



40 The Retreat Bringelly Transport Impact Assessment

Prepared for:
SCG Development

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The Transport Planning Partnership

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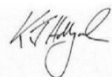
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1 Introduction

1.1 Overview

The proposed development seeks consent for the staged construction of a mixed-use building comprising 533 residential units, two retail shops total 424m², and 622m² of non-residential floor space with associated basement car parking at 40 The Retreat, Bringelly.

This Transport Impact Assessment (TIA) has been prepared by The Transport Planning Partnership (TPPP) on behalf of SCG Developments to accompany a detailed State Significant Development Application (SSDA) for the proposed mixed-use building at 40 The Retreat, Bringelly.

This report has been prepared to assess the traffic and parking implications associated with the proposed development and to address the relevant issued Secretary's Environmental Assessment Requirements (SEARs) for the SSDA, as set out in Table 1.1.

Table 1.1: SEARs Compliance Table

SEAR #9 (Traffic, Transport and Accessibility)	Section which the item is addressed in
Provide a transport and accessibility impact assessment, which includes	This Plan
<ul style="list-style-type: none"> An analysis of the existing transport network, including the road hierarchy and any pedestrian, bicycle or public transport infrastructure, current daily and peak hour vehicle movements, and existing performance levels 	Section 2 and Section 5
<ul style="list-style-type: none"> Details of the proposed development, including pedestrian and vehicular access arrangements (including swept path analysis of the largest vehicle and height clearances), parking arrangements and rates (including bicycle, end-of-trip facilities and bus/coach facilities), drop-off/pick-up-zone(s) and bus bays (if applicable), and provisions for servicing and loading/unloading. 	Section 3, Section 4 and Appendix C
<ul style="list-style-type: none"> Analysis of the impacts of the proposed development during construction and operation (including justification for the methodology used), including predicted modal split, a forecast of additional daily and peak hour multimodal network flows as a result of the development (using industry standard modelling) and peak movements during events (if relevant), identification of potential traffic impacts on road capacity, intersection performance and road safety (including pedestrian and cyclist conflict) and any cumulative impact from surrounding approved developments. 	Section 5 Impacts associated with Construction to be addressed in a separate Construction Traffic Management Plan
<ul style="list-style-type: none"> Measures to mitigate any traffic impacts, including details of any new or upgraded infrastructure to achieve acceptable performance and safety, and the timing, viability and mechanisms of delivery (including proposed arrangements with local councils or government agencies) of any infrastructure improvements in accordance with relevant standards. 	N/A – Traffic impacts are considered acceptable

<ul style="list-style-type: none"> Measures to promote sustainable travel choices for employees, guests and visitors, such as connections into existing walking and cycling networks, minimising car parking provision, encouraging car share and public transport, providing adequate bicycle parking and high quality end-of-trip facilities, and implementing a Green Travel Plan. 	<p>Addressed in a separate Green Travel Plan</p>
<p>Provide a Construction Traffic Management Plan detailing predicted construction vehicle routes, access and parking arrangements, coordination with other construction occurring in the area, and how impacts on existing traffic, pedestrian and bicycle networks would be managed and mitigated.</p>	<p>Addressed in a separate Construction Traffic Management Plan</p>

The proposed development falls within the Western Sydney Aerotropolis Precinct Plan (Precinct Plan). According to the Precinct Plan, one collector road is proposed along the western site frontage. However, this is contradictory to the proposed road network indicated in the latest draft Bradfield City Centre Master Plan, which proposes three local roads along the immediate western frontage of the site.

It is noted that the Proponent has liaised with the Western Parkland City Authority (WPCA) regarding a revised collector road access as an alternative scheme for the subject site, which no objections have been raised. This is further discussed in Section 1.3. The proposed alternative scheme would provide a straight local road along the western frontage of the site, which is the preferred option for the proposed access arrangement for the subject site. It is also consistent with the Precinct Plan, and would form the basis of the traffic assessment in this report.

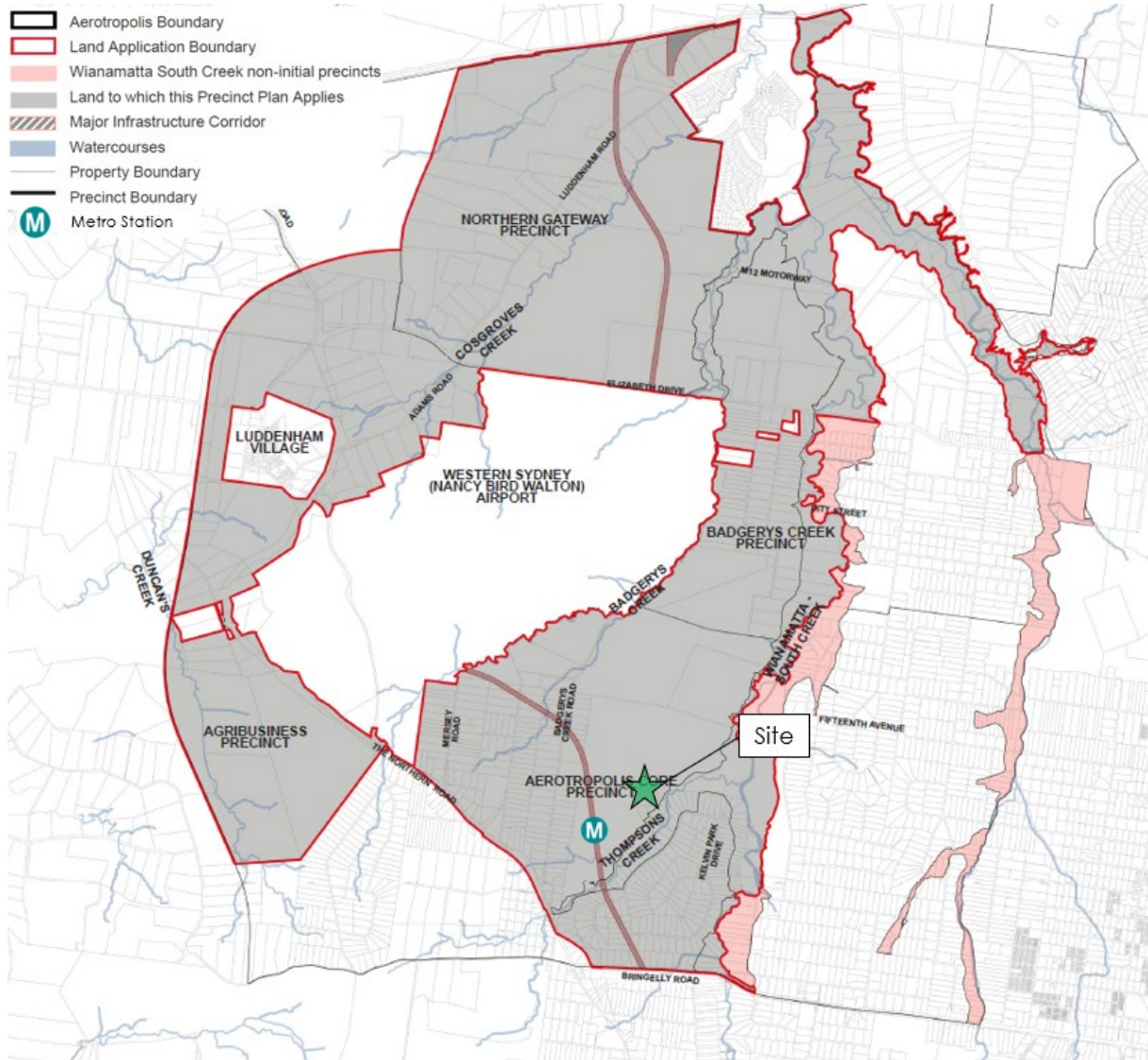
1.2 Strategic Context: Western Sydney Aerotropolis

The Western Sydney Aerotropolis comprises of 11,200 hectares of land which is divided into ten precincts. Five of these precincts have been investigated further and these include:

- Aerotropolis Core
- Badgerys Creek
- Wianamatta-South Creek
- Northern Gateway
- Agribusiness

The site is located within the aerotropolis core precinct as shown in Figure 1.1. The future Aerotropolis Station will also be situated within this precinct.

Figure 1.1: Land Application Map



Basemap Source: Western Sydney Aerotropolis Precinct Plan (May 2023)

The Western Sydney Aerotropolis Precinct Plan states the objectives that apply to these precincts are as shown in Table 1.2. This report has been prepared, with consideration of these objectives, with the aim to minimise the traffic impacts of the proposed development on the surrounding road network.

Table 1.2: Precinct Plan Objectives

Objective No.	Objective
O1	'Start with Country' by promoting access to Country and designing the Aerotropolis through a process that includes Aboriginal people.
O2	Celebrate culture by reflecting the cultural landscape and continuous connection of Aboriginal people and Country through: a) the design of the public domain; b) preservation and rehabilitation of the natural environment and systems; c) the alignment of movement networks with culturally significant spaces; d) the design of buildings; and e) keeping language alive in the naming of places.
O3	Integrate development and the delivery of infrastructure to maintain a supply of developable land that maximises the efficiency of infrastructure investment.
O4	Protect Airport operations, including 24-hour operations, and protect future communities from aircraft noise.
O5	Facilitate quality and innovative development to provide for a variety of employment uses that grow and diversify the economy of the Western Parkland City.
O6	Enable land use to evolve in line with changing economic drivers, and facilitate development that will contribute to building the Western Parkland City.
O7	Implement a landscape-led approach to designing the Aerotropolis, utilising the blue-green grid and natural topography of the Aerotropolis as the defining elements.
O8	Provide for social infrastructure in strategic locations that support the residents, workers and visitors to the Aerotropolis.
O9	Plan for a transport network that facilitates movement of freight and people, and prioritises active and sustainable transport modes to improve community health and minimise the impacts of development and economic activity on climate change.
O10	Provide landscaped, safe, activated, interesting and healthy streets that prioritise pedestrian, cycle and public transport movements.
O11	Design an urban environment that responds to the climate extremes of Western Sydney and mitigates and adapts to urban heat.
O12	Manage water in the landscape to facilitate urban cooling, improve waterway health and biodiversity and promote sustainable water use.
O13	Plan for a resilient city through implementation of a risk-based approach to management of natural hazards including flooding, bushfire, drought and heat.
O14	Reinstate and rehabilitate natural landscape connections and systems to sustain biodiversity and allow natural systems to function sustainably.
O15	Facilitate the establishment of circular economy industries to reduce waste, leverage synergies between industries and circulate resources within and beyond the industrial supply and materials chains of the Aerotropolis.

1.3 Consultation Feedback

Meetings were held with Western Parkland City Authority (WPCA) on Friday 1 March 2024 and Department Planning, Housing and Infrastructure (DPHI) to discuss proposed access arrangements to the site.

The purpose of these meetings was to discuss an alternate access scheme from the recent draft Bradfield City Centre Transport Management Accessibility Report (draft masterplan), which proposed 3 new roads through the site. The draft masterplan contradicts with the previous Western Sydney Aerotropolis Precinct Plan (before the release of the draft masterplan) where one collector road was proposed.

An alternate access scheme (preferred access arrangement), as shown in Figure 1.2, was proposed, which would provide one collector road along the western site frontage. This is consistent with the access scheme indicated in the Precinct Plan (shown in Figure 1.3).

This alternate access scheme has been discussed during the meeting with WPCA and DPHI, which WPCA and DPHI raised no objections against. On this basis, the proposed development has been developed based on this proposed alternate access scheme.

Figure 1.2: Proposed Alternate Road Scheme (Preferred Option)



Figure 1.3: Access Scheme – Precinct Plan vs Bradfield Draft Masterplan

PRECINCT PLAN



BRADFIELD MASTER PLAN



The Master Plan does not propose permanent development in the existing 60m wide Special Purposes 2 (SP2) Infrastructure Zone corridor. A decision regarding future rail infrastructure in the corridor is the subject of review by Government.

Subsequent to this, the Applicant has provided further commentary on the draft masterplan which is detailed in TPPP's letter provided in Appendix A.

2 Existing Conditions

2.1 Site Description

The site is located at 40 The Retreat, Bringelly and falls within the local government area of Liverpool City Council. It is currently occupied by a large-lot residential dwelling with vehicle access provided off The Retreat. The site currently has one frontage only on The Retreat at the end of the cul-de-sac.

The site is predominantly surrounded by greenfield area and large lot properties.

The site location and its surrounds are shown in Figure 2.1.

Figure 2.1: Site Location



Basemap: Nearmap

2.2 Road Network

The Retreat is a two-way local road that is generally aligned in the northwest to southeast direction. It connects to a cul-de-sac in the northwest and Kevin Park Drive in the southeast.

The Retreat does not have a sign posted limit, therefore the default speed limit is 50km/hr.

Kelvin Park Drive is a two-way local loop road that connects to Bringelly Road in the south. It provides access to The Retreat.

There is no sign posted speed limit on Kelvin Park Drive, therefore, the default speed limit is 50km/hr.

Bringelly Road is a two-way state road generally aligned in the east to west direction. There are generally two through lanes in either direction separated by a 14m wide median. It connects to Northern Road in the west and Cowpasture Road in the east.

Bringelly Road has a posted speed limit of 60km/hr in the westbound direction and 80km/hr in the eastbound direction.

2.3 Public Transport

The closest bus stop is located on Kelvin Park Drive 1km walking distance (21-minute walk) from the site.

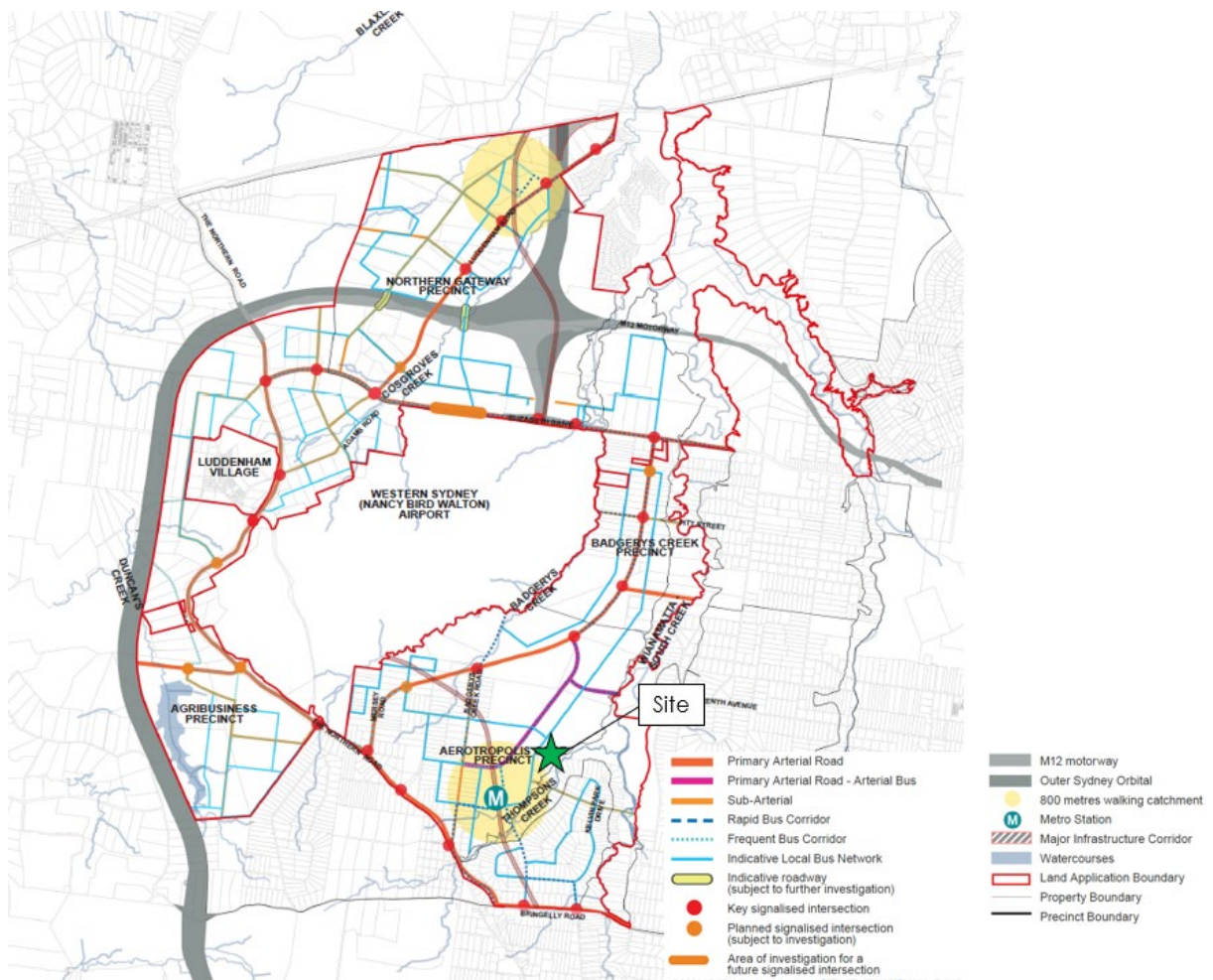
It is serviced by the bus route 856 (Bringelly to Liverpool) six times each day i.e., 3 morning services and 3 evening services.

The bus route travels through Leppington train station and Liverpool train station. Leppington Station is serviced by the routes T2 (Inner West & Leppington Line) and T5 (Cumberland Line). Liverpool Station is serviced by the T2, T3 (Bankstown) and T5 lines.

The future transport network as per the Western Sydney Aerotropolis Precinct Plan is shown in Figure 2.2. It is proposed to improve bus connections with a rapid bus corridor and further local bus network links.

The Aerotropolis Metro Station is currently under construction and is located on the eastern side of Badgerys Creek Road (within an 800m radius from the site), and forms part of the Western Sydney Airport Line. Once operational, this station will be serviced by trains every 5 minutes during the peak period and every 10 minutes during the off-peak period.

Figure 2.2: Future Transport Network



Basemap: Western Sydney Aerotropolis Precinct Plan 2022

2.4 Pedestrian and Cyclist Infrastructure

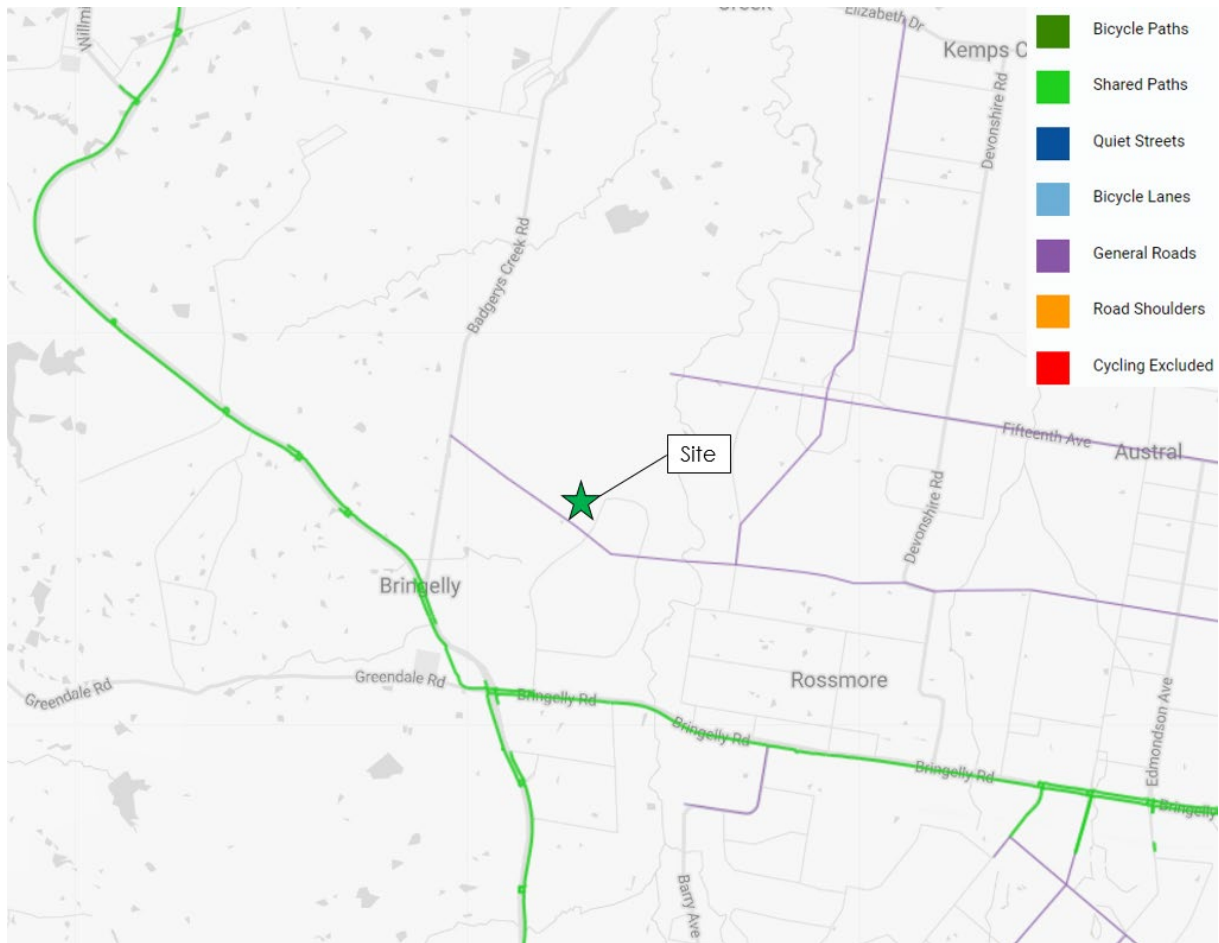
Limited pedestrian and cycle facilities are provided within the immediate vicinity of the site.

No pedestrian footpaths are provided along The Retreat.

In addition to this, no dedicated signage or line marking are provided to indicate any cycleways within the immediate vicinity of the site. However, the nearest dedicated cycle route is located to the south of site along Bringelly Road, in accordance with the Transport for NSW cycleway finder map.

The existing cycle routes within the immediate vicinity of the site are shown in Figure 2.3.

Figure 2.3: Local Cycle Network

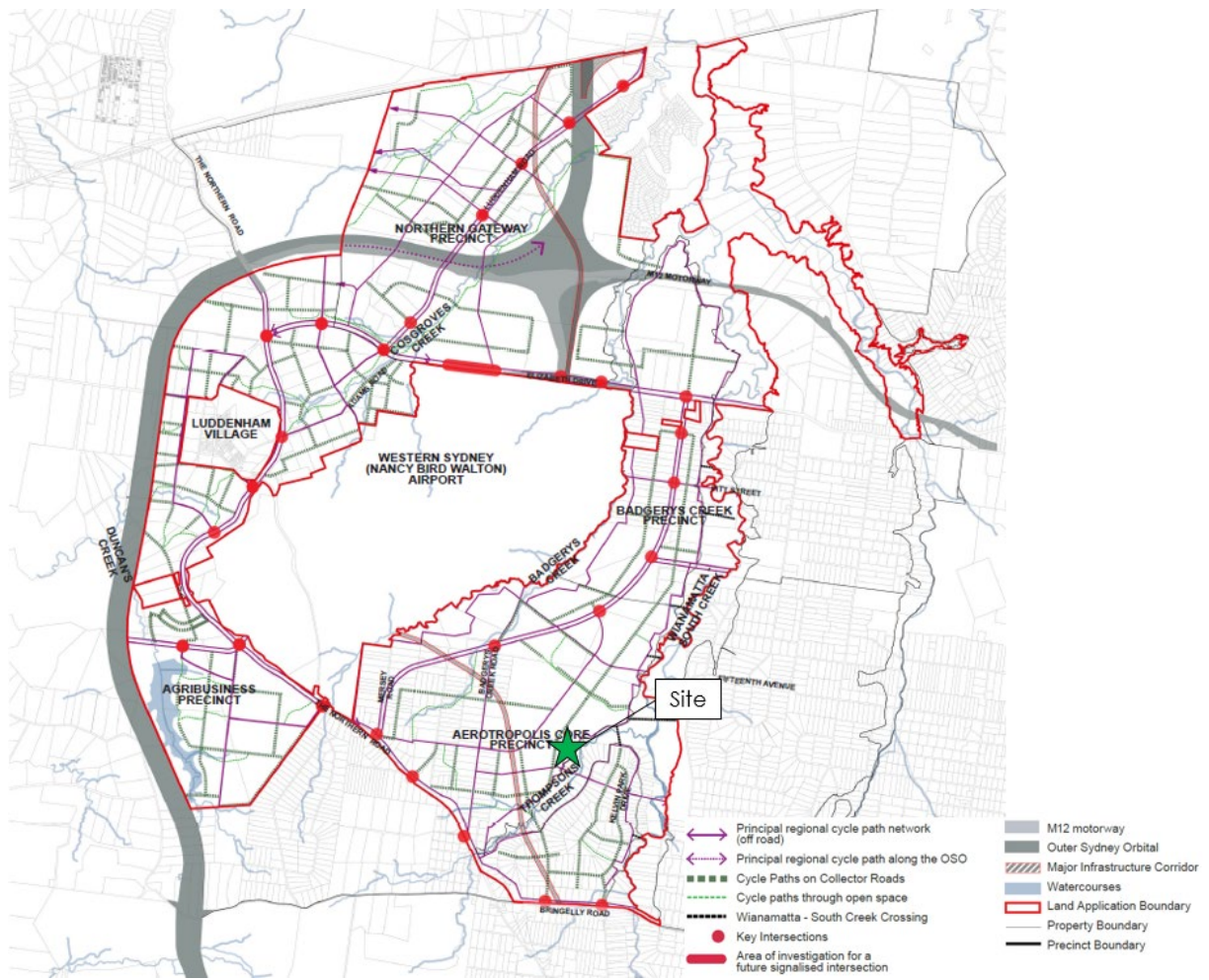


Source: Transport for NSW, Cycleway Finder Map

The future active transport network as per the Western Sydney Aerotropolis Precinct Plan is shown in Figure 2.4.

There are many proposed cycleways surrounding the site which provide good connectivity to the wider cycle network.

Figure 2.4: Future Active Transport Network



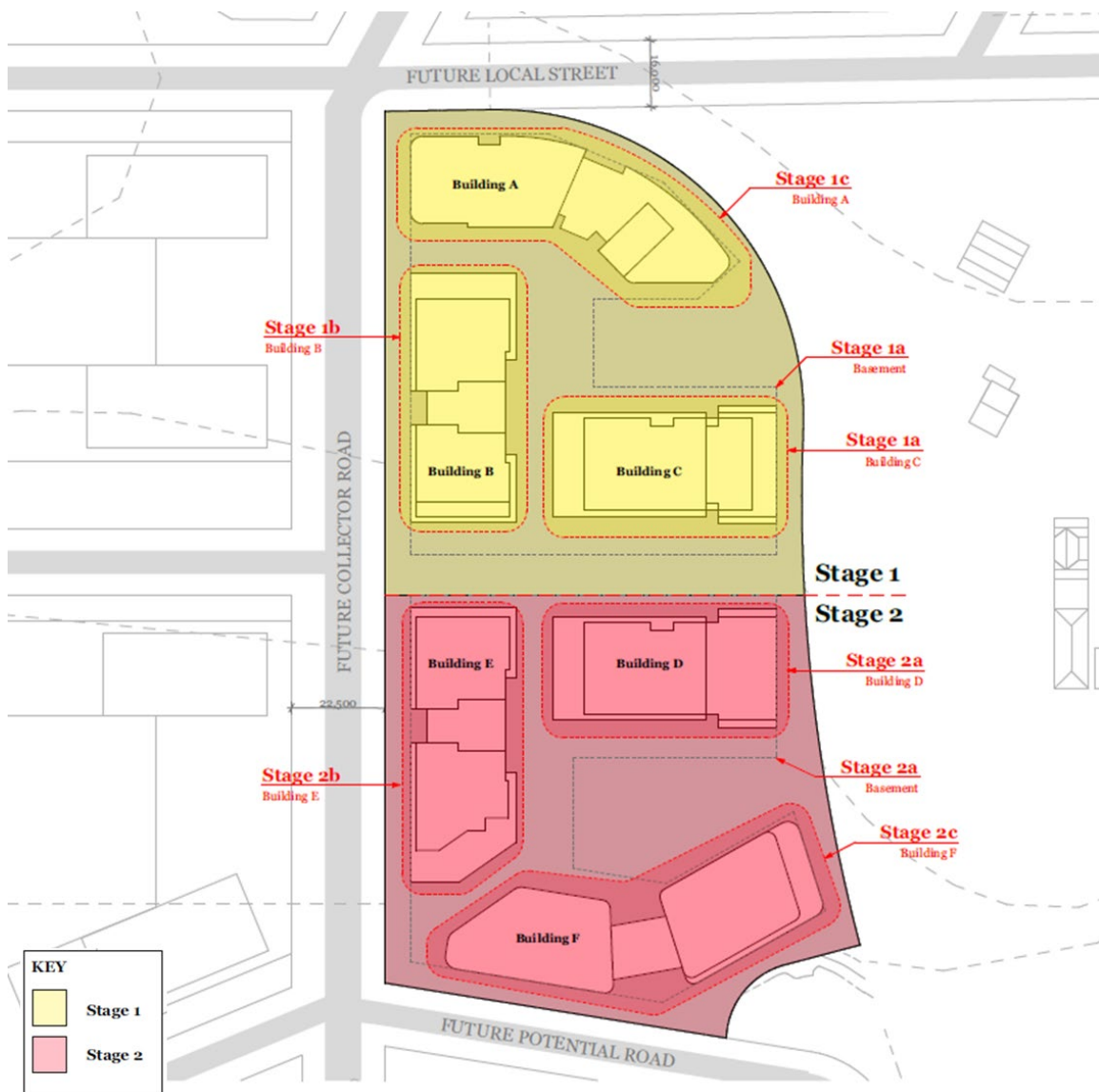
3 Proposed Development

3.1 Project Description

This State Significant Development Application (SSD-65729209) seeks consent for the detailed design and delivery (including construction and use) of a new mixed-use residential development, to be developed in two (2) stages. Ultimately, the development comprises 533 residential units, two retail shops total 424m² and 622m² of non-residential floor space with associated basement car parking.

The proposed staging of the development is shown in Figure 3.1, with a total of six buildings to be constructed across two stages, with the architectural layout plans provided in Appendix B.

Figure 3.1: Development Staging Plan



The Stage 1 of the proposed development includes the following:

- Overall site clearing and preparation works, including demolition of all existing development on the Site;
- The redevelopment of the northern portion of the Site, comprising:
 - › Temporary site access by an internal road to the northern portion of the Site from The Retreat
 - › Temporary bin enclosure adjacent the temporary access road
 - › Excavation works and construction of a shared two (2) storey basement with capacity for 311 parking spaces
 - › Construction of three (3) individual mixed-use buildings, comprising:
 - Residential – 254 units
 - Retail (Shops) – 212 m²
 - › Associated landscaping, communal open space and embellishment works
 - › Delivery and augmentation of services.

The Stage 2 of the proposed development pertains to the southern portion of the site and includes the following:

- Removal of the Stage 1 temporary access from The Retreat
- Connection and access of the Stage 1 basement to the Collector road on the western boundary
- Excavation works and construction of a shared three (3) storey, with capacity for 336 parking spaces
- Site and basement access from the future collector road along the western boundary
- Construction of three (3) individual mixed use buildings, comprising:
 - › Residential – 279 units,
 - › Retail (Shops) – 211 m²
 - › Non-residential amenities - 365 m²
- Associated landscaping, communal open space and embellishment works
- Delivery and augmentation of services.

A detailed description of the proposed development is detailed in Section 3.0 of the Environmental Impact Statement (EIS) prepared by Ethos Urban.

3.2 Site Access

Access to the site will be provided as follows:

- **Stage 1:** Access to be provided via an internal road off The Retreat (Refer to Figure 4.1)
- **Stage 2:** Access via Future Collector Road on the western boundary

Stage 1 access, including vehicular and pedestrian access, would be temporarily provided directly off The Retreat until the future collector road on the western boundary of the site is delivered. The commencement of Stage 2 works would be subject to the delivery of the future collector road.

Ultimate access to the site would be provided off the future collector road, as shown in Figure 3.2. The staging plan including access arrangements is enclosed in Appendix B.

Figure 3.2: Proposed Ultimate Access Arrangements



4 Parking Requirements

4.1 Car Parking

The Western Sydney Aerotropolis Development Control Plan 2022 (DCP) stipulates off-street car parking rates for new developments within the areas defined in Figure 1.1.

Car parking provisions for the proposed development have been calculated in accordance with the DCP parking rates, as shown in Table 4.1. The non-residential element with a combined floor area of 622m² comprises ancillary residential amenities, ranging from 67m² to 300m². These amenities are unlikely to generate any traffic and parking at the subject site as it would generally be used by the residents and tenants at the site. On this basis, this has been excluded from the parking assessment.

Table 4.1: Car Parking Requirements

Parking Type	Size	Parking Rate (Maximum Rate)	DCP Parking Requirement
Stage 1			
Residential Flat Buildings	45 One-bedroom units	Within 800m walking distance of a metro station (Max Rate): * studio or 1 bedroom - 0.5 spaces/ dwelling * 2 bedrooms - 1 space/ dwelling *3 or more bedrooms - 1 space/ dwelling	23
	160 Two-bedroom units		160
	49 Three-bedroom units		49
Visitor	254 Units	1 space per 4 dwellings	64
Retail (Shops)	212 m2	1 space per 90m2 GFA	2
<i>Stage 1 Total</i>			298
Stage 2			
Residential Flat Buildings	59 One-bedroom units	Within 800m walking distance of a metro station (Max Rate): * studio or 1 bedroom - 0.5 spaces/ dwelling * 2 bedrooms - 1 space/ dwelling *3 or more bedrooms - 1 space/ dwelling	30
	186 Two-bedroom units		186
	34 Three-bedroom units		34
Visitor	279 Units	1 space per 4 dwellings	70
Retail (Shops)	212 m2	1 space per 90m2 GFA	2
<i>Stage 2 Total</i>			322
Total			620

As shown in Table 4.1, the DCP requires a maximum provision of up to 616 residential spaces (including 134 visitor spaces) and 4 retail spaces, which is a total of 620 car spaces.

It is proposed to provide 620 car spaces across the development, including 134 visitor car spaces and 4 retail car spaces, which complies with these requirements.

4.1.1 Accessible Parking

Council's DCP states that accessible parking should be provided at the rates specified in Table 4.2.

Table 4.2: Accessible Parking Requirement

Accessible Parking	Size	DCP Parking Requirement	Parking Requirement
Residential	54 Adaptable Units	1 space/ adaptable dwelling	54
Visitor (Resi)	134 spaces	1 space per 20 visitor spaces	7
Retail	4 spaces	2% of all spaces	1
Total			62

Table 4.2 shows that 62 accessible spaces are required to be provided. It is proposed to provide 63 accessible spaces, including 54 for residents, 7 for visitors, and 2 for retail, which comply with the requirement.

4.1.2 Carwash

The DCP states that carwash bays are required to be provided for developments with more than 4 dwellings. It is proposed to provide 2 car wash bays (1 car wash bay per stage), which comply with this requirement.

4.1.3 Carshare

The DCP states that carshare bays are required to be provided at the rates specified in Table 4.3.

Table 4.3: Carshare Requirement

Car Share	Yield	DCP Parking Rate	Parking Requirement
Residential	620 spaces	1 space/ 60 car spaces provided (minimum)	11
Retail	4 spaces	1 space/ 40 car spaces provided (minimum)	1
Total			12

Table 4.3 shows that 12 carshare bays are required. It is proposed to comply with this requirement, by providing 13 car share bays.

4.1.4 Electric Vehicles

The DCP states that electric vehicle parking spaces are required to be provided at the rates specified in Table 4.4.

Table 4.4: Electric Vehicle Parking Requirement

Electric Vehicle Parking	Size	DCP Parking Requirement	Parking Requirement
Residential	620 spaces	1 space/ 60 car spaces provided (Minimum electric vehicles spaces including charging stations)	11
Retail	4 spaces	1 space/ 40 car spaces provided (minimum)	1
Total			12

The DCP states that 12 electric vehicle car spaces are required to be provided. It is proposed to comply with this requirement by providing 12 electric vehicle car spaces.

4.2 Bicycle Parking

The DCP states that bicycle parking should be provided at the rates shown in Table 4.5

Table 4.5: Bicycle Parking Requirements

Parking Type	Size	DCP Parking Requirement	Bicycle Parking Requirement
Resident	533 units	1 space/ dwelling	533
Visitor		1 space per 10 dwellings	53
Retail (Staff)	424 m2	1 space per 25m2 GFA (minimum)	17
Retail (Visitor)		2 spaces plus 1 space per 100m2 over 100m2 GFA (minimum)	6
Total			609

As shown in Table 4.5, it is required to provide 609 bicycle spaces. It is proposed to comply with this requirement, by providing 612 bicycle spaces.

4.3 End-of-Trip Facilities

The DCP states that end-of-trip facilities should be provided at the rates provided in Table 4.6.

Table 4.6: End-of-Trip Facilities Requirement

Parking Type	Size	DCP Parking Requirement	Bicycle Parking Requirement
Locker	17 bicycle spaces	1 personal locker for each bicycle parking space	17
Shower/Change Facility	17 bicycle spaces	1 shower and change cubicle for the first 5 bicycle spaces or part thereof, plus an additional shower for every 10 bicycle parking spaces thereafter	3

As shown in Table 4.6, it is required to provide 17 lockers and 3 shower/change facilities. It is proposed to comply with this requirement.

4.4 Motorcycle Parking

The motorcycle parking is required to be provided at the rate of 1 space per 10 car spaces. Therefore, for the 620 car spaces, it is required to provide 62 motorcycle spaces.

It is proposed to comply with this requirement by providing 62 motorcycle spaces.

4.5 Loading Vehicles

The DCP states that loading should be provided as per the requirements specified in Table 4.7.

Table 4.7: Loading Requirements

Loading Type	Loading Requirement
Loading (Residential)	Residential developments containing more than 60 dwellings provide at least 1 service delivery space, capable of accommodating at least a: <ul style="list-style-type: none"> a) Medium Rigid Vehicle (MRV); and b) Heavy Rigid Vehicle (HRV).
Loading (Retail)	Off-street loading and unloading facilities are provided for all commercial and industrial premises. The number and size of loading bays will be determined by the consent authority having regard to the: <ul style="list-style-type: none"> a) Intended use of the premises; b) Frequency of deliveries/collections; c) Size and bulk of goods to be delivered/collected; d) Size of vehicles to be used; and e) Likely impacts on traffic safety and efficiency on adjoining roads.

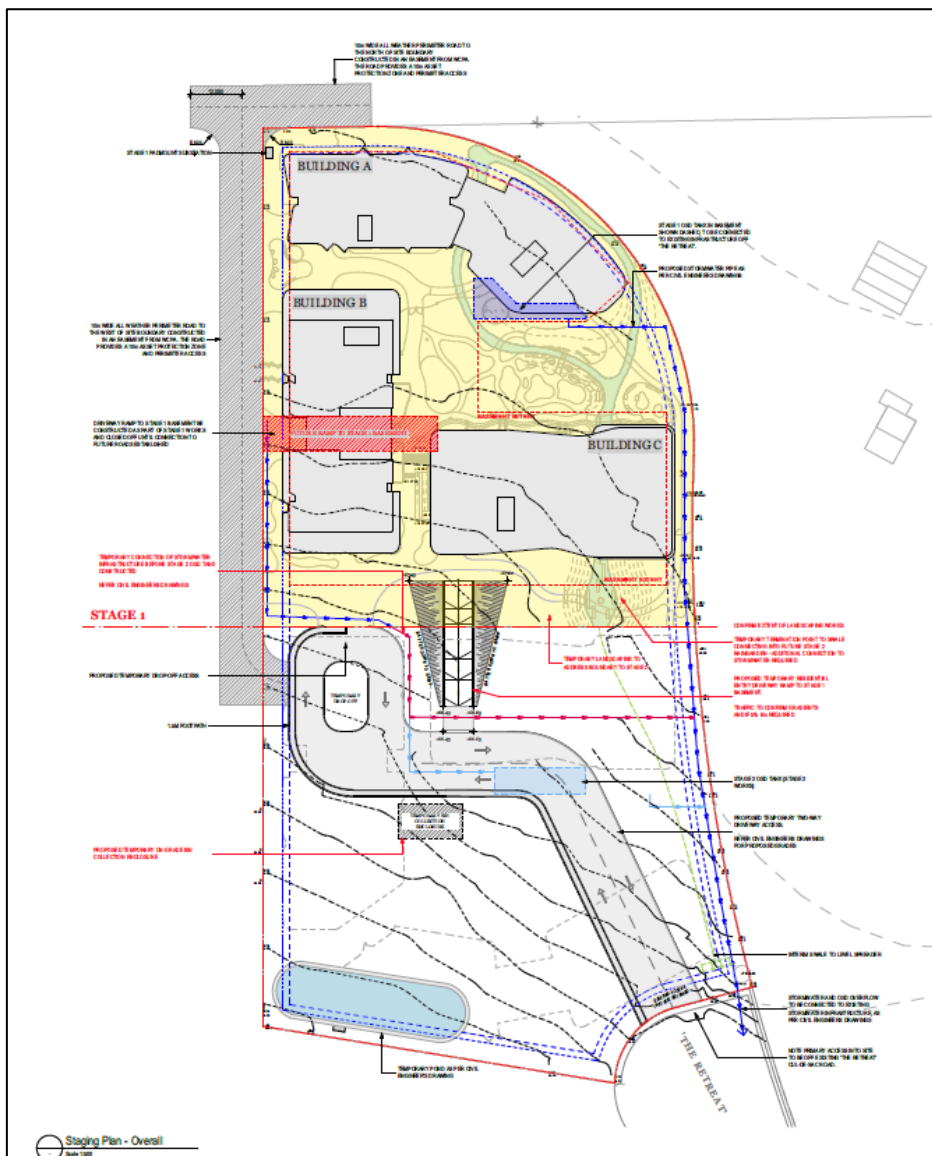
Table 4.7 shows that it is required to provide one loading area which can accommodate up to a HRV vehicle and another loading bay which can accommodate up to an MRV vehicle. It is proposed to comply with this requirement and provide 2 loading bays, accommodating vehicles up to and including a 12.5m HRV following Stage 2 completion.

During Stage 1 works, loading including waste collection, shall be undertaken within the private internal road off The Retreat. All bins shall be wheeled within the temporary bin collection enclosure on bin collection day. These bins will then be wheeled back on-site following collection. This temporary internal road off The Retreat is shown in Figure 4.1

Following delivery of the preferred alternative access road outlined in Section 1.3 (Figure 1.2), all loading and unloading activities shall be undertaken on-site via loading areas located in the basement of each stage.

Based on the above, the proposed loading facilities are considered adequate and appropriate to manage the servicing requirements for the site, noting that the temporary internal road would be provided with a turnaround facility for waste and service vehicles to turn around.

Figure 4.1: Temporary Internal Road



4.6 Parking Layout

The site car park and associated access arrangements will be designed in accordance with the requirements of the Australian Standard for off-street car parking, AS2890.1 (2004).

The resident car spaces will be designed in accordance with a Class 1A parking facility, with minimum car space dimensions of 2.4m in width plus 0.3m clearance to walls and 5.4m in length.

Visitor parking spaces will be provided as Class 3 spaces with a width of 2.6m and a minimum aisle width of 5.8m.

The accessible parking spaces will be designed in accordance with the Australian Standard for Off-Street Parking for People with Disabilities, AS2890.6(2009) with dimensions of 2.4m wide and 5.4m long space with an adjoining shared area of the same dimensions.

Bike spaces are to be designed in accordance with the Australian Standard for Bicycle Parking AS2890.3 (2015).

Swept path analysis is presented in Appendix C.

5 Traffic Assessment

Transport for New South Wales (TfNSW) provides traffic generation rates for different land uses in their Guide to Traffic Generating Developments 2002 (Guide) and in their Technical Direction TDT 2013/04a containing revised rates. It is however noted that the Bradfield Traffic Management Accessibility Plan (TMAP) prepared by Western Parkland City Authority specifies different rates for the Precinct area which have been used on the basis of this assessment.

The non-residential element with a combined floor area of 622m² comprises ancillary residential amenities, ranging from 67m² to 300m². These amenities are unlikely to generate any external traffic as it would be mostly used by residents and tenants of the site. On this basis, this has been excluded from the traffic assessment.

A summary of the traffic generation estimates is provided in Table 5.1, indicating the expected traffic generation of the proposed development, including Stage 1 and Stage 2 separately.

Table 5.1: Traffic Generation Estimate

Stage	Land Use	Size	Trip Rate		Trip Generation Estimate	
			AM Peak	PM Peak	AM Peak	PM Peak
Stage 1	Residential	254 Units	0.23 vehicle trips per unit	0.11 vehicle trips per unit	58	28
	Retail	212 m ²	1.03 vehicle trips per 100m ²	2.09 vehicle trips per 100m ²	2	4
Sub-total					60	32
Stage 2	Residential	279 Units	0.23 vehicle trips per unit	0.11 vehicle trips per unit	64	31
	Retail	212 m ²	1.03 vehicle trips per 100m ²	2.09 vehicle trips per 100m ²	2	4
Sub-total					66	35
Total					126	67

[1] Trip rates stipulated in the Bradfield TMAP for Year 2026 has been used for the above assessment.

Table 5.1 shows that is estimated that the proposed development would generate up to 126 trips in the AM peak and 67 trips in the PM peak hours during the ultimate stage, following Stage 2 development completion.

5.1 Access Arrangements

It is understood that the proposal is consistent with the Western Sydney Aerotropolis Precinct Plan for the site, which indicates one planned local collector road along the immediate western frontage of the site, as shown in Appendix A. Although, this access arrangement is contrary to the recently published Bradfield Masterplan, consultation with WPCA has been

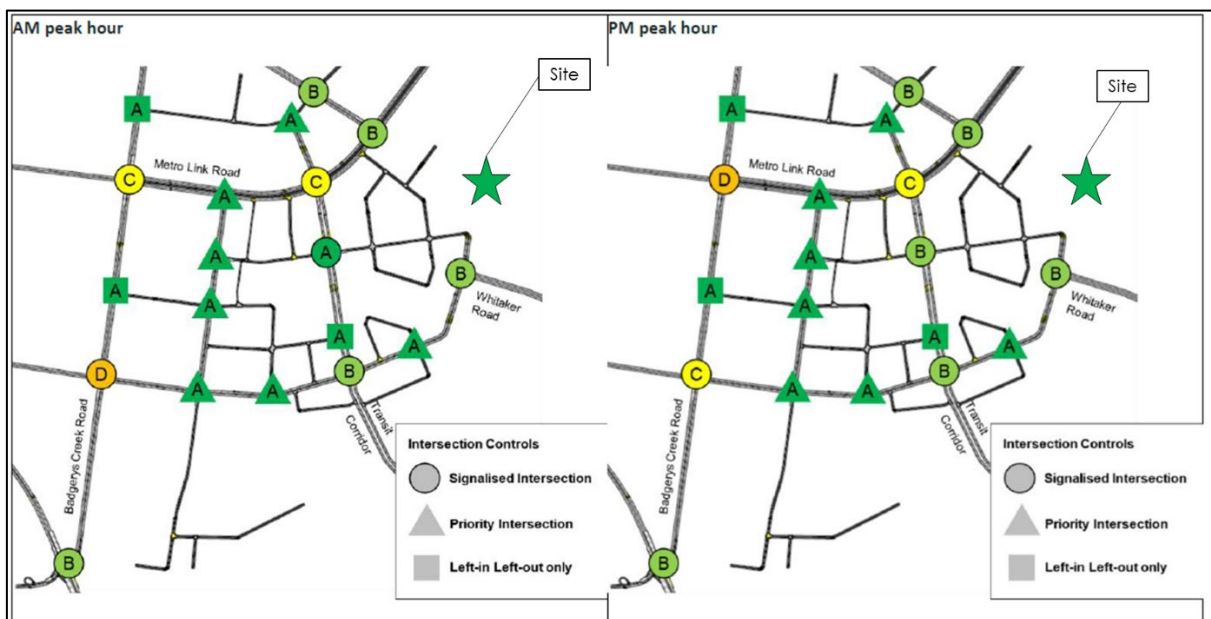
undertaken, No objections have been raised against the proposed local collector road outlined in Appendix A.

As part of the wider strategic transport planning that informs the Precinct Plan, strategic transport model has been undertaken to assess the traffic impacts of the planned developments within the Western Sydney Aerotropolis Precinct on the surrounding road network. This includes the vicinity of Aerotropolis Core precinct, which the subject site and the nearby proposed developments are located within. Based on this, the proposed development and the nearby developments would have already been considered and assessed as part of the wider strategic transport planning to inform sufficient future road network as indicated in the Precinct Plan.

Given that the proposed alternative access scheme for the proposed development is in line with the scheme set out in the Precinct Plan, and has been consulted and assessed by WPCA and DPIE, it is therefore presumed that the traffic generation impacts arising from the proposal and the proposed access arrangements can be sufficiently accommodated within the proposed road network without any adverse impacts.

According to the traffic modelling results documented in the Transport Management Accessibility Plan Report prepared by Aecom (2023), the surrounding local road and collector road network in the vicinity of the subject site is expected to perform at LoS C or better in the future year 2036, as shown in Figure 5.1. This takes into consideration the future traffic volume induced by the future developments planned for the area. On this basis, the proposed development is not expected to have any adverse impacts on the future road network operation.

Figure 5.1: Nearby Intersection LoS – Year 2036



Source: Transport Management Accessibility Plan Report, AECOM (October 2023)

It is expected that the planned public transport and active transport network identified as part of the Precinct Plan would increase the public transport and active transport mode share within the precinct, while decreasing the private vehicle mode share. A Green Travel Plan (GTP) has been separately prepared to outline measures and actions that aim at increasing the public transport and active transport mode share, in line with the Precinct Plan objectives.

6 Conclusion

This report examines the traffic and parking implications of a proposed mixed-use development at 40 The Retreat, Bringelly. The key findings of this report are presented below:

- The proposed development involves the demolition of a large-lot residential dwelling and construction of six blocks of units with 533 residential dwellings and 424m² retail area.
- The proposed development requires 620 car spaces in accordance with the DCP. It is proposed to comply with this requirement.
- The proposed car parking layout is to be designed in accordance with the relevant Australian Standards.
- The proposed development is expected to generate 126 trips in the AM peak and 67 trips in the PM peak. This is equivalent to approximately 1-2 trips per minute in the peak hours.
- An alternate access scheme for the subject site has been proposed in consultation and general consensus with WPCA and DPIE. This alternate access scheme is in line with the road network proposed in the Precinct Plan, and has therefore been adopted for the proposed development as a preferred design option.
- Given that the traffic generation of the site has already been considered as part of the strategic transport planning for the Western Sydney Aerotropolis Precinct Plan, it is expected that no adverse impacts are expected from the traffic generation associated with the subject site on the future road network.

Overall, the traffic and parking aspects of the proposed development are considered to be satisfactory.

Appendix A

TTPP Letter on Access

Our Ref: 23129

4 March 2024

Sathio Group
Suite 13.01
44 Market Street
Sydney NSW 2000

Attention: Mr Peter Mullen

Dear Peter,

**RE: 40 THE RETREAT, BRINGELLY
TRAFFIC STATEMENT**

Background

On 5 February 2024, The Department of Planning, Housing and Infrastructure published the draft Bradfield City Master Plan which sets out a framework for future development within the city centre of the Western Sydney Aerotropolis. As part of this document, the proposed master plan provides further information on future road networks in the city centre, which is located directly adjacent to the above site.

Site Context

The site is located at 40 The Retreat Bringelly and is located directly adjacent to the city centre boundary.

Given its proximity to the city centre, TTPP has been requested to review the draft Bradfield City Masterplan and to provide commentary in relation to the proposed road network in terms of its impact to the proposed development site.

The previous precinct plan and latest Bradfield Master Plan is shown in Figure 1.

Figure 1: Overview of Layouts

PRECINCT PLAN



BRADFELD MASTER PLAN



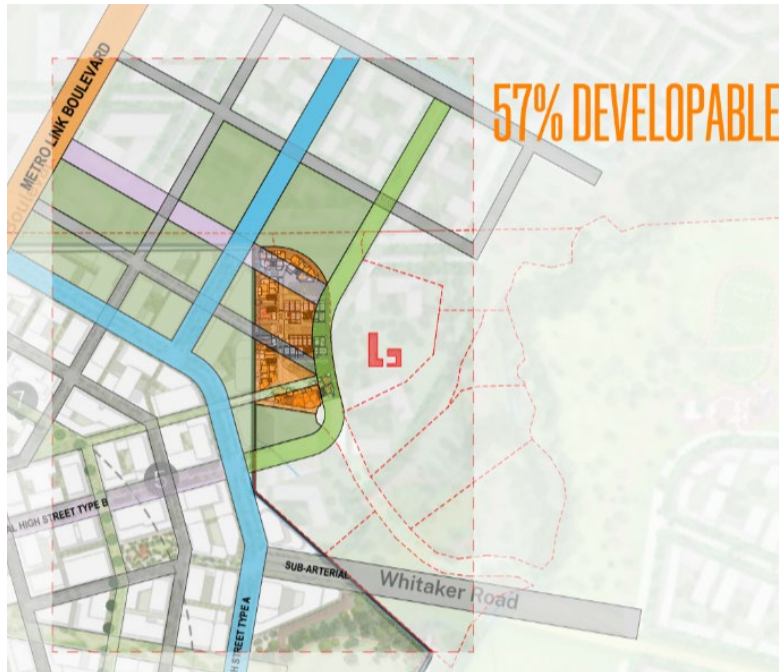
The Master Plan does not propose permanent development in the existing 60m wide Special Purposes 2 (SP2) Infrastructure Zone corridor. A decision regarding future rail infrastructure in the corridor is the subject of review by Government.

In the previous scheme (before the release of the draft master plan), one collector road was proposed along the site frontage. This was used as the basis of the proposed development design. However, based on the latest draft Bradfield City Master Plan, three “local city” roads are now indicatively proposed along the immediate frontage of the site. These roads would connect to the “High Commercial Type” roads as denoted by the “wider” roads / lines.

These new “local city” roads would essentially travel through the site, reducing its developable area and creating irregular allotments such that some parcels of land would be undevelopable within the site (which would also be a similar case adjacent nearby sites).

An indicative sketch of the likely impacts of the master plan road network on the site (as shaded in orange) is shown in Figure 2.

Figure 2: Indicative Road Network Within Site



Due to the size and allotment shape of the site, the above road network scheme is not considered a good outcome in terms of design and access to the site. It will also make developing the site more challenging for the reasons discussed above (i.e. irregular sized and less developable area).

In this regard, the project team has prepared an alternate road network scheme along the site boundary, whilst maintaining the intent of the draft masterplan and providing good connectivity to the broader Aerotropolis for the site (and surrounding properties). This is shown in Figure 3.

Proposed Alternate Scheme

The project team has prepared an alternate road network scheme along the frontage where a straight local road would travel along the eastern frontage of the site, as shown in Figure 3. This is consistent with the previous scheme intended for the site before the release of the draft masterplan.

The new local road will connect to the indicative "High Commercial Type" road and reduce the need for 3 roads in the vicinity whilst also providing good access to surrounding properties on either side of the road. The alternate scheme would also enable the sites to have a better design footprint for development and more permeable network, including provision of footpaths/cycleways along the full extent of the site.

Figure 3: Proposed Alternate Road Scheme



TTPP is of the view that the proposed alternate scheme meets the intent of the future road network plan of the city centre, whilst providing appropriate access to the site as well as adjacent sites in the area. The proposed local road would also provide an opportunity to provide footpaths/cycleways along the entire site frontage to create a permeable network for all road uses. Additionally, the proposed alternate scheme does not detract any of the overarching outcomes / findings from the Bradfield City Centre Transport Management Accessibility Plan Report.

Summary and Conclusion

In summary, the proposed alternate scheme is considered appropriate and continues to meet the intent of the draft Bradfield City Centre Master Plan with consideration to provide good access options for sites abutting the city centre boundary in the vicinity of 40 The Retreat Bringelly.

We trust the above is to your satisfaction. Should you have any queries regarding the above or require further information, please do not hesitate to contact the undersigned on 8437 7800.

Yours sincerely,



Ken Hollyoak
Director

Appendix B

Architectural and Staging Plans



Site Plan
Scale 1:750

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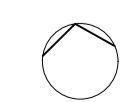
Fire
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Foresight
Sophie Rutherford

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C	4/04/2024	DK	SO	Consultant Amendments
D	19/04/2024	DK	SO	Consultant Amendments
E	27/05/2024	KH	DK	Consultant Amendments



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Project Name
Project Address

Client

40 The Retreat, Bringelly
Bringelly, NSW 2556

SCG

Project Number
Drawing Name
Scale
Date

Drawing Number
Revision

13317
Site Plan
17/50/A1
27/05/2024

DA1002
E



Site Plan - Ground Plane
Scale 1:750

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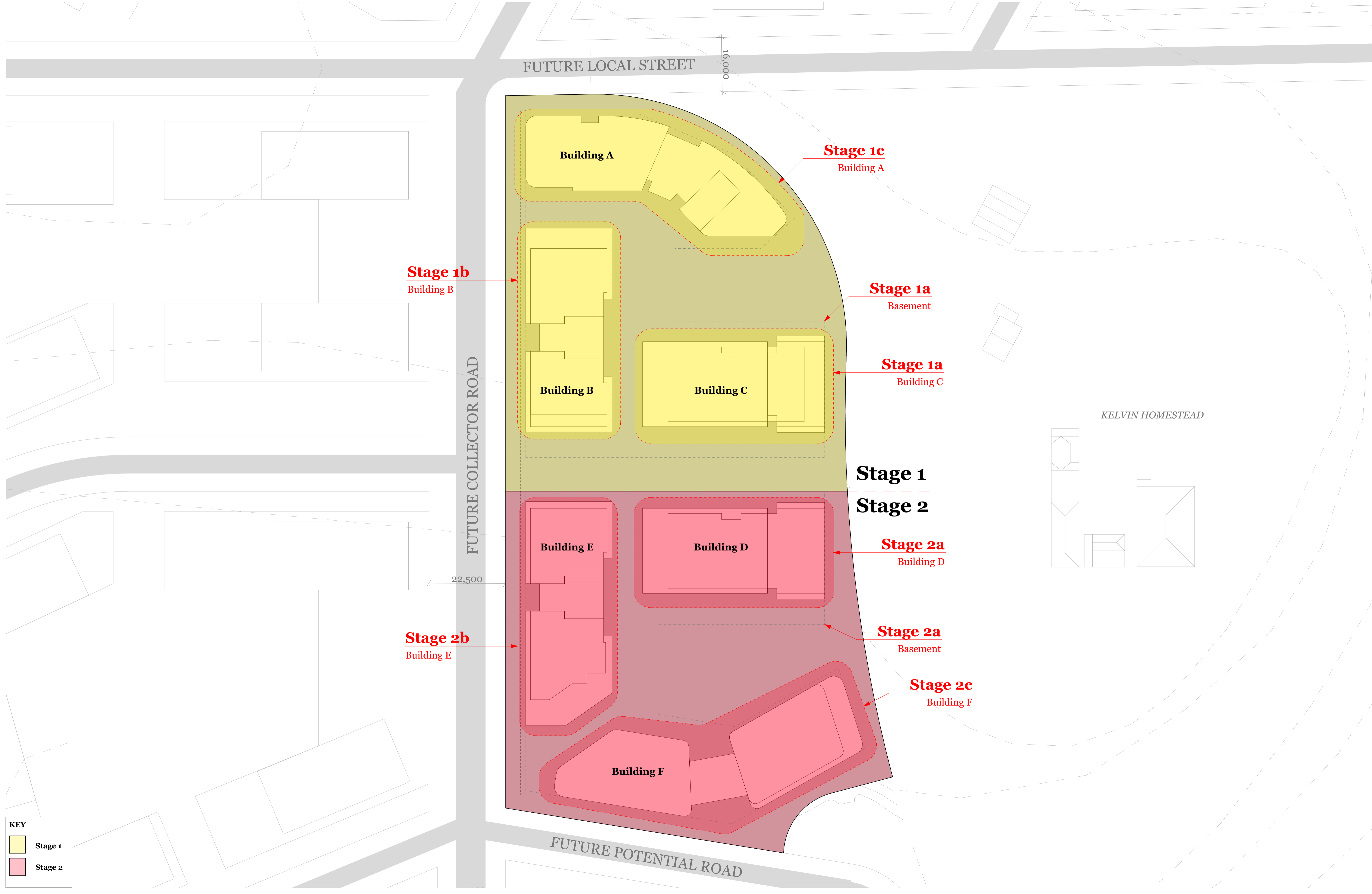
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Project Address
Client

40 The Retreat, Bringelly
40 The Retreat,
Bringelly, NSW 2556
SCG

Project Number
Drawing Name
Scale
Date

Drawing Number
Revision

13317
Site Plan - Ground Plane
1750@A1
27/05/2024
DA1003
E



KEY

Stage 1

Stage 2

Staging Plan
Scale 1:500

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Consultants

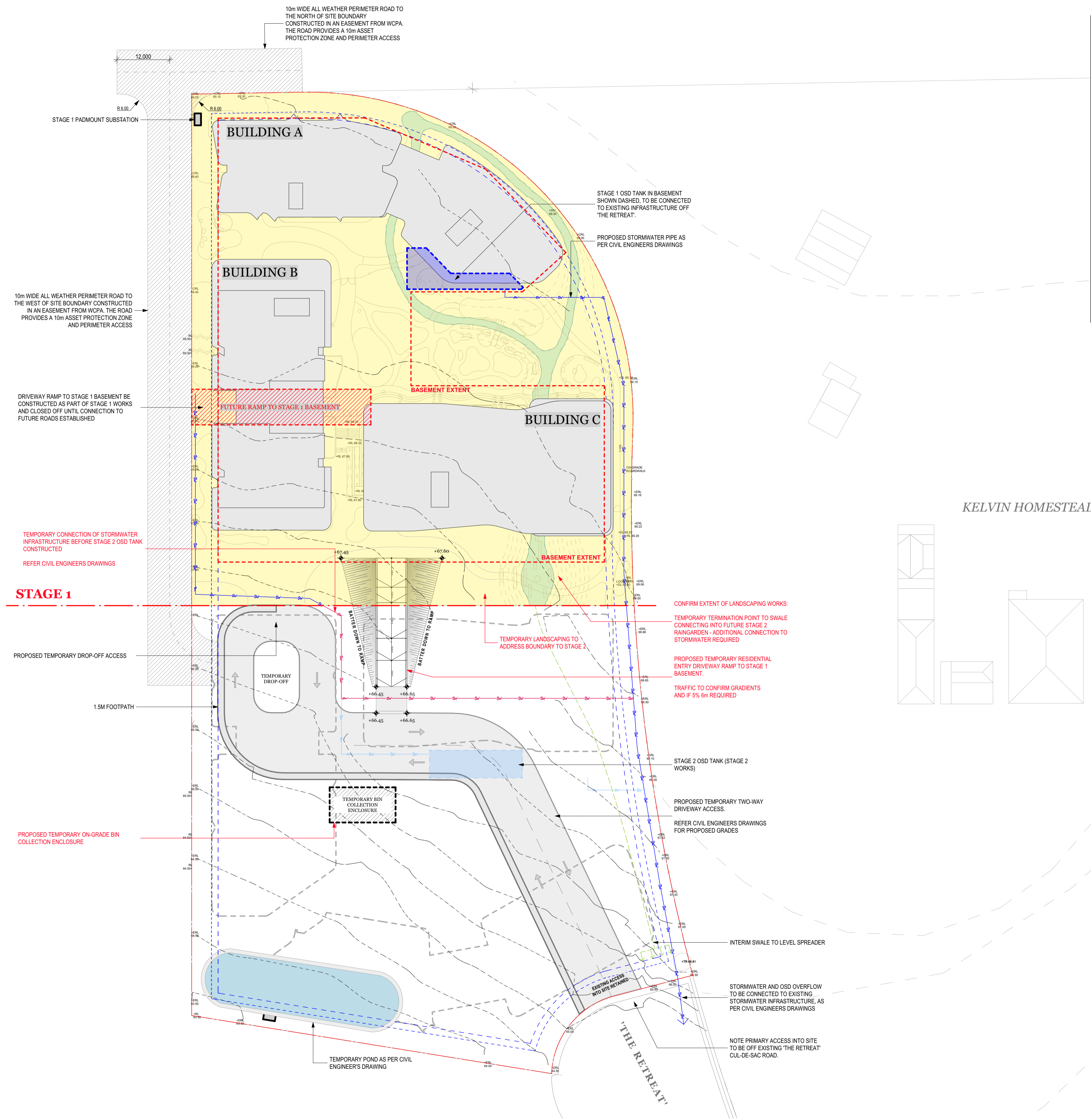
Planner Ethos Urban Daniel Howard 0416 646 196	Connect to Country Hardy Hardy Bernadette Hardy	Surveyor LTS Joseph Monardo 1300 957 000	Landscape Arcadia Alex Longley 02 8571 2900	Heritage Urbis Stephen Davies 02 8233 9939	Civil AT&L Glen James 02 9068 8517	Structure M+G Consulting Zlatko Gashi 02 8666 7888	Traffic TTTP Ken Hollywood 02 8437 7800	Services NDY Goran Muratbegovic 02 9928 6800	BASIX/ESD Jensen Hughes Robert Romanous 02 8484 4086	BCA Jensen Hughes Abhishek Dulichan 02 8484 4030	Fire Jensen Hughes Himanshu Gupta 02 8484 4057	Access Abe Consulting John Laska 02 8065 0400	Waste Foresight Sophie Rutherford	Quantity Surveyor Newton Fisher Steven Bregovic 02 9744 2026
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Project Name 40 The Retreat, Bringelly	Project Address 40 The Retreat, Bringelly, NSW 2556	Project Number 13317	Drawing Name Staging Plan	Scale 1:500@A1	Date 27/05/2024
Client SCG	Drawing Number Revision	DA1005 E			



STAGING NOTES

OVERALL

- STAGE 1 TO ASSUME NO FUTURE ROADS BASED OFF THE PRECINCT DCP WILL BE IN PLACE
- ALL ACCESS AND INFRASTRUCTURE CONNECTIONS TO BE TEMPORARY OFF 'THE RETREAT' EXISTING CUL-DE-SAC ROAD

TRAFFIC

- TEMPORARY DRIVEWAY OFF 'THE RETREAT' PROPOSED
- DRIVEWAY TO LEAD TO TEMPORARY DROP-OFF ZONE AND TEMPORARY BASEMENT ACCESS
- TEMPORARY RAMP TO BE PROVIDED AT THE PROPOSED LOCATION
- TRAFFIC ENGINEER TO CONFIRM IF HRV ACCESS TO BASEMENT IS REQUIRED TO BASEMENT IN A TEMPORARY SOLUTION

SERVICES

- TEMPORARY LOCATION OF SUBSTATION TO BE PROVIDED OFF 'THE RETREAT'
- TEMPORARY LOCATION OF BOOSTERS TO BE PROVIDED OFF 'THE RETREAT'
- ALL SERVICE CONNECTIONS TO BE OFF EXISTING INFRASTRUCTURE OFF 'THE RETREAT'

CIVIL

- STORMWATER AND OSD OVERFLOW TO BE CONNECTED TO EXISTING INFRASTRUCTURE OFF 'THE RETREAT'
- FLOOD MITIGATION MEASURES TO BE PROVIDED

WASTE

- WASTE CONSULTANT TO CONFIRM IF ABOVE GROUND, TEMPORARY ON-SITE COLLECTION IS POSSIBLE
- IF POSSIBLE, LOCATION OF TEMPORARY WASTE STORAGE TO BE PROVIDED

LANDSCAPE

- ALL LANDSCAPING TO THE STAGE 1 GROUND FLOOR COS TO BE PROVIDED
- LANDSCAPING TO THE THROUGH-SITE LINK TO BE TEMPORARY, BASED OFF FINAL LOCATION OF TEMPORARY DRIVEWAY AND RAMP ACCESS

Staging Plan - Overall
Scale 1:500

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C	4/04/2024	DK	SO	Consultant Amendments
D	11/06/2024	DK	SO	Civil Engineer Amendments

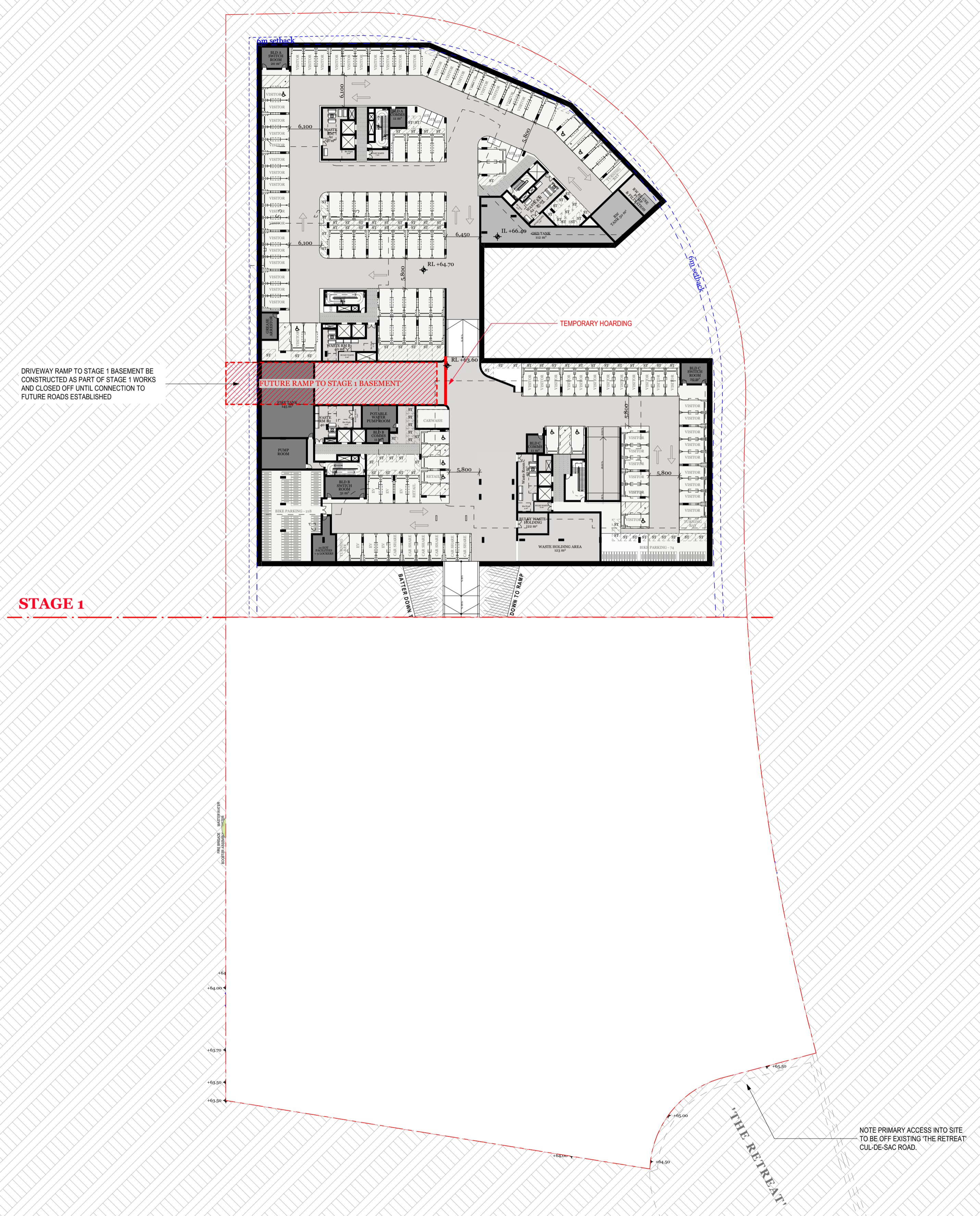
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Project Name	40 The Retreat, Bringelly	Project Number	13317
Project Address	40 The Retreat, Bringelly, NSW 2556	Drawing Name	Stage 1 Plan - Overall
Client	SCG	Scale	1:500@A1
		Date	11/06/2024
		Drawing Number	DA1006
		Revision	D

STAGING NOTES

- OVERALL**
 - STAGE 1 TO ASSUME NO FUTURE ROADS BASED OFF THE PRECINCT DCP WILL BE IN PLACE
 - ALL ACCESS AND INFRASTRUCTURE CONNECTIONS TO BE TEMPORARY OFF 'THE RETREAT' EXISTING CUL-DE-SAC ROAD
- TRAFFIC**
 - TEMPORARY DRIVEWAY OFF 'THE RETREAT' PROPOSED
 - DRIVEWAY TO LEAD TO TEMPORARY DROP-OFF ZONE AND TEMPORARY BASEMENT ACCESS
 - TEMPORARY RAMP TO BE PROVIDED AT THE PROPOSED LOCATION
 - TRAFFIC ENGINEER TO CONFIRM IF HRV ACCESS TO BASEMENT IS REQUIRED TO BASEMENT IN A TEMPORARY SOLUTION
- SERVICES**
 - TEMPORARY LOCATION OF SUBSTATION TO BE PROVIDED OFF THE 'RETREAT'
 - TEMPORARY LOCATION OF BOOSTERS TO BE PROVIDED OFF THE 'RETREAT'
 - ALL SERVICE CONNECTIONS TO BE OFF EXISTING INFRASTRUCTURE OFF 'THE RETREAT'
- CIVIL**
 - STORMWATER AND OSD OVERFLOW TO BE CONNECTED TO EXISTING INFRASTRUCTURE OFF 'THE RETREAT'
 - FLOOD MITIGATION MEASURES TO BE PROVIDED
- WASTE**
 - WASTE CONSULTANT TO CONFIRM IF ABOVE GROUND, TEMPORARY ON-SITE COLLECTION IS POSSIBLE
 - IF POSSIBLE, LOCATION OF TEMPORARY WASTE STORAGE TO BE PROVIDED
- LANDSCAPE**
 - ALL LANDSCAPING TO THE STAGE 1 GROUND FLOOR COS TO BE PROVIDED
 - LANDSCAPING TO THE THROUGH-SITE LINK TO BE TEMPORARY, BASED OFF FINAL LOCATION OF TEMPORARY DRIVEWAY AND RAMP ACCESS



Staging Plan - Lower Ground
Scale 1:500

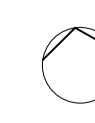
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Newton Fisher
Steven Bregovic
02 9744 2026 |
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Project Name
Project Address
Client

40 The Retreat, Bringelly
Bringelly, NSW 2556
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Project Number
Drawing Name
Scale
Date

13317
Stage 1 Plan - Basement (Op
1:500@A1
27/05/2024

Drawing Number
Revision

DA1007
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Access
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02 8065 0400

Waste
Foresight
Sophie Rutherford

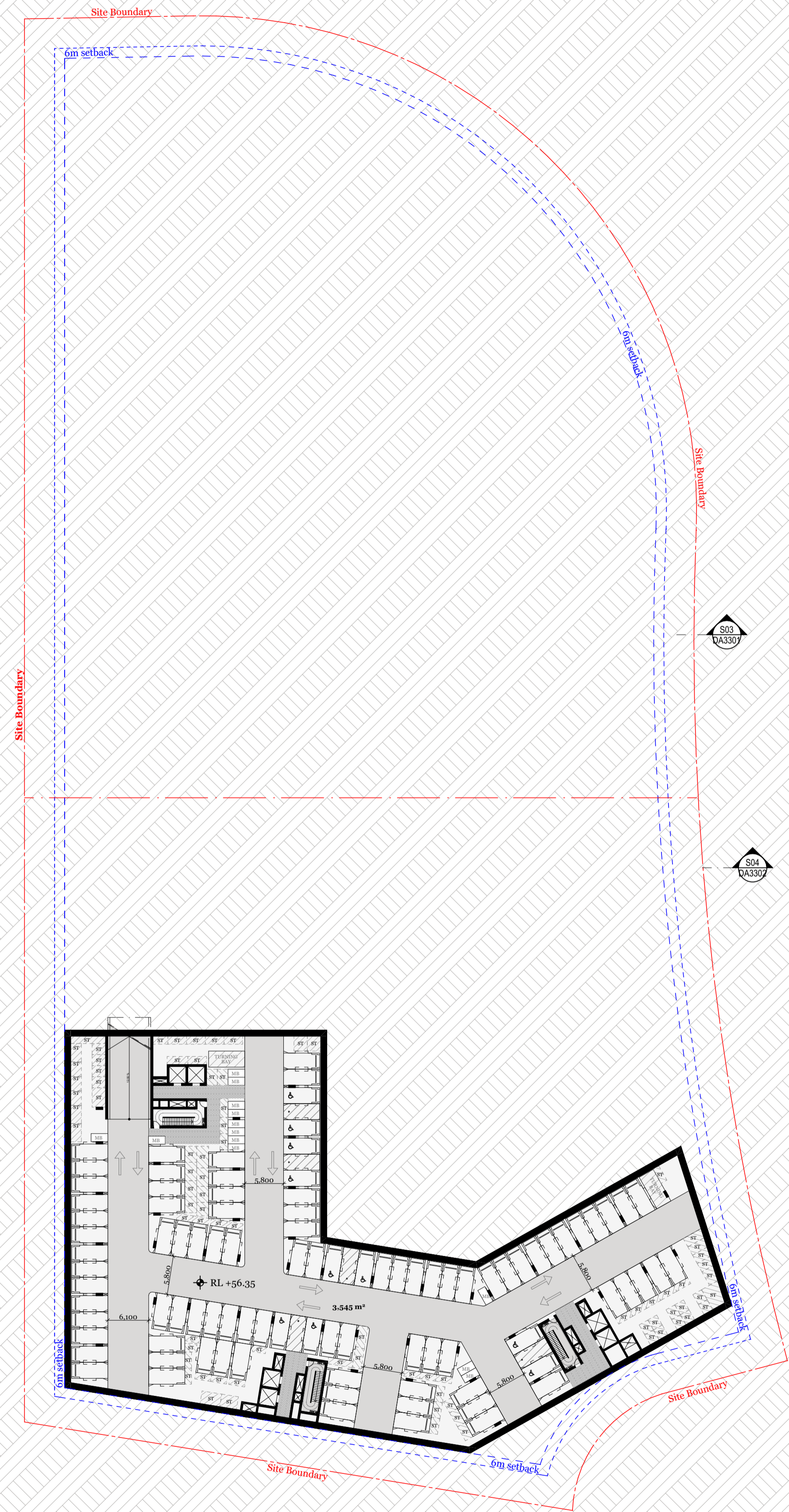
Quantity Surveyor
Newton Fisher
Steven Bregovic
02 9744 2026

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D	1/05/2024	DK	SO	Consultant Amendments

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Project Name	40 The Retreat, Bringelly	Project Number	13317
Project Address	40 The Retreat, Bringelly, NSW 2556	Drawing Name	Basement 02 Plan
		Scale	1:500@A1
		Date	27/05/2024
Client	SCG	Drawing Number	DA2000
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Project Name
Project Address

40 The Retreat, Bringelly
40 The Retreat
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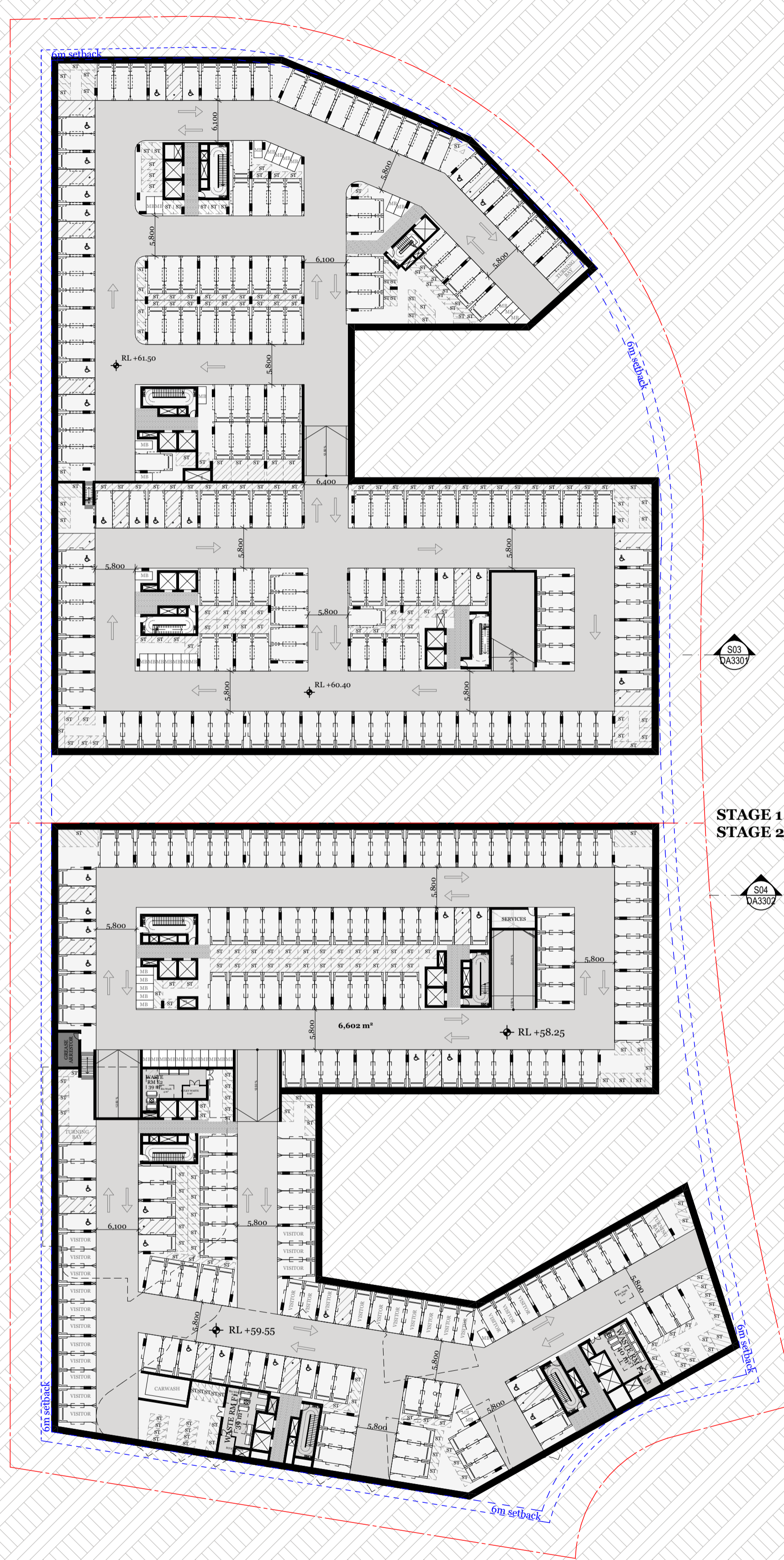
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Project Number
Drawing Name
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Date

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Drawing Number
Revision

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S02
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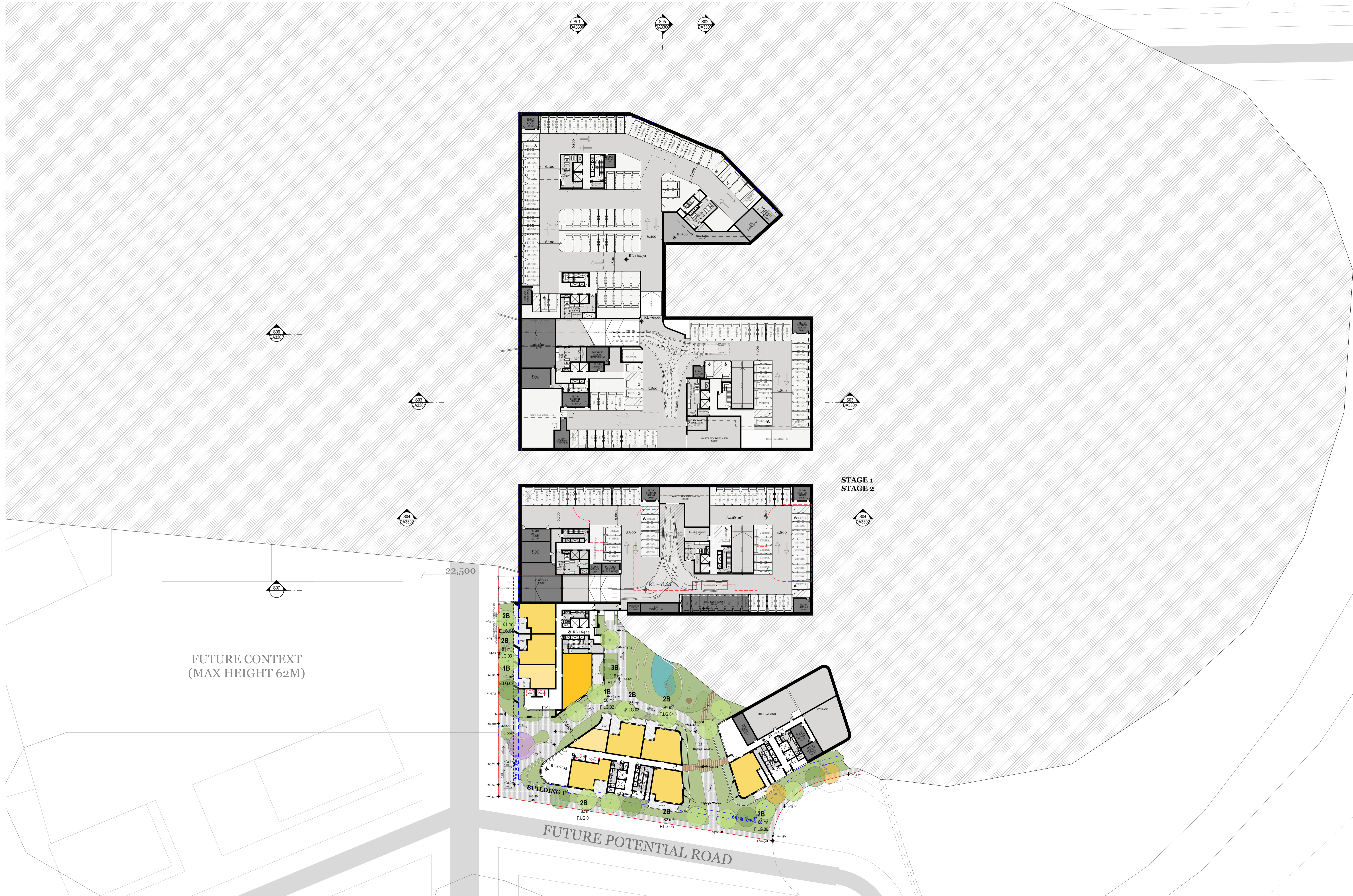
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DA3307

S02
DA3307

S04
DA3307

STAGE 1
STAGE 2



-1. LOWER GROUND
Scale 1:500

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Consultants

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|--|--|--|---|--|--|--|--|--|---|--|--|---|---|--|
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Daniel Howard
0416 646 196 | Connect to Country
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LTS
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Arcadia
Alex Longley
02 8571 2900 | Heritage
Urbis
Stephen Davies
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AT&L
Glen James
02 9068 8517 | Structure
M+G Consulting
Zlatko Gashi
02 8666 7888 | Traffic
TTTP
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02 8437 7800 | Services
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Jensen Hughes
Abhishek Dulichan
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Himanshu Gupta
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Sophie Rutherford | Quantity Surveyor
Newton Fisher
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02 9744 2026 |
|--|--|--|---|--|--|--|--|--|---|--|--|---|---|--|

Rev	Date	By	Chk	Description
A	8/03/2024	DK/ MC/ LB/ WN	SO	For DA Submission
B	25/03/2024	DK	SO	Client and Planner Amendments
C	4/04/2024	DK	SO	Consultant Amendments
D	19/04/2024	DK	SO	Consultant Amendments
E	1/05/2024	DK	SO	Consultant Amendments
F	27/05/2024	KH	DK	Consultant Amendments

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Project Name Project Address	40 The Retreat, Bringelly 40 The Retreat, Bringelly, NSW 2556	Project Number Drawing Name Scale Date	13317 Lower Ground Plan 1:500@A1 27/05/2024
Client	SCG	Drawing Number Revision	DA2002 F



0. GROUND LEVEL
Scale 1:500

FOR DA SUBMISSION

Consultants

- | | | | | | | | | | | | | | | |
|--|--|--|---|--|--|--|--|--|---|--|--|---|---|--|
| Planner
Ethos Urban
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0416 646 196 | Connect to Country
Hardy Hardy
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Arcadia
Alex Longley
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Rev	Date	By	Chk	Description
A	8/03/2024	DK/ MC/ LB/ WN	SO	For DA Submission
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F	27/05/2024	KH	DK	Consultant Amendments

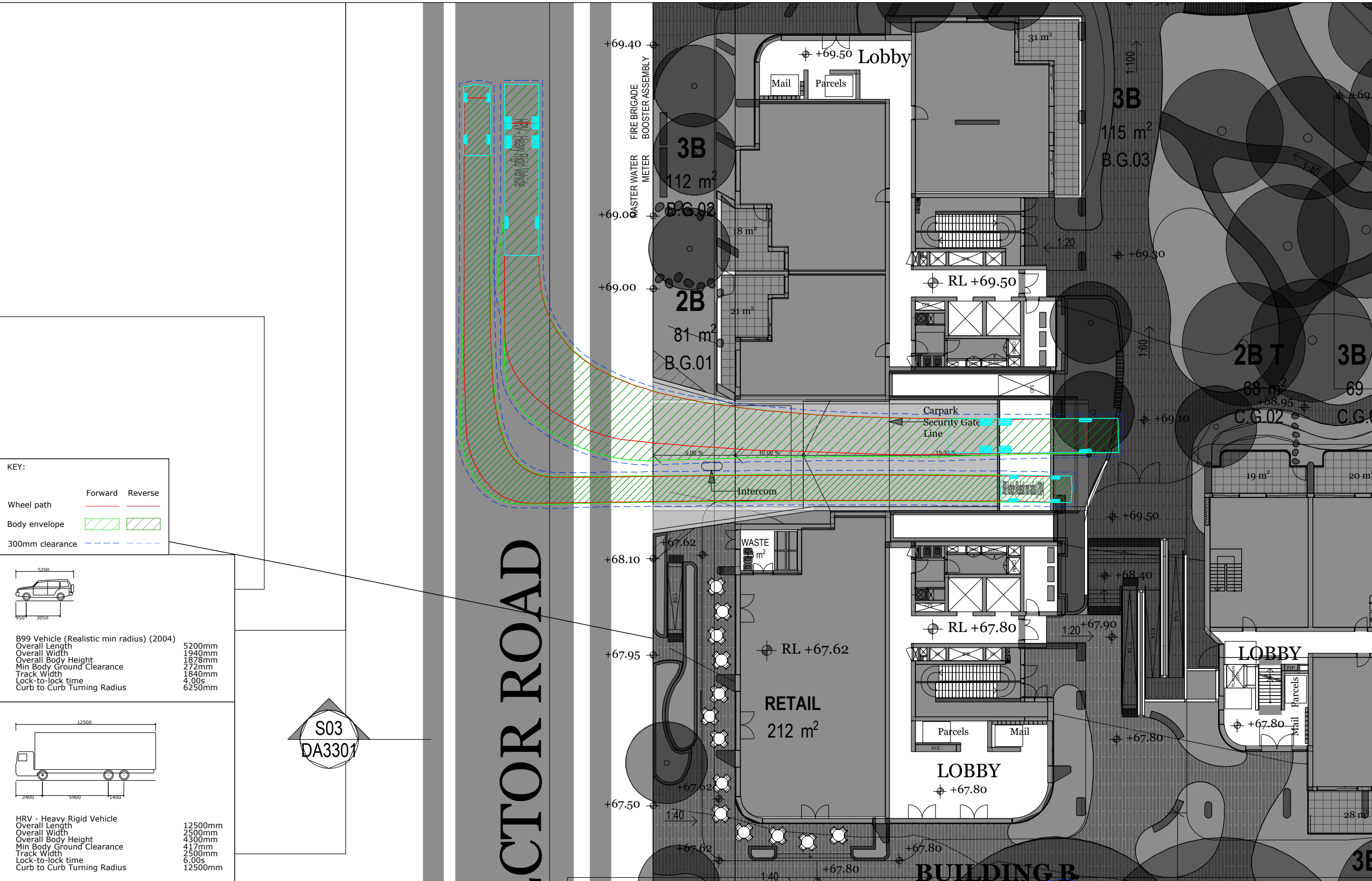
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Project Name 40 The Retreat, Bringelly, NSW 2556	Project Address 40 The Retreat, Bringelly, NSW 2556	Project Number 13317	Ground Level Plan 1:500@A1 27/05/2024
Client SCG	Drawing Number DA2003	Revision F	

Appendix C

Swept Path Assessment



KEY:

Wheel path	Forward	Reverse
Body envelope		
300mm clearance		

B99 Vehicle (Realistic min radius) (2004)

Overall Length	5200mm
Overall Width	1940mm
Overall Body Height	1878mm
Min Body Ground Clearance	272mm
Track Width	1840mm
Lock-to-lock time	4.00s
Curb to Curb Turning Radius	6250mm

HRV - Heavy Rigid Vehicle

Overall Length	12500mm
Overall Width	2500mm
Overall Body Height	4300mm
Min Body Ground Clearance	417mm
Track Width	2500mm
Lock-to-lock time	6.00s
Curb to Curb Turning Radius	12500mm

REV.	DESCRIPTION	DRAWN	CHECK	APP'D	DATE
A	ISSUE FOR DISCUSSION	HT	KH	KH	06/05/24

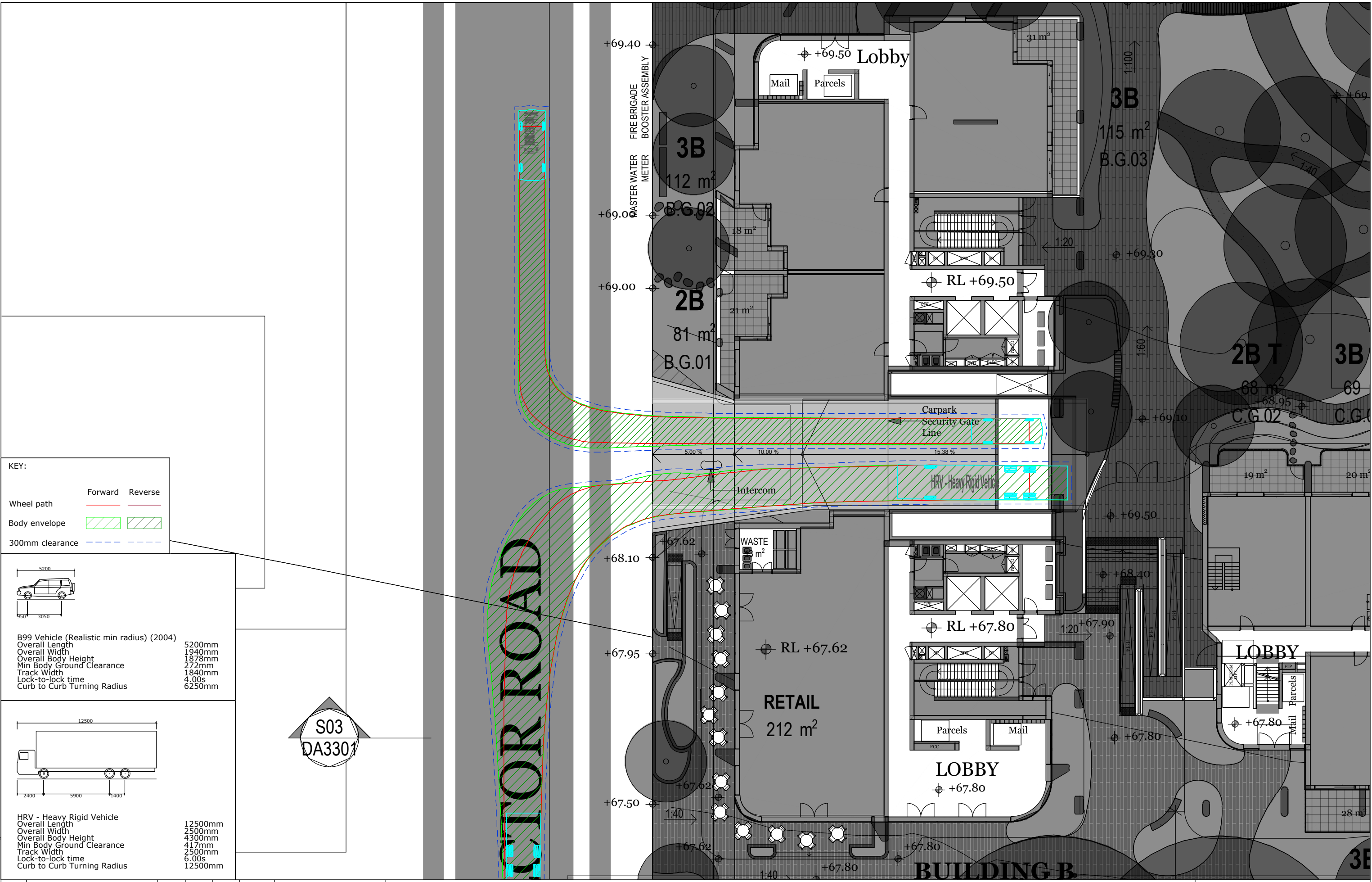


PROJECT: 40 THE RETREAT, BRINGELLY

TITLE: SWEPT PATH ANALYSIS - NORTHERN CAR PARK ENTRANCE
AS2890.1 5.2m B99 VEHICLE & AS2890.2 12.5m HEAVY RIGID VEHICLE

DWG No.	23129CAD011	
	FIGURE 7	
DATE STAMP	06 MAY 2024	
PROJECT No.	SCALE	REV.
23129	1:250 @A3	A

File name: 23129CAD011_240506 CAR PARK REVIEW.dwg Date: 06 MAY 2024



REV.	DESCRIPTION	DRAWN	CHECK	APP'D	DATE
A	ISSUE FOR DISCUSSION	HT	KH	KH	06/05/24

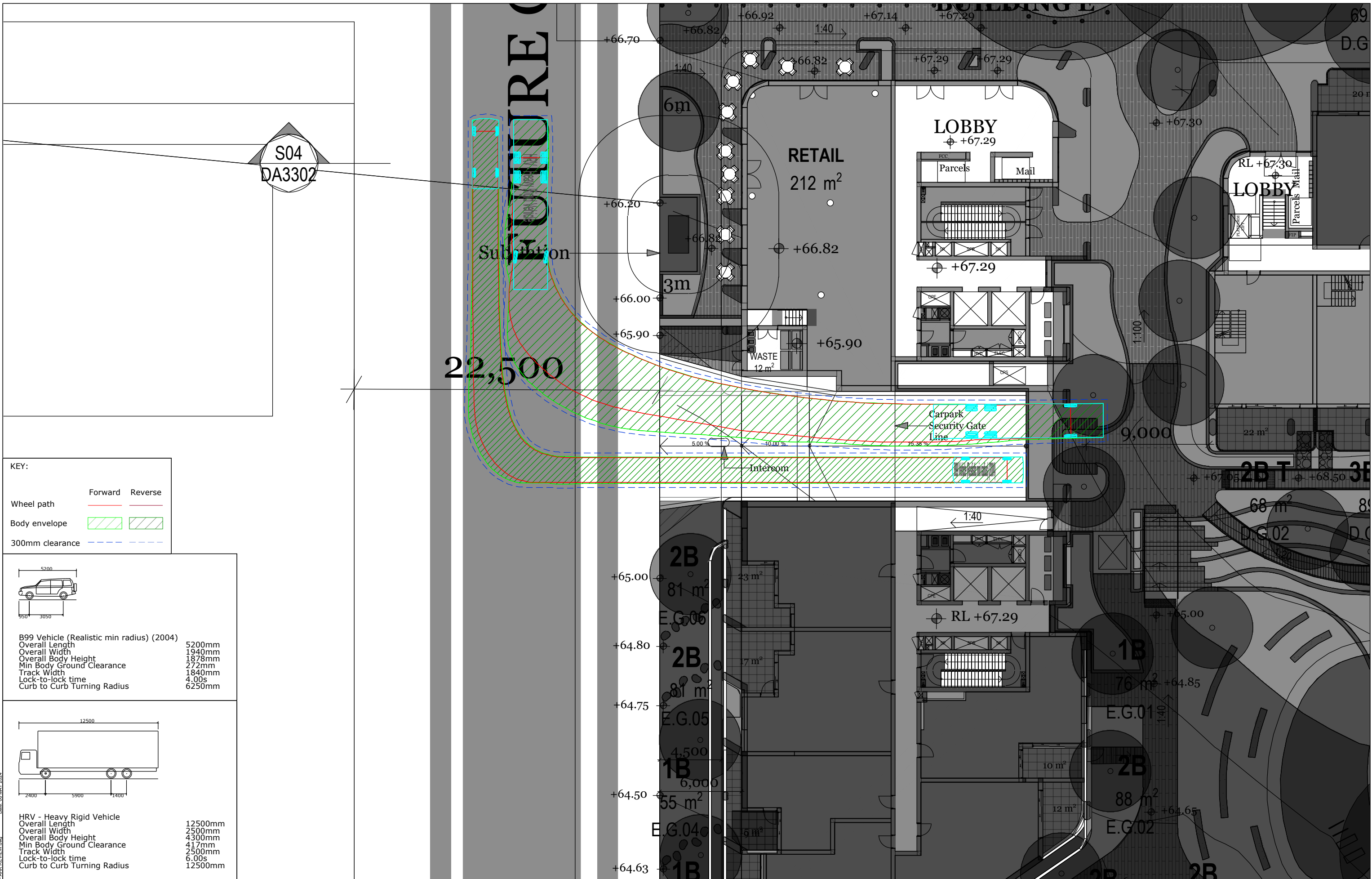


PROJECT: 40 THE RETREAT, BRINGELLY

TITLE: SWEPT PATH ANALYSIS - NORTHERN CAR PARK ENTRANCE
AS2890.1 5.2m B99 VEHICLE & AS2890.2 12.5m HEAVY RIGID VEHICLE

DWG No. 23129CAD011		REV. A
FIGURE 8		
DATE STAMP 06 MAY 2024		
PROJECT No. 23129	SCALE 1:250 @A3	REV. A

Filename: 23129CAD011_240506-CAR PARK REVIEW.dwg Date: 06 MAY 2024



KEY:

Wheel path	Forward	Reverse
Body envelope		
300mm clearance		

B99 Vehicle (Realistic min radius) (2004)

Overall Length	5200mm
Overall Width	1940mm
Overall Body Height	1878mm
Min Body Ground Clearance	272mm
Track Width	1840mm
Lock-to-lock time	4.00s
Curb to Curb Turning Radius	6250mm

HRV - Heavy Rigid Vehicle

Overall Length	12500mm
Overall Width	2500mm
Overall Body Height	4300mm
Min Body Ground Clearance	417mm
Track Width	2500mm
Lock-to-lock time	6.00s
Curb to Curb Turning Radius	12500mm

REV.	DESCRIPTION	DRAWN	CHECK	APP'D	DATE
A	ISSUE FOR DISCUSSION	HT	KH	KH	06/05/24

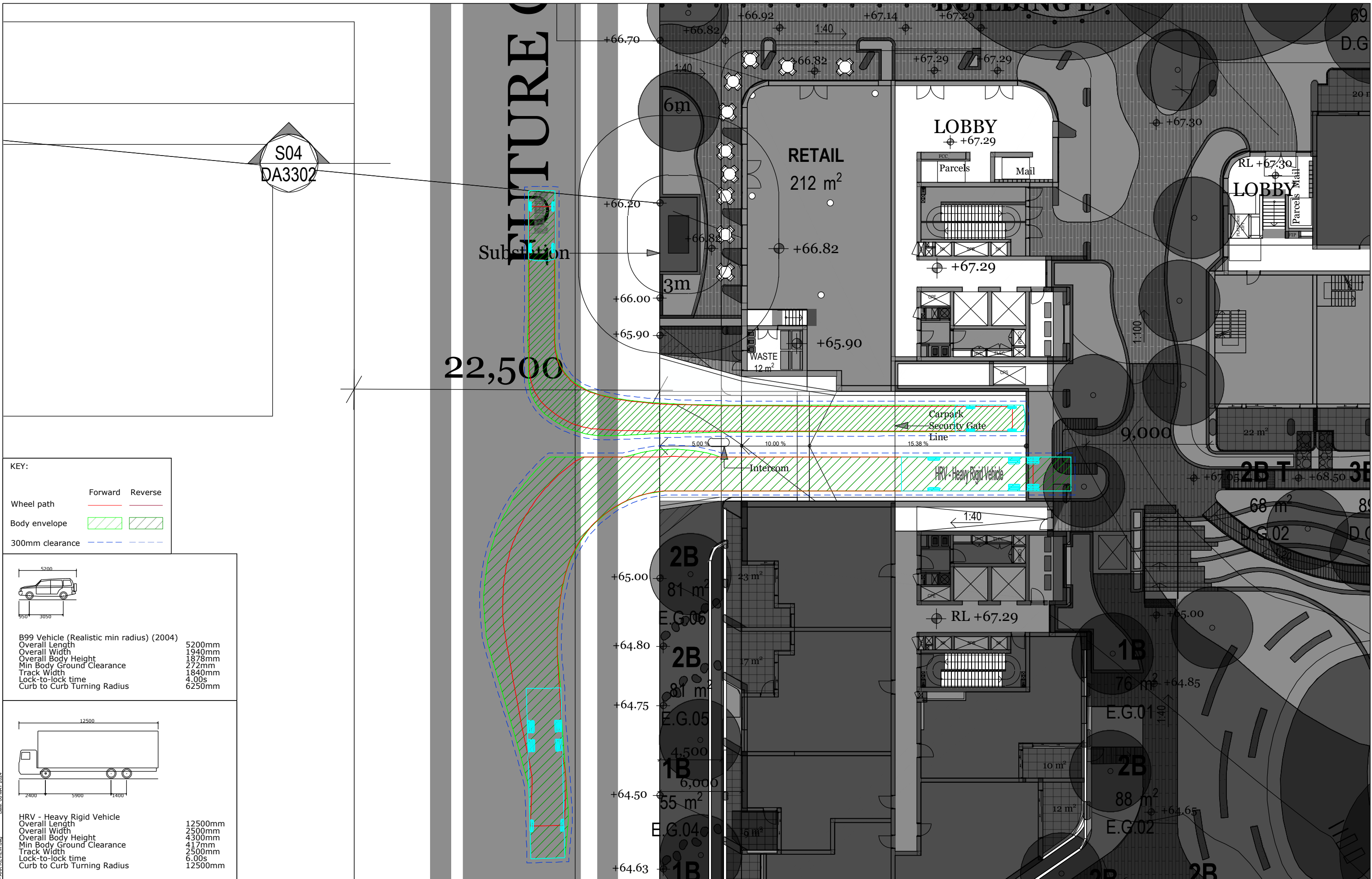


PROJECT: 40 THE RETREAT, BRINGELLY

TITLE: SWEPT PATH ANALYSIS - SOUTHERN CAR PARK ENTRANCE
AS2890.1 5.2m B99 VEHICLE & AS2890.2 12.5m HEAVY RIGID VEHICLE

DWG No.	23129CAD011		
	FIGURE 9		
DATE STAMP	06 MAY 2024		
PROJECT No.	SCALE	REV.	
23129	1:250 @A3	A	

Filename: 23129CAD011-240506-CAR PARK REVIEW.dwg Date: 06 MAY 2024



KEY:

Wheel path	Forward	Reverse
Body envelope		
300mm clearance		

B99 Vehicle (Realistic min radius) (2004)	
Overall Length	5200mm
Overall Width	1940mm
Overall Body Height	1878mm
Min Body Ground Clearance	272mm
Track Width	1840mm
Lock-to-lock time	4.00s
Curb to Curb Turning Radius	6250mm

HRV - Heavy Rigid Vehicle	
Overall Length	12500mm
Overall Width	2500mm
Overall Body Height	4300mm
Min Body Ground Clearance	417mm
Track Width	2500mm
Lock-to-lock time	6.00s
Curb to Curb Turning Radius	12500mm

REV.	DESCRIPTION	DRAWN	CHECK	APP'D	DATE
A	ISSUE FOR DISCUSSION	HT	KH	KH	06/05/24



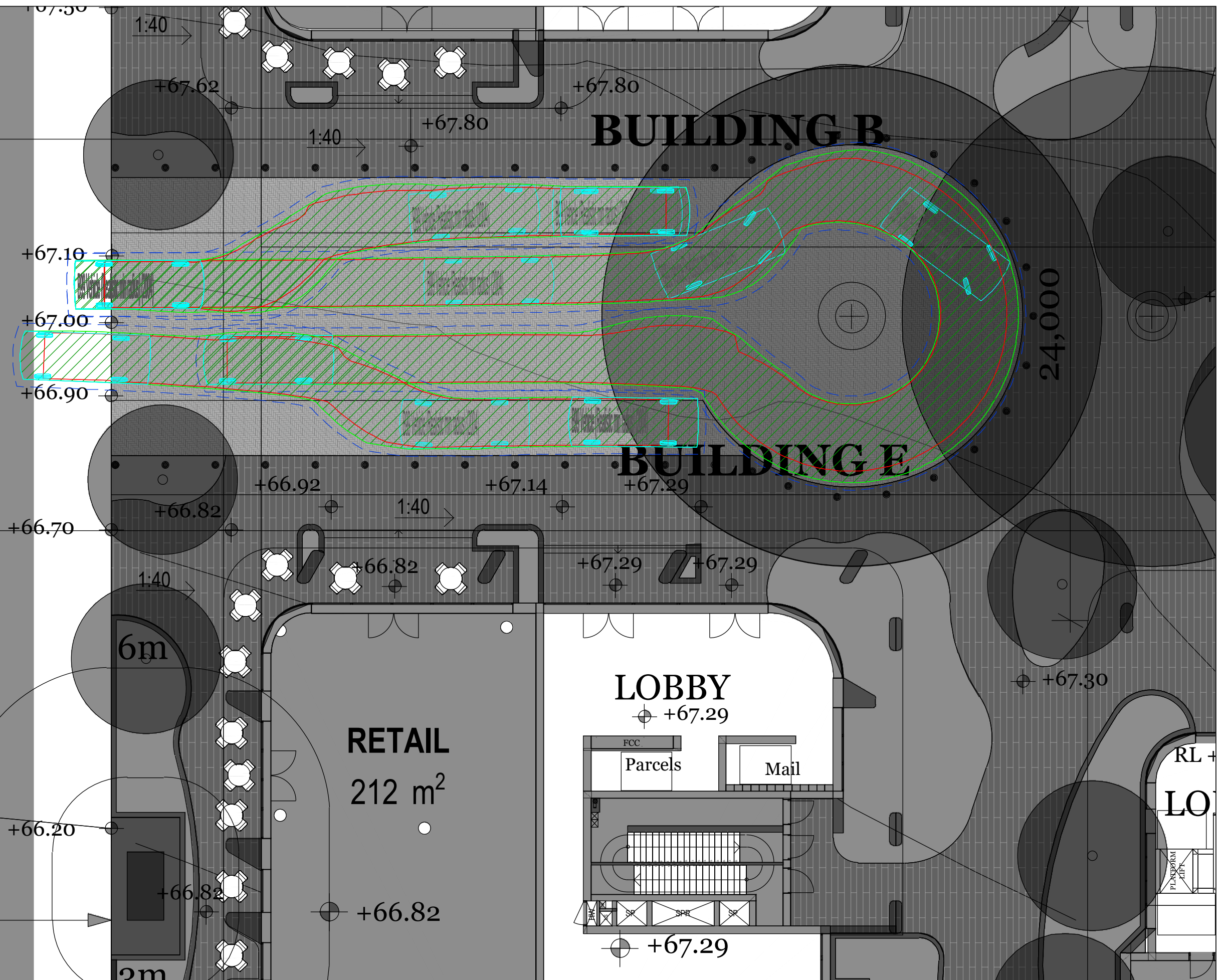
PROJECT: 40 THE RETREAT, BRINGELLY

TITLE: SWEEP PATH ANALYSIS - SOUTHERN CAR PARK ENTRANCE
AS2890.1 5.2m B99 VEHICLE & AS2890.2 12.5m HEAVY RIGID VEHICLE

DWG No.	23129CAD011		
	FIGURE 10		
DATE STAMP	06 MAY 2024		
PROJECT No.	SCALE	REV.	
23129	1:250 @A3	A	

Filename: 23129CAD011_240506-CAR PARK REVIEW.dwg Date: 06 MAY 2024

PARKING COLLECT



KEY:

Wheel path	Forward	Reverse
Body envelope		
300mm clearance		

B99 Vehicle (Realistic min radius) (2004)

Overall Length	5200mm
Overall Width	1940mm
Overall Body Height	1878mm
Min Body Ground Clearance	272mm
Track Width	1840mm
Lock-to-lock time	4.00s
Curb to Curb Turning Radius	6250mm

REV.	DESCRIPTION	DRAWN	CHECK	APP'D	DATE
A	ISSUE FOR DISCUSSION	HT	KH	KH	06/05/24



PROJECT: 40 THE RETREAT, BRINGELLY

TITLE: SWEPT PATH ANALYSIS - PORTE COCHERE AS2890.1 5.2m B99 VEHICLE

DWG No.	23129CAD011		
	FIGURE 11		
DATE STAMP	06 MAY 2024		
PROJECT No.	SCALE	REV.	
23129	Custom @A3	A	

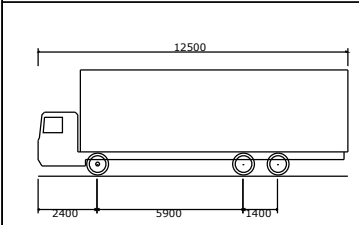
File name: 23129CAD011-240506-CAR PARK REVIEW.dwg Date: 06 MAY 2024

VEHICLE ENTERING

CTOR ROAD

VEHICLE EXITING

KEY:
 Wheel path Forward Reverse
 Body envelope
 300mm clearance



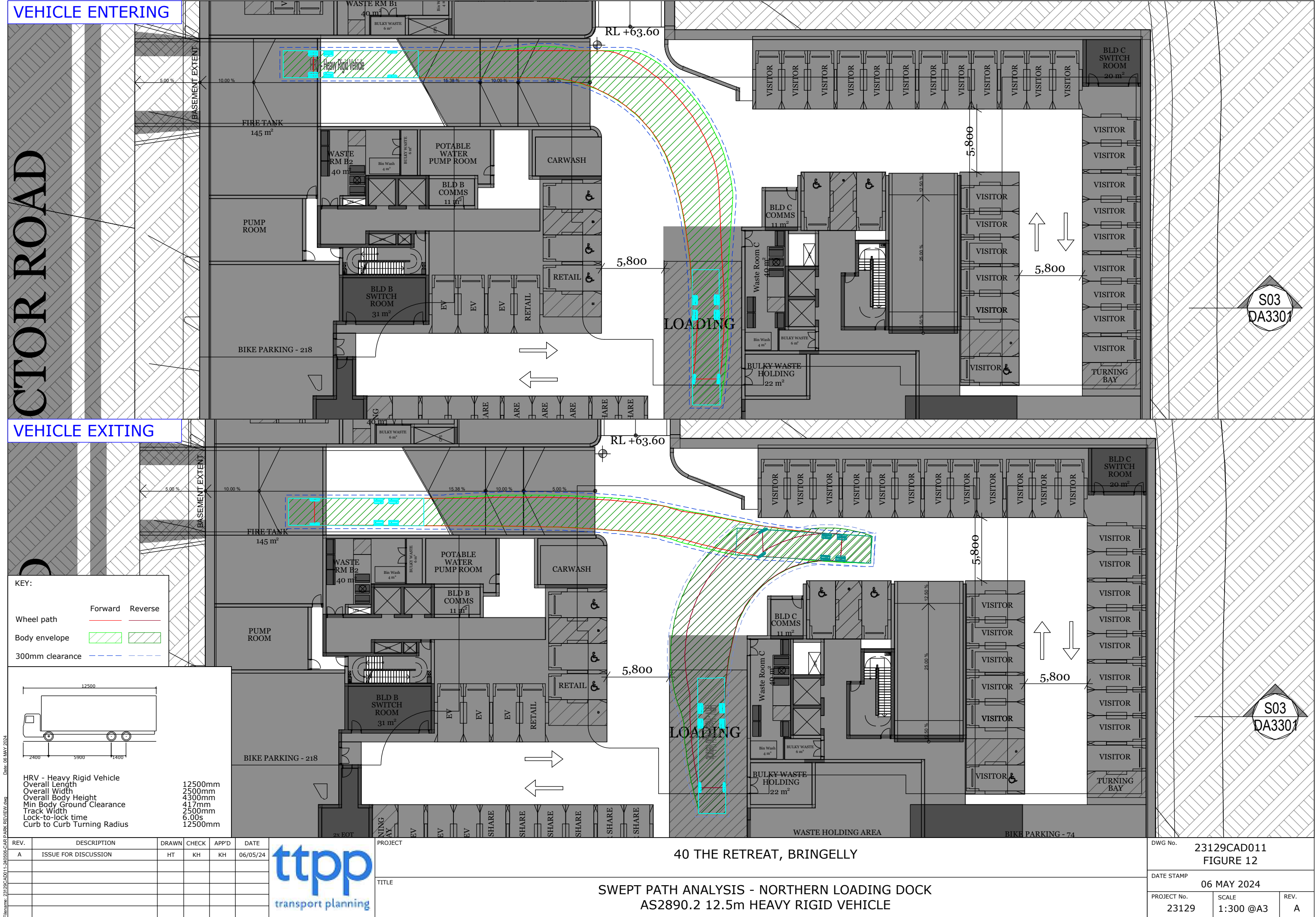
HRV - Heavy Rigid Vehicle
 Overall Length 12500mm
 Overall Width 2500mm
 Overall Body Height 4300mm
 Min Body Ground Clearance 417mm
 Track Width 2500mm
 Lock-to-lock time 6.00s
 Curb to Curb Turning Radius 12500mm

REV.	DESCRIPTION	DRAWN	CHECK	APP'D	DATE
A	ISSUE FOR DISCUSSION	HT	KH	KH	06/05/24



PROJECT: 40 THE RETREAT, BRINGELLY
 TITLE: SWEEP PATH ANALYSIS - NORTHERN LOADING DOCK
 AS2890.2 12.5m HEAVY RIGID VEHICLE

DWG No.	23129CAD011
	FIGURE 12
DATE STAMP	06 MAY 2024
PROJECT No.	23129
SCALE	1:300 @A3
REV.	A



VEHICLE ENTERING

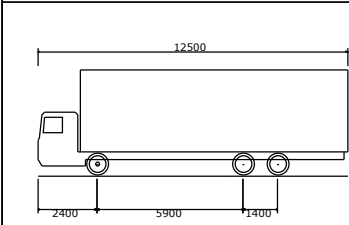
FUTURE

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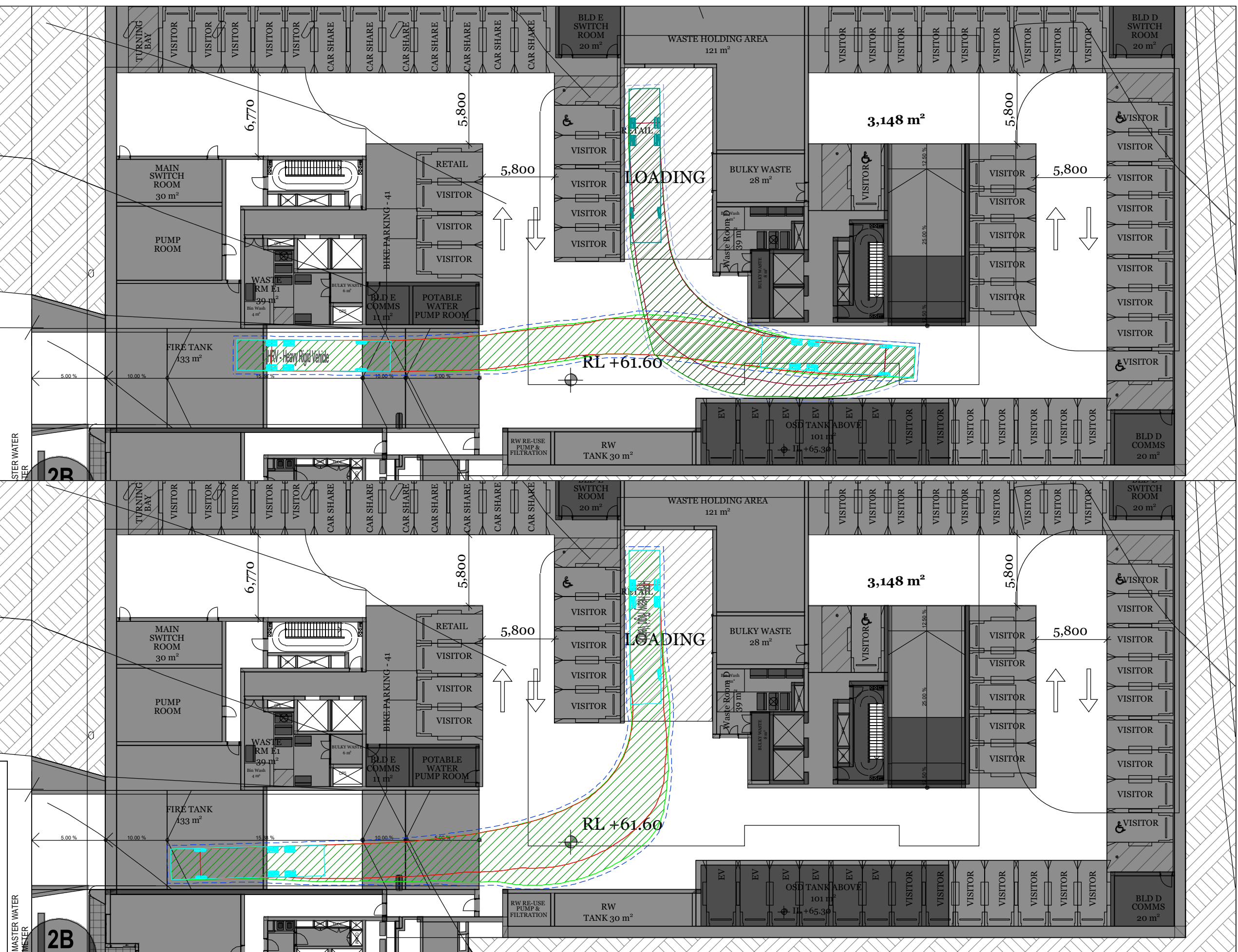
VEHICLE EXITING

FUTURE

- KEY:
- Wheel path — Forward — Reverse
 - Body envelope
 - 300mm clearance



HRV - Heavy Rigid Vehicle
 Overall Length 12500mm
 Overall Width 2500mm
 Overall Body Height 4300mm
 Min Body Ground Clearance 417mm
 Track Width 2500mm
 Lock-to-lock time 6.00s
 Curb to Curb Turning Radius 12500mm



Date: 06 MAY 2024
 File: 23129CAD011-240506-CAR PARK REVIEW.dwg

REV.	DESCRIPTION	DRAWN	CHECK	APP'D	DATE
A	ISSUE FOR DISCUSSION	HT	KH	KH	06/05/24



PROJECT: 40 THE RETREAT, BRINGELLY

TITLE: SWEEP PATH ANALYSIS - SOUTHERN LOADING DOCK
 AS2890.2 12.5m HEAVY RIGID VEHICLE

DWG No.	23129CAD011		
	FIGURE 13		
DATE STAMP	06 MAY 2024		
PROJECT No.	SCALE	REV.	
23129	1:300 @A3	A	

VEHICLE ENTERING

KEY:

- Vertical Clearance
- Driveway / Ramp Profile
- 50mm Clearance from Surface

HRV - Vertical Clearance
 Overall Length 12500mm
 Overall Width 2500mm
 Overall Body Height 4500mm
 Min Body Ground Clearance 150mm
 Track Width 2500mm
 Lock-to-lock time 6.00s
 Curb to Curb Turning Radius 12500mm



VEHICLE EXITING



Date: 06 MAY 2024
Filename: 23129CAD011-240506-CAR PARK REVIEW.dwg

REV.	DESCRIPTION	DRAWN	CHECK	APP'D	DATE
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PROJECT: 40 THE RETREAT, BRINGELLY

TITLE: VERTICAL CLEARANCE ASSESSMENT - NORTHERN DRIVEWAY
AS2890.2 12.5m HEAVY RIGID VEHICLE

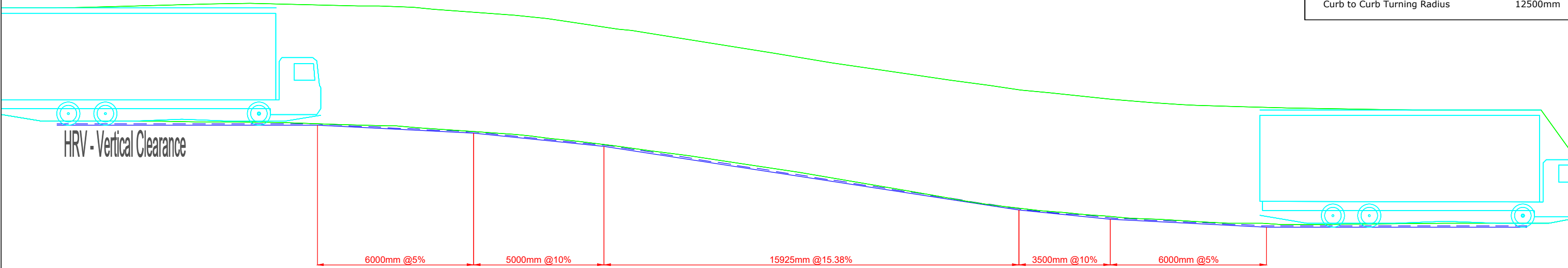
DWG No.	23129CAD011		
	FIGURE 14		
DATE STAMP	06 MAY 2024		
PROJECT No.	SCALE	REV.	
23129	1:150 @A3	A	

VEHICLE ENTERING

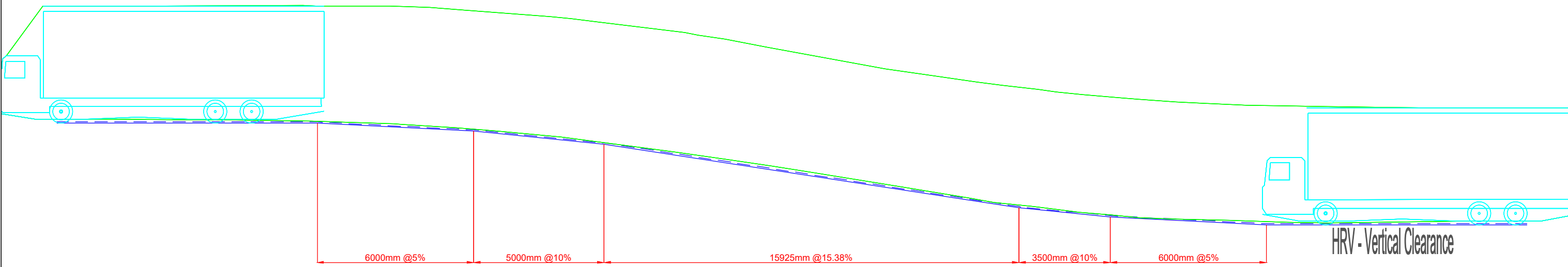
KEY:

- Vertical Clearance
- Driveway / Ramp Profile
- - - 50mm Clearance from Surface

HRV - Vertical Clearance 12500mm
 Overall Length 2500mm
 Overall Width 4500mm
 Overall Body Height 150mm
 Min Body Ground Clearance 2500mm
 Track Width 6.00s
 Lock-to-lock time 12500mm
 Curb to Curb Turning Radius



VEHICLE EXITING



Date: 06 MAY 2024
 File: 23129CAD011-240506-CAR PARK REVIEW.dwg

REV.	DESCRIPTION	DRAWN	CHECK	APP'D	DATE
A	ISSUE FOR DISCUSSION	HT	KH	KH	06/05/24



PROJECT: 40 THE RETREAT, BRINGELLY

TITLE: VERTICAL CLEARANCE ASSESSMENT - SOUTHERN DRIVEWAY
 AS2890.2 12.5m HEAVY RIGID VEHICLE

DWG No. 23129CAD011
 FIGURE 15

DATE STAMP: 06 MAY 2024

PROJECT No. 23129	SCALE 1:150 @A3	REV. A
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