenced in Section 4. Additionally, an assessment of TfNSW’s (former RMS) RAV maps has been conducted to ensure that the roads anticipated for routes are accessible for restricted vehicle sizes.</li> <li>c) An impact assessment on the nearby intersection of Old Wallgrove Road / Milner Avenue and the associated road network is presented in Section 8. The SIDRA analysis (for the year 2026) confirms that the cumulative traffic from the Proposal and other developments in the area can be accommodated without the need for further upgrades even when considering additional 42 veh/hr from the Site.</li> </ul>

Element	SEARs - Traffic and Transport	Ason Group Response
2	<ul style="list-style-type: none"> <li>a) Details of access to the site from the road network including intersection locations,</li> <li>b) design and sight distance;</li> </ul>	<ul style="list-style-type: none"> <li>a) Details to proposed Site access is referred in Section 4, with a detailed figure demonstrating proposed access roads and connectivity to the existing network (Refer Figure 3 and Figure 4).</li> <li>b) Detailed review of the architectural plans against relevant Australian Standards have been conducted and are inclusive of traffic design elements and sight distance checks as specified in the SEARs. Outcome of our design review are included in section 10. However, it is expected that detailed design reviews would occur as part of the Construction Certificate (CC) and in response to a suitable Condition of Consent.</li> </ul>
3	<p>Detailed plans of the proposed site access and parking provision on site in accordance with the relevant Australian Standards; and</p>	<p>Details of the proposed Site access for light vehicles is referred in Section 4. As mentioned above, detailed review has been conducted to ensure that the parking provision is sufficient.</p> <p>Furthermore, review of design matters have been undertaken in accordance with relevant Australian Standards. Reference should also be made to the design commentary included in <b>Appendix A</b>.</p> <p>However, it is expected that detailed design reviews would occur as part of the Construction Certificate (CC) and in response to a suitable Condition of Consent.</p>
4	<p>A queuing impact assessment of the proposed site access to demonstrate sufficient storage has been provided for light and heavy vehicle driveways in each lot and queuing on public road is effectively minimised.</p>	<p>As discussed in Section 10.4, it has been considered that all proposed lots:</p> <ul style="list-style-type: none"> <li>a) has been designed with more than enough area internal queue storage such that queueing will not occur over the crossover and onto the public carriageway.</li> <li>b) security gates will be remain open during operation of the proposed development. Accordingly, there will be no queueing onto local road network as a result of the proposed site accesses.</li> <li>c) a loading dock management figure has been included in Appendix A which shows restriction of loading bays to specific truck sizes to ensure that all time trucks can undertake U-turns and exit the tenancy in any unlikely event that all other loading bays are occupied.</li> <li>c) any further details regarding operational management can readily be provided at site-specific Operational Traffic Management Plan (OTMP) which can be provided prior to the Occupation Certificate.</li> </ul>

In addition to the above, Transport for NSW have provided their response in to the SEARs outlining further detailed requirements in relation to traffic and transport related elements in their letter of 27 March 2020 (*TfNSW Reference: SYD20/00298/02*). These requirements our outlined in Table below.

**Table 2: Ason Group Response to TfNSW**

Element	TfNSW Requirements	Ason Group Response
1	Daily and peak traffic movements likely to be generated by the proposed development including the impact on nearby intersections and the need/associated funding for upgrading or road improvement works (if required).	Noted. Reference to traffic movements of the proposed development and their impacts are referred in Section 8.
2	Details of the proposed accesses and the parking provisions associated with the proposed development including compliance with the requirements of the relevant Australian Standards (ie: turn paths, sight distance requirements, aisle width, etc).	<p>The design of the Site has been assessed on the basis of the requirements of AS2890.1 for off-street parking and AS2890.2 for commercial hardstand areas. Summary of the design review is included in Section 10, with swept paths analysis provided in <b>Appendix A</b>.</p> <p>As discussed before, it is expected that detailed design reviews would occur as part of the Construction Certificate (CC) and in response to a suitable Condition of Consent.</p>
3	The transport and traffic study must properly ascertain the cumulative study area traffic impacts associated with the development (and any other known proposed developments in the area). This process provides an opportunity to identify a package of traffic and transport infrastructure measures required to support future development. Regional and local intersection and road improvements, vehicular access options for adjoining sites, public transport needs, the timing and cost of infrastructure works and the identification of funding responsibilities associated with the development should be identified.	Noted. This TIA assesses the cumulative traffic impact from the proposed master plan for all Lots. The impact assessment includes a traffic generation comparison between the approved WSEA for the Site and the projected traffic generation of the proposal. The outcome of this TIA confirms that no additional road network upgrade is anticipated to accommodate the traffic from this proposal. Furthermore, SIDRA analysis for the Old Wallgrove Road / Milner Avenue intersection (for the year 2026) confirms that the cumulative traffic from the Proposal and other developments in the area can be accommodated.
4	Proposed number of car parking spaces and compliance with the appropriate parking codes.	Proposed parking for the Site has been assessed against the relevant council DCP, as well as the RMS Guides and included in Section 7.
5	Details of light and heavy vehicle movements (including vehicle type, e.g. B-doubles, and likely arrival and departure times), including service movements during the operation of the development and the impacts of vehicles on nearby intersections.	<p>It should be considered that individual tenancies have yet to be determined at this stage. In this respect, operational detail relating to specific light and heavy vehicle distribution and movements, as well as operational schedules is subject to site-specific OTMP for individual tenancies.</p> <p>It is noted that this SSD establishes the cumulative maximum anticipated traffic from the proposed master plan having regard for the generic RMS Guide trip rates.</p>
6	Impact of the proposed development on existing and future public transport and walking and cycling infrastructure within and surrounding the site.	An assessment of existing and future public and active transport is referred in Section 5.
7	Appropriate provision, design and location of on-site bicycle parking, and how bicycle provision will be integrated with the existing bicycle network.	As stated in Section 7, provision and yield of bicycle parking is anticipated to fully satisfy requirements on confirmation of the Construction Certificate (CC).
8	Details of access and parking arrangements for emergency vehicles.	<p>Noted. The site plans consider access, circulation and parking arrangements for emergency service vehicles.</p> <p>Reference should be made to the design commentary and swept paths included in <b>Appendix A</b> demonstrating fire truck routes. Any additional design related matter can readily be assessed as part of the CC stage of the project and in response to a suitable condition of consent.</p>
9	Details of any likely dangerous good to be transported on arterial and local roads to/from the site, if any, and	Noted.

Element	TfNSW Requirements	Ason Group Response
	the preparation of an incident management strategy, if necessary.	
10	The existing and proposed pedestrian and bicycle routes and end of trip facilities within the vicinity of and surrounding the site and to public transport facilities as well as measures to maintain road and personal safety in line with CPTED principles.	Noted. It is considered that end of trip facilities is situated within a secured area for personnel access only and the design can be deferred to at CC stage.
11	Preparation of a Travel Demand Management Strategy and Travel Plan that considers the following: a. Measures to encourage workers and visitors to travel to the site by public transport, walking, cycling and car sharing; b. Provision of adequate bicycle parking and end of trip facilities and improved connections between the development and public transport nodes and pedestrian and bicycle networks.	In line with Section 8, undertaking a 'Travel Demand Management Strategy' and Travel Plan is recommended to reduce dependency on private vehicle reliance for staff movements and promote behavioural shift towards shared, public, and active modes of transport.  In consideration of this, a Journey-To-Work 2016 assessment has already been conducted in Section 8 with the intention of future preparation of a Travel Plan. The development of a Travel Plan and accompanying management strategies are planned to be undertaken at a later stage.
12	Preparation of a draft Construction Management Plan which includes: a. Details of vehicle routes, number of trucks, hours of operation, access management and traffic control measures for all stages of construction; b. Assessment of cumulative impacts associated with other construction activities; c. Assessment of road safety at key intersections; d. Details of anticipated peak hour and daily truck movements to and from the site, emergency vehicles and service vehicle movements; e. Details of temporary cycling and pedestrian access during construction; and f. Assessment of traffic and transport impacts during construction and how these impacts will be mitigated for any associated traffic, pedestrians, cyclist and public transport operations.	Noted. It should be considered that detailed construction information is not presently available and will be assessed in detail at a later stage. Notwithstanding, a preliminary construction management plan has been provided in Section 9.

Furthermore, Fairfield City Council and Penrith City Council have also provided their response to the SEARs outlining further detailed requirements in relation to traffic and transport related elements. These requirements are outlined in Tables below.

**Table 3: Ason Group Response to Fairfield City Council**

Element	Fairfield City Council Requirements	Ason Group Response
1	All internal road design and drainage works shall be in conjunction with previous approvals relating to the subject site.	Noted. As discussed in Section 4.1.1, internal road design is general consistent with the subdivision plan included in the Western Sydney Employment Area-Fairfield Development Control Plan (WSEA FDCP 2016).
2	Safety and capacity impacts of the development on the surround road network and access points shall be determined. A quantitative Traffic Impact Assessment shall be prepared in accordance with AUSTROADS and Transport for NSW Guidelines.	An impact assessment on nearby intersections and the associated road network is presented in Section 8. Furthermore, SIDRA analysis for the Old Wallgrove Road / Milner Avenue intersection (for the year 2026) confirms that the cumulative traffic from the Proposal and other developments in the area can be accommodated.
3	The provision of parking shall comply with the Fairfield Citywide Development Control Plan 2013. Any variation to the parking requirement shall be justified by a parking survey of a development with similar operating characteristics and scale.	Proposed parking for the Site has been assessed against the relevant council DCP, as well as the RMS Guides and outlined in Section 7.
4	Details of all daily and peak traffic and transport movements likely to be generated by the development (vehicle type, public transport) during construction and indicative operation shall be determined. Traffic modelling assessment shall be undertaken to assess the impact of the development traffic on the adjoining road network (nearby intersections) under the existing and forecasted conditions/ SIDRA intersection files (electronic copy of the files) shall be submitted to Council for assessment.	High level construction traffic assessment is referred in Section 9. However, it should be noted that the total construction volumes are anticipated to be less than overall operational traffic – thus, the traffic assessment undertaken for operational traffic is sufficient to demonstrate that the lower volume of construction traffic would warrant lower levels of impact.  As discussed before, it is expected that detailed construction traffic impact assessment would occur as part of the Construction Certificate (CC) and in response to a suitable Condition of Consent.
5	Details and a justification of the proposed access to, from and within the site shall be provided.  The proposed vehicle access for the development shall comply with the requirement of AS 2890.2:2018 and the size of the vehicle access shall be based on the swept path analysis.	The design of these accesses has been assessed by swept path analysis for B-Doubles. Reference should be made to the design commentary and swept paths included in <b>Appendix A</b> demonstrating access and egress to/from the Site by B- doubles.  As discussed before, it is expected that detailed design matters can be reviewed as part of the Construction Certificate (CC) and in response to a suitable Condition of Consent.
6	The internal site layout shall comply with AS 2890.2:2018 and the designed for the largest vehicle manoeuvring into, within and out of the site. Any potential conflicts between vehicles and trucks manoeuvring within the site shall be minimised.	Final resolution of the internal design would be expected to occur as part of Construction Certificate and design coordination phase for each lot and in response to a general condition of consent requiring compliance with AS2890.  Notwithstanding, a general review of design matters have been undertaken in accordance with AS2890.1. Reference should also be made to the design commentary included in <b>Appendix A</b> .  However, it is expected that detailed design reviews would occur as part of the Construction Certificate (CC) and in response to a suitable Condition of Consent.
7	Detailed of road upgrades, new roads or access points required for the development, if necessary.	Detailed discussion of road upgrades, new roads or access points required for the development is included in Section 6.2.

Element	Fairfield City Council Requirements	Ason Group Response
8	The development shall demonstrate sufficient loading/unloading, car parking, pedestrian and cyclist facilities have been provided for the development if required.	Detailed discussion regarding the proposed provision of sufficient loading/unloading, car parking, pedestrian and cyclist facilities is provided in Section 7.
9	A loading management plan shall be prepared. Service vehicles shall only undertake loading and unloading activities from the service bay/ hard stand area and shall not obstruct traffic flow into within and out of the site.  Determination on the size of the loading bays or manoeuvring areas shall be based on relevant Australian Standards and turning path analysis.	A Loading Dock Management Plan is included in <b>Appendix B</b> demonstrating the restrictions of truck sizes for each loading bay.

**Table 4: Ason Group Response to Penrith City Council**

Element	Fairfield City Council Requirements	Ason Group Response
1	Further detail on operational traffic generation, including staff and operational vehicles, as well as details of heavy vehicle volumes specifically, and intended travel routes for heavy vehicles.	It should be considered that individual tenancies have yet to be determined at this stage. In this respect, operational detail relating to specific light and heavy vehicle distribution and movements, as well as operational schedules is subject to site-specific OTMP for individual tenancies. It is anticipated that this SSD establishes the cumulative maximum anticipated traffic associated with the Proposal.  Descriptions of vehicle access routes for both construction and operation are referenced in Section 4. Additionally, an assessment of TfNSW's (former RMS) RAV maps has been conducted to ensure that the roads anticipated for routes are accessible for restricted vehicle sizes.
2	The Construction Traffic Management Plan should also address the volume and travel routes of all construction traffic, provides adequately prepared traffic control plans (TCPs) and specific timeframes (days/hours of week) that heavy vehicles (and in what volumes) are anticipated on nominated travel routes within the surrounding road network.	Noted. It should be considered that detailed construction information is not presently available and will be assessed in detail at a later stage. Notwithstanding, a preliminary construction management plan has been provided in Section 9.

Following initial submission of this TA, DPIE has undertaken a Test of Adequacy (TOA) and confirmed that most of the traffic-related matters have readily been addressed in this TA, with 3 additional comments; a response to each provided in the below table:

**Table 5: Ason Group Response to DPIE TOAs**

Element	DPIE TOA Requirements	Ason Group Response
1	The traffic assessment suggest that the proposed development exceed the previously approved by 50 trips. However, no other assessment of the potential impact of the interim or future intersections has been provided.	<p>Refer Section 8.3.</p> <p>AM peak hour traffic moderately exceeds the approved WSEA threshold by 42 veh/hr with the afternoon peak remaining below approved threshold. This is considered an minor increase in terms of the broader road network and does not have any material traffic impact to wider precinct.</p> <p>SIDRA analysis undertaken for Old Wallgrove Road / Milner Avenue confirms that the additional 42 veh/hr from the Site and the broader precinct (during AM peak hour) can be accommodated within the existing signal by 2026 at LoS B.</p> <p>Accordingly, the current configuration of this signal is sufficient to accommodate the traffic from the proposed development traffic and other surrounding developments.</p>
2	A SIDRA analysis of the interim intersection arrangements considering the cumulative impacts of all developments relying on Burley Road / Old Wallgrove Road should be provided.	<p>It is noteworthy that at the interim stage (before SLR connection) Old Wallgrove Road forms a bend with the current Burley Road configuration (<i>refer Figure 9</i>).</p> <p>Accordingly, interim SIDRA analysis has been undertaken for the next intersection servicing the precinct, being the Old Wallgrove Road / Milner Avenue intersection which is now provided in Section 8.5.</p>
3s	A queuing impact assessment of the proposed site access to to demonstrate sufficient storage has been provided for light and heavy vehicle driveway in each Lot and queuing on public road is effectively minimised.	<p>Refer Section 10.5.</p> <p>All lots will have their gates open during the operation of the facilities. Accordingly, the potential queuing impact of the proposed site access driveways has been assessed as negligible.</p>



### 3 Overview of Proposal

The Proposal seeks approval for construction of single storey warehouse and industrial buildings, with associated car parking and loading areas. All vehicular access for the Proposal will be to/from the proposed 2 Access Roads. It is noted that according to our site inspection on 11 March 2020, Johnston Crescent to the west of the Site has been partially completed and connected to Burley Road, providing access to the newly constructed Nu-Pure development.

Key details of the proposed concept master plan have been obtained from the following site plan:

- HLA Architects, *ESR Logistics Park\_200226-DA-MS-A010-ESTATE MASTERPLAN-P9*, 15 June 2020

Accordingly, the key details relevant to this concept master plan is provided in the following **Table 6**.

**Table 6: Summary of Concept Master Plan**

Lot	Warehouse	Office (m <sup>2</sup> )	Total Built Form (m <sup>2</sup> )	On-site Car Parking Spaces
201	43,488	1,117	44,605	240
202	31,760	1,400	33,160	149
203	18,730	800	19,530	140
204	16,197	800	16,997	149
<b>Total</b>	<b>110,175</b>	<b>4,117</b>	<b>114,292</b>	<b>678</b>

A copy of the site plan is reproduced at a reduced scale for context below.

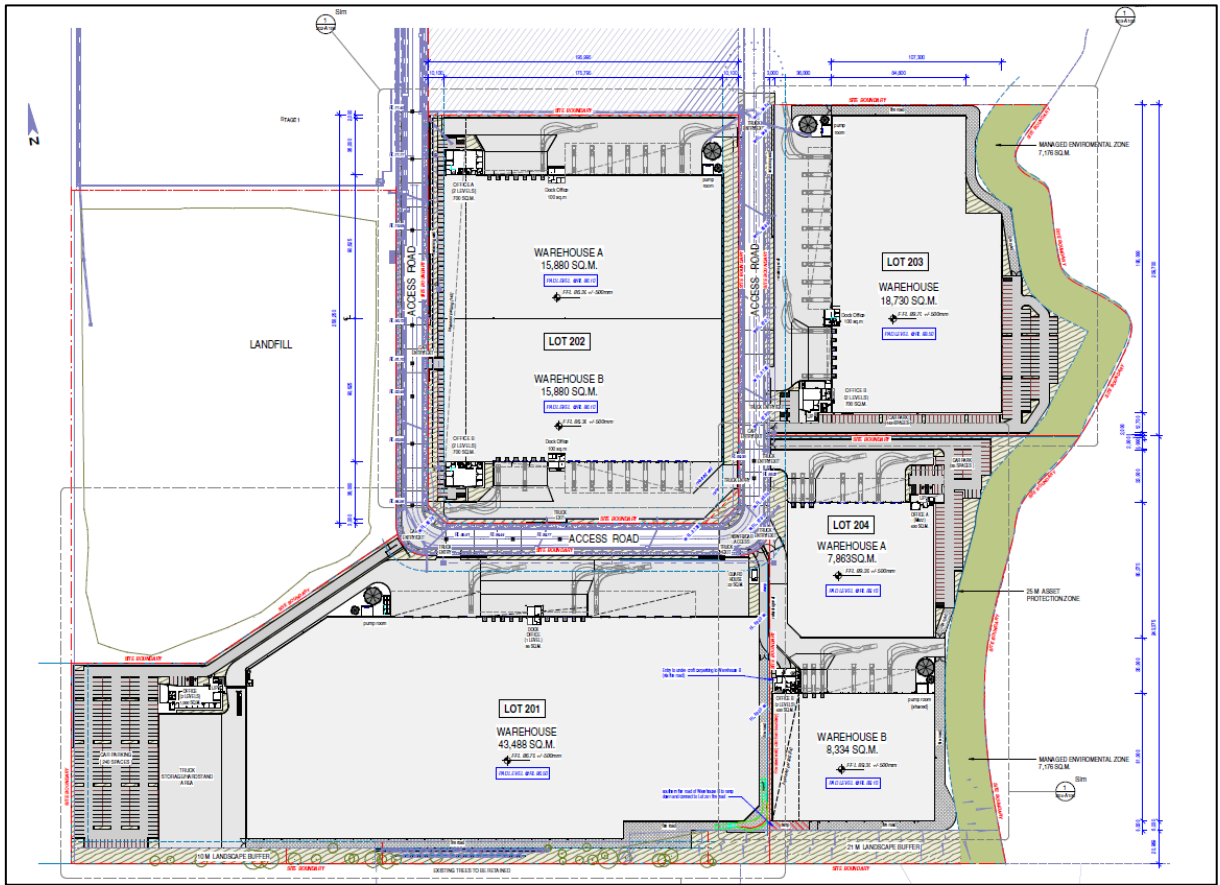


Figure 1: Proposed Site Plan

## 4 Existing Conditions

### 4.1 Site & Location

The Site is located in Fairfield City Council LGA and is known as 327-355 Burley Road, Horsley Park. More specifically, the subject site forms Lots 201, Lot 202, Lot 203 and Lot 204 in DP 106143. The Site is zoned as *IN1 General Industrial* in WSEA FDCP 2016 and according to this document it sits within the Stage 2 development of the Staging Plan (further discussed in Section 4.1.1), which encompasses a total of 20.79 ha of land (Site Area).

A location Plan is presented in **Figure 2** which provides an appreciation of the Site location and the existing road network condition. As can be seen below, the Site is currently vacant and is bounded by future Stage 3 developments to the north, Johnston Crescent and other vacant lands to the west, vacant lands to the south and Lot 205 (bush) to the immediate east.



**Figure 2: Location Plan**

#### 4.1.1 Site Location with Respect to WSEA

The proposal is located within the Western Sydney Employment Area (WSEA) and it is important to note that there is a site-specific WSEA - Fairfield Development Control Plan (WSEA FDCP 2016) for the entire site, 327-335 Burley Road, which therefore covers the subject site.

The DCP also proposes that the overarching subdivision(s) will be undertaken in 3 stages to progressively develop the land. With reference to the subdivision plan included in the WSEA FDCP, the proposed site is located within Stage 2 of the overarching subdivision (refer **Figure 3**). Furthermore, the entire subdivision will be accessed via two internal roads referred as Access Road 1 (Johnston Crescent) and Access Road 2 in below figure. Johnston Crescent is partially constructed at present and is anticipated to provide as the primary access point until the longer-term road network is delivered (under separate approvals).

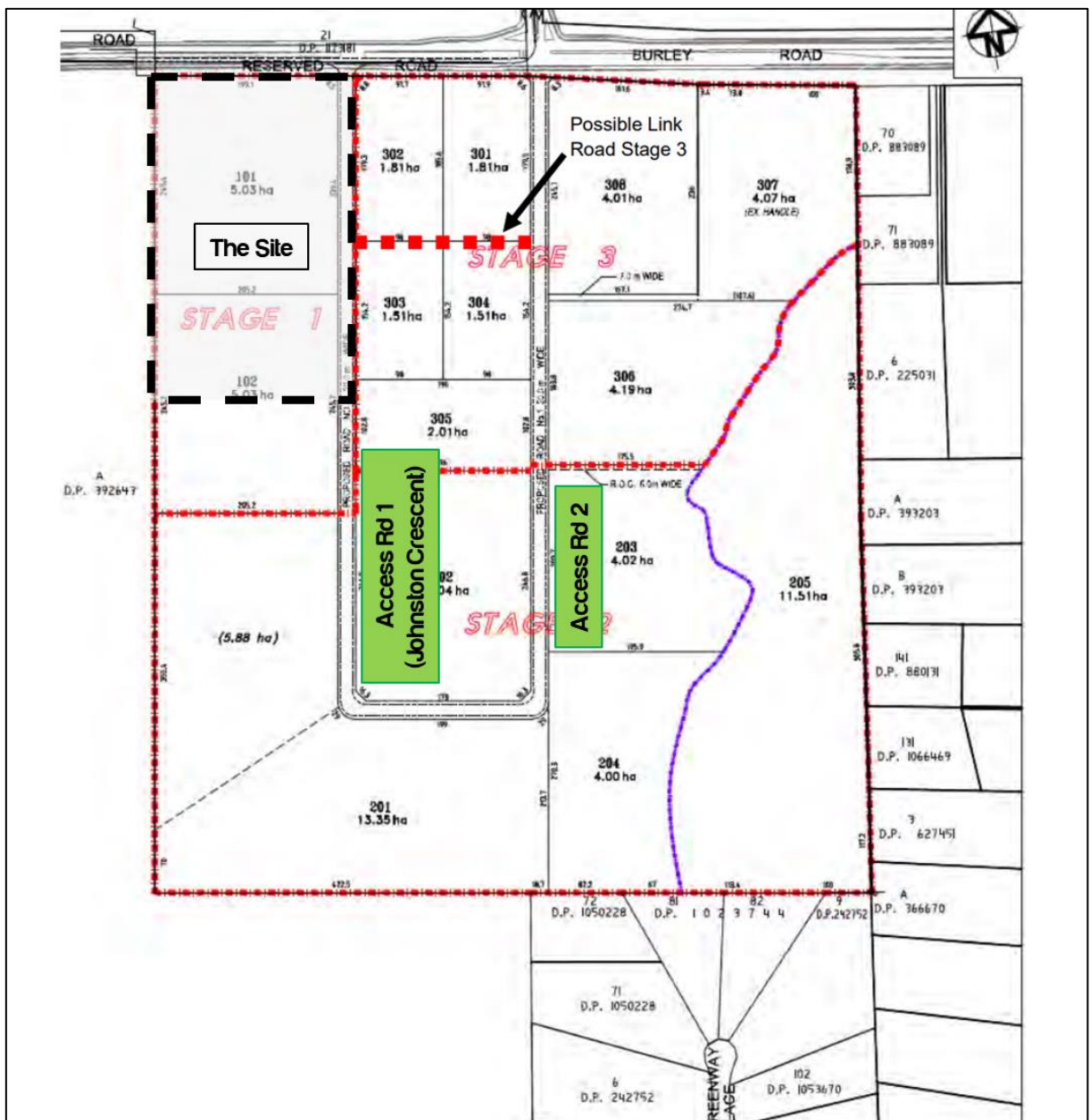


Figure 3: WSEA FDCP 2016 – Subdivision Proposal



#### 4.1.2 Existing Land-use

The Site has historically been used as a quarry and brick manufacturing facility. The Site is currently undergoing earthworks and servicing as part of a separate subdivision approval.

Notwithstanding, the site forms part of the WSEA with IN1 General industrial zoning suitable for future industrial development.

#### 4.2 Existing Site Generation

Having regard for the above, the Site does not currently generate any operational traffic. Accordingly, the anticipated traffic as a result of the proposed development will also be the NET increase of traffic on the surrounding road network.

Notwithstanding, as indicated in Section 3.1.2, the subject site has inherent traffic generating potential envisaged by previous planning for the WSEA. This is discussed further in Section 5.

#### 4.3 Road Hierarchy

The existing and proposed key roads in the vicinity of the Site are shown below.

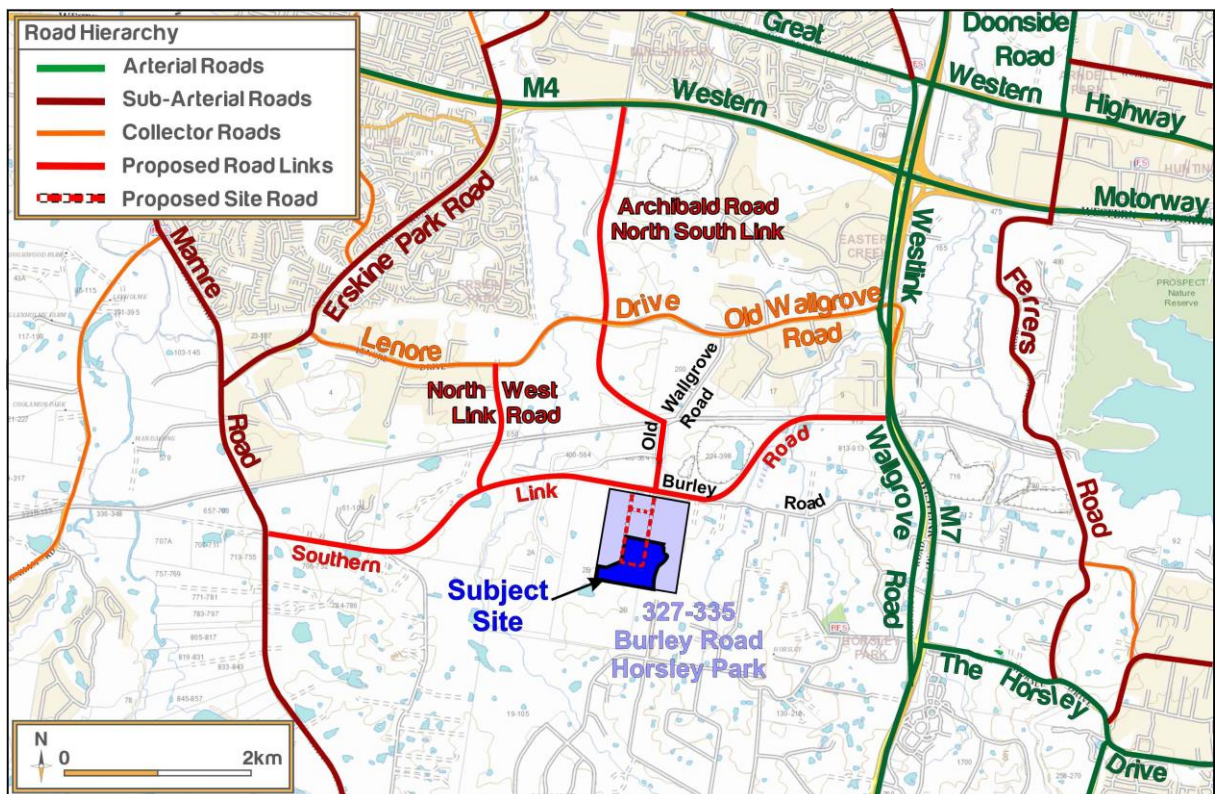


Figure 4: Road Hierarchy

The development will be accessed to/from Access Roads 1 and 2 and as such the associated vehicular movements will primarily be distributed onto this road. Johnston Crescent (Access Road 1) is currently connected to Burley Road. However, there are significant regional road upgrades anticipated for this area of which the future connection of Southern Link Road (SLR) is the most critical in relation to the Site (detailed discussion can be found in Section 5 of this TA).

**Old Wallgrove Road** – is an existing Collector Road which runs north-south in the vicinity of the Site. Old Wallgrove Road is currently a two-way divided road which will provide accessibility for the Site to other significant routes such as M7 through an existing interchange. Furthermore, Old Wallgrove Road will provide direct accessibility for the Site to Eastern Creek to the north of the Site, and other surrounding suburbs to the west (such as Orchard Hill and Kemps Creek) through the existing Lenore Drive. Old Wallgrove Road has recently experienced a number of regional upgrades which will be discussed further in Section 5. Old Wallgrove Road to the north of Milner Avenue includes concrete pedestrian path to its western verge and landscape verge to its eastern verge. East of Lenore Drive, Old Wallgrove Road forms part of a Classified Road connection between Erskine Park Road and Wallgrove Road.

**Burley Road** – provides a 7-metre two-way divided carriageway in this vicinity which runs east-west to the north of the Site. At the moment, Burley Road operates under a speed limit of 60 km/h in this general vicinity. However, it is anticipated that this road will eventually connect to the proposed Southern Link Road extension, hence more regional road upgrade standards are anticipated for this road in future. The existing use of Burley Road is primarily to provide local access for the surrounding developments in the area and it is anticipated to have a weekday traffic flow of less than 1,000 veh/day.

**Johnston Crescent** – forms the western boundary of the Site and is one of the two main north-south routes to service the proposed DCP subdivision (shown as Access Road 1 in Figure 8). At present, this road is partially completed with pedestrian paths on both sides and provides access to the approved Nu-Pure development (under construction), however it will ultimately be extended further south and will intersect with Access Road 2 (ideally the extension of Johnston Crescent). This road will eventually be a public road and its care and control will be vested to the Council.

#### 4.4 Restricted Access Vehicle (RAV)

A review of the RMS Restricted Access Vehicle (RAV) mapping confirms that Old Wallgrove Road, to the north of the Site, is classified as an approved B-Double route (refer **Figure 5**). Therefore, the subject site currently has access to an approved B-double route.

However, the Site will be accessed via public roads which will not automatically be approved for B-Double access. Therefore, upon dedication of the estate roads to Council, further consultation with the

National Heavy Vehicle Regulator (NHVR), TfNSW and Council is required to ensure these roads will be included in future updates to the approved B-double network.

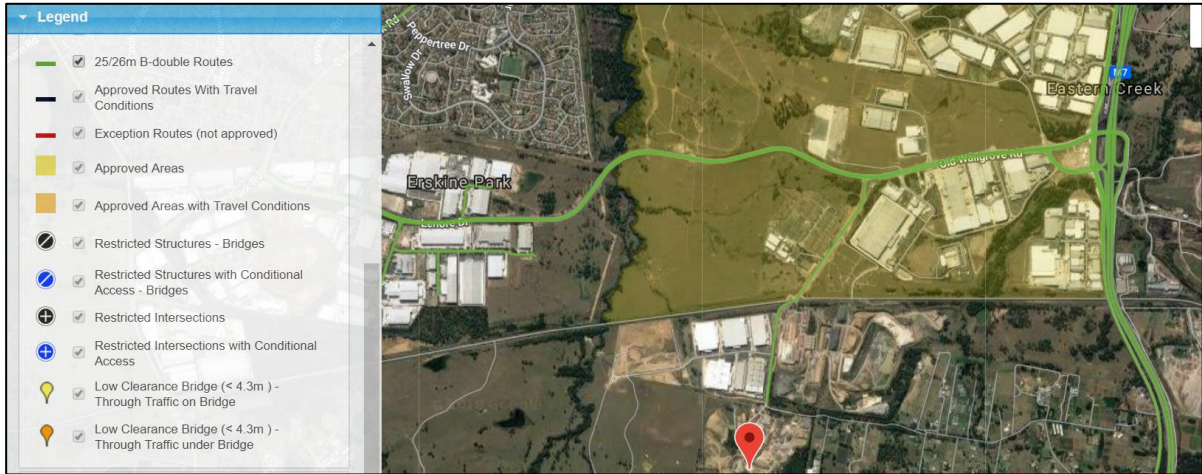


Figure 5: RAV Map

## 5 Public Transport, Cycling and Pedestrian Access

### 5.1 Railway Services

The Site is not located in proximity (800 metres) of any existing train stations, with the closest train station at Rooty Hill Station being approximately 11 kilometres (or 17 - 25 minutes' driving distance) from the Site.

### 5.2 Bus Services

With regard to bus travel, the *Integrated Public Transport Service Planning Guidelines* state that bus services influence the travel mode choices of sites within 400 metres of a bus stop (approximately 5 minutes' walk). However, the entire subdivision including the Site is serviced by 2 bus stops within 800 metres, as shown in **Figure 6**. This comprises bus service 813 which provides connections between Fairfield Station, South West Sydney Tafe, Prairiewood T-way, Horsley Park shops and Bonnyringg T-way. Another 2 bus routes (738 and 835) are more than 1 kilometre away from the Site.

### 5.3 Existing Pedestrian Accessibility

Johnston Crescent currently provides pedestrian paths in the subject site's vicinity. It is expected that Burley Road and other estate roads will provide pedestrian connection to facilitate a permeable and convenient walking opportunity to connect Old Wallgrove Road pedestrian network.

Furthermore, Old Wallgrove Road includes concrete footpaths to the north of Milner Avenue, with the western verge landscaped to the south of Milner Avenue.

### 5.4 Existing Cycle Routes

There are currently limited cycling facilities and routes provided within the immediate proximity of the development. With reference to below figure, off-road cycleways are provided along Old Wallgrove Road further to the north of the Site.



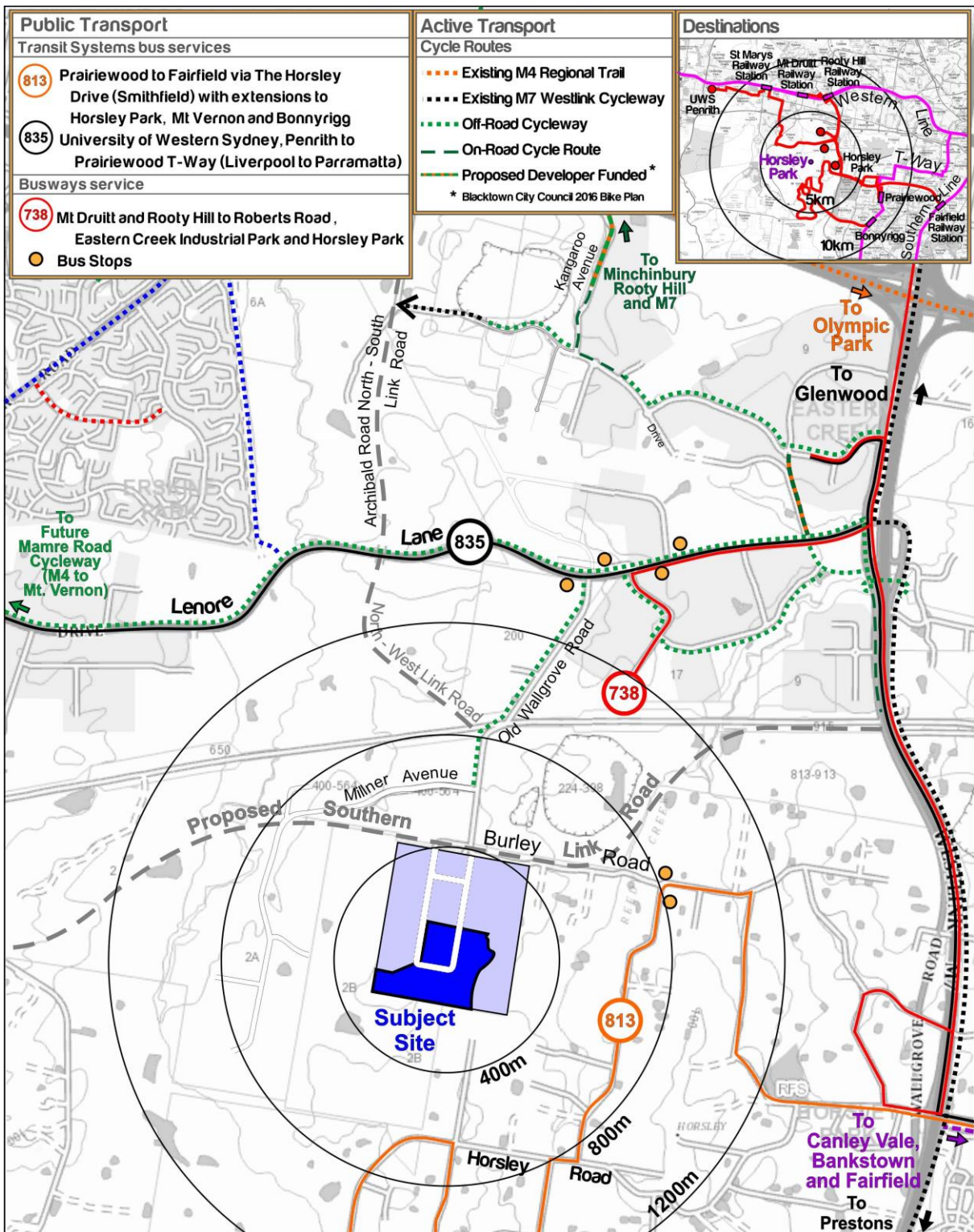


Figure 6: Public and Active Transport

## 6 Future Context (Without Proposal)

The Site is located within the Western Sydney Employment Area (WSEA) for which the New South Wales (NSW) Government established a vision to provide a wide range of businesses in a commercial/industrial core with the lands proposed for number of employment opportunities including transport and logistics, industrial warehousing and office spaces.

To deliver the Government vision for the WSEA, a number of regional traffic modelling and impact studies have been undertaken by different consultants on behalf of TfNSW (former RMS), Council and Department of Planning, Industrial and Environment (DPIE). As part of the holistic traffic studies EMME and Paramics models had been developed by GHD to analyse the impact of traffic in a comprehensive scale. Accordingly, it is understood that project approval has been granted in consideration of these traffic studies and, as such, the traffic modelling and assumptions for the area have been deemed acceptable to the assessing Authorities.

The latest regional road network upgrades envisaged for the general vicinity is discussed in the “*Old Wallgrove Road Upgrade*” documents (prepared by RMS in July 2015). These upgrade works have been largely progressed and delivered between 2017-2018. However, a number of regional works are still envisaged for the broader WSEA area.

### 6.1 Completed Works

As it relates to the Site the following upgrade works have been completed:

- Old Wallgrove Road has been upgraded to three-lanes in each direction between Southridge Street and the M7 Motorway, and
- Old Wallgrove Road has been upgraded to two-lanes in each direction between Southbridge Street and Robert Street with a central median to allow for potential three lanes in future.

Reduced copies of the regional road and intersection upgrades in this general proximity are presented in following **Figure 7**.



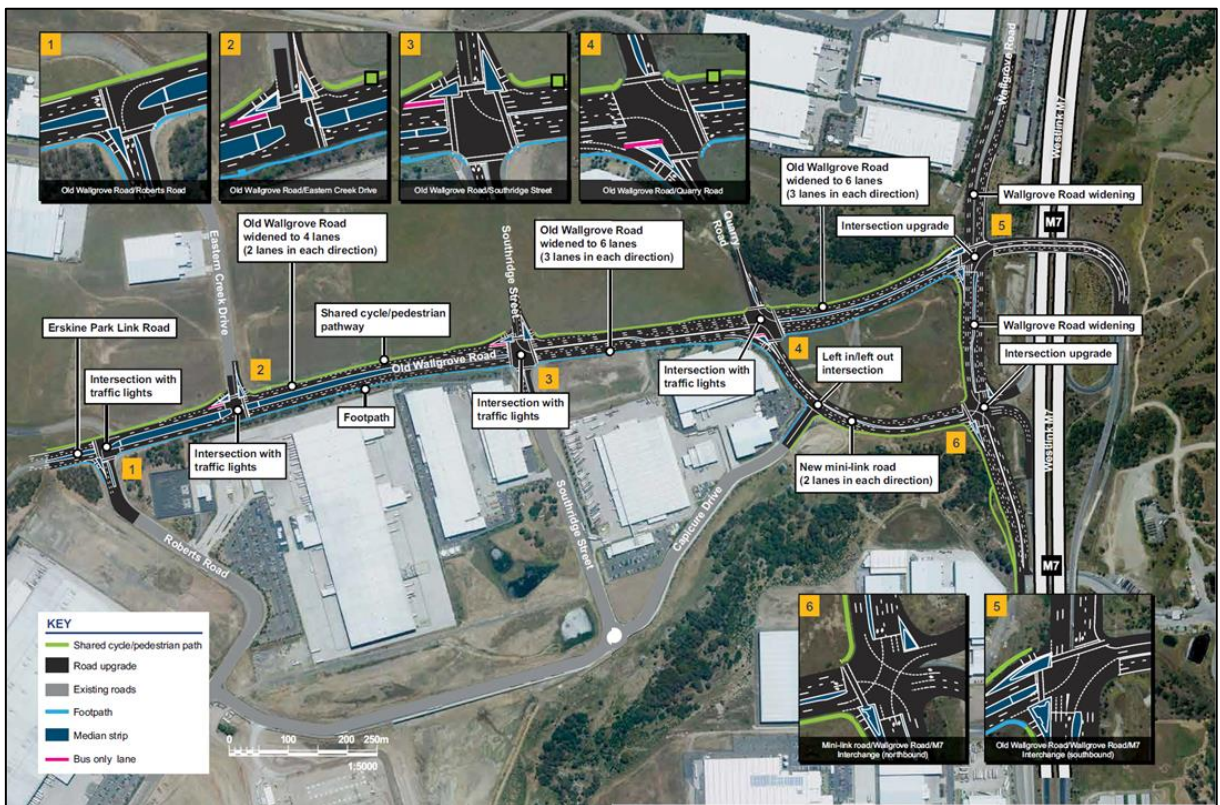


Figure 7: Regional Upgrade Plan

## 6.2 Proposed Works

The Southern Link Road is a significant future regional road envisaged to run along the northern boundary of the precinct and will be connected to the future Burley Road, hence providing the precinct and the Site with a greater access to the broader WSEA particularly to Mamre Road – to the west – which will also be a major north-south corridor in the future.

With reference to the DCP and the recently documented Southern Link Road / WSEA RNS Key Stakeholder Briefing (RMS 2019), the following staged road and intersection arrangements for the precinct and the proposed Southern Link Road are envisaged. It is important to note that the Southern Link Road upgrade has not been funded, nor has there been any commitment to timeframes for the upgrade at the time of preparation of this TA.



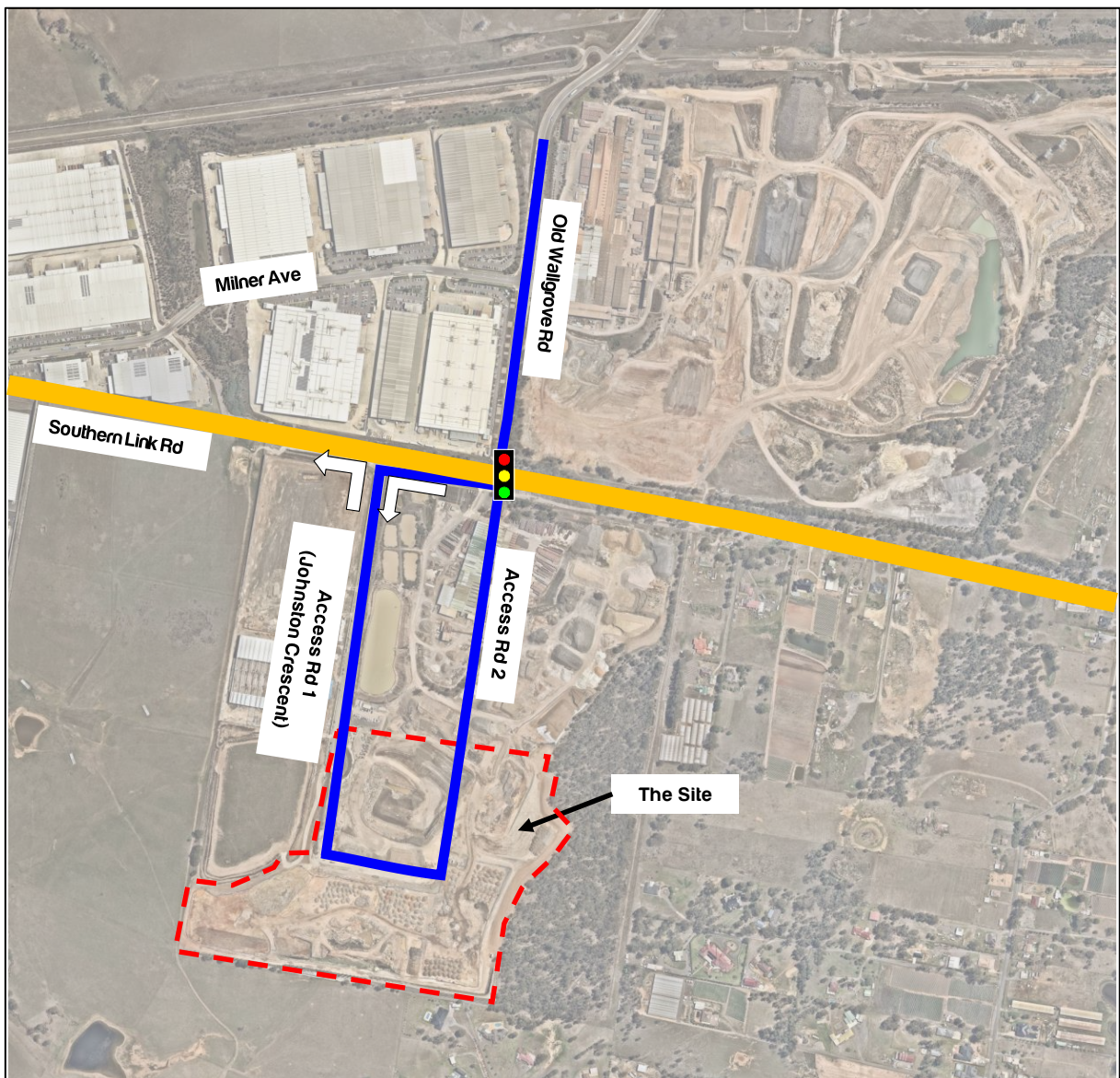
Figure 8: Stage 1 Indicative Road and Intersection Arrangements





Figure 9: Stage 2 Indicative Road and Intersection Arrangements



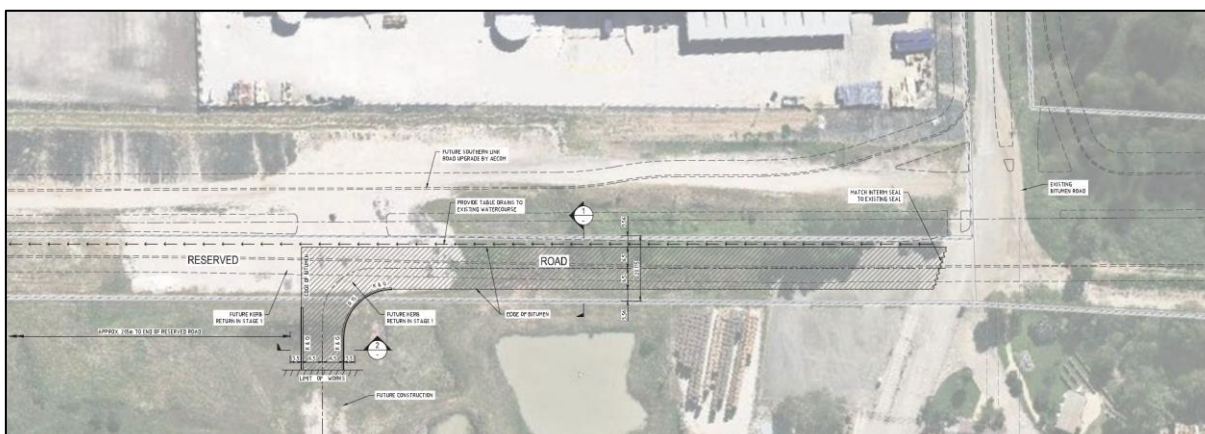


**Figure 10: Stage 3 Indicative Road and Intersection Arrangements**

### 6.3 Intersection Arrangements

#### 6.3.1 Interim Scenario

It is intended that the entire precinct will primarily be accessed via a 4-way intersection between Old Wallgrove Road / Burley Road (Southern Link Road) and the Access Road 2 (refer **Figure 11**).



**Figure 11: Interim Arrangement**

Furthermore – during the interim stage – it is proposed that a turning head will be provided at the southern end of the Johnston Crescent to enable the vehicles to make U-turns if required.

### 6.3.2 Ultimate Scenario

In ultimate scenario and when the Southern Link Road is opened at this end, it is anticipated that the precinct will only be accessed via a (4-way) signalised intersection at Access Road 2. At such time, the other intersection at Johnston Crescent (Access Road 01) will be restricted to left-in/ left-out (refer **Figure 12**).



**Figure 12: Ultimate Left in / Left Out Configuration of the Johnston Crescent**

The ultimate left-in / left-out configuration of Burley Road / Johnston Crescent can also be referred to as indicated in RMS key stakeholder briefing document (July 2019) which is shown in the following **Figure 13**.





**Figure 13: Burley Road / Johnston Crescent – Source: RMS Stakeholder Briefing Document**

Ason Group has also been notified that there might be plans (at some time in future) to close the intersection of Burley Road / Johnston Crescent (Access Road 01) or converting that to left-out only; however, there is no commitment or timing associated with this closure.

It is acknowledged that, as far as Ason Group is aware, there is no committed timing for the above upgrades and the final resolution of the intersection treatments are yet to be determined.

Nonetheless, having regard for the traffic impact assessments undertaken as part of this TA, it is acknowledged that the ultimate resolution of the surrounding road network will not have any material impact to the operation of this SSD. This matter will be clarified by means of detailed traffic generation assessment later in this TA.



## 7 Parking Provisions

Parking provision of the proposed SSD has been reviewed against Council DCP and RMS *Guide to Traffic Generating Developments* (RMS Guides). Furthermore, comparison has been made between these controls and the recently approved comparable sites in the broader WSEA area. In recent discussion with TfNSW, general sentiment indicates support for reduced car parking provisions to encourage the use of non-car travel modes where available.

### 7.1 Nominal Council Requirement

The Site is located within the Fairfield City Council and as such the WSEA FDCP 2016 is theoretically applicable to the proposed SSD. According to the DCP, the following car parking rate is applicable to the Site:

- 1 space per 70 m<sup>2</sup> gross leasable area including ancillary plus 1 space per unit for factory units.

It is noted that the above site-specific DCP rate is actually higher than that referred in Section 9.7.4 of the Fairfield Citywide DCP (1 space per 80m<sup>2</sup> GLA), suggesting some acknowledgement of varying demands for varying types of development.

These generic rates are more suitable to small tenancies, industrial business parks with high proportion of office areas and/or other specific tenants with high staffing levels and not the large-format industrial warehouse type facilities proposed. It is acknowledged that at the time of this TA, no specific tenancies have been assigned to the Lots within the Site, hence, no tenant-specific parking demand is available.

However, in general, significantly lower tenant parking requirements associated with these large-format warehouses demonstrate that the DCP rates are generally far in excess of the anticipated actual parking demand for likely users of this scale noting the parking provisions for similar industrial properties recently approved in broader WSEA as well as those currently operating. Furthermore, from a commercial perspective, provision of such significant number of (surplus) parking for the development is not reasonable and does not accord with sustainable development principles. Therefore, reference should be made to other parking guidelines to identify a suitable car parking provision for typical users of such facilities, as discussed in Section 7.2.

Notwithstanding, for completeness, a summary of nominal DCP requirements for each Lot is provided in **Table 7**.

**Table 7: Car Parking Requirement - Nominal Council Requirement**

Lot	Warehouse	Office (m <sup>2</sup> )	Total Built Form (m <sup>2</sup> )	Total GLA <sup>1</sup> (m <sup>2</sup> )	Car Parking Requirement	On-site Parking Supply
201	43,488	1,117	44,605	33,454	478	240
202	31,760	1,400	33,160	24,870	355	149
203	18,730	800	19,530	14,648	209	140
204	16,197	800	16,997	12,748	182	149
<b>Total</b>	<b>110,175</b>	<b>4,117</b>	<b>114,292</b>	<b>85,719</b>	<b>1,225</b>	<b>678</b>

Note: 1) It is assumed that  $GLA=0.75 \times GFA$ .

The table above indicates that application of the Council nominated theoretical parking rate to the proposed development yield results in a total parking requirement of 1,225 car parking spaces.

A more realistic assessment of future parking demands is discussed below.

## 7.2 Merit-based Parking Assessment

### 7.2.1 RMS Guides Parking Requirement

It is noteworthy that a number of other warehouse and distribution centres within the broader WSEA area have been approved which provided car parking in accordance with the RMS Guide, being more representative of the typical demands for the type of development proposed. Accordingly, the theoretical parking demand of the development has also been assessed in accordance with the RMS Guide rates—which are summarised in **Table 8**.

**Table 8: Applicable Car Parking Rates – RMS Guides**

Land Use	RMS Parking Rate
Warehouse/Industrial	1 space per 300 m <sup>2</sup> GFA
Office	1 space per 40 m <sup>2</sup> GFA

Application of the above RMS Guide rates to the development yield at each stage is provided below.

**Table 9: Car Parking Requirement - RMS Guides Parking Requirement**

Lot	Warehouse	Office (m <sup>2</sup> )	Total Built Form (m <sup>2</sup> )	Car Parking Requirement (RMS Guides)	On-site Parking Supply	Parking Surplus
201	43,488	1,117	44,605	173	240	(+) 67
202	31,760	1,400	33,160	141	149	(+) 8
203	18,730	800	19,530	82	140	(+) 58
204	16,197	800	16,997	74	149	(+) 75
<b>Total</b>	<b>110,175</b>	<b>4,117</b>	<b>114,292</b>	<b>470</b>	<b>678</b>	<b>(+) 208</b>

It is evident from the above that the RMS Guide parking requirements (470 spaces) is significantly less than the Council DCP rates. It is important to note that the proposed SSD will meet and exceed the RMS Guide parking requirements for each individual warehouse. In fact, the proposed surplus of parking provision will future proof the warehouses in the event that ANY of the proposed tenancies would require more car parking spaces compared to the RMS Guide parking requirements.

It is again emphasised that in our recent liaison with RMS on a similar SSD project in Blacktown area we have been notified that TfNSW supports provision of RMS Guide parking rates when reviewing SSDs of similar nature.

#### 7.2.2 Parking Approvals for Similar Developments

Reference is also made to the approved parking rates for a number of similar developments within Fairfield and Penrith LGA which are as outlined in **Table 10** — the most recent approval of relevance being the Nu-Pure development, located within the precinct of which the Site is located; also within the Fairfield City Council LGA.

**Table 10: Previously Approved Development Car Parking**

Site	DA Number	GFA (sqm)	Car Parking Provided	Proposed Car Parking Space / sqm GFA
<b>Fairfield LGA</b>				
Nu-Pure	DA 58.1/2019	Warehouse: 20,000 Office: 575	159	1 space / 129 sqm
Lot 4, Oakdale Central, Horsley Park (Lot 21 DP 1173181)	DA 451.1/2016 Refer Condition 61	Warehouse: 12,380 Office: 1,020	114	1 space / 118 sqm

Site	DA Number	GFA (sqm)	Car Parking Provided	Proposed Car Parking Space / sqm GFA
400-564 Burley road, Horsley Park (Lot 21 DP1173181)	DA 699.1/2013	Warehouse: 30,600 Office: 1,600	195	1 space / 165 sqm
Lot 3, Oakdale Central, Horsley Park (Lot 21 DP1173181)	SSD 7491	Warehouse: 35,840 Office: 1,125	207	1 space / 173 sqm
Cnr The Horsley Drive & Cowpasture Road, Horsley Park	SSD 7564	Warehouse: 17,670 Office: 1,100	117	1 space / 160 sqm
<b>Average Proposed Carparking Space / GFA sqm:</b>				<b>1 space / 149 sqm</b>
<b>Penrith LGA - Oakdale West</b>				
Lot 1A, Oakdale West	SSD 7348	Warehouse (including office): 22,485	117	1 space / 192 sqm
Lot 1B, Oakdale West	SSD 7348	Warehouse (including office): 16,180	106	1 space / 153 sqm
Lot 1C, Oakdale West	SSD 7348	Warehouse (including office): 79,360	386	1 space / 206 sqm
<b>Average Proposed Carparking Space / GFA sqm:</b>				<b>1 space / 183 sqm</b>

It is evident that the approved parking rates for a number of similar developments within the broader area are generally between approximately 1 space / 118 sqm GFA and 1 space / 206 sqm GFA, which are significantly lower than the Council nominated car parking rate (1 space / 70 sqm GLA, equating to approximately 1 space / 93.33 sqm GFA).

### 7.3 Car Parking Provision

With regard to the above, a summary of car parking provision at each stage, comparing to Council and RMS parking requirement, has been provided in **Table 11**:

**Table 11: Car Parking Provision**

Lot	Warehouse	Office (m <sup>2</sup> )	Total Built Form (m <sup>2</sup> )	On-site Parking Supply	Proposed Car Parking Space / sqm GFA
201	43,488	1,117	44,605	240	1 space / 186 sqm
202	31,760	1,400	33,160	149	1 space / 223 sqm
203	18,730	800	19,530	140	1 space / 140 sqm
204	16,197	800	16,997	149	1 space / 114 sqm
<b>Total</b>	<b>110,175</b>	<b>4,117</b>	<b>114,292</b>	<b>678</b>	<b>1 space / 169 sqm</b>

As evident from the above table, the proposed on-site car parking is provided at an average rate of 1 space per 169 sqm GFA which is in excess of RMS Guide rate and sits within the recently approved parking range discussed above.

#### 7.4 Parking Assessment Summary

In summary, the proposed car parking provisions are generally less than nominally required by the DCP. Notwithstanding, the proposed car parking provision is **SUPPORTABLE** having regard for the following:

- Proposed car parking is provided at an average rate of 1 space per 169 sqm GFA which is within the range for the car parking provisions of number of recently approved similar developments within Fairfield and Penrith LGA.
- Comparing the above figure to the RMS Guide rates (1 space per 300m<sup>2</sup>) — themselves forming the basis of more recent controls approved by DPIE for nearby precincts such as Oakdale — the proposed parking is significantly more than typical demands for which it would be reasonable to design. In this regard, the proposed parking provision is considered sufficient to accommodate potential parking demand on-site.
- The proposed parking provision at each lot generally exceeds the RMS Guide parking requirements which will ensure a suitable provision to ‘future-proof’ the facility, in case the parking demand increase in the longer term.

In summary, this TA concludes that the proposed parking provision will satisfy the future demands of the development for each individual warehouse. As such, the development is not expected to create any adverse parking impacts on-street.

## 7.5 Accessible Parking

The WSEA FDCP 2016 requires accessible car parking to be provided at the following rate:

- 2% of car parking provision (or part thereof) for car parks in excess of 50 spaces.

Furthermore, according to the National Construction Code (NCC) for Class 7b (*for storage, or display of goods or produce for sale by wholesale*) the following accessible car parking is required:

- 1 space for every 100 car parking spaces, or part thereof.

In this regard the following accessible parking spaces will be required for the proposed SSD:

**Table 12: Accessible Car Parking Requirements**

Lot	On-site Parking Supply	WSEA Requirements	NCC Requirements	Accessible Car Parking Provision
201	240	5	3	2
202	149	3	2	4
203	140	3	2	2
204	149	3	2	4
<b>Total</b>	<b>678</b>	<b>14</b>	<b>9</b>	<b>12</b>

Notes) Parking requirements have been rounded up to the nearest whole number.

The proposed accessible car parking provision for each lot generally comply with the requirements, except for Lot 201; however, provision of accessible car parking bays in accordance with the above range for each warehouse can easily be dealt with at Construction Certificate stage of the project and in response to the suitable condition of consent.

## 7.6 Bicycle Parking

The DCP states that:

*“New developments should incorporate appropriate bicycle parking/storage facilities. Bicycle racks can be placed around the perimeter of a building in areas where they will not act as obstructions. Bicycle parking/storage facilities should be provided in accordance with the provisions of Australian Standard 2890:3:1993 – Parking facilities - Bicycle parking facilities”.*

In response to the above requirement the proposed development is anticipated to provide sufficient bicycle parking at the Construction Certificate stage.

## 7.7 Servicing and Waste Collection

All loading and servicing, including waste collection will occur on-site. The site layout has been designed to accommodate access and circulation by up to 26 metre B-Double trucks.

## 8 Traffic Assessment

### 8.1 Traffic Generation Rates

#### 8.1.1 WSEA Adopted Rates

It is understood that the approved traffic modelling undertaken for the broader WSEA adopts the following trip generation rates:

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

Furthermore, a conversion factor of 0.55 peak two-hour volumes to one-hour peak volume has been assumed for the strategic analysis. In this instance the “*Lands south of Sydney Water Pipeline*” rate is applicable to the Proposal. This means a “one-hour peak generation rate of 11.6 trips per hectare of the site area”.

#### 8.1.2 RMS Rates

The likely traffic generation of *any* warehouse/industrial facility type developments on this Site can be estimated through application of the suggested RMS generation rates. In this instance, the applicable rates are for the following three (3) business park and industrial estates in *Sydney Areas* included in Appendix E of the Technical Direction TDT 2013/04a:

- Site 1: Erskine Park Industrial Estate, Erskine Park,
- Site 3: Wonderland Business Park, Eastern Creek; and
- Site 4: Riverwood Business Park, Riverwood.

Accordingly, the average AM, PM and daily two-way vehicular trip rates are as follows:

- AM Rate                    0.247 trips per 100m<sup>2</sup> of GFA,
- PM Rate                    0.182 trip per 100m<sup>2</sup> of GFA, and
- Daily                        2.641 trip per 100m<sup>2</sup> of GFA.



## 8.2 Previously Planned (WSEA) Traffic Generation

As discussed before, the Site has an area of 20.79 hectares and, accordingly, an inherent traffic generation has previously been assumed for the Site as summarised below.

**Table 13: Traffic Generation (two-ways) – Planned under WSEA**

Yield	WSEA Traffic Generation	
	Road Network AM Peak	Road Network PM Peak
20.79 ha	241	241

The above traffic volumes are understood to have formed the basis for which regional infrastructure — resulting from broader WSEA development — has been planned. It should be noted that these are based on average rates across the precinct(s) and it is expected that some variance on an individual site basis would occur.

## 8.3 Proposed Traffic Generation

The traffic generation of the development under the current proposal has been assessed having regard for RMS Guide rates; intended to identify what ‘potential’ traffic volumes could be generated by the development in the future.

**Table 14: Traffic Generation (two-ways) – Proposal**

Lot	Total Built Form (GFA m <sup>2</sup> )	Road Network AM Peak	Road Network PM Peak	Daily (veh/day)
201	43,488	110	81	1,178
202	31,760	82	60	876
203	18,730	48	35	516
204	16,197	42	31	449
<b>Total</b>	<b>110,175</b>	<b>283<sup>1</sup></b>	<b>208<sup>1</sup></b>	<b>3,018<sup>1</sup></b>

Notes) 1. Minor variation in summated totals due to rounding.

According to the above table the traffic likely to be generated by the Site at full operation will exceed that of the previously approved for WSEA assessment (241 trips during both AM and PM peaks) in the **AM Peak** by 42 vehicle trips. It is emphasised that this exceedance will only occur at AM peak with PM peak hour traffic being lower than the approved threshold. As such it is considered that the exceedance of trips in this instance is only moderate and will not have any material traffic impact on the surrounding

road network. SIDRA analysis undertaken for Old Wallgrove Road / Milner Avenue confirms that this additional 42 veh/hr during AM peak hour can be accommodated by the existing signal configuration (refer Section 8.5).

Furthermore, establishing a Travel Plan (TP) strategy for the Site in line with the Travel Demand Management Strategy required by TfNSW can also be a mitigation measure if deemed necessary at later stage of the project. The purpose of this strategy is to minimise reliance on private vehicles accessing the workplace by employing a variety of operational strategies and incentives to reduce dependency. In this instance, a TP would assist to mitigate the moderate exceedance over WSEA traffic and additionally would work to support environmental and green initiatives of Council and the wider region.

Regardless, SIDRA analysis suggests that the traffic associated with the Site will have no adverse impact on the surrounding area.

### 8.4 Traffic Mode Choice

The proposed traffic generation for the development as above is likely to facilitate light vehicle traffic in line with existing modal choice behaviour for the locale as capture in the Australian Bureau of Statistics' Journey-To-Work (JTW) data set for 2016. The results of the JTW 2016 are demonstrated below.

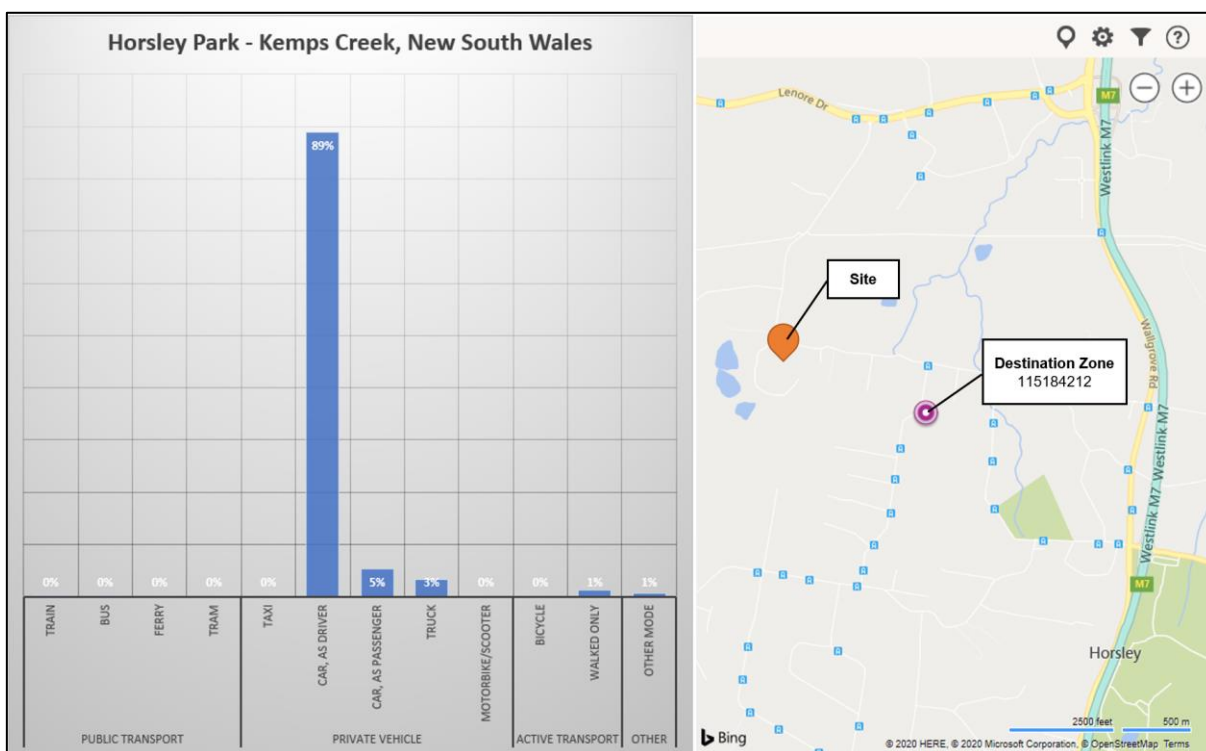


Figure 14: Journey-To-Work 2016 Results

The JTW assessment demonstrates that the locale has a high dependence on private vehicle trips, accounting for approximately 97% of movements from place of residence to workplaces in the area. This has been validated against surrounding zones to demonstrate that the mode share is relatively consistent. Of the assessment, a further 2% of movements rely on public transport, while less than 1% rely on active transport modes.

In this context, it is considered that the above modal share will likely reflect the operational workforce employed by tenancies within the Site.

Implementation of a Travel Plan in line with a Travel Demand Management strategy suggested by TfNSW will take into consideration the JTW mode share and provides a means of reducing dependence of journey to work trips by private vehicle. To this extent, total peak period trips would be accordingly reduced.

However, the SIDRA analysis undertaken for 2026, shows that the exceedance of 42 veh/hr during AM peak hour can be accommodated by the existing road network with a LoS B. Accordingly, no additional road upgrades will be required over what has been approved and constructed already.

## 8.5 Traffic Impacts

As discussed above, the expected traffic generation of the Site exceeds the approved WSEA during the AM peak period by only 42 vehicle trips. However, the PM peak hour traffic generation remains below approved threshold. It is our view that the exceedance of 42 veh/hr will not have any material impact onto the surrounding road network. However, for conservatives and in response to TOA requested by DPIE, SIDRA analysis has been undertaken for the signalised intersection of Old Wallgrove Road / Milner Avenue for 2026.

### 8.5.1 SIDRA Results

In this regard a background review has been undertaken, with the following to present a summary:

- With reference to the traffic study undertaken for the **approved DA number 93.1/2019** (the approved OEIE report), the 2026 projected traffic volumes at this intersection are demonstrated in the **Figure 15**.
- This traffic profile considers the cumulative traffic volumes from the Site and the other developments in the area and can set as a basis for the additional modelling (2026 approved baseline).
- According to the approved OEIE report, SIDRA analysis has been undertaken for the signalised intersection of Old Wallgrove Road / Milner Avenue with the results outlined as follows:



**Table 16: 2026 SIDRA Results – Project Case**

Intersection	Peak Period	Degree of Saturation (DoS)	Average Delay (AVD)	LoS
Old Wallgrove Rd / Milner Ave	AM	0.77	21.0	B

- As can be seen from the above table, the additional 42veh/hr over and above the approval, will keep the operation of this intersection at an acceptable LoS B with minimum delays and significant spare capacity.

In summary, having regard for the assessments included in this section, it can be concluded that the traffic associated with the proposed development (even when accounting for the additional 42veh/hr during AM peak hour) as well as the cumulative traffic from all developments in the area will not have any adverse traffic impact from what has already been approved and constructed. Furthermore, it is expected that a Travel Plan (as requested by TfNSW) will be prepared for the Proposal which can further assist in reducing vehicular traffic demand from the Site.

As such, the proposal DOES NOT warrant any additional infrastructure upgrades beyond that already constructed and planned for the locality.



## 9 Preliminary Construction Traffic Management Plan

A detailed Construction Traffic Management Plan (**CTMP**) will be provided as part of detailed construction planning. For the purposes of this report, the following general principles for managing construction traffic have been assumed and provide an understanding of the likely traffic impacts during the construction period. It should be noted that the construction programme for the development has not yet been finalised.

### 9.1 Potential Haulage Routes

The primary potential haulage route to and from the Site would occur along Old Wallgrove Road, with trucks accessing the Site from the M7 Motorway to the east or Lenore Drive and Mamre Road to the West. RMS currently identifies both routes as heavy vehicle routes. Construction of the Proposal would generate additional truck movements along these routes. Given that these routes currently carry high volumes of heavy vehicles, construction of the development would not have a significant impact on the performance of the abovementioned roads.

The movement of materials would be managed through the scheduling of deliveries and would aim to minimise the number of heavy vehicles accessing the Site during peak network periods and weekends. Earthworks quantities would be balanced as far as practicable during detailed design to ensure that transfer of material to/from off-site and on the external road network is minimised.

### 9.2 Proposed Working Hours

The construction work would vary depending on the phase of construction and associated activities and includes both construction and design personnel. The size of the on-site workforce has not been finalised and as a result, the peak working population on-site at any given time during the construction period may vary. Construction works would be undertaken during standard construction-working hours, which are likely to be as follows:

- Monday to Friday: 7.00AM to 6.00PM
- Saturday: 7.00AM to 1.00PM
- Sunday and Public holidays: No planned work.

It may (on occasions) be necessary to undertake night works to minimise disruption to traffic.

### 9.3 Construction Traffic Generation

Light vehicle traffic generation would be generally associated with staff movements to and from the Site. Staff would be comprised of project managers, various trades, and general construction staff. Over the full construction period, the peak workforce represents the worst-case scenario for vehicle movements during the morning or evening road network peak hour. The workforce arrival and departure periods (6.30-7.00AM and 5.00-5.30PM) represent the peak construction traffic generation periods.

Light vehicle construction trips are expected to arrive in the morning and depart in the evening and the number of trips would be based on the workforce numbers. Parking for these construction-related vehicles would be provided on-site.

Heavy vehicle traffic would mainly be generated by activities associated with the delivery of construction equipment and delivery of material for construction works. As the construction programme has yet to be finalised, a worst-case scenario for heavy vehicle movements per day required for the delivery of construction materials to the Site cannot be accurately determined.

However, these deliveries are likely to occur outside of the peak network traffic periods and would have limited (if any) impact to traffic on Old Wallgrove Road, Lenore Drive, M7 Motorway and Mamre Road, which currently have high proportions of heavy vehicles.

Importantly, the construction traffic volumes are expected to be lower than the volumes anticipated for the Stage 1 Proposal once it becomes operational. Therefore, recognising that the key intersection is anticipated to perform satisfactorily once the Proposal is completed, it can be assumed that the intersection would satisfactorily accommodate the lower volumes of construction traffic.

### 9.4 Construction Mitigation Measures

While the traffic impacts of construction of the development are likely to be negligible, the following measures should be undertaken to minimise the impacts of the construction activities of the development:

- Traffic control would be required to manage and regulate traffic movements into and out of the site during construction.
- Disruption to road users would be kept to a minimum by scheduling intensive delivery activities outside of peak network hours.
- Construction and delivery vehicles would be restricted to using Old Wallgrove Road, Lenore Drive, M7 Motorway and Mamre Road.

## 10 Design Commentary

### 10.1 Relevant Design Standards

The site access, car park and loading areas for each lot should be designed to comply with the following relevant Australian Standards:

- AS2890.1 for car parking areas,
- AS2890.2 for commercial vehicle loading areas, and
- AS2890.6 for accessible (disabled) parking.

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

### 10.2 Design Vehicle

Access and internal circulation of the proposed SSD commercial areas have been designed to accommodate articulated vehicles and B-Doubles. As such, a 26 metre B-double has been adopted as the relevant 'design vehicle' when assessing the heavy vehicle access driveways for each stage separately. Access and internal car parking facilities have been designed for B99 cars as the light 'design vehicle'.

### 10.3 Access Design

#### 10.3.1 Car Park Access

Each car parking access point serves between 100 – 240 car parking spaces (refer **Figure 16**), typically used by staff (User Class 1A). Accordingly, a Category 2 access driveway — being a 6–9 metre combined entry and exit driveway is nominally required by AS2890.1. In response, this provision has generally been met across the 4 lots.

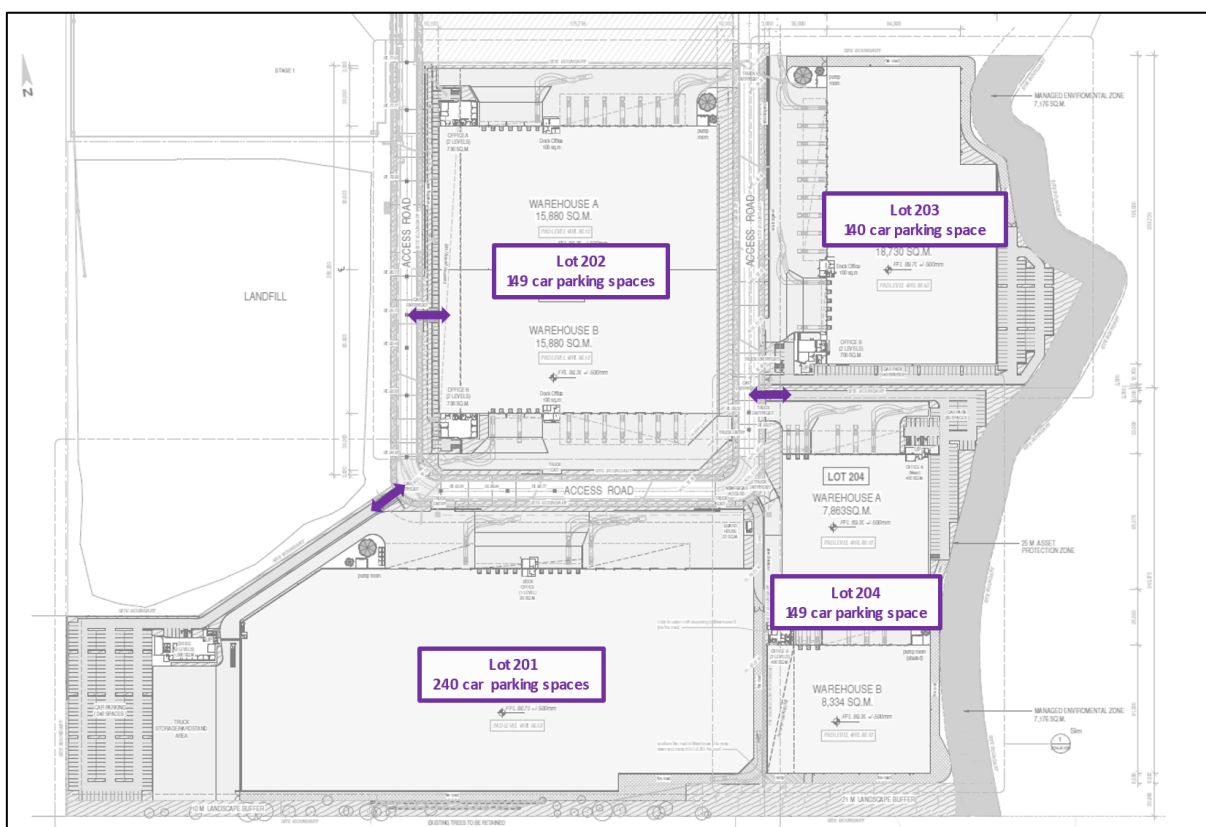


Figure 16: Car Parking Access Arrangement

### 10.3.2 Commercial Vehicle Access

Access and egress for commercial vehicles into and out from all lots are via Access Roads. The design of these accesses has been assessed by swept path analysis for B-Doubles. In this regard, reference should be made to the design commentary and swept paths included in **Appendix A** demonstrating access and egress to/from the Site by B- doubles.

### 10.4 Access Sight Distance

In consideration of AS2890.2, the minimum sight distance along a 60km/h road requires 83-metres in both directions of egress. In this instance, reference should be made to **Appendix A** where demonstrates the areas which should not have any physical obstruction to facilitate the appropriate sight distance for each Lot.

### 10.5 Vehicle Queuing

It has been considered that the all lots has been designed to keep the gates open during the operation of the Site to minimise the potential queuing of light and heavy vehicles accessing the Sites and associated parking. Accordingly, queuing onto the surrounding local road network is not anticipated

during operational hours of these Lots. Furthermore, the design of the warehouses includes sufficient space to accommodate the need for the proposed heavy vehicle movements on the Site.

## 10.6 Internal Design

Final resolution of the internal design would be expected to occur as part of Construction Certificate and design coordination phase for each lot and in response to a general condition of consent requiring compliance with AS2890. It is noteworthy that the loading docks will be utilised by 19.0 metres semitrailer for reverse movements and B-Doubles can access the loading bays (as necessary) via side loading.

## 10.7 Loading Dock Management

It is noted that the maximum size truck reversing into the loading bays should be restricted to 19.0 metre Articulated vehicles. As such, B-Doubles should undertake side loading activities on-site. In this regard, a loading dock management plan has been included in **Appendix A**, which demonstrate the appropriate restrictions for each loading bay.

## 10.8 Emergency Vehicle Access

Reference should be made to the design commentary and swept paths included in **Appendix A** demonstrating fire truck routes within each lot.



## 11 Summary and Conclusion

### 11.1 Key Findings

The key findings of this Traffic Impact Assessment are:

- The Site is located with the Western Sydney Employment Area (WSEA); with a site-specific Council Development Control Plan (WSEA FDCP 2016) applicable to the Proposal. Nominal Council parking requirements are specified by this site-specific DCP.
- Notwithstanding, these generic rates are more suitable to small tenancies, industrial business parks with high proportion of office areas and/or other specific tenants with high staffing levels and not the large-format industrial warehouse type facilities proposed.
- Indeed, these rates are generally far in excess of the anticipated actual parking demand for likely users—WSEA FDCP requirements are considered onerous, noting the parking provisions for similar industrial properties recently approved in broader WSEA as well as those currently operating. Furthermore, from a commercial perspective provision of such significant number of (surplus) parking spaces for each and every stage of the development is not reasonable and does not accord with sustainable development principles. Therefore, reference should be made to other parking guidelines to identify a suitable car parking provision for typical users of such facilities.
- A summary of parking requirements arising under the DCP and RMS Guide and the proposed provision is summarised below.

Lot	Warehouse	Office (m <sup>2</sup> )	Total Built Form (m <sup>2</sup> )	DCP Requirements	RMS Requirements	On-site Parking Supply
201	43,488	1,117	44,605	478	173	240
202	31,760	1,400	33,160	355	141	149
203	18,730	800	19,530	209	82	140
204	16,197	800	16,997	182	74	149
<b>Total</b>	<b>110,175</b>	<b>4,117</b>	<b>114,292</b>	<b>1,225</b>	<b>470</b>	<b>678</b>

- In summary, the proposed car parking provisions are generally less than nominally required by the DCP. Notwithstanding, the proposed car parking provision are **SUPPORTABLE** having regard for the following:
  - Proposed car parking is provided at an average rate of 1 space per 169 sqm GFA which is within the range for the car parking provisions of number of recently approved similar developments within Fairfield and Penrith LGA.

- Comparing the above figure to the RMS Guide rates (1 space per 300m<sup>2</sup>) — themselves forming the basis of more recent controls approved by DPIE for nearby precincts such as Oakdale — the proposed parking is significantly more than typical demands for which it would be reasonable to design. In this regard, the proposed parking provision is considered sufficient to accommodate potential parking demand on-site.
  - The proposed parking provision at each lot generally exceeds the RMS Guide parking requirements which will ensure a suitable provision to ‘future-proof’ the facility in case the parking demand increase in the longer term.
- Accordingly, this TA concludes that the proposed parking provision will satisfy the future demands of the development for each individual warehouse. As such, the development is NOT expected to create any adverse parking impacts on-street.
  - To assess the impact of the proposed development traffic, consideration has been given to the WSEA approved traffic generation rate for this Site and comparison between the WSEA approved traffic generation and more detailed RMS traffic generation estimations.
  - The total projected traffic volumes resulting from the proposed development during the road network PM peak hour is LESS than the WSEA traffic generation estimation adopted for the Site. During the AM peak hour, however, the likely operational traffic may exceed the approved threshold by approximately 42 veh/hr.
  - With reference to the traffic study undertaken for the approved DA number 93.1/2019, the 2026 projected traffic volumes and SIDRA analysis has been obtained for the base approval at Old Wallgrove Road / Milner Avenue intersection. The traffic profile and SIDRA analysis sufficiently consider the cumulative traffic volumes from the Site and the other developments in the area.
  - According to the approved DA 93.1/2019, SIDRA analysis undertaken for the signalised intersection of Old Wallgrove Road / Milner Avenue will operate at LoS A and B during AM and PM peak hours respectively by 2026.
  - Furthermore, as part of this study, SIDRA analysis has been undertaken for the 2026 AM peak hour with additional 42 veh/hr to allow for the Site’s exceeded traffic generation during morning peak hour.
  - The additional SIDRA modelling suggest that the existing approved configuration of Old Wallgrove Road / Milner Avenue can operate at LoS B with minimum delay by 2026.
  - Accordingly, the impact of the cumulative traffic from the Proposal and other developments in the area on the surrounding road network during the AM and PM peak periods is considered to be within the approved WSEA traffic generation range and as such no additional road upgrade is deemed required from what has already been constructed.

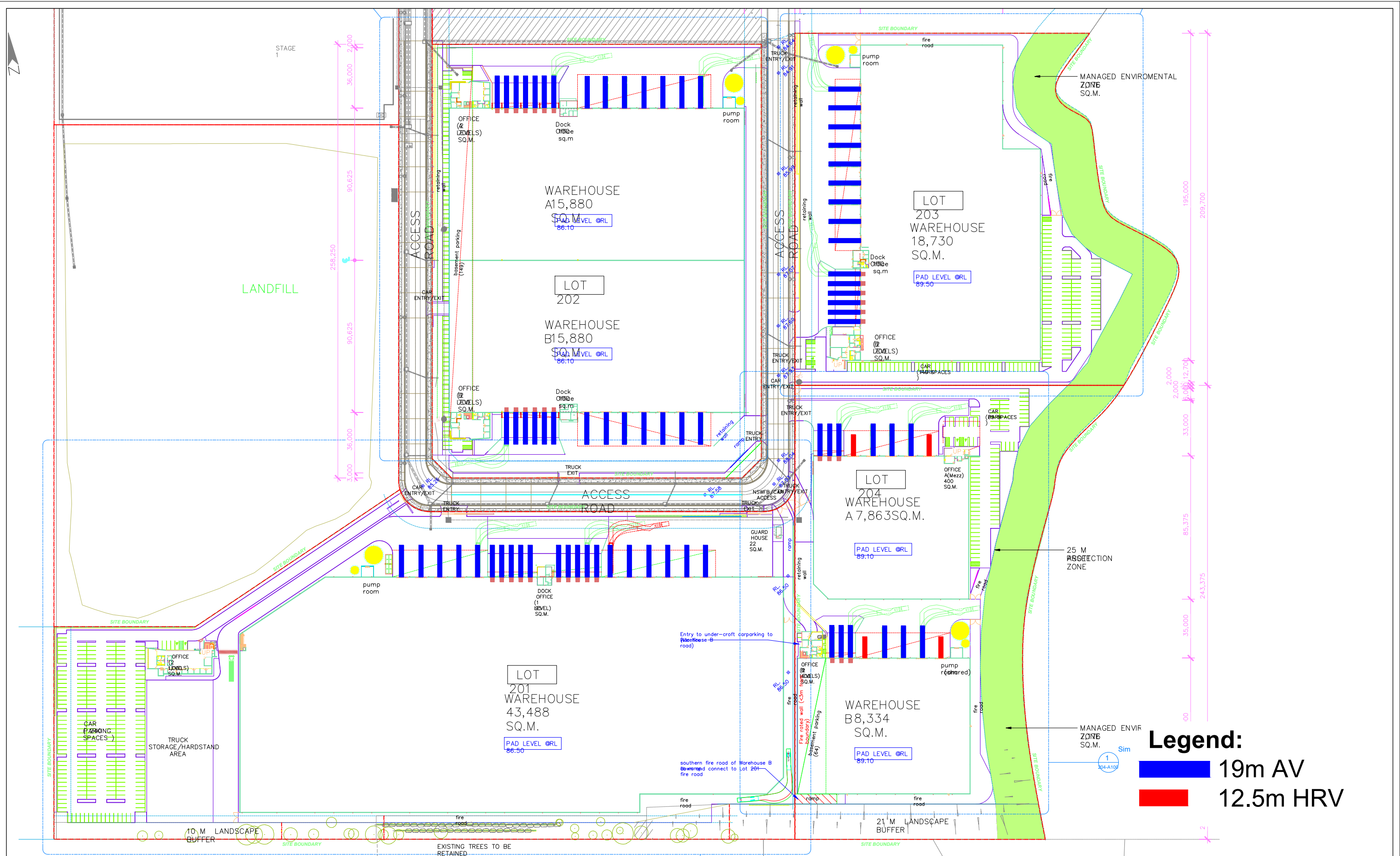
- The largest vehicle anticipated to access the Site is 26 metres B-double. Accordingly, the proposed site access and internal site design have been undertaken to accommodate the movements of 26 metre B-Doubles.
- It is proposed that the associated gates for all lots within the Site will be open during operational hours. Accordingly, there will be negligible queueing onto the surrounding local road network .
- Final resolution of the internal site design for all lots is anticipated to occur as part of the Construction Certificate phase, subject to a suitable condition of consent. Notwithstanding, our initial design reviews confirm that the swept path analysis for the design vehicles is generally satisfactory. Reference should be made to design commentary and swept paths included in **Appendix A**.

## 11.2 Conclusion

In summary, it concluded that the proposed SSD is supportable on the basis of traffic impact and proposed parking provision and will not result in any unacceptable impacts on the surrounding road network.

# Appendix A

## Swept Paths and Design Commentary



**Legend:**

- 19m AV
- 12.5m HRV

Revision notes:

Rev:	Date:	Notes:

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Drawn By:  
M TANGONAN

Client:  
-

Project:  
P1328  
Burley Road, Horsely Park

Drawing Title:  
Masterplan - Dock Management

Date:  
18-Jun-20

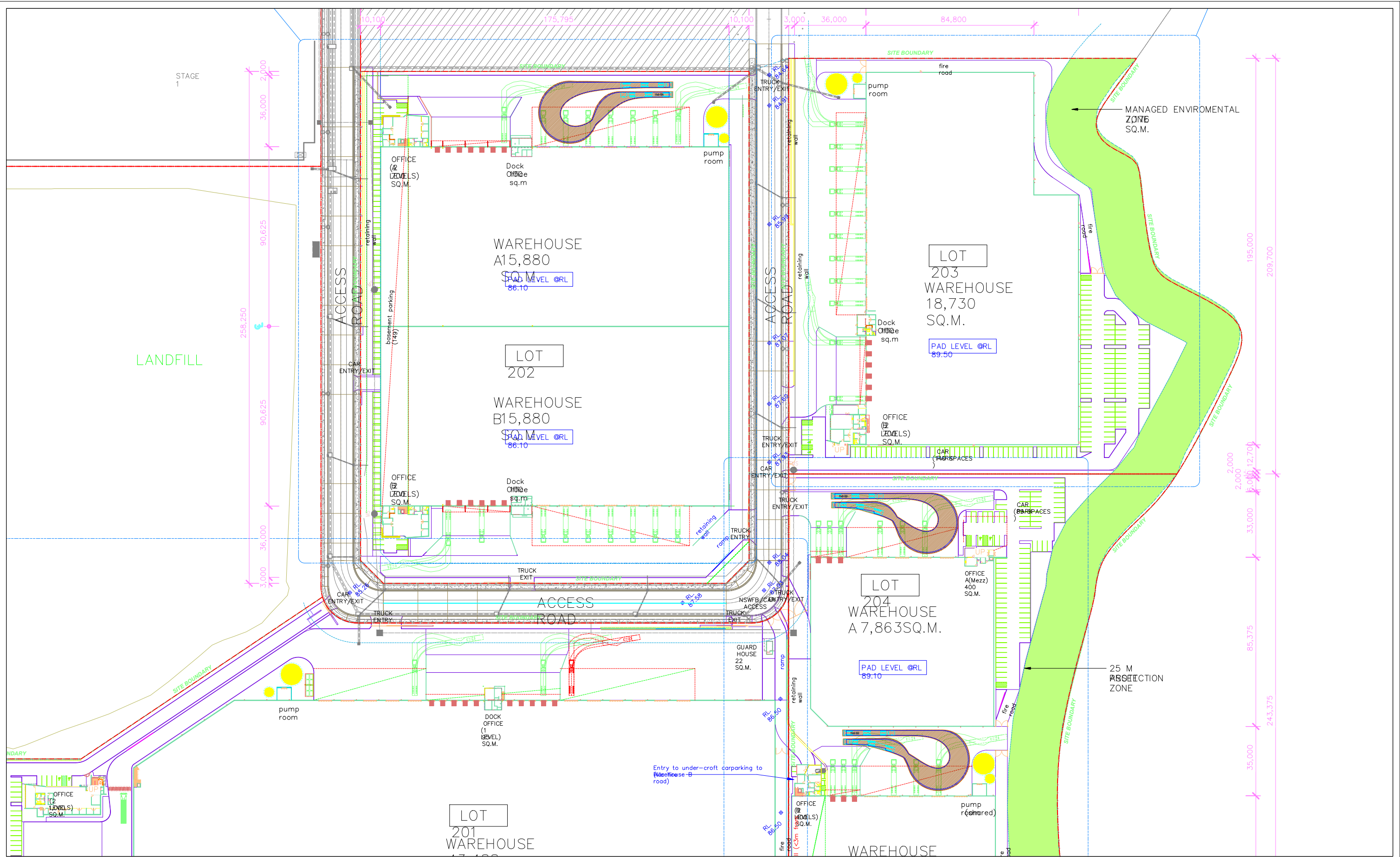
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P1328  
Burley Road, Horsely Park

**Drawing Title:**

Masterplan - B-Double U-Turn  
26m B-Double

**Date:**

18-Jun-20

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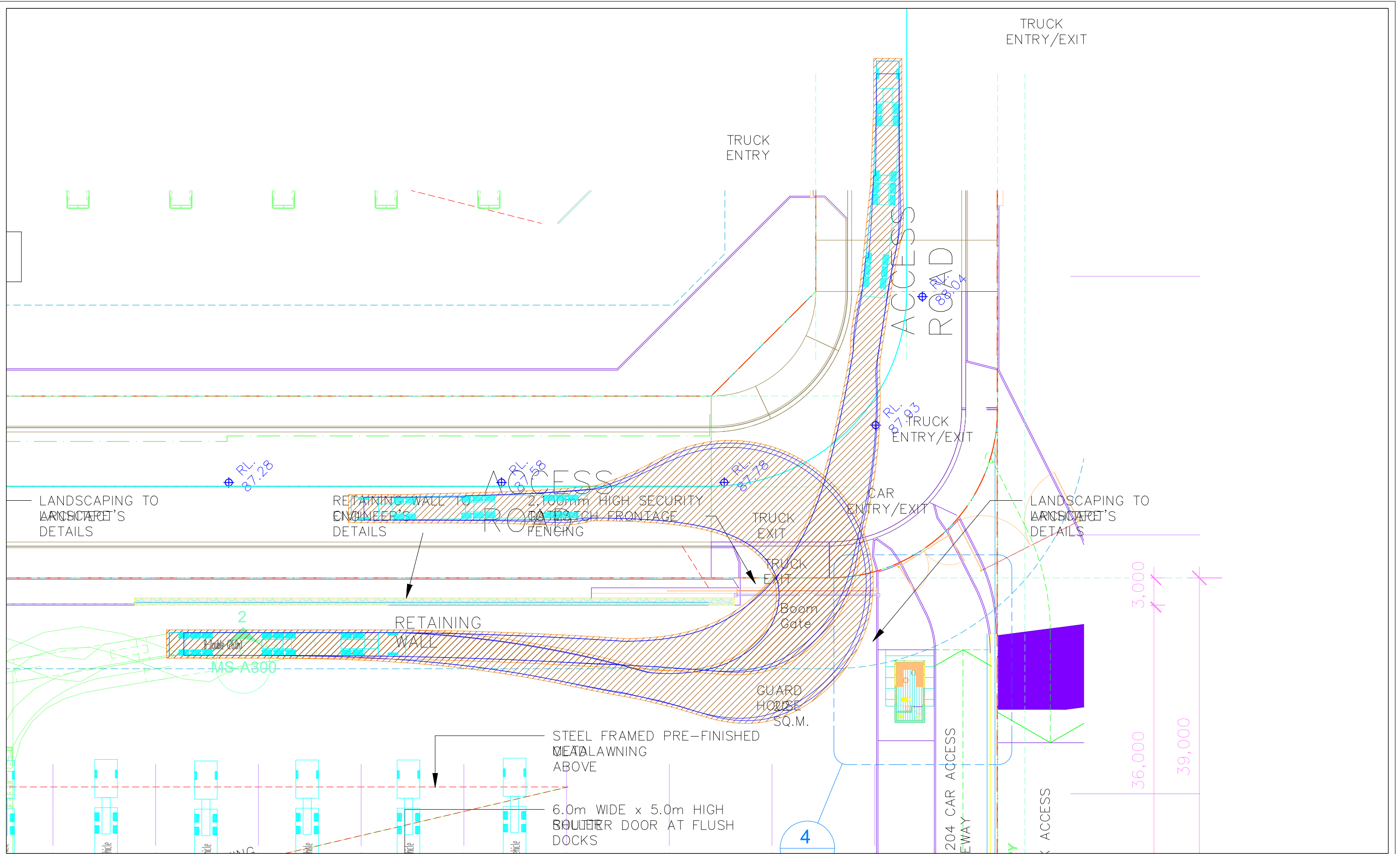
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P1328  
327-355 Burley Road, Horsley Park

**Drawing Title:**  
Lot 201 B-Double Exit  
26m B-Double

**Date:**  
18-Jun-20

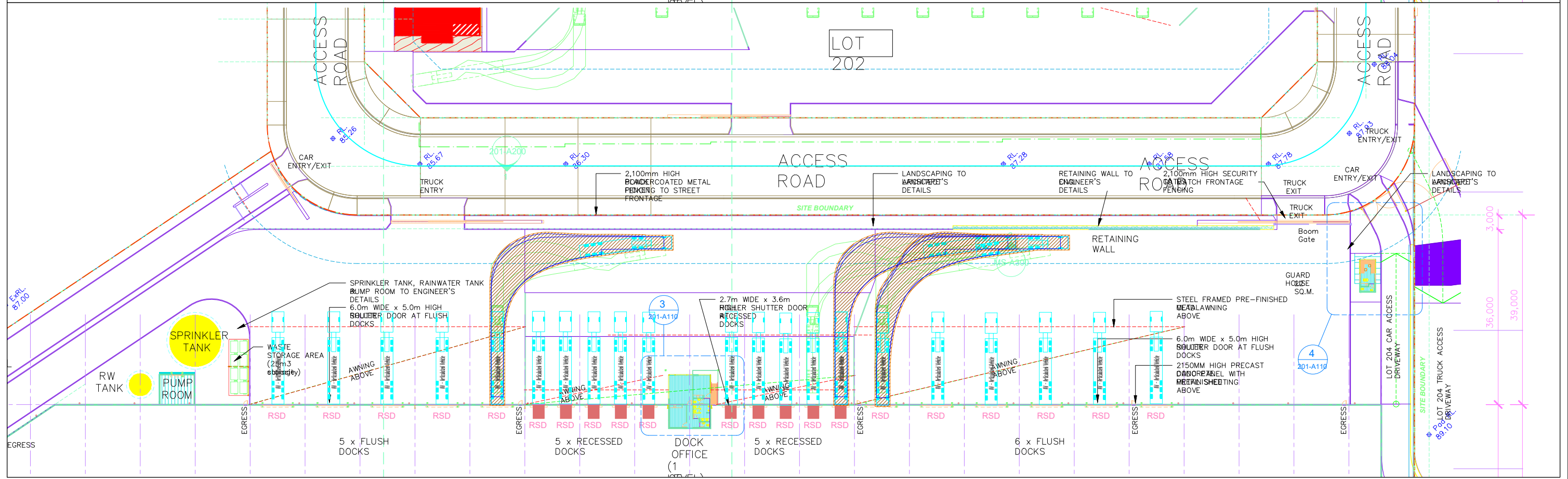
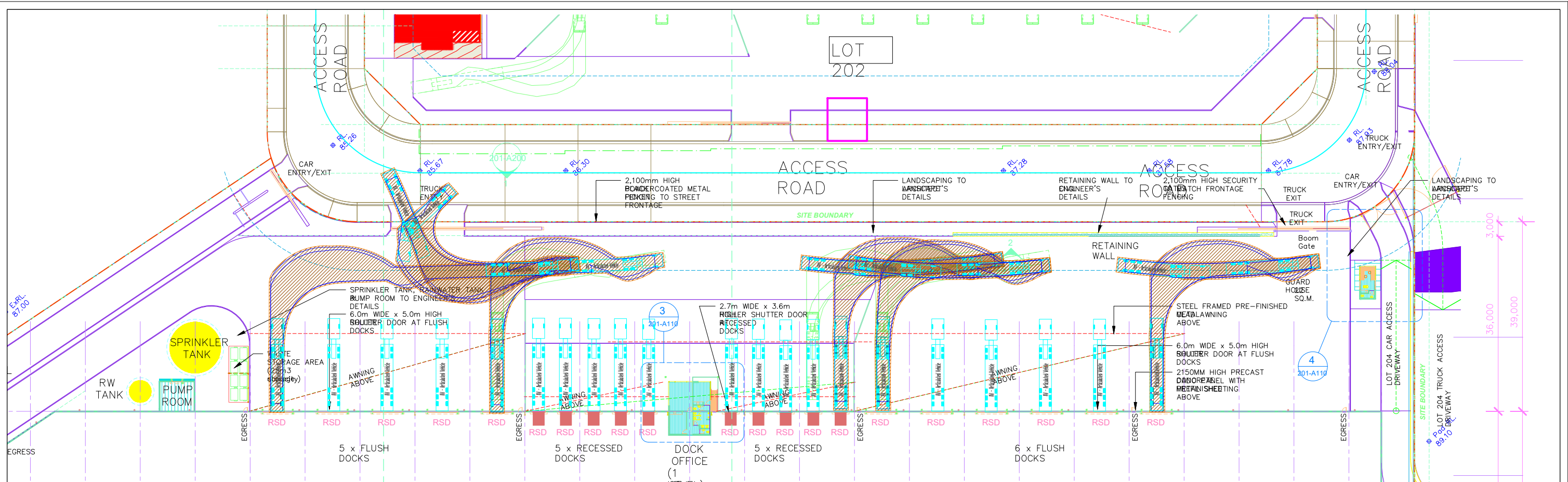
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**Project:**  
P1328  
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**Drawing Title:**  
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**Date:**  
18-Jun-20

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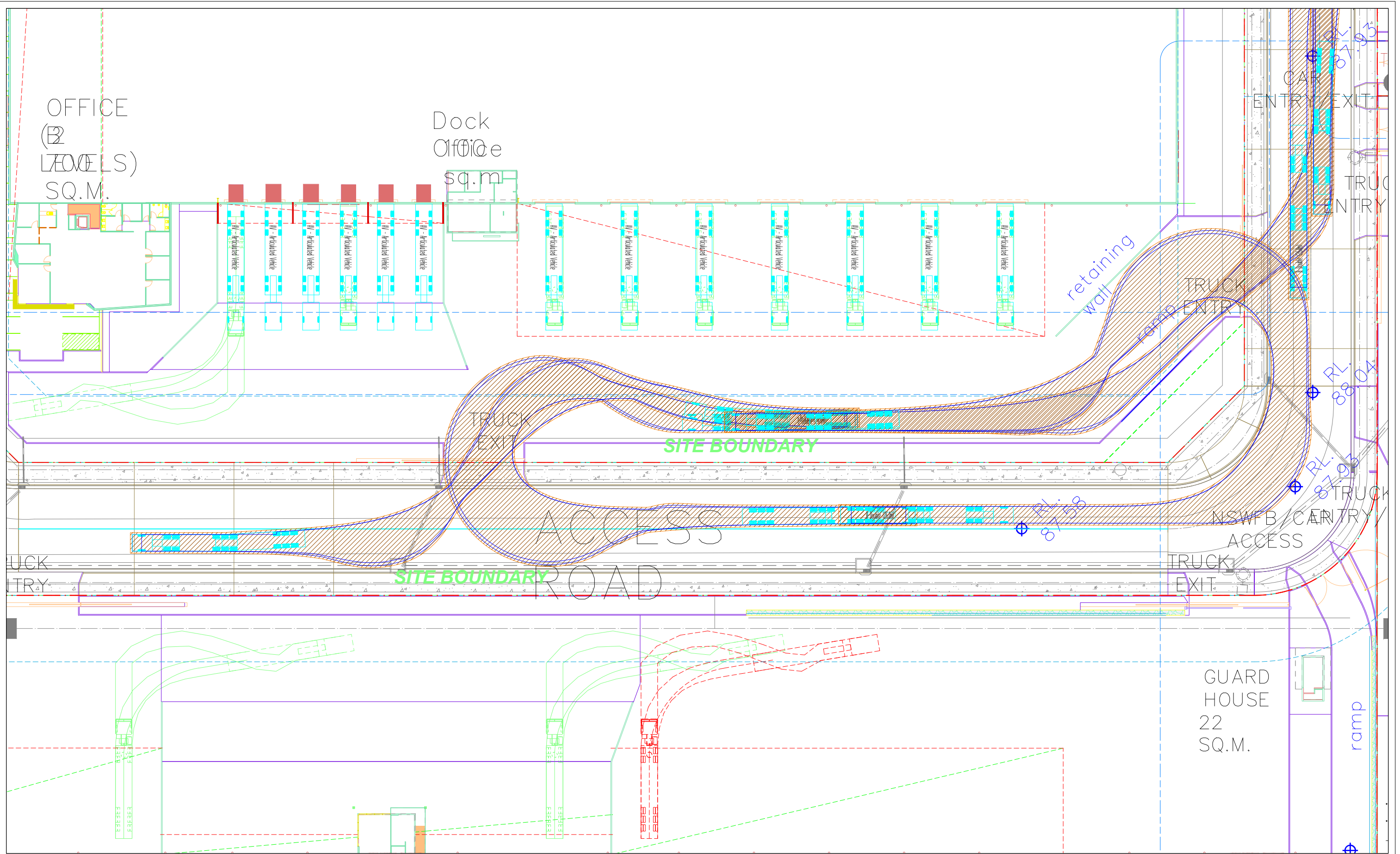
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Project:

P1328  
Burley Road, Horsely Park

Drawing Title:

Lot 202 Crossover  
26m B-Double

Date:

18-Jun-20

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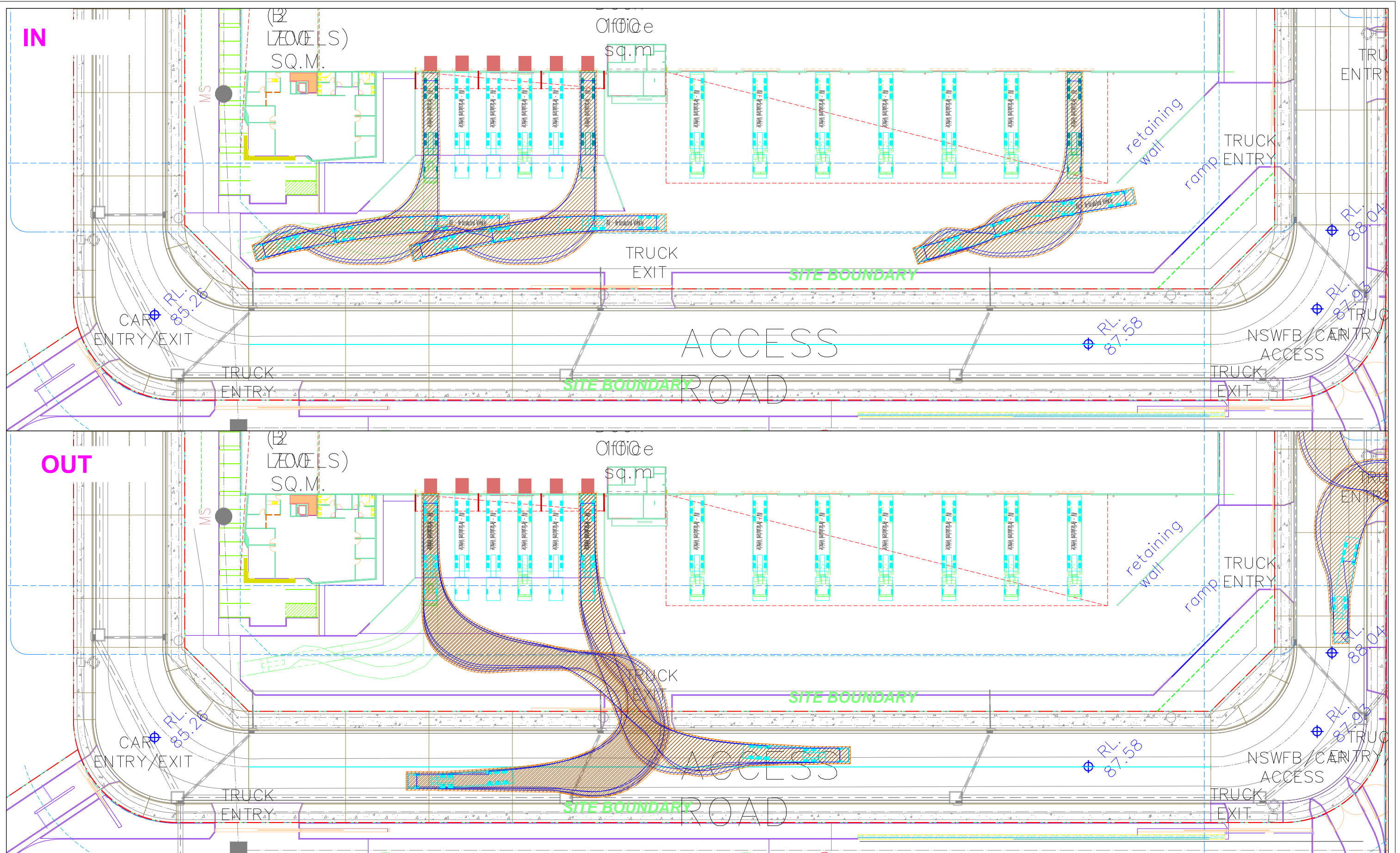
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Client:  
-

Project:  
P1328  
Burley Road, Horsely Park

Drawing Title:  
Lot 202 Warehouse B  
19m AV

Date:  
18-Jun-20

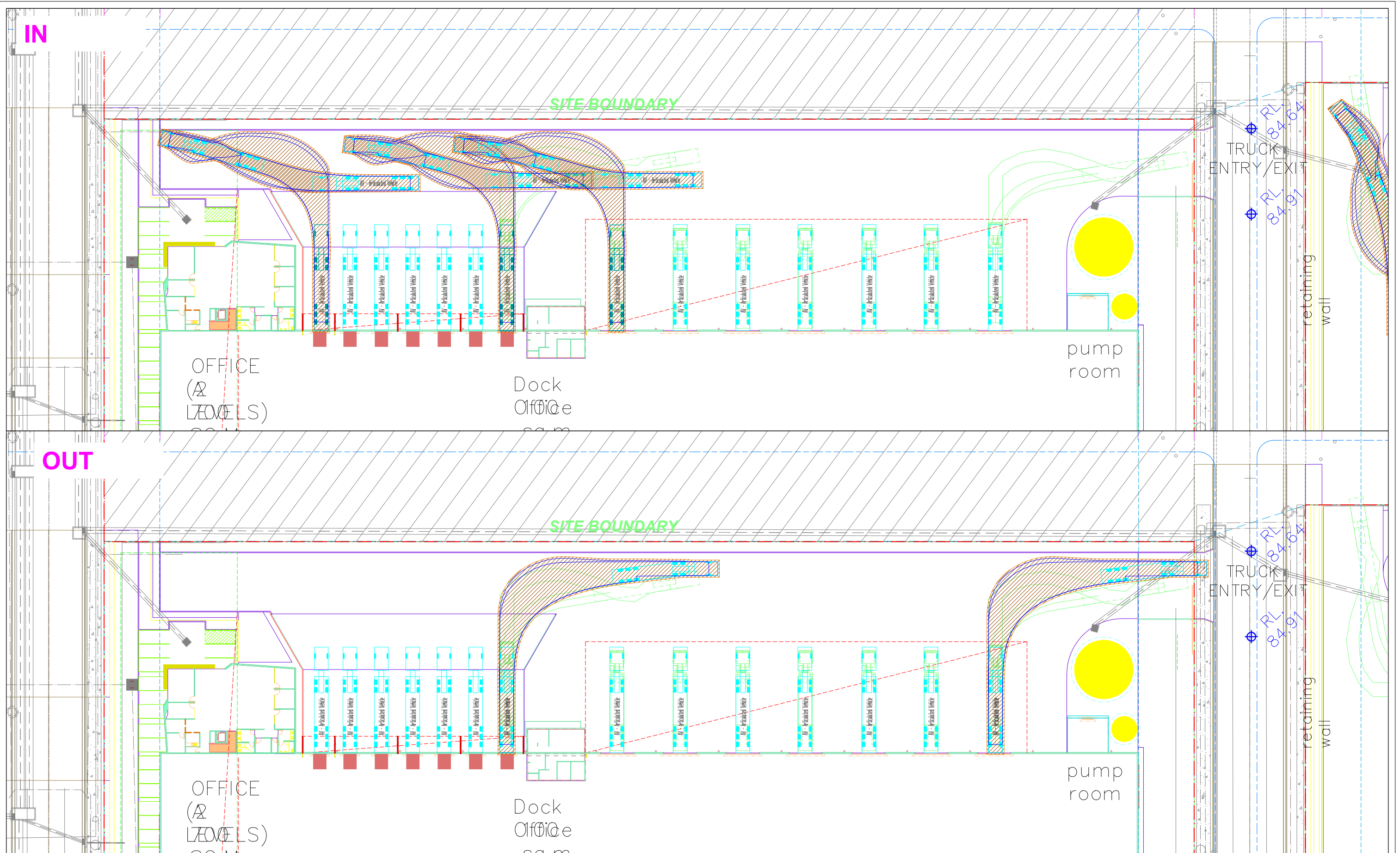
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Project:  
P1328  
Burley Road, Horsely Park

Drawing Title:  
Lot 202 Warehouse A  
19m AV

Date:  
18-Jun-20

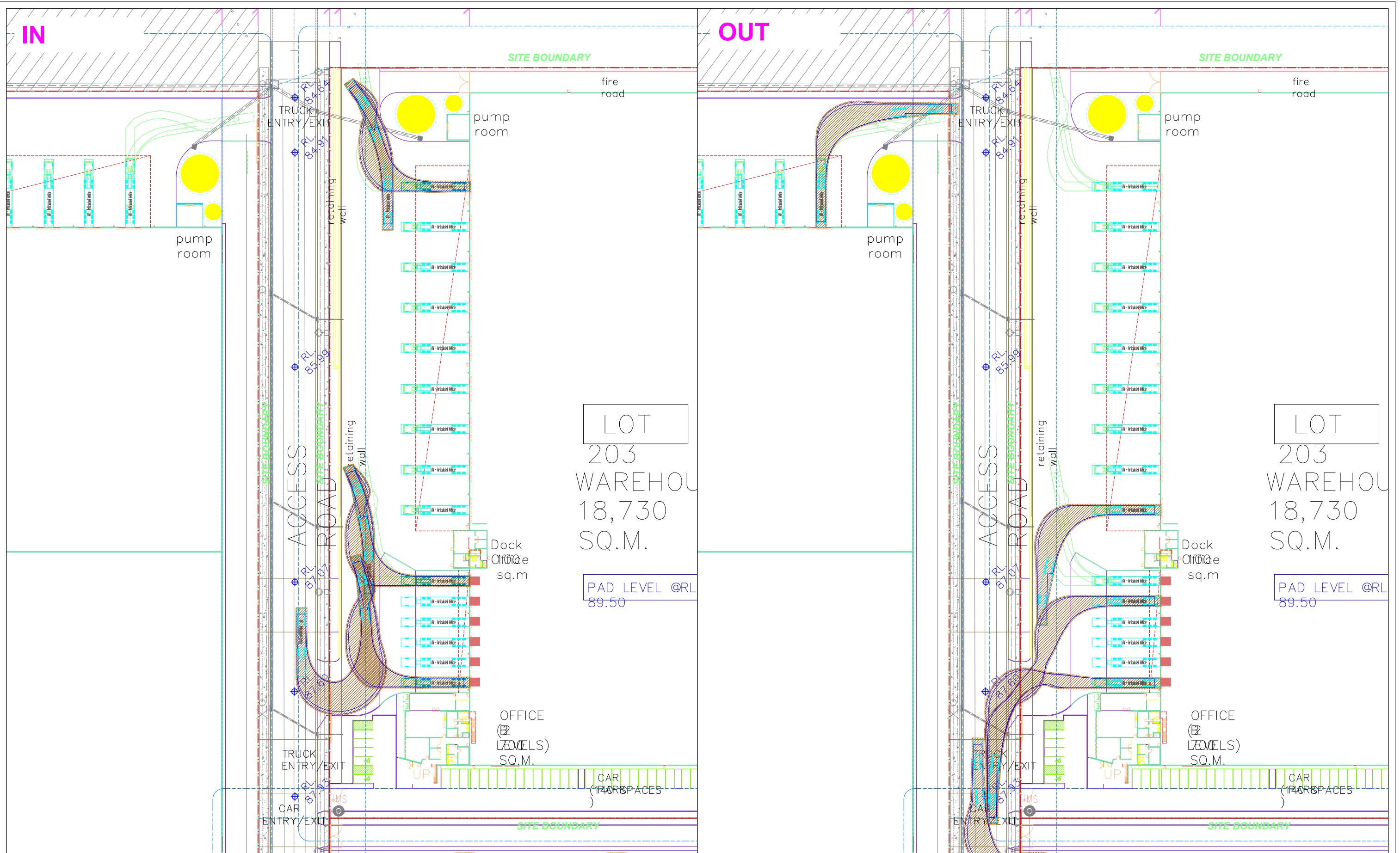
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P1328  
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Drawing Title:  
Lot 203  
19m AV

Date:  
18-Jun-20

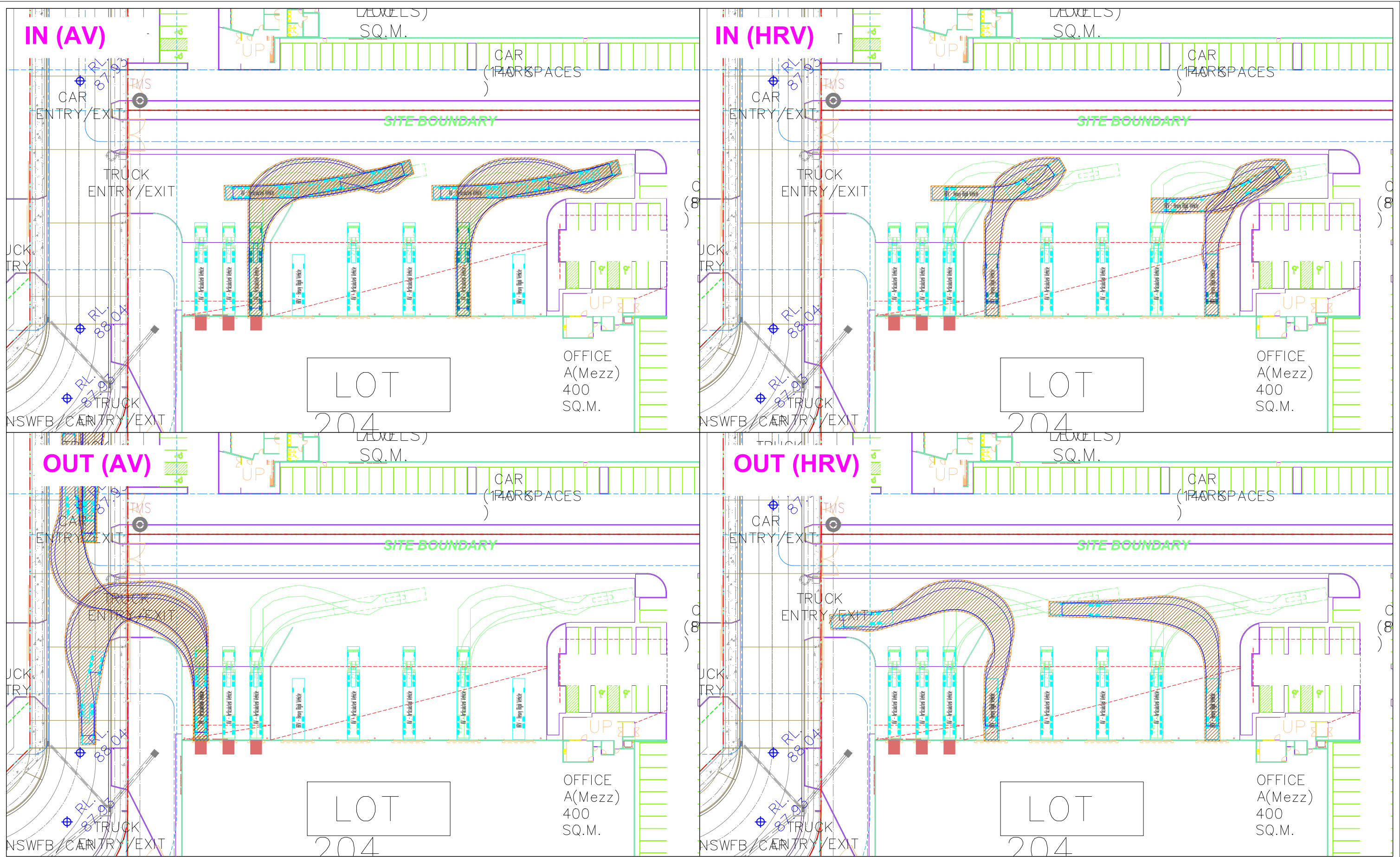
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Project:  
P1328  
Burley Road, Horsely Park

Drawing Title:  
Lot 204 Warehouse A  
19m AV, 12.5m HRV

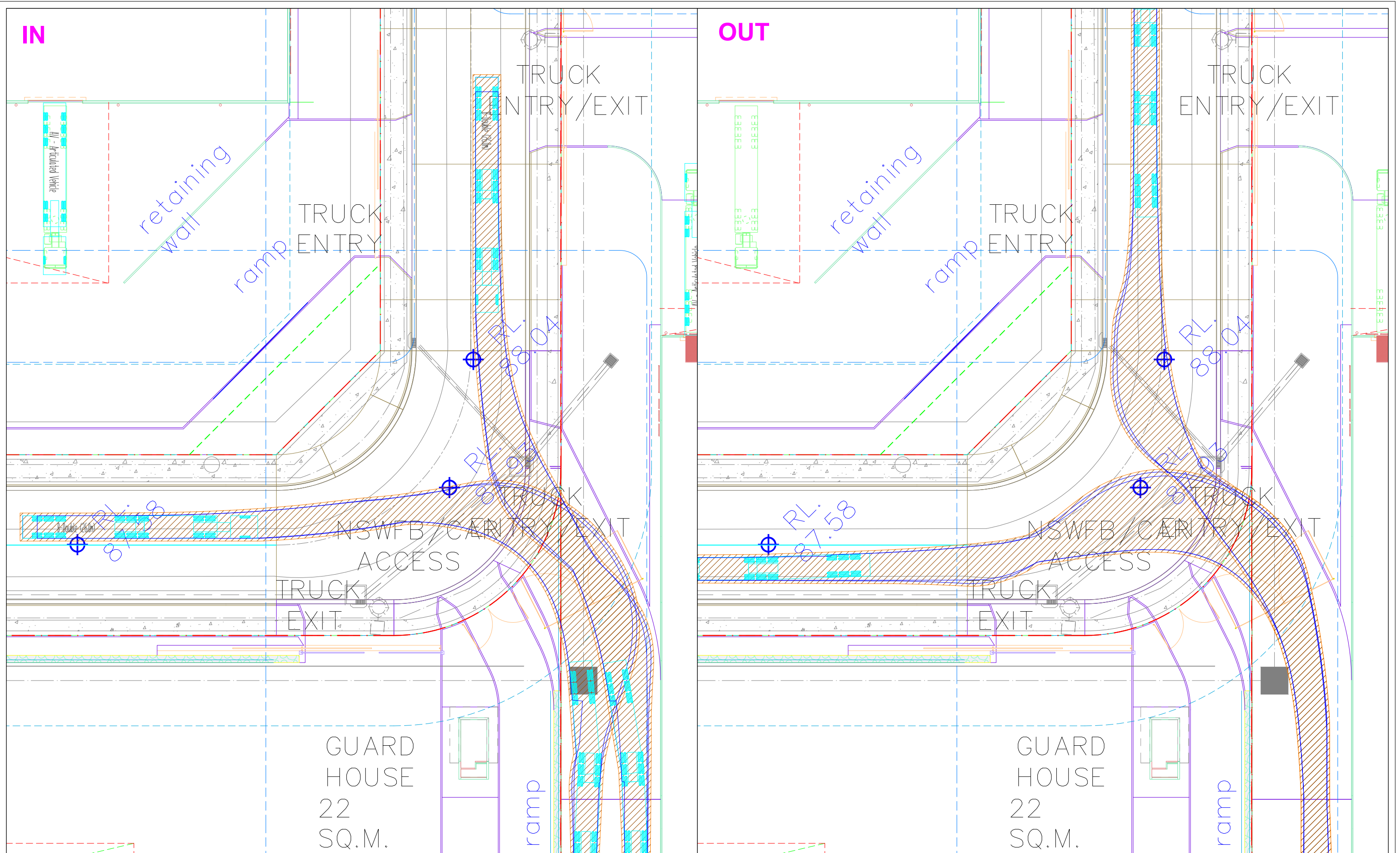
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P1328  
Burley Road, Horsely Park

**Drawing Title:**

Lot 204 B Crossover  
26m B-Double

**Date:**

18-Jun-20

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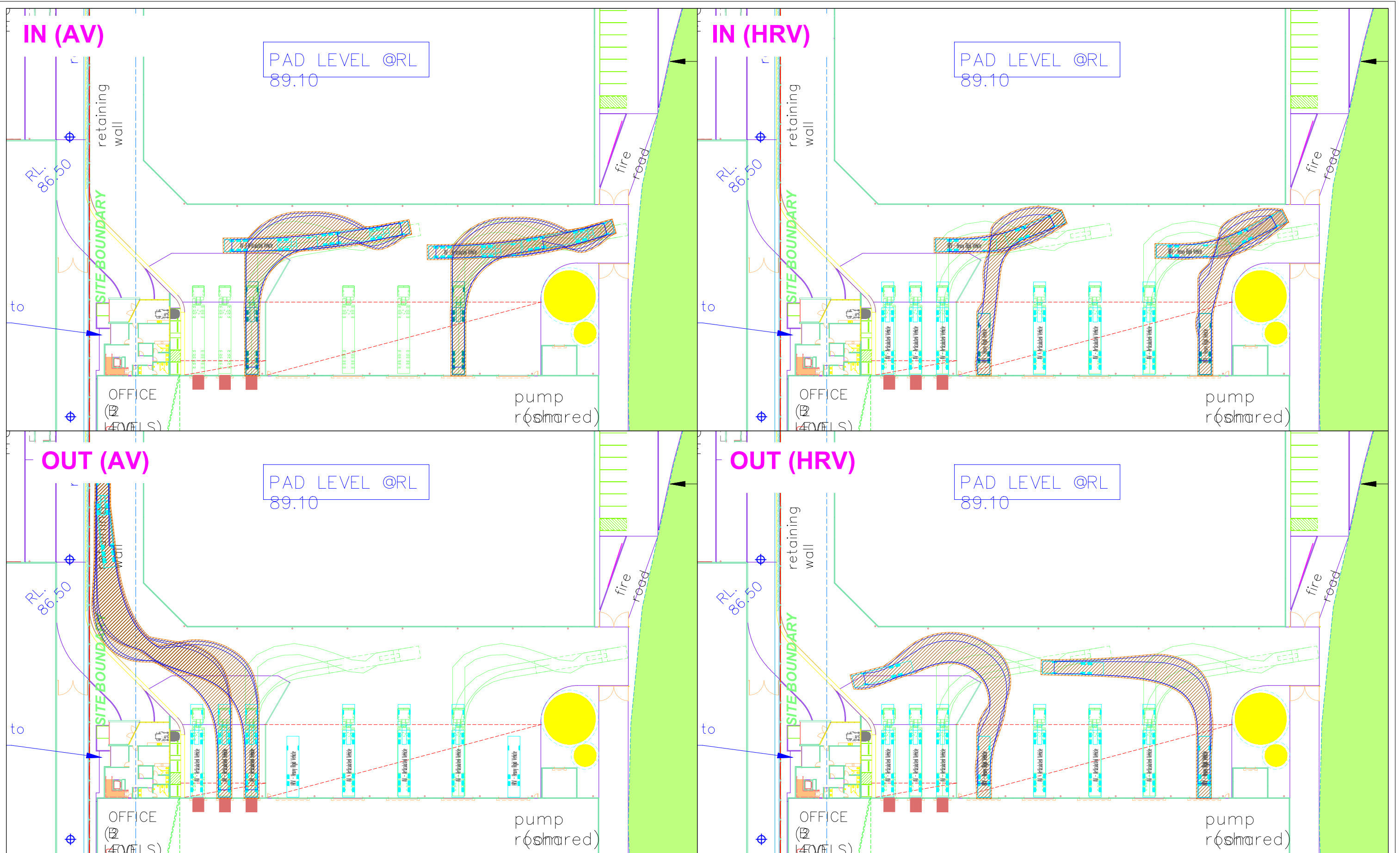
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Project:  
P1328  
Burley Road, Horsely Park

Drawing Title:  
Lot 204 Warehouse B  
19m AV, 12.5m HRV

Date:  
18-Jun-20

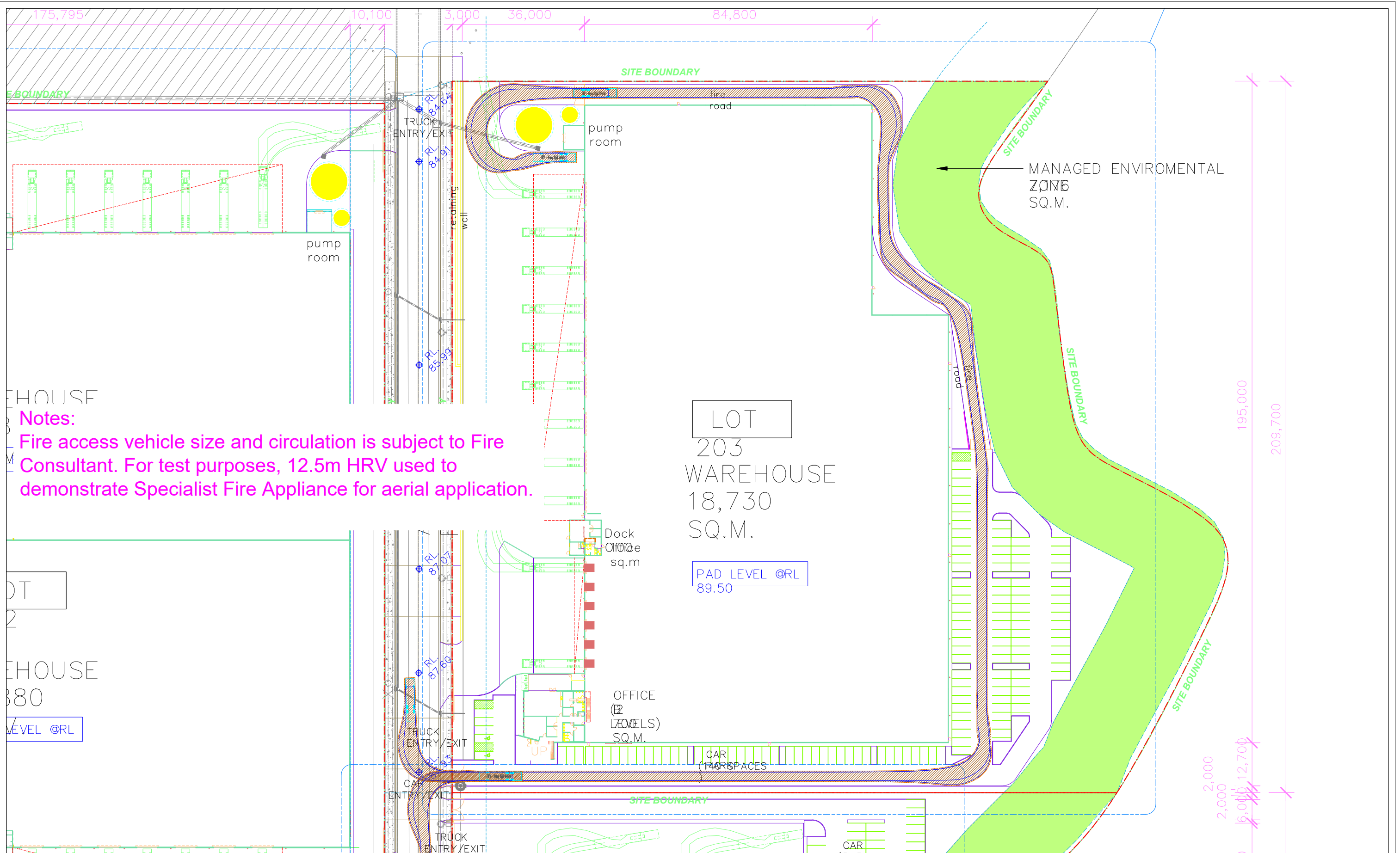
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P1328  
Burley Road, Horsely Park

Drawing Title:  
Lot 203 Fire Road  
12.5m HRV

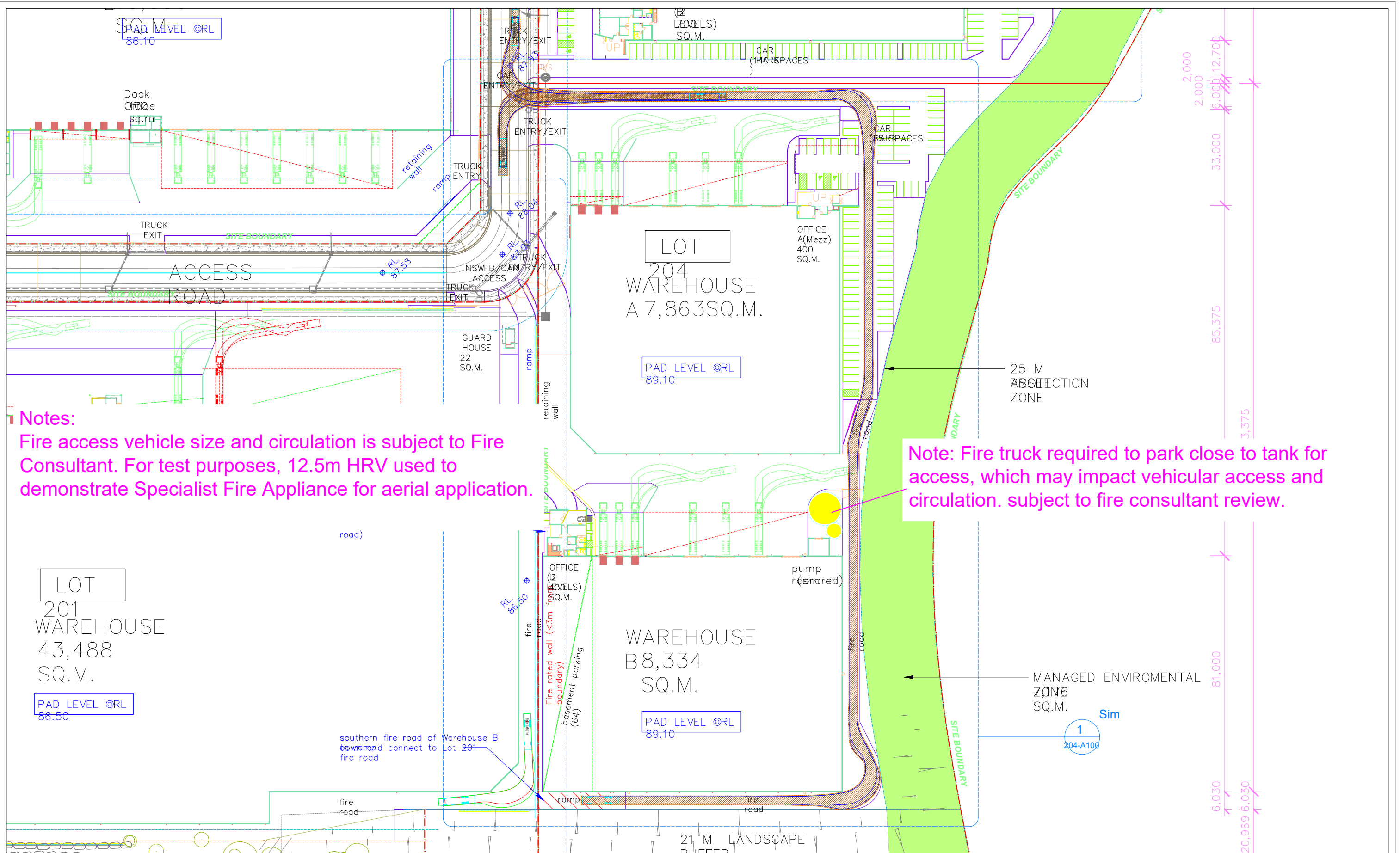
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**Project:**  
P1328  
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**Drawing Title:**  
Lot 204 Fire Road  
12.5m HRV

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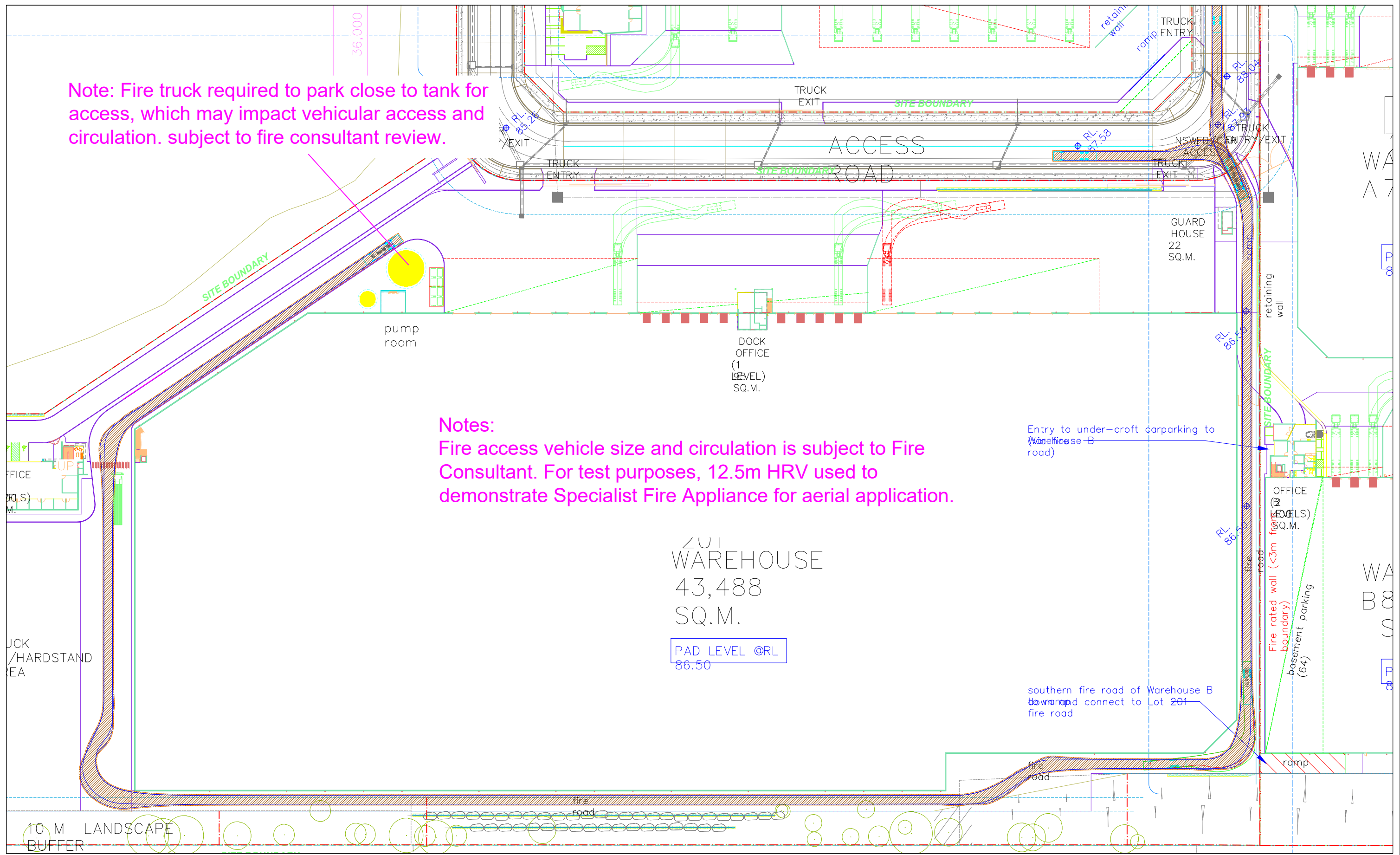


Note: Fire truck required to park close to tank for access, which may impact vehicular access and circulation. subject to fire consultant review.

Notes:  
 Fire access vehicle size and circulation is subject to Fire Consultant. For test purposes, 12.5m HRV used to demonstrate Specialist Fire Appliance for aerial application.

ZUI WAREHOUSE  
 43,488 SQ.M.

PAD LEVEL @RL  
 86.50



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Project:  
 P1328  
 Burley Road, Horsely Park

Drawing Title:  
 Lot 201 Fire Road  
 12.5m HRV

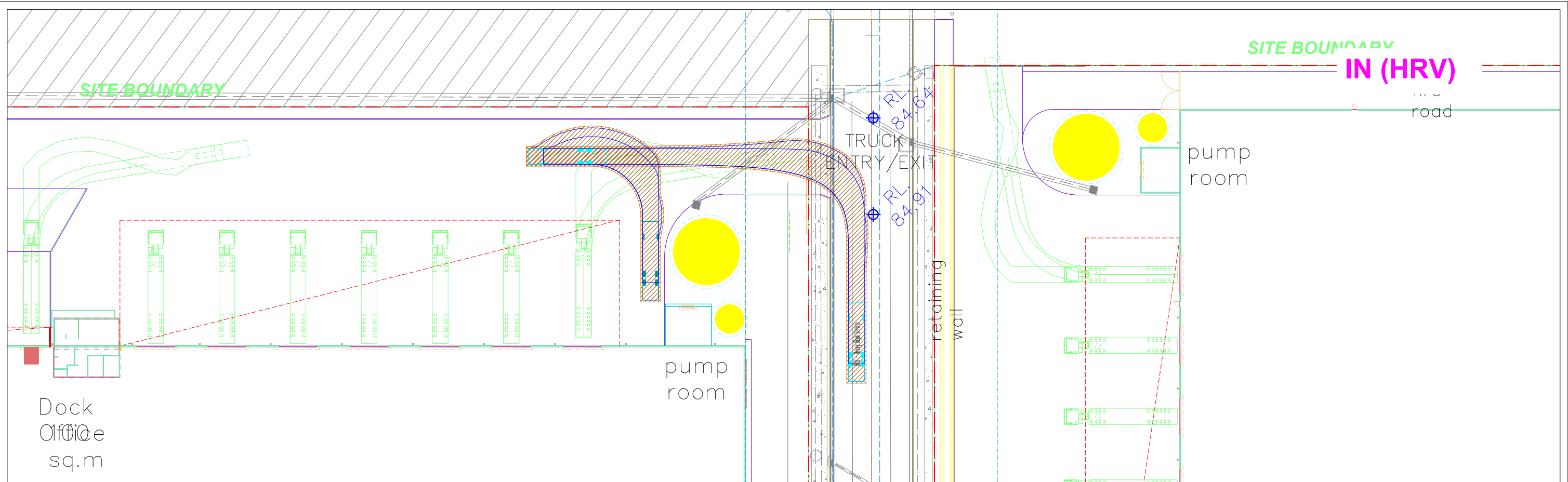
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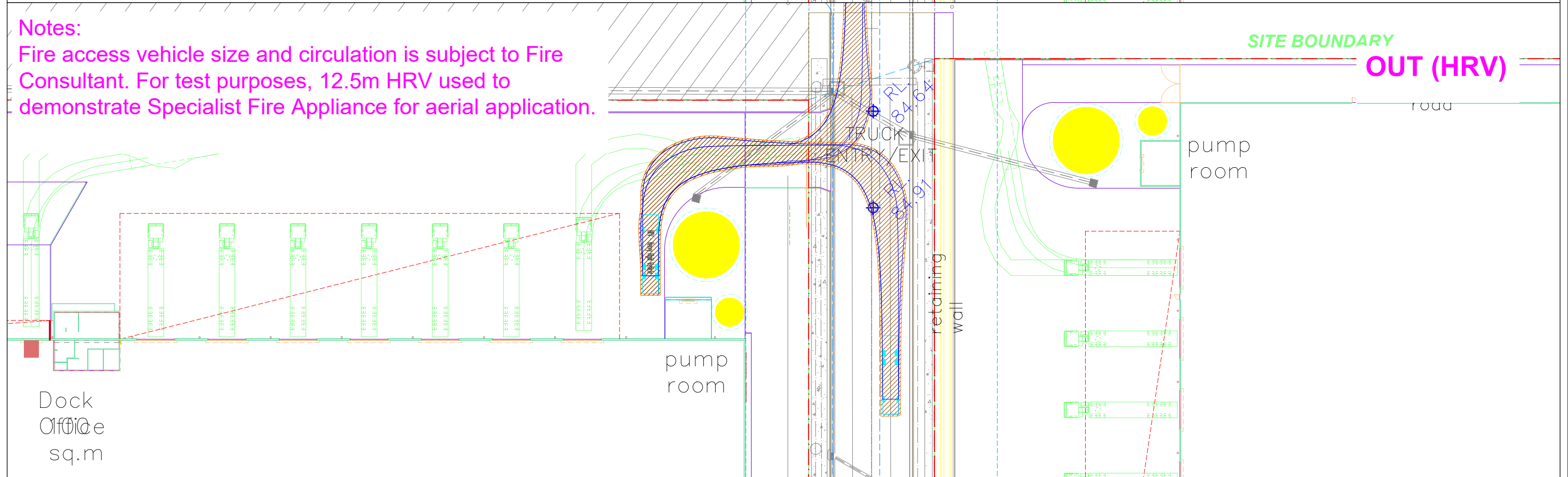
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**Notes:**  
 Fire access vehicle size and circulation is subject to Fire Consultant. For test purposes, 12.5m HRV used to demonstrate Specialist Fire Appliance for aerial application.



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