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46 Prince Alfred Parade, Newport – Royal Yacht Club,
Broken Bay
Commercial Development

OPERATIONAL WASTE MANAGEMENT PLAN

17/02/2023
Report No. 4647
Revision B

Architect

MCHP Architects



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GLOSSARY OF ABBREVIATIONS AND TERMS

TERM	DESCRIPTION
<i>Bin-carting Route</i>	Travel route for transferring bins from the storage area to a nominated collection point
<i>Collection Area/Point</i>	The identified position or area where general waste or recyclables are loaded onto the collection vehicle
<i>Compactor</i>	A machine for compressing waste into disposable or reusable containers
<i>Composter</i>	A container/machine used for composting specific food scraps
<i>Crate</i>	A plastic box used for the collection of recyclable materials
<i>DA</i>	Development Application
<i>DCP</i>	Development Control Plan
<i>EPA</i>	Environmental Protection Authority
<i>HRV</i>	Heavy Rigid Vehicle described by AS 2890.2-2002 Parking facilities – Off-street commercial vehicle facilities
<i>L</i>	Litre(s)
<i>LEP</i>	Local Environmental Plans guide planning decisions for local government areas
<i>Liquid Waste</i>	Non-hazardous liquid waste generated by commercial premises that must be connected to sewer or collected for treatment and disposal by a liquid waste contractor (including grease trap waste)
<i>Mixed Use Development</i>	A development comprised of two or more different uses
<i>Mobile Garbage Bin(s) (MGB)</i>	A waste container generally constructed of plastic with wheels with a capacity in litres of 120, 240, 360, 660, 1000 or 1100
<i>MRV</i>	Medium Rigid Vehicle described by AS 2890.2-2002 Parking facilities – Off-street commercial vehicle facilities
<i>Onsite Collection</i>	When the collection vehicle enters the property and services the development within the property boundary from a designated loading area
<i>Owners Corporation</i>	An organisation or group of persons that is identified by a particular name and acts, or may act, as an entity
<i>WHS</i>	Workplace Health and Safety
<i>Wheel-in wheel-out service</i>	A type of waste collection service offered by local councils where the council waste collection personnel enter the premises to collect the bins and returns them to the property

1 ACKNOWLEDGEMENT OF COUNTRY

We acknowledge Australia's First Nations People as the Traditional Custodians of this land. We pay respect to ancestors and Elders, past and present. We honour Aboriginal and Torres Strait Islander people and their connection to land, waters and seas, and their vital contribution to the vibrant nation that we share, Australia.

2 INTRODUCTION

Elephants Foot Consulting (EFC) has been engaged to prepare the following waste management plan for the operational management of waste generated by the commercial development located at the Royal Motor Yacht Club, 46 Prince Alfred Parade, Newport NSW 2106 .

Waste management strategies and audits are required for new developments in order to support the design and sustainable performance of the building. It is EFC's belief that a successful waste management strategy contains three key objectives:

- i. **Promote responsible source separation** to reduce the amount of waste that goes to landfill by implementing convenient and efficient waste management systems.
- ii. **Ensure adequate waste provisions and robust procedures** that will cater for potential changes during the operational phase of the development.
- iii. **Comply** with all relevant council codes, policies, and guidelines.

To achieve these objectives, this operational waste management plan (OWMP) identifies the different waste streams likely to be generated during the operational phase of the development, as well as how the waste will be handled and disposed, details of bin sizes/quantities and waste rooms, descriptions of the proposed waste management equipment used, and information on waste collection points and frequencies.

It is essential that this OWMP is integrated into the overall management of the building and is clearly communicated to all relevant stakeholders.

2.1 SCOPE OF REPORT

This operational waste management plan (OWMP) only applies to the **operational** phase of the proposed development; therefore, the requirements outlined in this OWMP must be implemented during the operational phase of the site and may be subject to review upon further expansion of, and/or changes to the development.

The waste management of the **construction** and **demolition** phases of the development are not addressed in this report.

2.2 REPORT CONDITIONS

The purpose of this report is to document an OWMP as part of a development application, which is supplied by EFC with the following limitations:

- Drawings, estimates and information contained in this OWMP have been prepared by analysing the information, plans and documents supplied by the client and third parties including Council and other government agencies. The assumptions based on the information contained in the OWMP is outside the control of EFC,
- The figures presented in the report are an estimate only – the actual amount of waste generated will be dependent on the occupancy rate of the building/s and waste generation intensity as well as the building management’s approach to educating tenants regarding waste management operations and responsibilities,
- The building manager will adjust waste management operations as required based on actual waste volumes (e.g., if waste is greater than estimated) and increase the number of bins and collections accordingly,
- The report will not be used to determine or forecast operational costs or prepare any feasibility study or to document any safety or operational procedures,
- The report has been prepared with all due care; however, no assurance is made that the OWMP reflects the actual outcome of the proposed waste facilities, services, and operations, and EFC will not be liable for plans or results that are not suitable for purpose due to incorrect or unsuitable information or otherwise,
- EFC offer no warranty or representation of accuracy or reliability of the OWMP unless specifically stated,
- Any manual handling equipment recommended in this OWMP should be provided at the recommendation of the appropriate equipment provider who will assess the correct equipment for supply,
- Design of waste management equipment and systems must be approved by the supplier,
- EFC cannot be held accountable for late changes to the design after the OWMP has been submitted to Council,
- EFC will provide specifications and recommendations on bin access and travel paths within the OWMP; however it is the architect’s responsibility to ensure the architectural drawings meet these provisions,
- EFC are not required to provide information on collection vehicle swept paths, head heights, internal manoeuvring or loading requirements. It is assumed this information will be provided by a traffic consultant,
- Council are subject to changing waste and recycling policies and requirements at their own discretion.

This OWMP is only finalised once the Draft Watermark has been removed. If the Draft Watermark is present, the information in the OWMP is not confirmed.

3 LEGISLATION & GUIDANCE

Waste management and resource recovery regulation in Australia is administered by the Australian Constitution, Commonwealth laws, and international agreements. State and territory governments maintain primary responsibility for controlling development and regulating waste. The following legislation has been enacted in New South Wales, and provides the lawful underpinnings of this OWMP.

- NSW Environmental Planning & Assessment Act 1979
- NSW Protection of the Environment Operations Act 1997
- NSW Waste Avoidance & Resource Recovery Act 2001

At the local level, councils or Local Government Areas (LGAs) require OWMPs to be included in new development applications. This OWMP is specifically required by:

- Pittwater 21 Development Control Plan
- Pittwater Local Environmental Plan 2014

The primary purpose of a development control plan (DCP) is to guide development according to the aims of the corresponding local environmental plan (LEP). The DCP must be read in conjunction with the provisions of the relevant LEP.

Information provided in this OWMP comes from a wide range of waste management guidance at the local, state, and federal levels. The primary sources of guidance include:

- Manly Development Control Plan 2013
- NSW Better Practice Guidelines for Waste Management and Recycling in Commercial and Industrial Facilities 2012
- NSW Better Practice Guide for Resource Recovery in Residential Developments 2019
- NSW Waste Avoidance and Resource Recovery (WARR) Strategy 2014-2021
- NSW Waste Classification Guidelines 2014
- Australia's National Waste Policy 2018

3.1 NORTHERN BEACHES COUNCIL OBJECTIVES

Northern Beaches Council considers waste management to be highly important for the protection and enhancement of both the natural and built environments. As such, Council aims to:

- Encourage the ongoing minimisation of waste handling in the future use of premises
- To ensure waste storage and collection facilities complement waste collection and management services, offered by Council and the private service providers support on-going control for such standards and services
- To minimise risks associated with health and safety associated with handling and disposal of waste and recycled material, and ensure optimal hygiene
- To minimise any adverse environmental impacts associated with the storage and collection of waste
- To discourage illegal dumping.

4 DEVELOPMENT OVERVIEW

The proposed development falls under the LGA of the Northern Beaches Council, and consists of alterations and additions to the existing buildings within the site, with no changes to vehicular access. The changes and alterations to the existing works incorporates the following:

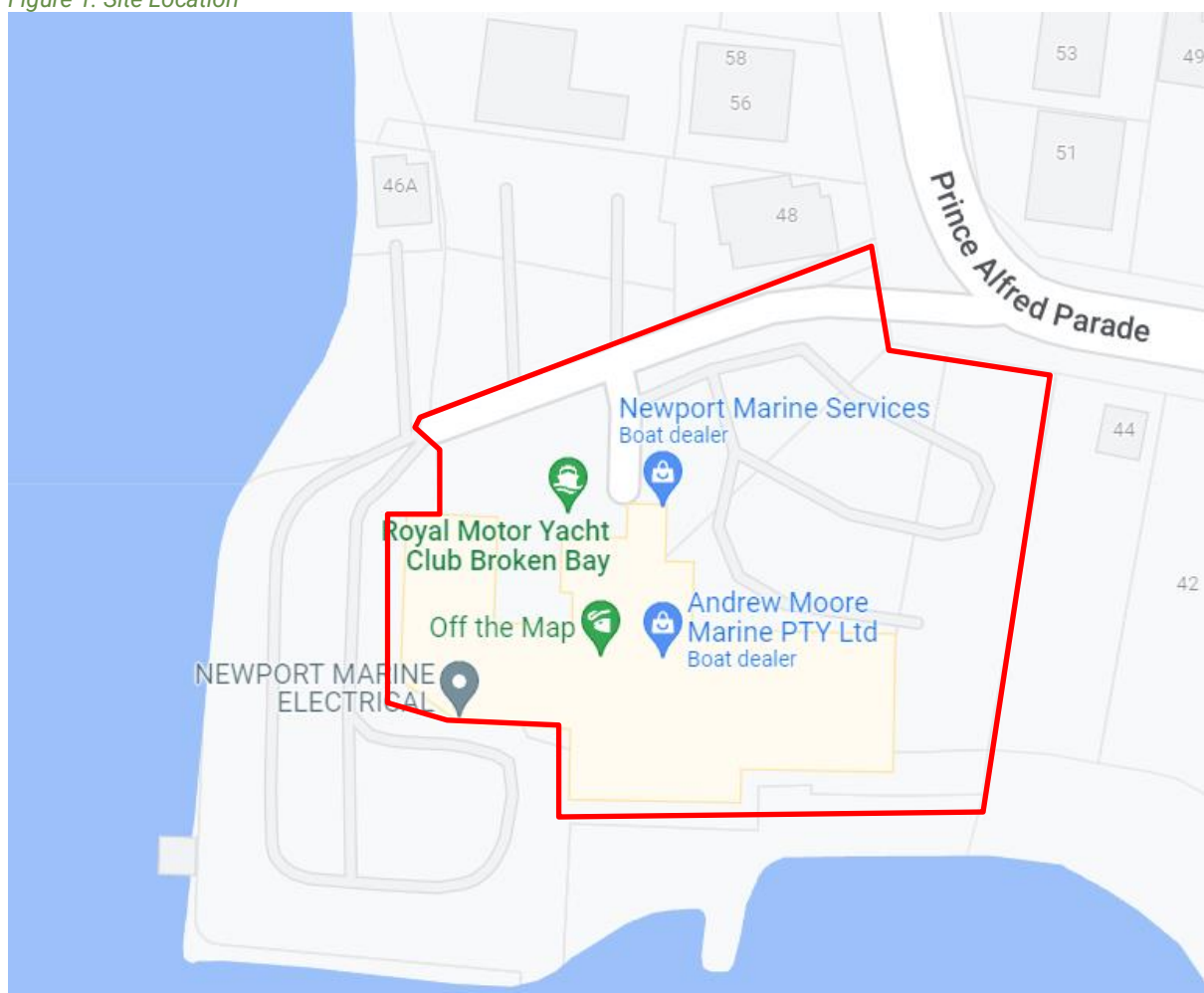
- Construction of a 2-storey extension to the west of the existing clubhouse for dining and social purposes
- Relocation of the Café and Restaurant up a single floor on the west
- Addition of a spa, yoga and gymnasium facilities

All figures and calculations are based on area schedules as advised by our client and shown on architectural drawings.

4.1 SITE LOCATION

The site is located at 46 Prince Alfred Parade, Newport as shown in Figure.1 (boundaries are indicative only). The site has frontages and vehicle access via Daniel Street.

Figure 1. Site Location



Source: Google Maps

5 CLUB WASTE MANAGEMENT

The following section outlines best practice waste management for the Royal Motor Yacht Club development, including their existing waste and proposed waste operations, waste disposal and collection procedures.

It has been noted by the client that the existing operations of the waste management services will remain consistent with the proposed change of works. As the new works include no change of capacity for dining, GFA of kitchen areas and café (due to a relocation to the top floor), the volumes of waste are considered to remain the same as the existing operations, and can remain this way for the proposed works.

5.1 BIN SUMMARY

Current Existing Site:

The information has been provided by the CEO of the Royal Motor Yacht Club, Broken Bay for the current existing bin numbers and receptacles. The bin receptacles and equipment are listed below:

General Waste: 1 x 10m³ compactor collected **as required***

Cardboard/Paper Recyclables: 6 x 660L MGBs collected **1 x weekly**

Commingled Recyclables: 8 x 660L MGBs collected **1 x weekly**

- 1 x Bin Lifter (for 240L MGBs for general waste to the 10m³ compactor).

It has been noted by the client that the changes of works for the club will remain unchanged, and consistent with the current waste operations. It has been acknowledged that the equal amount of seating and dining areas (i.e. the relocation of the restaurant and café up a single level) will accommodate for the same capacity of guests and kitchen/dining areas.

Bin sizes, quantities, and/or collection frequencies may be modified by the building manager once the proposed development is operational. Building management will be required to negotiate any changes to bins or collections with the collection service provider. Seasonal peak periods such as public and school holidays should also be considered.

Note The 10m³ compactor for general waste has been stated to be collected typically every 2-3 weeks during the summer season, and every 4-6 weeks during the winter seasons. Seasonality fluctuations will have an impact on the anticipated volumes of waste and recycling. Peak periods (including holiday periods, events and menu fluctuations) will have an impact on the waste and recyclables generated, and should be considered.*

5.2 WASTE DISPOSAL PROCEDURES

Staff will be responsible for waste management within each area of the club during daily operations. This will be carried out back of house where possible.

On completion of each trading day or as required, nominated staff or contracted cleaners will transport all general waste and recyclables toward the collection point (next to the 10m³ compactor) and place them into the appropriate collection bins. General waste may be bagged, but recyclables should be deposited loosely into the collection bins.

General Waste

The current strategy incorporates 240L MGBs that are positioned around the marina and club. Nominated staff and/or caretakers monitor the fullness of bins, and transfer them toward the compactor, which is placed into a bin lifter, and decanted into the larger compactor unit. Once completed, the 240L bins for general waste are placed back to their designated locations to resume their operational use.

Cardboard and Paper Recyclables, & Commingled Recyclables

The larger 660L bins are located within the marina, and the slipway area for the commercial kitchen and slipway and licensees. At the end of the day, staff BOH will collect the recyclable material, and transport them to the designated bin receptacles.

5.3 WASTE COLLECTION PROCEDURES

A private waste collection contractor is engaged to service the clubs general waste and recyclable streams to an agreed schedule.

This report assumes the general waste compactor is collected as required dependent on the seasonal periods. Commingled recyclables and paper/cardboard recyclables are assumed to be collected once weekly.

To service the compactors and bins, a private contractor will enter the site via Prince Alfred Parade, and park adjacent to the collection point. The club management will provide the collection contractors with access to the compactor and bin receptacles at the collection point. Once the bins are serviced, the collection vehicle will exit the site onto Prince Alfred Parade in a forward direction.

5.4 OTHER WASTE MANAGEMENT CONSIDERATIONS

Based on the types of tenancies anticipated, the following waste management practices are recommended.

5.4.1 FOOD PREPARATION AREAS

All food preparation areas will be provided with dedicated source separation bins including a general waste bin and a recyclables bin. Cleaners or nominated staff will be responsible for monitoring these bins and emptying them into collection bins in the waste room as required.

5.4.2 OFFICE AREAS

Typically, bins for paper or general waste are positioned next to each worker's desk or workstation. Bins for general waste and recycling are also located centrally in office areas. These bins are emptied by contract cleaners, with waste usually stored in the cleaner's cart before being transferred to the collection bins in collection point where bins are stored.

5.4.3 GYMNASIUM, POOL AND YOGA AREAS

Smaller bins for general waste and recycling will be allocated to these spaces to be utilised when these areas are in use. The frequency of these bins will depend upon seasonal periods where peak periods are considered. Each of these bins will be emptied by the contract cleaners into their cleaning cart during their cleaning routine after these areas have been used. Cleaners will then transfer general waste and recycling into the corresponding bins at the bin storage area.

5.4.4 BATHROOMS

Washroom facilities should be supplied with collection bins for paper towels (if used). Sanitary bins for female restroom facilities must also be arranged with an appropriate contractor.

5.4.5 RE-USEABLE COMMERCIAL ITEMS

Space will be provided back of house for the storage of re-usable commercial items such as crates, pallets, kegs and strip out waste. The building manager will be responsible for ensuring that storage of these items in public places is completely avoided.

5.4.6 LIQUID WASTE

Liquid wastes such cleaning products, chemicals, paints, and cooking oil, etc., will be stored in a secure space that is bunded and drained to a grease trap in accordance with State government authorities and legislation.

5.4.7 PROBLEM WASTE

The building manager is responsible for making arrangements for the disposal and recycling of problem waste streams with an appropriate contractor. Problem wastes cannot be placed in general waste as they can have adverse impacts to human health and the environment if disposed of in landfill. Retail tenants will need to liaise with the building manager when disposing of problem waste streams.

Problem waste streams include:

- Chemical Waste
- Liquid wastes
- Toner cartridges
- Lightbulbs
- eWaste
- Batteries

6 STAKEHOLDER ROLES & RESPONSIBILITIES

The following table demonstrates the primary roles and responsibilities of the respective stakeholders:

Table 1: Stakeholder Roles and Responsibilities

Roles	Responsibilities
Building Manager or Waste Caretaker	<ul style="list-style-type: none"> • Ensuring that all waste service providers submit monthly reports on all equipment movements and waste quantities/weights; • Organising internal waste audits/visual assessments on a regular basis • Purchasing any on-going waste management equipment or maintenance of equipment once building is operational; • Managing any non-compliances/complaints reported through waste audits; • Coordinating general waste and recycling collections; • Organising replacement or maintenance requirements for bins; • Organising bulky goods collection when required • Investigating and ensuring prompt clean-up of illegally dumped waste materials. • Preventing storm water pollution by taking necessary precautions (securing bin rooms, preventing overflowing of bins) • Abiding by all relevant WH&S legislation, regulations, and guidelines; • Providing staff/contractors with equipment manuals, training, health and safety procedures, risk assessments, and PPE to control hazards associated with all waste management; • Assessing any manual handling risks and preparing a manual handling control plan for waste and bin transfers; • Ensuring site safety for residents, children, visitors, staff and contractors; and • Ensuring effective signage, communication and education is provided to occupants, tenants, maintenance staff, and cleaning contractors.
Contract Cleaners	<ul style="list-style-type: none"> • Emptying collection receptacles and transferring general waste and recycling to collection bins in the waste room. • Cleaning bins as required; • Organising, maintaining and cleaning the waste holding area;
Staff/Customers	<ul style="list-style-type: none"> • Dispose of all general waste and recycling in the allocated receptacles provided; • Ensure adequate separation of general waste and recycling; and • Compliance with the provisions of Council and the OWMP.
Waste Collection Contractor	<ul style="list-style-type: none"> • Provide a reliable and appropriate waste collection service; • Provide feedback to building managers/residents regarding contamination of recyclables; and • Work with building managers to customise waste systems where possible.
Gardening/Landscaping Contractor	<ul style="list-style-type: none"> • Removal of all garden organic waste generated during gardening maintenance activities for recycling at an offsite location.
Developer	<ul style="list-style-type: none"> • Purchasing all equipment required to implement this OWMP prior to the occupation of the building to be provided to the strata.

7 SOURCE SEPARATION

Better practice waste management includes the avoidance, reuse, and recovery of unwanted items, which can be achieved through source separation. The table below outlines what is typically included in various waste streams and how they can be managed. Refer to your local council for a list of accepted materials. Planet Ark can be accessed online to find other facilities that recover unwanted items.

Table 2: Operational Waste Streams

Waste Stream	Description	Typical Destination	Waste Stream Management
General Waste	The remaining portion of the waste stream that is not recovered for reuse, processing, or recycling. May include soft plastics, food scraps, polystyrene, etc.	Landfill	Waste should be bagged before placing in the designated waste bins.
Recycling	A mixture of items that are commonly recycled usually segregated through a MRF. Typically include food and beverage containers (e.g., aluminium, glass, steel, hard plastics, cartons). Also included cardboard and paper products.	Resource Recovery Centre	Recycling must not be bagged, and instead should be placed loosely in the designated recycling bins. Cardboard should be flattened before placing in the designated recycling bins.
Secure Documents	Secure documents are printed paper materials that contain sensitive information.	Recycling Facility	Secure documents are placed in allocated secure document bins. Private contractor removes bins from site.
Green Waste	Green waste consists of unwanted organic materials that are easily biodegradable and/or compostable (e.g. lawn clippings, branches)	Resource Recovery Centre	Landscape Maintenance Contractors will remove the green waste from site during scheduled maintenance.
Food Waste	Food waste consists of unwanted or uneaten kitchen scraps that are easily compostable/biodegradable (e.g. vegetable peels, fruit rinds, coffee grounds).	Composting facility or Landfill	Food waste can be composted on-site, off-site, or else included in the general waste stream.
Electronic Waste	Discarded e-waste, electronic components and materials such as computers, mobile phones, keyboards, etc.	Resource Recovery Centre	Site management arranges collection for e-waste recycling as required.
Bulky Items	Items that are too large to place into general rubbish collection. This includes disused and/or broken furniture, mattresses, white goods, etc.	Resource Recovery Centre or Landfill	Site management arranges collection of bulky items from the loading dock as required.
Sanitary Waste	Feminine hygiene waste generated from female bathrooms.	Incineration or Landfill	Sanitary bins are serviced by sanitary waste contractor.
Other	Other recyclable items that require special recovery may include ink cartridges, batteries, chemical waste, fluorescent tubes, etc.	Resource Recovery Facility	Site management arranges collection by appropriate recycling services when required.

8 EDUCATION

Educational materials encouraging correct separation of general waste and recyclables must be provided to each member and staff. This should include the correct disposal process for bulky waste such as old furniture, large discarded items, and other materials including electronic and chemical wastes. It is recommended that the building caretaker provides information in multiple languages to support correct behaviours, and to minimise the possibility of contamination in communal waste bins.

8.1 SIGNAGE

Signage and education are essential components to support best practice waste management including resource recovery, source separation, and diversion of waste from landfill.

Signage should include:

- Clear and correctly labelled waste and recycling bins,
- Instructions for separating and disposing of waste items. Different languages should be considered,
- Locations of, and directions to, the waste storage areas with directional signs, arrows, or lines,
- The identification of all hazards or potential dangers associated with the waste facilities, and
- Emergency contact information should there be issues with the waste systems or services in the building.

The building manager is responsible for waste room signage including safety signage. Appropriate signage must be prominently displayed on doors, walls and above all bins, clearly stating what type of waste or recyclables is to be placed in each bin.

All signage should conform to the relevant Australian Standards.

8.2 POLLUTION PREVENTION

Building management shall be responsible for the following to minimise dispersion of site litter and prevent stormwater pollution to avoid impact to the environment and local amenity:

- Promoting adequate waste disposal into the bins
- Securing all bin rooms (whilst affording access to staff/contractors)
- Prevent overfilling of bins, keep all bin lids closed and bungs leak-free
- Taking action to prevent dumping or unauthorised use of waste areas
- Require collection contractor/s to clean up any spillage when clearing bins

9 WASTE ROOMS

The areas allocated for waste storage and collection areas are detailed in the table below, and are estimates only. Final areas will depend on room and bin layouts.

Table 3: Waste Room Areas

Level	Waste Room Type	Equipment
GF	Retail/Commercial Waste Room	General waste: 1 x 10m ³ Compactor Paper/cardboard: 6 x 660L MGBs Commingled: 8 x 660L MGBs

The waste room areas have been calculated based on equipment requirements and/or bin dimensions with an additional 70% of bin GFA factored in for manoeuvrability.

In addition, all doorways and passageways facilitating the movement of bins and/or bulky waste items must be at least 1500mm wide. The following table provides further waste room requirements.

Table 4: Waste Room Requirements

Waste Room Type	Waste Room Requirements
Bin Collection Point	<ul style="list-style-type: none"> In order to ensure staff safety, all bins should be arranged so they can be accessed without moving another bin

10 USEFUL CONTACTS

EFC does not warrant or make representation for goods or services provided by suppliers.

LOCAL COUNCIL

Northern Beaches Council Ph: 1300 434 434 E: [Via. Online Portal using this e-Link.](#)

PRIVATE WASTE COLLECTION PROVIDER

Capital City Waste Services Ph: 02 9599 9999 E: service@ccws.net.au
 Remondis Ph: 02 9032 7100
 Suez Environmental Ph: 13 13 35
 Wastewise NSW Ph: 1300 550 408 E: admin@wastewise.com.au

BIN MOVING DEVICE SUPPLIERS

Electrodrive Ph: 1800 333 002 E: sales@electrodrive.com.au
 Sitecraft Ph: 1300 363 152 E: sales@sitecraft.com.au
 Spacepac Ph: 1300 763 444

ORGANIC DIGESTERS AND DEHYDRATORS

Closed Loop Ph: 1300 762 166 E: contact.australia@feedtheorca.com
 Orca
 Soil Food Ph: 1300 556 628
 Green Eco Technologies Ph: 1800 614 272 E: equires@greenecotec.com

COOKING OIL CONTAINERS AND DISPOSAL

Auscol Ph: 1800 629 476 E: sales@auscol.com

ODOUR CONTROL

EF Neutralizer Ph: 1300 435 374 E: info@elephantsfoot.com.au

SOURCE SPERATION BINS

Source Separation Systems Ph: 1300 739 913 E: info@sourceseparationsystems.com.au

MOBILE GARBAGE BINS, BULK BINS AND BIN EQUIPMENT

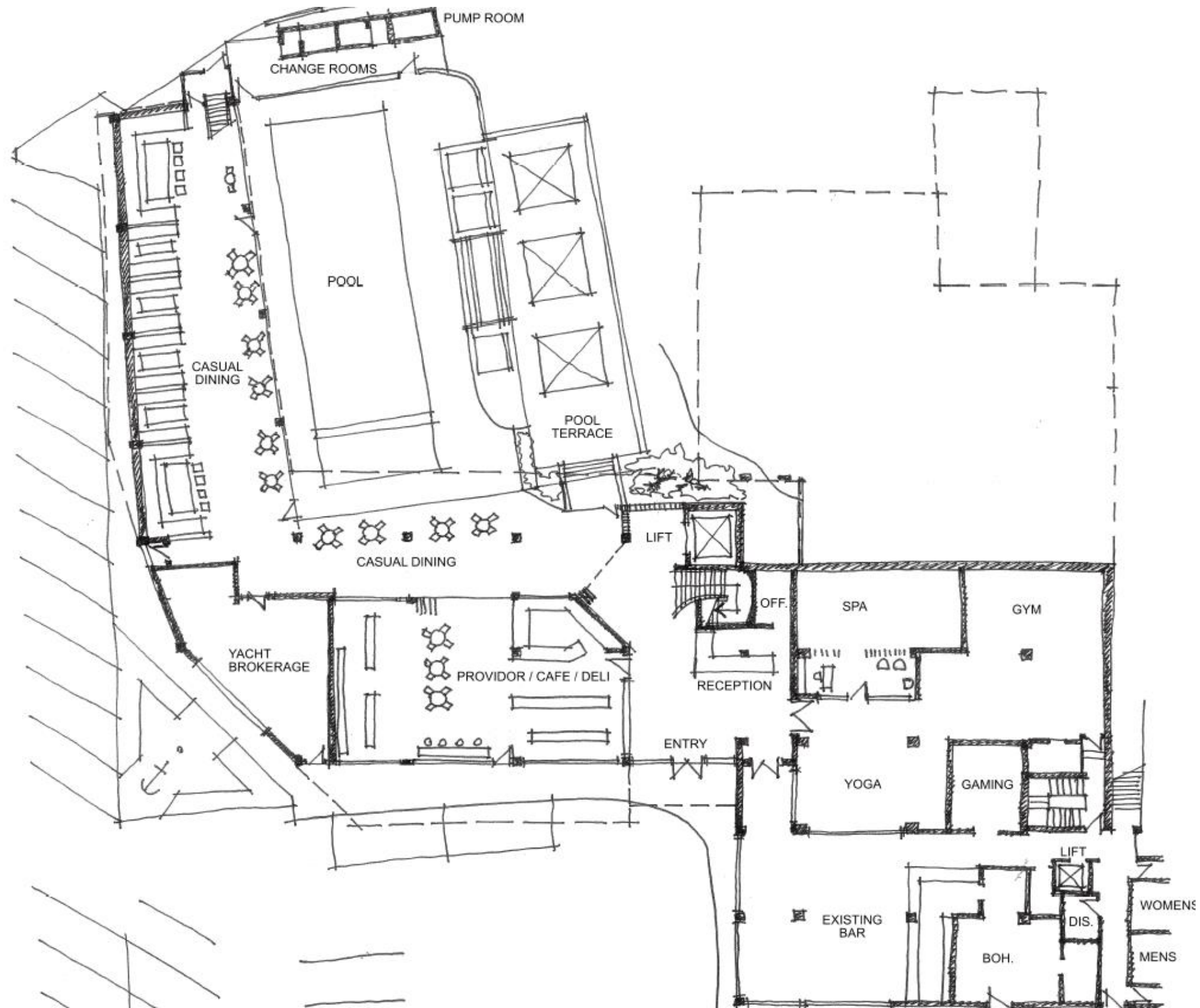
SULO Ph: 1300 364 388 E: sales@sulo.com.au
 OTTO Australia Ph: 02 9153 6999

CHUTES, COMPACTORS AND EDIVERTER SYSTEMS

Elephants Foot Ph: 1800 025 073 E: info@elephantsfoot.com.au

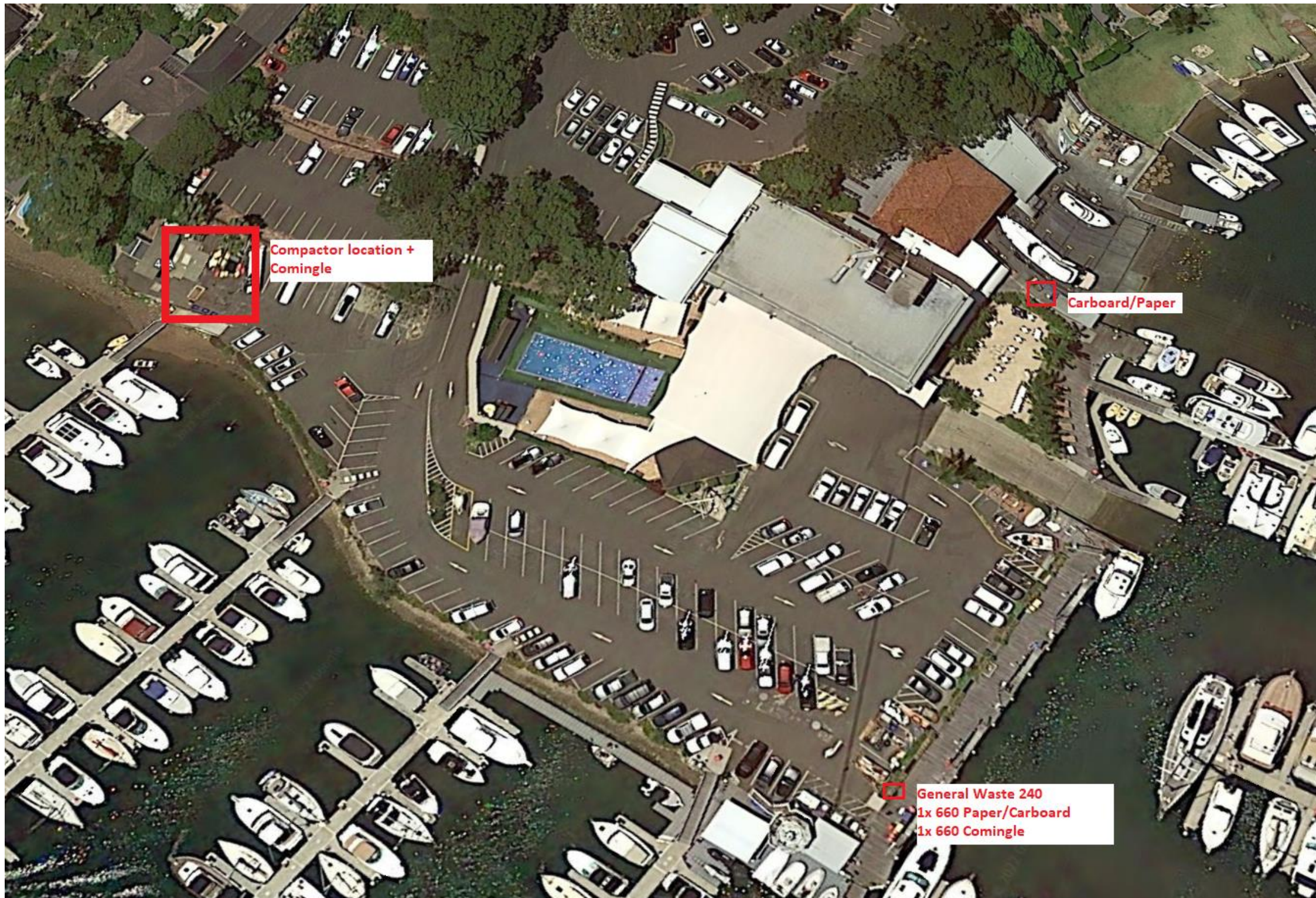
APPENDIX A: ARCHITECTURAL PLANS

APPENDIX: A.1 GROUND FLOOR PLAN



Source: MCHP Architects, Drawing no. SK02, Revision A, 3rd October 2022.

APPENDIX: A.2 BIN RECEPTACLE LOCATIONS AT PROPOSED SITE.



APPENDIX B: PRIMARY WASTE MANAGEMENT PROVISIONS

APPENDIX: B.1 TYPICAL BIN SPECIFICATIONS


Mobile bins

Mobile bins come in a variety of sizes and are designed for lifting and emptying by purpose-built equipment.

Mobile bins with capacities of up to 1700L must comply with *AS4123.6-2006 Mobile waste containers* which specifies standard sizes and sets out the colour designations for the bodies and lids of mobile waste containers indicating the type of materials they are used to collect.

The most common bin sizes are provided below, although not all sizes are shown. The dimensions are a guide only and differ slightly between manufacturers. Some bins have flat or domed lids and are used with different lifting devices. Refer to *AS4123.6-2006* for further details.

Table G1.1: Average dimension ranges for two-wheel mobile bins




Bin capacity	80L	120L	140L	240L	360L
Height (mm)	870	940	1065	1080	1100
Depth (mm)	530	530	540	735	820
Width (mm)	450	485	500	580	600
Approximate footprint (m ²)	0.24	0.26–0.33	0.27-0.33	0.41–0.43	0.49
Approximate weight (kg)	8.5	9.5	10.4	15.5	23
Approximate maximum load (kg)	32	48	56	96	Not known

Wheelie bin

Sources include Sulo, Single Waste, Cleanaway, SUEZ, just wheelie bins and Perth Waste for two-wheel mobile bins

Table G1.2: Average dimension ranges for four-wheel bulk bins



Bin capacity	660L	770L	1100L	1300L	1700L
Height (mm)	1250	1425	1470	1480	1470
Depth (mm)	850	1100	1245	1250	1250
Width (mm)	1370	1370	1370	1770	1770
Approx footprint (m ²)	0.86–1.16	1.51	1.33–1.74	2.21	2.21
Approx weight (kg)	45	Not known	65	Not known	Not known
Approx maximum load (kg)	310	Not known	440	Not known	Not known

Dome or flat lid container

Sources include Sulo, Signal Waste, Cleanaway, SUEZ, Just Wheelie Bins and Perth Waste

Source: *Better Practice Guide For Resource Recovery In Residential Developments 2019*, NSW Environmental Protection Authority

APPENDIX: B.2 SIGNAGE FOR WASTE AND RECYCLING BINS

Waste signs

Signs and educational materials perform several functions including:

- informing residents why it is important to recover resources and protect the environment
- providing clear instructions on how to use the bins and services provided
- alerting people to any dangers or hazards within the bin storage areas.

All waste, recycling and organic bins should be Australian Standard colours and clearly and correctly labelled, such as by a sticker on the lid and/or the body of the bin.

Communal bin storage areas should be clearly signposted with signs outlining how to correctly separate waste into the bins provided. The local council responsible for waste services may be a good source of signs and posters and can advise on what signs are suitable.

Information on who to contact to find out more about the recycling and/or other resource recovery services in the building should also be displayed in communal areas, such as on a noticeboard.

The Planet Ark website also has resources available free of charge for use by businesses and councils. These signs can be found at businessrecycling.com.au/research/signage.cfm

Figure I1.1: Examples of waste wall posters (EPA supplied)



Figure I1.2: Examples of bin lid stickers (EPA supplied)



Source: *Better Practice Guide For Resource Recovery In Residential Developments 2019*, NSW Environmental Protection Authority

Problem waste signs

The EPA has also produced a range of images and signs that can be used for problem wastes, such as fluoro globes and tubes, household and car batteries, e-waste and smoke detectors. To access these resources, contact the NSW EPA. Some examples are shown below.

Figure I2.1: Problem waste signs



Safety signs

The use of safety signs for waste resource recovery rooms must comply with *AS1319 Safety signs for occupational environments*. Safety signs must be used to regulate and control safety related to behaviour, warn of hazards and provide emergency information, including fire protection information. Suitable signs should be decided for each development as required.

Figure I3.1: Example safety signs



Source: *Better Practice Guide For Resource Recovery In Residential Developments 2019*, NSW Environmental Protection Authority

APPENDIX: B.3 TYPICAL COLLECTION VEHICLE INFORMATION

General

Appropriate heavy rigid vehicle standards should be incorporated into the road and street designs in new developments where onsite collections are proposed. Road and street designs must comply with relevant Acts, regulations, guidelines, and codes administered by Austroads, Standards Australia, NSW Roads and Maritime Services, WorkSafe NSW and any local council traffic requirements.

Applicants and building designers should consult with councils and other relevant authorities before designing new roads or streets and access points for waste collection vehicles to establish specific design requirements.

Table H4.1: Australian Standards for turning circles for medium and heavy rigid class vehicles

Vehicle class	Overall length (m)	Design width (m)	Design turning radius (m)	Swept circle (m)	Clearance (travel) height (m)
Medium rigid vehicle	8.80	2.5	10.0	21.6	4.5
Heavy rigid vehicle	12.5	2.5	12.5	27.8	4.5

Source: *Better Practice Guide For Resource Recovery In Residential Developments 2019*, NSW Environmental Protection Authority

Large collection vehicles

Waste collection vehicles may be side-loading, rear-loading, front-lift-loading, hook or crane lift trucks. Vehicle dimensions vary by collection service, manufacturer, make and model. It is not possible to provide definitive dimensions, so architects and developers should consult with the local council and/or contractors.

The following characteristics represent typical collection vehicles and are provided for guidance only. Reference to *AS2890.2 Parking facilities: off-street commercial vehicle facilities* for detailed requirements, including vehicle dimensions, is recommended.

Table B2.1: Collection vehicle dimensions

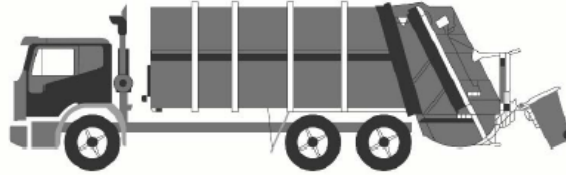
Vehicle type	Rear-loading	Side-loading*	Front-lift-loading	Hook truck	Crane truck
Length overall (m)	10.5	9.6	11.8	10.0	10.0
Width overall (m)	2.5	2.5	2.5	3.0	2.5
Travel height (m)	3.9	3.6	4.8	4.7	3.8
Operational height for loading (m)	3.9	4.2	6.5	3.0	8.75
Vehicle tare weight (t)	13.1	11.8	16.7	13.0	13.0
Maximum payload (t)	10.0	10.8	11.0	14.5	9.5
Turning circle (m)	25.0	21.4	25.0	25.0	18

* The maximum reach of a side arm is 3 m.

Sources: JJ Richards, SUEZ, MacDonald Johnson, Cleanaway, Garwood, Ros Roca, Bingo and Edbro. Figures shown represent the maximum dimensions for each vehicle type.

Rear-loading collection vehicles

These vehicles are commonly used for domestic waste collections from MUDs and RFBs and sometimes for recycling. They can be used to collect waste stored in mobile bins or bulk bins, particularly where bins are not presented at the kerbside. They are also used for collecting bulky waste.



Rear-loading waste collection vehicle

Side-loading collection vehicles

This is the most commonly used vehicle for domestic waste, recycling and organics collections. It is only suitable for collecting mobile bins up to 360L in capacity.



Side-loading waste collection vehicle

Front-lift-loading collection vehicles

These vehicles are commonly used for collecting commercial and industrial waste. They can only collect specially designed front-lift bulk bins and not mobile bins.



Front-lift-loading waste collection vehicle

Small collection vehicles

Typically, councils and their contractors operate with large collection vehicles (heavy rigid class vehicles) because they carry greater payloads and allow for more cost-effective collection services. Some councils, or their contractors, may have smaller collection vehicles in their fleet. Early discussion with the council is important to confirm this, but it should not be assumed that the council will have access to small collection vehicles.

The waste management systems and the location of the collection point should always be designed so that the council can provide the standard domestic waste service.

Source: *Better Practice Guide For Resource Recovery In Residential Developments 2019*, NSW Environmental Protection Authority

APPENDIX C: SECONDARY WASTE MANAGEMENT PROVISIONS

APPENDIX: C.1 TYPICAL COOKING OIL CONTAINERS



Drums 205L



Pour in Bulk Tank

[View Brochure](#)



Oil Kaddy System

[View Brochure](#)



Eco System 700L fixed

Eco System 310L mobile

Eco Systems



Direct-Connect to Fryer

Source: <http://www.auscol.com/services/collection-systems/>

APPENDIX: C.2 TYPICAL SOURCE SEPARATION BINS



Source: <https://www.sourceseparationsystems.com.au/>

APPENDIX: C.3 TYPICAL GLASS CRUSHER

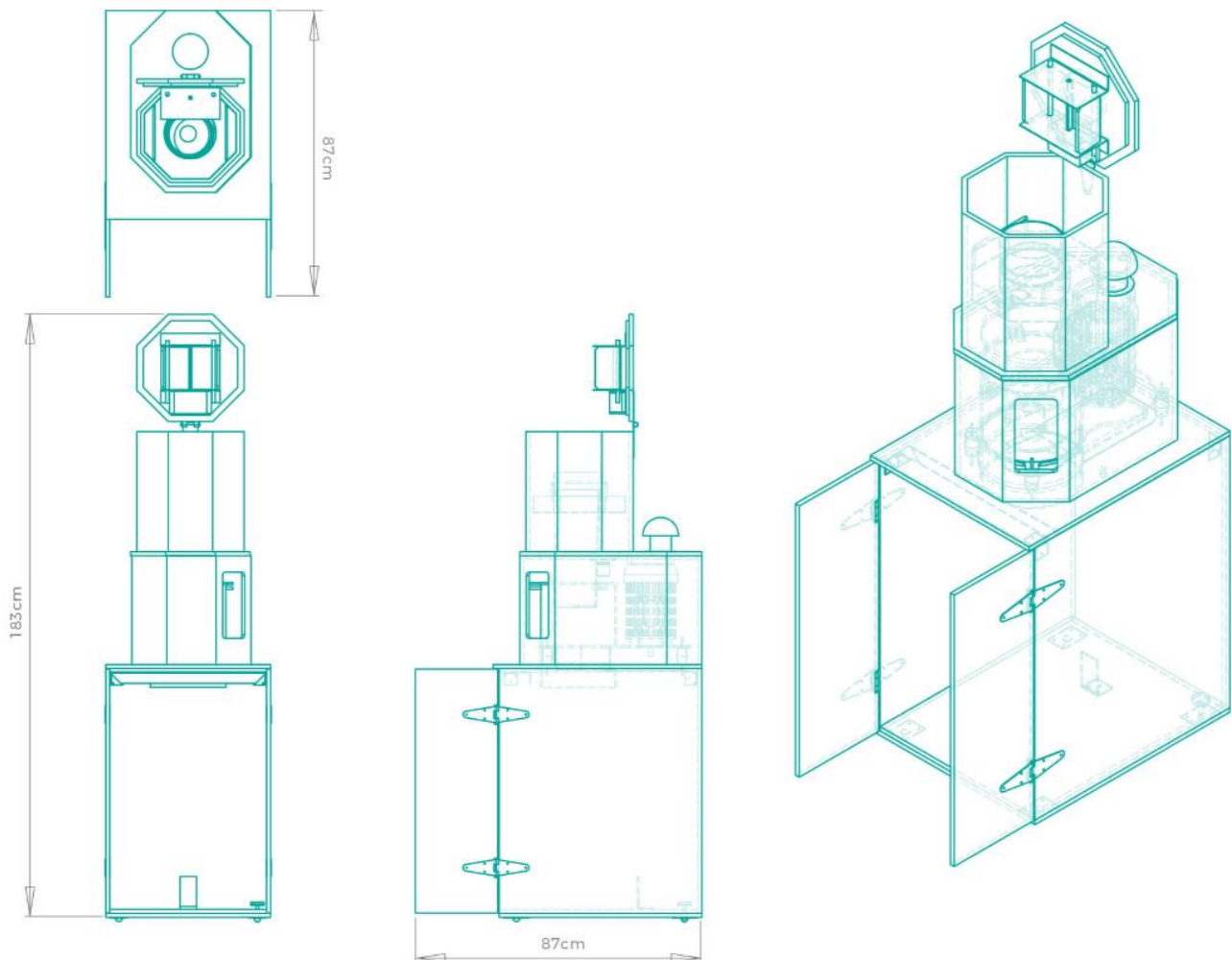
BottleCycler is an innovative glass-crushing machine that's transforming how Australia's events and hospitality industry recycles glass. We're proud to be a finalist in the Premier's Sustainability Awards.

This recognition reflects how we're shaking up the way the hospitality industry does glass. Finally, an easy and effective way for hospitality venues to recycle glass on-the-go.

Our sleek and compact machine blends right into your existing bar area. With a contemporary stainless-steel finish, it crushes glass quickly and quietly, and looks good too.

The intelligent bin holds up to 300 bottles, saving you the hassle of constantly emptying bins.

We're made for hospitality – it's glass recycling made easy.



Source: <https://bottlecycler.com/our-machine/>