

LOGAN CITY COUNCIL
APPROVED NEGOTIATED DOCUMENT

This is an approved document for Development Application
MCUI/25/2024



Operational Waste Management Plan

Proposed Retirement Living Development

At 76-94 Koplick Road, Chambers Flats

On Behalf of Living Gems



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Revision Record

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1 Introduction

1.1 Background

TTM Consulting has been engaged by Living Gems Pty Ltd to prepare an Operational Waste Management Plan (OWMP) to support the retirement living development located at 76 - 94 Koplick Road, Chambers Flats. It is understood that a development application will be lodged with Logan City Council (LCC).

1.2 Scope & Client Brief

Peaceful living and a connected community centred around the community club house with a wide array of activities forming the nucleus of social activity are the core objectives of the development. The waste strategy and recommendations contained within this report have been proposed to support the overall masterplan objectives.

The content of this OWMP is intended to provide information on the typical movement of waste streams from generation to collection. Information on refuse management is given for each use within the development. The items covered within the OWMP are described in

Table 1-1.

Table 1-1: Scope Items

Item	Description
Refuse streams	Identification of refuse streams & anticipated development refuse volumes likely to be produced
Refuse separation	Recommendations for appropriate segregation methods for each refuse stream
Refuse collections	Assessment of refuse collection vehicle (RCV) access and manoeuvring
Refuse storage	Detailed analysis of refuse storage facilities and design
Refuse transfer	Assessment of refuse transfer between refuse storage and collections areas
Refuse disposal	Recommendations for refuse disposal within the development
Refuse management equipment	Identification of recommended and optional refuse management systems and equipment
Refuse management operations	Recommendations for operational efficiency and ongoing management, including refuse minimisation, tenant education and safety
Building design	Recommendations for design of refuse management facilities

Detailed information including site plans and drawings, recommended refuse management equipment and system specifications, common refuse signage as well as a list of terms and abbreviations are provided in the appendices.

The recommendations in this report relate to the operational phase of the development only. Additional requirements for refuse management during or after demolition or construction phases are not included and require a dedicated plan.

1.3 Site Analysis

The site is located at 76-94 Koplick Road, Chambers Flats and is formally described as Lot 3 on RP809255 as depicted in Figure 1-1 and Figure 1-2.

The site has frontage on Koplick Road with all vehicular access into the development occurring via Koplick Road.

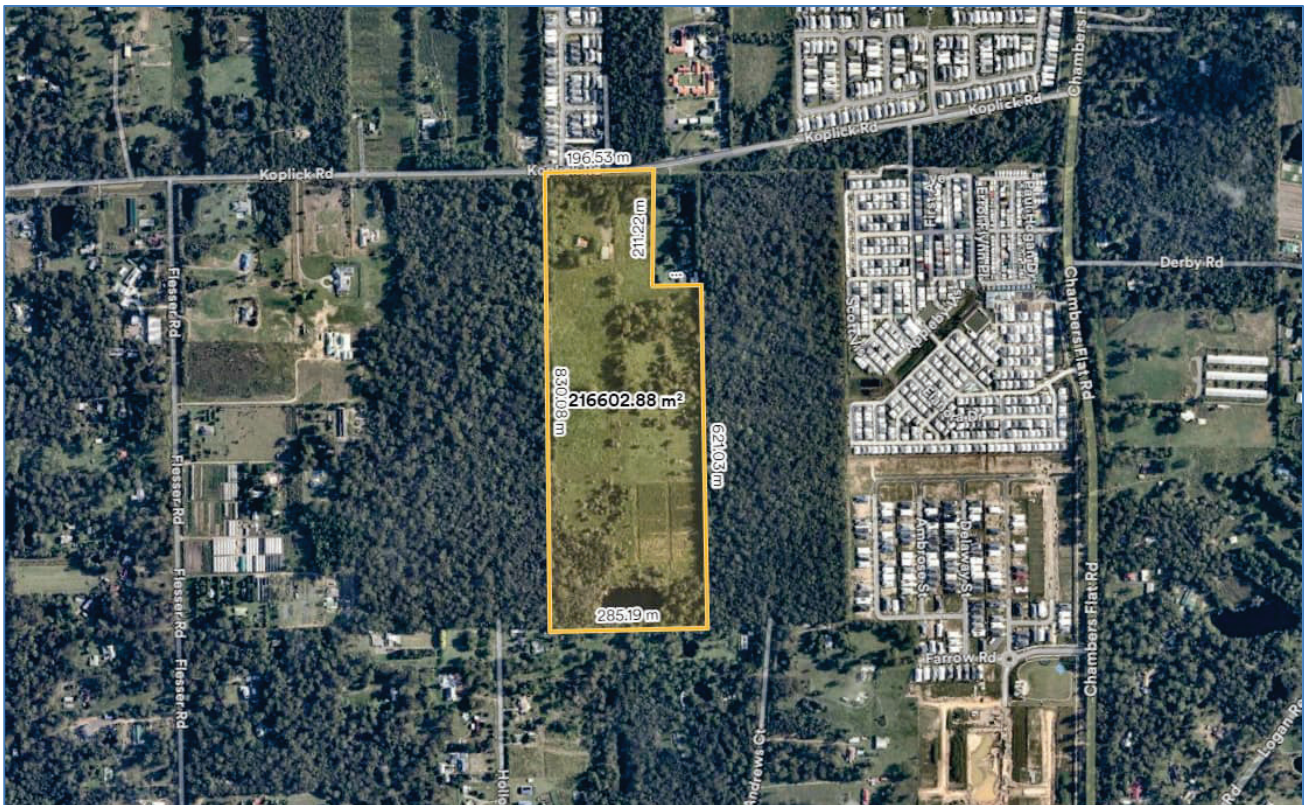


Figure 1-1: Site Location

Source: Nearmaps, image dated 23/02/2024



Figure 1-2: Site Location City Plan

Source: LCC Interactive Mapping, image dated 25/03/2024

1.4 Current Site Use

The development site is largely vacant with a one minor dwelling on the lot (refer Figure 1-3).



Figure 1-3: Current Site

Source: Google Maps, image dated 08/2020

1.5 Development Information

The proposed development intends to provide a retirement living facility consisting of 289 retirement living villas as well as a clubhouse and summerhouse facilities containing various ancillary recreational amenity. A manager’s residence will also be constructed on site. The relevant refuse generating areas are presented in Table 1-2. Note, as the site is design at a master plan level only the GFA identified for ancillary areas are approximate only, to assist in adequate refuse storage planning, final GFA may differ.

Table 1-2: Development Statistics

Component	Description	Measure *
Retirement Living Villas	Lots	290 Dwellings – (including managers office)
Ancillary Facilities	Clubhouse	1,001m ² GFA
	Kitchen/Bar/Hall	590m ² GFA
	Salon	70m ² GFA
	Summer Pavilion	238m ² GFA
Total		1,899m² GFA Total

2 Regulatory Refuse Management Requirements

This section provides the detailed refuse information and associated calculations in addition to outlining the arrangements for the collection, storage, transfer, and disposal of refuse within the development as deemed to satisfy council’s current assessment benchmarks. This includes associated bin quantities, storage capacities, equipment details, collection frequencies and site access details.

2.1 Regulatory & Governance Considerations

This plan has been prepared to align with LCC’s refuse requirements of SC6.2.9 Refuse Planning Scheme Policy, and Waste Management Code. As this development is both a residential and commercial site, TTM has referred to LCC requirements as outlined in the Refuse PSP under relevant sections 2, 4 and 6 as these sections are related directly to residential and non-residential uses.

Table 2-1: Planning Scheme Compliance Checklist

LCC SC6.2.9 Refuse Planning Scheme Policy		
Item	Requirement	Compliance / Comment
Section 2 – General Requirements		
(1)	Development provides for refuse and recycling collection and storage in accordance with Council's Waste Collection Services Policy.	Compliant
(2)	Waste and recycling storage areas are to be easily accessible by the residents of the development.	Compliant
(3)	The collection of refuse is to be considered during the planning phase of development. This includes the physical manoeuvring area for the refuse collection vehicle and the waste and recycling storage areas and collection points. Access for other road users including pedestrians, cyclists, motorists, and other service providers is to be maintained.	Compliant
(4)	All refuse is to be wholly located in a dedicated waste and recycling storage area. Waste and recycling storage areas are to provide adequate capacity for storing all the waste and recycling likely to be generated between collection cycles, based on expected waste generation and selected bin types, and accommodate likely peak demand for waste storage capacity.	Compliant for non-residential components
(5)	The location of waste and recycling storage areas and collection points are to be detailed on the development plans and drawings. Collection points for residential and non-residential waste may be shared.	Compliant
(6)	More than one waste and recycling storage area may be required to provide sufficient storage or to meet criteria for the access and transfer of refuse.	Compliant
(7)	The waste collection system is to achieve the following outcomes: <ul style="list-style-type: none"> a. the waste, recycling and optional green waste bin storage area is to be located in a position that is convenient for both users and waste collection staff. 	Compliant

	<ul style="list-style-type: none"> b. the layout of the waste and recycling storage area is to be designed to encourage easy recycling and separation of different waste types and reduce contamination. c. the location, design and operation of the bin storage and collection does not have unreasonable adverse acoustic, odour or visual impacts on the development, surrounding residential properties and the streetscape. d. the supply and servicing of wheeled bins, bulk bins or refuse compactors complies with the requirements of this planning scheme policy. 	
Section 2.2 – Storage Area		
(1)	<p>The storage area for mobile refuse bins:</p> <ul style="list-style-type: none"> a. if contained within the lot can accommodate two areas (or three when an optional green waste bin is used) of 0.81m² per dwelling (i.e. bin dimensions of 0.9m x 0.9m and allowing 0.2m between bins) and is screened from street; or b. if in a common area, is located in an external enclosure that allows adequate access for residents to all bin(s) and for the bins to be manoeuvred for collection; or c. if stored in an enclosed room (other than within a dwelling), is provided with natural or temperature-controlled ventilation. 	Compliant
(2)	<p>The storage area for bulk bins provides a combined or separate waste and recycling storage area that is:</p> <ul style="list-style-type: none"> a. an adequate size for the waste generated by each dwelling or tenancy. b. impervious, drained, and provided with a hose cock. c. located in accordance with crime prevention through environmental design principles so as not to create a natural ladder. d. illuminated for night-time use. 	Compliant
(3)	Bulk bins having a capacity of 1,000L, 1,500L, 2,000L and 3,000L must be stored and serviced in the same location.	Not Applicable
Section 2.3 – Collection Points		
(1)	The collection point for all bulk bins (other than 1,100L bins) must be on the property. A 1,100L bin may be serviced both on the property and on the street.	Not Applicable
Section 2.4 – Kerbside Collection		
(1)	The number and location of mobile refuse bins presented for kerbside collection should not negatively impact on streetscape character, pedestrian and vehicular movement and safety or access for other service providers and utilities.	Compliant
(2)	Kerbside collection points for lots with road frontage are to be accommodated on the verge of the subject site.	Compliant
(3)	Each dwelling's collection point is to comprise of a minimum 1.8m of kerbside length to accommodate mobile refuse bins.	Compliant
(4)	<p>For rear lots:</p> <ul style="list-style-type: none"> a. the frontage is to include an area of sufficient space (1.8m of kerbside length per dwelling) for the servicing of mobile refuse bins. These collection points are to be located to avoid obstructing any driveway or encroachment onto neighbouring frontages. b. a reinforced concrete bin pad is provided directly behind the kerb having a minimum width of 0.9m and a length of 1.8m per allotment. 	Not Applicable

	<ul style="list-style-type: none"> c. where insufficient kerbside length is available, or 4 or more rear lots are created, bin collection must occur on site. 	
(5)	<p>Collection points are not located:</p> <ul style="list-style-type: none"> a. in a way that obstructs the use or safety of any driveway. b. to conflict with obstructions within the street frontage, including street trees. c. within 10m from the tangent point of the kerb radius of a non-signalised intersection or 20m from the tangent point of the kerb radius of a signalised intersection. d. within 10m from the tangent point of the kerb radius of a roundabout. e. on arterial road frontages. f. on verges where the adjacent traffic lane is less than 3m wide. g. 9m before and 1.5m after a bus stop marker sign. h. in any other no stopping zone. 	Compliant
(6)	<p>Where 1,100L bulk bins are to be serviced on the kerbside of a public street:</p> <ul style="list-style-type: none"> a. paths for the movement of bins to the kerbside from the waste and recycling storage area shall be free from gutters, steps and other impediments and have a grade of no more than 1:30. b. adequate space is to be provided for a HRV to park at the frontage of the property without obstructing driveways and other infrastructure. c. a flat, solid pathway and mountable kerb is provided. d. signage to reserve the area for refuse collection vehicles on the nominated service days is to be erected. 	Compliant
(7)	<p>Where wheeled bins are to be serviced on the kerbside of a public street:</p> <ul style="list-style-type: none"> a. paths for the movement of bins to the kerbside from the waste and recycling storage area shall be free from gutters, steps, and other impediments. b. there must be 1.8m of kerbside length per dwelling available to allow for the containers to be presented in a single line with 0.2m between each bin. c. the bins must not obstruct pedestrian movement along the footpath and driver sightlines at vehicle crossover points onto a property. d. the collection point must be free of obstructions, so the driver of the left side loading refuse collection vehicle does not have to alight from the vehicle. e. the collection point must not be on a driveway or in front of any other property. 	Compliant
Section 2.5 – On-Site Collection		
(1)	<p>A written design proposal for waste collection is to be provided, giving details of the proposed system, bin sizes, number of bins, storage and collection areas, frequency of collection and the refuse collection vehicle type and size. Table 2.1.1 - Bin sizes provide information on the types and dimensions of bins.</p>	Compliant
(2)	<p>Where refuse collection vehicles are required to enter a property or private road to service the bins:</p> <ul style="list-style-type: none"> a. the owner, body corporate or property manager must indemnify Council and its waste collection contractor from claims or liability arising from any damage to the internal roadways caused or contributed to by the operation of refuse collection vehicles on those internal roadways in connection with the waste collection services. 	Compliant

	<ul style="list-style-type: none"> b. the design specifications for the roadway and pavement are sufficient to carry a heavy rigid vehicle with a minimum load capacity of 30 tonne. c. the carriageway is free from overhanging vegetation. 	
(3)	Bulk bins of 1,000L to 3,000L (but excluding 1,100L bins) are positioned so the front lift refuse collection vehicles can drive directly up to bins without them being relocated. The driver should not have to alight from the vehicle to move the bin into position. The enclosures for these bins should not inhibit access by the refuse collection vehicle.	Not applicable
(4)	Bulk bins of 1,100L or less are positioned so that collection personnel do not have to move them more than 10m. If a gradient is evident, speed bumps are provided to stop bulk bins from rolling away from the collection point.	Not applicable
(5)	<p>Refuse collection vehicles may enter building basements for the collection of waste or recyclables where:</p> <ul style="list-style-type: none"> a. the gradient of the ramp access to the basement does not exceed 1:12. b. the height of the structural members and upper floor ceiling allow for a typical refuse collection vehicle travel height and operational lifting height consistent with the type of vehicle employed. c. the provision of manoeuvring space is adequate to allow for a three-point turn of the refuse collection vehicle. 	Not applicable
(6)	Access for a refuse collection vehicle to the collection point is maintained at all times.	Compliant
(7)	<p>The storage areas for bulk bins are:</p> <ul style="list-style-type: none"> a. contained in an enclosure or room of sufficient size for the bulk bin quantity required. b. easily accessible for residents and for the required servicing of bins. c. screened from neighbouring properties for amenity. d. designed to incorporate ventilation for enclosed storage areas. e. located and designed to minimise noise associated with the use and servicing of bins. f. protected from the weather. g. provided with natural or temperature-controlled ventilation if in an enclosed room. h. kept clear of obstructions, such as fixed bay separators, that impede the ability to change from existing bin sizes or which otherwise limit future refuse collection options. i. kept clear of other building infrastructure such as air-conditioning units, hot water systems or electrical hubs where located in a bin room. 	Compliant
(8)	<p>If a general waste chute is provided:</p> <ul style="list-style-type: none"> a. it is to be constructed to allow general waste to fall into the centre of the bin. b. it is to have a door / lid to ensure clean changeover of bins. c. the room containing the chute and bin, or compactor excludes all but authorised personnel. 	Not applicable
(9)	Environmental best practices include the installation of a trapped waste connection to the sewer system and providing a roof canopy over the designated waste and recycling storage area.	Compliant

Section 2.6 – Access & Manoeuvrability		
(1)	A swept path analysis, certified by a Registered Professional Engineer of Queensland (RPEQ), must be used to check that the paths of travelling vehicles when negotiating access driveways, circulation roadways and servicing areas to establish that sufficient width is provided for the vehicle swept path, including manoeuvring clearances in accordance with Table 2.6.1 to 2.6.7.	Refer Traffic Report
(2)	Refuse collection vehicles are always able to move in a forward direction or have to perform no more than one three-point turn.	Refer Traffic Report
(3)	A refuse collection vehicle must not reverse, other than to perform a three-point turn.	Refer Traffic Report
(4)	Adequate lift clearances are provided to enable the safe mechanical to pick up and set down of bins in accordance with Tables 2.6.1 to 2.6.7.	Refer Traffic Report
(5)	The pad that the collection vehicle will stand on while accessing refuse bins at the collection point is to have a maximum gradient of 2 percent (1:50).	Refer Traffic Report
(6)	Where the refuse collection vehicle is required to enter private property, an easement is to be provided in favour of Council for access.	Refer Traffic Report
(7)	A heavy-duty sealed pavement is to be provided.	Refer Traffic Report
(8)	In providing turning path analysis, the following should be provided (where relevant): <ul style="list-style-type: none"> a. details of road geometry (width of the road carriage way, verge, kerb and channel, median and on-street parking where applicable). b. details of the driveway (grade and width). c. dimension details of the design vehicle. d. turning radius and operable speed. e. three clear swept paths line namely wheel path, vehicle body path and 0.3m clearance path. 	Refer Traffic Report
(9)	The parameter of the design vehicle for swept path analysis should be obtained from the manufacturer specification (with reference) or the parameters in the Tables 2.6.1 to 2.6.7.	Refer Traffic Report
Section 3 – Residential Refuse Collection (N/A – Relates to multiple dwelling & short-term accommodation developments)		
Section 4 – Non-Residential Refuse Collection		
(1)	A waste management plan must be provided and approved by Council for all developments with a common waste and recycling storage area.	Compliant
(2)	A waste management plan is to demonstrate that refuse collection can occur in an efficient and safe manner on site without adverse impact on amenity (acoustic, odour or visual impacts), pedestrian safety and vehicular traffic.	Compliant
(3)	The requirements for refuse bins or refuse compactors for non-residential development will be assessed case by case, based on the type and amount of waste generated by the development, which is dependent on the operational activities of the development.	Compliant
(4)	Where disposal of industrial or commercial liquid waste occurs by discharge to a road tanker, the road tanker is to be wholly located on-site during collection.	Not applicable
(5)	The waste and recycling storage areas for industrial bins are to be either within a building or enclosure.	Not applicable

(6)	<p>A space for the dedicated storage of bulky waste and problem waste for recycling of at least:</p> <ol style="list-style-type: none"> 2m² for developments under 100m² GFA. 4m² for developments between 100m² and 2,000m² GFA. an additional 4m² for each retail activities or entertainment activities development over 2,000 m² GFA and for every 20,000 m² of office space. 	Compliant
(7)	Space is to be provided on-site in reasonable proximity to retail or commercial premises to store re-usable commercial items such as crates, pallets, kegs, strip out waste and similar items so that storage in a public place is completely avoided.	Not applicable
(8)	Secure space is to be allocated for the separate storage of each waste stream including liquid wastes, commercial cleaning products, chemicals, paints, solvents, and motor and cooking oil. These areas for liquid waste storage are to be bunded, and drained to a grease trap, in accordance with legislation and the requirements of State government authorities and agencies.	Not applicable
(9)	The use of cardboard balers/compactors and glass crushers for developments with a high generation of cardboard and glass recyclable waste should be considered.	Not applicable
(10)	Space should be provided for the separate collection of beverage containers suitable for redemption under the Queensland Container Deposit Scheme.	Not applicable
Section 5 – Mixed use Development (N/A)		
Section 6 – Waste Management Plan		
(1)	A waste management plan where required is to support a development application and demonstrate that the proposed development can comply with the applicable standards in the Servicing, access, and parking code.	Compliant
(2)	<p>A waste management plan must provide the following information:</p> <ol style="list-style-type: none"> a brief description of the development and site location. a site plan (with dimensions) showing: <ol style="list-style-type: none"> the location of existing and proposed buildings. landscaping areas. site access points. bin storage points. bin collection point. where bins are to be collected on site, the swept path of the refuse collection vehicle. swept path diagrams for each turn within the development required to be performed by the refuse collection vehicle showing clearance dimensions from buildings, fences, infrastructure, and landscaping. an estimate of weekly volumes of waste material generated. the proposed bin types and sizes at each storage area. outlines proposed waste management practices during the construction of the development. bin carting routes and distances (where applicable). a chute diagram from top storey to waste storage room and location on each floor (where applicable). 	Compliant – See below report

2.2 Refuse Bin Requirements – Residential (Retirement Living)

Individual mobile garbage bins (MGBs) will be provided for each Retirement Villa as well as the managers residence. Bins will be provided in line with council’s standard waste collection. All villas will be provided with 1 x 240L MGB for general waste and 1 x 240L bin for commingled recycling.

TTM notes that retirement facility developments statistically house fewer occupants per dwelling than a freestanding dwelling and generate lower volumes of refuse as a result. As such, smaller 140L bins may be considered to be appropriate and bin sizes may need to be altered on a per dwelling basis to suit individual dwelling or occupants needs.

Table 2-2: Bin Requirements per Retirement Dwelling

Refuse Stream	Bin / Equipment - Type or Size	Bins Required	Collection Frequency
General Waste	240L	1	Once per week
Commingled Recycling	240L	1	Once per fortnight

2.3 Refuse Bin Requirements – Ancillary Facilities

Logan City Council does not provide estimated operational waste volumes or prescribe refuse generation rates for non-residential developments. The refuse generation rates prescribed City of Gold Coast (CoGC) align with TTM’s expectation for the volume of refused generated by the ancillary facilities and within comparable developments. Therefore, the generation rates used for the calculation of refuse produced by the club house and summer pavilion have been applied based on rates recommended by CoGC.

A collection frequency of once per week has been established for the club house, for both general refuse and comingled recycling. The collection frequency for the summer pavilion has been aligned with the surrounding villas at once per week for general waste and once per fortnight for commingled recycling. It is assumed both facilities will be open for use 7 days per week.

2.3.1 Refuse Generation Rates

Refer to Table 2-3 for the accepted Refuse Generation Rates

Table 2-3: Refuse Generation Rates

Generation Rate	Applied To	Measure	General Waste	Combined Recycling	Days of Operation
Office	Ancillary Areas of Club/Summer pavilion	L / 100m ² / Day	10	20	7
Dining Areas	Kitchen / Bar / Hall	L / 100m ² / Day	50	50	7
Retail (Non-food)	Salon	L / 100m ² / Day	50	50	7

2.3.2 Refuse Volume Calculations

Refer to Table 2-4 and Table 2-5 for the accepted refuse volume calculations.

Table 2-4: Refuse Calculations – Club House

Area Description	Measure	Quantity	General Waste L/Week	Commingle Recycling L/Week
Club house Ancillary	GFA (m ²)	1,001	701	1,401
Kitchen, Bar & Hall	GFA (m ²)	590	2,065	2,065
Salon	GFA (m ²)	70	175	175
Total Weekly Volumes (L / Week)			2,766	3,466
Total Weekly Volumes Compacted (L / Week)			-	-
Volumes per Day (L / Day)			395	495
Volumes per Collection (L / Collection)			2,766	3,466
Collection and Equipment Details	Collections per Week		1	1
	Storage Capacity		7 Days	7 Days
	Equipment Size		1,100L	1,100L
	Equipment Quantity Required		2.51	3.15
	Equipment Quantity Provided		3	3

Table 2-5: Refuse Calculations – Summer Pavilion

Area Description	Measure	Quantity	General Waste L/Week	Commingle Recycling L/Week
Summer Pavilion	GFA (m ²)	238	167	333
Total Weekly Volumes (L / Week)			167	333
Total Weekly Volumes Compacted (L / Week)			-	-
Volumes per Day (L / Day)			24	48
Volumes per Collection (L / Collection)			167	333
Collection and Equipment Details	Collections per Week		1	1
	Storage Capacity		7 Days	7 Days
	Equipment Size		240L	240L
	Equipment Quantity Required		0.69	1.39
	Equipment Quantity Provided		1	2

Table 2-6: Refuse Calculations – Workshops

Area Description	Measure	Quantity	General Waste L/Week	Commingle Recycling L/Week
Workshops	GFA (m ²)	82	57	115
Total Weekly Volumes (L / Week)			57	115
Total Weekly Volumes Compacted (L / Week)			-	-
Volumes per Day (L / Day)			8	16
Volumes per Collection (L / Collection)			57	230
Collection and Equipment Details	Collections per Week		1	1
	Storage Capacity		7 Days	14 Days
	Equipment Size		240L	240L
	Equipment Quantity Required		0.24	0.96
	Equipment Quantity Provided		1	1

2.4 Equipment Requirements & Specifications

Table 2-7 outlines the number of bins and additional equipment required for each component based on the generation calculations above.

As refuse volumes may vary from assessment benchmarks, bin numbers and sizes may need to be altered to suit the building operation. The tables depict the maximum number of bins and equipment expected.

Table 2-7: Bin Requirements

Component	Refuse Stream	Bin / Storage – Size or Type	Number Required
Retirement Living	General Waste	240L	290
	Commingled Recycling	240L	290
Ancillary Services	General Waste	1,100L & 240L	3 & 2
	Commingled Recycling	1,100L & 240L	3 & 3

2.5 Refuse Disposal

The tables in this section summarise general recommended disposal arrangements for frequently generated and infrequently generated refuse for each development component. Section 2.5.1 describes the frequently generated refuse streams that are generated in high volumes for any given period and require significant capacity for storage prior to collections. Section 2.5.2 describes the infrequently generated refuse streams that are generated in relatively low volumes, and where minimal provision for storage can be easily managed by collection frequency and ad hoc storage arrangements.

2.5.1 Frequently Generated Waste

Table 2-8: Disposal of Frequently Generated Refuse

Refuse Stream	Disposal Details
WASTE	
General Waste	<p>Residential Space for bins to store one day's worth of generated refuse will be provided in each retirement living villa. Each week or fortnight, all refuse will be transferred by residents to the road for kerbside collection.</p> <p>Clubhouse The clubhouse will contain various communal receptacles for residents and visitors to decant all general waste into. These bins will be housed in the refuse disposal room and subsequently collected by building management and decanted in the bulk bins located within the clubhouse bulk bin enclosure as required.</p> <p>Summer Pavilion Communal receptacles for general waste will also be available in the summer pavilion. Building management will be required to decant these bins into the specified 240L MGB's at the end of each day.</p>
Organic (Food) Waste	<p>Separating organic or food waste from general waste is recommended for all uses to reduce the total amount of general waste produced. Separation may be considered and begin at any stage during the operational phase of the development.</p> <p>Caddy bins or bins no larger than 60L should be used in high volume situations such as communal kitchens, for disposal of food waste. The bins are then transferred to the refuse room for collection. The content is then decanted in bulk bins or processing equipment provided within the refuse enclosure.</p> <p>While LCC does not currently offer a food organics collection service to residential dwellings, commercial options are available at additional cost.</p>

Refuse Stream	Disposal Details
RECYCLING	
Commingled, including: <ul style="list-style-type: none"> • glass • aluminium • steel cans • tins • cardboard • semi rigid plastics 	Residential Items for recycling must not be bagged and disposed in loose form. This can be done by decanting the materials from their household individual receptacles directly into their bin.
	Clubhouse and Summer Pavilion The clubhouse and summer pavilion will contain communal receptacles that will be transferred to the refuse storage room at the end of each day or as required. Community management or Caretaker should encourage residents to take advantage of container deposit / refund schemes as well.
	Container deposit / refund schemes are currently in place in Queensland. Various models exist including bottle return facilities and (automated) reverse vending machines. Occupants should be encouraged to separate containers that qualify for the schemes from the waste or recycling streams and send back to a return point. Storage space or dedicated bins within the units or refuse rooms can be provided.

2.5.2 Infrequently Generated Waste

Table 2-9: Disposal of Infrequently Generated Refuse

Refuse Stream	Disposal Details
Garden Organics refuse / Green Waste	Garden organic refuse also referred to as green waste will be produced from landscaped areas or potted plants around this development. Green waste is produced largely on a weather or seasonal dependent basis and based on plant selections. Green waste is usually removed by the designated maintenance contractor. Interim storage is not provided. The engaged contractor will be required to send this material to a composting or resource recovery facility rather than to a landfill.
Hard Waste / Bulky Goods	Hard waste collections will be coordinated in line with LCC's hard waste collection arrangements for residential uses, and hard waste / bulky goods moved to the loading or a designated area for removal prior to collection. When storing bulky goods in a loading area, it is recommended that items are placed on a pallet for efficient loading via a pallet jack or forklift onto the RCV. Communal facilities uses will utilise bulk bins provided for bulky waste disposal or make other coordinated collection arrangements where items are unsuitable for bulk bin disposal or where significant volumes are generated such as during tenancy refits.
Hazardous Waste (paints, batteries, and cartridges) Electronic Waste	Where applicable, occupants usually make their own arrangements for the disposal of specialised or hazardous waste and electronic waste such as recycling of toner cartridges and batteries. Please refer to LCC and QLD government websites for disposal options. Batteries are highly volatile and must be disposed of separately and never in the general waste or commingled recycling bins. TTM recommend a communal disposal point is provided by Community management and located in the communal facilities. It is expected that the building management assist with disposal of hazardous, electronic, or liquid waste and any paint or chemicals as required and requested. Hazardous waste must be handled with due care, separated, and securely stored for collection by a specialist waste contractor. Please refer to local LCC and QLD government websites for further information.

2.6 Refuse Storage & Access Requirements

The refuse storage requirements for each component of the development are addressed below.

2.6.1 Retirement Living Villas

All refuse will be stored within stream separated Mobile Garage Bin (MGB) located externally at grade of each dwelling site for everyday use. The residents of each dwelling site will be required to store all bins within the dwelling site boundary and behind a side access gate to ensure bins are screened from public view. The storage location will not be positioned within 1.5m of adjoining villas or within 3m of the frontage of each site.

The Community Manager will assist in the education of residents on the correct storage of bins as required. The refuse storage areas provided for each retirement living villa are sufficiently sized to accommodate all 2 x 240L refuse bins required.

The managers residence refuse storage arrangement is consistent with all other retirement living villas. MGB's will be stored at the back of the property adjacent to the terrace, to be adequately screened from public view. Side access is also retained for the managers house, allowing for the bins to be transferred between presentation and storage points.

2.6.2 Club House

Master plan design drawings for the clubhouse include an internal refuse room, which is anticipated to serve as a disposal room for the temporary storage of all refuse generated throughout the week.

Bins up to 90L will be positioned within the development for the immediate disposal of refuse. Once full or as required, refuse will be transferred to the bulk bin refuse enclosure and decanted into the bulk bins by the community manager.

The final design and location of the bulk bin collection point will be refined in post development consent stage and will be located adjacent to the car park, capable of supporting rear-lift servicing by a rear-loading RCV. The clubhouse bulk bin collection point will be suitably sized to accommodate 6 x 1,100L bulk bins.

Figure 2-1 shows a potential configuration for the refuse storage area in the club house. The configuration and size of the enclosure is provided to ensure the majority of bins are either directly accessible for disposal or can be easily rotated.

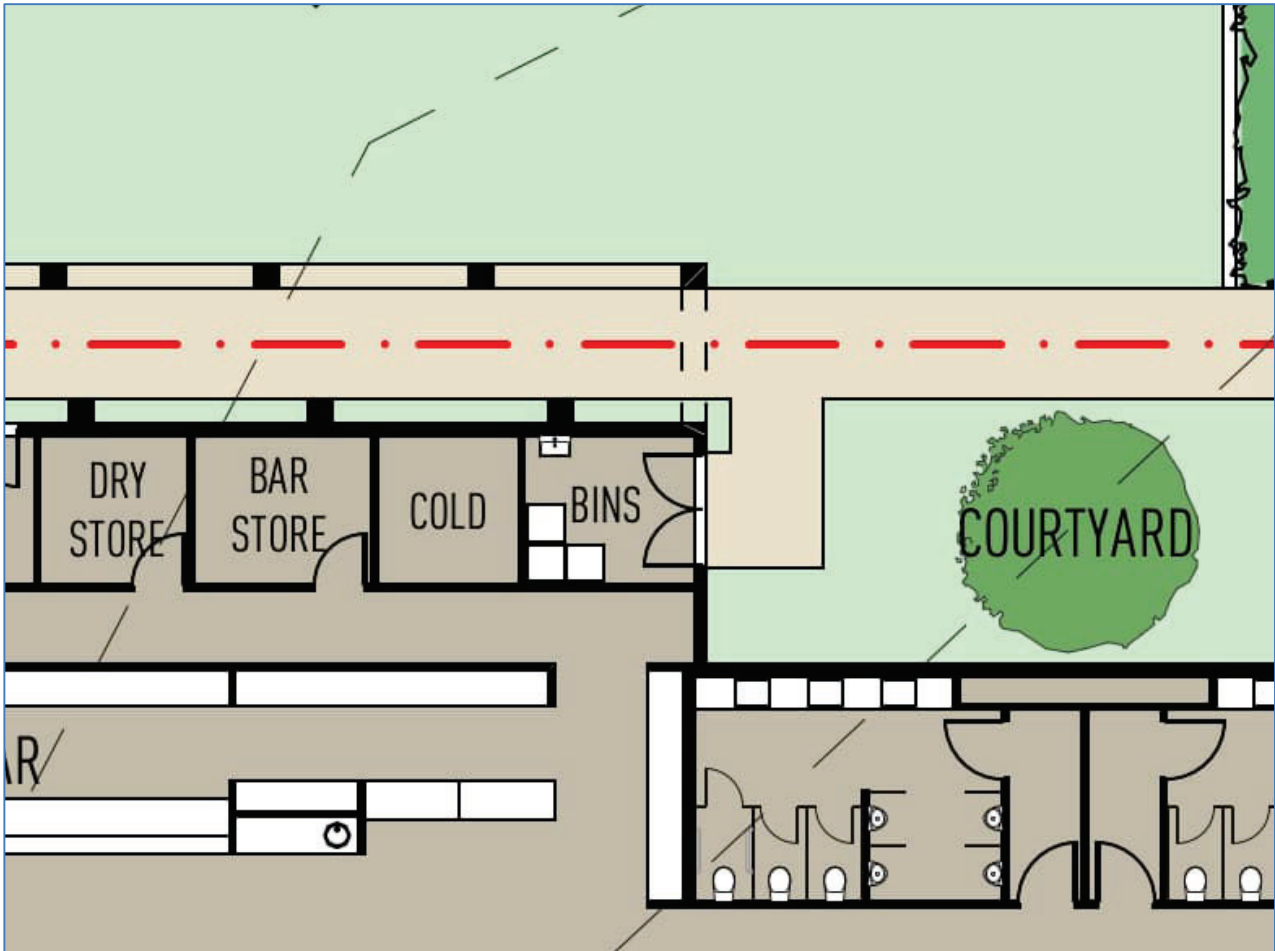


Figure 2-1: Potential Refuse Storage Area Configuration

Source: JAREDPOOLEDESIGN, Project: 74-96 Koplick Road, Chambers Flats, Drawings: Club House Plan, Drawing Number: BP1380/06.03, Dated: 01/03/2024

2.6.3 Summer Pavilion

Master plan design drawings for the summer pavilion do not include a refuse store. The anticipated refuse volumes of this area are extremely low and can be accommodated by 3 x 240L bins (1 x 240L general waste and 2 x 240L commingled recycling).

2.6.4 Workshops

Master plan design drawings for the workshops do not include a refuse store. The anticipated refuse volumes of this area are also extremely low and can be accommodated by 2 x 240L bins (1 x 240L general waste and 1 x 240L commingled recycling).

2.6.5 Design Requirements

Table 2-10 outlines the refuse storage area design criteria addressed in order to minimise odours, deter vermin, protect surrounding areas, and make it a user-friendly and safe area.

Table 2-10: Refuse Storage Area Design Requirements

Positioning Considerations
Positioned in immediate proximity of the designated loading point
Is in a purpose-built storage area which is vermin proofed and used solely for the storage of refuse leaving the site or specifically designed for service vehicle use only.
Not located adjacent to or within any habitable portion of a building or place used in connection with food preparation (including food storage).
Is positioned away from entrances to shops or residential premises
Is over 5m from any door, window or fresh air intake within the development or any adjoining site.
Visual Amenity Considerations
Is enclosed on all sides except for the access points to ensure bins are not visible from a public place, neighbouring properties, passing vehicles or pedestrian traffic external to the site.
Is designed to minimise their visual impact on the surrounding areas.
Functional Design Considerations
Is of sufficient size to accommodate the bins with sufficient clearance around the combined bin area
Doors / shutters wide enough to allow for the easy removal of the largest container to be stored.
Permits unobstructed access for removal of the containers to the service point.
The height of the bin storage area allows for waste bins to be opened and closed.
Does not have any steps or lips.
Adequate artificial lighting.
Bin Washing and Room Cleaning Considerations
A hose cock provided in the immediate vicinity for cleaning bins and the storage area.
The walls, ceilings, floors, and equipment are to be designed and constructed of impervious material with a smooth finish to allow for easy cleaning.
The floors to be graded to fall to a drainage point.
For internal storage points, drainage points connected to sewer in accordance with trade waste requirements.
Where sewer connected draining is provided, roofed, and designed to prevent entry by rainwater.

2.7 Refuse Transfer

The refuse transfer arrangement varies based on proposed bin type and is outlined below.

As a general rule, the refuse transfer path design elements must include the below:

Table 2-11: Refuse Transfer Path Design Elements

Refuse Transfer Path Design Elements
The bins to be transferred via hard stand pathway.
Allows bins to be easily manoeuvred.
Does not impede traffic flow.
Does not extend through any habitable parts of a building or food premise
Does not have any lips, stairs, or steps for bins to be manoeuvred easily.

2.7.1 MGBs – Kerbside Collection

The collecting contractor will collect all correctly presented MGB’s directly from the designated collection point on the kerbside for each villa, managers residence and the summer pavilion. No transfer is required by the collecting contractor to service bins under the proposed kerbside arrangement.

Retirement Living Villas and Managers Residence:

The refuse transfer arrangement for each villa is consistent with typical free-standing residential developments. The residents of each dwelling will be responsible for the transfer of bins from the dwelling’s refuse storage area to the kerbside prior to the scheduled service. After service, residents will be responsible for returning bins to the storage point of each dwelling for cleaning as required and everyday use. Side access has been maintained so that residents can efficiently transport MGB’s to kerbside.

A small number of dwellings do not have immediate access to the RCV movement path. It is proposed that these residents cross the road with their bins for collection. To address the safety controls of this, it is suggested that traffic calming elements are implemented to reduce the risk to residents.

The Community Manager will be responsible for educating and assisting residents with the correct presentation of bins on the kerbside to ensure bins are presented with adequate spacing between bins and obstructions. The collecting contractor will collect bins directly from the kerbside, no transfer is required by the collecting contractor.

Summer Pavilion & Workshops:

The summer pavilion ad workshops will also utilise kerbside servicing. The community manager will be responsible for transferring bins from the internal areas to the road adjacent to the summer pavilion/workshops and returning after service. The community manager will also be responsible for bin and room cleaning as required.

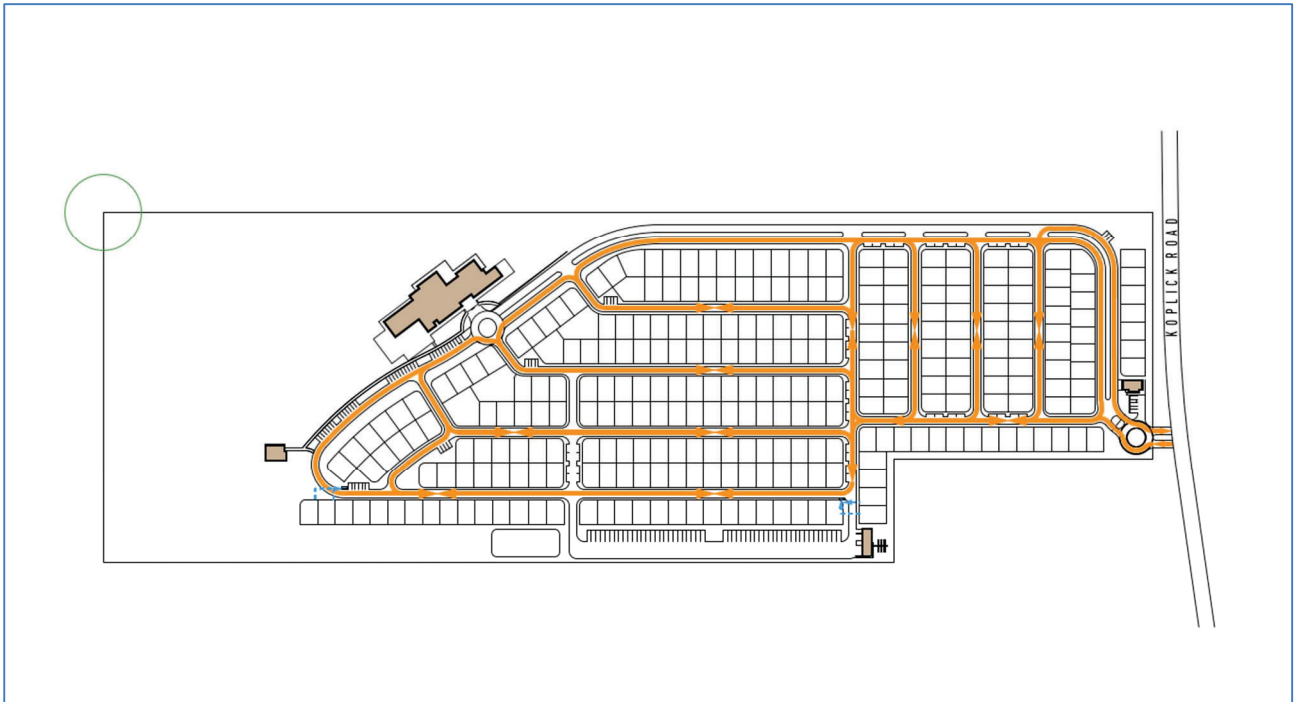


Figure 2-2: Refuse Vehicle Path Plan

Source: JAREDPOLEDESIGN, Project: 74-96 Koplick Road, Chambers Flats, Drawings: Refuse Vehicle Path Plan, Drawing Number: BP1380/04.01, Dated: 01/03/2024

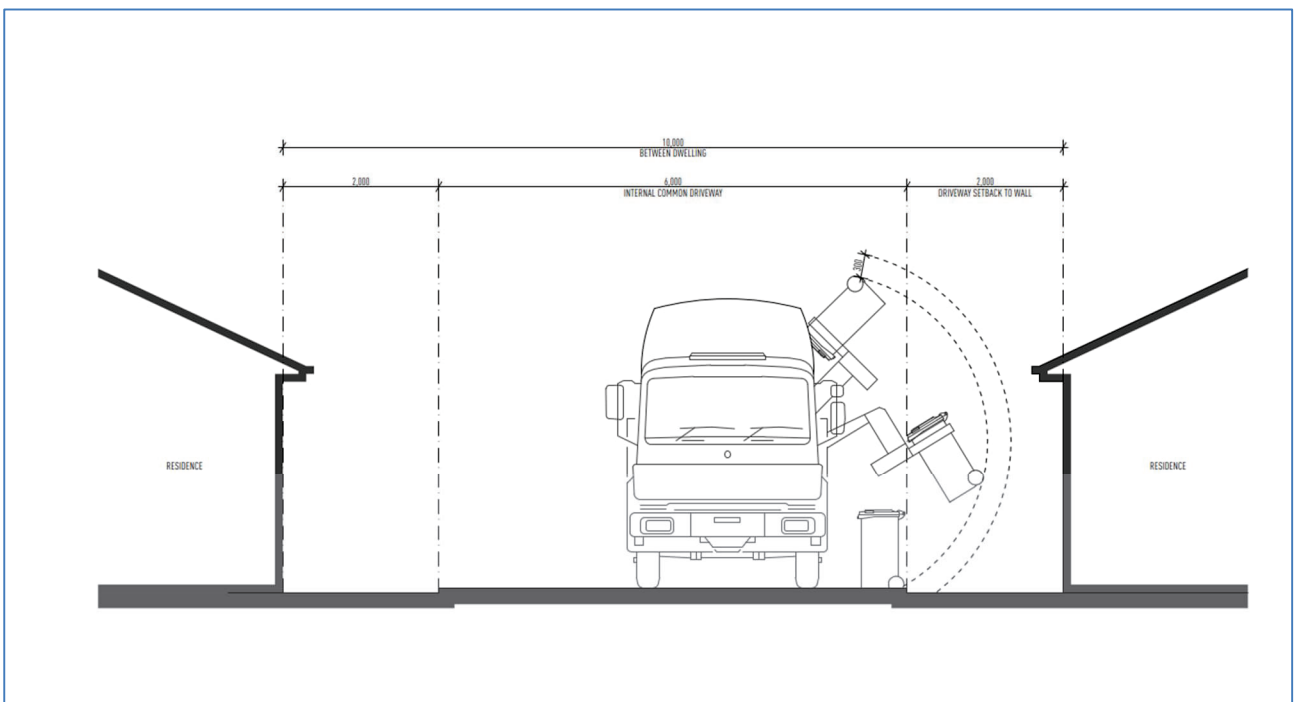


Figure 2-3: Refuse Vehicle Side Lift Clearance

Source: JAREDPOLEDESIGN, Project: 74-96 Koplick Road, Chambers Flats, Drawings: Refuse Vehicle Side Lift Clearance, Drawing Number: BP1380/04.02, Dated: 01/03/2024

2.7.2 Bulk Bins – Club House

As required, the community manager will transfer all refuse within the development to the bulk bins for final disposal. All refuse will be transferred and decanted via manual transfer methods.

The final design of the bulk bin storage area will occur in post development consent stages. The bulk bin storage point will be designed to accommodate rear-lift servicing, as a result, minimal transfer is required by the collecting contractor for servicing.

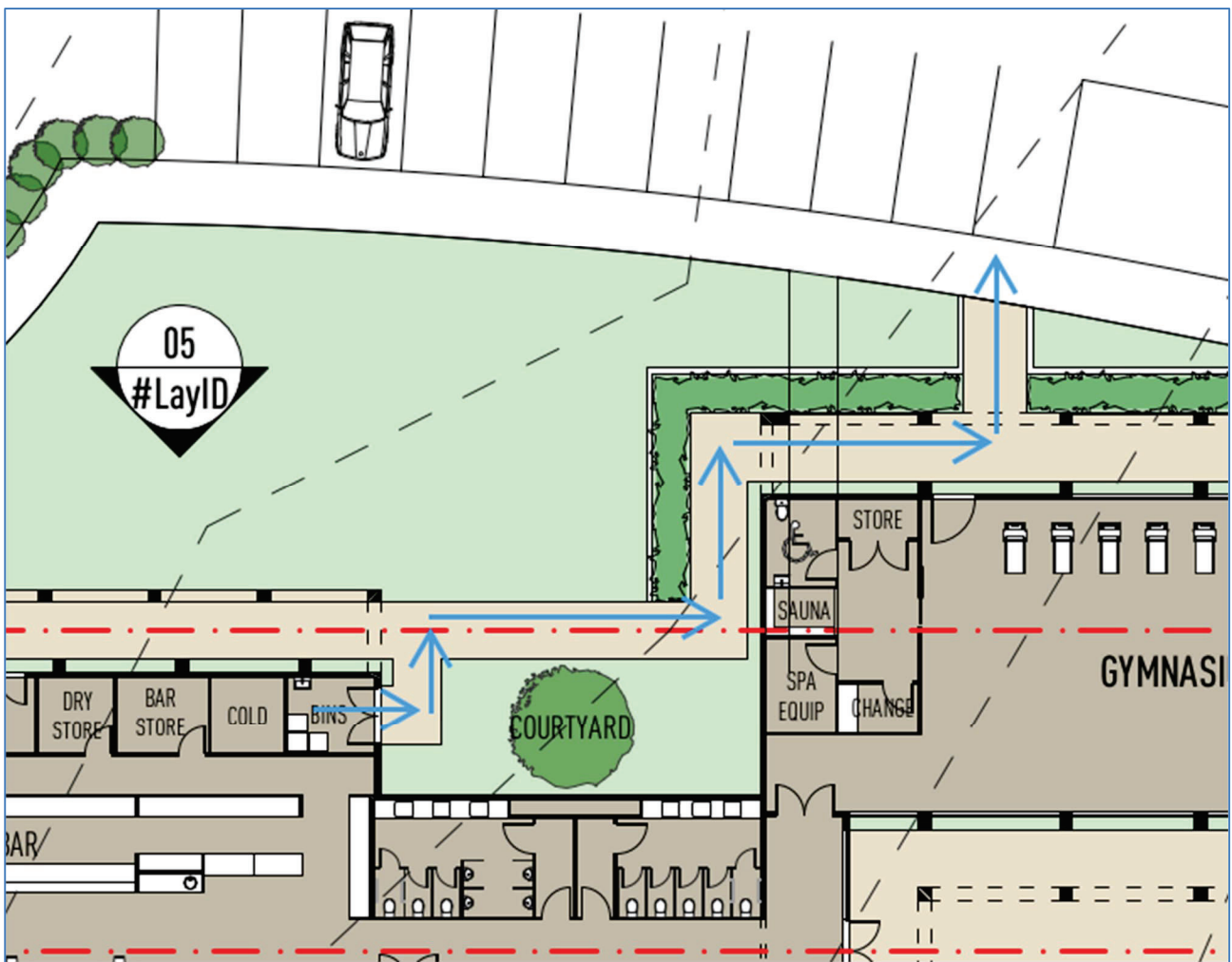


Figure 2-4: Refuse Transfer Pathway

Source: JAREDPOOLEDESIGN, Project: 74-96 Koplick Road, Chambers Flats, Drawings: Club House Plan, Drawing Number: BP1380/06.03, Dated: 01/03/2024

2.8 RCV & Bin Servicing Arrangements

The refuse transfer arrangement varies based on proposed bin type and is outlined below.

2.8.1 MGBs – Kerbside Collection

All MGB's, including the managers residence, workshops and summer pavilion will be collected by a councils appointed collections contractor, under a commercial servicing agreement. Side Loading RCV's circulate the development's internal road network in a forward gear, no reversing is required to service the development. RCV's will collect all bins correctly presented to the kerbside in front of each dwelling or within the designated presentation points.

2.8.2 Bulk Bins – Club House

All refuse generated by the clubhouse will be collected by a private collection contractor. Rear-loading RCV's will collect the clubhouse bulk bins directly from the bulk bin enclosure at the clubhouse. Forward-in, forward-out manoeuvring is provided for the RCV. On-street servicing of these rear-lift bins is proposed.

2.8.3 Swept Paths

Swept Paths for the RCV servicing will be prepared and submitted as a component of the detailed design stage. Further details on vehicle access and on-site manoeuvring can be found in the transport report.

3 Operational Waste Recommendations

This section does not contain information relevant for regulatory assessment.

This section relates to the outcomes and waste management practices of the development during the operational phase as recommended by TTM. It is intended for use as a live document by the end user of the development to assist with the ongoing management of the development.

3.1 Anticipated Refuse Volumes

3.1.1 Residential

TTM have worked extensively with operating residential developments within the Brisbane and Logan local government area. This includes establishing typical volumes of refuse generated through volumetric auditing. TTM have established a flat generation rate applicable to typical dwellings. This rate is used to provide more accurate recommendations relating to anticipated bin sizes.

It should be noted that these volumes are based on the maximum aggregate audit results of operational sites completed by TTM and do not factor in potential demographic or socio-economic factors and therefore not site specific however, give an estimation of likely waste generation. Site specific auditing is recommended to establish actual refuse generation and composition of this site. Site specific auditing allows refinement of the overall refuse strategy.

3.1.2 Ancillary Services

Refuse generated by the ancillary domains of this will be minimal in nature – the 1,100 litre bins provided are based on generation rates that likely allow for significantly more waste than will be generated. TTM have also worked extensively with operating commercial developments in the Brisbane and Logan areas and have data on file to suggest that the waste that will be generated by this development will be minimal.

The developer has indicated that the ancillary services will be communal facilities and not commercial tenancies.

3.2 Recommended Refuse Bins & Equipment

Table 3-1 below outlines the number of bins and additional equipment likely to be required for the development based on the refuse composition and generation commentary above.

These recommendations are provided to assist in the instigation of collection services and provided based on TTM's recommended stream separation for each use within the development.

Services may be provided utilising the refuse storage area proposed within the development application. Where possible services should be consolidated among non-residential uses for optimum economy of scale and cost efficiency.

TTM waste recommend implementing stream separation opportunities once the building becomes operational. This could include cardboard and paper bins, glass bins, food organics bins and other stream separation bins.

Table 3-1: Recommended Bin Requirements

Domain	Refuse Stream	Bin / Equipment - Type or Size	Bins Required	Storage Capacity Between Collections
Residential	General Waste	240L	290	7 Days
	Commingled Recycling	240L	290	14 Days
Ancillary Services	General Waste	1,100L & 240L	3 & 2	7 Days
	Commingled Recycling	1,100L & 240L	3 & 2	7 Days

3.3 On-going Management

The tables below relate to a cycle of ongoing implementation, operation, review, and amendment of the refuse strategy. These tables are intended to serve as a live document to be completed and updated during the operational phase of the development and therefore intentionally left blank.

Responsibilities have to be assigned for all on-going refuse management related activities during the operation of the development. TTM recommend the appointment of dedicated personnel to champion refuse management and sustainability. The following lists (Table 3-2 to Table 3-4) are designed to help manage and assign responsibilities and monitor the refuse operations. On-going management of the refuse strategy will maintain efficient services, a safe environment and improve on sustainability outcomes.

3.3.1 Implementation Phase

Refuse management tasks during the implementation of the refuse strategy are required prior to and during the early stages of building occupancy. An opportunity to revisit these tasks is provided at set intervals with the review of the refuse strategy.

Table 3-2: Implementation Checklist

Task	Assigned	Remarks
<p>Certify the as-built form of all refuse related areas.</p> <p>This task does not refer to building certification but is typically undertaken by a specialist waste consultant prior to building certification. This offers an opportunity to identify variances in building form versus design and recommend alternate or mitigating refuse management strategies.</p> <p>This task may also be needed during building refits and change of use in tenancies.</p>		
<p>Appoint personnel to oversee or undertake refuse management tasks.</p> <p>Community Manager or Caretaker appointed undertakes most operational tasks, engaging contractors for specialist tasks.</p>		
<p>Conduct internal safety review.</p> <p>An internal safety review is required to be undertaken to identify potential hazards in the implementation of the refuse strategy and risk mitigation opportunities.</p> <p>This includes the use of any refuse management equipment installed, as well as refuse transfer paths</p>		
<p>Development of policy and procedures</p> <p>Must be undertaken after safety review and abide by all relevant occupational health and safety legislation, regulations, and guidelines to ensure site safety for visitors, staff, and contractors.</p> <p>Also includes assessment of any manual handling risks and preparation of a manual handling control plan for waste and bin transfers.</p>		

Task	Assigned	Remarks
<p>Engage refuse collection contractors.</p> <p>Either Council's appointed collections contractor or a private contractor (for communal facilities) must conduct a site visit for the purposes of risk assessing the site prior to conducting services. Contractors must ensure that a full risk assessment of equipment, surfaces and related gradients is complete and procedural documentation is provided to the appropriate personnel.</p> <p>RCV manoeuvrability testing and the establishment of service frequency and timing is also undertaken at this time.</p>		
<p>Install signage in all refuse disposal and storage points.</p> <p>Signage is required to be installed to educate building occupants on location of disposal and refuse storage points. Additionally, to identify the accepted items disposed of in each refuse. The installed signage should be colour coded in accordance with AS 4123.7 – 2006 Mobile waste containers. Examples of signage are provided in the appendices.</p>		
<p>Leasing / Body Corporate Agreements</p> <p>All body corporate and leasing contracts should contain clauses pertaining to waste management arrangements and use of any associated equipment.</p>		
<p>Education and Training.</p> <p>Provision of equipment manuals, induction, training, health and safety procedures, risk assessments and personal protective equipment (PPE) to all staff / contractors associated with all waste management activities in order to control hazards.</p> <p>The step is repeated through the operational phase of the development as required due to changes in users or personnel.</p>		
<p>Consider fit out and move-in refuse.</p> <p>Higher volumes of waste are generated during the initial occupant move-in or final fit out. This typically includes large volumes of cardboard. Additional bins or collections may be required.</p> <p>This also applies to high turnover events and refits.</p>		
<p>Baseline Refuse Auditing</p> <p>A baseline audit once the development reaches 80% occupancy undertaken by a specialist waste consultant is recommended to identify refuse volumes and stream composition. This information is then used to establish potential recoverable material percentage based on initial waste practices and set recycling rate targets.</p>		

3.3.2 Occupation/Operational Phase

Refuse management tasks during the occupation or operational phase of the development relate to the day to day and business as usual operational tasks that must be undertaken to execute the refuse strategy.

Table 3-3: Occupation/Operation Checklist

Task	Assigned	Remarks
<p>Facilitate disposal from communal areas, public realm, and tenancies.</p> <p>Appointed staff are required to transfer refuse generated in communal areas and the public realm to the refuse storage area for final disposal, this includes litter removal.</p>		
<p>Manage rotations of bins to ensure convenient access.</p> <p>Check bin fill levels and rotate / swap bins in communal facilities as required. Sufficient capacity must be provided for the disposal of all streams at all times including reduced personnel on site (such as weekends or public holidays). Where equal access to a refuse stream is not maintained, other streams may be contaminated leading lost resources.</p>		
<p>Manage bin transfers to temporary holding or agreed servicing point.</p> <p>Bins are required to be presented to the temporary holding or agreed servicing point prior to the scheduled service time and ensure the area is free from obstruction. Late bin placement or servicing obstruction may lead to missed bin services.</p>		
<p>General cleaning.</p> <p>Regular cleaning and maintenance of all refuse management facilities is important to maintain a safe and hygienic environment for visitors, staff, and contractors. General cleaning is required for all refuse holding and transfer areas including:</p> <ul style="list-style-type: none"> • Refuse bins, rooms, and storage areas, • Refuse transfer areas including lifts and staircases, • Any other refuse management equipment. 		
<p>Perform spot checks on bin contents and refuse streams.</p> <p>Community manager or Caretaker to regularly check for compliance and stream contamination. Early intervention prevents the development of poor practice and lost resources. Feedback and education are provided to the relevant parties (see below).</p>		
<p>Ongoing education and communication.</p> <p>On-going education is important to ensure people continue to use the facilities as originally intended and to avoid ongoing contamination of recoverable refuse streams.</p> <p>Appointed personnel should be actively involved in education of occupants and encouraging participation in recycling activities. Widespread communication of the achievements of the refuse strategy and areas for improvement encourage participant buy-in.</p>		

3.3.3 Review/Amendment Phase

The review and amendment refuse management tasks relate to tasks undertaken on a routine (e.g. quarterly, bi-annually, or annually) or ad-hoc basis. At the completion of the review and amendment phase, the cycle restarts with the implementation of the amended refuse strategy.

Table 3-4: Review and Amendment Phase

Task	Assigned	Remarks
<p>Coordination of specialised cleaning contractors as required. Typical specialised cleaning services may include cleaning internal areas of refuse management equipment (if selected); this reduces risk of blockage, odour, and risk of fire.</p>		
<p>Maintenance and servicing of refuse management equipment as per schedule. Frequency depends on equipment, building operation and manufacturer specification. Routine maintenance reduces downtime and detrimental impact of unscheduled equipment breakdown.</p>		
<p>Coordination of specialised equipment contractors as required. May extend to ad hoc services requiring specialist equipment such as bulky / hard waste removal.</p>		
<p>Internal safety review. Routine safety reviews are required to identify changes to the site, work practices or legislation that may impact existing policies and procedures. Reviews should include visual inspection of equipment and user PPE. Any policy or procedure updates arising from a safety review must be immediately communicated.</p>		
<p>Audit operational refuse volumes and composition. As similarly undertaken at the beginning of occupancy a review by a specialist waste consultant is recommended to identify refuse volumes and stream composition. This information is then used to establish potential recoverable material percentage and identify opportunities for improvement in refuse strategy. Alternatively, an internal audit may be undertaken by visual inspection during on-site waste management handling activities. For example, cleaners may observe contents of waste receptacles when decanting caddies in larger bins and recording results, this method is less accurate than a comprehensive audit, however, give immediate indicative results and may be undertaken on an ongoing basis.</p>		
<p>Review bin quantities and refuse management equipment. Reviewing bin quantities and equipment is required ensure operational sustainability of refuse volumes and equipment remains fit for purpose. Consideration should be given where alternate equipment may provide improved outcomes. This review may form part of the external audit process (above) as recommendations made.</p>		

Appendix A Site Plans

Project: **Proposed New Development**

At: No. 76-94, Kopllick Road, Chambers Flat, Qld
BP1380 March 2024

Development Application

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Introduction



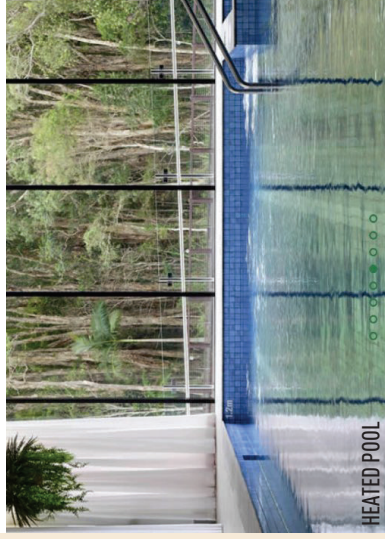
Peaceful living

*Vibrance, sophistication and a passion for the finer things in life are in abundance at this proposed master planned resort designed to bring people together.
Gemlife's newest resort.*



Connected Community

Community club house with a wide array of activities forming the nucleus of social activity



Location

TO BROWN PLAINS

MUNRUBEN

PARK RIDGE

PROPOSED DEVELOPMENT

LOGAN RESERVE

LOGAN RIVER

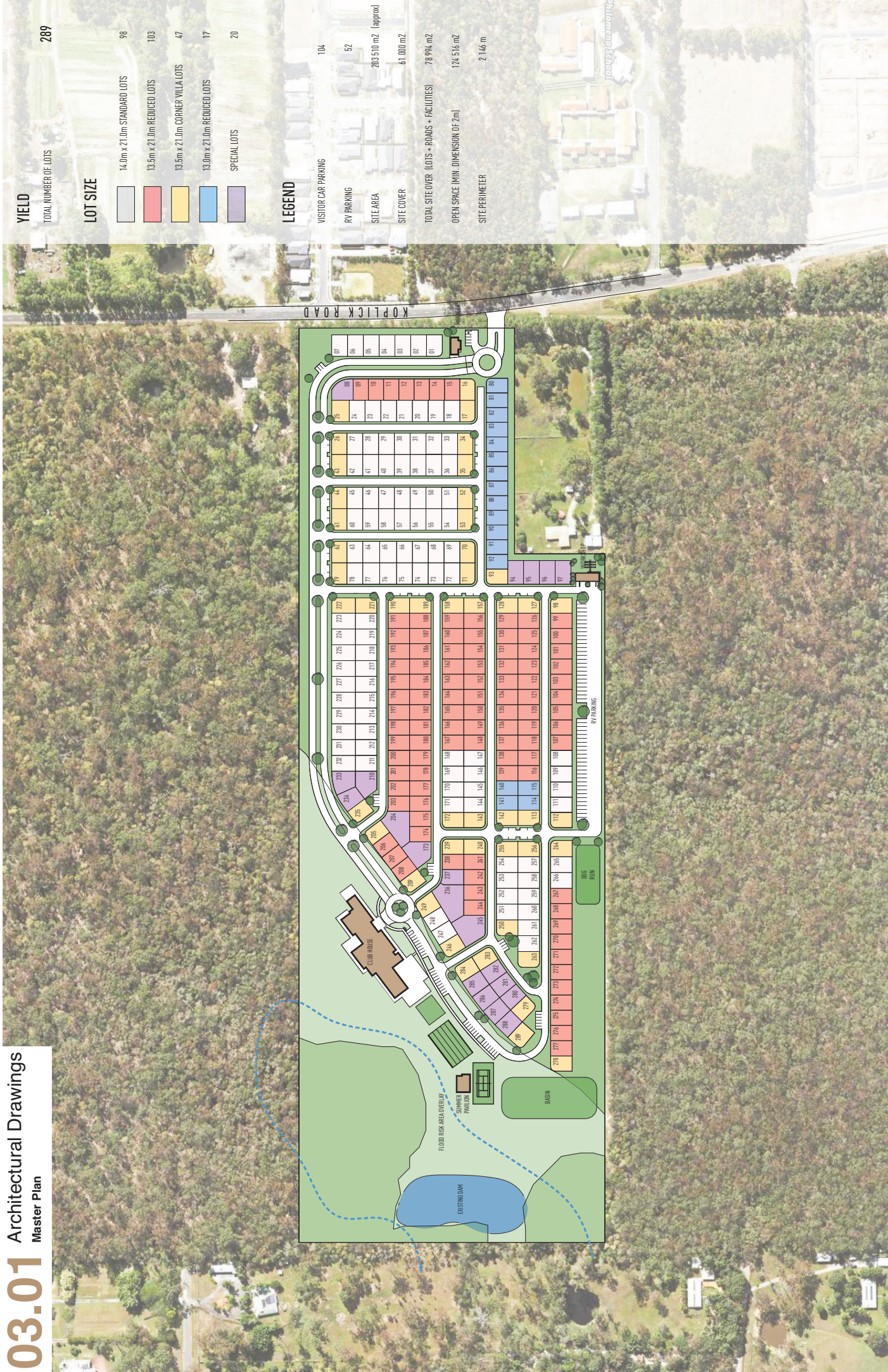
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Master Planning

03.01 Architectural Drawings

Master Plan



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Ruby
DEVELOPMENTS PTY LTD

PROJECT Proposed New Development
No. 76-94, Koplack Road, Chambers Flat, Qld
CLIENT Ruby Developments

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DRAWING TITLE BP1380/03.01

SCALE 1:3000 @ A3

Master Plan

15m 7.5m 15m

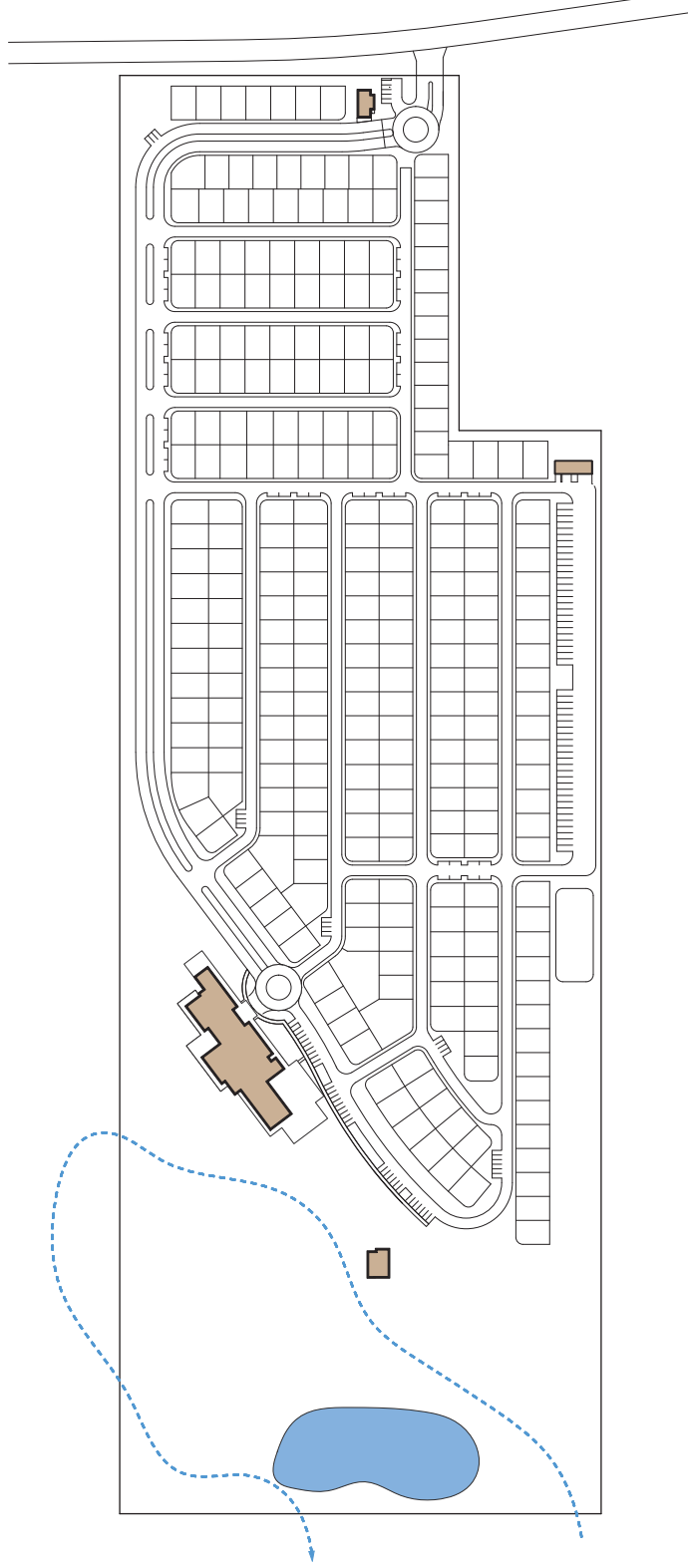
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04.03.24 Sheeta uploaded
01.03.24 DAWAR
ISSUE DATE DESCRIPTION

03.02 Architectural Drawings

Construction Staging

LEGEND

---	STAGE LINE
[Orange Box]	STAGE 1 00 LOTS
[Light Orange Box]	STAGE 2 00 LOTS
[Light Blue Box]	STAGE 3 00 LOTS
[Light Purple Box]	STAGE 4 00 LOTS
[Yellow Box]	STAGE 5 00 LOTS



JARED POOLE DESIGN
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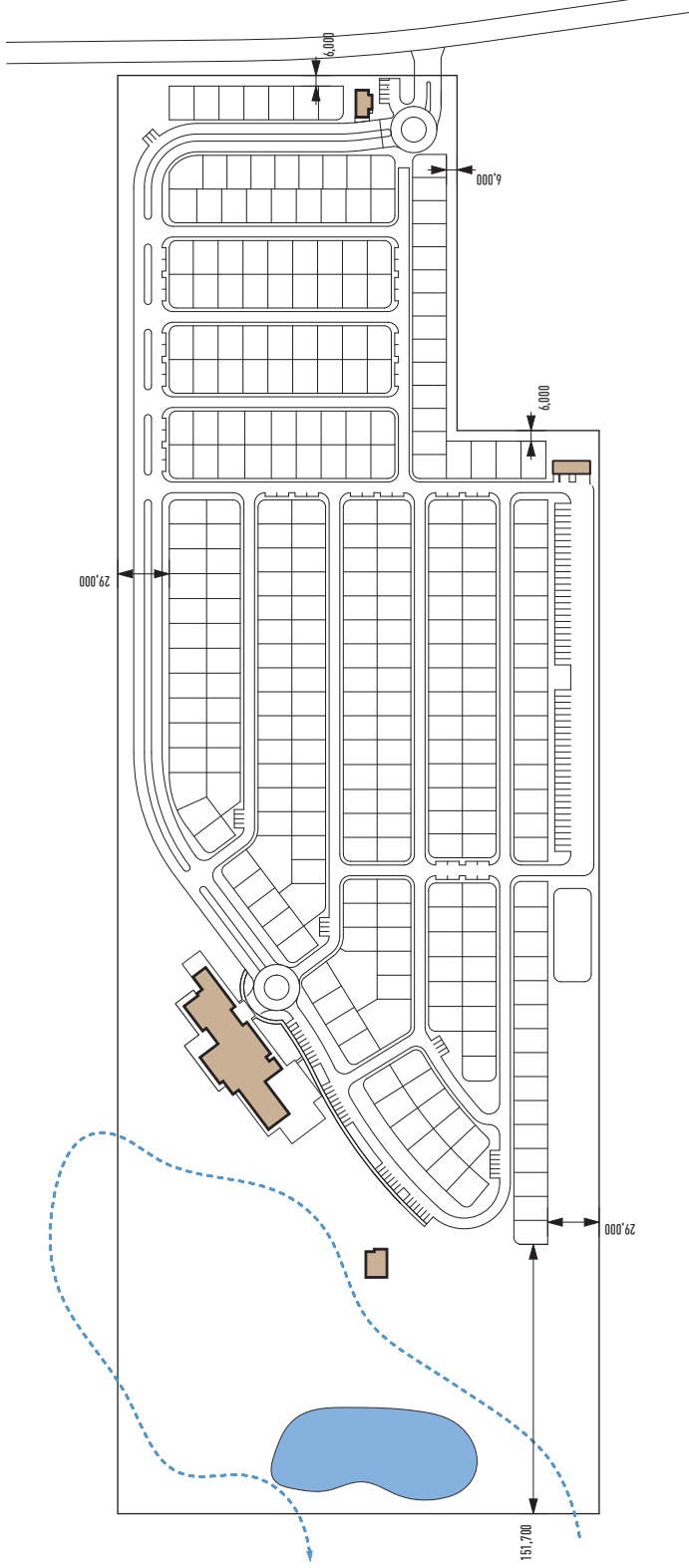
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DATE DESCRIPTION
 01/03/24

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SCALE 1:2000 @ A3
 Construction Staging



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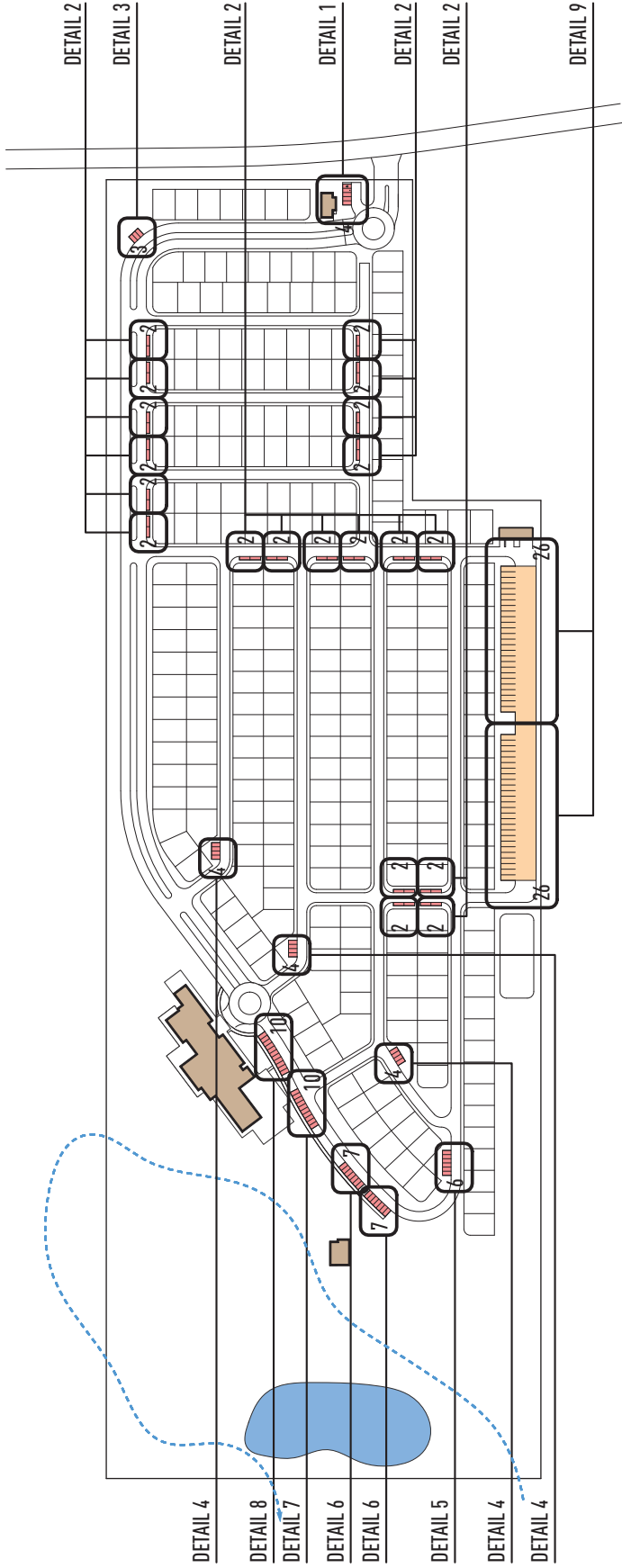
150m
 75m
 150m

3.05 Architectural Drawings

Carparking Plan

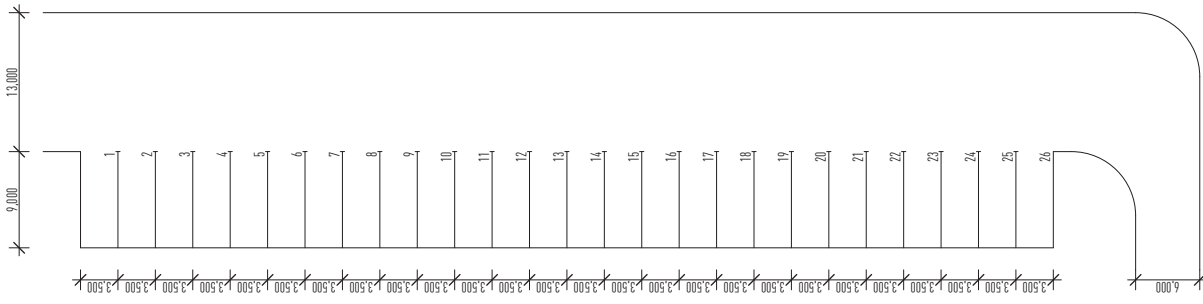
LEGEND

- CARPARKING
- RV
- 104 SPACES
- 52 SPACES

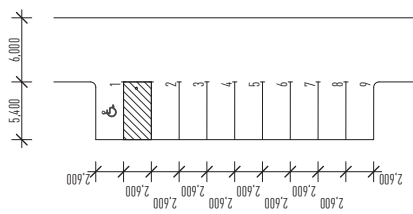


03.05 Architectural Drawings

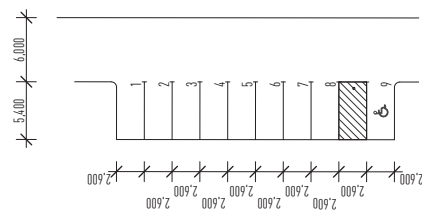
Carparking Typical Layouts



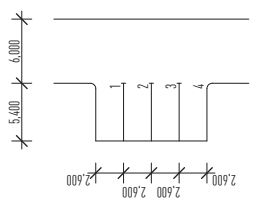
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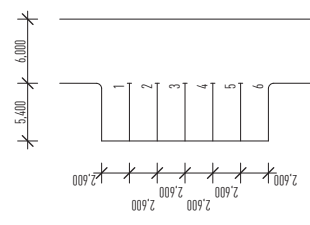
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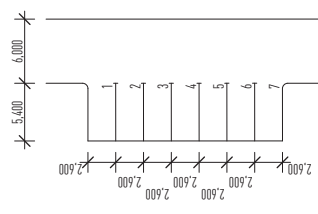
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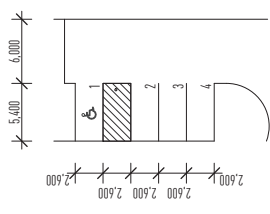
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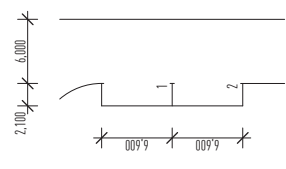
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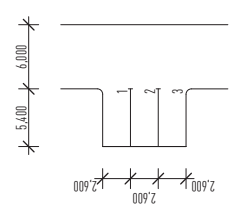
DETAIL 6 - (x1) CARPARK SPACES



DETAIL 1 - (x1) CARPARK SPACES



DETAIL 2 - (x20) CARPARK SPACES



DETAIL 3 - (x1) CARPARK SPACES

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SCALE 1:500 @A3
 DRAWING TITLE BP1380/03.05

Waste Collection

04.01 Architectural Drawings

Refuse Vehicle Path Plan

LEGEND

-  REFUSE VEHICLE PATH
-  BIN PICK UP LOCATION



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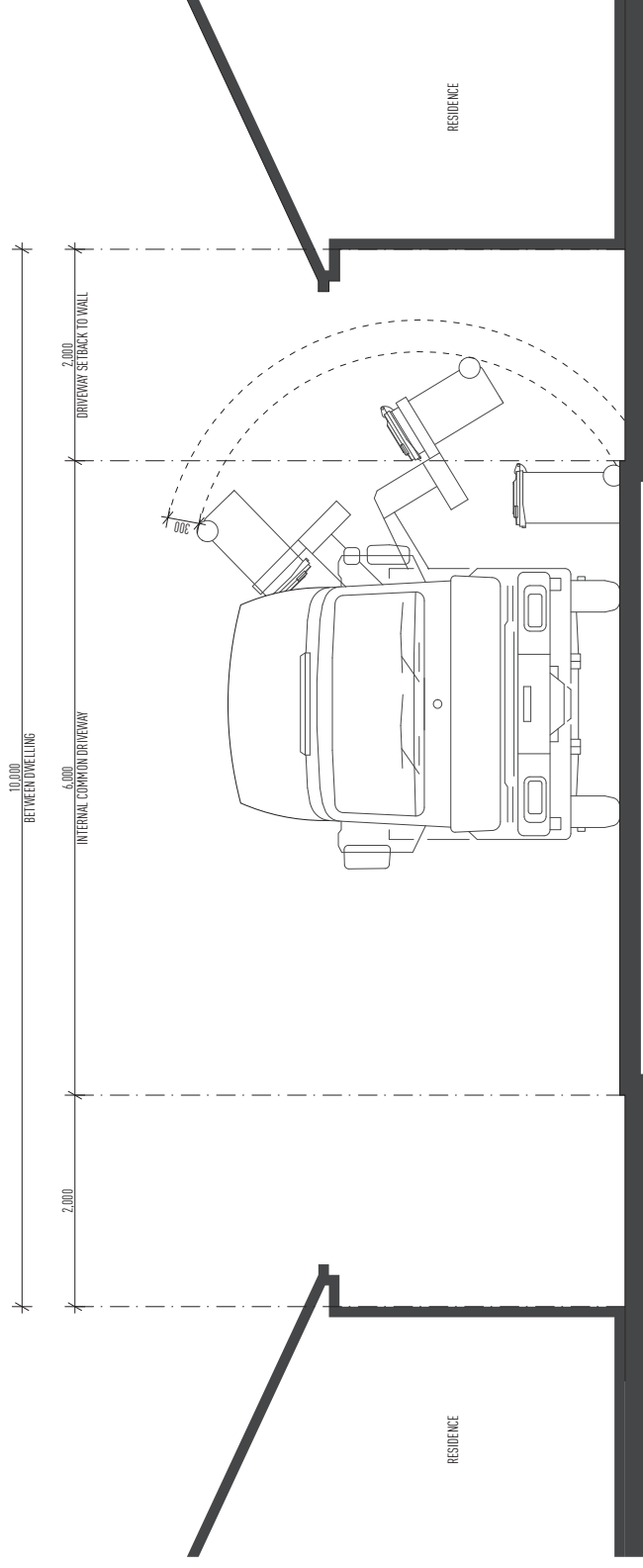
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SCALE 1:3000 @ A3
 Refuse Vehicle Path Plan
POOLE

04.02 Architectural Drawings

Refuse Vehicle Side Lift Clearance



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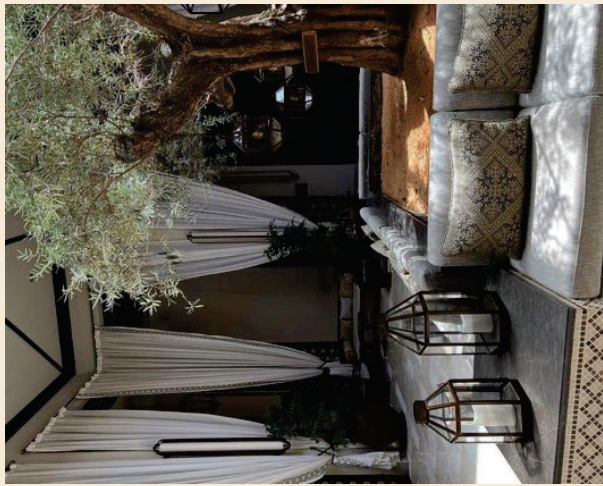
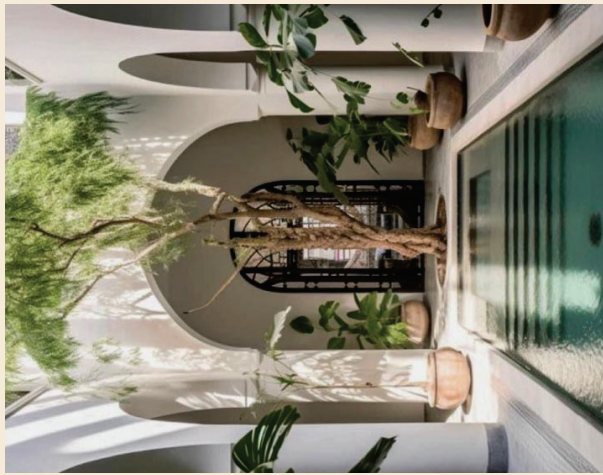
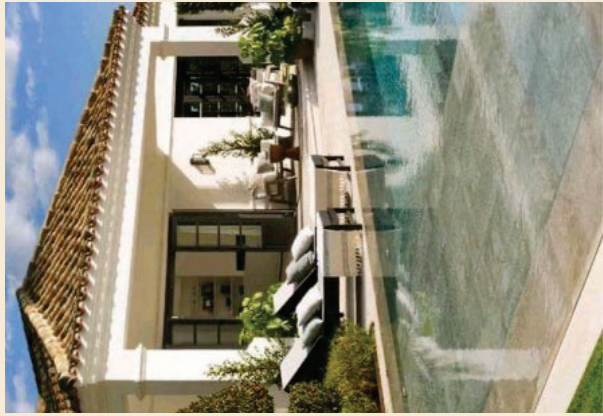
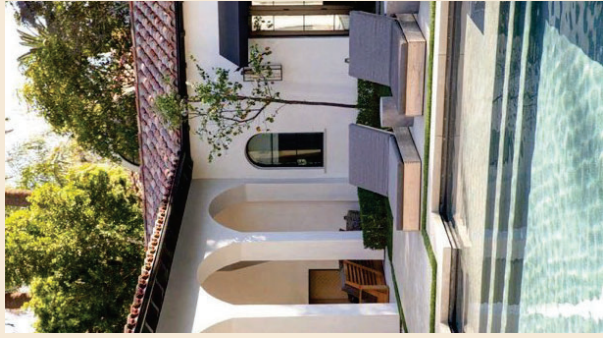
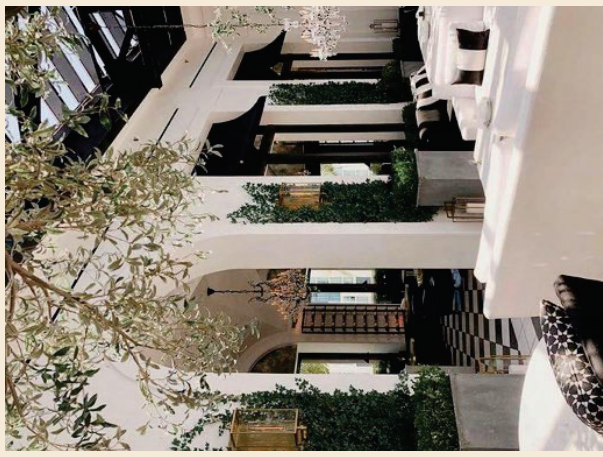
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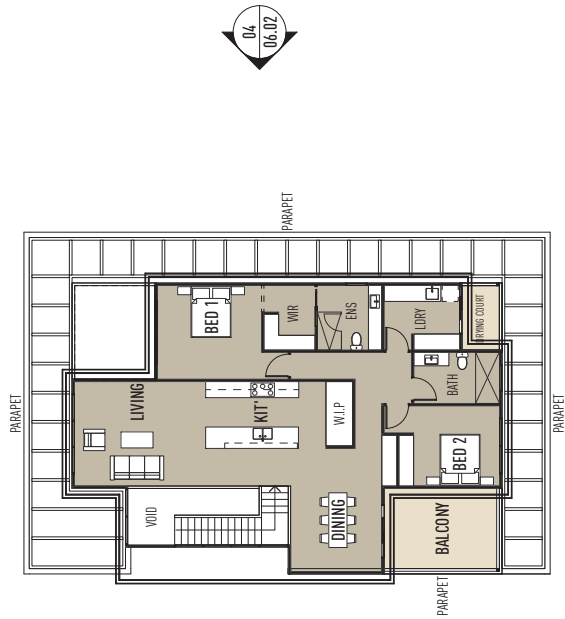
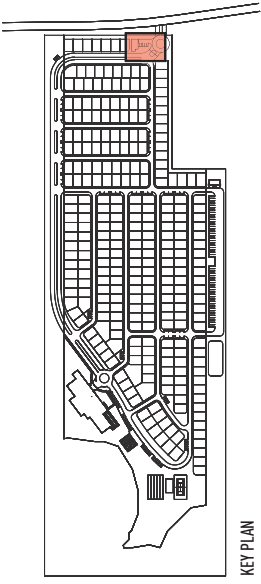
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POOLE
 SCALE 1:50 @ A3
 Refuse Vehicle Side Lift Clearance

Design



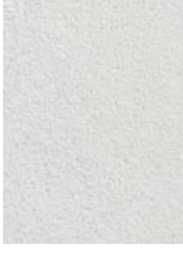
Managers Unit



06.01 Architectural Drawings

Managers Unit - Elevations

MATERIAL LEGEND



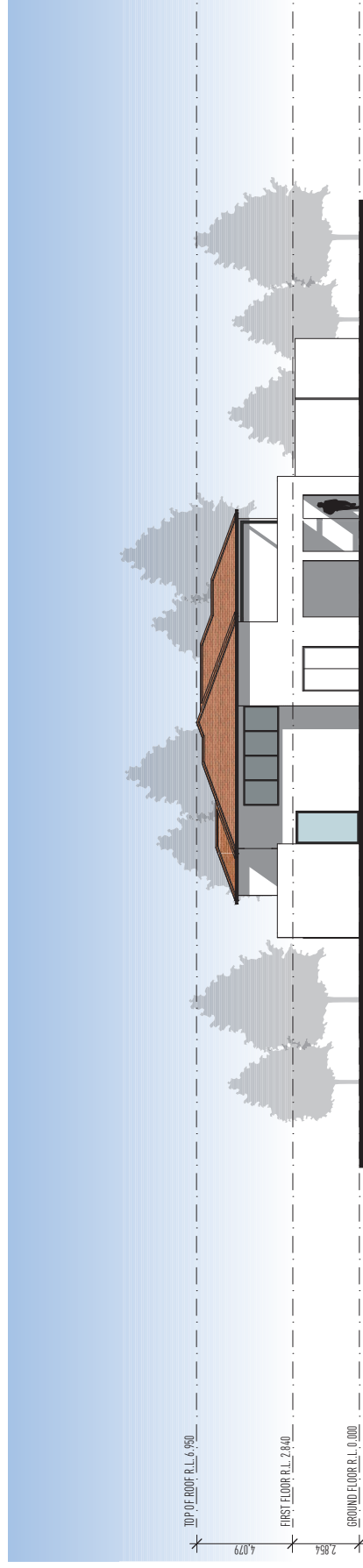
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 COLOUR: DOUBLE ALABASTER



FEATURE LANDSCAPING
 TO LANDSCAPING DESIGNER



ELEVATION 1



ELEVATION 2



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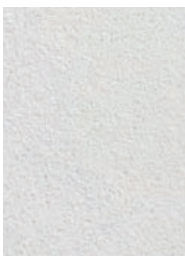
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 Managers Unit - Elevations



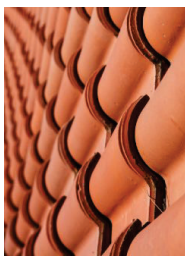
06.02 Architectural Drawings

Managers Unit - Elevations

MATERIAL LEGEND



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ELEVATION 3



ELEVATION 4

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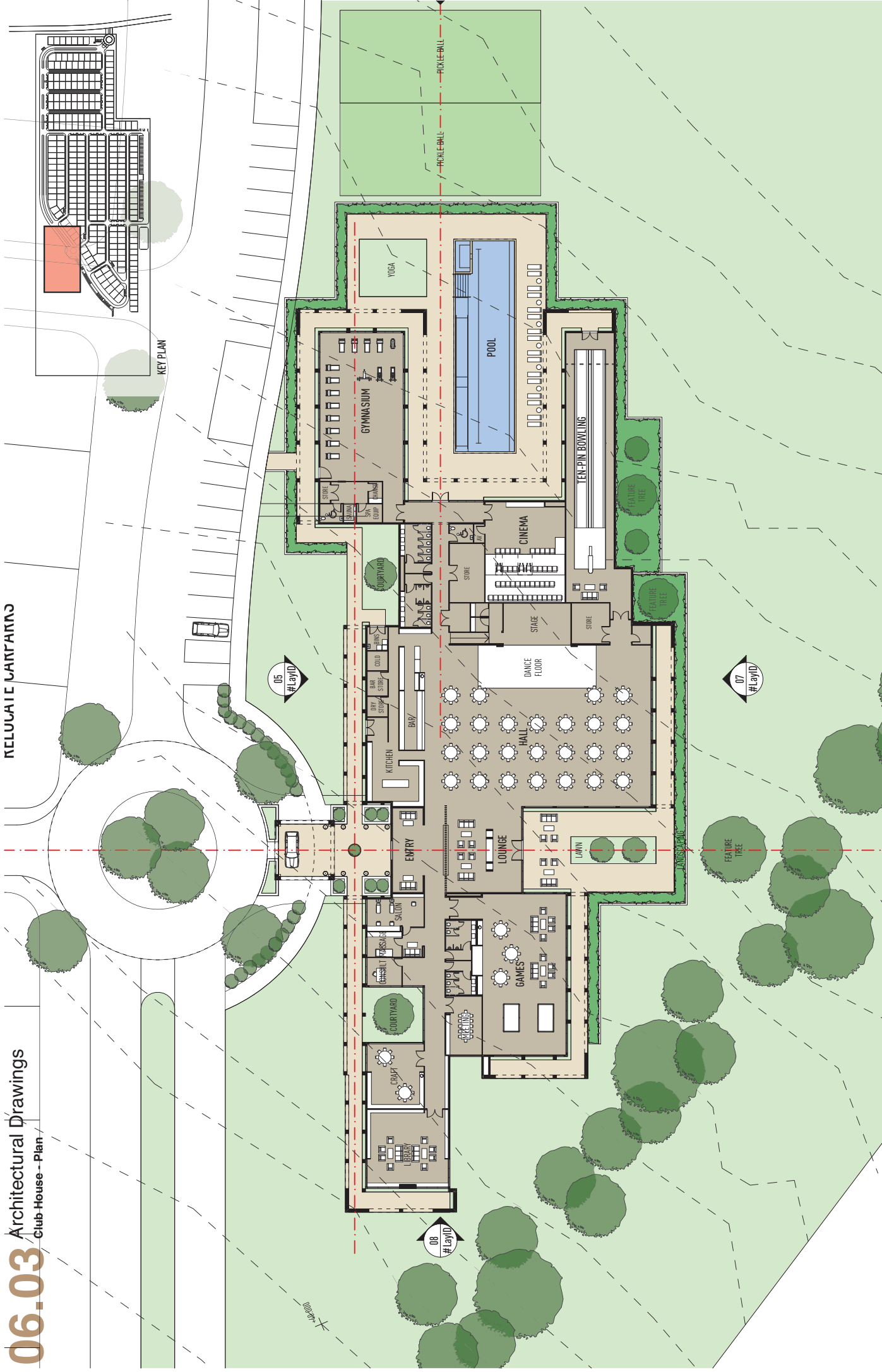
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SCALE 1:200. 1:1 @ A3
 Managers Unit - Elevations

POOLE

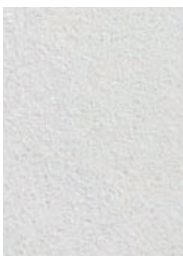
Clubhouse



06.04 Architectural Drawings

Club House - Elevations

MATERIAL LEGEND



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 COLOUR: DOUBLE ALABASTER



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ELEVATION 5



ELEVATION 6

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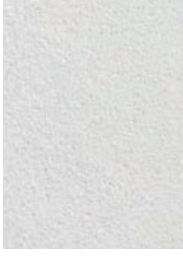


POOLE
 CLUB HOUSE - ELEVATIONS

06.05 Architectural Drawings

Club House - Elevations

MATERIAL LEGEND



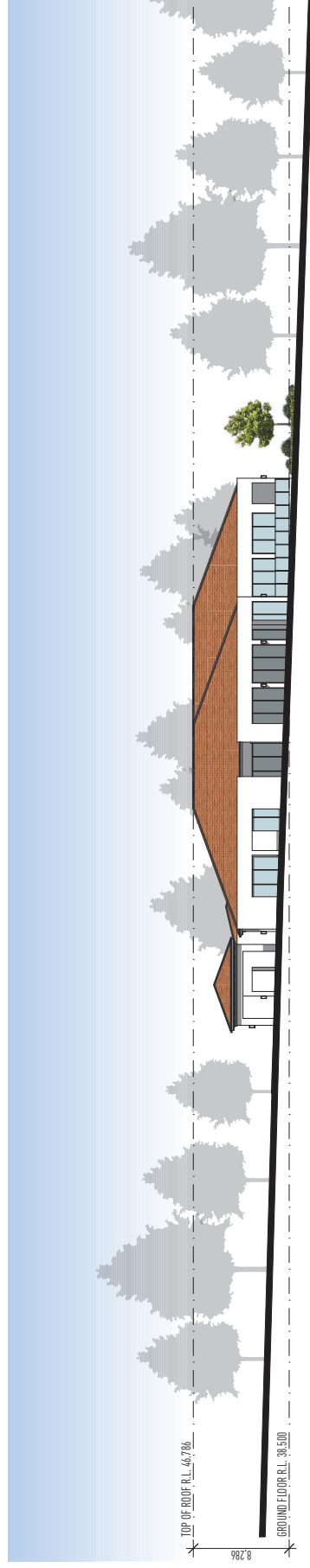
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ELEVATION 7



ELEVATION 8

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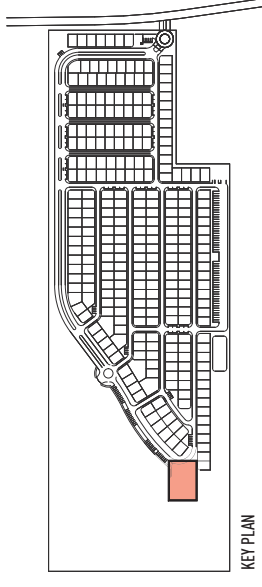
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 Club House - Elevations

POOLE

Summer Pavilion

06.06 Architectural Drawings

Summer Pavilion - Plan



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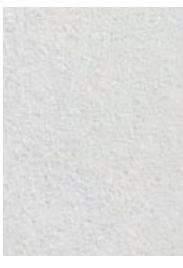
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 1m 5m 10m

POOLE

06.07 Architectural Drawings

Summer Pavilion - Elevations

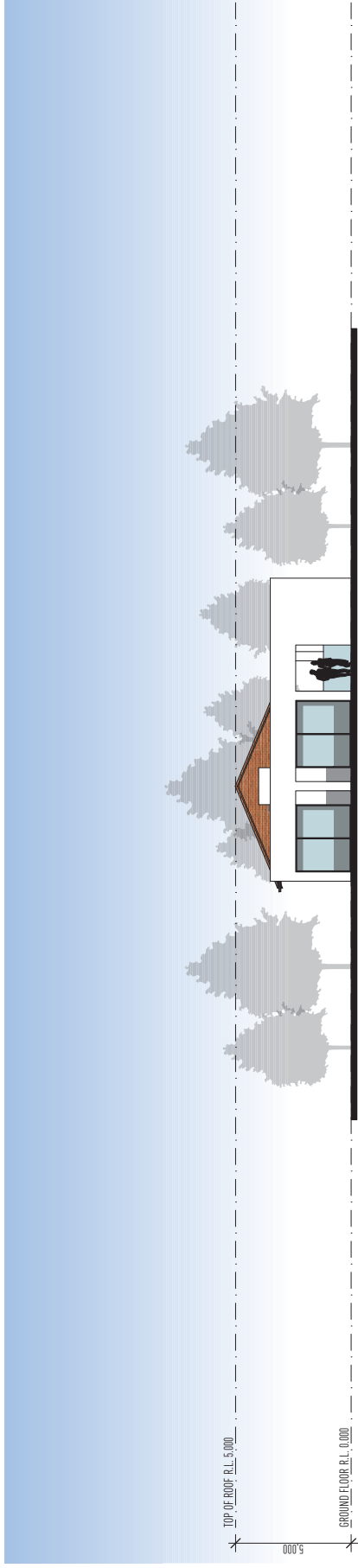
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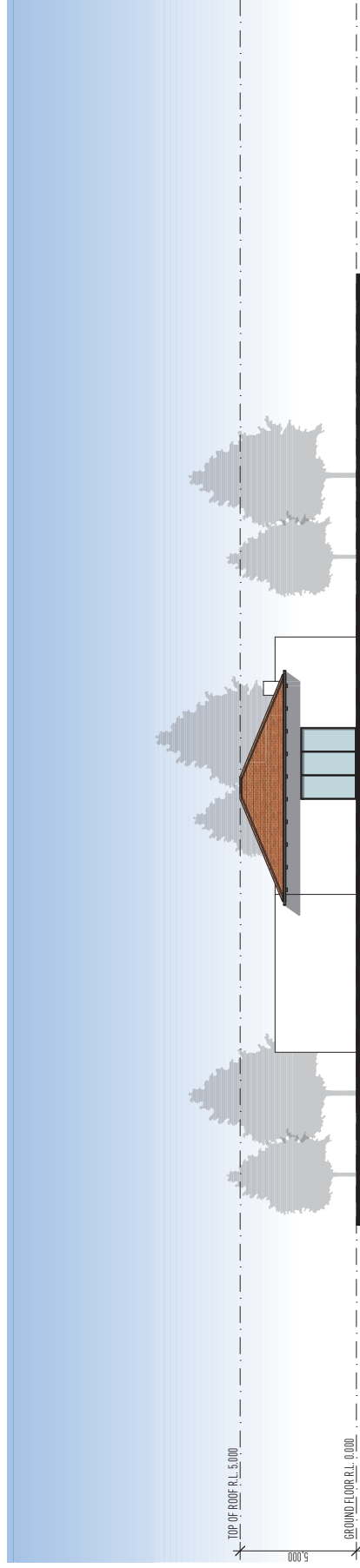


TOP OF ROOF R.L. 5.000

5.000

GROUND FLOOR R.L. 0.000

ELEVATION 9



TOP OF ROOF R.L. 5.000

5.000

GROUND FLOOR R.L. 0.000

ELEVATION 10

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DATE: 07/03/24
 DRAWN BY: DANIEL
 CHECKED BY: JARED
 ISSUE: 01

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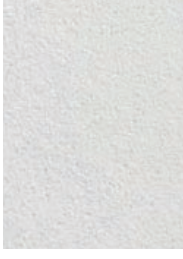
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 Summer Pavilion - Elevations

POOLE

06.08 Architectural Drawings

Summer Pavilion - Elevations

MATERIAL LEGEND



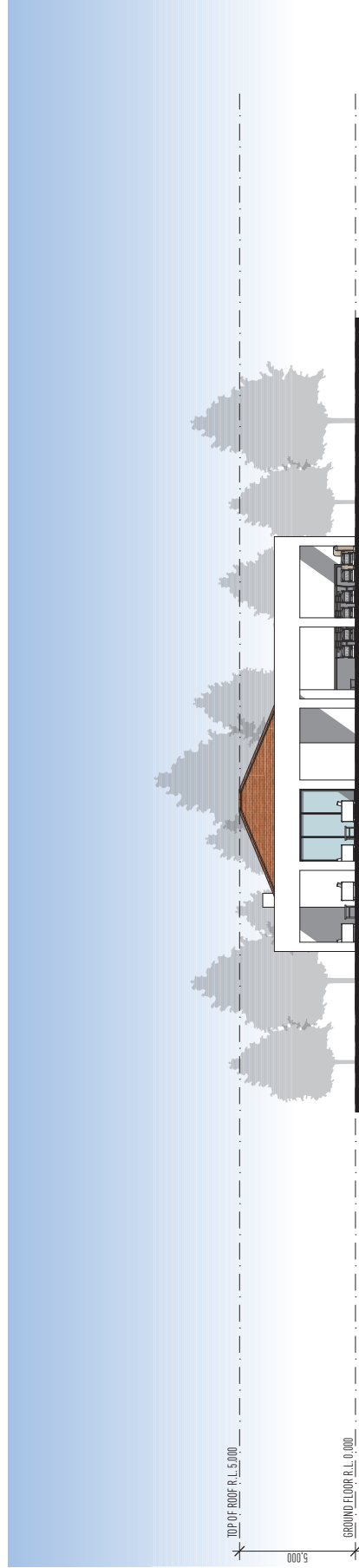
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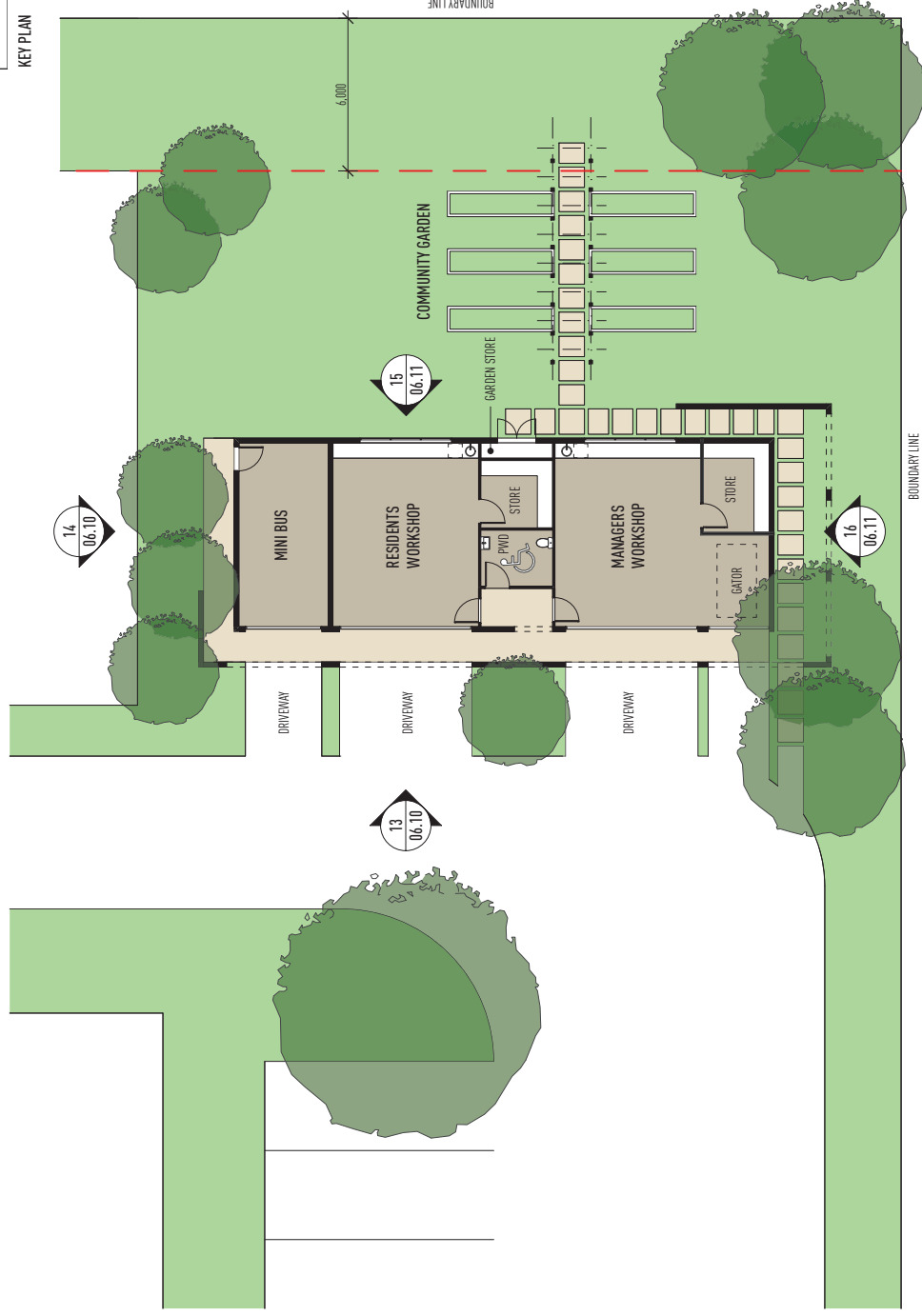
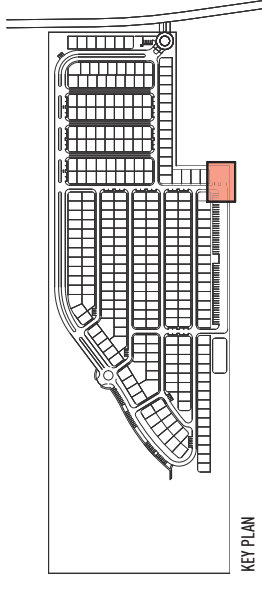
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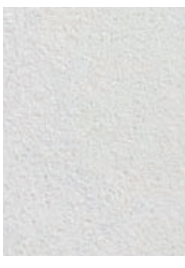
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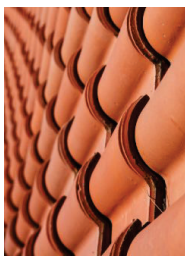
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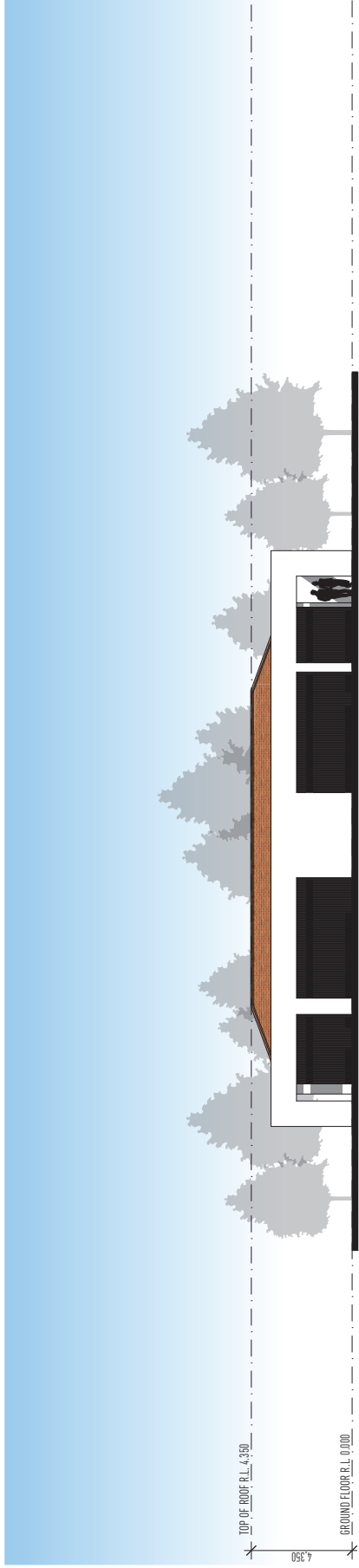
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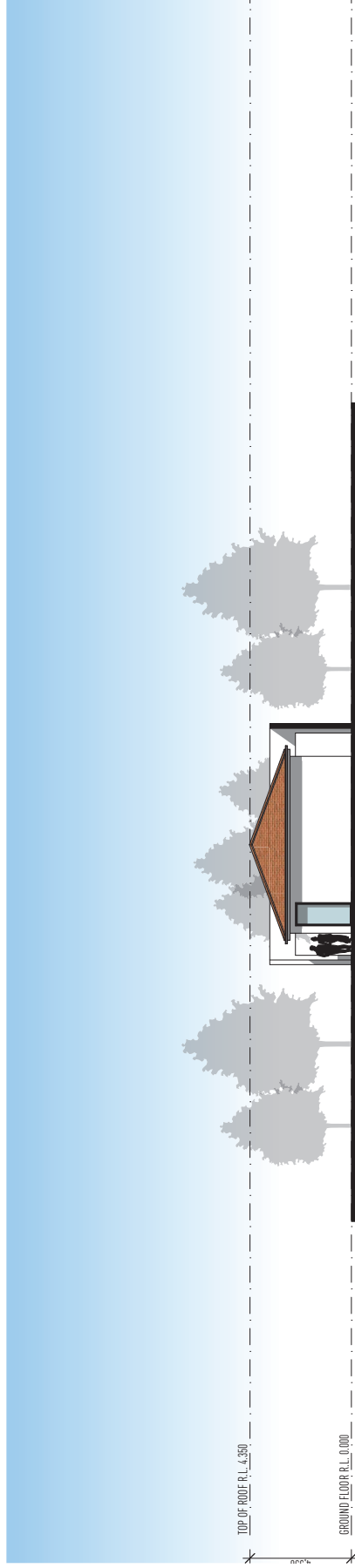
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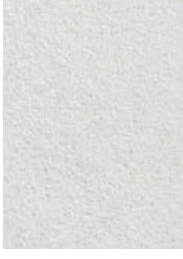
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ELEVATION 2



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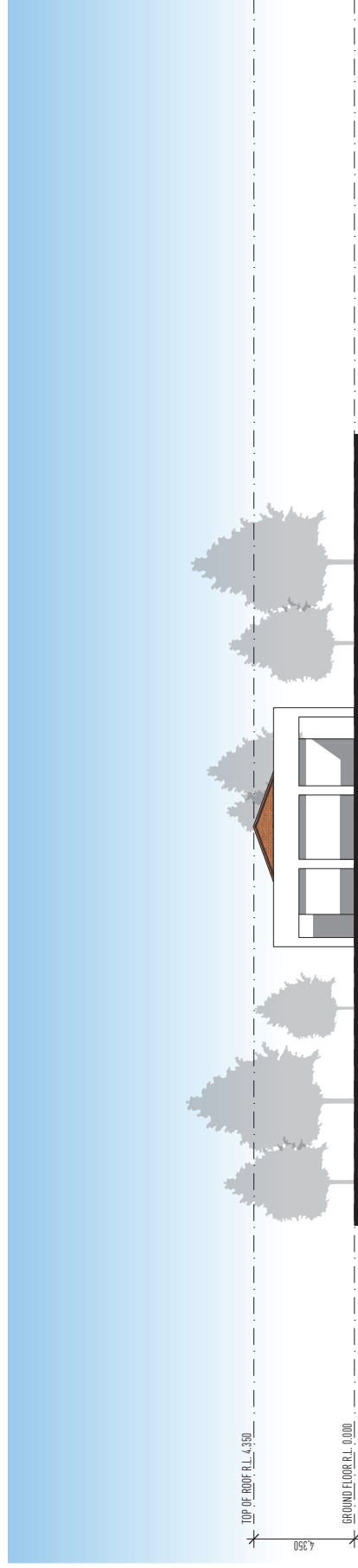
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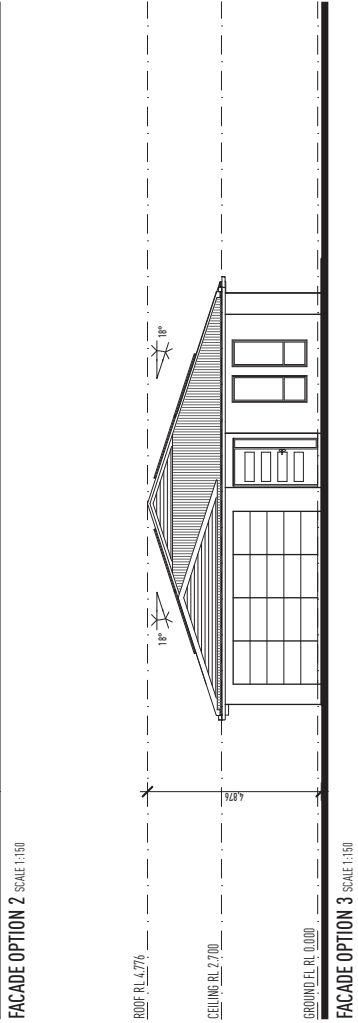
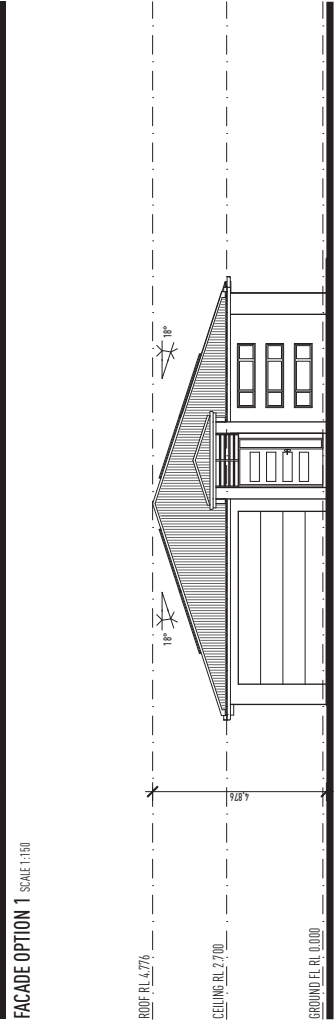
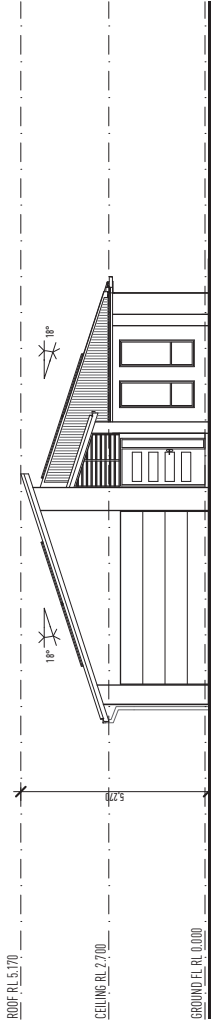


ELEVATION 3



ELEVATION 4

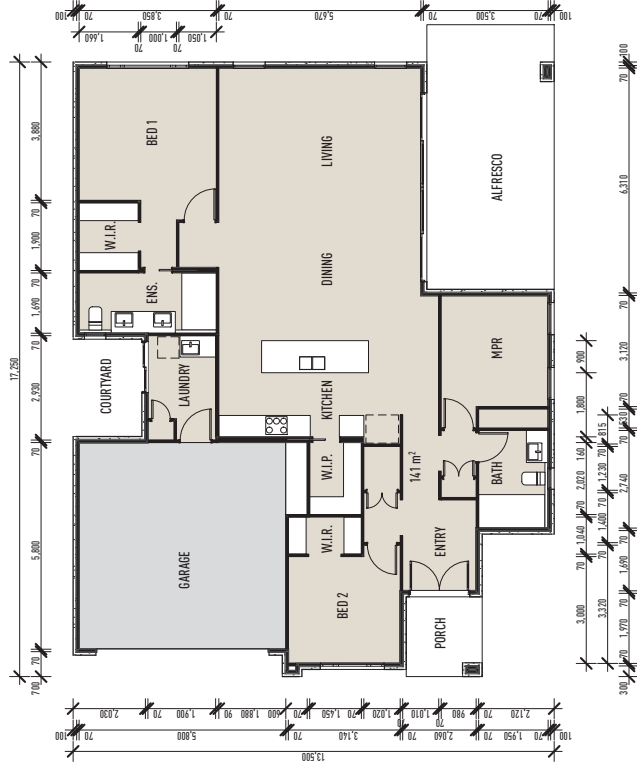
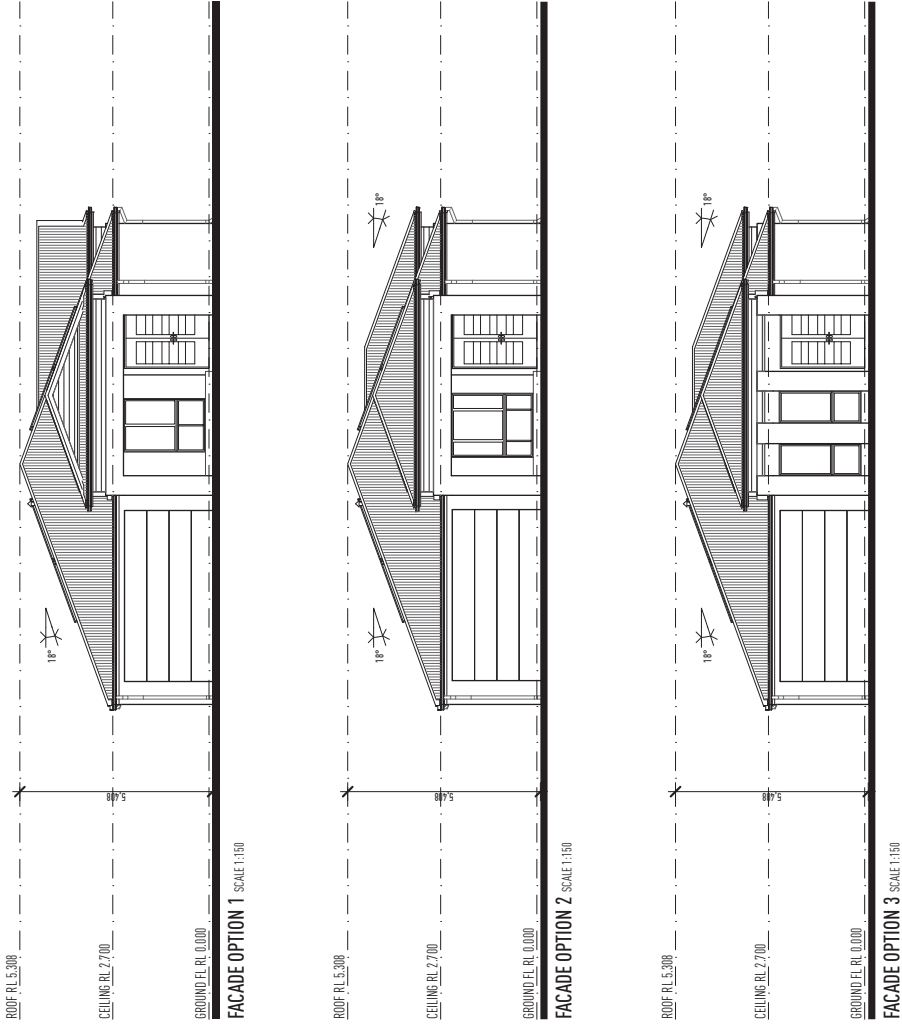
Typical Dwelling Types



FLOOR PLAN SCALE 1:150

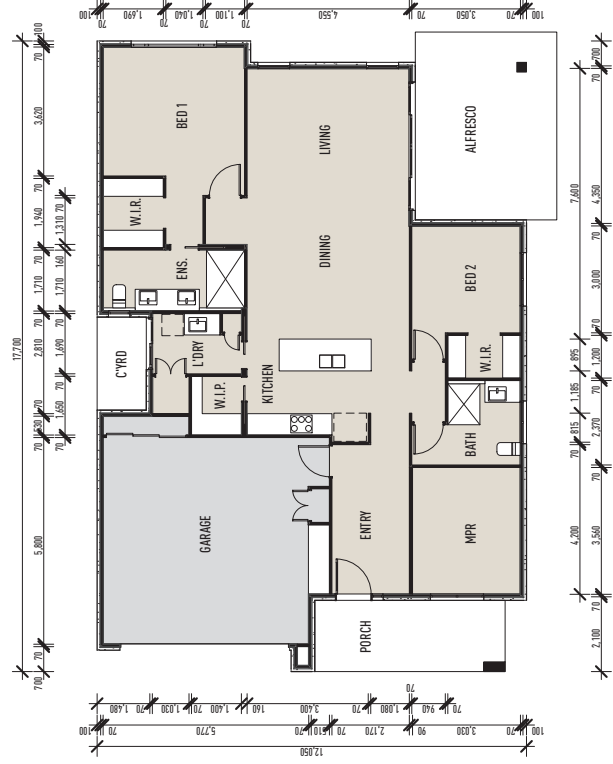
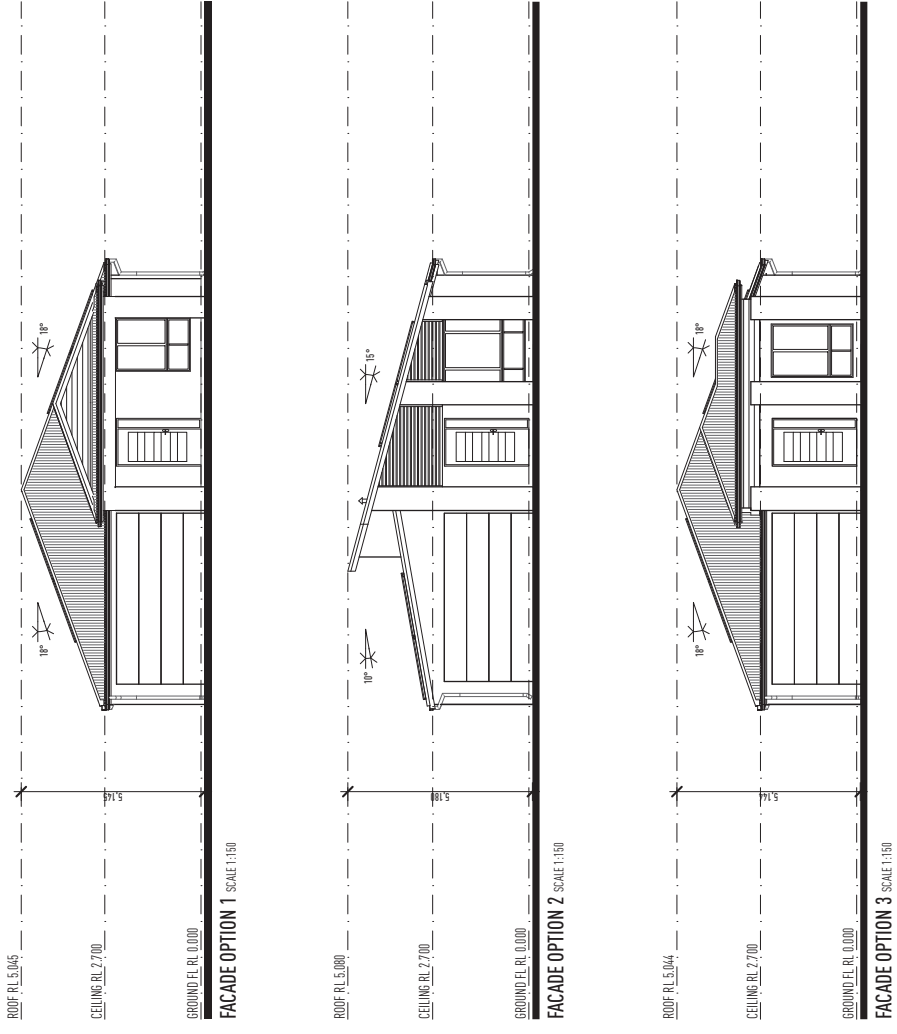
07.02 Architectural Drawings

Typical Dwelling Type B - Corner Design



07.03 Architectural Drawings





Typical Dwelling Type C



FLOOR PLAN SCALE 1:150

Appendix B Systems & Specifications

The table below provides contextual examples of the specific equipment types specified in this OWMP and is not intended to provide an exhaustive list of all potential options of the required equipment.

Bin Types	Waste Streams	Examples	Information
Residential unit bins	General waste and recycling		Various options and sizes. Built and standalone bin available. Examples: https://www.bunnings.com.au
Back of House and Communal area bins	General waste, recycling, food waste, paper / cardboard		Various options and sizes available. Tenant to supply depending on preference and space available. Example: 60L multisort bins https://www.sourceseparationsystems.com.au/product/multisort
Refuse / Cleaners Trolleys	All Streams		Assisted manual transfer of refuse. Examples: https://rubbermaidcommercial.com.au/products/waste-management/mega-brute https://www.materialshandling.com.au/products/deluxe-compact-cleaning-carts
1100L bins	General waste, recycling, paper / cardboard		Dimensions approx. 1070 x 1240 x 1330mm (L x W x H) (dimensions depend on contractor) Examples: http://www.justwheeliebins.com.au , https://www.australianwastemanagement.com.au

Appendix C Refuse Signage

Refuse Signage

Waste signage guideline are provided by the Queensland government:

<https://www.qld.gov.au/environment/pollution/management/waste/recovery/recycling/signage>.

General Refuse Signage



Other Refuse Signage



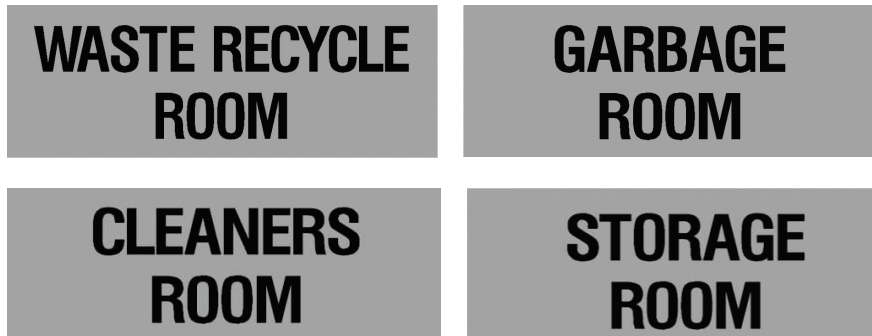
Colour coding as per AS 4123.7-2006

Mixed (Commingled) Recycling	PMS 108
General waste (landfill)	PMS 032C
Organics	PMS 15-0343
Paper and cardboard recycling	PMS Process Blue C
Soft Plastics	PMS 1655
Used Cooking Oil	Grey

Other Refuse, 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>.

Example Refuse Room Signage



Example Facility Signage



Example Safety Signage



Appendix D Terms & Abbreviations

In this OWMP, a term or abbreviation has the following meaning unless indicated otherwise:

TERM	ABBREVIATION	DEFINITION
Equipment		
Bin (Refuse Bin)		A plastic or steel container for disposal and temporary storage of waste or recycling items. Various types and sizes exist for different items and purposes. Examples include residential unit bins, bulk bins, MGB, steely bins and specialised for medical waste or cigarette butts.
Bin Storage Area		An enclosed area designated for storing on-site refuse bins or a refuse compactor within the property.
Bulk Bin		A galvanized or steel bin receptacle that is greater than 360L in capacity generally ranging from 1.00m ³ to 4.50m ³ used for the storage of refuse that is used for on-site refuse collection.
Bulk Mobile Garbage Bin	Bulk MGB	A plastic (polypropylene) receptacle that is greater than 360L in capacity generally ranging from 660L to 1100L used for the storage of refuse.
Collection Point		An identified position where refuse bins are stored for collection and emptying. The collection point can also be the bin storage area.
Compactor		A receptacle that provides for the mechanical compaction and temporary storage of refuse. It allows to reduce bin numbers and collection frequency.
Composter		A container or machine used for composting specific food scraps and/or organic materials.
Food Waste Recycling System		Defined as a vacuum or pump-based system for shredding, macerating, or pulping of food waste. The food waste is transferred through pressure (service) pipes to sealed liquid storage tanks.
Green Waste		All vegetated organic material such as small branches, leaves and grass clippings, tree and shrub pruning, plants and flowers.
Liquid Waste		Non-hazardous liquid waste generated by commercial premises should be connected to sewer or collected for treatment and disposal by a liquid waste contractor (including grease trap waste).
Mobile Garbage Bin	MGB	A plastic (polypropylene) bin or bins used for the temporary storage of refuse that is up to 360L in capacity and may be used in kerbside refuse collection or on-site collection.
Putrescible Waste		Putrescible waste is the component of the waste stream liable to become putrid and usually breaks down in a landfill to create landfill gases and leachate. Typically applies to food, animal, and organic products.
Recycling		Recycling contains all material suitable for re-manufacture or re-use, e.g. glass bottles and jars; plastics such as PET, HDPE, and PVC; aluminium aerosol and steel cans and lids; milk and juice cartons; soft drink, milk, and shampoo containers; paper, cardboard, junk mail, newspapers, and magazines.
Refuse		Refuse is material generated and discarded from residential and commercial buildings including general waste, recyclables, green waste, and bulky items.
Refuse Storage Room		An area identified for storing on-site MGBs or Bulk Bins within the property.
Refuse Trolley		A cart on wheels that can be used to collect smaller quantities of refuse from different areas or rooms of a building or site and wheel the collected refuse to a (bulk) bin storage area where it is disposed. Refuse trolleys are commonly used in hotels or offices.
Regulated Waste		Regulated waste is waste prescribed under legislation as regulated waste.

TERM	ABBREVIATION	DEFINITION
Transfer (Manual Transfer)		Manual transfer means physical transfer of refuse material and associated bulk bins or trolleys without assistance.
Waste		Waste is referred to as refuse material with the exclusion of recycling, green waste, hazardous waste, special waste, liquid waste, and restricted solid waste.
Waste (General Waste)		General waste is generally referred to as material free of any actual or apparent contamination such as pathological / infectious, radioactive materials and / or hazardous chemical. Reporting use is for material considered to be free of food waste.
Wheelie Bin		A MGB of up to 360L, usually with 2 wheels for easy transfer. A common type is a 240L wheelie bin used for kerbside collection in many residential areas.
Measures		
Cubic Metre	m ³	Volume in cubic metre(s) related to refuse management equipment.
Ground Floor Area	GFA	The GFA of all storeys of a building is measured from the outside of the external walls or the centre of a common wall. It is commonly measured in square metres.
Kilogram	kg	Kilogram(s) related to refuse weight.
Litre	L	Litre(s) related to refuse volumes.
Square Metre	m ²	Square metre(s) related to refuse areas.
Ton	T	Ton(s) related to refuse weight.
Collection Vehicles		
Body Truck		A conventional heavy vehicle with a covered loading area. It is generally not specifically designed for emptying the content of bins into the truck during refuse collections but can be used to carry entire (full) bins for servicing by bin swap-over.
Refuse Collection Vehicle	RCV	A vehicle specifically designed for collecting and emptying refuse bins and refuse compactors.
Rear-End-Loading Refuse Collection Vehicle	REL RCV	A truck specially designed to collect municipal solid waste and recycling, typically 240L wheelie bins to 1100L bulk bins, from rear loading mechanism and haul the collected waste to a solid waste treatment facility.
Tank Truck		An RCV that is specifically designed to collect liquid wastes such as waste cooking oil and food waste pulp. The waste is typically pumped from a waste storage tank into the truck via a hose. Liquid waste management equipment is often provided by the contractor who collects the waste and operates the truck.