GOODMAN PARKING RATE DISCUSSION 85-97 WATERLOO RD SSD-52604208

June 2024

Goodman

1. EXECUTIVE SUMMARY

1. Legal advice from Corrs (May 2024) is attached and confirms DPHI can approve parking between 0.2 space per dwelling and the rates prescribed in the Ryde DCP – Part 4.5 Macquarie Park Corridor being 0.8 space per dwelling for the proposed unit mix

2. For context to highlight the shortfall in the DPHI minimum rate of 0.2 space per dwelling as it applies to the Macquarie Park Corridor, this represents a rate lower than that Ryde applies to "Boarding Houses in an accessible area – 0.2 parking spaces per room"

3. The rate Goodman propose is supported by:

    1. Ryde DCP – Part 4.5 Macquarie Park Corridor (Section 2); and

    2. Market evidence for the area (Section 3); and

    3. Recent BTR approvals (Section 4)

4. Goodman's project requires residential car parking at 0.6 spaces per dwelling totalling 442 cars, representing a 20% reduction to the Ryde DCP and more than meets the intent of the lower DCP parking rates objective to shift car use to public transport. The rate also represents a 34% reduction in the approved parking of 1,014 under the enacted Concept Approval 2017/0096 being for office development.

5. The allocation per apartment is shown below:

Apt type	Number of apartments	Cars allocated	%
Studio	192	0	0%
1 bedroom	168	66	39%
2 bedroom	342	342	100%
3 bedroom	34	34	100%
Total		442	60% or 0.6:1

6. Visitor parking is proposed at 0.1 space per apartment, totalling 73 cars

7. Market evidence indicates BTS apartments are parked at 1 space per apartment and For Rent apartments are parked at 0.8 spaces per apartment

8. Recent approvals confirm a rate between 0.2 and the applicable DCP rates has been adopted

2. BENCHMARKS – PLANNING CONTROLS

Relationship to Ryde DCP – Part 4.5 Macquarie Park Corridor

Section 4.0 Access Network

Parking rates established by Ryde for Macquarie Park Corridor “to assist to increase public transport use”

Residential	Number of units	Ryde DCP per dwelling	Ryde DCP Macquarie Park per dwelling	Goodman SSDA	Discount
1 brm	360	0.6-1.0	0.6	0.6	
2 brm	342	0.9-1.2	0.9	0.6	
3 brm	34	1.4-1.6	1.4	0.6	
TOTAL	**736**	**571-825**	**571**	**442**	
Visitor		0.2	0.1	0.1	
Total		**972**	**645**	**515**	47% discount to Ryde DCP
Adaptable (no change)		0.1	0.1	0.1	
Other land uses in Macquarie Park					
Boarding Houses in accessible area – 0.2 parking spaces per room					
Visitor’s car parking – 0.2 parking spaces per dwelling					

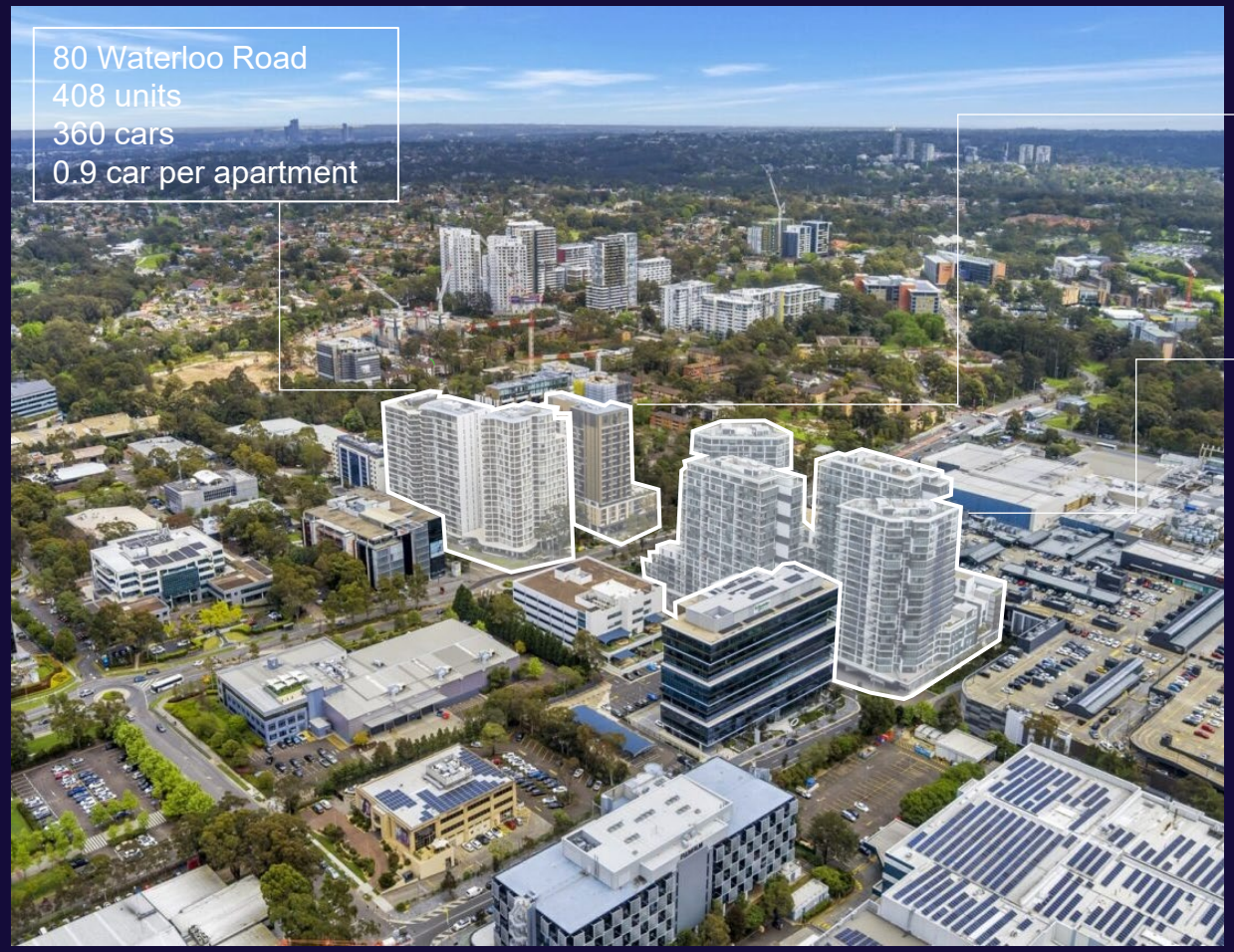
Parking rate discount to Ryde planning controls and current approvals

- Macquarie Park Corridor rates are a reduction of 34% to Ryde DCP residential
- Goodman SSDA is 20% discount to Ryde Macquarie Park Corridor rates and a 47% discount to Ryde DCP residential
- *Current office DA (2017/0096) for the site has 1,014 spaces at a rate (1 per 65sqm of office). SSDA is an overall 34% reduction in DA approved car spaces.*
- Contraflow of residential land uses reflected in modelling

3. BENCHMARKS - MARKET

Car parking patterns – BTS and rental

2021 ABS Census data indicates car ownership in Macquarie Park is 0.9 cars per dwelling



For rent market analysis	April 2024		
Macquarie Park	**For Lease #**	**Cars**	**% of apts with cars**
Studio	5	3	60%
1 brm	53	32	60%
2 brm	84	78	93%
3 brm	11	10	91%
Total	**153**	**123**	**80%**

Derived car rate 0.8 per apartment

4. ADVICE & RECENT APPROVALS

1 Legal advice confirms DPHI can consent to a car park rate in excess of the standard in the Housing SEPP

2 Recent approvals confirm this approach:

December 2023 SSDA 34919690 Novus BTR approval. B4 Mixed Use zone (flood prone). Cl 72 of the Housing SEPP

0.3 cars per apartment slightly less than Parramatta LEP (71 cars for 210 units)

April 2024 SSDA 49808717 Fitzwilliam & Argyle BTR approval residential component. E2 Commercial Centre zone. Cl 72 of the Housing SEPP

0.6 cars per apartment in line with Parramatta LEP (167 cars for 291 apartments)

"*the Applicant's reference scheme demonstrates the proposal can meet the car parking requirements under the Housing SEPP and PLEP 2023*"

The Dept recommends conditions requiring residential car parking to be provided at a rate no higher than permitted under the PLEP 2023……require a draft GTP to be prepared…"

Goodman

GOODMAN.COM

THANK YOU

Our reference
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7 May 2024

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Dear David

85-97 Waterloo Road Macquarie Park SSDA 52604208

We have been asked to advise whether:

a) an amount of parking greater than the non-discretionary standard of 0.2 cars per dwelling as set out in the *State Environmental Planning Policy (Housing) 2021* (**Housing SEPP**) can be approved;
b) whether the Department of Planning, Housing and Infrastructure can vary the standard under the Housing SEPP; and
c) whether residential dwelling parking spaces over the 0.2 rate count towards the calculation of GFA.

1 Background

1.1 Goodman Property Services (Aust) Pty Ltd (**Goodman**) is the proponent of proposed mixed-use build-to-rent Stage Significant development SSD-52604208 (**Development**) at 85-97 Waterloo Road that will consist of 736 residential apartments, ground level retail and active uses and the delivery of a new public park. The site is zoned E2 Commercial Centre under the *Ryde Local Environmental Plan 2014* (**RLEP 2014**).

1.2 The build-to-rent aspect of the Development is made permissible in the E2 zone of the RLEP 2014 by virtue of section 72 of the Housing SEPP.

1.3 The Development is State Significant Development (**SSD**) by virtue of section 27 of Schedule 1 of the *State Environmental Planning Policy (Planning Systems) 2021* which applies to build-to-rent development permitted under the Housing SEPP, Chapter 3, Part 4 which has a capital investment value of over $50 million and where the tenanted component of the proposed development has a value of at least 60% of the estimated development cost of the proposed development.

2 Car parking provisions

Ryde Local Environmental Plan 2014

2.1 In the dictionary to the RLEP and in the Standard Instrument LEP, gross floor area (**GFA**) is defined as the sum of the floor area of each floor of a building measured from the internal face of external walls, or from the internal face of walls separating the building from any other building, measured at a height of 1.4 metres above the floor, excluding:

(g) any car parking to meet any requirements of the consent authority (including access to that car parking) [emphasis added]

State Environmental Planning Policy (Housing) 2021

2.2 Chapter 3, Part 4 of the Housing SEPP applies to development for the purposes of build-to-rent housing, including the Development.

2.3 Section 74 of the Housing SEPP relevantly provides:

(1) The object of this section is to identify development standards for particular matters relating to development for the purposes of build-to-rent housing that, if complied with, prevent the consent authority from requiring more onerous standards for the matters.

(2) The following are non-discretionary development standards in relation to the carrying out of the development to which this Part applies—

(d) for development carried out wholly or partly on land in the Eastern Harbour City, Central River City or Western Parkland City—

(i) for land within an accessible area—0.2 parking spaces for each dwelling, or

…

(iii) if a relevant planning instrument specifies a requirement for a lower number of parking spaces—the lower number specified in the relevant planning instrument.

(e) if paragraph (d) does not apply—at least the number of parking spaces required under the relevant development control plan or local environmental plan for a residential flat building.

2.4 No further car parking standards applying to BTR development are prescribed by the Housing SEPP.

3 Can an amount of car parking greater than 0.2 spaces per dwelling be approved?

3.1 In our view the non-discretionary development standard set out in section 74(2)(d)(i) is a 'minimum' parking requirement not a 'maximum' parking requirement and therefore the requirements of this section are met given the car parking provided as part of the Development is greater than 0.2 spaces per dwelling. As such, any level of parking above 0.2 spaces per dwelling meets the non-discretionary development standard and can be approved.

3.2 Firstly, in our view the statutory interpretation of the section suggests that the standard is intended to be a minimum. For example, the statement at paragraph

74(2)(d)(iii) (that if a lower number of parking spaces is specified in a relevant planning instrument then this lower number applies) suggests that the standard is intended to be a minimum. Further, paragraph 74(2)(e) states that if paragraph (d) does not apply then the standard is "at least" the number of parking spaces required by the local DCP/ LEP, which demonstrates the intention that the standard should operate as a minimum.

3.3 Secondly, the Explanation of Intended Effect which applies to the Housing SEPP (being the *Explanation of Intended Effect for a new Housing Diversity SEPP*, published July 2020) notes that (emphasis added):

> **Development standards**
>
> It is proposed to allow councils to determine the relevant height and Floor Space Ratio (FSR) controls for BTR housing through their LEPs.
>
> It is proposed to apply a **minimum 0.5 car parking spaces per dwelling** for BTR housing. Where a lower maximum parking rate applies under a council's development control plan, this rate could be applied to BTR housing.

3.4 Although this was later refined to specify a rate of 0.2 car parking spaces for 'accessible areas', the intention of this section was clearly that the non-discretionary development standard in relation to car parking was to be a minimum rate of car parking.

4 Does the Department of Planning, Housing and Infrastructure have the power to vary the Housing SEPP standard?

4.1 As discussed above, in our view the non-discretionary development standard under section 74 of the Housing SEPP is a minimum car parking requirement (of 0.2 spaces per dwelling). The Development has a car parking rate of greater than 0.2 spaces per dwelling and therefore it complies with the non-discretionary development standard.

4.2 As such, no clause 4.6 variation of the non-discretionary development standard under section 74 of the Housing SEPP is required.

4.3 This conclusion is supported by the recent assessment by the Independent Planning Commission (**IPC**) of SSD-34919690 (being the Novus Build-to-Rent development in Parramatta (**Novus BTR Development**). We note that the car parking rate of 0.2 spaces per dwelling under the Housing SEPP applies to the Novus BTR Development. However, Novus BTR Development provides for 73 car parking spaces which exceeds the non-discretionary development standard of 0.2 spaces per dwelling. The Novus BTR Development was approved by the IPC without the need for a clause 4.6 variation to the non-discretionary development standards under the Housing SEPP. Indeed, the assessment did not have any regard to whether a clause 4.6 variation was required for car parking. While not binding on any future decision by a consent authority, this supports the argument that no variation of the non-discretionary development standard under section 74

of the Housing SEPP is required where the minimum requirement of 0.2 spaces per dwelling is exceeded.

5 What are the implications of the non-discretionary development standard for car parking in relation to calculation of GFA?

5.1 As noted above, the definition of GFA in the RLEP and in the Standard Instrument LEP excludes from the calculation of GFA car parking to meet any 'requirements' of the consent authority.

5.2 Case law has considered what is meant by 'requirements' in the context of minimum parking rates set by non-discretionary development standards.

5.3 In the case of *Saha Builders Pty Ltd v Ku-ring-gai Council* [2019] NSWLEC 1497 (**Saha Builders**), the Court cast doubt on the suggestion that the non-discretionary standard in relation to car parking should be treated as a maximum 'requirement' for the purposes of GFA calculation, stating:

> [42] There is, in my view, some difficulty in applying the minimum "cannot be used to refuse development consent" formula for car parking spaces as a maximum "requirement" under the areas excluded from GFA in the definition, where the Policy is ambiguous as to what the "requirement" actually is. … the "cannot be used to refuse development consent" formula is merely a minimum threshold, which if met, prevents a refusal on the basis of an insufficient car parking provision.

5.4 In the Saha Builders case, the facts demonstrate that the car parking which was below the amount specified in the non-discretionary standard was excluded for the purposes of GFA calculation. The discussion in that case related to the 3 additional car parking spaces which were above the non-discretionary standard. The Commissioner noted that there was no discouragement in the SEPP to provide additional spaces beyond the minimum noted, however did not decide on the issue because the parties were agreed that the 3 additional parking spaces would contribute to GFA, and if necessary, the 3 additional spaces could be removed. However, the Commissioner further noted:

> [42] I am of the view that if the additional three car parking spaces provided for residents does contribute to GFA and if there is no contention raised regarding any detrimental impacts arising from the volume of the basement, those car parking spaces are acceptable and any increase in the FSR above the 0.5:1 threshold solely on the basis of the area of the three car parking spaces contributing to GFA would not be a reason to refuse the application.

5.5 In the case of *Parker Logan Pty Ltd v Bayside Council [2017] NSWLEC 1709 (**Parker Logan**)*, the Court held that the floor area of extra car parking spaces in excess of the minimum requirement for car parking under the *State Environmental Planning Policy (Affordable Rental Housing) 2009* was to be **excluded** from the calculation of GFA. This was largely because the Court noted that the "at least" requirement did not "*specify exact requirements that must be met and not be exceeded… Instead, the minimum requirement for car parking spaces that, once met, cannot be used as a reason for refusal*" (at [27]).

5.6 In the case of *Parking Station Pty Ltd v Bayside Council [2019] NSWLEC 1268 (**Parking Station**)*, council and the developer disagreed on the method of measurement of a substantial commercial car parking station where the car parking requested was considerably in excess of the minimum set by the relevant Development Control Plan (which required 384 car spaces whilst the application sought consent for 1,012 spaces) resulting in an exceedance of 638 car parking spaces.

5.7 The relevant facts in the *Parking Station* case are distinguishable from the other cases noted above and the Goodman Development in that the purpose of the car parking was primarily for a standalone commercial car park use, rather than being ancillary to (or in support of) the main use on the site. The surplus car parking spaces in this case were in addition to those reasonably required to support the primary use on site and were therefore justifiably included as GFA.

5.8 We note that each of the cases discussed above were decided by a Commissioner of the Court and as such are fact-specific decisions and not binding in respect of any future Court decision. It is difficult to predict how the Court would decide in relation to the calculation of GFA if a decision were challenged in the Land and Environment Court.

5.9 However, on the basis of the case law to date, we consider that the *Parker Logan* decision is most analogous to the situation of the Development proposed by Goodman. In the absence of other relevant authority, this suggests that the Court would consider that the car parking in the Development which exceeds the 0.2 minimum car parking standard should not be included in the calculation of GFA.

5.10 Relevantly in the Novus BTR Development, the car parking appears to have been excluded from the calculation of GFA. As noted above, although the decision in relation to the Novus BTR Development is not binding on any future decision by a consent authority, it was a determination by the Independent Planning Commission that is nevertheless supportive of the argument that car parking which exceeds the requirements of section 74 of the Housing SEPP (but does not exceed the relevant LEP/ DCP) should be excluded from the calculation of GFA.

5.9 The Novus BTR Development facts are analogous to the Goodman Development as the proposed car parking exceeds the 0.2 cars per dwelling requirements of section 74 of the Housing SEPP but does not exceed the relevant LEP/ DCP and therefore should be excluded from the calculation of GFA.

6 Conclusion

6.1 We consider that subject to the matters discussed above the minimum requirements of the non-discretionary development standards have been complied with and therefore a credible argument can be put forward that:

a) an amount of parking greater than 0.2 cars per dwelling as set out in the Housing SEPP can be approved;

b) no clause 4.6 variation is required; and

c) the car parking spaces which exceed the minimum requirement of 0.2 car parking spaces per dwelling can be excluded from the calculation of GFA.

Yours faithfully
Corrs Chambers Westgarth

Christine Covington
Partner (she/her)

21 June 2024

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RE: 85-97 Waterloo Rd & 2 Banfield Rd, Macquarie Park – Build to Rent SSD-52604208) Response to City of Ryde Submission – Section 12 Sustainability and Resilience, Section 14 Traffic generation and Infrastructure improvements

Dear David,

Ason Group has been engaged by Goodman Property Services (Aust) Pty Ltd. to provide traffic and transport consultancy services in support of the State Significant Development (SSD-52604208) application for the proposed mixed-used development at 85-97 Waterloo Road & 2 Banfield Road in Macquarie Park.

In addition to retail space, recreation facilities, childcare and an amenity “clubhouse", the Proposal provides 736 Build to Rent (BTR) dwellings as secure, alternative housing choices in Macquarie Park.

City of Ryde Council (Council) has provided a Detailed Submission, dated 30 November 2023 in response to the SSD submission. This Transport Statement (TS) addresses Council’s transport-related comments on Sustainability and Resilience provided at Section 12, and comments on Traffic Generation and Infrastructure Improvements provided at Section 14.

It is noted a separate letter (ref: P2235l03) has been prepared which responds to Council’s comments on *Vehicle Access, Parking and Service Facilities* provided at Section 10(b) of their detailed submission. Furthermore, (ref: P2235l02) has been prepared separately which responds to Council’s parking-specific comments provided at Section 10(a).

TABLE 1: COUNCIL DETAILED SUBMISSION

12. Sustainability and Resilience

12.1

The development should be aiming to reduce car use to contribute to the State's Net Zero emissions targets particularly from internal combustion engines / transport which is the 2nd largest contributing source of emissions in the state.

No vehicle trips generated have been included in the EIS to understand site in/ out and broader city impacts on congestion and compliance with planning control requirements.

- Traffic generation calculations are detailed in Section 6.3 of the Transport Management & Accessibility Plan (TMAP) Report which is included in the Environmental Impact Statement (EIS) which estimates only a net traffic increase of 96 in the AM peak hour and 110 in PM peak hour when considering the existing site traffic generation.
- As part of the TMAP report, Section 6.7.4 demonstrates the proposed development generates only a minor amount of traffic volume (less than 5% increase at any of the studied intersections) and has minimal effect on network performance, when considering the existing traffic generation of the site.
- Similarly, updated traffic modelling (to design year 2030) demonstrates less than 5% increase at any of the studied intersections, with minimal effect on network performance. The development trip contribution at all intersections is less than 4%, and where it is highest (such as Waterloo Road / Khartoum Road and Waterloo Road / Harvest Street), these intersections present ample existing spare capacity.

DEVELOPMENT VOLUME (AS A PROPORTION OF 2030 FUTURE BASE CASE VOLUMES)

	Intersection	Peak Period	2030 Base Intersection Volume	Net Development Volume	Percentage
A	Waterloo Rd x Herring Rd	AM	2,896	20	0.69%
		PM	3,417	18	0.53%
B	Waterloo Rd x Macquarie Centre	AM	1,776	20	1.13%
		PM	2,309	18	0.78%
C	Waterloo Rd x Banda Rd	AM	1,685	57	3.38%
		PM	2,403	55	2.29%
D		AM	2,210	46	2.08%

	Waterloo Rd x Byfield St x 97 Waterloo Rd	PM	2,698	46	1.70%
E	Waterloo Rd x Khartoum Rd	AM	2,322	81	3.49%
		PM	2,417	83	3.43%
F	Khartoum Rd x Banfield Rd	AM	1,227	4	0.33%
		PM	1,167	8	0.69%
G	Talavera Rd x Khartoum Rd	AM	2,385	4	0.17%
		PM	2,631	8	0.30%
H	Waterloo Rd x Harvest St	AM	2,038	71	3.48%
		PM	2,061	75	3.64%
I	Lane Cove Rd x Waterloo Rd	AM	6,080	71	1.17%
		PM	6,698	75	1.12%
J	Lane Cove Rd x Talavera Rd	AM	5,745	46	0.80%
		PM	6,480	48	0.74%

- A comprehensive Green Travel Plan (GTP) can be developed to further address this concern and in response to a suitable condition of consent. However, we note that the Proposal aims to contribute towards promoting Green Travel Plan incentives by means of providing the following incentives:
  - Car share: 13 car shares provided, at a rate of 1 per 50 residential development car spaces.
  - Bicycle parking: 84 bicycle parking spaces provided, at a rate of 1 per 10 car spaces.
  - End of trip facilities (EoTF): The architectural plans have been updated to allocate a total of 93 m^2 GFA as End-of-trip facilities (EoTF), 58 m^2 GFA and 35 m^2 GFA for each building respectively. It is expected that the further details of the EoTF will be included at detailed design stage.

		– Parking Provision: The proposed provision encourages an aspiration yet realistic shift in car ownership. Refer Point 14.9 for detailed commentary on parking provision. It is highlighted the proposed provision represents a 23% reduction on the maximum acceptable provision, and at most can accommodate two-thirds of the forecast demand based on car ownership. **Accordingly, it is our view that the development actually aims to reduce car use and contribute to the State's Net Zero emissions targets.**
14. Traffic generation and Infrastructure improvements		
14.1	**Access issue** The TIA report proposed one access driveway off Khartoum Road, which is not supported. • Due to the construction of Macquarie University Bus Interchange, the southbound lanes for general traffic on Herring Road between Talavera Road and Waterloo Road will be permanently closed, which would lead to the significant congestion and queue length on the northern approach of Khartoum Road/Waterloo Road intersection. The function of proposed access off Khartoum Road would be seriously impacted.	• We note the site access driveway off Khartoum Road is an existing access, and it is the Proposal's intention is to maintain vehicular accessibility via this Road. • With reference to the 'function of proposed access off Khartoum Road', reference is made to *Sub-section 4.1 - Streets Objectives of Part 4.5 – Macquarie Park Corridor* of Council's DCP. The objectives of the street hierarchy in the Macquarie Park Corridor include: 1. *To enhance connectivity with surrounding areas and provide new access points into the Corridor from the surrounding street network.* 2. *To establish a clear hierarchy of public streets, building on the existing street hierarchy within the Corridor.* 3. *To accommodate increased traffic movement within the Corridor* • Khartoum Road is a local road, intended to provide vehicular accessibility to the developments surrounding this road and distribute them towards other high order roads in the precinct. With this in mind, providing access into Khartoum Road seems to be in line with the DCP objective and should be supported on this ground. • In fact, Khartoum Road is a Local Road and not a State Road which suggests providing access onto this road would not be against Clause 2.119 of SEPP (Transport Infrastructure) 2021 requirements. This is reflective on the number of existing access crossovers readily available on Khartoum Road and this development will also be similar to any other developments along this road.

		• Traffic modelling indicates that the site's access driveway off Khartoum Road will not be affected by the nearby intersection of Waterloo Road and Khartoum Road once the development is fully operational in 2030. • The site's access point is located 85 metres from the intersection of Waterloo Road and Khartoum Road. Traffic modelling suggest the 95th percentile queue from this intersection would extend up to 67 metres during peak periods, not reaching the existing access on Khartoum Road. Therefore, queues from this intersection would not be expected to impact site access to/from Khartoum Road. Accordingly, it is our view that the proposed access on Khartoum Road is deemed acceptable as proposed.
14.2	This access driveway off Khartoum Road is required to be relocated to Banfield Road, which would allow car traffic into/out the site turning right and left at the intersection of Banfield Road/Khartoum Road, which would be signalised in the future.	• Refer response provided in Point 14.1 above which demonstrates that access along Khartoum Road as proposed should be supportable. • Furthermore, detailed information is not currently available on the signalisation of the Banfield Road / Khartoum Road intersection as part of the Review of Environmental Factors for the Macquarie Park Precinct and Bus Interchange Upgrade (MPPBIU REF). • Noting the abovementioned considerations, it is considered not necessary to relocate the site's existing access driveway from Khartoum Road. It is noted that our modelling work has not considered the signal at this intersection and this intersection has been modelled as priority control.
14.3	**Trip Generation** The Table 14 on page 39 of TIA report has missed following trip generation components: • Section 4.16 of EIS report states a total of 173 jobs are estimated for the residential and retail components. 173 retail and residential workers travelling to the subject site via car should be considered as part of trip generation. • Childcare educators and medical centre staff travelling to the site via car should be also included.	• Table 13 and 14 of the original TMAP detail the trip generation calculations for the modelling assessment. • This includes the relevant staff and visitor trips associated with the residential and retail land uses of the site. Reference has been drawn to the RMS Guide to Traffic Generating Developments which specify trip generation rates based on floor area. These generation rates are inclusive of staff trips. A total development trip generation of 153 (AM) and 140 (PM) vehicle trips in the peak hours were calculated, prior to netting out existing trips addressing Council's comment.

	• The proposed three-storey Building D (Club House) including multipurpose function space, which may generate vehicle trips for external patrons. This should be considered to be included in the trip generation. • Currently, the car mode share for workers in Macquarie Park is around 54% (48% drive alone and 6% carpool) according to the survey undertaken by ConnectMPID. The above vehicle trips for employees could be around 100, which should be included in the trip generation Table 14 of TIA report.	• As above, childcare and medical land uses have been considered in the trip generation and traffic impact assessment, including associated staff trips. We should again re-iterate that such developments are quite likely to attract great amount of cross-trade who will aim to visit the Proposal with different purposes. • The multi-purpose function space is expected to primarily cater for and be used by local users, in line with Transit Oriented Development (TOD) principles and given its scale. Operational hours are typically outside standard commuter AM and PM peak periods and would not be expected to be a notable traffic generator during the assessed modelling periods. • As above, the peak hour trip generation is consistent with Council's estimated 100 trips. These net trips have been included within the last row of Table 14.
14.4	**Traffic Modelling** Due to the access required to be changed from Khartoum Road to Banfield Road, the generated traffic distribution would be altered correspondingly.	As outlined in Point 14.2, Ason Group is of the view that it is unnecessary to relocate the site's access driveway from Khartoum Road to Banfield Road. As such, traffic modelling to date maintains the site access at the existing Khartoum Road driveway.
14.5	The intersection of Waterloo Road/Road 16 in 2026 should be included as a signalised intersection. Due to the trip generation adjustment as advised in trip generation comment.	Noted – updated traffic modelling reflects a signalised intersection of Waterloo Road and Road 16. Results show that this intersection would operate acceptably with below performance criteria for 2030 project scenario with full operation of the Proposal: • AM peak: Level of Service (LoS) B and Degree of Saturation (DoS) of 0.71 • PM peak: LoS B and DoS of 0.58

14.6	2026 proposed as the modelling future year for the assessment is inappropriate. Section 4.19 of EIS report states Stage 1 would be completed in Q4 2027. The TIA report is required to be consistent with EIS staging plan and provide the completion year of Stage 2. Then 1-2 years after Stage 2 completion used for future modelling year is appropriate for assessing the traffic impact of the site development, because all the tenants moving into the site and all facilities in full operation would take at least 1 or more years after the development completed; and	Noted, the year 2030 has been selected for the future year assessment modelling. Based on the information supplied by the project team, the expected timings for full operation are as follows: • Stage 1: To open in Q4 2027, with full occupation anticipated by Q4 2028. • Stage 2: To open in Q2 2028, with full occupation anticipated by Q2 2029. As a result, a 2030 design year has been adopted for the updated future year assessment modelling. The SIDRA modelling results confirm insignificant changes to the TMAP modelling outputs and all findings of the original TMAP remain valid.
14.7	The modelling for future year is 2026, which is required to consider the project completion of Macquarie Park Precinct and Bus Interchange Upgrade. The published project REF report states below: "*Removing the southbound general traffic lane from Herring Road as proposed would cause this traffic to reroute, predominantly via Khartoum Road and Lane Cove Road. It is predicted that during the weekday 5-6pm period, about 500 vehicles could reroute through Khartoum Road and 200 vehicles could reroute through Lane Cove Road to access Waterloo Road."* Therefore, the intersections of Waterloo Road/Khartoum Road and Waterloo Road/Lane Cove Road, as well as Talavera Road/Lane Cove Road should be modelled to consider the above traffic volumes.	• As noted in the response in Point 1.1, detailed information on the re-routing of traffic of the Banfield Road / Khartoum Road signalised intersection is not available. The Review of Environmental Factors for the Macquarie Park Precinct and Bus Interchange Upgrade, issued in August 2022 (MPPBIU REF), does not provide detailed information on the re-routing of traffic as a result of these changes to the Banfield Road / Khartoum Road intersection. • No key information relating to the traffic redistribution due to the construction / operation of the Macquarie Park Bus Interchange is available to Ason Group at this point in time. • Furthermore, Ason Group have requested additional information from TfNSW's Macquarie Park Precinct project team (at Macquarie.Park@transport.nsw.gov.au on 27.03.2024), seeking data related to the construction of the Macquarie University Bus Interchange. As at the time of this letter (10.05.2024) no response has been received, to this date. • Ason Group does not have detailed output of the modelling undertaken for the area and cannot ascertain the validity for re-routing of 500 vehicles onto Khartoum Road and 200 vehicles onto Lane Cove Road during PM peak hour. • Updated SIDRA modelling (design year 2030) (without re-routing) demonstrates there are no major changes in Level of Service (LoS) or increases in average delay (AVD) between the Future Base Case (FBC) and Future Project Case (FPC) scenario.

SIDRA MODELLING RESULTS – DESIGN YEAR 2030 (WITHOUT RE-ROUTING)

PM	Existing			2030 FBC			2030 FPC		
	AV D	LoS	DoS	AV D	LoS	DoS	AV D	LoS	DoS
1. Herring Rd x Waterloo Rd	40	C	0.89	42	C	0.89	42	C	0.89
2. Waterloo Rd x Macquarie Centre Access	14	A	0.51	17	B	0.64	17	B	0.64
3. Waterloo Rd x Banda Rd	8	A	0.37	7	A	0.34	7	A	0.34
4. Waterloo Rd x Byfield St	15	B	0.56	20	B	0.78	20	B	0.81
5. Waterloo Rd x Kartoum Rd	23	B	0.75	25	B	0.83	27	B	0.88
6. Khartoum Rd x Banfield Rd	11	A	0.28	12	A	0.31	12	A	0.31
7. Talavera Rd x Khartoum Rd	30	C	0.85	44	D	0.88	44	D	0.87
8. Waterloo Rd x Harvest St	8	A	0.14	8	A	0.17	8	A	0.18
9. Lane Cove Rd x Waterloo Rd	45	D	0.99	61	E	0.97	67	E	0.95
10. Lane Cove Rd x Talavera Rd	51	D	0.99	202	F	1.29	210	F	1.32
11. Waterloo Rd x Road 16	-	-	-	16	B	0.54	16	B	0.58

- Based on the above LoS and DoS, the Talavera Rd / Khartoum Rd intersection and the Lane Cove Rd / Talavera Rd intersections evidently would not be able to accommodate additional traffic to the scale of 500 and 200 vehicles. However, in adding this extra traffic onto the road network, the percentage traffic contribution of the development will actually decrease.
- A re-routing of some 500 and 200 vehicles during the PM period would commensurately worsen congestion at the Talavera Rd / Khartoum Rd and Lane Cover Rd / Talavera Rd intersections. It must be distinguished these traffic impacts are due to the re-routing, and not by the Proposal's.
- With the above re-routing, the development traffic remains consistent and generally contributes well-below 4% at any of the studied intersections, with minimal effect on network performance. Where it is highest, such as Waterloo Road / Harvest Street Rd these intersections present ample existing spare capacity.

		Accordingly, even if considering the re-routing for additional 500veh/hr during PM peak hour, the development contribution will be reduced comparing to the base case - suggesting that the Proposal will be supportable on traffic modelling grounds.
14.8	Preliminary Green Travel Plan. Please calculate the car parking demand based on the estimated number of workers and residents within the subject site, and the mode share target. Make sure the proposed car parking provision can be accommodated by the estimated car parking demand. If the estimated car parking demand is over the proposed car parking provision, the mode share target or car parking provision or even land use intensity has to be adjusted to enable the car parking demand to be accommodated.	Noted. A detailed GTP would be provided in response to a suitable condition of consent. Analysis of 2021 ABS Census Data indicates car ownership in Macquarie Park is on average 0.9 cars per dwelling. Housing within the Macquarie Park census zone is predominantly high-density residential, same as that proposed; therefore, it can be assumed that future tenants would generate car ownership demand at a rate of 0.9 spaces per dwelling, or up to 662 cars for the proposed 736 dwelling development. The Committee for Sydney's *Rethinking Station Precincts – How to create great precincts around rail stations, and why this matters for Sydney* (April 2022) states that if, "*parking is mismanaged, higher densities around train stations can result in localised gridlock or destroy the pedestrian environment. At the same time, we need to be realistic that some households who live near train stations will still want to own a car*", and so, "*a balance must be struck*". It is our view the proposed 441 BTR parking spaces strikes the balance in line with recommendations by the Committee for Sydney. The Proposal represents a 23% reduction on the maximum acceptable provision of 571 spaces and at most can only accommodate two-thirds of the forecast demand of up to 662 cars. Thereby the provision encourages an aspirational yet realistic shift in car ownership of about 33%. For the retail / commercial component of the development, parking has been provided in accordance with requirements as set out by the CoR DCP. Consideration has been given to the current estimated worker mode share – as well as local public and active transport infrastructure – to inform appropriate worker mode share targets.

14.9	The intersections of Waterloo Road/Khartoum Road and Waterloo Road / Byfield Street will need to be upgraded to traffic signal control along with other road geometry improvements to sustainably support the future development generated by the SSD. This requirement has been specified in DPE's Stage 1 Rezoning Proposal for Macquarie Park as well as a number of other technical planning documentation (e.g. City of Ryde Integrated Transport Strategy 2041).	Noted. The SIDRA layout for the signalised intersections of Waterloo Road/Khartoum Road and Waterloo Road/Byfield Street have been sourced from the Macquarie Park Bus Priority and Capacity Improvement Project REF, March 2017. Updated SIDRA traffic modelling results show that these two intersections with signalised layouts would operate acceptably with a LoS B or better, and with a maximum Degree of Saturation (DoS) of 0.88 when the development is fully operational in 2030.

We trust that the above is satisfactory, notwithstanding please don't hesitate to contact the undersigned should you have any queries.

Yours sincerely,

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14 June 2024

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ABN: 81 168 423 872

RE: 85-97 Waterloo Rd & 2 Banfield Rd, Macquarie Park – Build to Rent SSD-52604208
Response to City of Ryde Submission – Section 10(a) Parking Provision

Dear David,

Ason Group has been engaged by Goodman Property Services (Aust) Pty Ltd. to provide traffic and transport consultancy services in support of the State Significant Development (SSD-52604208) application for the proposed mixed-used development at 85-97 Waterloo Road & 2 Banfield Road in Macquarie Park. In addition to retail space, recreation facilities, childcare and an amenity "clubhouse", the Proposal provides 736 Build to Rent (BTR) dwellings as secure, alternative housing choices in Macquarie Park.

City of Ryde Council (Council) has provided a Detailed Submission, dated 30 November 2023 in response to the SSD submission. This Transport Statement (TS) addresses Council's parking-specific comments provided at Section 10(a) of their detailed submission. Due to development modifications since Council's submission, the development now provides 442 parking spaces for the BTR residential.

City of Ryde Submission – Parking

Reference is made to *Section 10 – Vehicle Access, Parking and Service Facilities* of Council's Detailed Submission; specifically, Council's comments from *Part (a) – Parking Provision*. A review of Council's parking comments indicates they can be divided into 3 'topics'. **Table 1** presents Council's parking comments extracted from the Detailed Submission separated into these 3 topics. Table 1 also provides a summary response to each of Council's parking comments.

TABLE 1: COUNCIL DETAILED SUBMISSION

10. Vehicle Access, Parking and Service Facilities (a) – Parking Provision		
	Council Comment	**Summary Response**
1	The parking allocation for the development will need to comply with the requirements outlined in the SEPP (Housing) 2021 – Build to Rent. A total of 736 dwellings are proposed and therefore, 147 residential carparking spaces are required. The proposed development provides a total of 441 residential carparking spaces, which exceeds the 0.2 rate, proposing approximately 0.59:1, this grossly exceeds the requirement.	Ason Group defers to others in relation to the interpretation of the SEPP parking rates. However, it is understood that independent legal advice is the applicable SEPP parking rate (0.2 spaces per dwelling in this location) represents a minimum parking requirement, which when applied to 736 dwellings corresponds to a minimum parking requirement of 147 spaces for the BTR use.

	The Application is submitted pursuant to the State Environmental Planning Policy (Housing) 2021 Part 4 Build-to-rent housing requirements. Of concern is the non-compliance with clause 74(2)(d)(i) parking requirement of 0.2:1 as the site is within an "accessible area". The Applicant would require 147 residential spaces, whereas 441 is provided. The surplus parking in this regard results in a non-compliance with the non-discretionary standard specific to Build to Rent Housing under the Housing SEPP. This will require a Clause 4.6 Variation request to be submitted to consider the non-compliance. One was not provided with the application. With respect to the identified non-compliances, Section 4.15(3) of the Environmental Planning and Assessment Act 1979 (EP&A Act) specifically addresses non-compliances to non-discretionary development standards and states: "If an environmental planning instrument or a regulation contains non-discretionary development standards and development the subject of a development application does not comply with those standards: a) subsection (2) does not apply [subsection 2 refers to development which does comply with a non-discretionary development standard] and the discretion of the consent authority under this section and section 4.16 is not limited as referred to in that subsection, and a provision of an environmental planning instrument that allows flexibility in the application of a development standard may be applied to the non-discretionary development standard". Point (b) above refers to a provision of an environmental planning instrument which allows flexibility in the application of a development standard and is taken to mean a request to vary the standard via Clause 4.6 of the Standard Instrument (being the Ryde Local Environmental Plan 2014 (RLEP 2014)). Therefore, subject to Clause 4.15(3) of the EP&A Act, the Applicant would require submitting clause 4.6 variation request to clause 74(2)(d)(i). This point is clarified in The Department of Planning Guidelines to Varying Development Standards refer page 24.	Council's applicable DCP residential parking rates are maximum parking rates, which – when applied to the Proposal – set a maximum parking provision of 571 spaces. Based on the above, it is clear the proposed BTR parking provision of 442 spaces (which corresponds to a parking rate of 0.60 per dwelling) is acceptable as it sits within the 147 – 571, min/max range.
2	Council notes that the surplus parking provided will count towards GFA, which the Applicant has not included in their GFA Calculations, therefore if the surplus parking is remaining then the Applicant is to include this in their GFA calculations. Noting elsewhere (Section 3) in this submission that the current GFA requires reduction to align with the clause 6.9 maximum's incentive provision.	We defer to others on matters relating to GFA & FSR. However, if our response above is accepted – the SEPP establishes a minimum requirement and Council's DCP establishes a maximum requirement – then a car parking provision that falls within this range (as is the case for the Proposal) is acceptable and does not provide surplus parking as claimed by Council. Therefore, none of the proposed parking should count towards GFA.

3	Notwithstanding the clause 4.6 Council submits that given the proximity to the metro station and accessibility available for future occupants, the development should significantly reduce its parking quantum, to align with the principles of transport orientated development. The development has provided a significant parking surplus of 294 resident spaces the development should minimise the level of off-street parking provided given the proximity of the site to transport nodes (Metro and Macquarie University Bus Interchange) and to be truly aligned with the objectives as a transport orientated development. In conjunction with concerns raised with the low level of deep soil landscaping over the site, strong consideration should be given to reducing the scale (and parking level) of the basement carpark.	We defer to others in relation to concerns over deep soil landscaping. With reference to our comments above, the proposed BTS parking provision of 442 spaces is within the acceptable min/max range of 147 – 571 spaces and therefore does not represent a *significant parking surplus* as claimed by Council. The remainder of this TS focuses on the statements made by Council in relation to parking principles, such as those of Transport Oriented Development (TOD). In summary, the Proposal's parking provision of 442 spaces is aligned with TOD principles and conversely, Council's recommended provision of 147 spaces is not aligned with TOD principles.

Response to Topic 3 – Recommended Reduction in Parking

Transport Oriented Development Principles

Macquarie Park is currently 1 of 8 priority precincts within the Transport Oriented Development (TOD) Program where state-led rezoning is being accelerated to deliver well-located high-density housing within walking distance to train and metro stations. Council recommends the parking provision be reduced in quantum, '*to align with the principles of transport orientated development*'.

Firstly, The City of Ryde has established car parking rates for the Macquarie Park corridor which are already reduced by 34% from the rates applicable to the rest of the LGA. Based on Section 4.4 (Sustainable Transport) of the Macquarie Park Corridor section of Council's DCP, this was one of a number of measure taken to manage travel demand and promote public transport usage with an, "*aim to assist to increase public transport use to 40% by 2031*". In other words, Council's DCP already has reduced parking rates that reflect the characteristics of Macquarie Park.

Regarding TOD principles and objectives, the TOD Program states the following:

> *The TOD Accelerated Precincts program will deliver high and mid-rise housing within 1,200 metres of 8 priority transport hubs. The objectives of the program are to:*
>
> - *increase housing supply in well-located areas*
> - *enable a variety of land uses (residential, commercial, recreational) within walking distance of train and metro stations*
> - *deliver housing that is supported by attractive public spaces, vibrancy, and community amenity*
> - *increase the amount of affordable housing in these locations*
>
> *The 8 state-led rezonings will create capacity for up to 47,800 new well-located homes over the next 15 years.*

It is clear from the above TOD Program objectives the NSW Government is focussed on delivering housing within the 8 priority precincts and it can be assumed the objective is to grow resident populations / communities, in these precincts so that (for example) employees can live near their place of work and students can live near their educational facilities.

Historically, ***Transit*** Oriented Development has sought to (1) co-locate a mix of uses – 'origin' residential uses within proximity of 'destination' employment, education, retail, recreational, etc uses – to promote walking and cycling, and (2) for this to be done in a precinct that has a transit hub to promote public transport for longer journeys. TOD principles are focussed primarily on land-use; the high-level research we've conducted suggests there are few policy objectives relating to parking or specifically parking for residential origin land uses. The Committee for Sydney's *Rethinking Station Precincts – How to create great precincts around rail stations, and why this matters for Sydney* (April 2022) states that if, "*parking is mismanaged, higher densities around train stations can result in localised gridlock or destroy the pedestrian environment. At the same time, we need to be realistic that some households who live near train stations will still want to own a car*", and so, "*a balance must be struck*".

Forecast Parking Demand and Car Ownership

Analysis of 2021 ABS Census Data indicates car ownership in Macquarie Park is on average 0.9 cars per dwelling. Housing within the Macquarie Park census zone is predominantly high-density residential, same as that proposed; therefore, it can be assumed that future tenants would generate car ownership demand at a rate of 0.9 spaces per dwelling, or up to 662 cars for the proposed 736 dwelling development.

Parking Provision Discussion

It is our view the proposed 442 BTR parking spaces strikes the balance recommended by the Committee for Sydney when it comes to parking. The Proposal represents a 23% reduction on the maximum acceptable provision of 571 spaces (which itself is a 34% reduction on parking rates for elsewhere in Ryde) and at most can only accommodate two-thirds of the forecast demand of up to 662 cars; therefore, the provision would encourage an aspirational yet realistic shift in car ownership of about 33%.

Conversely, Council's recommended provision of 147 parking spaces would be incapable of accommodating the Proposal's forecast parking demand, requiring a shift in car ownership of about 75%, which is unrealistically high. The implications of undersupplying car parking to the extent recommended by Council are two-fold:

1. A common concern for Councils' is the impact to on-street parking arising from development that does not provide the appropriate volume of parking. This would be a valid concern if parking for the Proposal was restricted to the 147 parking spaces recommended by Council. Furthermore, it would be a mismanagement of parking the Committee for Sydney report says should be avoided as it would create localised grid lock as drivers search for parking spaces, driver behaviour that would detrimentally impact the pedestrian environment.
2. As mentioned, NSW Government's objective is to encourage housing and resident population growth in these priority precincts. However, as Council's proposed parking provision of 147 spaces is so drastically disconnected and short of the forecast demand of up to 662 cars, it risks the construction of housing that is undesirable to future tenants and/or discourage developers from pursuing housing in the precinct. Either outcome would be contrary to the TOD Program objectives.

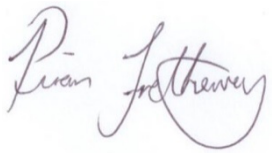
Conclusion

Council's view is the development should significantly reduce its parking quantum to 147 spaces and that doing so would (in Council's opinion) align with the principles of transport-oriented development. However, this TS demonstrates the Proposal's 442 spaces is aligned with TOD principles and strikes a balance between accommodating forecast demand whilst promoting a realistic reduction in car use and ownership.

By contrast, Council's advised provision is not aligned as such a significant undersupply of parking would:

- Be incapable of accommodating the future demand for parking of the Proposal, applying pressure to on-street parking creating localised grid lock that impacts the pedestrian environment.
- Risk the construction of housing that is undesirable to future tenants and/or discourage developers from pursuing housing in the precinct.

Yours sincerely,



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5 June 2024

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RE: 85-97 Waterloo Rd & 2 Banfield Rd, Macquarie Park – Build to Rent (SSD-52604208) Response to City of Ryde Submission – Section 10(b) Vehicle access and service facilities and Section 14 Traffic generation and Infrastructure improvements.

Dear David,

Ason Group has been engaged by Goodman Property Services (Aust) Pty Ltd. to provide traffic and transport consultancy services in support of the State Significant Development (SSD-52604208) application for the proposed mixed-used development at 85-97 Waterloo Road & 2 Banfield Road in Macquarie Park.

In addition to retail space, recreation facilities, childcare and an amenity “clubhouse", the Proposal provides 736 Build to Rent (BTR) dwellings as secure, alternative housing choices in Macquarie Park.

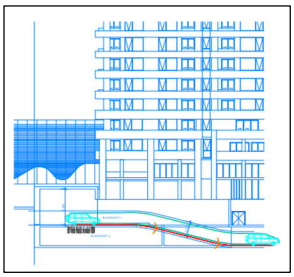
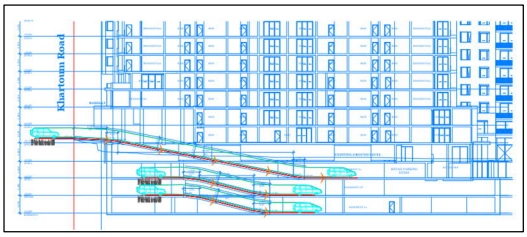
City of Ryde Council (Council) has provided a Detailed Submission, dated 30 November 2023 in response to the SSD submission. This Transport Statement (TS) addresses Council’s comments on Vehicle access and service facilities at Section 10(b), and comments on Service Vehicle and Loading Dock at Section 14.

It is noted 2 separate letters (ref: P2235l01 and P2235l02) have been prepared which responds to Council’s other comments at Section 10(a), Section 12 and Section 14.

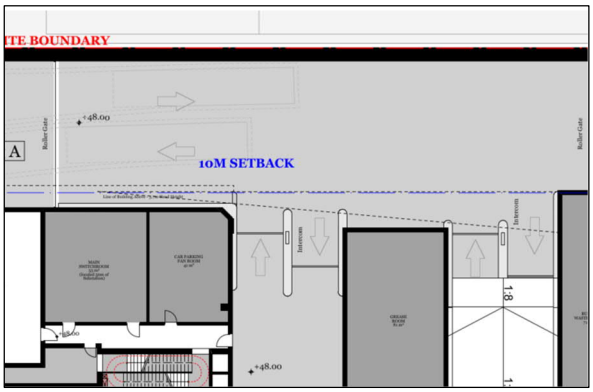
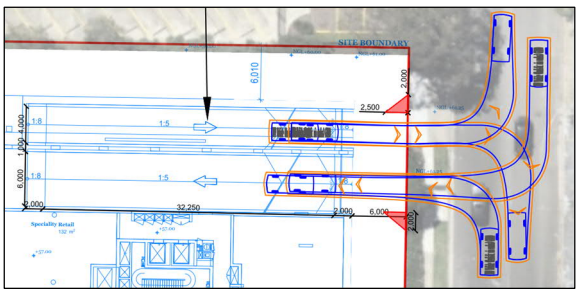
TABLE 1: COUNCIL COMMENTS – DESIGN

10. Vehicle Access, Parking and Service Facilities		
(b) –Vehicle access and service facilities - General		
	Item	**Response**
1	There is scope the parking layout could be reconfigured to provide a more efficient layout as it appears there are several points of conflicting vehicle flows along the access paths. It is advised that a swept path analysis be undertaken with the design to identify areas of improvement, noting that "hard" (ie 90 degree) corners are to provide either a curved inner radius or splay to accommodate the inside swept path.	Noted. The architectural plans have been updated. The car parking areas have been reviewed against AS2890.1:2004, and all car parking areas have been updated to generally be in accordance with AS2890.1:2004. The User Class and parking spaces dimensions for different uses are outlined in below table, refer to **Appendix A** for details and additional design commentary.

<table>
<tr><td></td><td></td><td>
<table>
<tr><th colspan="4">LAYOUTS OF PARKING SPACES</th></tr>
<tr><th>USES</th><th>USER CLASS</th><th>SPACE DIMENSION</th><th>AISLE WIDTH</th></tr>
<tr><td>RESIDENTIAL</td><td>CLASS 1A</td><td>5.4m x 2.4m</td><td>5.8m</td></tr>
<tr><td>VISITOR</td><td>CLASS 2</td><td>5.4m x 2.5m</td><td>5.8m</td></tr>
<tr><td>RETAIL</td><td>CLASS 3A</td><td>5.4m x 2.6m</td><td>6.6m</td></tr>
<tr><td>RETAIL</td><td>CLASS 3A</td><td>5.4m x 2.7m</td><td>6.2m</td></tr>
</table>

It is expected that full compliance to AS series will form part of a Condition of Consent (CoC) which can readily be addressed during Construction Certificate (CC) stage of the project.</td></tr>
<tr><td>2</td><td>Detailed ramp profiles are required as the plans are too conceptual to gauge whether ramp grades and height clearances are satisfactory. To ensure compliance with AS 2890, driveway ramp profiles must be prepared and be taken along the vehicle path of travel and along the inside swept paths on curves (this presents the worst case due to the path having the shortest ramp level and greatest level differences). The profile shall clearly indicate grade lengths, grades (presented as %'s) and levels which correlate with the proposed development levels and surveyed boundary levels. Any overhead structures and / or parking levels under the ramp must be noted to ensure that adequate vehicle clearances are provided both on the ramp (and under the ramp if proposed). All grades and height clearances must be in accordance with the relevant section of AS 2890 for the access design vehicle.</td><td>Noted. Vehicular clearance of ramps has been assessed and provided in Appendix A. The ramp grades and height clearances are satisfactory on the current plans.
– Building A, B & C
 
– Building E, F & G
  </td></tr>
<tr><td>3</td><td>End-of-trip facilities are warranted for the staff/ retail component. The Traffic Report presents these could be addressed in the CC stage however it is considered this detail should be present in the development consent plans.</td><td>Noted. The architectural plans have been updated to allocate a total of 93 m^2 GFA as End-of-trip facilities (EoTF), 58 m^2 GFA and 35 m^2 GFA for each building respectively. It is expected that the further details of the EoTF will be included at detailed design stage and a Green Travel Plan will be provided in response to a suitable CoC.</td></tr>
<tr><td colspan="3">(b) –Vehicle access and service facilities - Western Basement Parking Levels</td></tr>
<tr><td>4</td><td>The crest of the ramp from Basement 02 and Basement 01 access has no sight distance to</td><td>Noted.

There is not a ramp connected to Basement 01 access driveway, hence it is expected that traffic</td></tr>
</table>

	vehicles approaching from the Banda Road entry and presents a traffic safety issue.	management devices such as give-way signages and mirrors to be installed and provide the visibility for the oncoming vehicles. Moreover, the architectural plans have been updated to provide sight distance for Basement 02 access driveway, which is shown in below figure. 
5	The design presents entries to both basement levels (01 & 02) adjoining another. The arrangement presents a traffic safety issue associated with the conflicting movement of a vehicle entering basement 02 entry as a vehicle emerges from basement 01. Details on signage / landmarking are considered warranted.	Noted. The architectural plans have been updated to provide separation between Basement 01 and 02 driveways, refer to Appendix A for details.
6	The two visitor spaces located at the base of the ramp descending from Basement 01 to 02 are poorly placed and will require (at best) a reverse in manoeuvre to enter and 3-point turn to exit. This will result in congestion in the parking area and is poor design.	Noted. The parking layout has been updated, refer to Appendix A for details.
(b) –Vehicle access and service facilities - Eastern Basement Parking Levels		
7	The parking area accommodates 377 parking spaces and would be (generously) considered a Class 1, 1A parking facility (residents only). AS 2890.1 advises that the driveways to such areas should provide a separate entry and exit, with the entry width being 6m wide and the exit being 4-6m wide. The proposed 6m combined entry and exit is therefore well short of this.	Noted. The access at Khartoum Road design has been updated as per AS2890.1:2004 requirements, refer to Appendix A for details. 

8	The design appears to present a one-way circuit arranged clockwise (based on the wheel stop positions associated with the parallel spaces) however this will require entering vehicles to perform a relatively tight "U-Turn" at the base of the entry ramp due to the ramp facing west, opposite to this flow. The arrangement is such that less abled drivers may potentially be unable to do this in one manoeuvre, requiring them to do a multipoint turn, resulting in considerable congestion at this point. This could also present a high potential for property damage to vehicles and also creates a traffic safety issue in the event of conflicting flow (say a vehicle entering the basement as another vehicle approaches the exit as the entering vehicle is required to manoeuvre into the ascending (opposing) lane prior to the turn.	Noted. The parking layout has been updated, refer to Appendix A for details.
14. Traffic generation and Infrastructure improvements		
Service vehicle and loading dock		
1	Service vehicle and loading dock: The access driveway off Banda Road is required to be widened to accommodate an inbound turning-right HRV passing an outbound turning-left HRV. – The number of proposed loading docks are required to be justified to accommodate the demand associated with the residential/retail/commercial/club house.	Noted. – The access at Banda Road has been updated as per AS2890.1:2004 requirements, refer to Appendix A for details. – The Council DCP 2014 does not specify the provision of areas for delivery and service vehicles requirements. We have accessed the Urban Freight Forecasting Model (UFFM) prepared by TfNSW. According to the outcome of this model the proposal needs 3 medium (SRV, Small Truck) spaces. As such, the architectural plans have been updated to provide 2 HRV loading bays and 2 MRV loading bays in total, and 1 HRV & MRV loading area will be used for retail and 1 HRV & MRV loading area will be used for residential. – Moreover, it is expected that the requirement of a Loading Dock Management Plan (LDMP) would form a Condition of Consent upon of approval. The loading docks management will be addressed within the LDMP.

We trust that the above is satisfactory, notwithstanding please don't hesitate to contact the undersigned or Dr. Ali Rasouli from our office should you have any queries.

Yours sincerely,

Emily Duan

Traffic Engineer

E: emily.duan@asongroup.com.au

T: +61 2 9083 6601

Attachments:

Appendix A. Design Commentary

Appendix A. Design Commentary

NOTE:

1. 2 VEHICULAR ACCESS POINTS HAVE BEEN REVIEWED.

1.1. ACCESS POINT 1 AT BANDA ROAD WILL BE USED BY HEAVY VEHICLE (HV) AND LIGHT VEHICLE (LV) ENTRY AND EXIT.

1.2. ACCESS POINT 2 AT KHARTOUM ROAD IS SHOWN ON LEVEL 01 PLAN, AND SHALL BE LIMITED TO LV ENTRY AND EXIT, REFER TO AG08.

2. CAR PARKING AREAS HAVE BEEN REVIEWED AGAINST AS2890.1:2004.

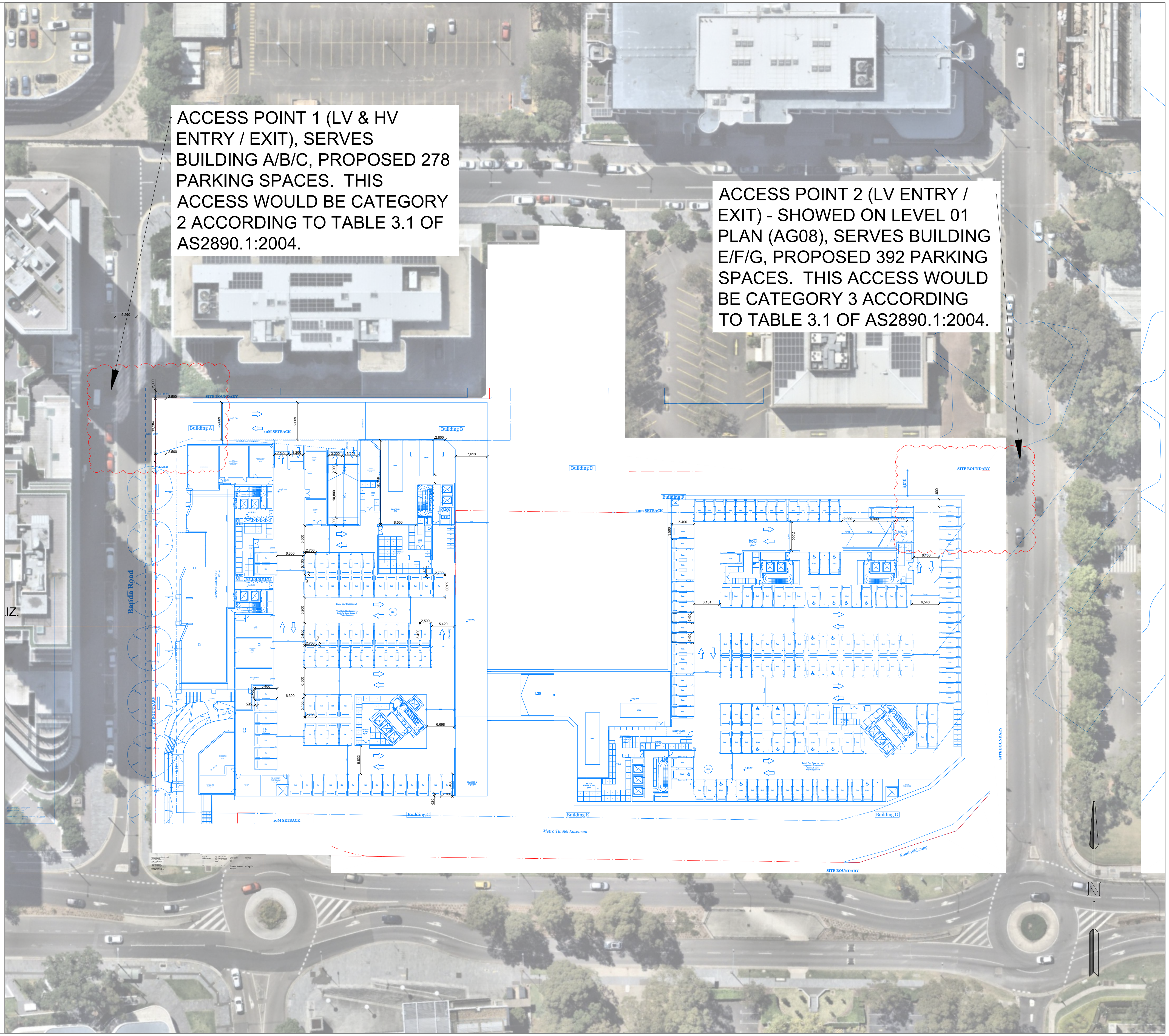
LAYOUTS OF PARKING SPACES			
USES	USER CLASS	SPACE DIMENSION	AISLE WIDTH
RESIDENTIAL	CLASS 1A	5.4m x 2.4m	5.8m
VISITOR	CLASS 2	5.4m x 2.5m	5.8m
RETAIL	CLASS 3A	5.4m x 2.6m	6.6m
RETAIL	CLASS 3A	5.4m x 2.7m	6.2m

3. THE LOADING AREAS HAVE BEEN REVIEWED AGAINST AS2890.2:2018. THE DIMENSIONS OF THE LOADING AREA SHALL BE UPDATED BASED ON THE ADVICES AND SWEPT PATH SHOWN IN AG03-06 TO CATER FOR HV MANOEUVRING.

4. DESIGN VEHICLES ADOPTED

4.1. HV: 12.5M HRV

4.2. LV: B99 CAR



GENERAL NOTES

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

DESIGNED: Emily Duan	PAPER SIZE: A3	CLIENT: Goodman	DOCUMENT INFORMATION: DESIGN REVIEW
APPROVED BY: Ali Rasouli	DATE: 05.06.2024	PROJECT: 2235	SITE OVERVIEW
SCALE: CUSTOM	NTS	85-97 Waterloo Road, Macquarie Park	FILE NAME: AG2235-01-v15 - 85-97 Waterloo Road.dwg — SHEET: AG01

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PROJECT
2235
85-97 Waterloo Road, Macquarie Park

DOCUMENT INFORMATION
DESIGN REVIEW
BUILDING A/B/C, BASEMENT 1 - 12.5m HRV

FILE NAME	SHEET
AG2235-01-v15 - 85-97 Waterloo Road.dwg	AG02

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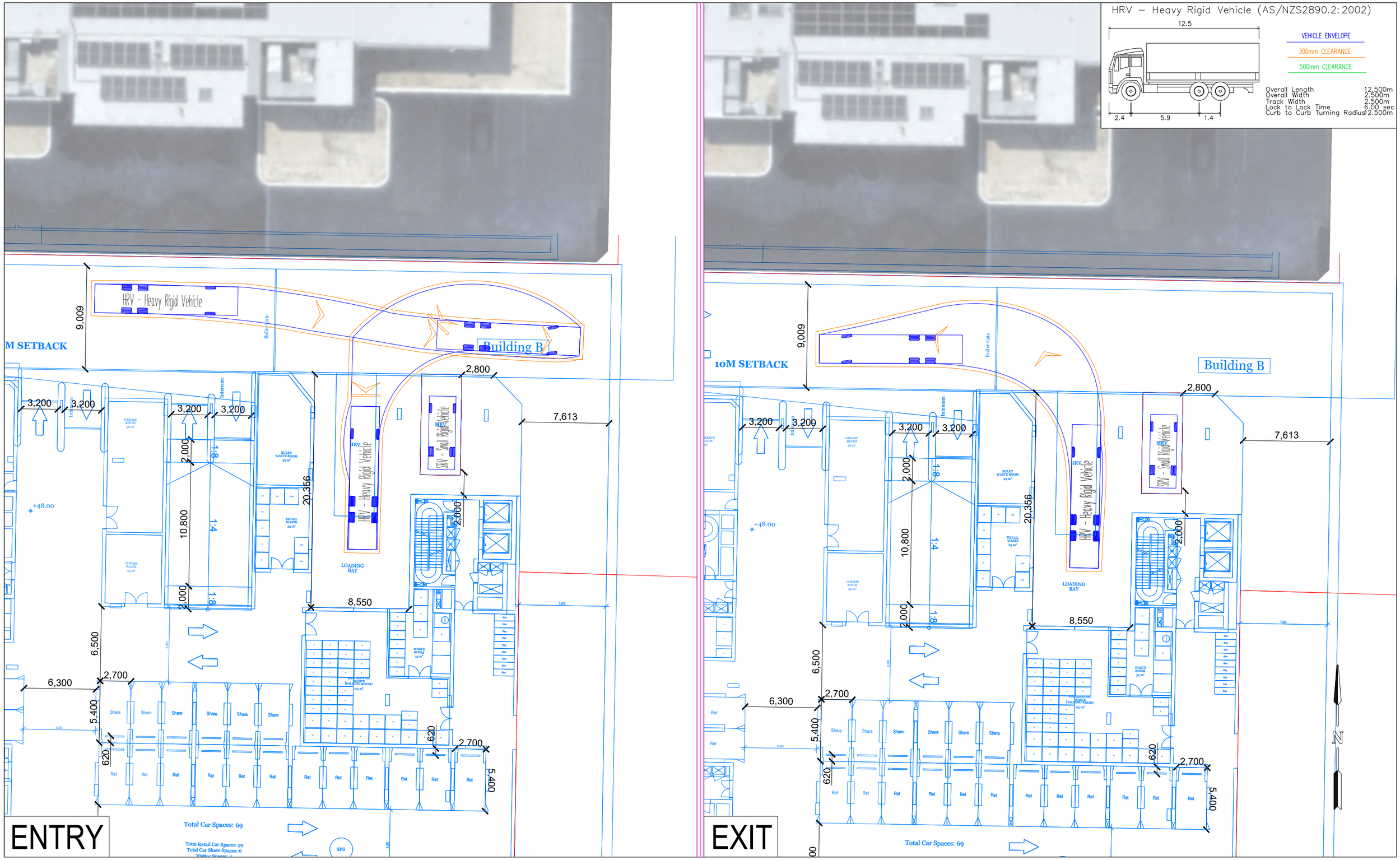

HRV – Heavy Rigid Vehicle (AS/NZS2890.2: 2002)

VEHICLE ENVELOPE
300mm CLEARANCE
500mm CLEARANCE

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

GENERAL NOTES

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DATE	05.06.2024
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PROJECT
2235
85-97 Waterloo Road, Macquarie Park

DOCUMENT INFORMATION
DESIGN REVIEW
BUILDING A/B/C, BASEMENT 1 - 12.5m HRV

FILE NAME	SHEET
AG2235-01-v15 - 85-97 Waterloo Road.dwg	AG03

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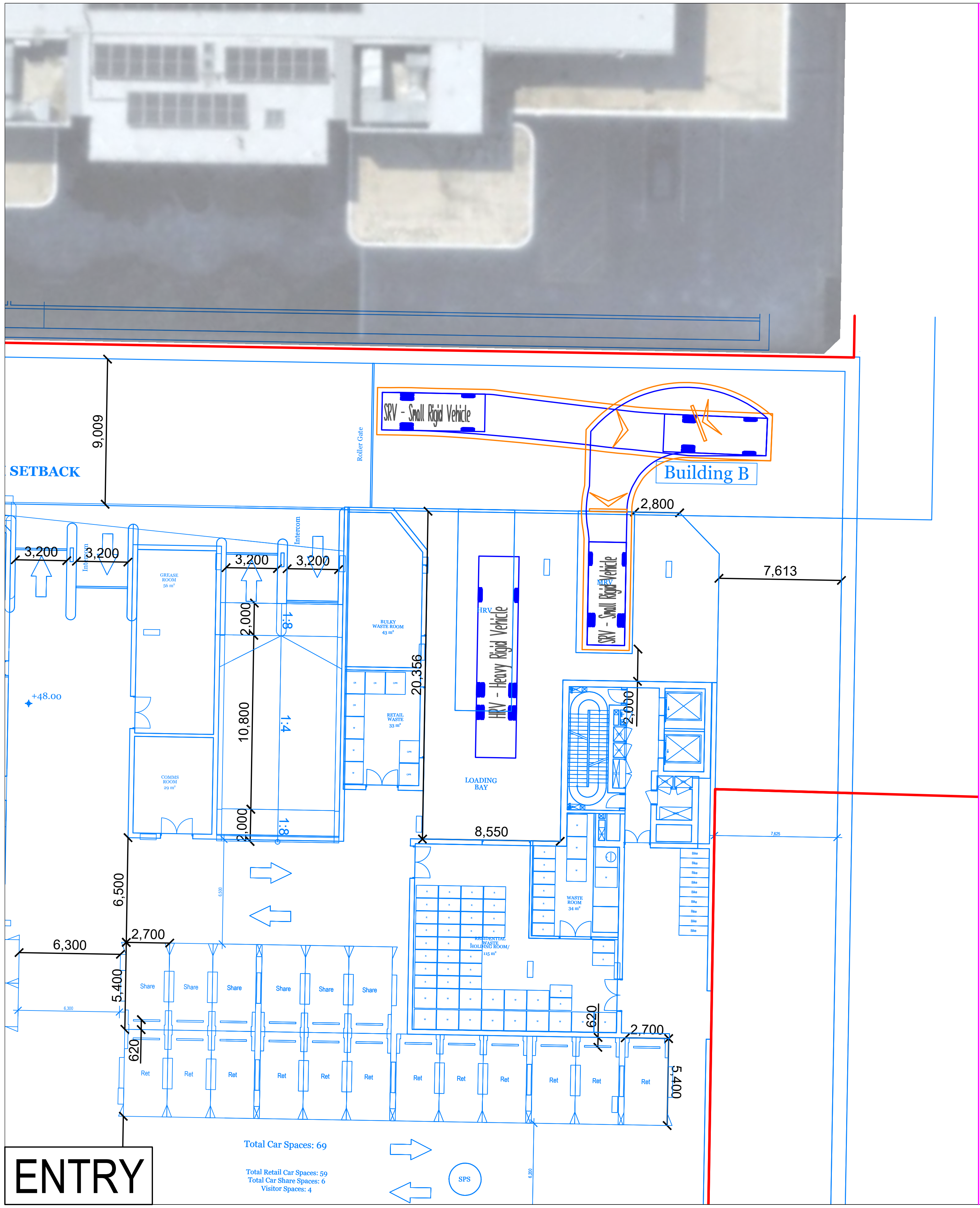

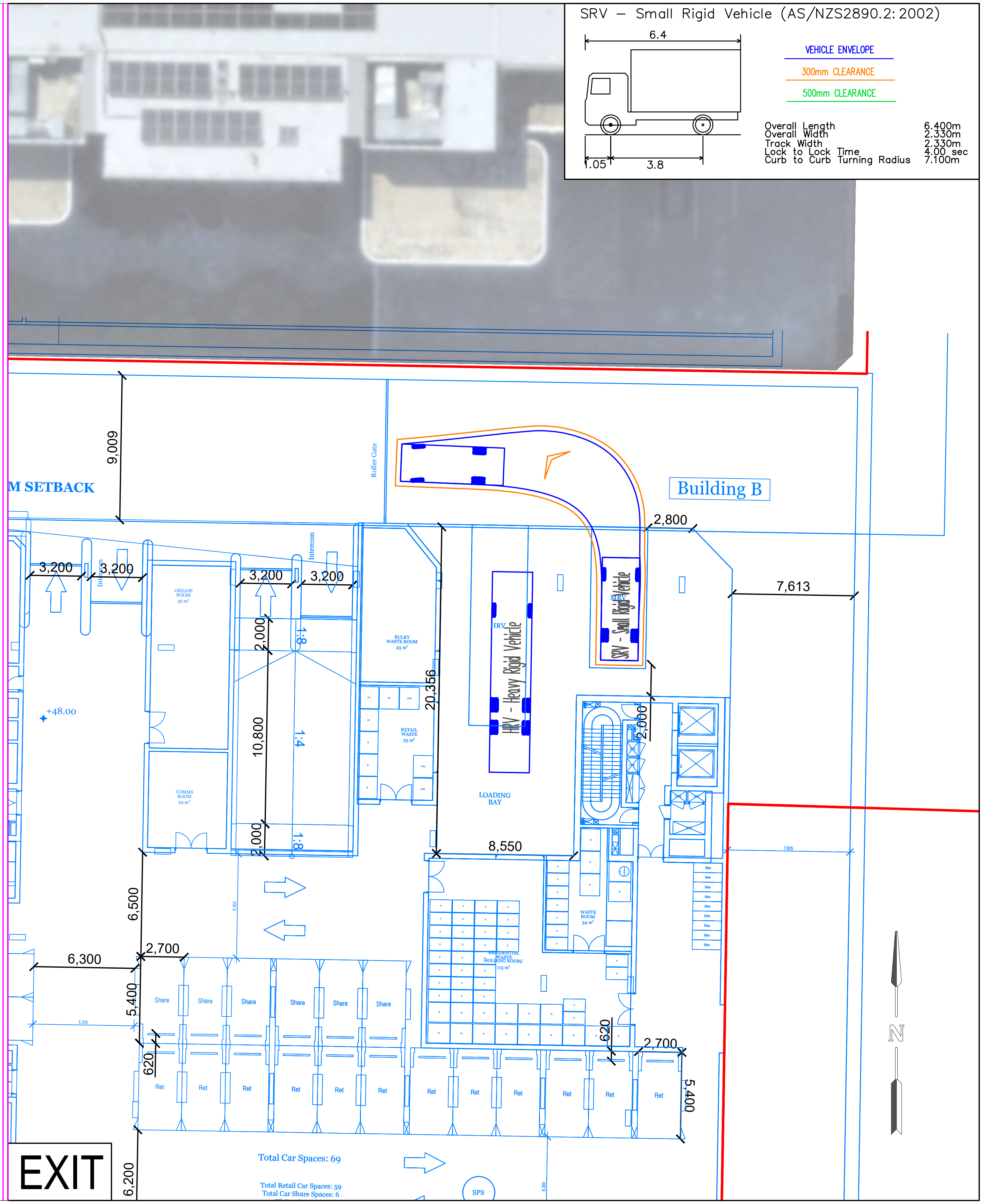

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DATE	05.06.2024
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PROJECT
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85-97 Waterloo Road, Macquarie Park

DOCUMENT INFORMATION
DESIGN REVIEW
BUILDING A/B/C, BASEMENT 1 - 12.5m HRV

FILE NAME	SHEET
AG2235-01-v15 - 85-97 Waterloo Road.dwg	AG04

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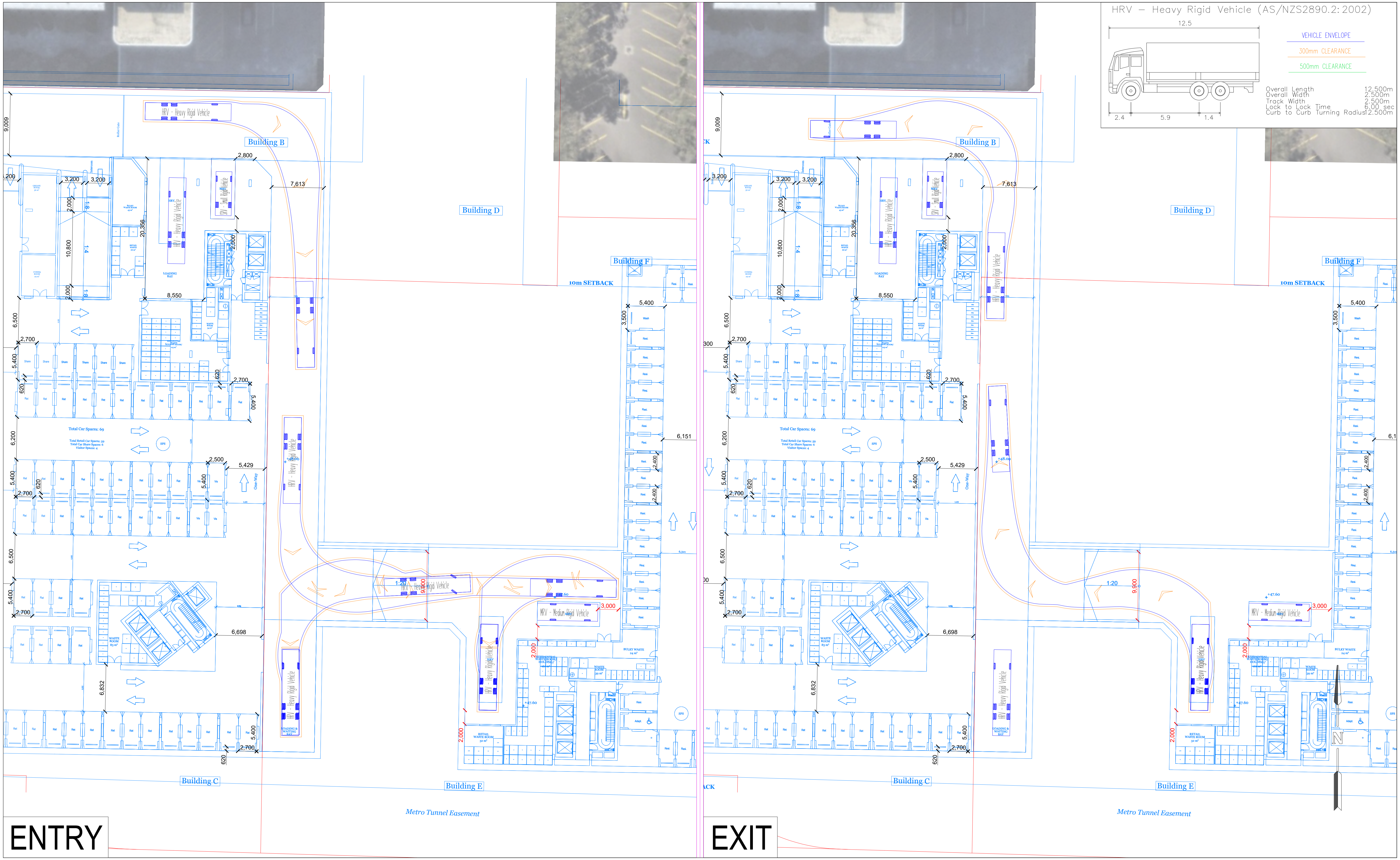

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PROJECT

2235

85-97 Waterloo Road, Macquarie Park

DOCUMENT INFORMATION

DESIGN REVIEW

BUILDING A/B/C, BASEMENT 1 - 12.5m HRV

FILE NAME	SHEET
AG2235-01-v15 - 85-97 Waterloo Road.dwg	AG05

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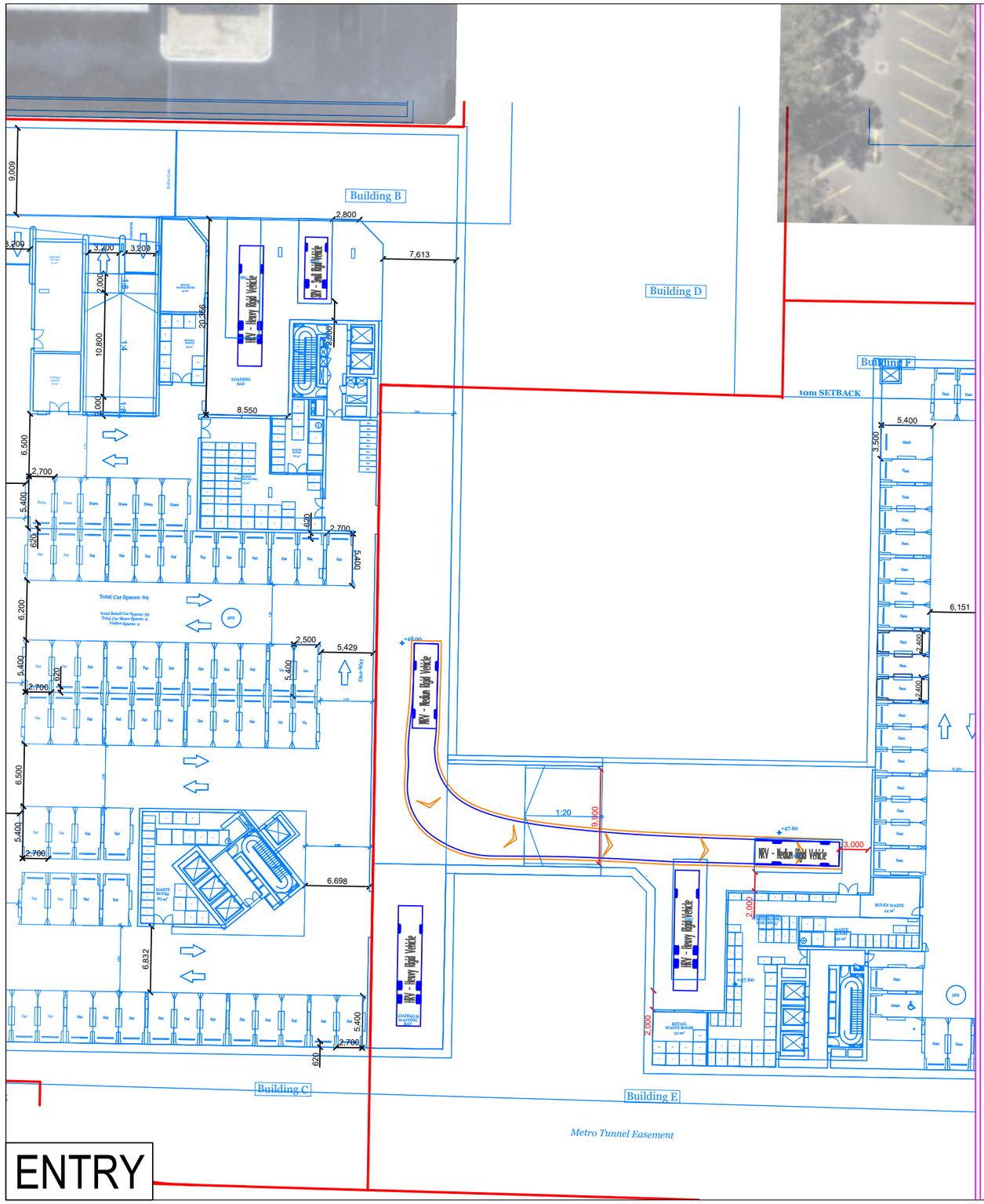
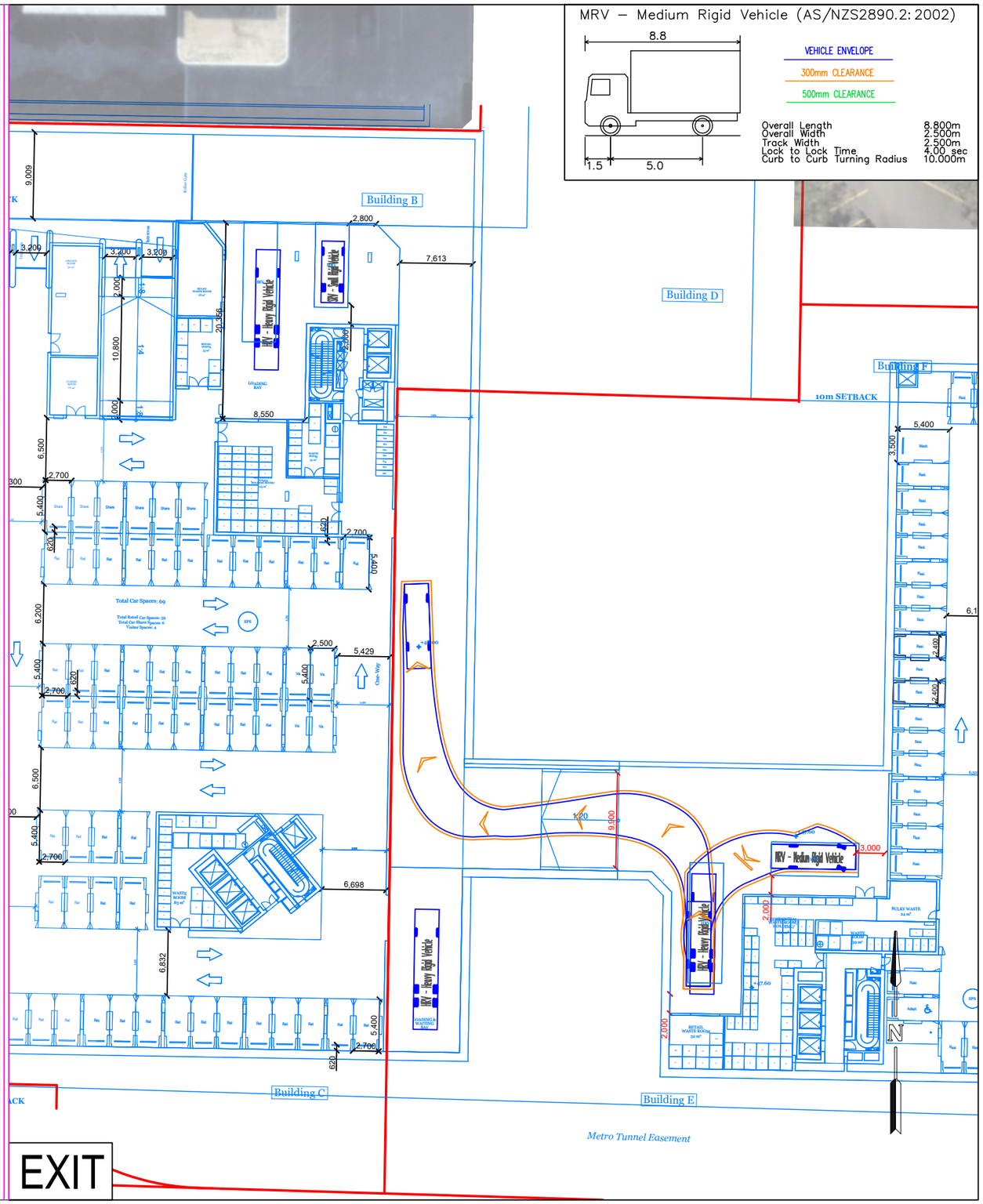
MRV – Medium Rigid Vehicle (AS/NZS2890.2: 2002)

VEHICLE ENVELOPE
300mm CLEARANCE
500mm CLEARANCE

Overall Length	8.800m
Overall Width	2.500m
Track Width	2.500m
Lock to Lock Time	4.00 sec
Curb to Curb Turning Radius	10.000m





GENERAL NOTES

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Base Plan prepared by DKO, received 24.05.2024.
Swept path assessments completed at 10 km/h and 300mm clearance.

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APPROVED BY	Ali Rasouli
DATE	05.06.2024
SCALE	1:500
	0 5 10

CLIENT: Goodman

PROJECT: 2235
85-97 Waterloo Road, Macquarie Park

DOCUMENT INFORMATION
DESIGN REVIEW
BUILDING A/B/C, BASEMENT 1 - 12.5m HRV

FILE NAME	SHEET
AG2235-01-v15 - 85-97 Waterloo Road.dwg	AG06

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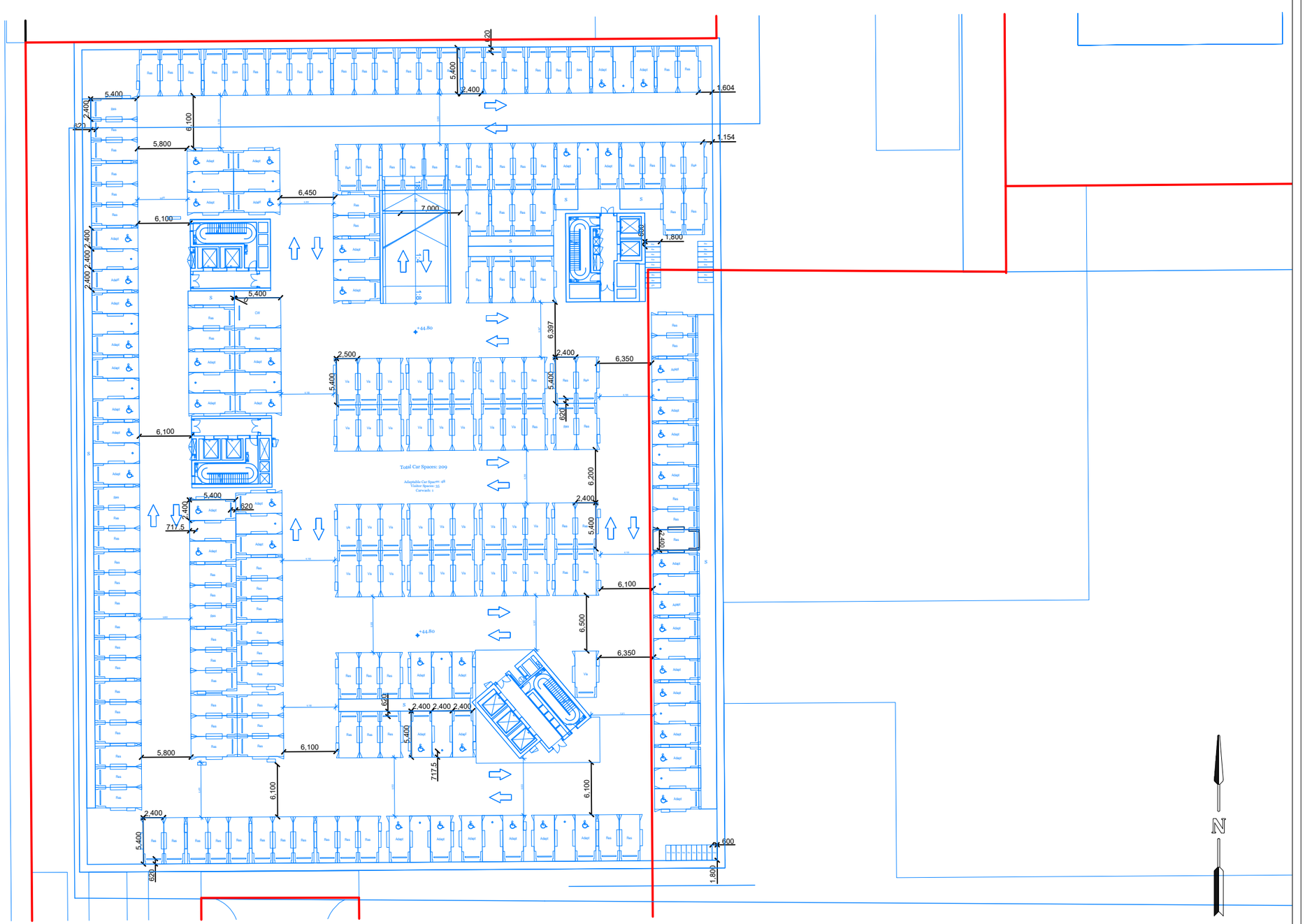

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Swept path assessments completed at 10 km/h and 300mm clearance.

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PROJECT
2235
85-97 Waterloo Road, Macquarie Park

DOCUMENT INFORMATION
DESIGN REVIEW
BUILDING A/B/C, BASEMENT 2 - LV

FILE NAME	SHEET
AG2235-01-v15 - 85-97 Waterloo Road.dwg	AG07

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NOTE:
RAMP DOWN TO LEVEL 1.

SITE BOUNDARY

NGL+59.00
NGL+60.00
NGL+61.00
NGL +61.25
NGL+61.25
NGL+61.00
NGL+58.55
NGL+58.55
NGL+60.50

6,010
2,000
2,500
1,000
4,000
6,000
2,000
32,250
2,000
6,000
2,000

1:8
1:5
1:8
1:5
1:8

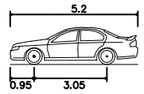
+57.00
+57.00
+57.00

Speciality Retail
132 m²

Storage
& Services

MAIN

B99 Vehicle (AS/NZS2890.1: 2004)



VEHICLE ENVELOPE
300mm CLEARANCE
500mm CLEARANCE

Overall Length	5.200m
Overall Width	1.940m
Overall Body Height	2.200m
Min Body Ground Clearance	0.312m
Track Width	1.840m
Lock to Lock Time	4.00 sec
Curb to Curb Turning Radius	6.30m

N

GENERAL NOTES

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DATE	05.06.2024
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	0 5 10

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PROJECT
2235
85-97 Waterloo Road, Macquarie Park

DOCUMENT INFORMATION
DESIGN REVIEW
BUILDING E/F/G, LEVEL 02 PLAN - LV

FILE NAME	SHEET
AG2235-01-v15 - 85-97 Waterloo Road.dwg	AG08

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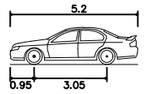
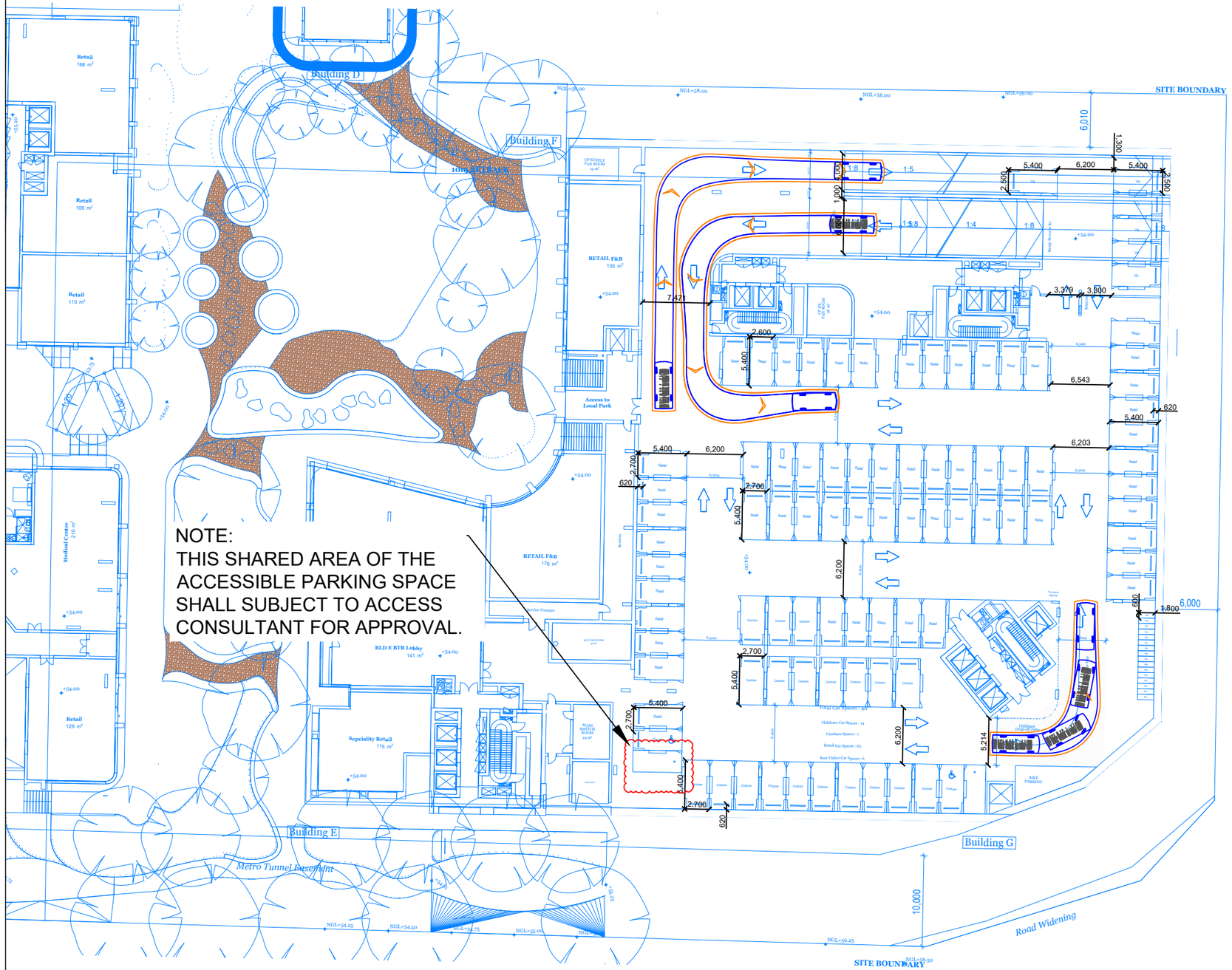
B99 Vehicle (AS/NZS2890.1: 2004)



VEHICLE ENVELOPE
300mm CLEARANCE
500mm CLEARANCE

Overall Length	5.200m
Overall Width	1.940m
Overall Body Height	2.200m
Min Body Ground Clearance	0.312m
Track Width	1.840m
Lock to Lock Time	4.00 sec
Curb to Curb Turning Radius	6.30m



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SCALE: 1:500	0 5 10

CLIENT: Goodman

PROJECT: 2235
85-97 Waterloo Road, Macquarie Park

DOCUMENT INFORMATION
DESIGN REVIEW
BUILDING E/F/G, LEVEL 01 PLAN - LV

FILE NAME	SHEET
AG2235-01-v15 - 85-97 Waterloo Road.dwg	AG09

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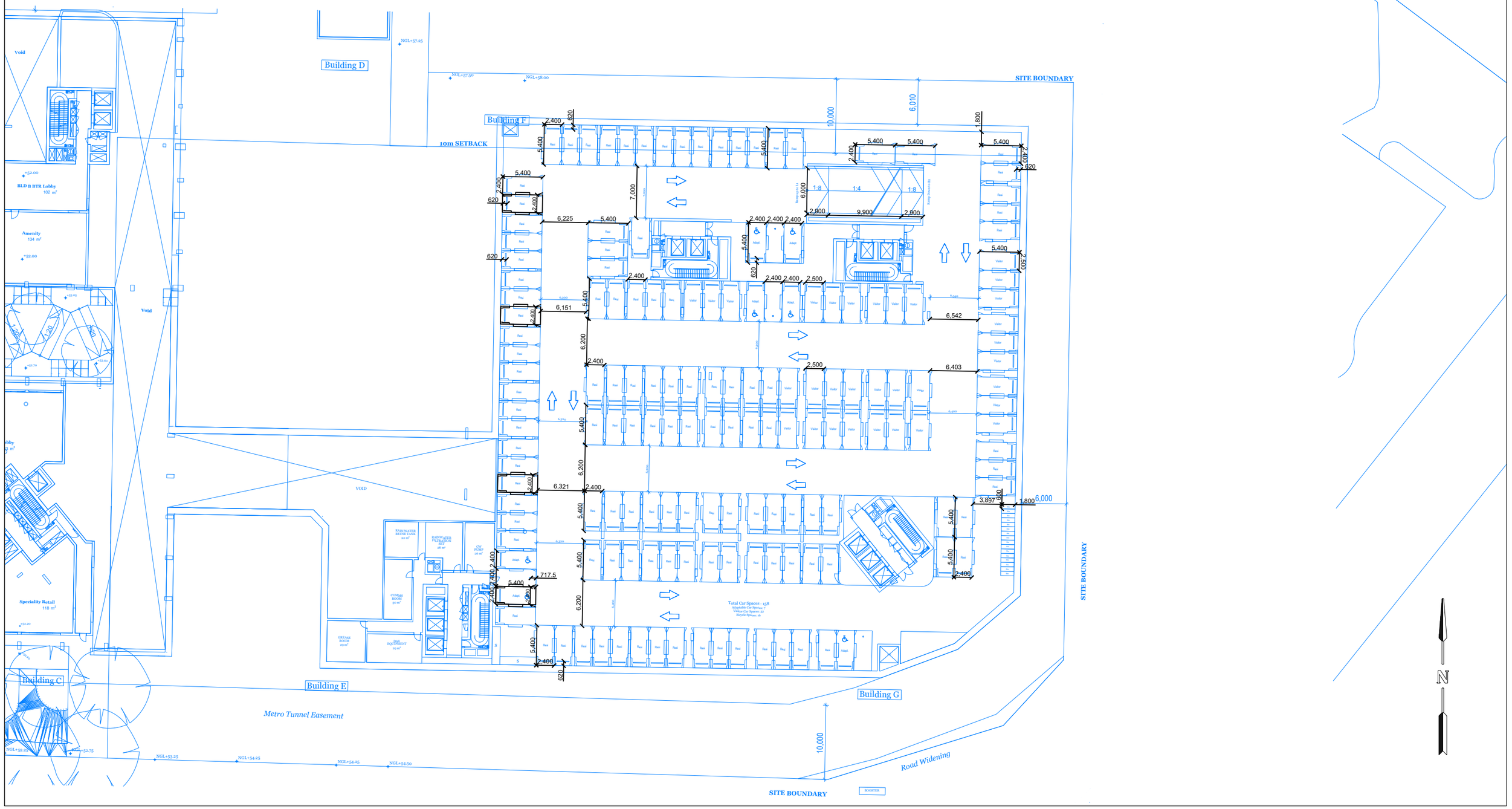

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DATE	05.06.2024
SCALE	1:500
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PROJECT
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DOCUMENT INFORMATION
DESIGN REVIEW
BUILDING E/F/G, GROUND FLOOR PLAN - LV

FILE NAME	SHEET
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NOTE:
THIS SHARED AREA OF THE ACCESSIBLE PARKING SPACE SHALL SUBJECT TO ACCESS CONSULTANT FOR APPROVAL.

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APPROVED BY: Ali Rasouli	DATE: 05.06.2024	PROJECT: 2235	BUILDING E/F/G, BASEMENT 01
SCALE: 1:500	0 5 10	85-97 Waterloo Road, Macquarie Park	FILE NAME: AG2235-01-v15 - 85-97 Waterloo Road.dwg / SHEET: AG11

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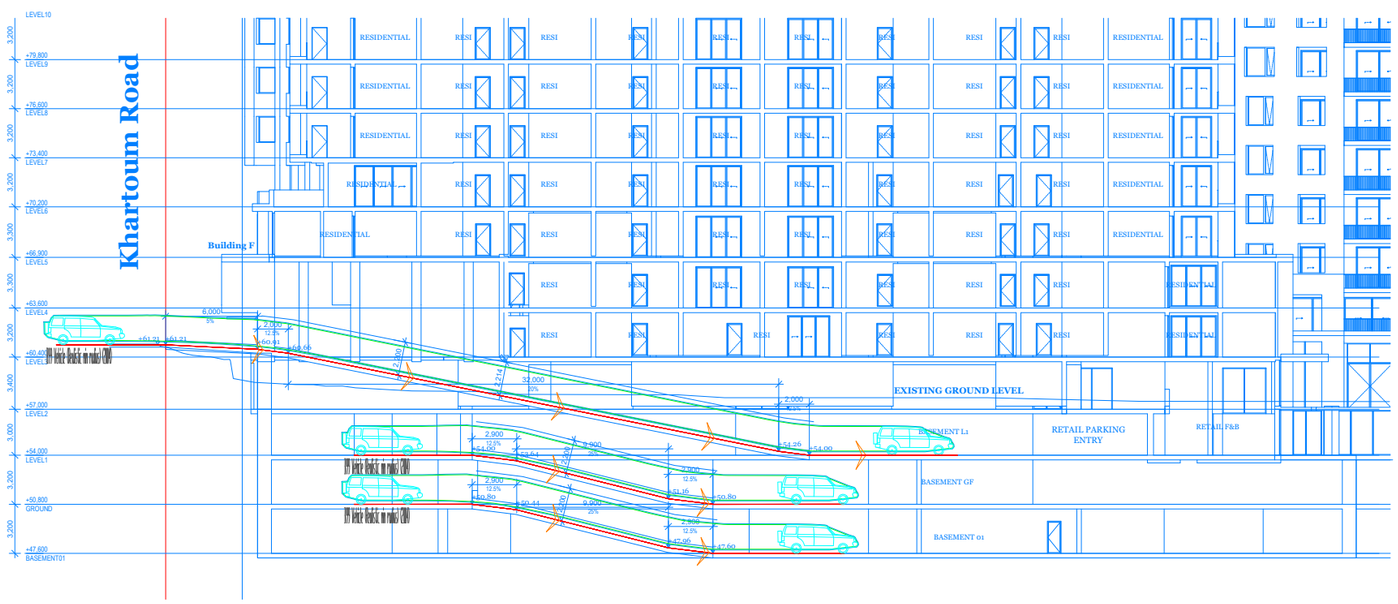
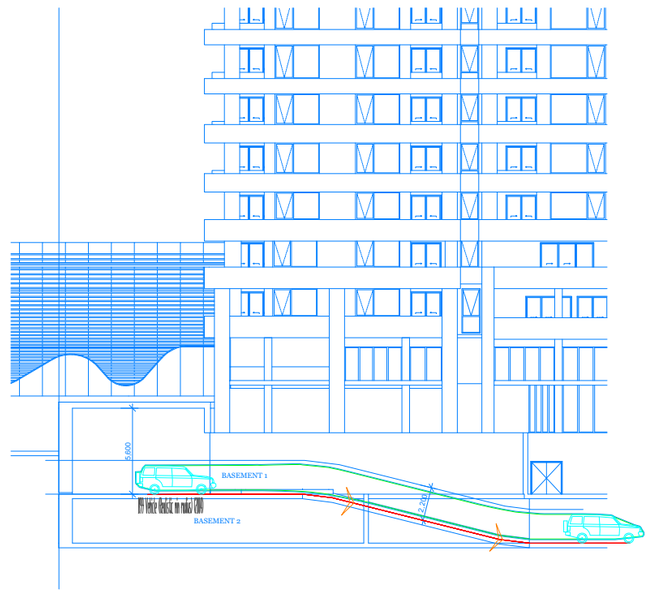


BUILDING E, F & G



BUILDING A, B & C

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PROJECT
2235
85-97 Waterloo Road, Macquarie Park

DOCUMENT INFORMATION
DESIGN REVIEW
VEHICULAR CLEARANCE ASSESSMENT

FILE NAME	SHEET
AG2235-01-v15 - 85-97 Waterloo Road.dwg	AG12

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