



Consulting.TM
an Elephants Foot Company

182-186 Gertrude St North Gosford
Residential Development

OPERATIONAL WASTE MANAGEMENT PLAN

28/09/2023
Report No. 4318
Revision F

Client

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<https://www.linfeildgroup.com.au/>

Architect

Texco Design
<https://texcodesign.com.au/>





REVISION REFERENCE

| Revision | Date | Prepared by | Description |
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| E | 10/11/2022 | H Wilkes | Amendment |
| F | 28/09/2023 | H Wilkes | Draft Amendment |

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Draft Amendment

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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>Chute</i> | A ventilated, vertical pipe passing from floor to floor of a building with openings as required to connect with hoppers and normally terminating at its lower end at the roof of the central waste room(s) |
| <i>Chute Discharge</i> | The point at which refuse exits from the refuse chute |
| <i>Chute Discharge Room</i> | A secure, enclosed area or room housing the discharge and associated equipment for the refuse chute |
| <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>MUD</i> | Multi-Unit Dwellings comprise of a development with more than one dwelling. This ranges from dual occupancies and attached dwellings to high-rise residential developments |
| <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>Service Bins</i> | Bin set side to be placed under a chute while the remainder of the bins are being collected |
| <i>SRV</i> | Small Rigid Vehicle described by AS 2890.2-2002 Parking facilities – Off-street commercial vehicle facilities |
| <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 |

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1.0 ACKNOWLEDGEMENT OF COUNTRY

Elephants Foot Consulting acknowledges that every project we work on takes place on First Peoples Land. We recognise Aboriginal and Torres Strait Islander People as Traditional Custodians of this land. We pay respect to ancestors and Elders, past and present.

2.0 INTRODUCTION

Elephants Foot Consulting (EFC) has been engaged to prepare the following waste management plan for the operational management of waste generated by the residential development located at 182-186 Gertrude St North Gosford.

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. A construction and demolition WMP will need to be provided separately.

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 residents and 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 chute 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.

3.0 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:

- Central Coast Development Control Plan 2022
- Central Coast Local Environmental Plan 2022

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:

- Central Coast Development Control Plan 2022, Part 2 Chapter 2.14 Site Waste Management
- Central Coast Council Waste control Guidelines Version 1 June 2022
- 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

4.0 DEVELOPMENT OVERVIEW

The proposed development falls under the LGA of Central Coast Council, and consists of:

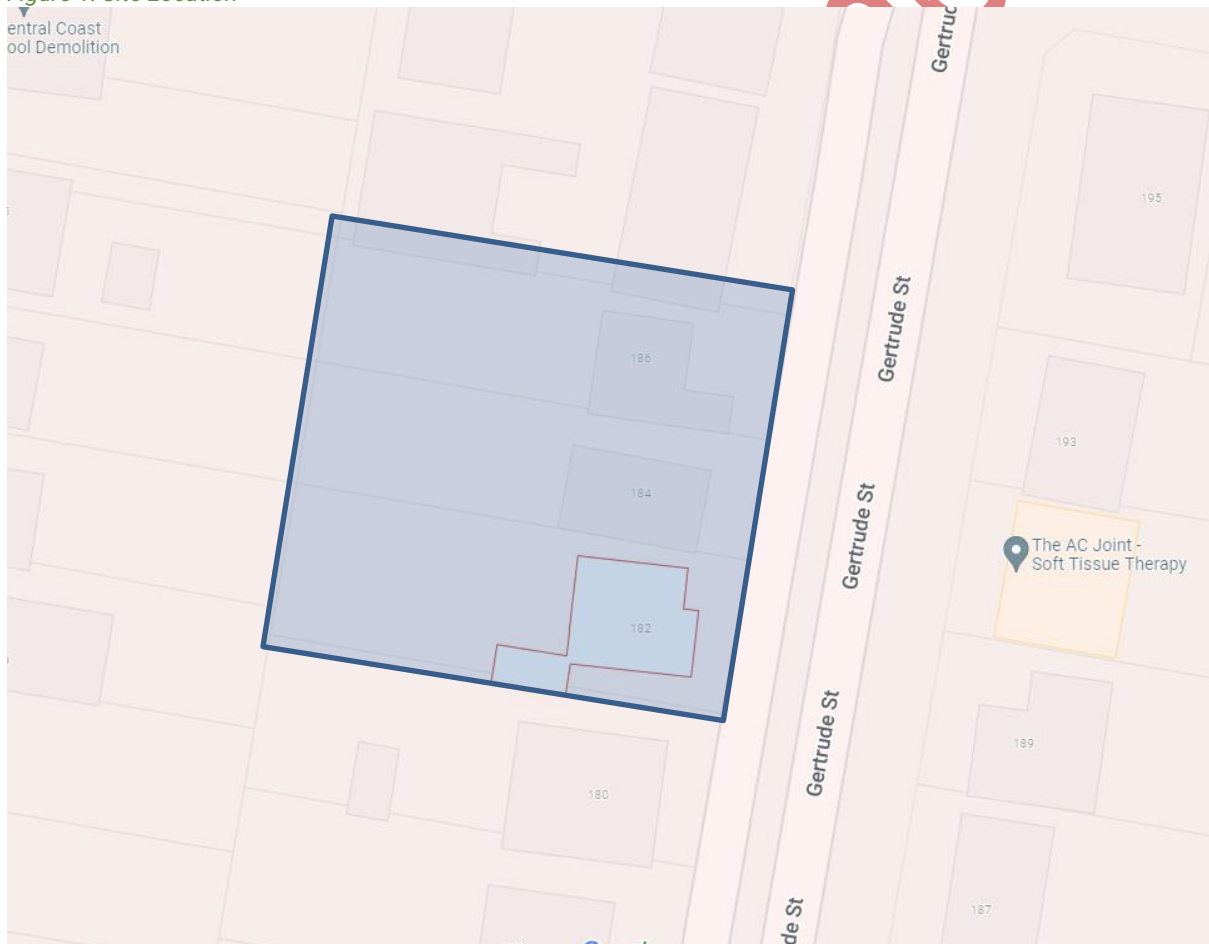
- One building with 8 levels and 2 basement levels
 - 39 residential units in total separated into 2 cores
 - 19 units in Core 1
 - 20 units in Core 2

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 182-186 Gertrude st North Gosford as shown in Figure.1 (boundaries are indicative only). The site has frontages to Gertrude St, with vehicle access via Gertrude st.

Figure 1: Site Location



Source: Google Maps

5.0 RESIDENTIAL WASTE MANAGEMENT

The following section outlines best practice waste management for the residential component of the development, including waste generation estimates and waste disposal and collection procedures.

5.1 BIN SUMMARY

As per the correspondence between Darren North of the Central Coast Council's waste services department and Andy Wu of Texco Design the 24th of August 2023 the site will have the following bins;

General Waste: 3 x 1100L Bins collected **2 x weekly**

Recycling: 2 x 1100L Bins collected **2 x weekly**

Spare Bins: 2x 1100L MGBs (One waste and one recycling)

Other Bins: 12 x 240L Recycling Bins & 12x Waste Bins to be placed on each residential level of each core.

During operation, it is the responsibility of the building manager to monitor the number of bins required for the residential component. Waste and recycling volumes may change according to residents' attitudes to waste disposal and recycling, building occupancy levels or development's management. Any requirements for adjusting the capacity of the waste facilities can be achieved by changing the number of bins, the bin sizes or collection frequencies. Building management will be required to negotiate any changes to bins or collections with the collection service provider.

5.2 WASTE DISPOSAL PROCEDURES

A bin cupboard containing a 240L bin for waste and a 240L bin for recycling will be provided on each residential level of each core. The residents will be responsible for walking their waste and recycling to the disposal point on their level and placing their waste and recycling into the correct bins.

The building manager will monitor the fullness of the bins on each residential level. Once full or as required, the building manager will bring the 240L bins to the Bin Room and decant the bins into the corresponding 1100L bin with the aid of a bin lifter. The building manager will return the empty bins to their operational locations.

5.3 WASTE COLLECTION PROCEDURES

Council will be engaged to collect the residential waste and recycling in accordance with council's collection schedule. As per the correspondence between Darren North of the Central Coast Council's waste services department and Andy Wu of Texco Design the 24th of August 2023 it is assumed that the waste and recycling bins would be collected twice weekly.

On the evening prior to collection day, the building manager will transport the bins from the Bin Room to the kerbside of Gertrude St.

To service the bins, the collection vehicle park on Gertrude St adjacent to the bins. The waste collection staff will leave the vehicle to wheel the bins to the rear of the vehicle for servicing. Once serviced, the collection staff will return to the vehicle and continue on Gertrude St. Once servicing is complete, the building manager is responsible for returning the 1100L bins to the Bin Room.

5.4 BULKY WASTE PROCEDURES

An area will be made available for the storage of discarded residential bulky items (e.g. whitegoods, furniture, etc.). This room should be located within close proximity of the garbage and recycling bin collection room and must have a minimum doorway width of 1.5m to allow for easy movement of large waste items in and out of the room.

The size of the bulky waste room proposed is based on the bulky waste room sizing rate provided in the NSW EPA's *Better Practice Guide for Resource Recovery in Residential Developments* 2019. For 39 units, the site will need a minimum of 10m².

Residents will need to liaise with building management regarding the transportation of bulky items and the availability of the Bulky Waste Storage Room. It is the caretaker's responsibility to arrange collection dates with Council and then coordinate with the residents.

One the evening before collections, the Building Manager will transport the bulky waste from the Bulky Waste Area to the kerbside of Gertrude st.

On the day of bulky waste collection, the collection vehicle will park on Gertrude St and load the bulky waste onto the collection vehicle.

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6.0 STAKEHOLDER ROLES & RESPONSIBILITIES

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

Table 1: Stakeholder Roles and Responsibilities

| Roles | Responsibilities |
|--------------------------------------|--|
| Strata, Body Corporate or Management | <ul style="list-style-type: none"> • Ensure all waste service providers submit monthly reports on all equipment movements and waste quantities/weights; • Organise internal waste audits/visual assessments on a regular basis • Purchase any on-going waste management equipment or maintenance of equipment once building is operational; and • Manage any non-compliances/complaints reported through waste audits. |
| Building Manager or Waste Caretaker | <ul style="list-style-type: none"> • Maintain and clean the Communal Bin Room • Coordinate general waste and recycling collections; • Clean and transport bins as required; • Organise replacement or maintenance requirements for bins; • Organise, maintain and clean the waste holding area; • Organise bulky goods collection when required • Investigate and ensure prompt clean-up of illegally dumped waste materials. • Prevent storm water pollution by taking necessary precautions (secure bin rooms, prevent overfilling of bins) • Abide by all relevant WH&S legislation, regulations, and guidelines; • Provide staff/contractors with equipment manuals, training, health and safety procedures, risk assessments, and PPE to control hazards associated with all waste management; • Assess any manual handling risks and prepare a manual handling control plan for waste and bin transfers; • Ensure site safety for residents, children, visitors, staff and contractors; and • Ensure effective signage, communication and education is provided to occupants, tenants, maintenance staff, and cleaning contractors. |
| Residents | <ul style="list-style-type: none"> • Dispose of all general waste and recycling in the MGBs provided; • Ensure adequate separation of general waste and recycling; and • Comply 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"> • Remove all garden organic waste generated during gardening maintenance activities for recycling at an offsite location. |
| Developer | <ul style="list-style-type: none"> • Purchase all equipment required to implement this OWMP prior to the occupation of the building to be provided to the strata or Body Corporate. |

7.0 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 re-use, 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 cardboard bin. |
| 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. |
| Electronic Waste | Discarded e-waste, electronic components and materials such as computers, mobile phones, keyboards, etc. | Resource Recovery Centre | Building manager arranges collection for e-waste recycling as needed by residents. |
| 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 | Residents liaise with building manager to store in Bulky Goods Room. Building manager arranges with Council for removal. |
| Other | Other recyclable items that require special recovery may include ink cartridges, batteries, chemical waste, fluorescent tubes, etc. | Resource Recovery Facility | Building manager arranges collection by appropriate recycling services when required. |

8.0 EDUCATION

Educational materials encouraging correct separation of general waste and recyclables must be provided to each resident. 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

9.0 BIN MOVEMENTS

The building caretaker is responsible for the transportation of bins as required from their designated operational locations to the bin holding room as required and returning them once emptied to resume operational use.

Transfer of bins should minimise manual handling where possible, as bins become heavy when full. The building manager must assess manual handling risks and provide any relevant documentation to key personal.

The routes along the bin moving path should;

- Allow for a continuous route that is wholly within the property boundary.
- Be free from obstruction and obstacles such as steps and kerbs.
- Be constructed of solid materials with a non-slip surface
- Be A minimum of 300mm wider than the largest bin used onsite.
- If bins are moved manually, the route must not exceed a grade of 1:14.
- If a bin moving device is used, the route cannot exceed the maximum operating grade of the device. This is typically a grade of 1:4, however this will vary depending on the model of bin moving device acquired for the site.

10.0 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 Type | Room | Equipment | Estimated Area Required (m ²) |
|-------------------|---------------------------------|------|---|---|
| L2 (Street Level) | Main Bin Room (Collection Area) | | 2x 1100L MGBs (recycling) 3x 1100L MGBs (waste) 2x 1100L MGBs – spare Bin lifter for 240L Bins | >30 |
| L2 (Street Level) | Bulky Waste Storage Area | | | >10 |

EFC recommends bins sizes, collection frequencies and/or equipment for best practice waste management at this site, however EFC also acknowledges there are a range of other suitable options that may alter waste room requirements (e.g. floor area, accessibility, head height, etc.)

The waste room areas have been calculated based on equipment requirements and/or bin dimensions with an additional 90% 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 1600mm wide per. The following table provides further waste room requirements.

Table 4: Waste Room Requirements

| Waste Room Type | Waste Room Requirements |
|--------------------------|---|
| Bin Room | <ul style="list-style-type: none"> Bins should be arranged so that all bins are accessible. Bins are not to be placed in front another or in such a way as to restrict access to the other bins for use. |
| Bulky Waste Storage Area | <ul style="list-style-type: none"> May be a dedicated room or screened area within another waste room Must be in close proximity to the collection area Area must also be allocated for the segregation of e-waste, gas bottles, cardboard, etc. Doorway should be a minimum of 1500mm wide |

11.0 CONSTRUCTION REQUIREMENTS

Waste room construction must comply with the minimum standards as outlined in the *Central Coast Development Control Plan 2022*, in order to minimise odours, deter vermin, protect surrounding areas, and make it a user-friendly and safe area.

The *NSW Better practice guide for resource recovery in residential developments (2019)* also states that better practice bin storage areas should achieve more than the minimum compliance requirements, which are as follows:

- Ensuring BCA compliance, including ventilation. Where required, ventilation system must comply with AS1668.4-2012 The use of ventilation and air conditioning in buildings.
- Ensuring storage areas are well lit (sensor lighting preferred) and have lighting available 24 hours a day.
- Provision of bin washing facilities, including taps for hot and cold water provided through a centralised mixing valve. The taps must be protected from bins and be located where they can be easily accessed even when the area is at bin capacity.
- Floor constructed of concrete at least 75mm thick.
- Floor graded so that any water is directed to a sewer authority approved drainage connection to ensure washing bins and/or waste storage areas do not discharge flow into the stormwater drain.
- Provision of smooth, cleanable and durable floor and wall surfaces that extend up the wall to a height equivalent to any bins held in the area.
- Ensuring ceilings are finished with a smooth-faced non-absorbent material capable of being cleaned.
- All surfaces (walls, ceiling and floors) finished in a light colour.

12.1 ADDITIONAL CONSIDERATIONS

- Waste room floor to be sealed with a two-pack epoxy;
- All corners coved and sealed 100mm up, this is to eliminate build-up of dirt;
- Tap height and light switch height of 1.6m;
- Storm water access preventatives (grate);
- All walls painted with light colour and washable paint;

- Equipment electric outlets to be installed 1700mm above finished floor level;
- Optional automatic odour and pest control system installed
- If 660L or 1100L bins are utilised, 2 x 820mm (minimum) double-doors must be used;
- All personnel doors are hinged, lockable and self-closing;
- Conform to the Building Code of Australia, Australian standards and local laws; and
- Childproofing and public/operator safety shall be assessed and ensured
- Waste and recycling rooms must have their own exhaust ventilation system either;
 - Mechanically - exhausting at a rate of 5L/m² floor area, with a minimum rate of 100L/s minimum. Mechanical exhaust systems shall comply with AS1668.4.2012 and not cause any inconvenience, noise or odour problem; or
 - Naturally - permanent, unobstructed, and opening direct to the external air, not less than one-twentieth (1/20) of the floor area.

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13.0 USEFUL CONTACTS

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

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 | |
| Orca | | E: contact.australia@feedtheorca.com |
| Soil Food | Ph: 1300 556 628 | |
| Waste Master | Ph: 1800 614 272 | E: hello@wastemasterpacific.com.au |

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 SEPARATION 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

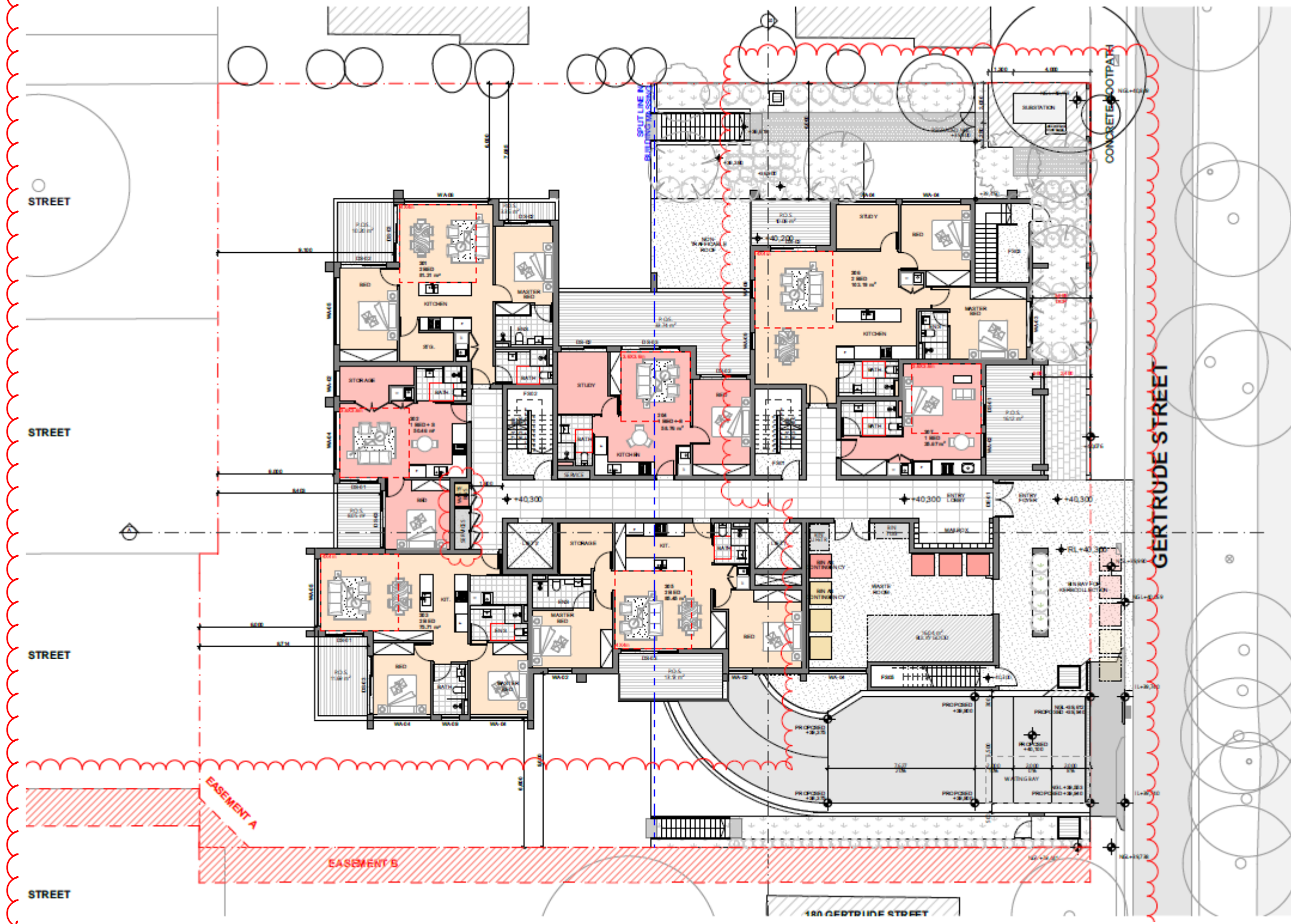
| | | |
|----------------|------------------|---|
| Elephants Foot | Ph: 1800 025 073 | E: info@elephantsfoot.com.au |
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APPENDIX A: ARCHITECTURAL PLANS

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APPENDIX: A.1

LEVEL 2 (STREET LEVEL) - WASTE ROOMS



Source: Texco Design, 182-186 Gertrude st North Gosford, Drawing 105 Rev C - Level 2 Floor Plan

UPDATE DRAWING

APPENDIX B: PRIMARY WASTE MANAGEMENT PROVISIONS

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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

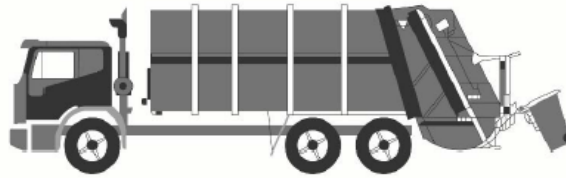
| Vehicle type | Rear-loading | Side-loading* | Front-lift-loading | Hook truck | Crane truck |
|------------------------------------|--------------|---------------|--------------------|------------|-------------|
| Length overall (m) | 10.5 | 9.6 | 11.8 | 10.0 | 10.0 |
| Width overall (m) | 2.5 | 2.5 | 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