Waste Management Plan
Gosford RSL Redevelopment

transport | community | mining | industrial | food & beverage | energy

Prepared for: Gosford RSL / APP Corporation Pty Ltd

Client representative: Brendan Fisher

Date: 2 March 2018
Rev01

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Glossary and Abbreviations

ACD	Asbestos Contaminated Dust or Debris
CoS	City of Sydney
DCP	Development Control Plan (DCP)
EPA	Environment Protection Authority
GFA	Ground Floor Area
GST	Goods and Services Tax
HRV	Heavy Rigid Vehicle
LEP	Local Environmental Plan
MGB	Mobile Garbage Bins
NSW	New South Wales
OEH	Office of Environment and Heritage
WHS	Work, Health and Safety
WMP	Waste Management Plan

Executive Summary

pitt&sherry (P&S) was engaged by APP Corporation to develop a Waste Management Plan (WMP) for the demolition, extension construction and ongoing operational phases (normal operation) of the Gosford RSL redevelopment project at the corner of Central Coast Hwy and Yallambee Ave, West Gosford. The New RSL Club Extension (the extension) will consist of two levels for club activities, such as: Leisure, Food & Beverage, Functions and Gaming. A car park, foyer and staff area will be located on the ground floor.

This WMP is based on the following:

- Building & Development on the Central Coast for land Subject to Gosford Local Environmental Plan 2014 (GLEP 2014).
- Gosford Development Control Plan (DCP) (2013).
- Gosford DCP Appendix A Waste Management Plan Template (*2016*).
- NSW EPA Better Practice Guidelines for Waste Management and Recycling in Commercial and Industrial Facilities (2012).
- The Council of the City of Sydney (CoS): *Policy for Waste Minimisation in New Developments (NSW, 2005)* Waste Management Requirement Guidelines.

This WMP details the waste management and minimisation activities to be carried out during demolition, construction and operation of the premises including:

- Specification of wastes and recyclables by expected type and volume, and nominated reuse and recycling potential.
- Nominated siting of waste storage, waste infrastructure and recycling facilities for demolition, construction and final use.
- Specification of how and where residual wastes will be disposed of (including collection schedules that will need to be implemented during the operational phase of the redevelopment).
- Specification of residual waste disposal (including collection schedules during the operational phase).
- Confirmation of ongoing operational waste management, including:
    - Management of amenity.
    - Effective separation of recyclables.
    - The handling of special wastes in a clean, safe and efficient manner.

1. Introduction

1.1 Outline of Proposal

pitt&sherry was engaged by APP Corporation Pty Ltd (APP) to develop a Waste Management Plan (WMP) for the demolition, construction and ongoing operational phases (normal operation) of the Gosford RSL Club, to assist the Development Application (DA). The Gosford RSL is located on the corner of Central Coast Hwy and Yallambee Ave West Gosford. The proposed new infrastructure will consist of two levels for club activities, such as: Leisure, Food & Beverage, Functions and Gaming. A car park, foyer and staff area will be located on the ground floor.

The demolition and construction stages of the project have been broken down into Stages 1A and 1B:

- Stage 1A: Covers the demolition of the existing carpark and construction of the new club building.
- Stage 1B: Covers the demolition of the existing RSL Club and construction of the new on-grade car park.

This WMP is based on the following:

- Gosford City Council Development Control Plan (DCP) (2013).
- Gosford City Council DCP Appendix A Waste Management Plan template.
- Consultation with Gosford City Council.
- NSW EPA Better Practice Guidelines for Waste Management and Recycling in Commercial and Industrial Facilities (2012).
- The Council of the City of Sydney (CoS): *Policy for Waste Minimisation in New Developments (NSW, 2005)* Waste Management Requirement Guidelines

Table 1 Indicative Gross Floor Area (GFA)

Site Description	Indicative GFA (m^2)
Offices/foyer (ground floor)	495
Service/storage area (ground Floor)	325
Level One Restaurant/café	435
Level One Dining, kitchen	1115
Level Two Restaurant/café	695
Level Two Dining, kitchen	1185
Level Two Bar	305

1.2 Site Details

Address of Development	Gosford RSL Club 26 Central Coast Highway West Gosford 2250
Existing buildings and other current structures on site	• RSL Club Premises (4,600m^2) • Car Park (258 lots) • Galaxy Motel (50-unit motel complex)

Description of proposed development	Gosford RSL proposes to construct a new 7000m^2 RSL Club building to the north of the existing club. The New Club will be built on part of the existing northern car park. Upon completion of the new club, the existing club will be demolished, and new on-grade car parking constructed.

This development achieves the waste objectives set out in the DCP. The details on this form are the provisions and intentions for minimising waste relating to this project. All records demonstrating lawful disposal of waste will be retained and kept readily accessible for inspection by regulatory authorities such as council, OEH or WorkCover NSW.

Contact Name	RUSSELL COOPER – CEO Gosford RSL Club CEO@GRSL.com.au BRENDAN FISHER – Project Manager APP Brendan.fisher@app.com.au

1.3 WMP Objectives

The principal objective of this WMP is to identify all potential wastes likely to be generated during the demolition, construction and operational stages of the development. This includes a description of how waste can be reduced, reused, recycled or disposed of, in accordance with local and regional legislation.

The specific objectives of this WMP are as follows:

- To minimise resource requirements and construction waste through reuse and recycling and the efficient selection and use of resources.
- To minimise demolition waste by promoting adaptability in building design and focusing upon end of life deconstruction.
- To encourage building designs, construction and demolition techniques in general which minimise waste generation.
- To assist applicants to develop systems for waste management that ensure waste is transported and disposed of in a lawful manner.
- To provide guidance in regard to space, storage, amenity and management of waste management facilities.
- To ensure waste management systems are compatible with collection services.
- To minimise risks associated with waste management at all stages of development.

2. Demolition Stage

Demolition processes involved in the proposed Gosford RSL Club extension include:

- Stage 1A: Removal of approx. 1,800m^2 of existing car park (material – bitumen and soil)
- Stage 1B: Removal of existing RSL Club (one storey building, approx. 4,600m^2)

Table 2 provides the management methods for this demolition waste. The principal aim of managing this activity is to maximise resource recovery and minimise residual waste from demolition activities.

2.1 Demolition Waste Recyclers and Disposal Points

The NSW EPA Better Practice Guidelines for Waste Management and Recycling in Commercial and Industrial Facilities (2012) states that, it is a stakeholder's responsibility to 'minimise construction and demolition wastes and maximise resource recovery of materials'. In accordance with this, Table 2 provides the contact details for the waste and recycling disposal facilities that will be used to remove waste and recyclables during the demolition and construction phase. Although a preliminary site inspection has not identified the presence of asbestos, we have included the contact details for Woy Woy landfill and Buttonderry Waste Management Facility.

Upon consultation with the Project manager (APP), it has been identified that no hazardous waste materials will be removed during demolition, therefore no specialist contractors have been recommended. It is noted that the site has been identified as containing Acid Sulphate Soils.

Table 2. Waste Management Facilities

Name of Company	Address	Opening Hours	Contact Details	Distance from Site
Woy Woy landfill (accepts asbestos)	Nagari Road, Woy Woy	Mon – Fri 7 am – 5pm Sat – Sun 8 am - 4 pm	02 4342 5255	12.1km
Kincumber Waste Transfer Facility	Cullens Rd Kincumber NSW 2251	Mon – Sun 7am – 4pm	02 4368 1229	19.4km
CBS Recyclers	Lot 60 Donaldson Street North Wyong NSW 2259	Not specified	02 4353 2540	26.5km
Buttonderry Waste Management Facility	850 Hue Hue Road Jilliby NSW 2259	Mon – Fri 7am-5pm Sat-Sun 8.30pm-4.30pm	02 4350 1320	31.2km
Belrose Quarry/ Benedict Recycling	End of Challenger Dr, Belrose NSW 2085	Mon – fri 6am-5pm Sat 6am-1pm	02 9450 2512	64.8km
Kimbriki Resource Recovery Centre	Kimbriki Road off Mona Vale	Mon – Sun 7am – 5pm	02 9486 3512	66.5km

	Road Ingleside NSW 2101			
Awaba Waste Management Facility	367 Wilton Road Awaba NSW 2283	Mon – Sun 8am – 4pm	02 4921 0333	66.6km
AE Biggs	50 Meatworks Avenue Oxford Falls NSW 2101	Mon – Sat 7am – 4:30pm	02 9453 2990	70km

Table 3 provides the contact details of contractors that can collect waste and may also be used to remove waste and recyclables during the demolition phase.

Table 3. Waste Collection Companies

Name of Company	Head Office Address	Website	Contact
SUEZ	12 Gibbens Road West Gosford NSW 2250	www.sita.com.au	(02) 4324 6133
Economy Waste Group	3 Bowen Crescent, West Gosford, NSW 2250 Australia	www.skipbinhirecentralcoast.com.au	(02) 4325 1800
Remondis Australia	75 Pile Road Somersby NSW 2250	www.remondis.com.au	(02) 4336 3100
Bins Skips Waste and Recycling (Central Coast)	3/62 Lakedge Ave, Berkeley Vale NSW 2261	www.binsskipswasteandrecycling.com.au	(02) 4306 0014
Thuroona Asbestos Removals P/L	Unit 2/2 Henry Street Parramatta NSW 2150	Not specified	0432 210 030
H&R Henderson (timber recycling)	53 Stenhouse Drive Cameron Park NSW 228	http://www.drhenderson.com.au/contact/#new-south-wales	1300 733 266

Any material moved offsite will be managed in accordance with the requirements of *the Protection of the Environment Operations Act (1997)*. Waste will only be transported by licenced transportation contractors to a place that can lawfully accept the type of waste for disposal or recycling.

2.2 Demolition Material

Demolition material estimates are based on information received from APP Corporation and the current size and materials of the existing onsite structures as per C&D generation rates (McGregor Environmental Service, 2000). Table 4 summarises the major demolition waste streams that will be generated by the Project during Stages 1A and 1B. Nominated siting of waste storage, waste infrastructure and recycling facilities for demolition, and construction are detailed in Section 2.2.4. Standard dust suppression methodologies will be adopted for managing dust from the demolition material handling on site.

In accordance with the Gosford DCP, all records demonstrating lawful disposal of waste will be retained and kept readily accessible for inspection by regulatory authorities such as council, OEH or WorkCover NSW.

Table 4. Expected overall demolition waste generation estimates

Type of Waste generated	Reuse	Recycling	Disposal	Specify method of onsite reuse, contractor and recycling outlet and/or waste depot to be used
	Estimated Volume (m^3)			
Stage 1A – Demolition and Excavation of part of Northern Carpark				
Excavation material - bitumen		525		Reuse portion as required as on-site fill. Stockpile soil and reuse for landscaping if deemed suitable. Send to recycling or reprocessing as road base/aggregate. Facility at CBS Recyclers or Buttonderry Waste Management Facility
Excavation material - soil		5250		
Concrete		10		
Residual Waste			5	Disposal to Woy Woy Landfill.
Stage 1B – Demolition of Existing Club Building and Excavation				
Excavation material – bitumen		25		Reuse portion as required as on-site fill. Stockpile soil and reuse for landscaping if deemed suitable. Send to recycling or reprocessing as road base/aggregate. Facility at CBS Recyclers or Buttonderry Waste Management Facility
Excavation material - soil		4200		
Timber		20	80	Separated on site. Treated timber sent to Buttonderry Waste Management Facility. Untreated timber to be mulched for landscaping or sent for recycling (e.g. H&R Henderson).
Concrete		1260		Send to concrete recycling or reprocessing as other materials such as roadbase aggregate Facility at CBS Recyclers or Buttonderry Waste Management Facility.
Bricks		160		Send to concrete recycling Facility for reprocessing as road base / aggregate (Buttonderry Waste Management Facility).
Tiles		25		Crushed and used for drainage, landscaping and driveways, for reuse on-site or off- site. Send to CBS Recyclers.
Metal (incl. structural steel)		500		Send to Buttonderry Waste Management Facility for metal recycling.
Glass		100		Glass can be disposed at Buttonderry Waste Management Facility or sent for reprocessing into various appropriate products.
Furniture			50	Disposal to Buttonderry landfill
Fixtures and fittings		20		Disposal to a building material recycling / reprocessing facility such as Belrose Quarry/ Benedict Recycling.
Floor coverings			30	Depending to Buttonderry landfill.
Packaging (used pallets, pallet wrap, cardboard)		5		Send to Buttonderry Waste Management Facility for recycling.
Garden organics		5		Send to Buttonderry Waste Management Facility for green waste recycling.
Residual waste			10	Disposal to Woy Woy Landfill.

2.2.1 Asbestos/ Fibro Cement Material

Consultation with the Project Manager (APP Consulting) has informed pitt&sherry that there is no asbestos located within the existing RSL Club.

In the event of an unexpected find all work will cease immediately. The only waste management option available will be secure collection and disposal at a suitable landfill facility licensed to accept hazardous materials. The material will need to be wrapped and sealed in heavy-duty plastic before being removed from site.

The laws of handling and disposing of asbestos at work are provided in WorkCover NSW publication '*How to Manage and Control Asbestos in the Workplace: Code of Practice (Dec 2011)*' as an approved code of practice under section 274 of the *Work Health and Safety Act 2011* (the WHS Act).

Asbestos originating from within the Gosford LGA can be taken to Woy Woy landfill at Nagari Road, Woy Woy for safe disposal. Further details regarding asbestos disposal at Woy Woy landfill, as per Gosford City Council guidelines, is attached in Appendix A.

2.2.2 Cut and Fill

The proposed development site is flat and as there will be no underground car parking or basement levels, no cut and fill will be required.

2.2.3 Bins for Enabling Reuse

It is proposed that the following bins will be made available during the demolition and construction phase to facilitate the separation of materials that will be reused on-site or sent for recycling. All bins will be stored and filled within the site perimeter and removed as required by private contractor.

Stage 1A:

- A designated area or (skip) bin for all excavation material – clearly marked with a 'Excavation Material Only' sign.
    - Construction staff will be directed to reuse the material in this bin if the quality of the material is suitable for filling purposes.
    - If a designated area is needed instead of a skip bin, then the area needs to be appropriately bunded and covered with a tarp.
- A (skip) bin for all ceramic materials – clearly marked with a 'Tile/Ceramic Materials Only' sign, note that this will only be available during the construction phase of the development.
- A (skip) bin for all concrete materials – clearly marked with a 'Concrete Materials Only' sign.
- A (skip) bin for other recyclable materials – to capture other potentially recyclable materials such as untreated timber, metals etc.
- A (skip) bin for all residual waste – clearly marked with a 'Garbage Only' sign.

Stage 1B:

- A (skip) bin or tipper truck for all brick materials - clearly marked with a 'Brick Materials Only' sign, note that this will only be available during the demolition phase of the development.
- A (skip) bin for all ceramic materials – clearly marked with a 'Tile/Ceramic Materials Only' sign.
- A (skip) bin or tipper truck for all concrete materials – clearly marked with a 'Concrete Materials Only' sign.

- A (skip) bin for other recyclable materials – to capture other potentially recyclable materials such as untreated timber, metals etc.
- A designated area or (skip) bin for all excavation material – clearly marked with a 'Excavation Material Only' sign.
    - Construction staff will be directed to reuse the material in this bin if it the quality of the material is suitable for filling purposes.
    - If a designated area is needed instead of a skip bin then the area needs to be appropriately bunded and covered with a tarp.
- A (skip) bin for all residual waste – clearly marked with a 'Garbage Only' sign.

Where limited room is available for segregation of construction materials, consultation with recycling facilities will be undertaken to determine which materials can be disposed of within the same skip and still be easily sorted post collection.
Standard dust suppression methodologies will be adopted for managing dust from the demolition material handling on site.

2.2.4 Demolition Waste Storage Areas

The proposed waste storage sites are depicted in Figure 1, including the location of a site office and toilets during the demolition phase (this area could also be used during the respective stage construction phases). Stage 1A waste skips are to be located in the area denoted in yellow while stage 1B waste skips location is noted in blue in the southern carpark. These two areas (approximately 20m x 6m including nominal service area to be decided by contractor) have been nominated because they meet the requirements needed for a waste storage area such as; slope, drainage, location of waterways, stormwater outlets, truck and operator access and vegetation. Both areas are required to be no less than 120m^2 to allow enough room for the required skip bins, site offices and toilet facilities. The two proposed waste disposal sites will not be visible and will be fenced off, secure and unable to be accessed by the public or nearby residents.

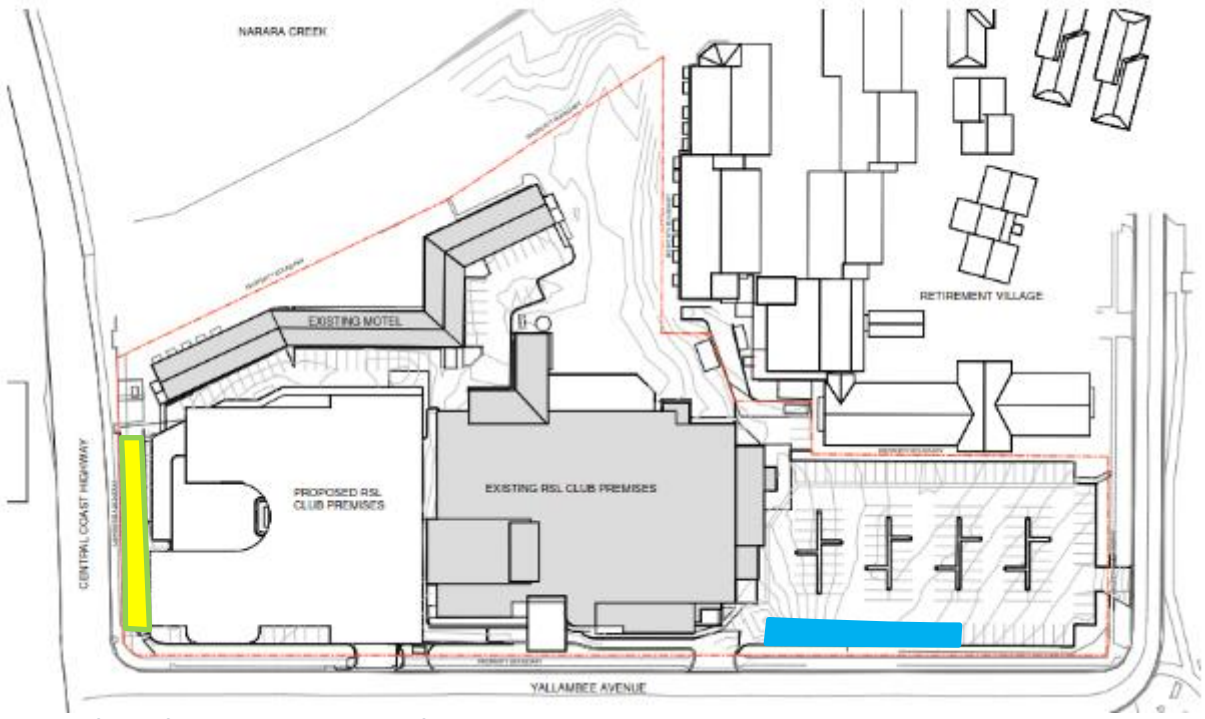


Figure 1 Demolition phase waste management locations

3. Construction Stage

3.1 Construction Material

pitt&sherry has estimated approximate waste generation amounts for major construction materials based on available C&D generation rates (Table 5) as per industry guidelines[1].Quantities of specific waste generated during the construction phase of the commercial development is best estimated by site contractors due to their knowledge of the site and experience with similar development projects.

Table 5. Estimated construction waste generation

Building Type	Construction waste generation rates (tonnes)						
	Timber	Concrete	Bricks	Gyprock	Sand/soil	Metal	Other
Office Block	5.1	18.8	8.5	8.6	8.8	2.75	5
Block of flats / hotels	0.7	6.7	3.2	1.3	28.7	1.3	0.6

The Stage 1A construction footprint, as GFA (Gross Floor Area) is expected to be around 6500m^2 as per available design information. The waste generation rates (Table 5) for hotels has been used to estimate waste generated in the major waste streams.

Table 6 summarises the major waste streams and approximate quantities that will be generated by the Project during the construction stage. The construction waste estimates have not been estimated separately for stages 1A and 1B, as most of construction waste will be generated during Stage 1A. The volumes have been estimated as per the new building GFA as above.

Table 6. Estimated construction waste data

Type of Waste generated	Reuse	Recycling	Disposal	Specify method of onsite reuse, contractor and recycling outlet and/or waste depot to be used
	Estimated Volume (m^3)			
Excavation material		100	90	Reuse proportion as on-site fill. Stockpile soil and reuse for landscaping if deemed suitable. If not, disposal to Buttonderry Waste Management Facility.
Timber (off-cuts, studs etc)		5		Separated on site. Untreated timber to be mulched for landscaping or sent for recycling (e.g. H&R Henderson). If no recycling or reuse possible, timber sent to Buttonderry Waste Management Facility/ Woy Woy Landfill.
Concrete		40		Send to concrete recycling Facility at CBS Recyclers or Buttonderry Waste Management Facility.
Bricks		16		Send to concrete recycling Facility at CBS Recyclers or Buttonderry Waste Management Facility.
Tiles		5		Crushed and used for drainage, landscaping and driveways, for reuse on-site or off- site. Send to CBS Recyclers.

[1] McGregor Environmental Services (2000) Predicting C&D waste quantities in the Inner Sydney Waste Board

Metal (incl. structural steel)		15		Send to Kincumber Waste Transfer Facility Facility for metal recycling.
Glass		5		Glass can be disposed at Buttonderry Waste Management Facility.
Plasterboard (offcuts)		5		Recycling via plasterboard and gyprock recycling/take back scheme eg CSR Gyprock, regyp.
Fixtures and fittings		5		Disposal to a building material recycling / reprocessing facility such as Belrose Quarry/ Benedict Recycling.
Floor coverings		5		Depending on the type of floor covering either disposal Woy Woy Landfill or Buttonderry landfill.
Packaging (used pallets, pallet wrap)		10		Send to Buttonderry Waste Management Facility for recycling.
Containers (cans, plastic, glass)		5		Send to Kincumber Waste Transfer Facility for recycling.
Paper/cardboard		10		Send to Buttonderry Waste Management Facility for recycling.
Residual waste			20	Disposal to Buttonderry Waste Management Facility (landfill).

3.1.1 Excavation Materials

Site excavation is covered under demolition section of this WMP. Construction will occur on the recently demolished and cleared site so only minimal excavation (as per Table 5) for site preparation is expected.

3.1.2 Reducing waste during construction

To mitigate the potential for excess construction material being delivered to site, ordering of materials will be staged. The delivery of materials to arrive 'as needed' will also help prevent the degradation of materials through weathering and moisture damage. Sub-contractors will be required implement industry best practices to limit wastage of materials and will advise on expected waste quantities, how they are minimising waste and what they will take-back/manage themselves.

4. Ongoing Operation of Gosford RSL

Table 7 provides a summary of the expected volumes of waste and recyclables that will be generated during ongoing operations. This summary provides details on the proposed on-site storage and treatment facilities e.g. internal waste storage rooms and an external waste storage area, and bin infrastructure that will be used on-site. The operational waste is generated by approx. 2000 visitors expected at the RSL, estimated based on historic data and other estimates by specialist consultants (Universal Foodservice Designs and WMK Architects).

The proposed RSL Club building includes:

- Basement/Ground floor, including service areas, bulk stores, waste management room etc.
- Level 1 - Café operation.
- Level 1 – Bistro areas and main kitchen.
- Level 1 – Terrace island bar.
- Level 2 – Restaurant and function kitchen.
- Level 2 – Restaurant bar.
- Level 2 – Function bar.
- Level 2 – Sports bar and microbrewery.

Spaces for purposes such as cool room, freezer, cellar, keg room, foyer etc are not included in the waste calculations.

Specifications for the design and construction of internal and external waste storage areas have been included to demonstrate that these areas will be built in compliance with Gosford City Council Development Control Plan (DCP) (Aug 2014).

Use of on-site food management system (Powerknot) has been considered, which would mean the foodwaste will not be included in the general waste bins. Powerknot effluent will be disposed of into the sewer under a trade waste licence as required by water authority. It is possible that during special events with large number of attendees, additional waste will be generated and some of this will be added to the garbage stream.

Table 7. Expected waste generated during ongoing operations

Type of Waste to be Generated	Expected Waste Generation per Week	Proposed On-site Storage and Disposal Options	Destination
General Waste: Option One (excluding food waste)	9,370 Litres	Cleanaway waste contractor; Woy Woy	Disposal
General Waste: Option Two (including food waste)	13,570 Litres	Cleanaway waste contractor;	Disposal
Food Waste (With General Waste Option One)	4,200Kg	Powerknot unit LFC 200 and LFC 500 (see Appendix D)	Disposal (to sewer)
Glass bottles	600 Litres	Glass crusher e.g. BottleCrusher or Bottlecycler (see Appendix E)	Recycling

Other containers (plastic, aluminium)	13,000 Litres	Co-mingled recycling bins – Cleanaway waste contractor	Recycling
Paper & Cardboard		Cleanaway waste contractor	Recycling
Oil	40L	Monthly collection by Specialist contractor	Recycling into biofuel
Grease trap waste	1,200kL	Cleanaway waste contractor;	Specialist disposal

4.1 Access

As noted in Appendix G of the DCP guidelines on waste management, the waste/recycling storage areas will be constructed in accordance with the requirements of the Building Code of Australia (BCA).

The garbage store is located on the south-western corner of ground floor and can be easily accessed via wide corridors on the ground floor or via the multi-purpose lifts from Levels One and Two. Bins can be easily transported the short distance from the waste bin room to the collection point beside the loading bay. A service lift is located adjacent to the garbage store area on the ground floor.

The gradient of waste/recycling storage area floors and the gradient of any associated access ramps will be sufficiently level so that access for emptying containers can occur in accordance with WorkCover NSW Occupational Health and Safety requirements.

Within waste/recycling storage areas, containers used for the storage of recyclable materials will be kept separate from (but close to) general waste containers such that the potential for contamination of recyclable materials is minimised.

As per architectural plans, the proposed waste storage room location is indicated in Figure 2. The travel path for care taker to take wheelie bins to the waste room access door is indicated in red starting from the service lift. Travel path for care taker to roll out the waste storage MGBs to the waste truck is indicated in blue.

The loading dock where the bins will be emptied into the service truck by waste contractor will be accessible in a forward motion from Yallambee Avenue (see section 4.2 and Appendix B).

A bin wash area with hot and cold water connection will be arranged within the waste room.

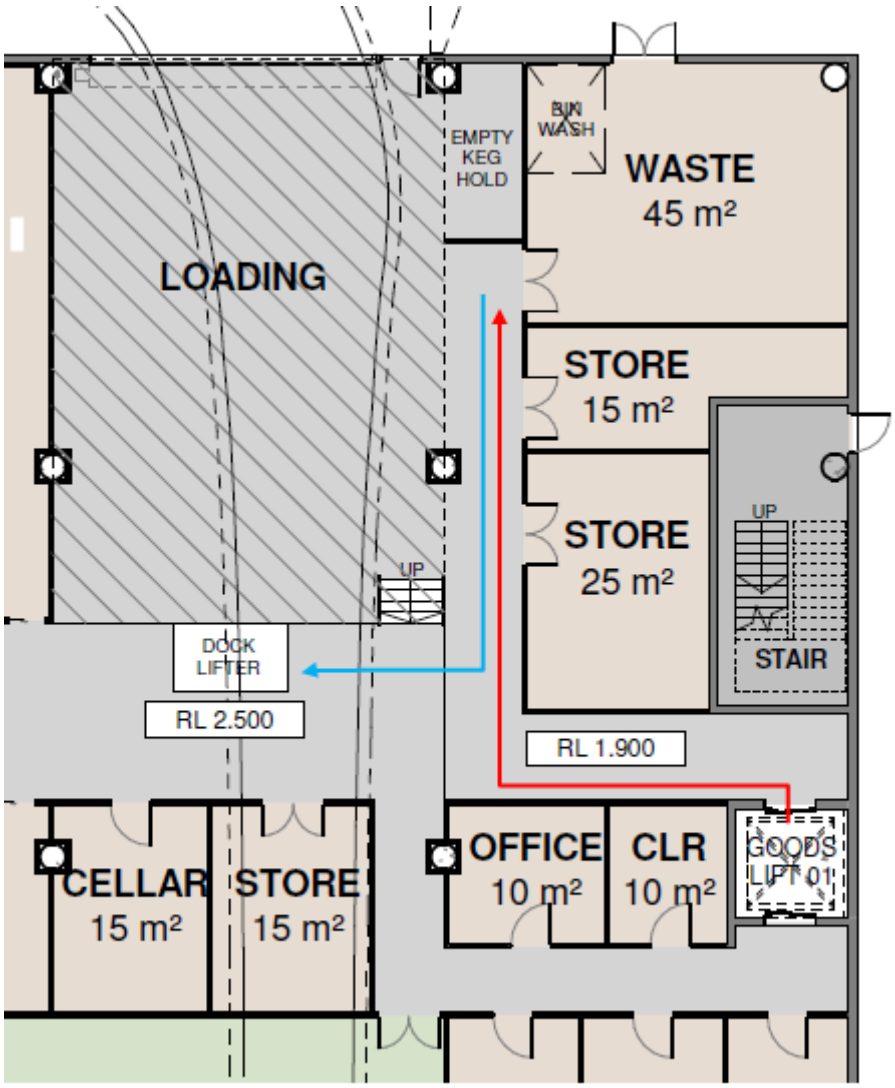


Figure 2 Waste Room location (extract from architectural drawings)

4.1.1 Waste receptacles at source

Bins which encourage source separation of recyclables will be utilised within all offices, administration, back of house and kitchen areas for use by employees on the site. General waste and co-mingled recycling bins will be located adjacent to each other, to encourage source separation of recyclables from waste sent to landfill.

Each of the four bars will have their own 60L bins for recycling and general waste. These bins will be emptied into larger 120L bins located in the designated temporary waste storage area on each level of the RSL (BOH/kitchen). 120L designated recycling, general waste and potentially food waste bins will also be located in the kitchens on floors 1 &2.

Approximately six 60L bins will be located in convenient locations across the floor for patrons to use.

For bulky items (discarded bulky items and recyclable electronic goods), a room or caged area will be allocated for temporary storage and sign marked appropriately. As per the City of Sydney waste minimisation guidelines, the allocated space will be a minimum of 8m^2. Recyclable electronic goods include batteries, equipment containing printed circuit boards, computers, televisions, fluorescent tubes and smoke detectors.

4.2 For Collection Service Providers

Gosford RSL Club currently uses a private waste and recycling contractor (Cleanaway) for the existing facility, contracted to January 2020. As outlined in the building design, planned turning circles in the loading bay will allow clearance for a vehicle of 9.8 metres in length or smaller for recycling pick up by a rear-lift truck. Swept path diagrams, as per AS 2890.2-2002, have been included in Appendix B.

As per Council DCP guidelines, an HRV should be able to 'enter and leave the site in a forward direction with minimal or no need for reversing' and also not require crossing the centreline of the road' and this has been incorporated in the site design (Appendices B and F).

4.2.1 Recycling Collection

The private waste collection contractor will be able to provide a rear lifter collection vehicle to collect Recycling waste from up to seven 660L MGBs, three times a week. Vehicle specifications are provided in Table 8, as per Cleanaway website[2], and show that this vehicle is 8 metres in length. Figure 3 shows the type of vehicle that will be used for pick-ups from the ground floor loading bay.

Table 8: Rear-lifter collection vehicle specifications

Vehicle clearance	2.5m (h) x 2.5m (w) x 8m (l)
Vehicle height in operation	3.4 metres
Vehicle turning circle	17.7 metres

Source: Cleanaway website

Figure 3 Rear-lifter collection vehicle (example only)

4.2.2 Garbage Collection

Garbage collection contract at the new RSL will be re-negotiated. For ongoing garbage service at the new RSL, two 1,100L MGBs are proposed, collected by a rear-lift collection truck of dimensions and specifications similar to the truck collecting recyclables. This will be sufficient to cater for additional waste generated during specific events or in case the proposed food waste management system is under maintenance.

[2] https://www.cleanaway.com.au/our-services/general-waste/wheelie-bins/

4.3 Waste/Recycling Generation Calculations

The following waste generation calculations have been based on waste generation rates in Appendix B Waste/Recycling Generation Rates of the Gosford DCP 2013 and the Policy for Waste Minimisation in New Developments 2005. Further refining of the calculations has been achieved through cross-referencing with the current waste generate rates of the existing club facility and change in the estimated visitor numbers.

Table 9: Waste generation rates

Area of Generation	Daily Waste Generation	Daily Recycling Generation
Offices (at 10L/100m^2/day)	70	70
Restaurant/café (at 50L/100m^2/day)	215	190
Dining (at 50L/100m^2/day)	215	130
Bar (at 50L/100m^2/day)	80	35

Source: *Gosford DCP 2013* and *Policy for Waste Minimisation in New Developments 2005*

The following bin sizes will be used on site (some of the bins are indicated in **Figure 4**):

- Two 1,100 litre bins will be used for daily collection of general waste, with a rear-lifter collection vehicle
- Seven 660 litre bins will be used for thrice-weekly collection of recyclables, a rear-lifter collection vehicle will be used for pick-ups by Cleanaway as per current contractual arrangements (continued).
- Ten 60L bins from the bottle crusher units - collected by service provider on a weekly basis. Bins in use will be at each bar area while spare/full bins will be stored in the waste room (an example is provided in Appendix E).
- 120 litre bins will be used to transport waste from Level One and Two to ground floor waste room area by care taker. These bins will be emptied into the collection bins with a bin lifter mechanism (see Appendix C)
- A 240L drum or unit will be used for the collection of waste oil from the facility – this will be managed by specialist contractor.
- Grease trap waste as generated on the premises will be managed by Cleanaway as per current contractual arrangements (continued).
- Any green waste generated on site will be removed by an engaged gardening contractor. No specific storage or management space is allocated.

Source: TPI Cleanaway Website – www.transpacific.com.au

Figure 4 TPI Cleanaway's range of Mobile Garbage Bins (MGBs)

4.3.1 Adequacy of Storage Area

Detailed waste and recycling generation calculations for the new development are noted below (Table 11). Required bin numbers and the associated area footprint based on collection frequency for each waste type are also provided alongside the suggested collection frequency. The collection frequencies can be altered and adapted once the site is operational.

Table 10: Waste and recyclable generation calculations and collection frequency

Waste Type	Weekly Generation Estimate (Litres)	Type, number and frequency of collection	Associated footprint area with collection frequency
General Waste	9,370 Litres	Two 1,100L bins collected 7 x week	6m^2 (Ground level waste room) area)
Recycling	13,000 Litres	Seven 660L bins collected 3 x week	13.5m² (Ground level waste room)
Crushed Glass	600 Litres	Glass Crusher – eg. BottleCrusher or Bottlecycler collected 1 x week	One unit in each bar area under the bar – four 60L bins. Six spare bins - 5m² (Ground level waste room)
Oil	40 Litres *	One 240 litre drum collected every 6 weeks	0.43m² (Kitchen area)
Food waste	4.2 L #	No collection required – Two Powerknot units in kitchens on Levels One and Two	3.5m^2 (Kitchen area)
Bulky Items	Unknown	(as required)	8m² (bulky items)

Note: * - to be stationed in the kitchen area
Note: # - assumed 1000 kg per 1000L (m^3), two Powerknot units stationed in the Level One and Level Two kitchens

4.4 Design of Garbage Storage Areas

4.4.1 Waste Room on Ground Floor

The waste storage areas will be constructed with adequate space to accommodate all waste and recyclables generated at the development. A suggested bin layout within the waste room is shown in Figure 5Figure 1.

To ensure that planned waste and recyclables storage areas are adequate for waste/recyclables generation, the area required to store the number of bins that would be used at the RSL facility was calculated. This was then compared against the floor areas of the planned garbage store.

The dimensions of the internal and external waste storage areas have been provided by APP Corporation as shown in Table 11.

Table 11: Dimensions of planned storage areas

Room/facility	Area (m^2)
General Waste – two 1100L MGBs	**6**
Recycling – seven 660L MGBs	**14**
Bulky goods store space	**8**
Interim storage for glass crusher 60L bins	**4**
Bin Lift Mechanism	**2**
Bin Wash (one bin at a time)	**4**
TOTAL minimum	**38**

Aggregated area footprints of future bins to be used on-site have been provided in Figure 4 to demonstrate the adequacy of the planned storage areas. Area footprints have been calculated using information from the Gosford DCP 2013 and City of Sydney waste guidelines.

As shown in Table 11 above, the 45m^2 area allocated for garbage storage is sufficient to manage all waste generated on-site.

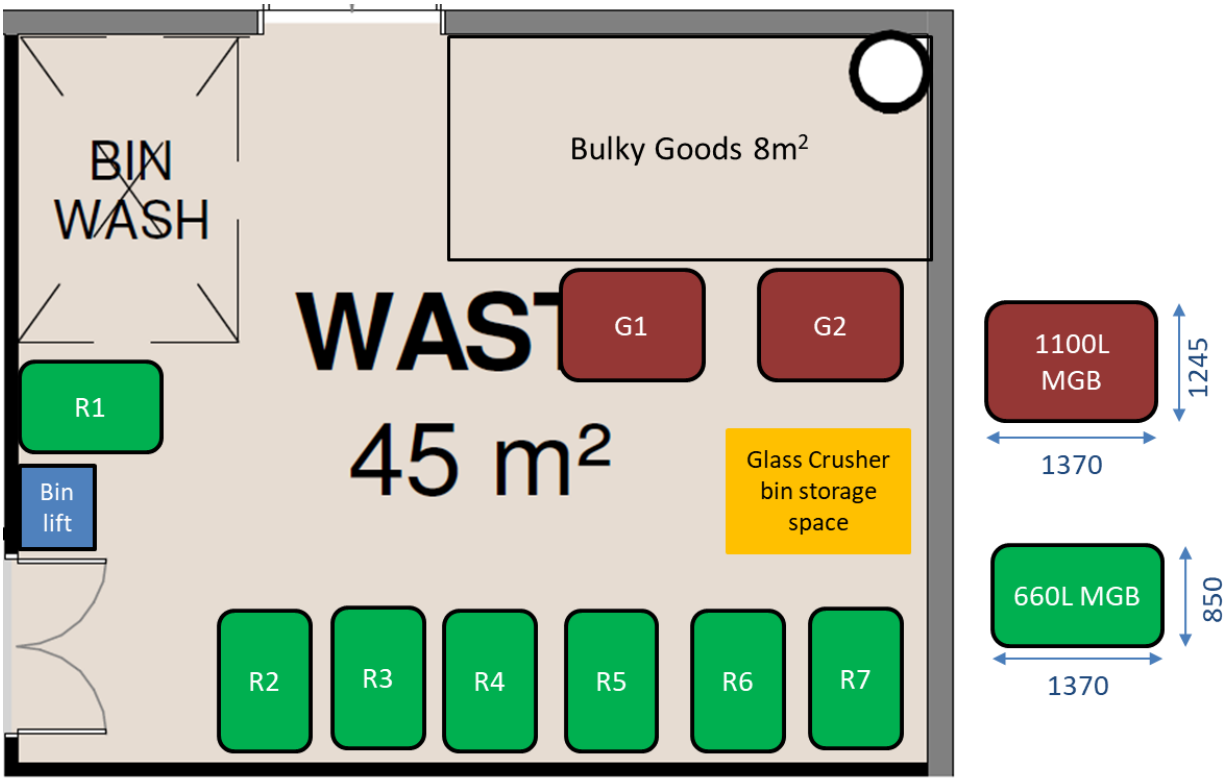


Figure 5 Waste Room Bin Placement (Concept only, drawn not to scale)

4.4.2 Waste Storage Area Construction

The waste storage areas will be designed and constructed with the following specifications as shown in Table 12.

Table 12: Internal waste storage area design and construction specifications

Layout	• Entry of vermin will be prevented. • Provide separate storage areas for waste and recycling bins to facilitate use and collection – separate by at least 1.2m and ensure bins will not be placed one in front of another, or in such a way as to restrict access to the bins for use. • Ensure bins are easily accessible both for use by staff and movement by collectors. • The gradient of waste/recycling storage area floors and the gradient of any associated access ramps will be sufficiently level so that access for the purpose of emptying containers can occur in accordance with WorkCover NSW Occupational Health and Safety requirements.
Floors	• Floors are to be constructed of impervious material – steel trowel finished concrete (minimum 75mm thick) or other approved material graded and drained to a Sydney Water Corporation approved drainage fitting located in the rooms. • Floors will be well drained and will be connected to the sewer. • Floors and walls will be finished to a smooth even surface covered at the intersection with walls and plinths. • The walls, floors and ceilings of the waste and recycling rooms and service compartments will be finished with a light colour. • The floors of waste rooms and recycling rooms will be provided with an adequate supply of hot and cold water mixed through a centralised mixing valve with hose cock. • Waste and recycling rooms will be ventilated by either: - Permanent, unobstructed natural ventilation openings direct to the external air, not less than one-twentieth i.e. 5% of the floor area. - A mechanical exhaust ventilation system exhausting at a rate of 5L/s.m^2 floor area, with a minimum rate of 100L/s min. • Waste and recycling rooms will be provided with artificial light controlled by switches located both outside and inside the room.
Walls	• Walls are to be constructed of impervious material and cement rendered. • Intersection of floors and walls shall be covered with a minimum radius of 50mm. • Waste and recycling receptacles will have adequate separation from walls. • Storage and drainage racks will be made of a durable, impervious, non-corrosive material and will be separated from walls to allow easy access. • A bump rail 50mm clear of walls or flat sheet iron installed flush with walls will be provided.
Ceiling	• The ceiling is to be constructed of an impervious material and cement rendered so that it has a durable and smooth finish. • The ceiling will be of a suitable height for the type of service.

	• The ceilings of waste and recycling rooms and service compartments will be finished with a rigid smooth faced non-absorbent material capable of being easily cleaned.
Doors	• Doors will be durable, lockable, close fitting, self-closing doors that can be opened from inside and outside. • Doors will be a sufficient width for movement of waste and recycling receptacles. • A close fitting and self-closing door able to be opened from within the room will be fitted to all waste and recycling rooms.
Collection	• Use defined borders to prevent the parking of vehicles on bin presentation areas. • Provide access openings (minimum 1.2m wide) for collection. In the case of commercial collections, sufficient to accommodate the containers proposed in this waste plan. • Access to the waste storage and recycling area shall be readily available on collection days. There shall be no conflict with the delivery or after service vehicles, loading docks and the like.
Other features	• Adequate natural and mechanical ventilation will be provided. • Adequate lighting controllable from outside and inside the rooms will be provided. • Adequate water supply, including hot water for commercial uses and cleaning will be provided. • Clear signage will be displayed describing how to use the waste facilities correctly. • Facilities will be clean and healthy – dust free, with litter managed appropriately and odour and noise issues addressed as described in Section 5.6.

5. Ongoing Management

The following section provides details on the waste management procedures that will be put in place to manage amenity and ensure that recyclables are effectively separated and special wastes are handled in a clean, safe and efficient manner.

5.1 On-site Cleaner/Caretaker

An onsite cleaner or caretaker will ensure that the ongoing management of waste and separation of recyclables is carried out in a clean, safe and efficient manner – achieving maximum diversion of recyclable materials. The cleaner will also be provided with information on appropriate management of any special or bulky goods waste. The cleaner/caretaker will be responsible for transporting bins from the internal garbage store to the external collection area on bin collection days. Bins, internal and external waste storage/collection areas will be regularly cleaned and inspected by the on-site cleaner / caretaker.

5.2 Seafood, Poultry and Meat Waste

It is not anticipated that large volumes (in excess of 50 litres a day) of seafood, poultry or meat waste will be produced from the clubs' kitchens and café. The small amounts of seafood, poultry and meat waste from plate scrapings and leftover food will be disposed of with other general waste collected daily. As this waste is stored on-site for a very short time period, it is not expected that there will be any odour or vermin issues associated with this waste.

5.3 Waste Avoidance & Sustainable Purchasing

It is anticipated that a Purchasing Policy will be implemented for the restaurant/café management, and will include strategies for waste minimisation, such as:

- Procurement of materials containing recycled content, such as paper, napkins and paper towels etc.
- Purchasing in bulk to minimise single use packaging.
- Investigation of third party packaging for options to incorporate recycled content and reduce packaging.

All staff shall be aware of the following principles for waste avoidance:

- Buy and use dispenser beverages in concentrate or bulk form.
- Use refillable condiment bottles.
- Purchase items in bulk. Avoid purchasing multipacks and single serve containers.
- Stop the use of polystyrene foam and petroleum-based plastic takeaway packaging.
- Check delivered food carefully for rotten and damaged product.
- Clearly label all materials with details of contents, storage handling and expiration dates.
- Use non-wrapped straws.
- Provide ceramic cups, mugs, crockery and cutlery rather than disposable.
- Review serving sizes to reduce waste from uneaten food.

5.4 Grease Trap Waste

Waste grease is to be collected on-site through the use of a grease trap. This waste is to be collected by a private contractor (Cleanaway) every month. Collection schedules can be adjusted in the future to accommodate any changes in waste grease generation.

5.5 Signage

Signage, as shown in Figure 6 will be displayed at eye level in the internal garbage store. In addition to bin labels provided by the waste management contractor, bin stickers, such as those shown below, will be affixed to the lids and front faces of the MGBs. In addition, clear and easy to read “NO STANDING” signs and “DANGER” warning signs will be fixed to the external face of waste and recycling rooms where appropriate.

Source: *NSW Department of Environment & Climate Change Better Practice Guide for Waste Management in MUDs, 2008*

Figure 6 Bin and Storage Area Signage

5.6 Amenity Management

Amenity impact on the surrounding communities and environment will be managed according to the mitigation measures set out in Table 13.

Table 13. Amenity Management Methods

Impact	Mitigation/ management method
Noise	To further ameliorate noise impacts on surrounding motel tenants, any removal of waste from individual commercial tenancies to waste storage or bin location is to be done during daytime hours only. Bin collections will take place during the day within an acceptable time period deemed by the private waste collection contractor.
Odour	General waste collections will occur once daily or seven times a week. Utilisation of Powerknot for disposal of food waste and high risk items such as seafood will reduce the amount of putrescible waste to be managed with general waste. Any putrescible waste that cannot be managed by Powerknot will be stored on-site for a very short time period with daily collection, it is not expected that there will be any odour or vermin issues associated with waste. Hot water taps for bin washing will be installed and the walls of the waste room will be constructed of an impervious material for easy cleaning reducing the risk of odour. Adequate ventilation will be provided to reduce odours. Storage areas will be locked to prevent the entry of vermin.
Visibility from street levels	Since waste and recyclable bins will be stored in the internal garbage store, it is unlikely that bins and other receptacles will be visible from street level.

Appendix A

Asbestos waste guidelines

ASBESTOS DISPOSAL WOY WOY LANDFILL

Only asbestos waste generated in the Gosford City Local Government Area will be accepted at Woy Woy Landfill. Please note: Kincumber Landfill **does not** accept asbestos waste**.**

Asbestos waste will be accepted by appointment only at Woy Woy Landfill during the hours:

- Monday to Friday between 7:00am and 4:00pm
- Weekends between 8:00am and 3:00pm

Each load of asbestos will be inspected before disposal. Loads which do not meet the requirements stated below may be rejected. Landfill staff will determine if disputed loads are to be disposed of as asbestos waste.

Asbestos Waste Types	
Asbestos Waste	• any waste containing asbestos *(NSW DECCW Waste Classification Guidelines)*
Friable asbestos	• Material that contains asbestos and is in a powder form, or • Material that can be crumbled, pulverized or reduced to a powder by hand pressure when dry.
Non-friable asbestos	• Material containing asbestos that is not friable asbestos, including material containing asbestos fibres reinforced with a bonding compound. • Note: Non-friable asbestos may become friable asbestos through deterioration

Prior to arrival at landfill

- Determine if a licensed asbestos disposal contractor is required. Areas larger than 10m^2 require removal by a licensed contractor (see WorkCover NSW website) http://www.workcover.nsw.gov.au/newlegislation2012/headsofasbestoscoordinationauthorities/Pages/asbestosresources.aspx
- Make an appointment for disposal of asbestos waste at least 24 hours in advance by calling Woy Woy Landfill gatehouse on 4342 5255.

Asbestos Waste Requirements	
Friable asbestos	• Must be kept damp or sealed with PVA glue • Must be **double** wrapped in 200micron plastic bags with a maximum size of 1200mm x 900mm and are **less than half full** with a maximum weight of 25kgs • Must be sealed with a wire tie to prevent rupture on disposal. • Must have asbestos identification label attached.
Non-friable asbestos	• must be watered down and, • wrapped with **two layers** of 200 micron (heavy duty builder's plastic) and sealed with waterproof tape in small packages with a **maximum height of 500mm** to prevent rupture on disposal.
Asbestos Contaminated Soil	• must be wet down for transportation in trucks lined with 200 micron plastic, sealed and covered.

On arrival at landfill

- Notify weighbridge gatehouse attendant of any load containing asbestos waste.
- Gatehouse attendant will enter details of load and notify GCC waste screener to inspect load.
- Customer will be directed to the waste screener to ensure load is wrapped and sealed to prevent rupture.
- Loads that do not meet requirements may be refused disposal.
- After inspection, the customer will be directed to the appropriate asbestos disposal area and should apply PPE. **Note: only one vehicle is permitted in the asbestos disposal area at a time.**
- Waste Screener will direct small loads to asbestos bin.
- Waste Screener will direct large loads to appropriate area where asbestos must be tipped directly onto the ground. It is the responsibility of transporters to deposit waste on the ground at the correct location with bundles intact. **Note: council equipment <u>will not</u> unload or push off loads. Loads cannot be run out or skidded off. Asbestos waste being hand unloaded must be wrapped in an appropriate (*i.e. small)* size**
- Once waste is disposed leave the area immediately and proceed to weighbridge for payment.
- A water cart is available on request to water down loads.
- Loader will cover waste immediately after disposal and before another vehicle is permitted entry into the area.
- If a load is discovered to contain unwrapped asbestos waste, the entire load will be charged at the asbestos rate.

Asbestos disposal costs – please refer to fees and charges
For further information, contact Woy Woy Landfill Gatehouse on 4342 5255
Your cooperation regarding the safe disposal of asbestos is appreciated.

Appendix B

Service Truck Swept Path Diagram

VEHICLE BODY

FRONT WHEEL PATH

PUMP ROOM

100,000L STORAGE TANKS

10.8 Garbage Truck

WASTE

STORE

KEG ROOM

LOADING

STORE

FREEZER

COOL

LOADING

COOL

COOL

CELLAR

STORE

OFFICE

CLR

SEC

COMMS

MSB

STAFF OFFICES + AMENITIES

40

IT

SB OFFICES

MUSEUM

FOYER

DROP OFF

MINI BUS SET DOWN

PROPOSED CAR PARK

ENTRY

EXIT

SITE BOUNDARY

WATER AND GAS METER

HYDRANT BOOSTER

EX CROSSOVER

PROPOSED CROSSOVER

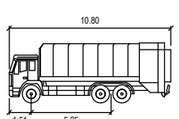
EX CROSSOVER

Y A L L A M B E E A V E N U E

TITLE: 10.8m GARBAGE TRUCK MOVEMENTS
YALLAMBEE AVENUE
GOSFORD

GOSFORD RSL

SECA solution
Suite 1, 161 Scott Street, Newcastle NSW 2300
Ph (02) 40327979 Mb 0425 250 031



10.8 Garbage Truck

	meters
Width	: 2.50
Track	: 2.50
Lock to Lock Time	: 6.0
Steering Angle	: 40.0

NOTE:
ALL EXISTING UNDERGROUND SERVICES MUST BE LOCATED AND EXPOSED PRIOR TO EARTHWORKS COMMENCING AND IT IS RESPONSIBILITY OF THOSE PERSONS USING THIS PLAN TO CONFIRM BOTH POSITION AND LEVEL OF THESE UTILITIES IN CONJUNCTION WITH THE APPROPRIATE AUTHORITY.

Date: 09.03.18 Scale: 1:400 Designed: KU
Cad Ref: HD198 r2

No	Amendment	Drawn	Date
2	CLIENT ISSUE	KU	09.03.18
1	CLIENT ISSUE	KU	09.03.18

Project No HD198
Drawing No HD02
Revision 2

Appendix C

Bin Lifter Mechanism (example)

240 litre Bin Lifter

The single bin lifter is designed to safely empty wheelie bins into large dumpsters and compactors. With easy operating push button instructions, the bin lifter is complemented by a safety cage.

Features	**120-240 litre bin lifter**
Lifting capacity	140 kg
Bin compatibility	120 & 240 litre bins
Operation method	Automatic
Hydraulic	yes
Dimensions	850mm (W) x 1800mm (L)
Safety	Safety cage & control box
Emergency stop	yes
Tipping height	1350mm variable
Clearance	2650mm
Suitability in tipping into	bins , dumpsters and compactors
Power	240 volt, 10amp
Can it be customised?	yes

ELEPHANTS FOOT WASTE COMPACTORS PTY LTD **ABN** 70 001 378 294
Sydney Head Office 44-46 Gibson Ave Padstow NSW 2211 Ph: +612 9780 3500 Fax: +612 9707 2588
Website: www.elephantsfoot.com.au - Email: info@elephantsfoot.com.au
Offices in Victoria & Queensland - Toll Free 1800 025 073

Appendix D

Powerknot Food Waste Management System

power knot

LIQUID FOOD COMPOSTER

reduce waste

reduce cost

reduce CO_2

LFC-100 is pictured

LOOKING FOR A CLEAN AND ENVIRONMENTALLY FRIENDLY WASTE FOOD DISPOSAL SOLUTION?

The LFC (Liquid Food Composter) is a commercial bio digester that decomposes most waste food in less than 24 hours, before safely releasing it to the sewage system. And by diverting your waste food from landfills the LFC helps you significantly reduce your carbon footprint.

The LFC is a fully enclosed automatic commercial bio digester that decomposes waste food at your facility.

Say goodbye to the messy and expensive business of handling waste food forever at facilities including:

- Hotels
- Cafes and restaurants
- Hospitals and aged care homes
- Corporate and universi ty cafeterias
- Convention centers
- Supermarkets and food distribution centers
- Remote sites including mining, immigration and indigenous communities
- Island communities and resorts

The LFC is a clean and environmentally friendly waste food disposal solution that uses a series of processes where microorganisms break down most waste food into grey water that's safe to discharge into the sewage system.

In under 24 hours, the LFC can dispose of most waste food including:

- Fruits and vegetables
- Meat and fish
- Most organic foods
- Cheese
- Bread
- Rice and noodles

With an LFC at your facility your employees won't waste time and risk possible injuries by pushing heavy bins outside for collection. You will dramatically increase your facility's hygiene and reduce flies, rodents and other vermin in and around your waste bins. And by diverting your waste food from landfill, you will be significantly reducing your facility's carbon footprint.

PRODUCT FEATURES

- Decomposes waste food at your facility – can be installed in your kitchen or work area
- Discharge from LFC safe to enter sewage system
- Continuous process allows waste food to be added any time
- No emptying of the LFC is required
- Payback is typically under 24 months
- Waste food weight continuously monitored and reported both graphically and numerically on usage and waste food digested
- Simple, quiet and safe operation with odor free and air tight tank
- All monitoring, reporting, diagnostics and alerts accessible remotely on your PC, iPad and iPhone
- Monitor your carbon footprint savings

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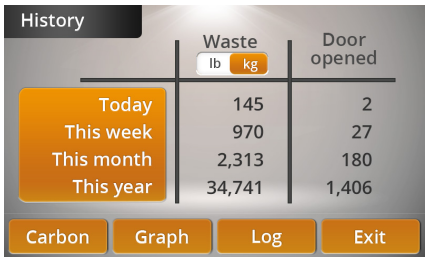


SIMPLE OPERATION

The LFC is constantly digesting the waste and you can add waste food at any time. Simply open the door, throw it in, and close the door. In this way, you can view the LFC as a bottomless bucket.

The motor on the LFC won't run while the door is open for safety. Your operation can be streamlined because large bins and plastic bags are no longer needed to hold waste food. Instead, smaller bins are used that help avoid injuries to employees.

All configuration, indications, reports, and statistics are available through the touch screen. The operator doesn't need to use the touch screen and for most applications the default settings work well. All configurable parameters are protected by password.

WEIGHING THE AMOUNT OF WASTE

Load cells on each corner of the LFC accurately weigh the amount of waste food in the LFC, the amount that is added, and the amount that is digested. This data is automatically stored and reported graphically and numerically. The data can be viewed by the hour, day, week, month, and year.

As the operator adds waste into the LFC, the touch screen indicates how much more can be added. When the door is closed the LFC indicates with a bright LED when more waste can be added with a simple green indication. As waste is added, the indication becomes yellow when no more waste should be added and red if the operator overloads the LFC.

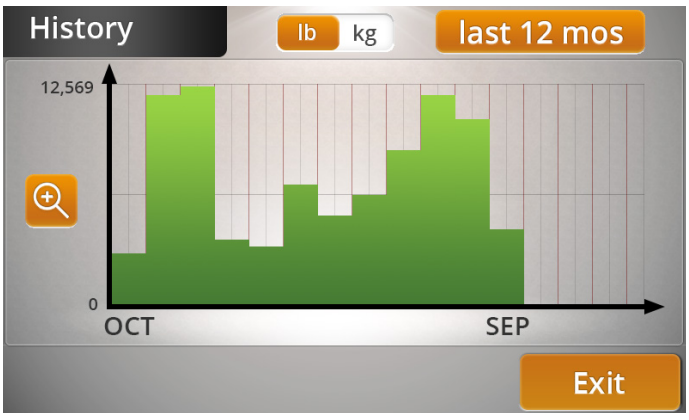
CONNECTION TO THE CLOUD

The LFC can connect through its Ethernet port to a cloud server maintained by Power Knot. The LFC securely sends data about the operation of the LFC to the server and that data is retained for five years. The data includes the amount of waste food digested hourly, daily, weekly, monthly, and yearly; the number of times the door is opened in these periods; and the amount of CO_2 diverted from the landfill during these periods. If you have multiple machines, you can aggregate the data into a single report.

Remotely, you can view the health of the system including all diagnostics and when the LFC requires scheduled maintenance.

You have access to view and manipulate the data from any computer, tablet, or smartphone anywhere in the world. This access is available as long as you own the LFC at no charge to you.

The LFC Cloud can send you an e-mail with daily, weekly, or monthly statistics, alert you when it is time for periodic maintenance, and send an e-mail if there seems to be a problem with the LFC. Whilst the LFC is under warranty, Power Knot can also monitor your LFC at no charge.



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power knot

HOW IT WORKS

Install the Liquid Food Composter (LFC) onsite

Add waste food into the LFC

Microorganisms rapidly decompose waste food

The LFC uses a series of processes in which micro-organisms break down biodegradable material in the presence of oxygen. The environment of the LFC, with our proprietary mixture of microbes and enzymes, accelerates the digestion of most food products and bio-plastics within 24 hours. The output is grey water that is environmentally safe. You can discharge this down the drain or use it to enrich your landscape.

The LFC is a practical alternative to the traditional disposal of waste food. Anything you can eat, including fruits, vegetables, meat, fish, cheese, bread, rice, and noodles can go into the LFC. The machine can compost both raw and cooked foods. The process is totally green because it uses no chemicals.

As one of earths' oldest processes, composting is the most effective means of stabilizing and converting bio-degradable waste. The waste food is not being chopped but it is decomposed to such a degree that it becomes a liquid and can exit the machine only through a fine mesh screen. The rich by-product is therefore safe and replenishes nature.

WHAT CAN GO IN THE LFC?


Fruit

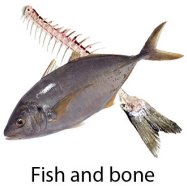

Vegetables


Banana and skin


Fruit without stones

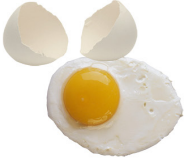

Nuts


Meat


Fish and bone


Crustaceon


Stew (when cool)

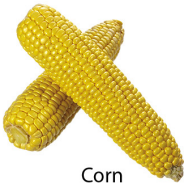

Egg and eggshell


Bread


Noodles


Cheese


Pineapple heads (cut)


Corn

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CAPACITY

The amount of food that can be decomposed depends on the type of food, the frequency with which it is added to the machine, and the duration of the working day. The rated capacity of a machine is based on a mixture of raw and cooked food as may be found in a typical restaurant added over a 12 hour to 16 hour working day. The upper capacities in the table below assume that you add waste food over a 24 hour day. Cooked rice, pasta, or bread are some of the foods that are rapidly decomposed and if added in equal portions throughout the day then the capacities can be more than those listed in the table below.

INSTALLATION

The LFC is usually installed inside the area where the food is prepared or it can be placed outside under a suitable protective cover. The machine has castors so it can be rolled into position. The feet on the load cells are then lowered onto the supplied rubber pads that help to reduce vibrations and noise.

The LFC requires hot and cold water input and a 1¼" to 3" drain out (depending on model). It also requires an electrical supply.

SIZES OF LFCs

	LFC-20	LFC-50	LFC-70	LFC-100	LFC-200	LFC-300	LFC-500	LFC-1000
Capacity per day	20 - 35kg	50 - 90 kg	70 - 125 kg	100 - 180 kg	200 - 360 kg	300 - 540 kg	500 - 900 kg	1000 - 1800 kg
Size, width x depth x height, cm	56 x 49 x 73	87 x 68 x 101	95 x 72 x 108	115 x 75 x 111	148 x 81 x 127	154 x 105 x 149	190 x 120 x 162	260 x 141 x 174
Weight when empty	80 kg	168 kg	220 kg	247 kg	350 kg	520 kg	820 kg	1250 kg
Electrical supply	240 V - 50 Hz	240 V - 50 Hz	240 V - 50 Hz	240 V - 50 Hz	240 V - 50 Hz / 415 V - 50 Hz	415 V - 50 Hz	415 V - 50 Hz	415 V - 50 Hz
Maximum power	200 W	650 W	650 W	1.1 kW	1.1 kW	2.0 kW	2.8 kW	4.5 kW
Energy per day	2.3 kWh	3.9 kWh	3.9 kWh	6.2 kWh	6.2 kWh	11 kWh	15 kWh	24 kWh
Water per day	55 litre	150 litre	190 litre	250 litre	530 litre	800 litre	1200 litre	1900 litre

SPECIFICATIONS

Construction: all stainless steel (chassis, side panels, drum, shaft, arms, paddle, and load cells)

Water: ½" FIP, 200 to 700 kPa (29 to 100 psi, 2 to 7 kg/cm^2)

AC Power: 240 V - 415 V - 50 Hz (based upon model)

Weighing Accuracy: ±1%

MMI: 22 mm 3-color LED and 4" or 7" touch screen with 65k colours

Ethernet: RJ45, 100 baseT, DHCP or fixed IP address

Operating environment: indoors or covered patio

Operating temperature: 4°C to +35°C

Ingress protection: IP54 – splash proof and dust proof

Operating lifetime: expected to be 15 to 25 years

Warranty: three years on all parts and components

Safety: certified to UL430 (waste disposal machines); CAN/CSA-C22.2 No. 60335-1:11 and EN 60335-1:2010+AMD1:2013 (general safety); CAN/CSA-C22.2 No. 60335-2-16:16 and EN 60335-2-16: 2002+A1:2008+A2:2011 (waste food disposers)

RoHS: compliant for EU and China

WaterMark

+61 2 6622 3077 PKA@powerknot.com.au powerknot.com.au

Appendix E

Proposed Glass Crusher

Easy to use

JUST THROW
IN THE BOTTLE,
WE TAKE CARE OF THE REST

BottleCycler
Guaranteed to save you
SPACE, TIME,
MONEY, PEOPLE,
and the
ENVIRONMENT

For a monthly fee, we provide you a **BottleCycler** crusher, on-site machine maintenance, full warranty and glass collection.

We install, we collect, we maintain.

Testimonials

"We were able to turn the store room into extra guest seating thanks to the introduction of the crusher."

Bathers Pavilion, Sydney, NSW

"For us it's perfect. Staff were continually moving the rubbish from the bar to the back of house and then downstairs, about every half hour. With BottleCycler, we just take 2 bins down per night. This has freed staff up to keep the club clean and concentrate on looking after patrons. It's quiet, easy to use, we're having less injuries caused by staff being cut by broken glass and we are pleased to be recycling efficiently."

One Six One, Melbourne, VIC

"We are situated in a residential area and by eliminating the noise of bottle collection we were able to counter a lot of complaints."

Engadine Bowling Club, Sydney, NSW

"Since we started operating as an events space, the installation of a BottleCycler machine has become an invaluable addition to our business cutting down on labour and waste. The ongoing service provided by BottleCycler is excellent."

Mural Hall, Melbourne VIC

"Our club is elevated and always had trouble with large amounts of bottles that had to be carried down stairs for disposal. We also had very little room in the bar, so after consultation we cut a hole in the floor and installed a BottleCycler chute machine. The bottles are now sent to ground floor level to be crushed. No more carrying empty bottles (a significant labour saving) and the machine tells us when the bin is full and requires changing. Installing a BottleCycler unit is the best thing we have done to make work easier and the service has been first class."

Steve Condren
General Manager Southport Surf Club Supporters Club Inc.
President CMA Gold Coast and
Federal Executive Member CMAA

BOTTLECYCLER
glass management
P.O. Box 2007, South Melbourne VIC 3205

For your no obligation **DEMO** or **TRIAL** or to receive more information,
call **1300 306 039**
or email **info@bottlecycler.com**

www.bottlecycler.com

WANT TO SAVE?

the
environment
time
money
space
people

DIMENSIONS	
Height	150cm
Width	50cm
Depth	65cm

BOTTLECYCLER
glass management

GIVING you back

→ SPACE

- 80% volume reduction of empties
- Just one compact 60 litre wheelie bin holds 300 stubbies or 200 wine bottles
- Cut storage requirements in bar and loading dock areas
- Compact and easy to store mini bins

GIVING you back

→ TIME

- Save you and your staff energy
- On-site crushing means no double-handling
- Save money by keeping the staff behind the bar serving customers
- Collections are dramatically reduced

GIVING you real

→ SAFETY & CONVENIENCE

- Quiet enough to be anywhere in the bar area
- Easy and completely safe to use
- OH&S approved; eliminates lifting, tipping and contact with glass or broken bottles
- All bottle noises eliminated inside, outside and during collection
- Keep neighbours and the council happy

SAVING the

ENVIRONMENT

- 80% of crushed glass using the BottleCycler is recycled
- Every BottleCycler bin filled saves 33kg of CO_2 emissions

Call us on

1300 306 039

We install, we collect, we maintain.

BOTTLECYCLER SPECIFICATIONS FOR DESIGN AND FIT-OUT

BottleCycler Machine	
Unit dimensions:	Height 150 cm, width 50 cm, depth 65 cm
Unit weight:	90 kg
Noise level:	68 dB (approx.. speaking voice level)
Processing speed:	Approximately 60 wine bottles or 80 beer bottles per minute

BottleCycler Bin	
Bin dimensions:	Height 60 cm, width 48 cm, depth 52 cm
Full bin weight:	65 kg rolling weight
Holding capacity:	Approximately 300 crushed beer bottles or 200 crushed wine bottles
Volume reduction:	2 x 120 litre bins = Approximately 1 x small 60 litre BottleCycler bin 10 x bar bins = Approximately 1 x small 60 litre BottleCycler bin

Technical Requirements	
Power:	Standard 240 V, single phase, 10 amp 3-phase can be supplied on request
Installation:	Freestanding or built-in joinery Allow 30 cm space on top to insert bottles
Ventilation space:	Free flow underneath The unit is on feet and is partly adjustable
Drip tray:	Unit has a rubber protection iris, which can be removed and cleaned easily
Glass colour separation:	In Australia no separation is required, as BottleCycler provides a glass collection service in all metropolitan areas. The glass collected is then recycled.

Preferred Location On Site	
Close to basin:	For emptying liquids out of bottles Although the machine will accept liquids, the machine will become dirty faster with residue
Close to the serving area:	In order to eliminate double-handling

Optional Extras	
Chute:	Machine can be installed in the cellar with only the top box being in the bar area
Wheels:	Wheels under the unit, which add 40 mm on each side and 10 mm in height

BottleCycler Australia Pty Ltd
ABN: 73 116 500 746
Phone: 1300 306 039
Fax: 03 9646 3738
Email: info@bottlecycler.com
Web: www.bottlecycler.com

Appendix F

Layout Drawings

Contact
Avanish Panikkar
apanikkar@pittsh.com.au

transport | community | mining | industrial | food & beverage | energy




Brisbane
Level 10
241 Adelaide Street
Brisbane QLD 4000
T: (07) 3058 7499

Devonport
Level 1
35 Oldaker Street
PO Box 836
Devonport TAS 7310
T: (03) 6424 1641
F: (03) 6424 9215

Hobart
199 Macquarie Street
GPO Box 94
Hobart TAS 7001
T: (03) 6210 1400
F: (03) 6223 1299

Launceston
Level 4
113 Cimitiere Street
PO Box 1409
Launceston TAS 7250
T: (03) 6323 1900
F: (03) 6334 4651

Melbourne
Level 1, HWT Tower
40 City Road
Southbank VIC 3006
PO Box 259
South Melbourne VIC 3205
T: (03) 9682 5290
F: (03) 9682 5292

Newcastle
Level 1
81 Hunter Street
Newcastle NSW 2300
T: (02) 4910 3600

Sydney
Suite 902, Level 9,
1-5 Railway Street
Chatswood NSW 2067
PO Box 5487
West Chatswood NSW 1515
T: (02) 9468 9300

E: info@pittsh.com.au
W: www.pittsh.com.au

incorporated as
Pitt & Sherry (Operations) Pty Ltd
ABN 67 140 184 309

KMH ENVIRONMENTAL
Now part of the pitt&sherry group

pitt&sherry

Issue	Description	Date
1	FOR INFORMATION	20.02.18
2	FOR INFORMATION	23.02.18
3	FOR INFORMATION	27.02.18

LEGEND

- FOYER
- KEG
- IT
- LOADING

AREAS SCHEDULE

TOTAL SITE AREA	**21,353m²**
GROUND LEVEL TOTAL GFA	990m²
LEVEL 1 TOTAL GFA	2,820m²
LEVEL 2 TOTAL GFA	2,630m²
TOTAL GFA	**6,440m²**
TOTAL TERRACE AREA	695m²
FSR	1:3.3

PRELIMINARY

0 2 4 6 8m 1:200

WMK Architecture
L1 346-348 Kent St
Sydney NSW 2000
Telephone 02 9299 0401
Facsimile 02 9299 0402
wmkarchitecture.com
ABN 25 082 956 929

Client

gosford.rsl

Project

GOSFORD RSL CLUB
2-20 YALLAMBEE AVENUE
WEST GOSFORD NSW 2250

Title

GROUND

Drawing No. DA100	**Issue** 3
Scale 1 : 200@A1	**Drawing Size** A1
Project No. 17047	**Drawn By** BW

CAD Reference
PROJECT\00000-PROJECT NAME\DWG\REVIT\FILENAME.RVT

Issue	Description	Date
1	CONCEPT DESIGN PRELIMINARY ISSUE	08.11.17
2	FOR INFORMATION	16.01.18
3	FOR INFORMATION	19.01.18
4	FOR INFORMATION	12.02.18
5	FOR INFORMATION	20.02.18
6	FOR INFORMATION	23.02.18

LEGEND

- BISTRO
- CAFE
- KIDS
- KITCHEN
- LOUNGE
- TERRACE

AREAS SCHEDULE

TOTAL SITE AREA	**21,353m²**
GROUND LEVEL TOTAL GFA	990m²
LEVEL 1 TOTAL GFA	2,820m²
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TOTAL GFA	**6,440m²**
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FSR	1:3.3

PRELIMINARY

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Client

gosford.rsl

Project

GOSFORD RSL CLUB
2-20 YALLAMBEE AVENUE
WEST GOSFORD NSW 2250

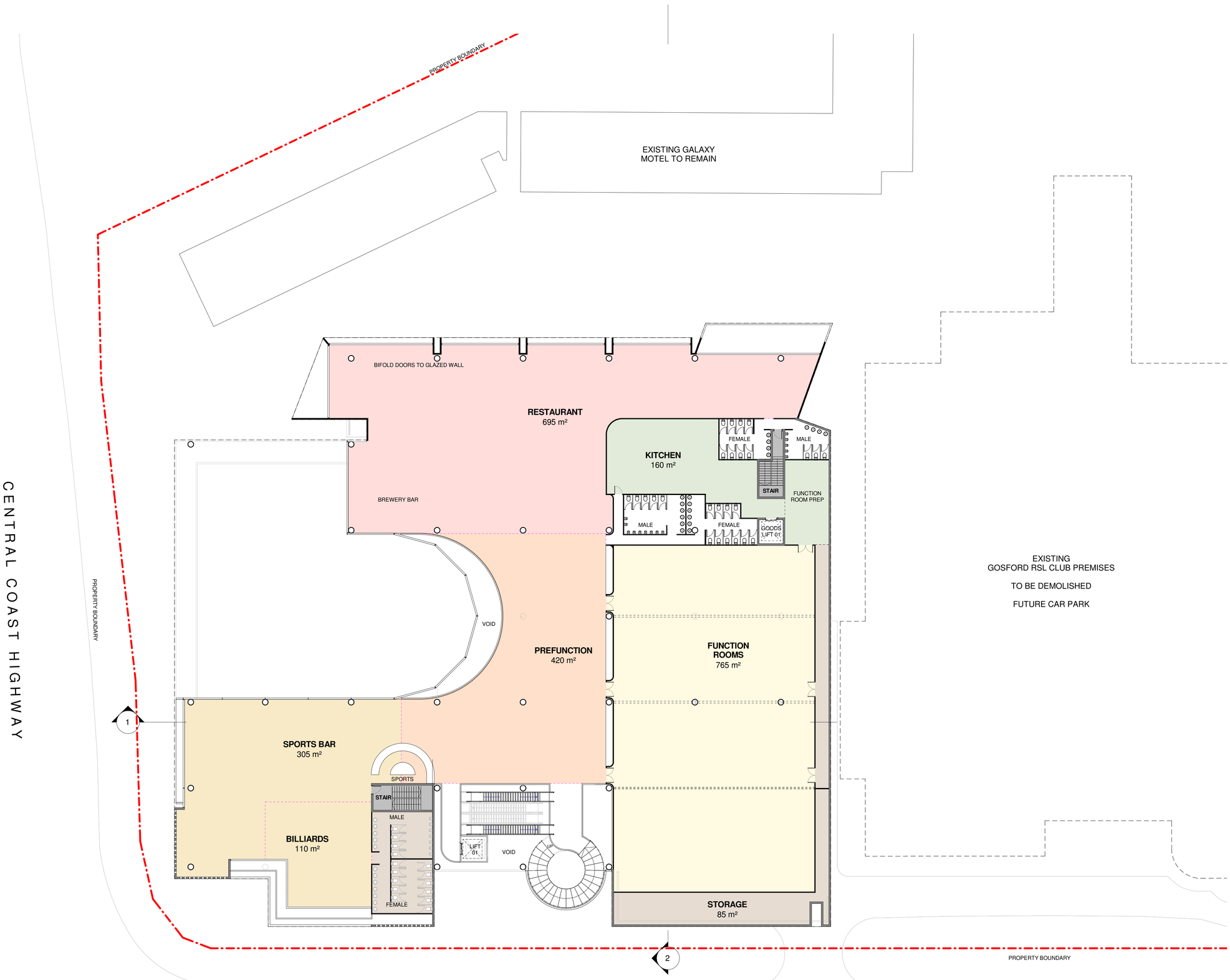
Title

LEVEL 01

Drawing No.	Issue
DA101	6
Scale	**Drawing Size**
1 : 200@A1	A1
Project No.	**Drawn By**
17047	BW

CAD Reference

PROJECT\00000 PROJECT NAME\DWG\REVIT\FILENAME.RVT



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LEGEND

- FUNCTIONS
- RESTAURANT
- KITCHEN
- SPORTS BAR
- PRE FUNCTION
- STORAGE

AREAS SCHEDULE

TOTAL SITE AREA	**21,353m²**
GROUND LEVEL TOTAL GFA	990m²
LEVEL 1 TOTAL GFA	2,820m²
LEVEL 2 TOTAL GFA	2,630m²
TOTAL GFA	**6,440m²**
TOTAL TERRACE AREA	695m²
FSR	1:3.3

PRELIMINARY

0 2 4 6 8m 1:200

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Sydney NSW 2000
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Facsimile 02 9299 0402
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ABN 25 082 956 929

Client

gosford.rsl

Project

GOSFORD RSL CLUB
2-20 YALLAMBEE AVENUE
WEST GOSFORD NSW 2250

Title

LEVEL 02

Drawing No. DA102	**Issue** 6
Scale 1 : 200@A1	**Drawing Size** A1
Project No. 17047	**Drawn By** BV

CAD Reference
PROJECT-\00000 PROJECT NAME\DWG\REVIT-FILENAME.RVT