

WASTE AND RECYCLING MANAGEMENT PLAN

1-7 ADLER CCT, YARRABILBA, QLD, 4207 – PROPOSED MIXED-USE DEVELOPMENT

For Radiance Spaces Pty Ltd

PLANS AND DOCUMENTS
referred to in the PDA
DEVELOPMENT APPROVAL

Approval no: DEV2023/1442

Date: 19 December 2024



ENGINEERS
MANAGERS
SCIENTISTS

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Revision	Date	Description	Author	Verifier/Approver
1.	07/08/2023	DRAFT	L. Godden	S. Sherrington
2.	17//08/2023	FINAL	L. Godden	S. Sherrington

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Division Manager - Environmental

1. INTRODUCTION

1.1 BACKGROUND

Lambert & Rehbein (SEQ) Pty Ltd (L+R) was commissioned by Radiance Spaces Pty Ltd (the Client) in June 2023 to prepare a Waste and Recycling Management Plan (WRMP) to support the proposed mixed-use development at Adler Cct, Yarrabilba, hereafter referred to as 'the Site'. This WRMP relates to the operational phase of the development and is based on the information and drawings supplied by bplanned and Red Dog Architects on behalf of the Client.

The proposed development will consist of a mixed-use facility consisting of residential, business space, food premises and health care services.

This WRMP has been developed and is structured in accordance to the planning requirements of the Logan City Council as specified in Logan City Councils Schedule 6 Planning Scheme Policy\SC6.2.9 Waste Management policy (LCC Schedule 6.2.9) and all council policy relevant to refuse and resource strategy.

1.2 SITE LOCATION

The site is located at 1-7 Adler Circuit, Yarrabilba as shown in **Figure 1: Site Location Plan**. The site is bound by Yarrabilba Drive to the north, Wongawallan Drive to the East, Alder Circuit to the South and to the west of the site is Lot 11 SP296372 which was vacant as of April 2023 (nearmap, 2023). The site has an approximate combined total area of 3,950m².

Within the general site surrounds is a mix of commercial and industrial precincts and residential blocks, along with standard infrastructure to suit.

1.3 SCOPE OF WORKS

This WRMP contains information regarding waste generation, disposal, storage, transfer, and collection for each use area within the development. Operational and design requirements are also provided based on the aforementioned waste areas.

The scope of works provided in this report are listed below.

- Identification of waste streams and anticipated waste volumes to be produced.
- Recommendations for waste disposal within the development
- Analysis of waste storage facilities
- Assessment of waste transfer between storage and collection areas
- Assessment of waste collection vehicle (RCV) access and manoeuvring
- Identification of recommended and optional waste management systems and equipment
- Recommendations for operational efficiency and ongoing management, including waste minimalization, tenant education, and tenant safety.
- Recommendations for design of waste management facilities

Detailed information concerning waste calculations, site plans and drawings, recommended waste management equipment and system specifications, and common waste signage are provided in the Appendices.

The recommendations in this report relate solely to the operational phase of the development. The requirements for waste management during demolition or construction are not included and require a separate report.

1.4 OBJECTIVES

This WRMP satisfies the requirements of LCC Schedule 6.2.9 by providing the following information:

- A brief statement identifying site locations and development description.
- The type and quantity of waste material that will be generated during the occupancy of the proposed development.
 - An estimate of weekly volumes of waste material generated (in accordance with applicable table – see Section 2.1) – broken up into commingled recycling and general waste.
- Refuse collection, storage, transfer and disposal arrangements during occupancy of the completed development; and
 - The location and design of any bin storage areas
 - The bin type, bin size, and number of bins for the development
 - The location and design of bin collection points
 - Manoeuvring, access, and pavement details for a garbage truck to service the bins.
 - The number of collections per week
- Recommended requirements for the operational phase of the development and design requirements for the building and refuse management facilities.

2. WASTE MANAGEMENT

This section provides information regarding the generation, disposal, transfer, storage, and collection of waste within the development. This includes bin quantities, storage capacities, equipment details, collection frequencies and site access details.

2.1 WASTE GENERATION

The proposed development is comprised of two residential levels (level 2 & 3) with a total of twenty-four dwellings (twelve per floor). Below is one multipurpose Business level (level 1) and a ground level consisting of healthcare services, food premises and parking. The development will also include a basement level for carparking.

Table 1 outlines the projected generation volumes of typical domestic waste and commingled recycling per apartment, as well as the required service capacity allowance for the overall residential aspect of the development. It is anticipated that any green waste will be limited to indoor house plants and will be disposed of by residents into the general waste bin as required.

Table 1: Residential Waste Generation Allowances

DESCRIPTION	NO. OF BEDROOMS	QUANTITY	GENERATION RATE (GENERAL WASTE)	GENERATION RATE (RECYCLING)	GENERAL WASTE (L/WEEK)	RECYCLING (L/WEEK)
Residential Apartments	2 to 3 Bedrooms	24	240L/Week	120L/Week	5,760	2,880

Rates of generation have been calculated having regard to Logan City Council's Waste Collection Services Procedure, with detailed calculations outlined in Appendix A.

Table 2 outlines the projected generation volumes of general waste and commingled recycling for the business, healthcare services and food premises section of the development. It is anticipated that any green waste generated in this section of the development will be removed from the premises by the contracted landscaper and therefore has not been included in these projections. Waste generation rates have been adapted from the Refuse Requirements for Development in Brisbane Factsheet, with detailed calculations outlined in Appendix A.

Table 2: Waste Generation Rates

TYPE	MEASURE	GENERAL WASTE	COMMINGLED RECYCLING
Commercial			
Healthcare Services	L / 100m ² / Day	10L	20L
Commercial			
Food Premises	L / 150m ² / Day	660L	200L
Commercial			
Business	L/100m ² /Day	10L	20L

The Queensland State Government has introduced a levy on commercial wastes sent to landfill to reduce waste going to landfills, encourage waste avoidance, provide a source of funding to enable better resource recovery practices, provide certainty and security of feedstocks for advanced technology, and facilitate industry investment in resource recovery infrastructure.

It is generally applied per tonne of waste and will be passed on by waste collection contractors to customers based on an assumed volume per bin. The cost of the levy in 2023/2024 will be \$105 per tonne, and it will increase by \$10 per tonne each year thereafter. The cost changes on a financial year calendar (July 1st).

This cost will be on top of normal waste collection costs charged by waste collection contractors.

The utilisation of recycling schemes and composting should be promoted within the development to assist in reducing the generation of waste. Promotion may include educational signs near disposal points, a communal composting bin, or storage for residents to store containers which qualify for recycling schemes.

2.2 WASTE DISPOSAL

This section summarises the recommended disposal arrangements for both frequently and infrequently generated waste streams for each use within the development.

2.2.1 FREQUENTLY GENERATED WASTE

Frequently generated waste is refuse generated in high volumes which require considerable capacity for storage between collection events. This waste will require regular servicing and collection. Error! Not a valid bookmark self-reference.**3** provides an overview of the recommended disposal arrangements for frequently generated waste.

Table 3: Disposal of Frequently Generated Waste (Residential)

WASTE STREAM	DISPOSAL DETAILS
WASTE	
General Waste	Bins should always be lined with bags tied before removal. Bags containing general waste should not exceed 3kg. General waste bins should be accompanied by a commingled recycling bin to facilitate the separation of general waste and recycling. Apartments Residents will have bins within their individual apartments for the collection and storage of at least one day of general waste. Bins are typically placed under the sink; however, additional bins can be placed in other areas as required. Residents will dispose of their waste on the ground level in the designated area for the residential bulk bins. Communal Areas General waste generated in communal areas may include food waste, food packaging, and drink containers. General waste bins capable of storing at least one day of waste should be located within the respective areas. Additional bins may be provided for special events. Small bins may be placed throughout the carpark levels.
Organic (food) waste – Optional	The separation of organic or food waste from general waste is encouraged to reduce the total amount of general waste produced. Composting etc. could be arranged with building management. Refer to Appendix E.4 for options.

WASTE STREAM	DISPOSAL DETAILS
RECYCLING	
Includes: ▪ Glass; ▪ Aluminium; ▪ Steel cans; ▪ Tins; ▪ Paper; ▪ Small cardboard; and ▪ Semi-rigid plastics.	Recyclable materials must not be bagged, and each item must be disposed of in loose form. Apartments Residents will have bins within their individual apartments for the collection and storage of at least one day of recycling. Recycling bins are typically placed under the sink next to the general waste bin. Additional recycling bins can be placed in other areas as required. Residents will dispose of their recyclables via the bulk bins located in the designated residential bulk bin storage area on ground level. Recycling bins will typically be used for all recyclable materials; however, residents are encouraged to take advantage of container refund schemes and separate eligible containers from the commingled recycling material. Communal Areas Recycling from communal areas may include recyclable and clean drink containers, food packaging, paper and cardboard. Recycling bins should be located next to general waste bins in these areas. Extra bins may be provided for special events. It is not intended to provide recycling bins in the car park areas.

Table 4: Disposal of Frequently generated waste (Commercial)

WASTE STREAM	DISPOSAL DETAILS
WASTE	
General Waste	Bins should always be lined with bags tied before removal. Bags containing general waste should not exceed 3kg and should not exceed the dimensions of the waste receptacles. General waste bins should be accompanied by a commingled recycling bin to facilitate the separation of general waste and recycling. Commercial Business, Healthcare and food premise tenants will have bins within each space for individual use for the business. Bins are typically placed throughout the building as required. Staff will dispose of their waste on the ground level in the designated area for the commercial bulk bins. Communal Areas General waste generated in communal areas may include food waste, food packaging, and drink containers. General waste bins capable of storing at least one day of waste should be located within the respective areas. Additional bins may be provided for special events. Small bins may be placed throughout the terrace areas and basement levels to be transferred to bulk bins by appropriate staff members as required.
RECYCLING	
Includes: ▪ Glass; ▪ Aluminium; ▪ Steel cans; ▪ Tins; ▪ Paper;	Recyclable materials must not be bagged, and each item must be disposed of in loose form. Commercial Business, Healthcare and food premise tenants should have a recycling bin for comingled recycling placed next to the general waste bin. Bins are to be placed throughout the building as required. Business, Healthcare and food premise tenants will dispose of their recycling on the ground level in the designated area for the commercial bulk bins.

WASTE STREAM	DISPOSAL DETAILS
- Small cardboard; and - Semi-rigid plastics.	Recycling bins will typically be used for all recyclable materials; however, businesses are encouraged to take advantage of container refund schemes and separate eligible containers from the commingled recycling material. Communal Areas Recycling from communal areas may include recyclable and clean drink containers, food packaging, paper and cardboard. Recycling bins should be located next to general waste bins in these areas. Extra bins may be provided for special events. Small bins may be placed throughout the terrace for customers and general public.

2.2.2 INFREQUENTLY GENERATED WASTE

Infrequently generated waste is refuse generated in low volumes which require minimal storage and irregular service and collection. Error! Not a valid bookmark self-reference.4 provides an overview of the recommended disposal arrangements for infrequently generated waste.

Table 5: Disposal of Infrequently Generated Waste

WASTE STREAM	DISPOSAL DETAILS
Green Waste	Excluding potted plants, no additional green waste is expected to be generated by a development of this type. The designated maintenance contractor typically removes green waste upon completion of any landscaping works. If feasible and locally available, the contractor is to send green material to a composting or resource facility rather than a landfill.
Hard Waste / Bulky Goods	Hard waste / bulky goods will be collected on designated days during the year. Further information can be found on LCC's website. Residents must coordinate all bulky goods movement and storage with building management. It is prohibited for residents to stack or pile bulky goods on footpaths, driveways, or in carparks.
Electronic Waste and Hazardous Waste (i.e. paints, batteries, and cartridges)	Where applicable, residents typically make their own arrangements for the disposal of electronic or hazardous waste. Further information can be found on LCC and state government websites regarding disposal options. It is expected that building management will assist with the disposal of hazardous, electronic, or liquid waste as required and requested. Hazardous waste must be handled with due care, separated, and securely stored for collection by a specialist waste contractor. Refer to LCC and state government websites for further information.

2.3 WASTE TRANSFER

Residents will transfer all general waste and commingled recycling to the appropriate refuse bin (General Waste and/or Recycling) which will be located on the ground level in the designated residential bulk bin storage area. It should be noted that because the bins are located on the ground level of the car park, the storage area must be secure and blocked off from the general public as only residents and building management are allowed to access the refuse storage area/bins.

The 2,489.3m² commercial aspect of the development will transfer their general waste and commingled recycling to bins kept in appropriate places in their respective buildings. These bin sizes are yet to be determined and are of the discretion of the business owner. Smaller bins capable of holding 1 bag worth of rubbish each are recommended. These bins are to be for temporary storage and not included in the

collection events. Examples can be found in **Appendix E.1**. The general waste and commingled recycling will then be transferred to the designated commercial refuse storage bulk bins at appropriate intervals and prior to each collection event.

LCC or nominated contractors will collect and service the bins directly from the residential and commercial refuse storage areas.

2.4 WASTE STORAGE

The residential aspect of the development will require 3 x 1,100L general waste bins and 3 x 1,100L commingled recycling bins stored within the refuse storage area located on the ground level floor.

The commercial aspect of the development will require 3 x 1,100L general waste bin and 5 x 1,100L commingled recycling bins within the commercial refuse storage area also located on the ground level.

Commercial and residential bins cannot be interchanged and must be stored separately with separate access to each. Business, Healthcare and food premise tenants cannot have access to residential waste and recycling storage areas or bins as per LCC's SC6.2.6 Waste Management policy.

Residential and commercial refuse storage areas will be distanced from any potential heat sources and will be located in an area which does not impede the movement of pedestrians and / or vehicles. Design and operation of the waste storage and collection system will not have unreasonable acoustic, odour, hygiene, or visual impacts on the development, surrounding properties or the streetscape.

All commercial and residential bulk bins must be stored in easily accessible enclosures. The refuse areas for this development are adequately sized to store and manoeuvre all appropriate bins.

Bin washing facilities will be provided within both residential and commercial refuse storage areas. Any associated equipment will be stored so not to impede on the safety of residents, tenants or employees when utilising these areas. Space can be allocated for bulky goods / hard waste, which is to be coordinated with the building manager.

2.5 WASTE COLLECTION

Waste collection will be undertaken by LCC, or a nominated contractor. Collection activities will not interfere with pedestrian or resident pathways within and around the development.

2.5.1 BIN QUANTITIES

Table 5 outlines the types / sizes and the number of bins to be collected per collection event. As waste volumes may vary according to the occupants' waste and recycling practices, bin numbers may need to be altered following the commencement of building operations. This table indicates the maximum number of bins in correlation with collection frequencies detailed in section 2.5.2.

Table 6: Bins per Collection

SECTION	WASTE STREAM	BIN EQUIPMENT (TYPE OR SIZE)	NUMBER OF BINS PER COLLECTION
Residential	General Waste	1,100L	3
	Comingled Recycling	1,100L	3
Commercial	General Waste	1,100L	3

SECTION	WASTE STREAM	BIN EQUIPMENT (TYPE OR SIZE)	NUMBER OF BINS PER COLLECTION
	Comingled Recycling	1,100L	5

2.5.2 COLLECTION FREQUENCIES

The vehicle and estimated collection frequencies/site entries required to service the residential aspect of the development are based on two collections per week for general waste and one collection per week for recycling. The commercial aspect of the development will require seven collections per week for general waste and two collections per week for recycling. Logan City Council will offer one collection per week for commingled recycling therefore the second collection may be serviced privately or building management is to negotiate with LCC if a second collection can be arranged.

The waste to be collected from the residential portion of the site is detailed as domestic refuse and will be completed by a Rear Loading Collection Vehicle (RLCV), which is 10.24m in length, 2.5m in width, and 3.6m in both operational and travel height. Refuse rooms should be of sufficient size for storage and collection in accordance with LCC requirements. The building manager will consult with LCC to finalise service days and frequency prior to the time of occupancy.

The estimated collection frequency requirements are outlined in **Table 6**.

Table 7: Estimated Collection Requirements

WASTE STREAM		RECOMMENDED COLLECTION DAYS							COLLECTIONS PER WEEK
		DAY 1	DAY 2	DAY 3	DAY 4	DAY 5	DAY 6	DAY 7	
Residential									
General Waste	Collection day	X			X				2
	Vehicle type	RLCV			RLCV				
Commingled Recycling	Collection day	X							1
	Vehicle type	RLCV							
Commercial									
General Waste	Collection Day	X	X	X	X	x	X	X	7
	Vehicle Type	RLCV	RLCV	RLCV	RLCV	RLCV	RLCV	RLCV	
Commingled Recycling	Collection Day	X			X				2
	Vehicle type	RLCV			RLCV				

2.5.3 COLLECTION POINTS

All bins will be serviced directly from the residential and commercial refuse storage areas.

2.5.4 SERVICING ACCESS

The RLCV will enter the development from Alder Circuit in a forward direction. Once the servicing is complete, the RLCV will exit the carpark in forward gear onto Alder Circuit. Therefore, no reversing or turning will be required.

Further details on RCV access and on-site manoeuvring can be found in the project traffic report.

3. OPERATIONAL REQUIREMENTS

3.1 OPERATIONAL EQUIPMENT SUMMARY

Equipment required / suitable for use as part of the operational phase of the development is outlined in **Table 7**. Lists of equipment that may be utilised in the operational phase of the development can be found in **Appendix E: Systems and Specifications**

Table 8: Equipment Schedule

SECTION	DESCRIPTION	QUANTITY	NOTES
Residential	General Waste Bins	3	1,100L Bins – Appendix E.1
	Recycling Bins	3	1,100L Bins – Appendix E.1
Commercial	General Waste Bins	3	1,100L Bins – Appendix E.1
	Localised General Waste Bins	TBC	Not for Collection - Examples in Appendix E.1
	Recycling Bins	5	1,100L Bins – Appendix E.1
	Localised Recycling Bins	TBC	Not for Collection - Examples in Appendix E.1

4. LIMITATIONS

L+R has prepared this report for the use of *Radiance Spaces Pty Ltd* in accordance with the usual care and thoroughness of the consulting profession. It is based on current practices and professional standards at the time of the report. Opinions and judgements expressed, herein, which are based on our understanding and interpretation of current regulatory standards, should not be construed as legal opinions. This report may not be relied upon by any other party, with the exception of the appropriate regulatory authority, without the explicit written agreement of L+R. No other warranty, expressed or implied, is made as to the professional advice included in this report.

The scope of work undertaken, and sources of information used by L+R in this report, were limited to that detailed in communications with *Radiance Spaces Pty Ltd*. L+R has made no independent verification of this information beyond the agreed scope of works and L+R assumes no responsibility for any inaccuracies or omissions. No indications were found during our works that information contained in this report as provided to L+R was false.

This report was prepared in June 2023 and is based on the conditions encountered and information reviewed at the time of preparations. L+R disclaims responsibility for any changes that may have occurred after this time. We do not assume any liability for misinterpretation or items not visible, accessible or present at the subject site during the time of works.

This report should be read in full. No responsibility is accepted for use of any part of this report in any other context or for any other purpose or by third parties. This report does not purport to give legal advice. Legal advice can only be given by qualified legal practitioners.

This report contains information obtained by review of documentation and drawings provided by *Radiance Spaces Pty Ltd*.

Where conditions encountered at the site are subsequently found to differ significantly from those anticipated in this report, L+R must be notified of any such findings and be provided with an opportunity to review the recommendations of this report.

Whilst to the best of our knowledge information contained in this report is accurate at the date of issue. Therefore, this document and the information contained herein should only be regarded as valid at the time of the review unless otherwise explicitly stated in this report.

FIGURES

FIGURE 1: SITE LOCATION PLAN



Legend
Lot 10 SP296372



Project
Waste & Recycling Management Plan
1-7 Alder Cct, Yarrabilba, QLD

Client: Radiant Spaces Pty Ltd
Title: Site Location Plan

Drawn L.G
Checked B.E
Approved S.S



ENGINEERS
MANAGERS
SCIENTISTS

1	03/07/2023
REV	DATE

Figure No:	AS SHOWN
Figure 1	
Scale:	NTS
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APPENDICES

APPENDIX A: DETAILED WASTE CALCULATIONS

The calculation of residential waste produced from the site is based on rates within the LCC's Waste Collection Services Procedure. The calculation of commercial waste produced from the site has been adapted from the Brisbane City Council refuse generation rates and has been used as a guide for commercial refuse storage space allocation.

Table 9: Waste Generation Rates

TYPE	MEASURE	GENERAL WASTE	COMMINGLED RECYCLING
Residential			
All apartments	L / Unit / Week	240L	120L
Commercial			
Medical Precinct (dental, doctor etc)	L / 100m2 / Day	10L	20L
Commercial			
Food Premises	L / 100m2 / Day	660L	200L
Commercial			
Office	L/100m2/Day	10L	20L

Table 10: Residential Waste Calculations

DESCRIPTION		MEASURE	QUANTITY	GENERAL WASTE (L / WEEK)	COMMINGLED RECYCLING (L / WEEK)
2 Bedrooms	Res. Apartments	No.	22	5,280	2,640
3 Bedrooms	Res. Apartments	No.	2	480	240
Total			24	5,760	2,880
Volumes per Day (L / Day)				823	412
Volumes per Collection (L / Collection)				2,880	2,880
Collection and Equipment Details		Collections Per Week		2	1
		Equipment Size		1,100L	1,100L
		Equipment Quantity Required		3 x 1,100L bins	3 x 1,100L bins

Table 11: Commercial Waste Calculations

Description	Measure	Quantity	General Waste (L / Week)	Commingled Recycling (L / Week)
Business	Floor area (m ²)	1,332.7m ²	932.89	1,865.78
Food Premises	Floor area (m ²)	390.1m ²	1,8022.62	5,461.4
Healthcare Services	Floor area (m2)	766.5m ²	536.55	1073.1
Total Volumes per Day (L / Day)			2,784.58	1,200.04
Total Volumes per Collection (L / Collection)			2,784.58	4,200.14
Collection and Equipment Details	Collections Per Week		7	2*
	Equipment Size		1,100L	1,100L
	Equipment Quantity Required		3 x 1,100L bin	5 x 1,100L bin

* Logan City Council will only service the collection of commingled recycling bulk bins once per week, therefore one (1) of the two (2) collections will have to be serviced by a private contractor or negotiated with Logan City Council. See **Section 2.5.2**.

APPENDIX B: RECOMMENDED DESIGN REQUIREMENTS

This section outlines good practice and recommended design requirements for the building and waste management facilities. These recommendations should be considered for optimal waste management within the development, and to comply with relevant regulations and Logan City Council requirements.

B.1 SERVICING POINT

The RCV will stand within a servicing area on-site for servicing. It is recommended that the bin service point:

- Has sufficient access and clearance for waste and recycling collection vehicles to service the bins, including no overhead obstructions;
- Is positioned in an area which does not interfere or interrupt traffic flow during servicing;
- Is clearly separated from car parking bays, footpaths, and pedestrian access;
- Is of sufficient size to accommodate the bins;
- Lacks stairs, lips, or ramps to allow easy manoeuvring of bins;
- Does not block the entry and / or exit to the property;
- Is clear of speed control devices;
- Is not adjacent to a food preparation, food storage, or eating area;
- Is over 5m from any door, window, or fresh air intake within the development or any adjoining site;
- Is screened sufficiently to minimise the view of bins from neighbouring properties and external vehicle / pedestrian traffic; and
- Is positioned a sufficient distance from entrances to shops or residential premises.

If bins are to be serviced from a public roadway, it is recommended that:

- Bins are positioned on a level pad within the site, with the entire pad no more than 5m from the property boundary and 15m from the crossover. The bin is to be level with the kerbside and adjacent to a driveway or other approved crossover on the public roadway; and
- The bin service point is to be connected to the crossover by a paved path to allow bins to be manoeuvred for servicing without the need to lift bins over raised surfaces (i.e., pram ramps).

B.2 BIN STORAGE ROOM

The waste room will have the following features to minimise odours, deter vermin, protect surrounding areas, and ensure the room is a user-friendly and safe area:

- Be insect and vermin proof;
- Fire rated and ventilated in accordance with the National Construction Code – Building Code of Australia;
- Doors must be wide enough to allow the removal of the largest stored container;
- Walls, ceilings, floors, and equipment are to be designed and constructed of impervious material with a smooth finish to allow for easy cleaning;

- Floors must be graded to fall to a drainage point, with drainage points connected to sewer in accordance with trade waste requirements;
- A hose cock must be provided inside of the room for cleaning bins and the surrounding areas;
- Adequate artificial lighting;
- Not located adjacent or within any habitable portion of a building or place used in connection with food preparation or storage;
- Permit unobstructed access for removal of the containers to the service point and for positioning the containers correctly in relation to the chutes;
- Will be attractively designed to minimise their visual impact on the surrounding areas;
- Be void of any lips and steps;
- Be enclosed on all sides except for the gated entrance to ensure bins are not visible from a public place, neighbouring properties and external vehicle / pedestrian traffic;
- Is of adequate size to accommodate the bins with sufficient clearance around the combined bin area;
- Is positioned away from entrances to shops or residential premises; and
- Is of sufficient height to allow for waste bins to be opened and closed.

B.3 BIN WASH

A bin wash down facility will be provided within one of the refuse storage rooms. It will have the following features:

- Constructed handstand with solid concrete base;
- Roofed and designed to prevent rainwater entry;
- Graded to fall to a drainage point that is connected to sewer in accordance with trade waste requirements;
- Provided with a hose cock for cleaning;
- Is in a purpose-built storage area which is air-locked, fly and vermin proofed, and used solely for the storage of waste; and
- Is in a well-ventilated portion of the basement and not within 10 m of the opening to a food premises or food handling area.

B.6 STORMWATER POLLUTION PREVENTION AND LITTER REDUCTION

Designated staff / cleaners are responsible for on-site stormwater pollution and litter reduction. To limit the impact on the environment and site, the following measures should be taken into account:

- Provide adequate signage to promote litter control;
- Provide sufficient waste bins in appropriate areas;
- Prevent unauthorised access to waste areas;
- Monitor waste and prevent waste overflow;
- Promote best practices for waste minimisation; and
- Install litter traps in car parks for any unwanted discharge.

B.7 VENTILATION

Natural or mechanical ventilation must be provided to waste storage areas unless refrigerated below 4°C. Natural ventilation means unobstructed, permanent openings direct to external air no less than one-twentieth (1/20) of the floor area. Mechanical ventilation requires a minimum rate of 100 L/s and 5 L/m² exhaust rate.

APPENDIX C: ONGOING MANAGEMENT CHECKLIST

Responsibilities must be assigned for all on-going waste management operations. This is generally done by a building manager, staff, and / or cleaners. This section is designed to assist in managing responsibilities and monitor waste operations to maintain efficient services and a safe environment.

Table 12: General Waste Management Checklist

OBJECTIVES	CHECKED	NOTES
Organising of weekly pickups for all waste streams.		Liaise with LCC as required.
Managing daily bin transfers between waste storage / collection areas if required.		
Check bin levels and rotate bins as required, i.e., under chutes.		

C.1 SAFETY

Transferring waste bins and using waste management equipment are considered hazardous tasks. Therefore, contractors must ensure that a full risk assessment of equipment, surfaces, and related gradients is complete. The contractor must provide procedural documentation to appropriate personnel prior to delivery of equipment and occupancy of the development.

Table 13: Safety Checklist

OBJECTIVES	CHECKED	NOTES
Abiding by all relevant occupational health and safety legislation, regulations, and guidelines to ensure site safety for residents, visitors, staff, and contractors.		
Assessment of any manual handling risks and preparation of a manual handling control plan for waste and bin transfers.		
Provision of equipment manuals, training, health and safety procedures, risk assessments, and personal protective equipment to staff / contractors to control hazards associated with all waste management activities.		

C.2 SIGNAGE

All waste containers, bins, and other waste management equipment will have adequate signage. Standard signage will be provided in and around waste collection and storage areas (see Appendix F).

Table 14: Signage Checklist

OBJECTIVES	CHECKED	NOTES
Ensuring compliance of signage with local government regulations.		Use signage provided by LCC if available
Ensuring that labelling on bins, bin room, etc. is appropriate, clear, easy to read, and updated if required.		

C.3 CLEANING AND MAINTENANCE

Regular cleaning and maintenance of all waste management facilities is important to maintain a safe and hygienic environment for residents, visitors, staff, and contractors.

Table 15: Cleaning and Maintenance Checklist

OBJECTIVES	CHECKED	NOTES
General cleaning of all waste holding and transfer areas including: - Waste bins, rooms, and storage areas; - Waste transfer areas including lifts and staircases; - Waste chutes and hopper doors; and - Any other waste management equipment.		Frequency depends on waste generation and building operation.
Coordination of specialised cleaning contractors as required.		
Maintenance and servicing of waste management equipment as per schedule.		Frequency depends on equipment and building operation.
Coordination of specialised equipment contractors as required.		

C.4 WASTE MINIMISATION

Waste minimisation is an important part of any site operation. At a minimum, the following should be implemented. Additional waste minimisation options can be found in Appendix E.4 and E.5.

Waste minimisation requires regular review to ensure operational sustainability of waste volumes, equipment, and economic feasibility. It is recommended that waste weights and movements are recorded and reviewed. An external review is typically conducted 12 to 18 months following implementation of the WRMP.

Table 16: Waste Minimisation Checklist

OBJECTIVES	CHECKED	NOTES
Regular review of material quantities to avoid over-ordering.		
Consideration of secondary and recycled materials where possible.		
Encouraging waste minimisation through education and signage.		
Reduce waste through continuous monitoring and review.		

C.5 EDUCATION AND COMMUNICATION

On-going education is important to ensure people continue to use the facilities as intended. All body corporate and leasing contracts should contain clauses pertaining to waste management arrangements and the use of any associated equipment.

Table 17: Education and Communication Checklist

OBJECTIVES	CHECKED	NOTES
Communication of waste management arrangements to residents, staff, and contractors as required.		
Consideration of promotional opportunities for any successes, e.g. awards programs.		

C.6 MONITORING AND REVIEW

Regular monitoring and inspections of waste and related equipment and facilities from the development should be conducted by building management or designated staff for maintenance and sustainability.

Table 18: Monitoring and Review Checklist

OBJECTIVES	CHECKED	NOTES
Continual monitoring of equipment uses and scheduling to ensure best operational outcome.		
Regular review of waste management equipment and facilities such as bin volumes, waste storage capabilities, and stormwater management arrangements.		

APPENDIX D: SITE PLANS AND DRAWINGS

**SUPERCEDED
REFER TO APPROVED PLANS**

AMENDED IN RED

By: Gabrielle Shepherd

Date: 11 December 2024



SITE ADDRESS
LOT 10, ADLER CIRCUIT, YARRABILBA QLD 4207

RPD
LOT 10 ON SP296372

SITE AREA
3950 SQM

LOCAL COUNCIL:
LOGAN CITY COUNCIL

DEVELOPMENT DATA			
TOTAL GFA AREAS			
HEALTH CARE SERVICES & FOOD PREMISES (GROUND)	1,156.6 sqm		
BUSINESS (LEVEL 1)	1,501.9 sqm		
RESIDENTIAL (LEVEL 2 & 3)	2,216.2 sqm		

CARPARKING REQUIRED			
RESIDENTIAL			
1.25 CARPARKS / UNIT	1.25 x 24 = 30	30 CARPARKS	

HEALTH CARE SERVICES			
1 CARPARK/ 30sqm	767 sqm / 30 = 25.5	26 CARPARKS	

FOOD PREMISES			
1 CARPARK/ 20sqm	390 sqm / 20 = 19.5	20 CARPARKS	

BUSINESS			
1 CARPARK/ 30sqm	1502 sqm / 30 = 50	50 CARPARKS	

TOTAL (RESIDENTIAL)		30 CARPARKS	
TOTAL (FOOD PREMISES & BUSINESS)		96 CARPARKS	

CARPARKING PROVIDED			
RESIDENTIAL			
BASEMENT		30 CARPARKS + 9 MOTORBIKES	

HEALTH CARE SERVICES, FOOD PREMISES & BUSINESS			
BASEMENT		12 CARPARKS	
GROUND		53 CARPARKS	
TOTAL		66 CARPARKS + 3 MOTORBIKE	

TOTAL (BASEMENT)		42 CARPARKS + 9 MOTORBIKES	
TOTAL (GROUND)		53 CARPARKS + 3 MOTORBIKE	

TOTAL		95 CARPARKS + 12 MOTORBIKES	
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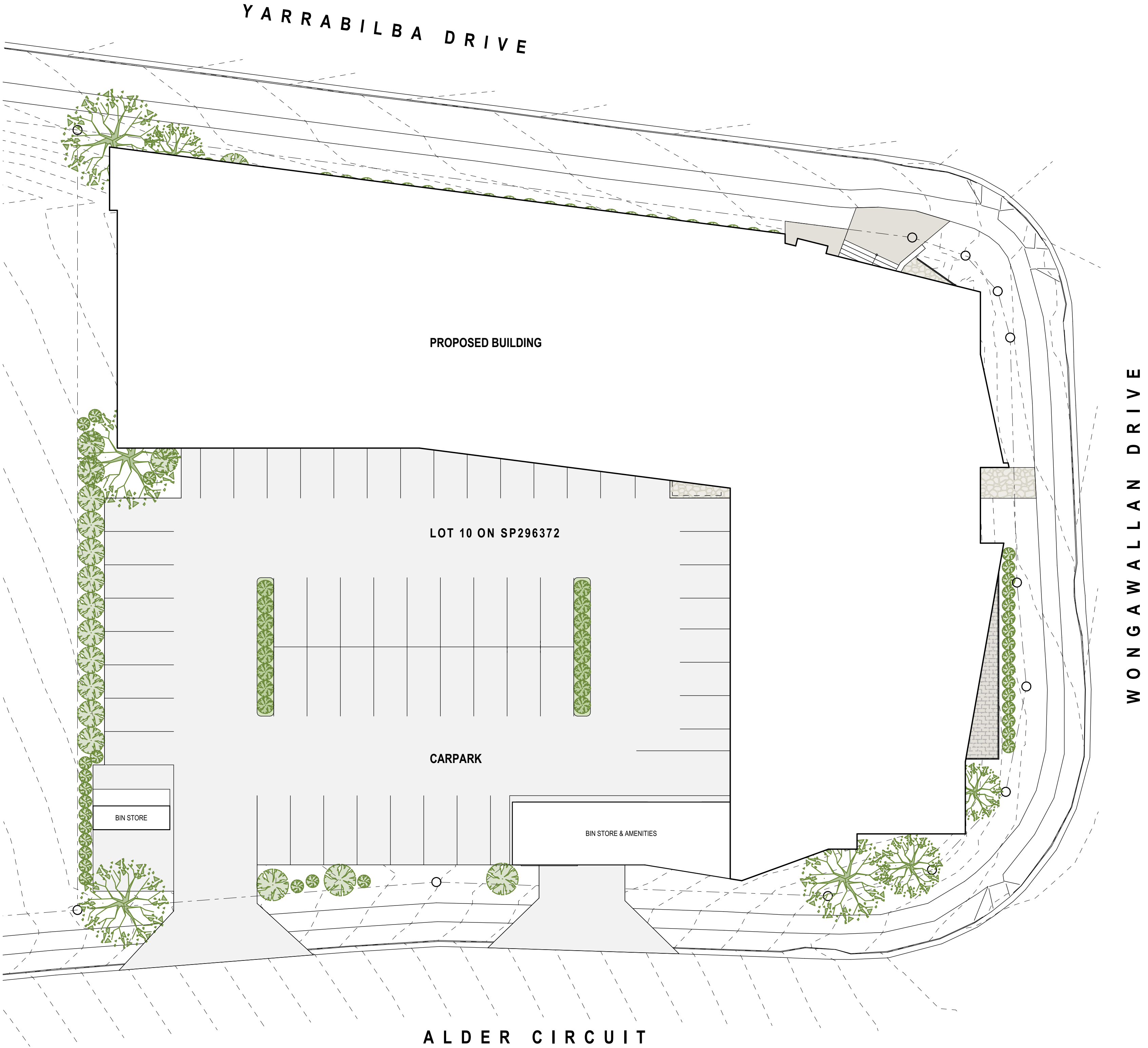
UNITS			
	2 BED	3 BED	TOTAL
LEVEL 2	10	2	12
LEVEL 3	10	2	12
TOTAL	20	4	24

LANDSCAPING PROVIDED			
TOTAL		536.2 sqm	

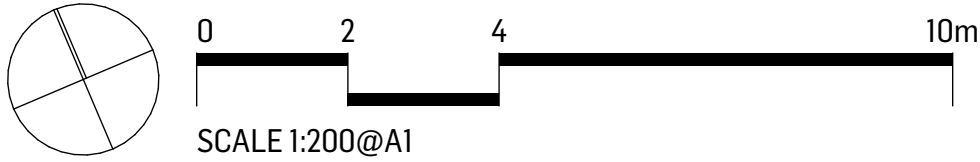
NOTES:
AREAS ARE APPROXIMATE ONLY AND SUBJECT TO SURVEY.

DRAWING SCHEDULE	
DA-00	COVERPAGE
DA-01	SITE PLAN & DEVELOPMENT DATA
DA-02	FLOOR PLAN - BASEMENT
DA-03	FLOOR PLAN - GROUND
DA-04	FLOOR PLAN - LEVEL 1
DA-05	FLOOR PLAN - LEVEL 2
DA-06	FLOOR PLAN - LEVEL 3
DA-07	ROOF PLAN
DA-08	ELEVATIONS
DA-09	ELEVATIONS
DA-10	SECTIONS
DA-11	3D VIEWS

LEGEND	
BAL-1	BATTEN BALUSTRADE
BAL-2	GLASS BALUSTRADE
BAL-3	SOLID BALUSTRADE
CL-1	FIBRE CEMENT SHEETING
CONC	CONCRETE FINISH
EG	EAVES GUTTER
EGL	EXISTING GROUND LINE
MB	MOTOR BIKE CARPARK
MRS	METAL ROOF SHEETING
MWS	METAL WALL SHEETING
SCR-1	BATTEN SCREEN
SCR-2	FIXED BLADES SCREEN
RL	REDUCED LEVEL
RND	RENDERED
WH	WINDOW HOOD



SITE PLAN
SCALE 1:200



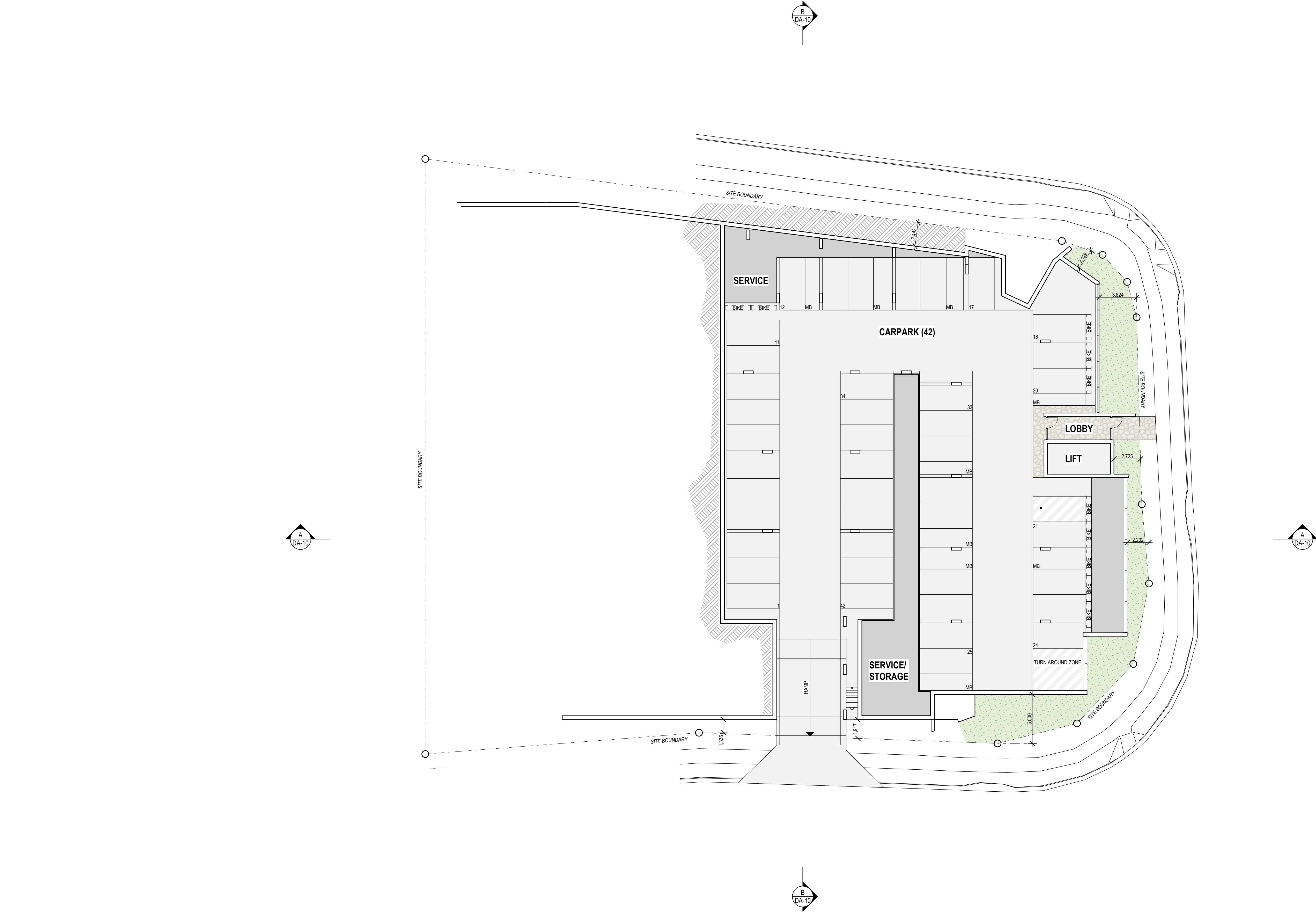
ISSUE	DATE	BY	DESCRIPTION	CHKD
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B	15.08.2023	CL	DEVELOPMENT APPLICATION	JO

YARRABILBA MIXED USE

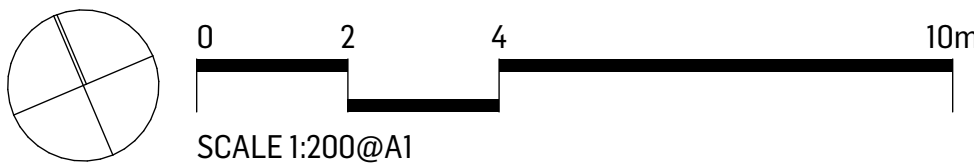
SITE PLAN & DEVELOPMENT DATA

PROJECT NO.	DRAWING NO.	ISSUE
2789-427	DA-01	B





FLOOR PLAN - BASEMENT
SCALE 1:200

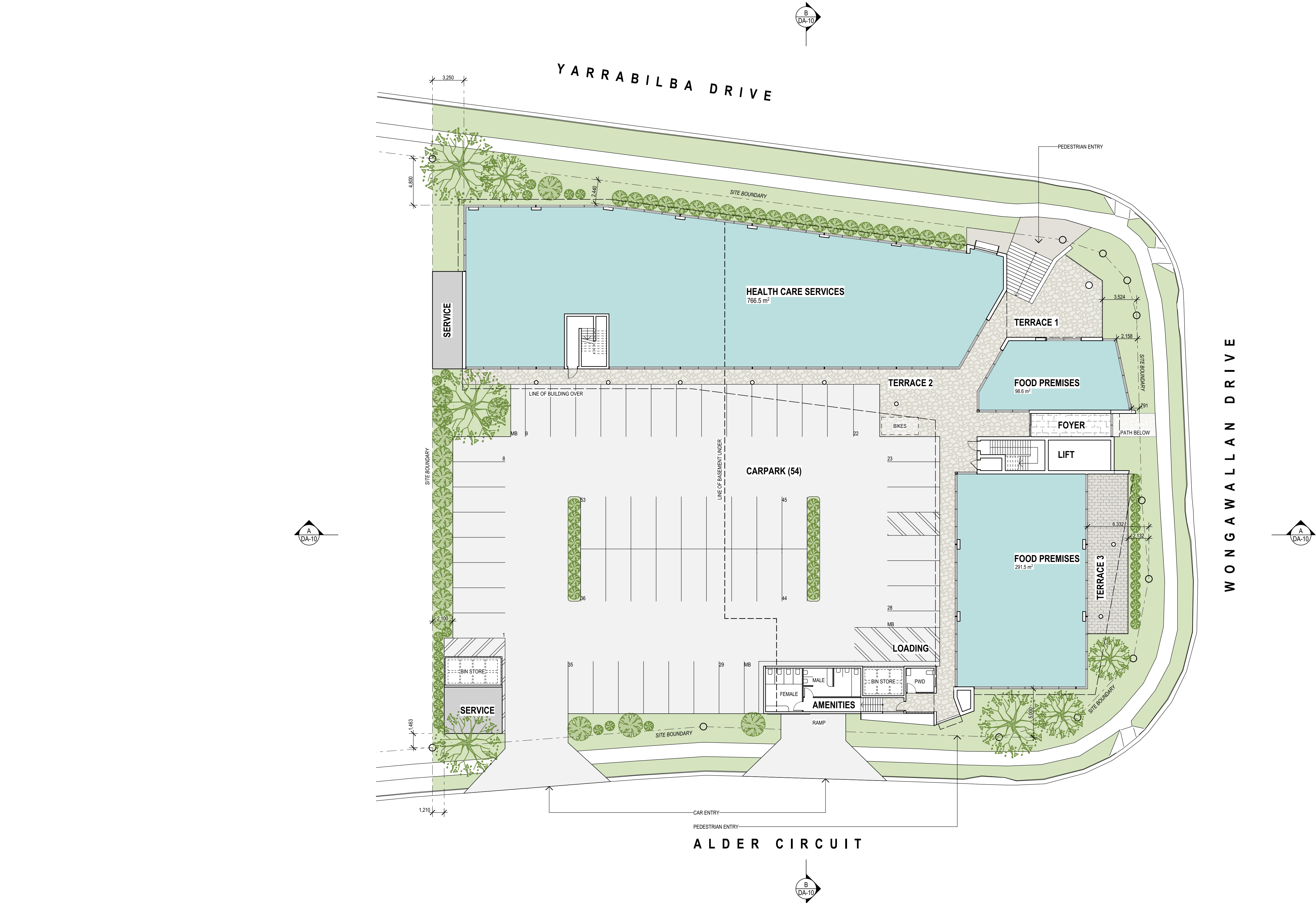


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B	03.08.2023	CL	AMENDMENT	JO

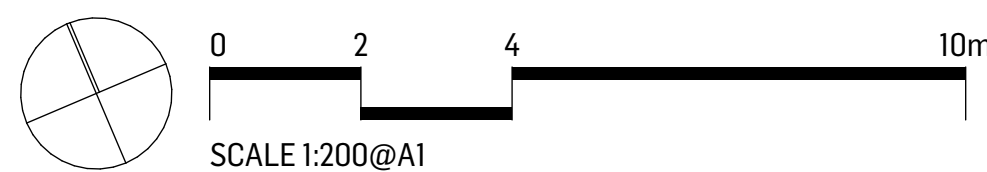
YARRABILBA MIXED USE

DRAWING
FLOOR PLAN - BASEMENT
PROJECT NO. **2789-427** DRAWING NO. **DA-02** ISSUE **B**





FLOOR PLAN - GROUND
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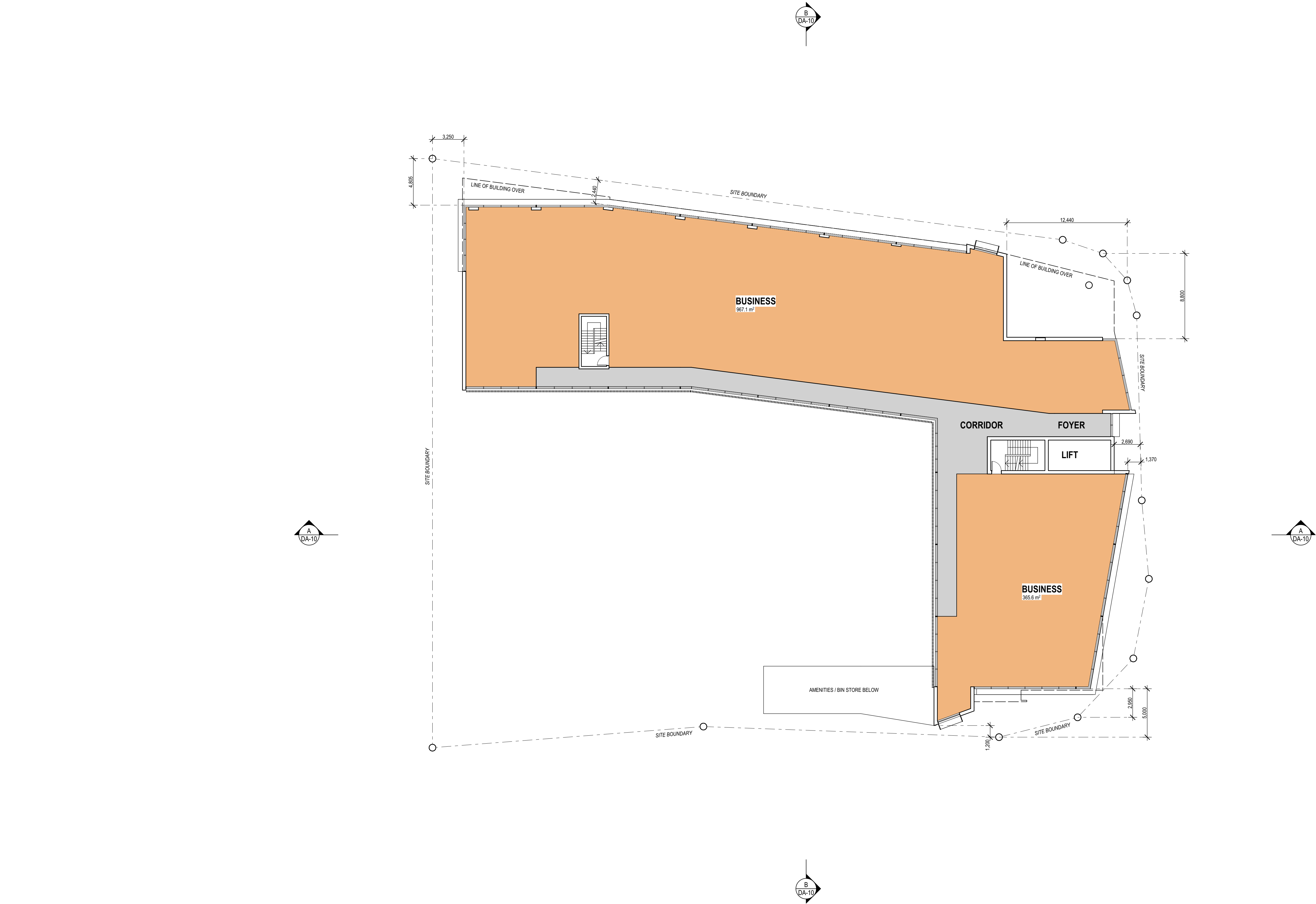


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B	03.08.2023	CL	AMENDMENT	JO
C	15.08.2023	CL	AMENDMENT	JO

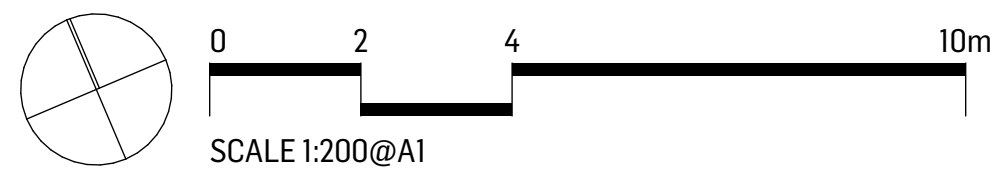
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DRAWING
FLOOR PLAN - GROUND
PROJECT NO. **2789-427** DRAWING NO. **DA-03** ISSUE **C**





FLOOR PLAN - LEVEL 1
SCALE 1:200



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A	28.07.2023	CL	DEVELOPMENT APPLICATION	JO
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YARRABILBA MIXED USE

DRAWING
FLOOR PLAN - LEVEL 1

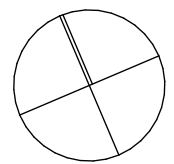
PROJECT NO. **2789-427** DRAWING NO. **DA-04** ISSUE **B**



FLOOR PLAN - LEVEL 2
SCALE 1:200



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email@reddogarchitects.com



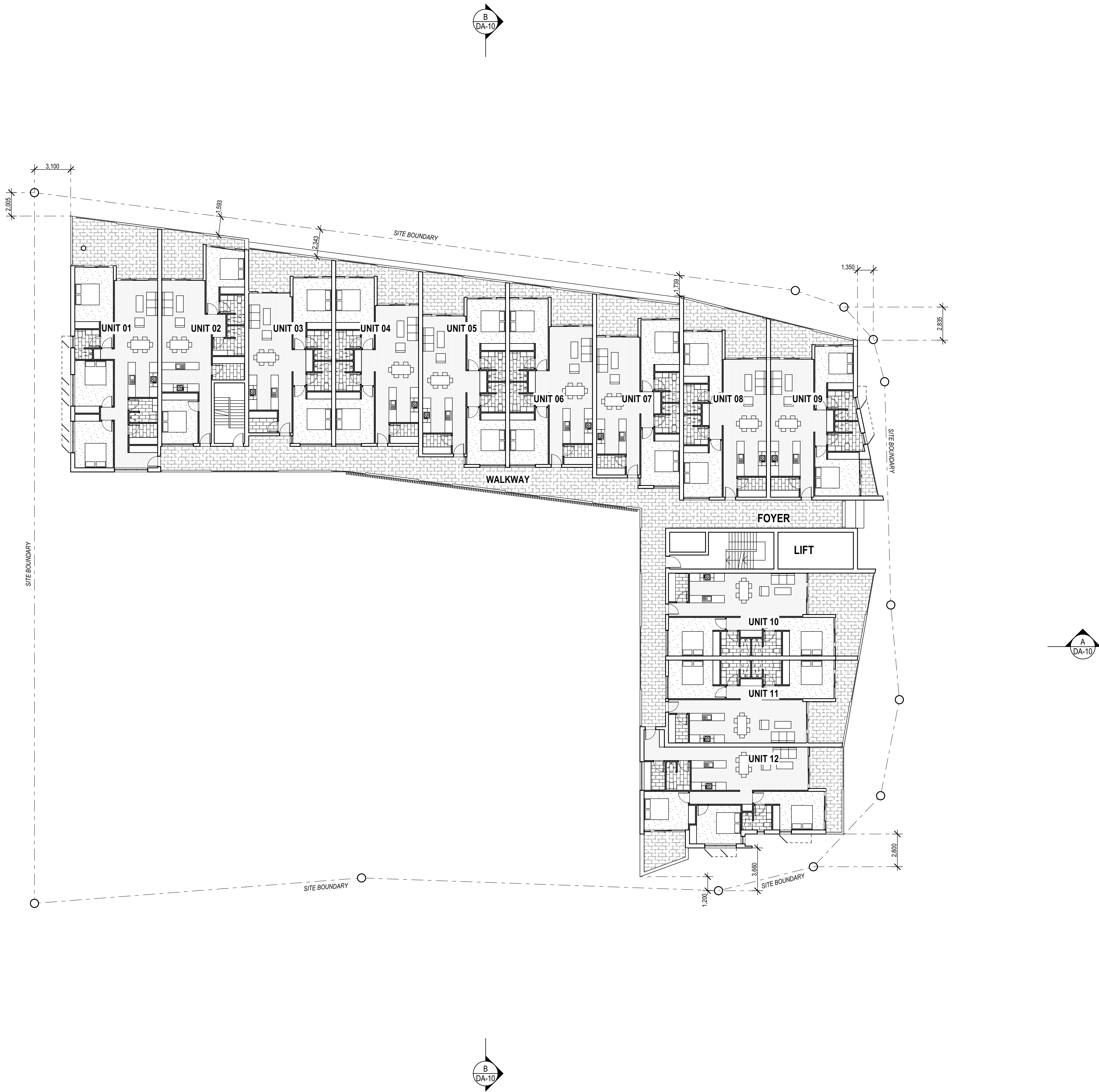
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ISSUE	DATE	BY	DESCRIPTION	CHKD
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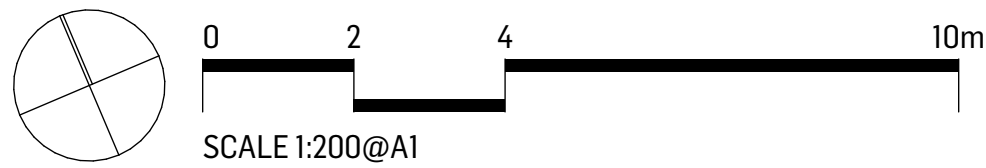
DRAWING
FLOOR PLAN - LEVEL 2

PROJECT NO. **2789-427**
DRAWING NO. **DA-05**
ISSUE **A**





FLOOR PLAN - LEVEL 3
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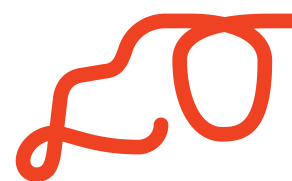


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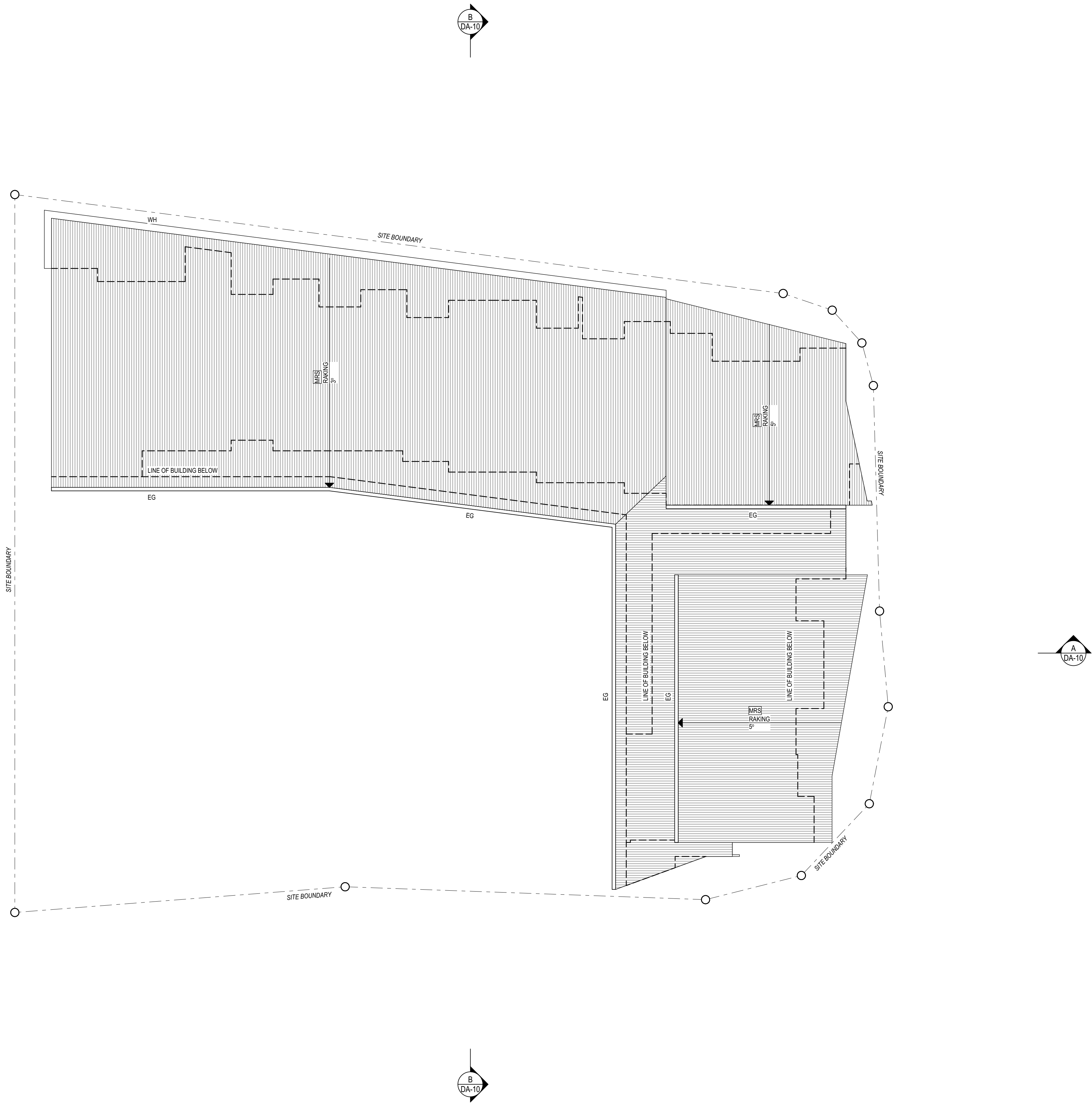
YARRABILBA MIXED USE

DRAWING FLOOR PLAN - LEVEL 3

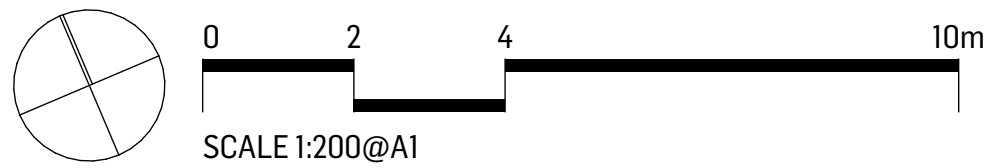
PROJECT NO. **2789-427** DRAWING NO. **DA-06** ISSUE **A**



- LEGEND**
- BAL-1 BATTEN BALUSTRADE
 - BAL-2 GLASS BALUSTRADE
 - BAL-3 SOLID BALUSTRADE
 - PAINT FINISH
 - CL-1 FIBRE CEMENT SHEETING
 - PAINT FINISH
 - CONC CONCRETE FINISH
 - EG EAVES GUTTER
 - MRS METAL ROOF SHEETING
 - MWS METAL WALL SHEETING
 - SCR-1 BATTEN SCREEN
 - SCR-2 FIXED BLADES SCREEN
 - RND RENDERED
 - PAINT FINISH
 - WH WINDOW HOOD



ROOF PLAN
SCALE 1:200



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A	28.07.2023	CL	DEVELOPMENT APPLICATION	JO

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DRAWING
ROOF PLAN

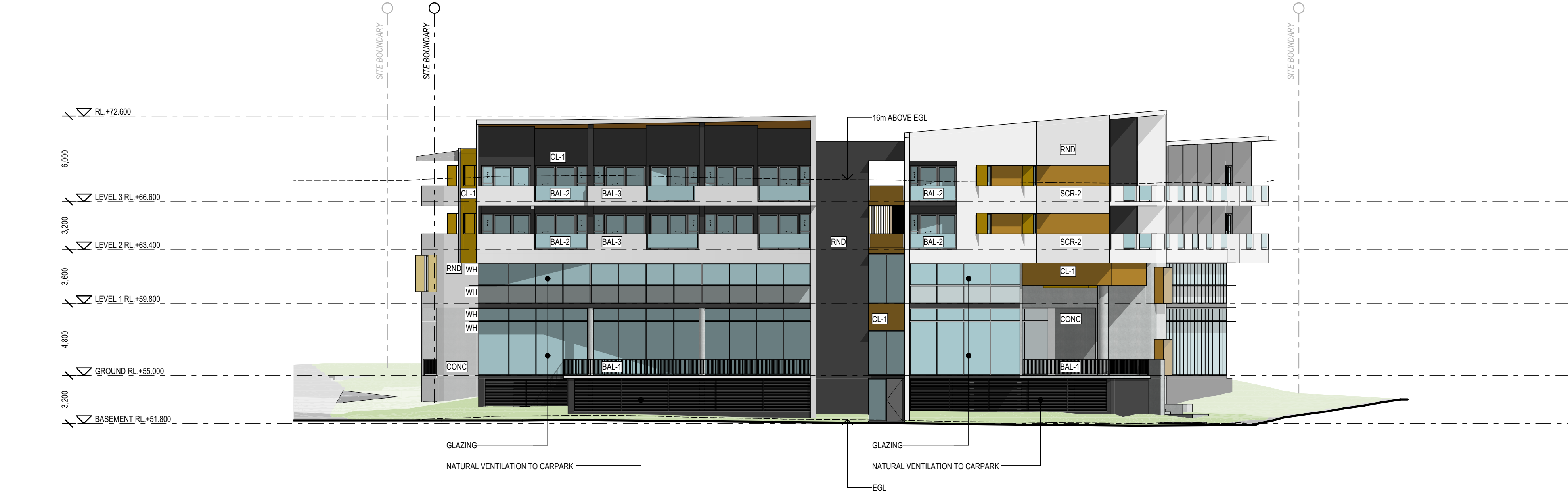
PROJECT NO. **2789-427**
DRAWING NO. **DA-07**
ISSUE **A**



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 - RENDERED
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 - CL-1 FIBRE CEMENT SHEETING
 - PAINT FINISH
 - CONC CONCRETE FINISH
 - EG EAVES GUTTER
 - WRS METAL ROOF SHEETING
 - MWS METAL WALL SHEETING
 - SCR-1 BATTEN SCREEN
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 - RND RENDERED
 - PAINT FINISH
 - WH WINDOW HOOD



ELEVATION - NORTH
SCALE 1:200

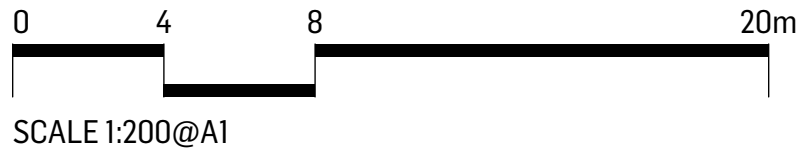


ELEVATION - EAST
SCALE 1:200



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YARRABILBA MIXED USE

DRAWING

ELEVATIONS

PROJECT NO.

2789-427

DRAWING NO.

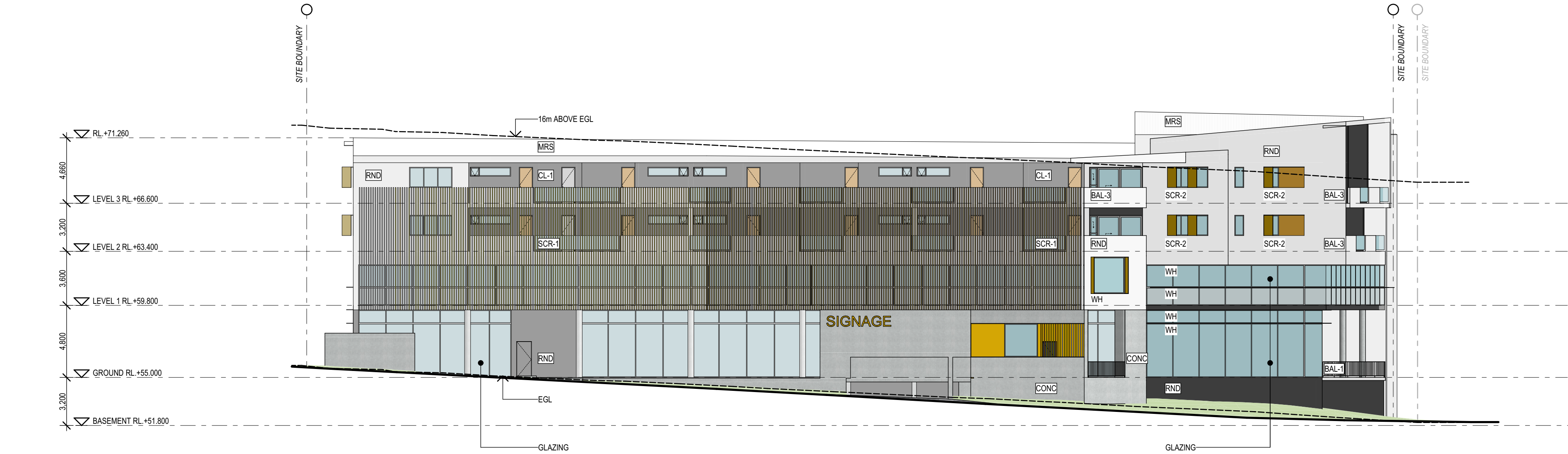
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ISSUE

B



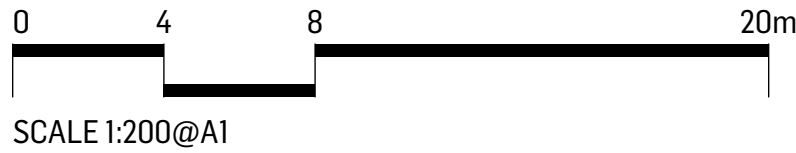
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 - BAL-3 SOLID BALUSTRADE
 - RENDERED
 - PAINT FINISH
 - CL-1 FIBRE CEMENT SHEETING
 - PAINT FINISH
 - CONC CONCRETE FINISH
 - EG EAVES GUTTER
 - MRS METAL ROOF SHEETING
 - MWS METAL WALL SHEETING
 - SCR-1 BATTEN SCREEN
 - SCR-2 FIXED BLADES SCREEN
 - RND RENDERED
 - PAINT FINISH
 - WH WINDOW HOOD



ELEVATION - SOUTH
SCALE 1:200



ELEVATION - WEST
SCALE 1:200



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YARRABILBA MIXED USE

DRAWING

ELEVATIONS

PROJECT NO.

2789-427

DRAWING NO.

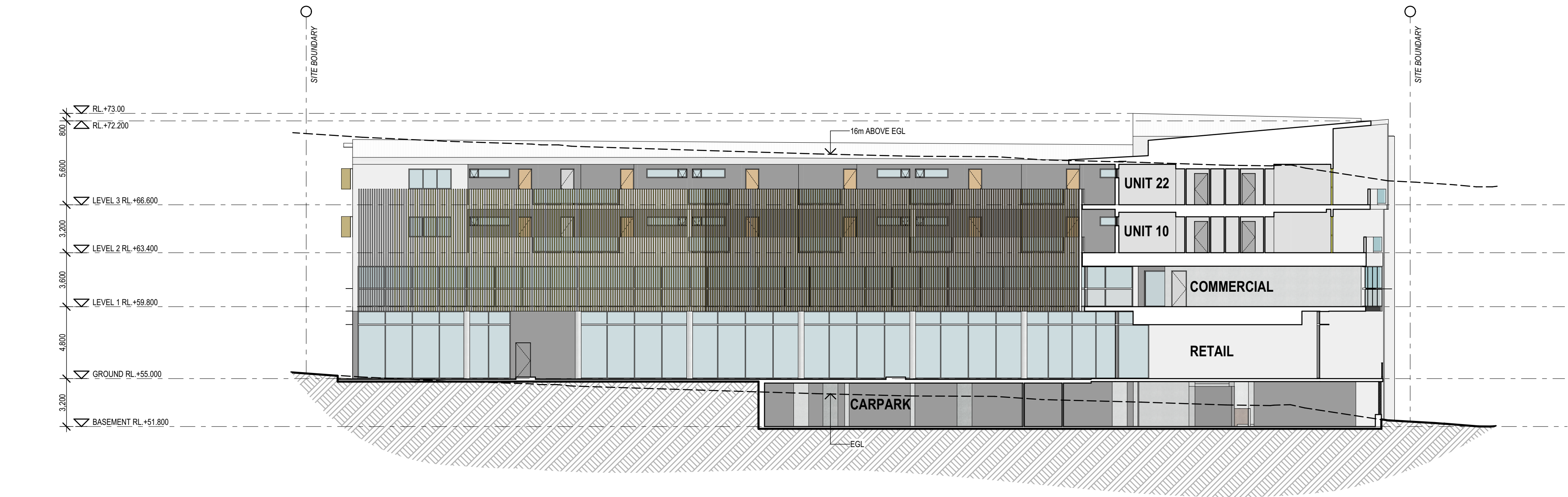
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ISSUE

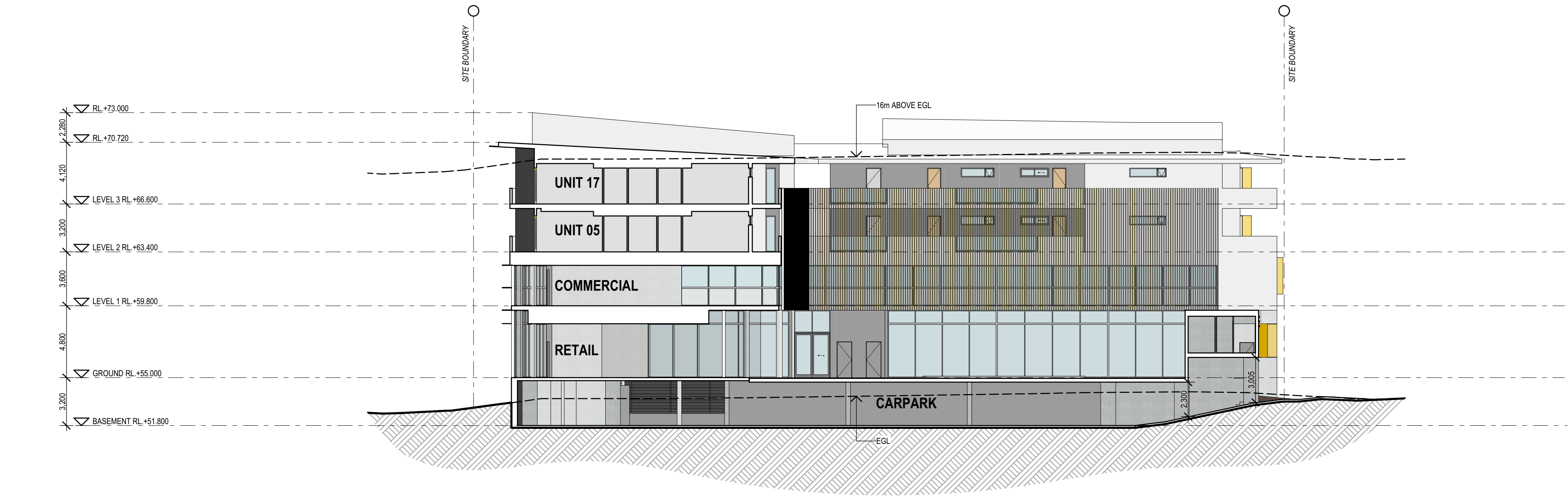
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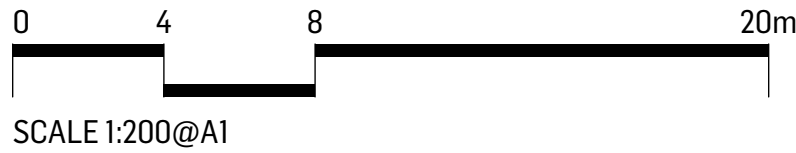
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 - BAL-2 GLASS BALUSTRADE
 - BAL-3 SOLID BALUSTRADE
 - RENDERED
 - PAINT FINISH
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 - SCR-1 BATTEN SCREEN
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A SECTION
SCALE 1:200



B SECTION
SCALE 1:200



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YARRABILBA MIXED USE

DRAWING

SECTIONS

PROJECT NO.

2789-427

DRAWING NO.

DA-10

ISSUE

B





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DRAWING		
3D VIEWS		
PROJECT NO.	DRAWING NO.	ISSUE
2789-427	DA-11	A



APPENDIX E: SYSTEMS AND SPECIFICATIONS

E.1 TYPICAL WASTE BINS

Table 19: Waste Bins Example

BIN TYPES	WASTE STREAM	EXAMPLES	INFORMATION
Residential Unit Bins	General Waste & Recycling	 	Various sizes and options. Stand-alone and built-in available. Examples: http://www.bunnings.com.au
60 – 80 L Bins	General waste, recycling, green waste		Back of house / public place bins. Various suppliers and dimensions. Examples: http://www.bunnings.com.au
1100L/ 660L Bins	General Waste & Recycling		1100L Dimensions approximately: 1280 x 1080 x 1340 mm (W x H x D) 660L Dimensions approximately: 1216 x 1227 x 775 mm (W x H x D) Examples: http://www.justwheeliebins.com.au https://www.australianwastemanagement.com.au https://www.sulo.com.au

E.2 TYPICAL WASTE MANAGEMENT EQUIPMENT

Table 20: Waste Management Equipment Example

SYSTEMS	WASTE STREAM	EXAMPLES	INFORMATION
Organics household composting or worm farm (optional)	Food Waste / Organics		Examples: https://www.bunnings.com.au https://closedloop.com.au/home-composter/

E.3 WASTE TRANSFER AND DISPOSAL METHODS

Table 21: Waste Transfer and Disposal Methods Example

METHOD	EXAMPLES	DESCRIPTION
Manual Transfer / Disposal		Manual transfer is simply the process of physically carrying waste bags, food waste receptacles, or recycling boxes and crates without equipment. From a safety perspective, this is acceptable for small quantities and initial disposal into waste chutes, waste compartments, or in the case of ground level activities, directly into the waste storage room. ▪ General waste should be bagged prior to any transfer from apartments, suites, offices, back of house areas etc. to waste storage compartments or rooms. ▪ Food waste should be placed in receptacles such as caddy style bins or buckets which will not allow leakage during transfer. ▪ Recycling should be placed in boxes or crates prior to transfer.

METHOD	EXAMPLES	DESCRIPTION
		Cardboard and paper items can be placed within another cardboard box for transfer.

E.4 REFUSE MINIMISATION OPTIONS – WASTE

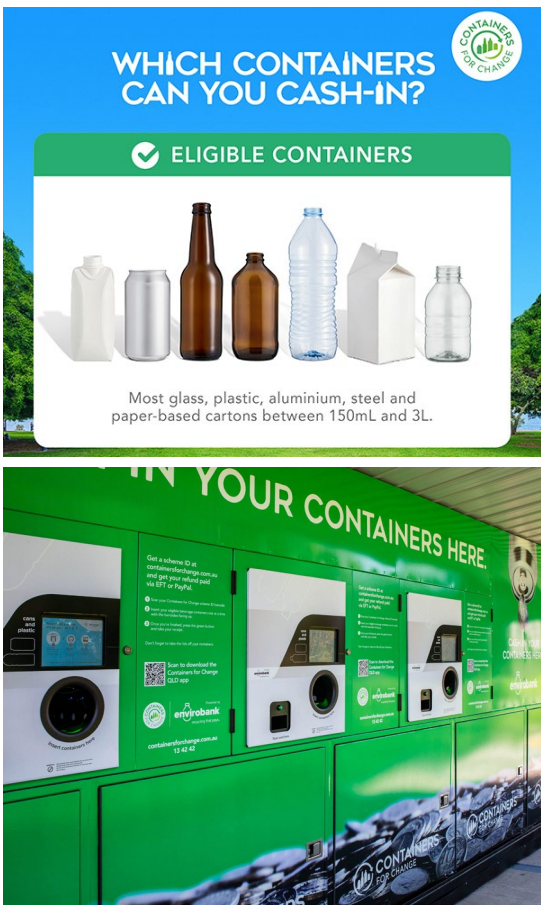
Table 22: Refuse Minimisation Options – Waste

SYSTEMS	EXAMPLES	DESCRIPTION
Composting	 	Food waste composting is an option of reducing the amount of general waste going to landfill where organic waste can create methane gas due to anaerobic digestion, which contributes to global warming. Systems of different scales exist from small benchtop composters for individual households or apartments to commercial size systems. The process usually involves breaking down organic food scraps through natural processes. This includes systems such as worm farms or composters where microbes break down the food waste, with or without the aid of compost additives. The composted products are rich in nutrients and good bacteria, and they can be added to flower bed or gardens. Most food wastes and other organic (garden) material can be composted including meat, fish, vegetables, fruit, dairy, coffee, or wilted flowers. However, large bones, excessive liquids such as cooking oil or seafood shells should not be placed in the composers.
Charity Donations		A good way of minimising waste is to reuse items that are still good to use. Several charity organisations exist that accept items such clothing, shoes, bedding, books, toys, furniture, kitchenware, and other household items. The donated items must not be torn, damaged or broken. Electrical appliances such as white goods are usually not accepted. Common organisations operating in Australia include Saint Vincent de Paul Society (Vinnies) and Lifeline. Items can be placed into the organisations' charity / donation bins located in various public spaces such as near community or shopping areas. Alternatively, they can be dropped off at the

SYSTEMS	EXAMPLES	DESCRIPTION
		organisations' shops during opening hours. Refer to https://www.lifeline.org.au or https://www.vinnies.org.au for further information. For larger developments and precincts where large amounts of donation items can be expected, the placement of charity bins within the development should be taken into consideration.

E.5 REFUSE MINIMALISATION OPTIONS – RECYCLING

Table 23: Waste Minimisation Options - Recycling

SYSTEMS	EXAMPLES	DESCRIPTIONS
Container Deposit Schemes		Container deposit / refund schemes are currently in place in several states in Australia. Various models exist including bottle return facilities and (automated) reverse vending machines. Residents, tenants, staff and cleaners should be encouraged to separate containers that qualify for the schemes from the waste or recycling streams, and return them to one of the return points. Storage space or dedicated bins within tenancies, apartments or communal areas should be provided. For larger developments or precincts where large amounts of empty containers are expected, consideration may be given to an on-site return point. The return points should be located near recycling bins so that cardboard boxes or plastic bags that have been used to transfer the empty containers to the return point can be disposed appropriately. This can prevent cluttering of the area around the return point.

APPENDIX F: WASTE SIGNAGE

F.1 REFUSE AND WASTE SIGNAGE



Recycling Bins

- Steel Aluminum Cans
- Glass bottles and jars
- All firm and flexible plastic containers from the kitchen, bathroom and laundry. (Eg. Soft drink bottles, takeaway containers, milk and juice bottles etc).
- Paper and cardboard
- Cartons
- Aluminum foil and trays

Green Waste Bins

- Grass clippings
- Weeds
- Leaves and loose bark
- Palm fronds
- Pruning's from shrubs and trees up to 10cm in diameter and 75cm in length

General Waste Bins

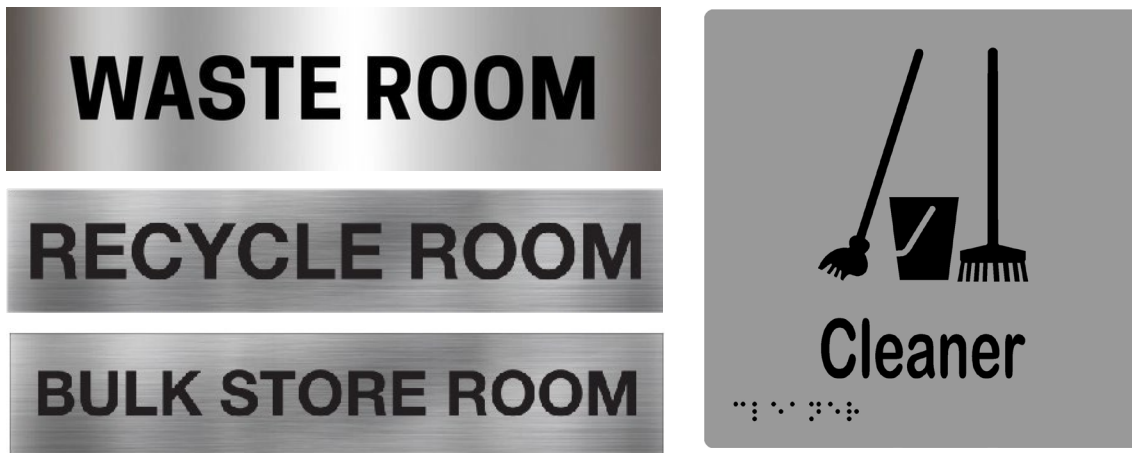
- General household waste
- Food scraps
- Plastic bags and other soft plastics
- Plastic food wrapping and cling wrap
- Ceramics and crockery
- Non-recyclable glass and mirrors
- Nappies
- Polystyrene foam/Styrofoam
- Grass clippings

Note* this information is specific to Logan City Council guidelines and advice, more information can be found at <https://www.logan.qld.gov.au/what-goes-in-which-bin>

F.4 OTHER WASTE, FACILITY, AND SAFETY SIGNAGE

Various signage including refuse area, safety and facility signage should be arranged through certified signage providers. Example signs can be found at <http://www.signblitz.com.au>, <https://www.wayout.com.au>, or <https://www.smartsign.com>.

F.4.1 Example Waste Room Signage



F.4.2 Example Facility Signage



F.4.3 Example Safety Signage

