50-52 Phillip Street, Sydney

Hotel Development

OPERATIONAL WASTE MANAGEMENT PLAN

16/12/2020
Report No. SO614
Revision C

Client

Built Development Group

Level 7, 343 George Street, Sydney NSW 2000
www.built.com.au
T 02 8332 4111 • **E** teamadmin@built.com.au

Architect

FJMT Studio

Level 5, 70 King Street, Sydney NSW 2000
www.fjmtstudio.com
T 02 9251 7077 • **E** fjmt@fjmtstudio.com

ELEPHANTS FOOT RECYCLING SOLUTIONS • ABN 70 001 378 294
44-46 Gibson Ave Padstow NSW 2211
www.elephantsfoot.com.au

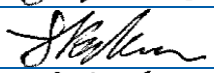
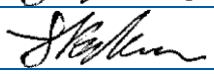
T +612 9780 3500 • **F** +612 9707 2588
E info@elephantsfoot.com.au

SCOPE

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

The waste management of the **construction** and **demolition** phases of the development are not addressed in this report. It is EFRS's understanding that a construction and demolition WMP will be completed by a separate party appointed by the developer, and submitted separately to this report. Typically, the head contractor of the site will be responsible for removing all construction-related waste offsite in a manner that meets all authority requirements.

REVISION REFERENCE

Revision	Date	Prepared by	Reviewed by	Description	Signed
A	14/09/2020	J Parker	A Armstrong	Draft	
B	26/11/2020	J Parker	A Armstrong	Final	
C	26/11/2020	J Parker	A Armstrong	Amendment	

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GLOSSARY OF TERMS

TERM	DESCRIPTION
Baler	A device that compresses waste into a mould to form bales which may be self-supporting or retained in shape by strapping
Chute	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)
Chute Discharge	The point at which refuse exits from the refuse chute
Chute Discharge Room	A secure, enclosed area or room housing the discharge and associated equipment for the refuse chute
Collection Area/Point	The identified position or area where garbage or recyclables are actually loaded onto the collection vehicle
Compactor	A machine for compressing waste into disposable or reusable containers
Composter	A container/machine used for composting specific food scraps
Crate	A plastic box used for the collection of recyclable materials
Garbage	All domestic waste (Except recyclables and green waste)
Green Waste	All vegetated organic material such as small branches, leaves and grass clippings, tree and shrub pruning, plants and flowers
Hopper	A fitting into which waste is placed and from which it passes into a chute or directly into a waste container. It consists of a fixed frame and hood unit (the frame) and a hinged or pivoted combined door and receiving unit
L	Litre(s)
Liquid Waste	Non-hazardous liquid waste generated by commercial premises that is supposed to be connected to sewer or collected for treatment and disposal by a liquid waste contractor (including grease trap waste)
LRV	Large rigid vehicle described by AS 2890.2-2002 Parking facilities – Off-street commercial vehicle facilities as heavy rigid vehicle (HRV)
Mobile Garbage Bin(s) (MGB)	A waste container generally constructed of plastic with wheels with a capacity in litres of 120, 240, 360, 660, 1000 or 1100
MRV	Medium rigid vehicle
Putrescible Waste	Component of the waste stream liable to become putrid. Usually breaks down in a landfill to create landfill gases and leachate. Typically applies to food, animal and organic products.
Recycling	Glass bottles and jars – PET, HDPE and PVC plastics; aluminium aerosol and steel cans; milk and juice cartons; soft drink, milk and shampoo containers; paper, cardboard, junk mail, newspapers and magazines

Refuse	Material generated and discarded from residential and commercial buildings including general waste, recyclables, green waste and bulky items
SRV	Small rigid vehicle as in AS 2890.2-2002 Parking facilities – Off-street commercial vehicle facilities, generally incorporating a body width of 2.33

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INTRODUCTION

This report supports a Stage 1 State Significant Development (SSD) Development Application (DA) for the redevelopment of a new mixed-use hotel and branded residential building at 50-52 Phillip Street, Sydney. The Staged SSD DA proposes a concept proposal or Stage 1 DA for the retention and refurbishment of the heritage building on the site, demolition of other existing buildings on the site and construction of a new mixed-use building. The Stage 1 SSD DA specifically seeks consent for land uses, a maximum gross floor area, a maximum building envelope, pedestrian and vehicle access and circulation arrangements, and associated car parking provision.

Built is seeking to transform the current site to deliver a new and modern mixed use development which contributes to overcoming a shortage of hotel accommodation in Sydney, and positively contributes to the character and vibrancy of Sydney's Central Business District (CBD). As part of the redevelopment project, the existing heritage listed building on the site will be retained and refurbished for hotel purposes.

As the proposal is for the development of a predominately tourist related purpose, being a hotel, that has a capital investment value in excess of $100 million, it is SSD as prescribed in Schedule 1 of *State Environmental Planning Policy (State and Regional Development) 2011* (SRD SEPP).

SITE DESCRIPTION

The site is located in Central Sydney, along the eastern edge of Sydney's core Central Business District (CBD). The immediate surrounds of the site in the eastern edge of the Sydney CBD present a mix of commercial, residential, and tourism uses. The prevailing built form in the vicinity of the site includes a range of building typologies and heights, as well as several significant state-listed heritage buildings, such as the Chief Secretary's Building immediately to the north of the site.

The site itself is located at 50-52 Phillip Street, Sydney and has a total area of approximately 1,726m^2, with frontages to Phillip Street and Phillip Lane. Two commercial buildings sharing a built-to-boundary condition currently occupy the site. The heritage-listed sandstone building in the northern portion of the site is six generous storeys in height and contains commercial office space. The building located on the southern portion of the site is 12 storeys in height, and contains a ground level café/bar use, with commercial office space above.

Phillip Lane, which forms part of the 50 Phillip Street lot, connects through the site from Phillip Street at the northern boundary of the site. Phillip Lane is not proposed to be altered from its current form as an access point to the remainder of Phillip Lane at the rear of the site.

An aerial image of the site is provided at **Figure 1** and a photograph of the existing buildings fronting Phillip Street is provided at **Figure 2**.

Figure 1 Aerial photograph of the Site

Source: Nearmaps (edits by Ethos Urban)

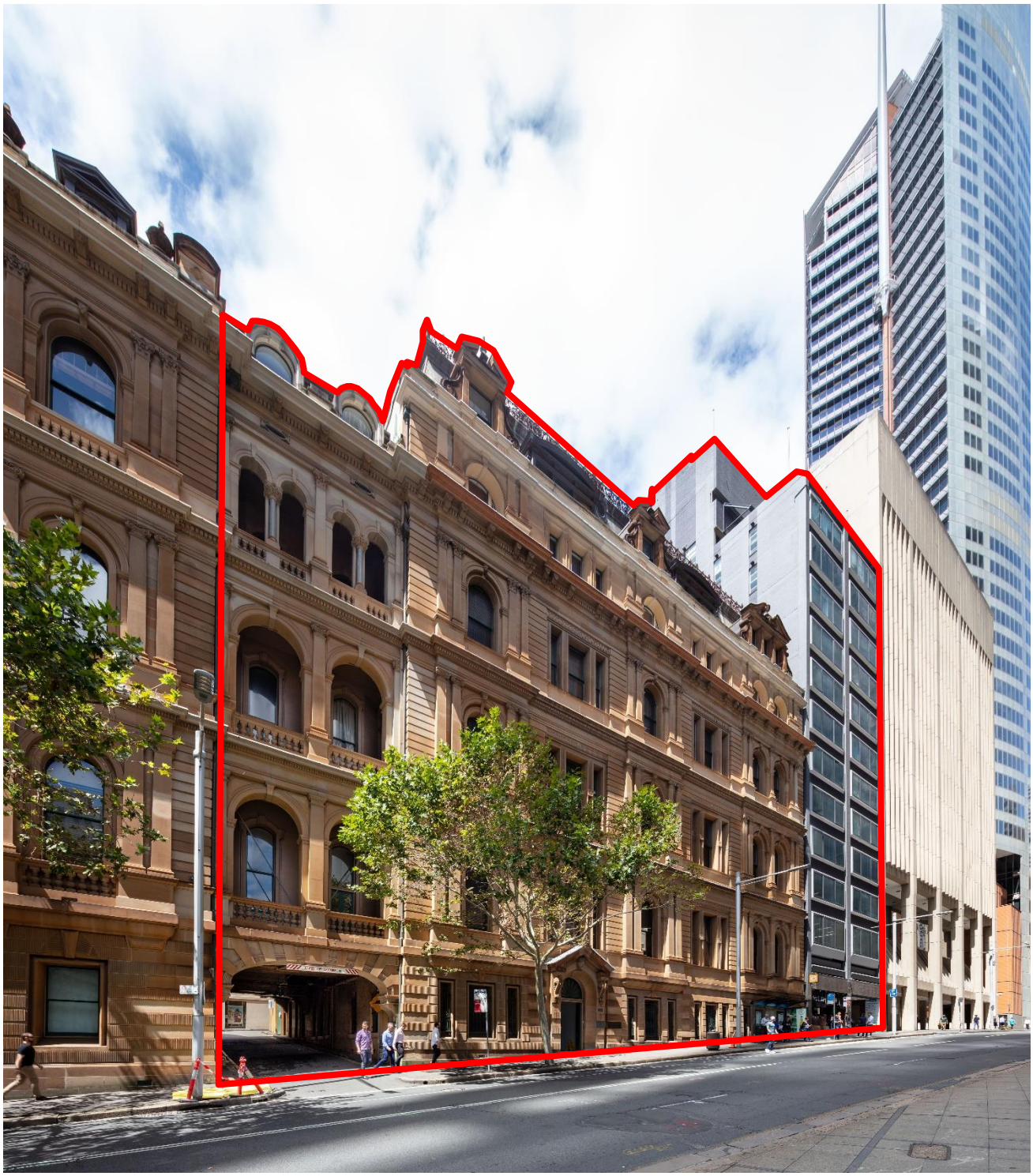


Figure 2 Existing buildings fronting Phillip Street

Source: Built

BACKGROUND

BUILT UNSOLICITED PROPOSAL

On 15 October 2019, the NSW Government published details of the Built Unsolicited Proposal for the leasehold purchase of 50 Phillip Street, Sydney to allow for the proposed hotel redevelopment. The Built proposal has progressed to Stage 2 of the Unsolicited Proposal process, and has been deemed unique as Built owns the adjacent property (52 Phillip Street, Sydney) to the Government owned 50 Phillip Street, Sydney. As there are no other privately owned properties immediately contiguous to 50 Phillip Street, Built possesses unique property ownership that enables it to amalgamate 50 and 52 Phillip Street, and take full advantage of the unused developable air space.

The proposed redevelopment project will combine both private and Government land, breathing new life into an underutilised heritage-listed NSW Government owned building and Built's aging privately-held commercial office building.

Built is well recognised for work in the refurbishment and restoration of iconic heritage properties across Australia. As such, a foremost principle of the project is to ensure that the integrity of the heritage listed Government building is not compromised. Rather, the heritage qualities of the building will be celebrated and revitalised for the people of NSW. The Chief Secretary's Building which fronts Bridge Street will not be leased as part of this redevelopment project, and it is intended to remain in Government ownership and control.

PROJECT VISION

The vision for the redevelopment is to revitalise the lower end of Sydney's financial services district by delivering a new luxury mixed use hotel with a portion of branded residential apartments. The proposal will provide an important and much needed asset to the people of NSW and visitors. Sydney will have, as part of the amalgamation of the properties, its finest luxury hotel with associated retail areas providing ground floor public activation accessible to the general public and hotel guests alike.

Overall, the project will provide the following key public benefits:

- Job creation and benefits to the tourism industry from construction and operation of a new 5/6 star hotel in Central Sydney.
- Contribution to the NSW State's economic activity and Gross State Product, including the generation of construction phase revenue for the Government in the form of payroll tax, stamp duty and GST payments.
- Rejuvenation and adaptive reuse of a Government owned heritage building.
- Regeneration, enhancement and activation of the surrounding public domain particularly upgrades to Phillip Lane.
- Creation of a heritage-tourism precinct with a new hotel as the centrepiece.
- A portion of branded residential apartments to support the delivery of the hotel and provide a variety of uses to contribute to the liveability of Central Sydney.
- The potential to deliver a capital return to Government to fund future Government investment in services and infrastructure.

PROJECT DESCRIPTION

This SSD DA seeks consent for a concept proposal for a new landmark mixed use building with approximately 331 new hotel rooms and 23 branded residential apartments in Sydney's CBD. The Stage 1 SSD DA Concept Proposal will establish a maximum building envelope, land uses, a maximum total quantity of floor space, pedestrian, vehicle circulation, and drop-off arrangements and associated car parking provision.

Specifically, the Stage 1 SSD DA seeks concept approval for:

- In-principle site preparation works, including termination/relocation of site services and infrastructure, demolition of the existing buildings/structure on the site, excluding the existing heritage-listed building;
- A new 47 storey mixed use building envelope containing:
  - lower level café/bar uses and associated servicing and back-of-house facilities;
  - a new basement containing waste rooms, loading space, and car parking spaces;
  - hotel uses on levels 1 to 35; and
  - residential uses on levels 36 to 47.
- Retention of the existing heritage-listed building on the site, and refurbishment of this building for hotel purposes.
- A new driveway crossing over Phillip Street at the southern end of the site.
- Maintenance and retention of the existing vehicular access over Phillip Lane.

Development consent is not sought for any detailed component of development. A future separate Stage 2 SSD DA will be lodged for the detailed design and construction of the development, following the completion of a competitive design process.

A further detailed description of the proposal is contained in the supporting Environmental Impact Statement prepared for the SSD DA by Ethos Urban.

CITY OF SYDNEY COUNCIL

The garbage and recycling will be guided by the services and acceptance criteria of the City of Sydney Council. All waste facilities and equipment are to be designed and constructed to be in compliance with the *Sydney Development Control Plan* (2012), City of Sydney Council's *Guidelines for Waste Management in New Developments* (2018), Council Advices, Australian Standards and statutory requirements.

COUNCIL OBJECTIVES

Space – to allocate sufficient areas within developments for the efficient access, storage and collection of waste and recycling.

Access – to ensure waste systems are easy to use and collection vehicles are able to access buildings to remove waste safely and efficiently;

Safety – to ensure safe practises for storage, handling and collection of waste and recycling;

Services – to provide guidance on the Council's expectations for delivering effective waste services including bin handling and collection points, and managing bulky, problem waste and stripout waste.

Management – to ensure clarify regarding the roles providing waste management systems for developments and to demarcate service provision.

STAKEHOLDER ROLES AND RESPONSIBILITIES

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

Table 1: Stakeholder Roles and Responsibilities

Roles	Responsibilities
Strata/Management	• 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; and • Manage any non-compliances/complaints reported through waste audits.
Building Manager or Waste Caretaker	• Ensuring effective signage, communication and education is provided to occupants, tenants and cleaners; • Providing staff/contractors with equipment manuals, training, health and safety procedures, risk assessments, and PPE to control hazards associated with all waste management activities; • Ensuring site safety for residents, children, visitors, staff and contractors; • Abiding by all relevant OH&S legislation, regulations, and guidelines; • Assessing any manual handling risks and prepare a manual handling control plan for waste and bin transfers; • Preventing storm water pollution by taking necessary precautions (securing bin rooms, preventing overfilling of bins) • If a blockage is evident, building management or cleaning staff must immediately take steps to identify the level concerned and clear the blockage • General maintenance and cleaning of chute doors on each level; • Cleaning and transporting of bins as required; • Organising, maintaining and cleaning the general and recycled waste holding area; • Organising both garbage and recycled waste pick-ups as required; • Organising replacement or maintenance requirements for bins; • Organising bulky goods collection when required; and • Investigating and ensuring prompt clean-up of illegally dumped waste materials.
Residents/Tenants	• Dispose of all garbage and recycling in the allocated waste chutes and/or MGBs provided; • Ensure adequate separation of garbage and recycling; and • Compliance with the provisions of Council and the WMP.
Waste Contractor	• Provide a reliable and appropriate waste collection service; • Provide feedback to building managers/residents in regard to contamination of recyclables; and • Work with building managers to customise waste systems where possible.
Gardening/Landscaping Contractor	• Removal of all garden organic waste generated during gardening maintenance activities for recycling at an offsite location.
Building Contractors	• Removing all construction related waste offsite in a manner that meets all authority requirements.

EDUCATION

Educational material encouraging correct separation of garbage and recycling items must be provided to each resident by building management to ensure correct use of the waste chute. This should include the correct disposal process for bulky goods (old furniture, large discarded items, etc.), and other appropriate materials (electronic, chemical waste, etc.). It is recommended that information is provided in multiple languages to support correct practises and minimise the possibility of chute blockages as well as contamination in the collective waste bins.

It is also recommended that the owners' corporation website contain information for residents to refer to regarding use of the chute. Information should include:

- directions on using the chute doors;
- recycling and garbage descriptions (Council provides comprehensive information);
- how to dispose of bulky goods and any other items that are not garbage or recycling;
- residents' obligations to WHS and building management; and
- how to prevent damage or blockages to the chute (example below).

To prevent damage or blockage to rubbish chute DO NOT dispose of any newspapers, umbrellas, bedding, cigarettes, cartons, coat hangers, brooms, mops, large plastic wrappings from furniture, white goods, any sharp objects, hot liquid or ashes, oil, unwrapped vacuum dust, syringes, paint and solvents, car parts, bike parts, chemicals, corrosive and flammable items, soil, timber, bricks or other building materials, furniture, etc. down the chute.

LIMITATIONS

The purpose of this report is to document a Waste Management Plan (WMP) as part of a development application and is supplied by Elephants Foot Recycling Solutions (EFRS) with the following limitations:

- Drawings, estimates and information contained in this waste management plan have been prepared by analysing the information, plans and documents supplied by the client, and third parties including Council and government information. The assumptions based on the information contained in the WMP is outside the control of EFRS;
- 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 managements approach to educating residents and tenants regarding waste management operations and responsibilities;
- the building manager will make adjustments as required based on actual waste volumes (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 or representation is made that the WMP reflects the actual outcome and EFRS will not be liable to you for plans or outcomes that are not suitable for your purpose, whether as a result of incorrect or unsuitable information or otherwise;
- EFRS offer no warranty or representation of accuracy or reliability of the WMP unless specifically stated;
- any manual handling equipment recommended 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.

RESIDENTIAL WASTE MANAGEMENT

The *Sydney Development Control Plan* (2012) and City of Sydney Council's *Guidelines for Waste Management in New Developments* (2018) been referenced to calculate the total number of bins required for the residential units. Calculations are based on generic figures; waste generation rates may differ according to the residents' waste management practice.

ESTIMATED WASTE VOLUMES AND PROVISIONS

The following table shows the estimated volume (L) of garbage and recycling generated by the residential component of the development.

Table 2: Calculated Waste Generation – Residential

# Units	Garbage Generation Rate (L/unit/week)	Generated Garbage (L/week)	Recycling Generation Rate (L/unit/week)	Generated Recycling (L/week)
23	120	2760	120	2760
Collections & Equipment	Garbage Bin Size (L)	1100	Recycling Bin Size (L)	1100
	Garbage Bins per Day	1	Recycling Bins per Day	1
	Garbage Collections per Week	2	Recycling Collections per Week	1
	Total Garbage Bins Required	2	Total Recycling Bins Required	3

HOUSEHOLD WASTE

2 garbage chutes and 2 recycling chutes will be installed with access provided on all residential levels of each building core.

Both garbage and comingled recycling discharge into 1100L MGBs at the base of the chute. The discharge is located in the waste discharge room on basement level 2.

Full bins will be transferred to the temporary bin holding room at the collection area on the ground level for servicing.

COMMON AREAS

The lobbies, amenities and circulation areas will be supplied with suitably branded waste and recycling bins where considered appropriate. These areas generate minimal waste, however garbage and recycling receptacles should be provided and located in convenient locations.

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.

SOURCE SEPERATION

Waste avoidance, recovery and reuse of discarded materials and responsible management of hazardous waste are all crucial elements of sustainable development. Effective waste management practices in residential developments significantly improve environmental, social, and economic outcomes on both a local and regional scale, and should be integrated into the waste management processes.

GENERAL WASTE (GARBAGE)

Residents will be supplied with a collection area in each unit to deposit garbage and collect recyclable material suitable for one day's storage. This is typically located generally in the kitchen, under bench or similar alternate area. Residents should wrap or bag their garbage; bagged garbage should not exceed 3kg in weight or 35cm x 35cm x 35cm in dimension.

RECYCLING

Recycling must not be bagged. It is recommended that residents use a crate or dedicated bin for collecting recyclables within the allocated residential space provided to ensure correct separation.

Cardboard furniture boxes or large cardboard containers should not be included in the garbage chute – a cardboard collection bin will be made available on each residential level for residents to deposit flattened cardboard and will be managed by the waste caretaker.

BULKY GOODS

An area has been designated for the storage of discarded residential bulky items (e.g. whitegoods, furniture, etc.). This is located within close proximity of the loading area and must have a minimum doorway width of 1.5m to allow for easy movement of large waste items.

City of Sydney Council requires this area to have a minimum of $8m^2$ of useable space. An additional $1m^2$ has also been allowed for textile waste, with a caged-off area of $1m^2$ for the storage of gas bottles. Based on the above, a total area of $10m^2$ has been allocated for bulky goods storage.

These areas are crucial to prevent residents from illegally dumping bulky waste on the footpath outside Councils scheduled collection times. Regular illegal dumping can attract other dumped waste, generate litter, detract significantly from the quality and appearance of the development and reduce amenity of the street.

Residents will be required to liaise with building management regarding the transportation and disposal of bulky goods. The transfer of bulky goods from the upper levels to the storage area is to occur via the lifts. Ideally, bulky waste should be collected on a regular schedule so that the storage area does not become overfull and so that residents know when to place items in there for collection. Councils may arrange for more frequent collections of bulky waste for MUDs, however collection frequencies vary among different local government areas.

Donations to charitable organisations should be encouraged. Clean, sound furniture and household goods etc. are highly sought after to provide for the disadvantaged. Donations can be arranged with the assistance of the building manager/waste caretaker.

CLOTHING WASTE

Clothing is becoming an increasingly large waste stream for domestic dwellings. Unwanted clothing that is clean and undamaged can be donated to charities.

City of Sydney Council requires that new development provide bins for textile recycling at a rate of 1m^2 per 50 units to a maximum 2m^2. An area of 1.6m^2 has been provided.

Building management can directly contact a charity to supply a donation bin or choose to provide their own nondenominational donation bin. Once a sufficient amount of clothing has been collected, the building management will be responsible for arranging the collection of donated items with the relevant charity or textile recycling service.

E-WASTE

E-waste (electronic waste) refers to any equipment containing printed circuit boards. E-Waste must not be placed in standard garbage or recycling, E-Waste can potentially contaminate soil and surrounding water bodies if not disposed of correctly. The best disposal method for E-waste is recycling through an E-waste service or council.

A bin for E-waste will be provided in the bulky goods room. The building caretaker will be responsible for managing this bin and arranging e-waste collections with an appropriate recycling service once the bin becomes full.

CHEMICAL WASTE

Chemical wastes (e.g. cleaning chemicals, paints, oils solvents) pose detrimental effects to human health and the environment if not disposed of correctly. Chemical wastes should be disposed of at a suitable licensed disposal facility. No liquid wastes or wash down waters should be disposed of via the storm water drainage system.

Residents will need to liaise with the building manager when disposing of their chemical wastes. The building manager will be responsible for arranging the correct disposal of chemical waste. Household Chemical CleanOut events are held at various locations throughout NSW on specified dates throughout the year. Locations and dates are subject to change. It is recommended that the building caretaker confirm these details with their local Council.

GREEN WASTE

Green waste is not typically generated from multi-unit dwellings other than from surrounding building landscaped areas and is removed by the designated maintenance contractor. Small amounts of green waste such as trimmings from indoor plants may be disposed of via the general waste stream.

HOTEL AND RETAIL WASTE MANAGEMENT

The City of Sydney Council's *Guidelines for Waste Management in New Developments* (2018) and NSW EPA's *Better Practice Guide for Resource Recovery* (2019) have been referenced to calculate the total number of bins required for the hotel and associated retail areas. Calculations are based on generic figures, waste generation rates may differ according to the tenants' waste management practice.

ESTIMATED WASTE VOLUMES AND PROVISIONS

The following table shows the estimated volume (L) of garbage and recycling generated by the hotel and retail components of the development. It has been assumed that all retail tenancies within the building will share waste bins and collection services. A seven-day operating week has been assumed.

Table 3: Calculated Waste Generation – Hotel and Retail

Type	No. of Rooms	Garbage Generation Rate (L/room/day)	Generated Garbage (L/week)	Recycling Generation Rate (L/room/day)	Generated Recycling (L/week)	Food Waste Generation Rate (L/room/day)	Generated Food Waste (L/week)
Hotel	246	10	17220	5	8610	0	0
Type	**GFA (m^2)**	**Garbage Generation Rate ($L/100m^2$/day)**	**Generated Garbage (L/week)**	**Recycling Generation Rate ($L/100m^2$/day)**	**Generated Recycling (L/week)**	**Food Waste Generation Rate ($L/100m^2$/day)**	**Generated Food Waste (L/week)**
Retail	29	25	50.4	200	403.2	5	10.1
Lounge/Bar	298	100	2085.3	150	3128.0	40	834.1
Kitchen/Dining	469	100	3280.2	500	16401.0	100	3280.2
Function	893	100	6251.0	125	7813.8	30	1875.3
Staff/Office	620	15	650.8	25	1084.7	5	216.9
Gym/Fitness	114	20	159.6	50	399.0	5	39.9
TOTAL	**2422**		**29697.3**		**37839.6**		**6256.5**
Collections & Equipment	Bin Size (L)		1100	Bin Size (L)	1100	Bin Size (L)	240
	Garbage Bins Per Week		27	Recycling Bins Per Week	35	Food Waste Bins Per Week	27
	Collections per Week		7	Collections per Week	7	Collections per Week	7
	Total Waste Bins Required		4	Total Recycling Bins Required	5	Total Food Waste Bins Required	4

HOTEL WASTE STRATEGY

The vast majority of people who stay in hotels generally spend a relatively short time at the facility, therefore the waste generated in each unit is managed by the staff. Most waste generated is from goods received at the loading dock in the form of packaging (cardboard and plastic film), food waste, recyclables (mixed containers), newspapers and magazines. Office paper may also be generated however this is generally a minimal quantity.

Guests of each hotel room will be supplied with a collection receptacle (generally in the main room and bathroom, under bench or similar alternate area) to deposit garbage and collect recyclable material suitable for one day's storage. Garbage receptacles must be supplied with bin liners. Recycling must not be bagged. It is recommended that hotel guests use a crate or dedicated bin for collecting recyclables within the allocated hotel space provided to ensure

correct separation before recyclables are transferred to the waste room. It is expected that hotel guests will place clean and empty recycling items into the corresponding bins.

Nominated staff or cleaners will collect the waste from the guests' rooms. They will also transport sorted garbage and recyclable items to the waste room in the basement and place them into the corresponding 1100L collection bins. Collections will be undertaken by a private waste contractor to an agreed schedule.

RETAIL WASTE STRATEGY

Tenants will be responsible for their own storage of garbage and recycling back of house (BOH) during daily operations. On completion of each trading day or as required, nominated staff or cleaners will transport their garbage and recycling to the waste room in the basement and place garbage and recycling into the appropriate collection bins.

Food handling for food cooked or prepared, served and consumed on site will produce a typical waste composition of food scraps from plates, packaging waste and some plastics. Due to the weight of putrescible food waste, this will be deposited into and collected from 240L bins. Nominated staff or cleaners will be responsible for transferring food waste from the kitchen areas, where this is generated, to the basement waste room.

Cardboard is a major component of the waste generated by retail tenancies. All cardboard should be flattened (to save bin space), placed in and collected from bulk bins. Whilst cardboard is bulky, it is generally lightweight however it can be contaminated with food or liquid which makes it unsuitable for recycling.

To ensure the proper management and disposal of waste, tenants must be made aware of the following practices:

- All garbage should be bagged and garbage bins should be plastic lined;
- Bagging of recyclables is not permitted;
- All interim waste storage is located BOH during operations;
- Individual recycling programs are recommended for retailers to ensure commingled recycling is correctly separated;
- Any food and beverage tenant will make arrangements for storing used and unused cooking oil in a bunded storage area;
- The operator will organise grease interceptor trap servicing;
- A suitable storage area needs to be provided and effectively bunded for chemicals, pesticides and cleaning products;
- Dry basket arrestors need to be provided to the floor wastes in the food preparation and waste storage areas; and
- All flattened cardboard will be collected and removed to the waste room recycling MGB

WASTE OILS

Consideration should be given to the use of cooking oil collection systems. A single service provider may be used to reduce the amount of commercial traffic into the loading bay or around the precinct area. This should be measured against bulk delivery of oils where the same vehicle is used to remove containers of waste cooking oils (see APPENDIX D.4 for Typical Cooking Oil Collection System).

E-WASTE

E-waste (electronic waste) refers to any equipment containing printed circuit boards. E-Waste must not be placed in standard garbage or recycling, E-Waste can potentially contaminate soil and surrounding water bodies if not disposed of correctly. The best disposal method for e-waste is to engage an e-waste recycling service.

E-waste is a waste stream that is generated infrequently. A bin or cupboard should be allocated within one of the reception areas for the storage of e-waste. Once a sufficient amount of e-waste is acquired the office manager or building manager will be responsible for engaging an e-waste recycling service.

The property manager may also choose to contact Council to find out about new or existing strategies for the disposal or collection of electronic waste available through the Council.

CHEMICAL WASTE

Chemical wastes (e.g. cleaning chemicals, paints, oils solvents) pose detrimental effects to human health and the environment if not disposed of correctly. Chemical wastes should be disposed of at a suitable licensed disposal facility. No liquid wastes or wash down waters should be disposed of via the storm water drainage system.

Tenants and staff will need to liaise with the building manager when disposing of their chemical wastes. The building manager will be responsible for arranging the correct disposal of chemical waste.

HOTEL/RETAIL FACILITIES WASTE MANAGEMENT

WASHROOMS

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.

KITCHEN, OFFICE TEA ROOMS AND FOOD PREPARATION AREAS

Any food preparation area, including kitchens and staff tea rooms will be provided with dedicated source separation bins including a general garbage bins, a recycling bin and a food waste bin. The cleaners will be responsible for monitoring the capacity of these bins and emptying them as required.

FOOD WASTE AND COMPOSTING

During daily operations, each retail tenancy will be responsible for the collection of their food waste back of house. At the end of the day, nominated staff or cleaners will bring the food waste bins to the waste room on the basement level 2 where it will be deposited into 240L bins.

The building management will be responsible for managing food waste collections.

Tenants may also wish to manage their own organic waste through BOH composting. Recycling organic waste, such as food scraps and garden materials, dramatically reduces the quantity of waste being diverted to land fill and thus reduces the development's ecological footprint. Compost material can also be returned to the soil as a rich fertilizer and improve plant growth and the overall health of surrounding vegetation.

Tenants should be encouraged to dedicate a space for composting and worm farming either privately, or in shared areas. Composting facilities are to be sited on an unpaved area with soil depth of at least 300mm (*see APPENDIX D* for example systems).

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 ensuing that storage of these items in public places is completely avoided.

BULKY GOODS

A room or caged area of 8m² will be made available for the storage of discarded retail and commercial bulky items (e.g. whitegoods, furniture, etc.) and problem waste for recycling, such as e-waste and chemical waste. This room should have a minimum doorway width of 1.5m to allow for easy movement of large waste items in and out of the room.

MOVEMENT AND TRANSPORTATION OF BINS

The building manager/caretaker will be responsible for transferring bins to the loading dock on collection days and returning them to the waste rooms in the basement once they have been serviced.

Transfer of waste and all bin movements require minimal manual handling; the operator must assess manual handling risks and provide any relevant documentation to building management.

If required, the developer should contact a bin-tug, trailer or tractor consultant to provide equipment recommendations. Examples of motorised bin moving equipment can be found in APPENDIX B.4 and APPENDIX B.5.

Bins may have to be fitted with hitches to enable the simultaneous transportation of multiple bins to the collection area. Council must be informed of any hitch attachments required to be installed on bins.

COLLECTION OF WASTE

RESIDENTIAL

All waste generated by the residential apartments will need to be collected by a private waste contractor to an agreed schedule (this report assumes that garbage will be collected twice weekly and recycling on a weekly basis). A private contractor with a smaller vehicle will need to be used as the size of the loading dock area is restricted by heritage elements and would not be able to accommodate Council's standard collection vehicle.

Collections will need to be carried out at a different time to the hotel/retail waste collections to ensure that the loading dock and temporary bin storage room are not in use. This will be organised with the waste contractors.

Prior to collections, the building manager/caretaker will be responsible for transferring bins from the residential waste room on basement level 2 to the temporary bin storage room at the loading dock. This is to be carried out via goods lift.

On collection days, the contractor's waste collection vehicle will access the site from Phillip Lane and pull into the loading dock.

The vehicle will pull onto the turntable. After the vehicle has rotated 180 degrees, collection staff will access the temporary bin storage room and service all full bins.

Once servicing is complete, the vehicle will leave the site in a forward-facing direction. The building manager/caretaker will then be responsible for ensuring bins are returned to the basement level waste room and neatly arranged, ready to resume operational use.

HOTEL/RETAIL

All waste generated by the hotel and retail components of the development will be collected by a private waste contractor to an agreed schedule (this report assumes that collections will occur daily for all waste streams).

Prior to collections, the building manager/caretaker will be responsible for transferring bins from the hotel/retail waste room on basement level 3 to the temporary bin storage room at the loading dock. This is to be carried out via goods lift.

On collection days, the contractor's waste vehicle will access the site from Phillip Lane and pull into the loading dock.

The vehicle will pull onto the turntable. After the vehicle has rotated 180 degrees, collection staff will access the temporary bin storage room and service all full bins.

Once servicing is complete, the vehicle will leave the site in a forward-facing direction. The building manager/caretaker will then be responsible for ensuring bins are returned to the basement level waste room and neatly arranged, ready to resume operational use.

COLLECTION AREA

It is Elephant Foot's understanding that the collection areas have been reviewed by a traffic consultant to confirm the swept paths, load requirements and clearances for waste collections. It must be ensured that that the collection vehicle (and other trucks if required) can enter and exit the building in a forward direction. The final number of collections required will depend upon the management of the waste contract.

INSTALLATION EQUIPMENT AND DESIGN

EQUIPMENT SUMMARY

Table 4: Equipment Summary

Component	Part	Qty	Notes
Chutes	Galvanised Steel / LLDPE Polyethylene Plastic 510mm or 610mm (for 20+ levels)	2	510/610mm diameter (See APPENDIX C.1 for Typical Chute Section)
Equipment	Suitable Bin Moving Equipment	N/A	Optional (See APPENDIX B.4 & APPENDIX B.5 for Typical Bin Movers)

WASTE ROOM AREAS

All waste discharge points should be caged off to ensure the safety of any personnel accessing the waste room. Access to the residential waste room should be provided to the building manager/waste caretaker **only**. Under no circumstances should access be provided to any residents, or waste collection staff.

Chute discharge requires a minimum of 3000mm distance from floor to ceiling and needs to be free of service pipes and other overhead obstacles within the immediate space around the chute discharge.

The bins in the hotel/retail waste room should be arranged so that all bins are accessible without moving any other bins. This is to ensure the safety of the staff and cleaners accessing this room to dispose of waste and recycling.

The areas allocated for waste storage and bulky goods are detailed in Table 5 below. The areas provided are estimates only. Final areas will depend upon room and bin layouts.

Table 5: Waste Room Areas

Level	Waste Room Type	Equipment	Estimated Area (m^2)
B2	Residential Waste Room/Chute Discharge Room	2 x 1100L MGBs (Garbage) 3 x 1100L MGBs (Comingled Recycling)	37.6
	Residential Bulky Goods Room	1 x 1100L MGBs (Textiles) 1 x 240L MGB (eWaste) Must also include caged off area for gas bottles	10.4
B3	Hotel/Commercial Bin Storage Room	4 x 1100L MGBs (Garbage) 5 x 1100L MGBs (Comingled Recycling) 4 x 240L MGBs (Food Waste)	78.0
	Hotel Commercial Bulky Goods Waste Storage Room	N/A	
L2	Temporary Bin Storage/Collection Area	4 x 1100L MGBs (Garbage) 5 x 1100L MGBs (Comingled Recycling) 4 x 240L MGBs (Food Waste)	37.5

GARBAGE ROOMS

CONSTRUCTION REQUIREMENTS

The garbage room will be required to contain the following facilities to minimise odours, deter vermin, protect surrounding areas, and make it a user-friendly and safe area:

- waste room floor to be sealed with a two pack epoxy;
- waste room walls and floor surface is flat and even;
- all corners coved and sealed 100mm up, this is to eliminate build-up of dirt;
- a cold water facility with hose cock must be provided for washing the bins;
- any waste water discharge from bin washing must be drained to sewer in accordance with the relevant water board. (Sydney Water);
- tap 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 floor levels;
- the room must be mechanically ventilated;
- light switch installed at height of 1.6m;
- waste rooms must be well lit (sensor lighting recommended);
- optional automatic odour and pest control system installed to eliminate all pest types and assist with odour reduction – this process generally takes place at building handover – building management make the decision to install;
- if 660L or 1100L bins are utilised, 2 x 820mm (minimum) door leafs must be used;
- all personnel doors are hinged, lockable and self-closing;
- waste collection area must hold all bins – bin movements should be with ease of access;
- conform to the Building Code of Australia, Australian Standards and local laws; and
- childproofing and public/operator safety shall be assessed and ensured

SIGNAGE

The building manager/caretaker is responsible for waste room signage including safety signage (*see APPENDIX B.2*). 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 the bin underneath.

All chute doors on all residential levels will be labelled with signs directing chute operations and use of chute door.

VENTILATION

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; or
- Naturally - permanent, unobstructed, and opening direct to the external air, not less than one-twentieth (1/20) of the floor area

Mechanical exhaust systems shall comply with AS1668 and not cause any inconvenience, noise or odour problem.

USEFUL CONTACTS

Elephants Foot Recycling Solutions does not warrant or make representation for goods or services provided by suppliers.

SYDNEY COUNCIL CUSTOMER SERVICE
Phone: 02 9265 9333 Email: council@cityofsydney.nsw.gov.au

SULO MGB (MGB, Public Place Bins, Tugs and Bin Hitches)
Phone: 1300 364 388

CLOSED LOOP (Organic Dehydrator)
Phone: 02 9339 9801

ELECTRODRIVE (Bin Mover)
Phone: 1800 333 002 Email: sales@electrodrive.com.au

RUD (Public Place Bins, Recycling Bins)
Phone: 07 3712 8000 Email: Info@rud.com.au

CAPITAL CITY WASTE SERVICES (Private Waste Services Provider)
Phone: 02 9359 9999

REMONDIS (Private Waste Services Provider)
Phone: 13 73 73

SITA ENVIRONMENTAL (Private Waste Services Provider)
Phone: 13 13 35

NATIONAL ASSOCIATION OF CHARITABLE RECYCLING ORGANISATIONS INC. (NACRO)
Phone: 03 9429 9884 Email: information@nacro.org.au

PURIFYING SOLUTIONS (Odour Control)
Phone: 1300 636 877 Email: sales@purifyingsolutions.com.au

MOVEXX (Bin Movers)
Phone: 1300 763 444

AUSCOL (Recyling Oils & Animal Fats)
Phone: 1800 629 476

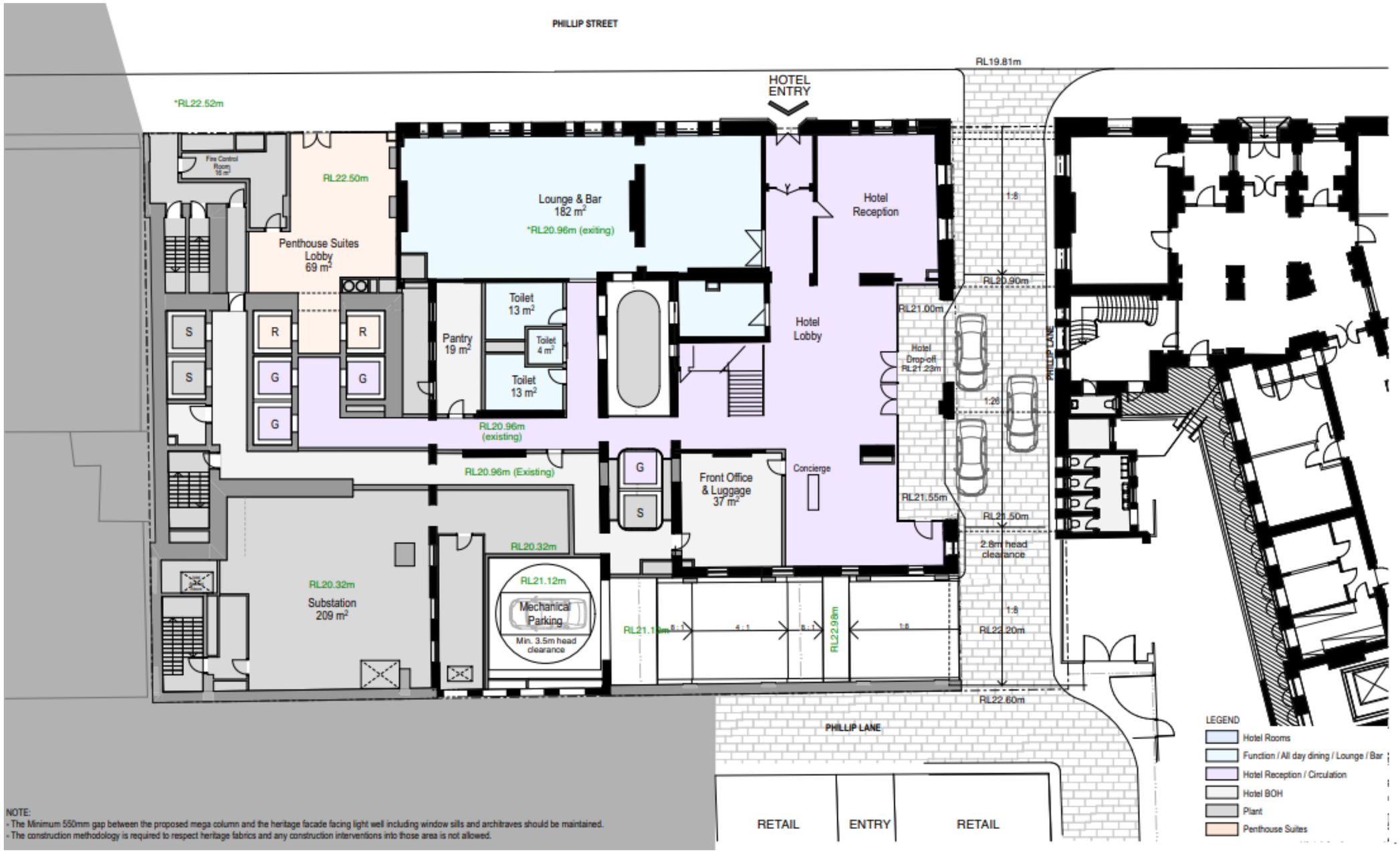
KOMPACT EQUIPMENT (Equipment & Servicing Provider)
Phone: 1300 566 722 Email: info@kompactequipment.com.au

ELEPHANTS FOOT RECYCLING SOLUTIONS (Chutes, Compactors & eDiverter Systems)
44 – 46 Gibson Avenue
Padstow NSW 2211
Phone: 1300 434 374 Email: wmp@elephantsfoot.com.au

APPENDICES

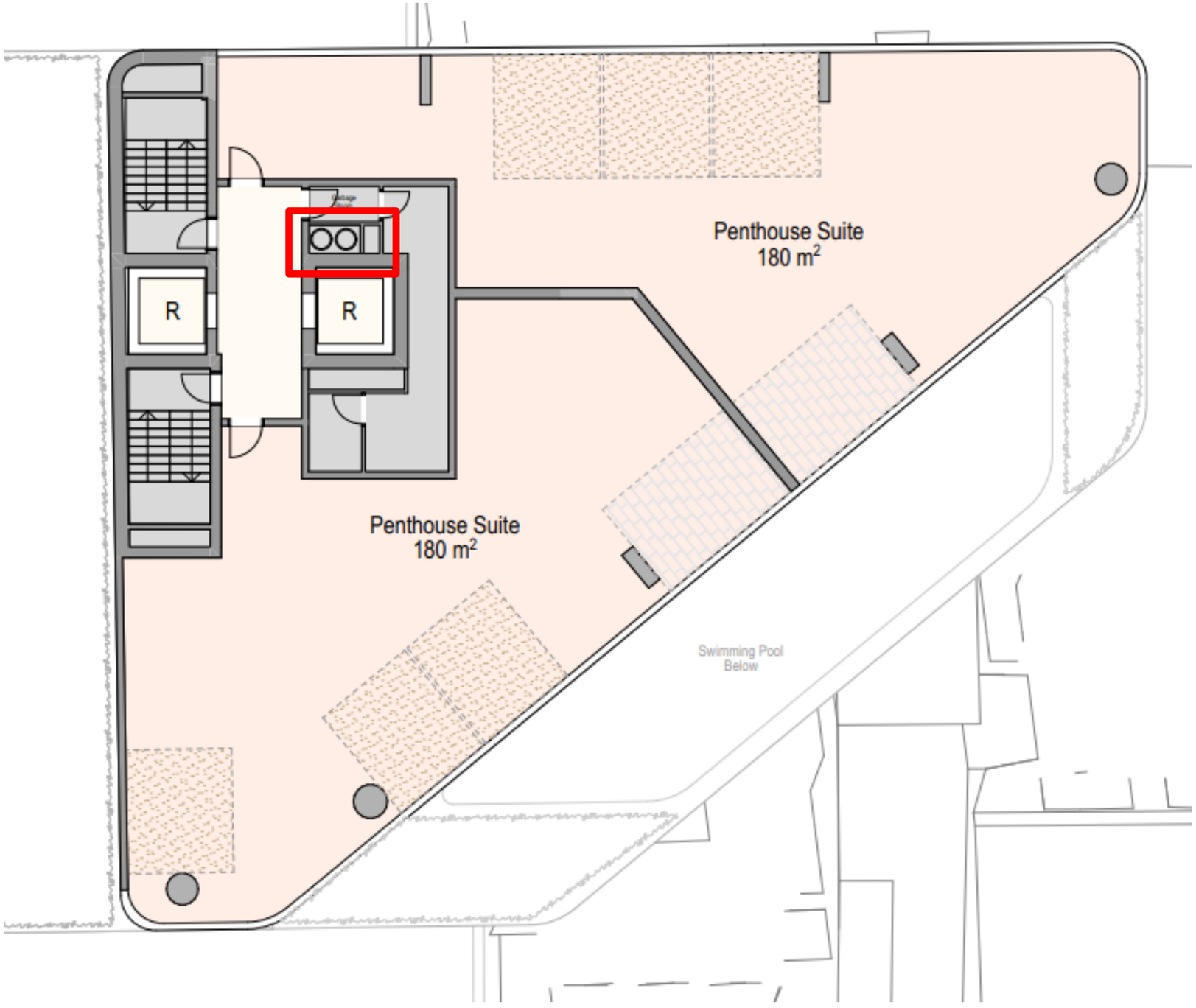
APPENDIX A ARCHITECTURAL DRAWING EXCERPTS

APPENDIX A.1 SITE PLAN



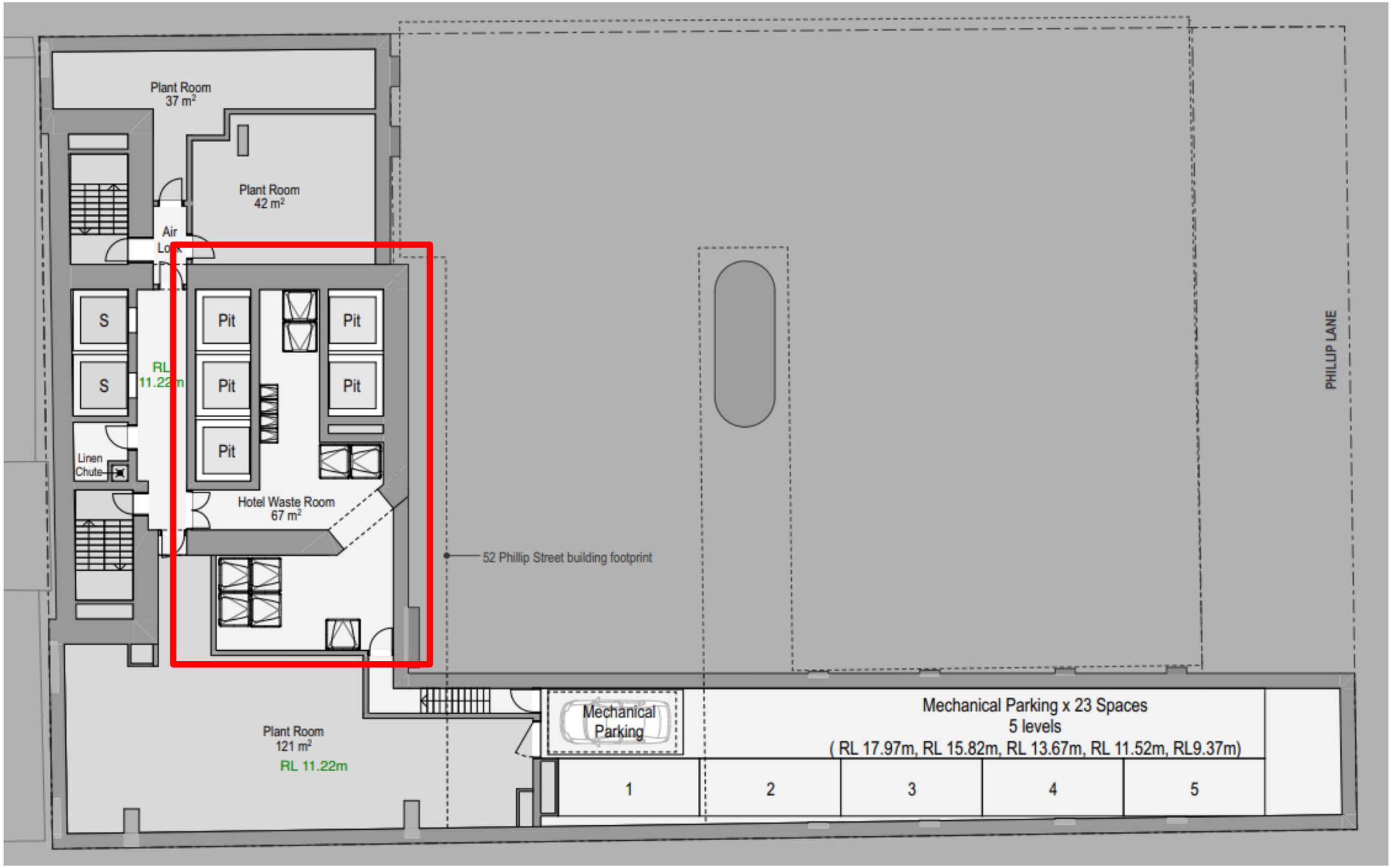
Source: FJMT Studio, Drawing No. 2411, 19/11/20 – Level 1 Plan

APPENDIX A.2 TYPICAL CHUTE ACCESS POINT



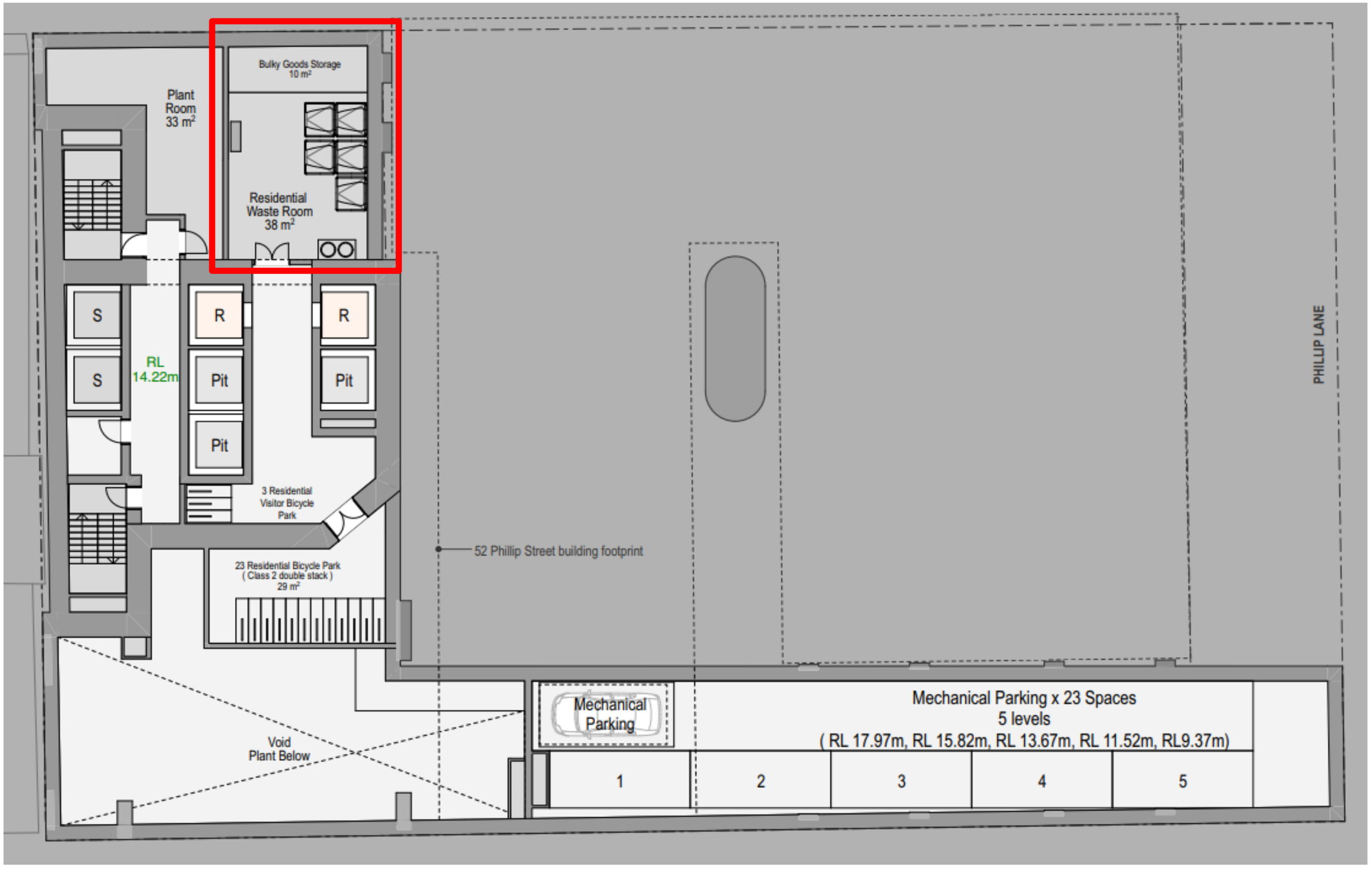
Source: FJMT Studio, Drawing No. 2430, 19/11/20 – Typical Penthouse Plan

APPENDIX A.3 WASTE ROOMS – BASEMENT LEVEL 3



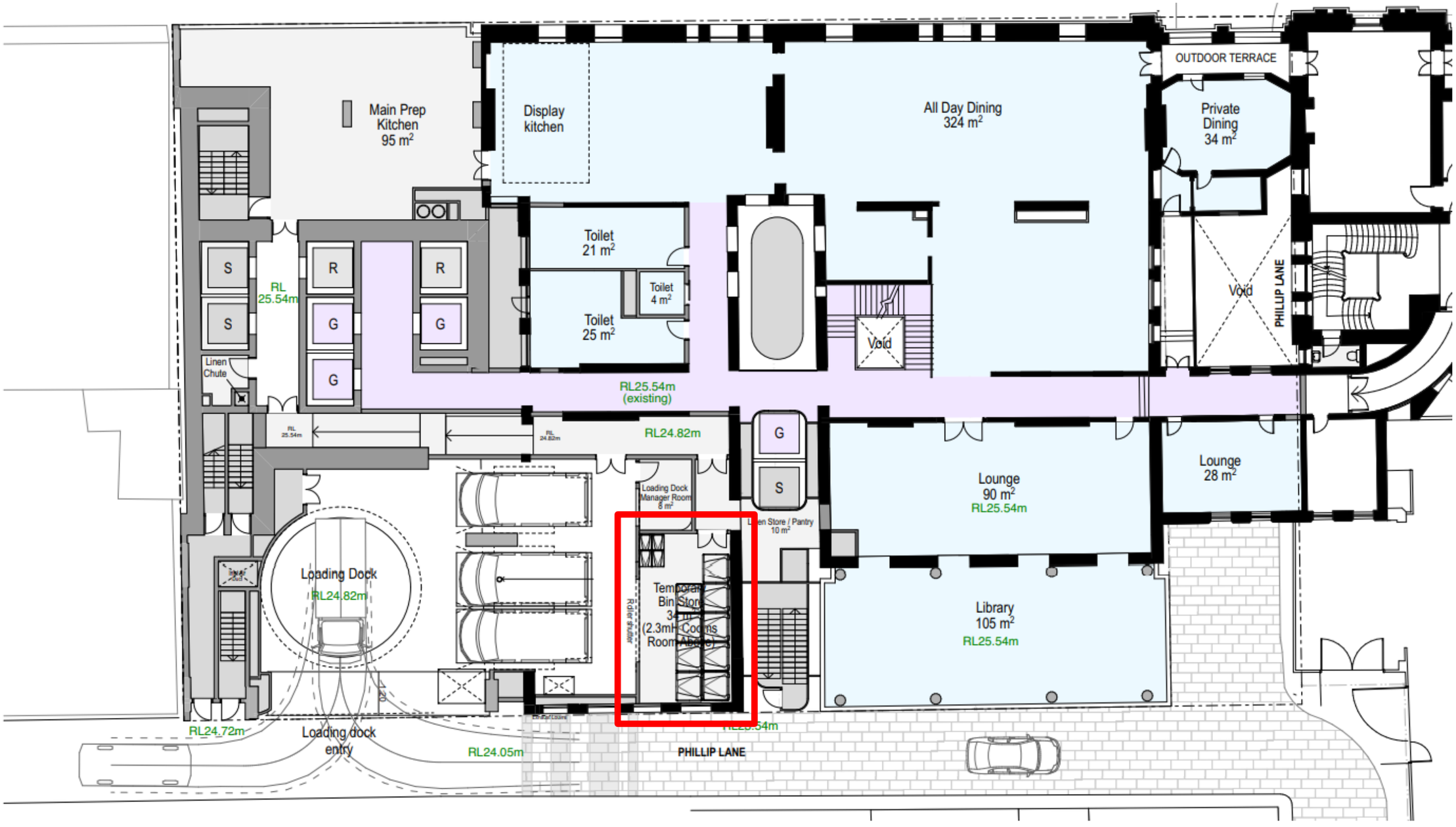
Source: FJMT Studio, Drawing No. 2408, 19/11/20 – Basement 3 Plan

APPENDIX A.4 WASTE ROOMS – BASEMENT LEVEL 2



Source: FJMT Studio, Drawing No. 2409, 19/11/20 – Basement 2 Plan

APPENDIX A.5 COLLECTION/LOADING AREA



Source: FJMT Studio, Drawing No. 2412, 19/11/20 – Level 2 Plan

APPENDIX B PRIMARY WASTE MANAGEMENT PROVISIONS

APPENDIX B.1 CITY OF SYDNEY TYPICAL BIN SPECIFICATIONS

Australian standard sizes for mobile garbage bins (MGBs)

Standard measurements

Bin type	120L MGB	240L MGB	660L MGB	1100L MGB
Height	940 mm	1080 mm	1250 mm	1470 mm
Length	560 mm	735 mm	850 mm	1245 mm
Width	485 mm	580 mm	1370 mm	1370 mm

Source: City of Sydney Waste Management Guidelines for New Developments (2018)

APPENDIX B.2 SIGNAGE FOR WASTE & RECYCLING BINS

Waste Signs

Signs for garbage, recycling and organics bins should comply with the standard signs promoted by the EPA (Environmental Protection Authority).

Examples of waste wall posters (EPA supplied)

Examples of bin lid stickers (EPA supplied)

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.

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.

Example safety signs

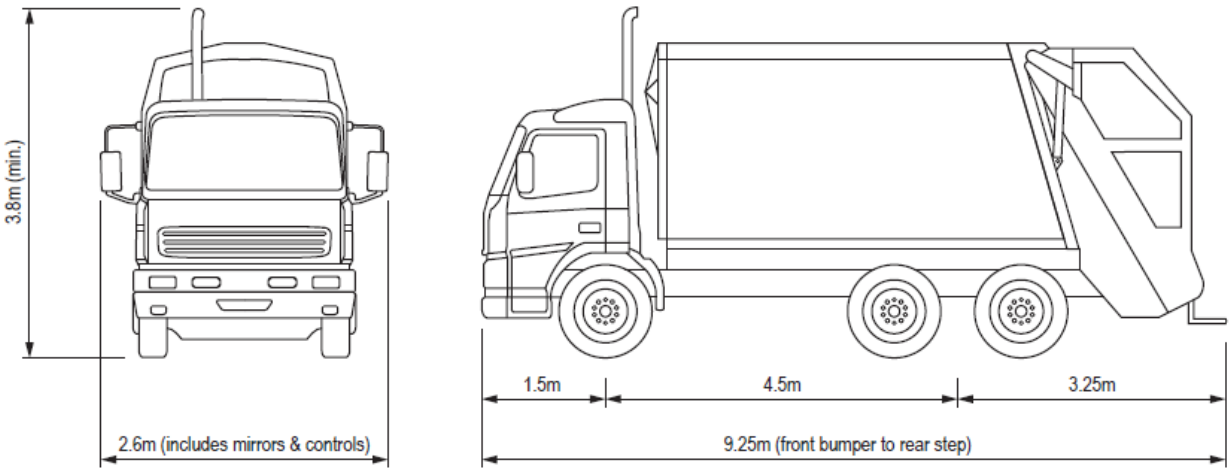
Source: New South Wales Environmental Protection Authority *Better Practice Guide for Resource Recovery* (2019)

APPENDIX B.3 CITY OF SYDNEY COLLECTION VEHICLE INFORMATION

Waste collection vehicles may be side loading, rear loading or front-end loading. The size of vehicle varies according to the collection service. Council and its waste contractors use rear-loading, compacting collection vehicles of various capacities to 20 m³ for collecting waste and recycling.

Council and its waste contractors use rear-loading, compacting collection vehicles of various capacities to 20 m³ for collecting waste and recycling.

The following characteristics represent the typical rear-end loading collection vehicle for guidance only.



Dimensions of typical collection vehicle (rear loader)

Vehicle dimensions and design parameters for swept path analysis

The following dimensions are of a typical rear loading collection vehicle and should be used as the design parameters for a swept path analysis.

Rear loading vehicle	dimensions
Length overall (m)	9.25
Width overall (m)	2.6
Travel height (m)	3.8
Minimum vertical clearance required (m)	4.0
Maximum weight (t)	26
Turning circle radius – wall to wall (m)	10.5
Lock to lock time (sec)	6
Minimum clearance on both sides of the wheel path (mm)	600
Vehicle turning speed (km/hr)	5-10

Vehicle access and turning requirements

A turning path analysis should be used to check that the paths of vehicles travelling in the forward direction when negotiating access driveways and circulation roadways, can be accommodated within the proposed location. Turning path analysis should also be used to check the movement out of a loading dock to establish that sufficient width is provided for the vehicle swept path, including maneuvering clearances. In providing turning path analysis, the following should be provided:

- Details of road geometry (details dimension of the driveway, width of the road (carriage way), footpath, kerb and gutter, median and on-street parking where applicable.)
- Dimension details of the design vehicle
- Turning radius and operable speed
- Lock to lock time. It is recommended that a value between three and six seconds is reasonable for most conventional vehicles. It should come through a vehicle data sheet, however, if not a six seconds should be chosen.
- Three clear swept paths line namely wheel path, vehicle body path and 0.6m clearance path

The parameter of the design vehicle for swept path analysis should be obtained from the manufacturer specification (with reference) or the parameters in the vehicle dimension table can be used.

Best design practice for access and egress from a development calls for a separate entrance and exit to allow the collection vehicle to travel in a forward direction at all times. Where there is a requirement for collection vehicles to turn at a cul-de-sac head within a development, the design is to incorporate either a bowl or 'T' or 'Y'-shaped arrangement.

The design aspects to be taken into account include:

- Placement of waste and recycling bins outside each home, or in a common collection area
- The presence of parked cars on access roads
- Trucks are to only be expected to make a three-point turn to complete a U-turn
- Allowing for collection vehicle overhang and possible interference with bins and road furniture.

Road geometry

The design parameters are to comply with the following road geometry:

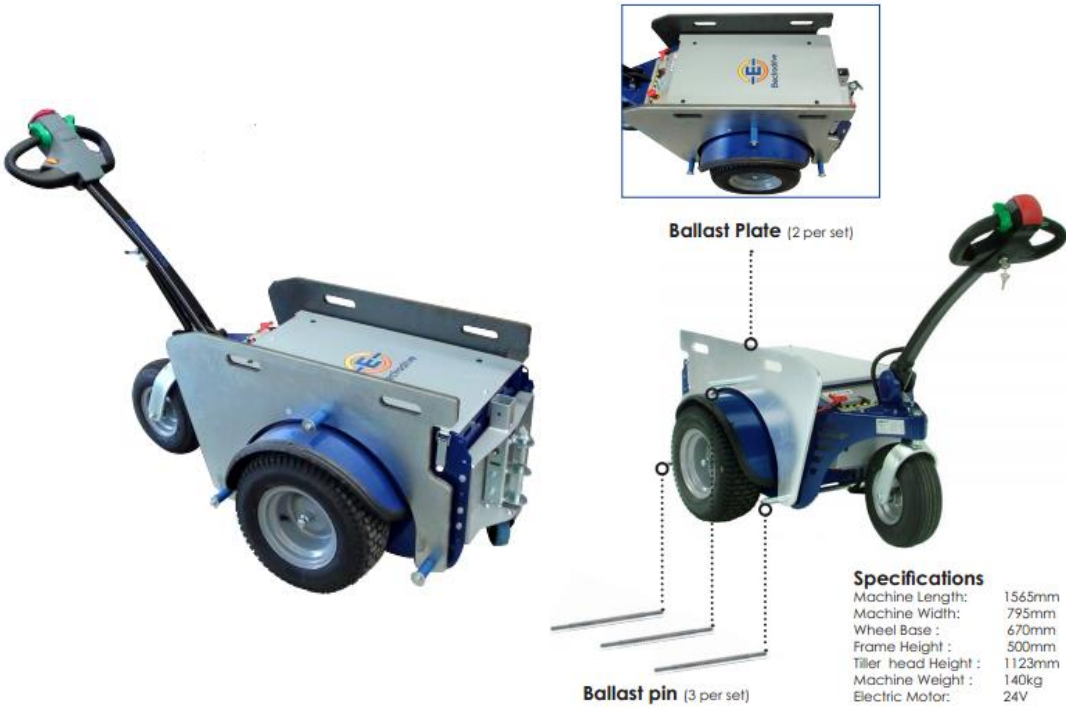
- A maximum desirable gradient of 10 per cent for turning heads
- Vehicle access for collection and loading will provide for a maximum grade of 1:20 for the first 6 metres from the street, then a maximum of 1:8 with a transition of 1:12 for 4 metres at the lower end
- A maximum longitudinal road gradient of 15 per cent
- A minimum kerb radius of 8.5 metres at the outside of the turn where there is to be on-site collection
- A minimum kerb radius of 10 metres at the outside of the turn where there is to be kerbside collection
- A minimum pavement width of 6.5 metres if 25 or more parking spaces for cars are required (use of passing bays is acceptable)
- An industrial-type strength pavement designed for a maximum wheel loading of 7 tonnes per axle in order to accommodate waste and recycling collection trucks (the standard road pavement design specifications for an individual driveway entry on public land is 150 mm thick concrete, 20 MPa concrete with F82 mesh).

Collection from enclosures

Collection vehicles may enter building basements for the collection of waste and/or recyclables provided the following requirements are met:

- The gradient of the ramp access to basement is not to exceed 1:8
- The height of the structural members and upper floor ceiling are to allow for a typical collection vehicle travel height/ operational height consistent with the type of vehicle employed
- The provision of space is to be adequate to allow the typical three-point turn of collection vehicles
- The basement floor is to be of industrial-type strength pavement and designed for a maximum wheel loading of 7 tonnes per axle in order to accommodate waste and recycling collection trucks (the standard road pavement design specifications for an industrial driveway entry on public land is 150 mm thick concrete, 20 MPa concrete with F82 mesh).

APPENDIX B.4 TYPICAL MOTORISED BIN TUG



Typical applications:

- Move trolleys, waste bin trailers and 660/1100L bins up and down a ramp incline.
- Quiet, smooth operation with zero emissions and simple to use, no driver's licence required
- Suitable for:
    - High rise building & apartment basements
    - Large factories & warehouse with sloped ground
    - Caravan parks & other large outdoor areas

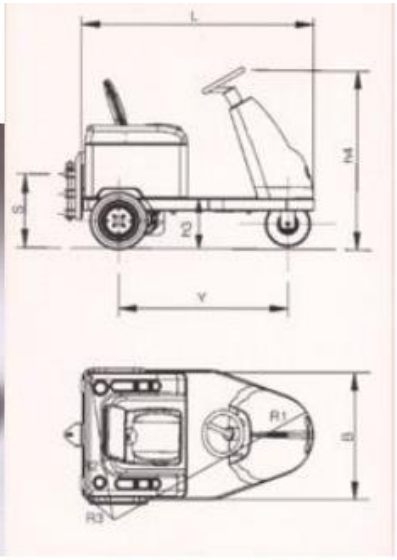
Features:

- 1 tonne tow capacity of inclines up to 8 degrees
- 500kg tow capacity if inclines up to 14 degrees
- CE Compliant
- 4.5 km/h max speed
- 2 x 80amp batteries – includes charger
- Powerful transaxle
- Hitch to suit 660L bins

Safety Features:

- Intuitive paddle lever control
- Stops and repels the unit if activated when reversing.
- Site assessment recommended to assess ramp incline steepness *(See Useful Contacts)*

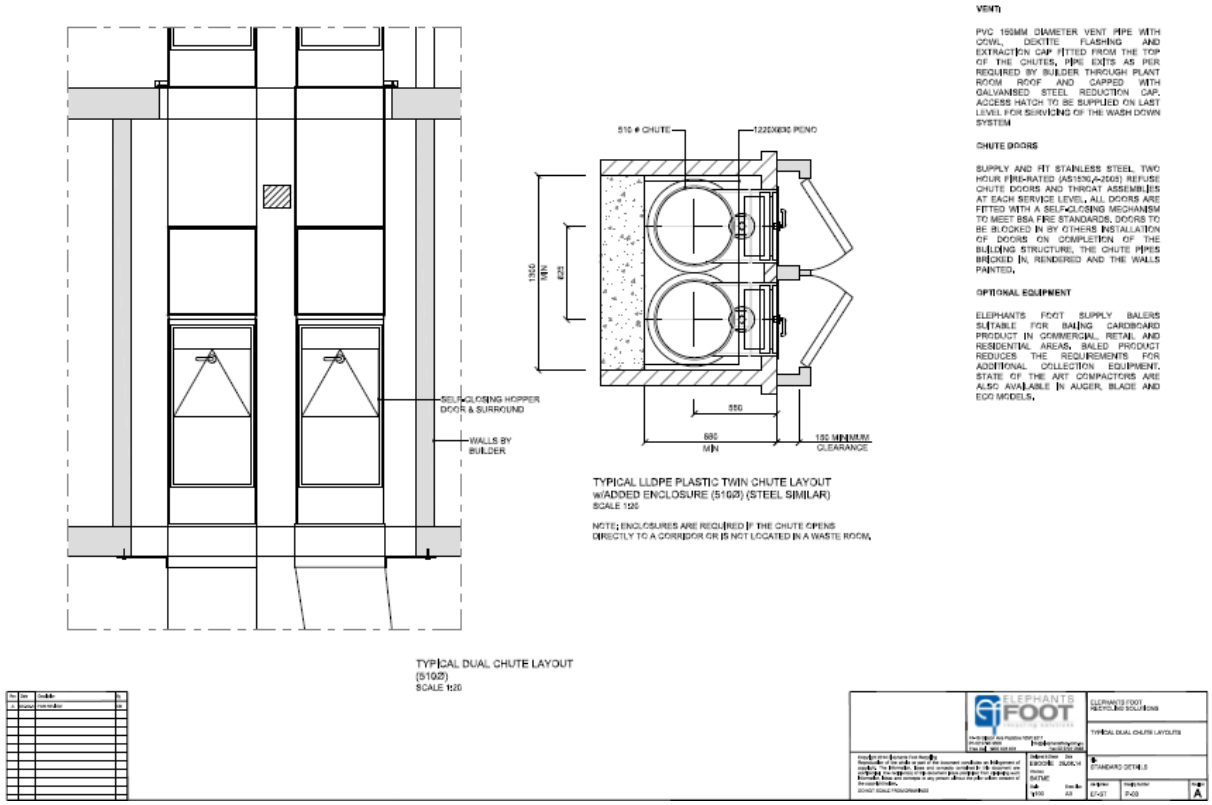
APPENDIX B.5 TYPICAL SEATED BIN MOVER



		UNIT M.	BULL 2	BULL 4
Manufacturer	DEC			
Model	BULL			
Platform loading cap.	Nominal capacity	kg	-----	-----
Pull capacity	Pull nominal capacity	kg	2000	4000
Power type	Electric - endotermic		electric	electric
Controltype	Standing / seated thiller / steer		seated / steer	seated / steer
Tyres	Pn=pneum. Se=superelastic		Pn	Pn
Wheels	N. front/rear - x drive	n.	1/2X	1/2X
Platform dimensions	L x B (lengh x width)	mm	-----	-----
Platform hight	h6 = unload clearence	mm	-----	-----
Overal dimensions	L = lenght B = width h1 = foot leve h3 = Seat height h4 = Steer height	mm mm mm mm mm	1500 900 1820 310 1250	1600 930 1960 340 1330
Turning radius	R1 = front min. external R2 = rear min. external R3 = front min. internal	mm mm mm	1400 1000 400	1500 1000 400
Aisle width	A = 180° turn	mm	2200	2300
Tow hook height	s = center from ground	mm	220-350-490	240-380-520

APPENDIX C INSTALLATION EQUIPMENT

APPENDIX C.1 TYPICAL DUAL WASTE CHUTE SPECIFICATIONS



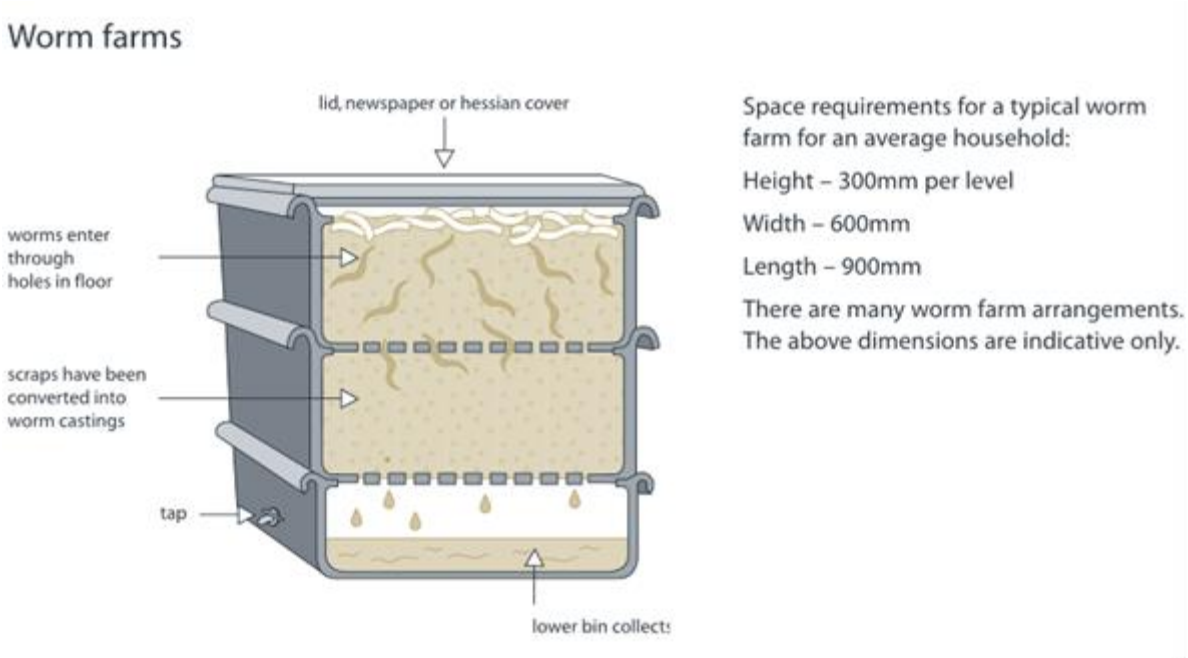
Waste chutes are supplied per the following specifications:

- either 510mm or 610mm (for 20+ levels) galvanised steel or recycled LLDPE polyethylene plastic;
- galvanised steel chute hoppers are wrapped with 50mm poly-wool R1.3 noise insulation foil to assist in noise reduction (or equivalent);
- penetrations on each building level at vertically perpendicular points with minimum penetration dimensions of either 600x600/700x700mm (square) or 650/750mm diameter (round) are required to accommodate the chute installation;
- a wash down system and vent should also be included as part of the chute system;
- council and supplier require that all chutes are installed without offsets to achieve best practise operationally for the building; and
- two hour fire-rated (AS1530.4-2005) stainless steel refuse chute doors at each service level. All doors are to be fitted with a self-closing mechanism to meet BSA fire standards.

NOTE: Chute doors are installed after walls rendered, painted or when required. Information stickers will be placed on each chute door at each residential level.

APPENDIX D SECONDARY WASTE MANAGEMENT PROVISIONS

APPENDIX D.1 TYPICAL WORM FARM SPECIFICATIONS



SOURCE: Department of Environment and Climate Change NSW 2008, Better Practice Guide for Waste Management in Multi-Unit Dwellings

APPENDIX D.2 TYPICAL SMALL COMPOST BINS

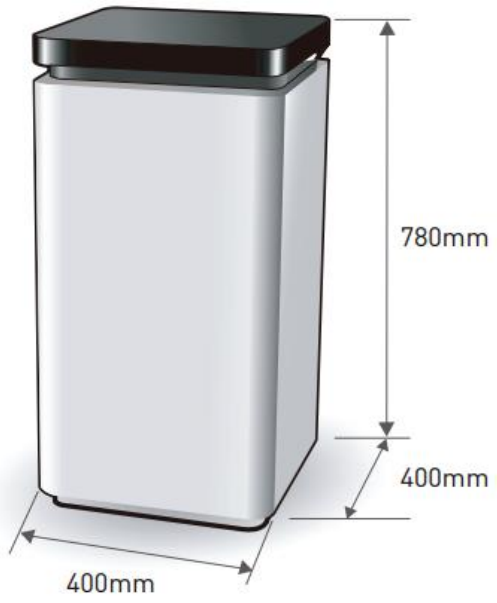
Apartment Style Compost bin – available from hardware stores

Suitable for:

- Vegetables
- Coffee grounds and filters
- Tea and tea bags
- Crushed eggshells (but not eggs)
- Nutshells
- Houseplants
- Leaves
- Cardboard rolls, cereal
- Boxes, brown paper bags
- Clean paper
- Shredded newspaper
- Fireplace ashes
- Wood chips, sawdust,
- Toothpicks, burnt matches
- Cotton and wool rags
- Dryer and vacuum cleaner lint
- Hair and fur
- Hay and straw

APPENDIX D.3 ELECTRIC ORGANIC COMPAST BIN

CLOSED LOOP
LOVE WHAT YOU DO
CLO'ey



Product Specifications

Decomposition Method	Fermentation by microorganisms
Decomposition Capacity	2 metric tonnes per year* (4 kg per day*)
Rating	220–240 V 50/60 Hz – 1.1 A
Decomposition Time	24 hrs
Operating Temperature	0C and 40C.**
Deodorisation Method	Nano-Filter system
Maximum Power	210 W
Power Usage	Average 1 kwh per day
Weight	21 kgs
External Dimensions	w 400 mm d 400 mm h 780 mm

* Food Waste Handling Capacity – based on an optimal operating environment.
** Ambient temperature range of area where unit may be installed.

SOURCE: Closed Loop Domestic Composter – See Useful Contacts
http://www.closedloop.com.au/domestic-composter

APPENDIX D.4 COOKING OIL CONTAINERS

AUSCOL
A GrainCorp business

Home About Services Our Parent Company Contact

The RIGHT WAY for Cooking Oil Collection Systems

Drums 205L

Pour in Bulk Tank

View Brochure

Oil Kaddy System

View Brochure

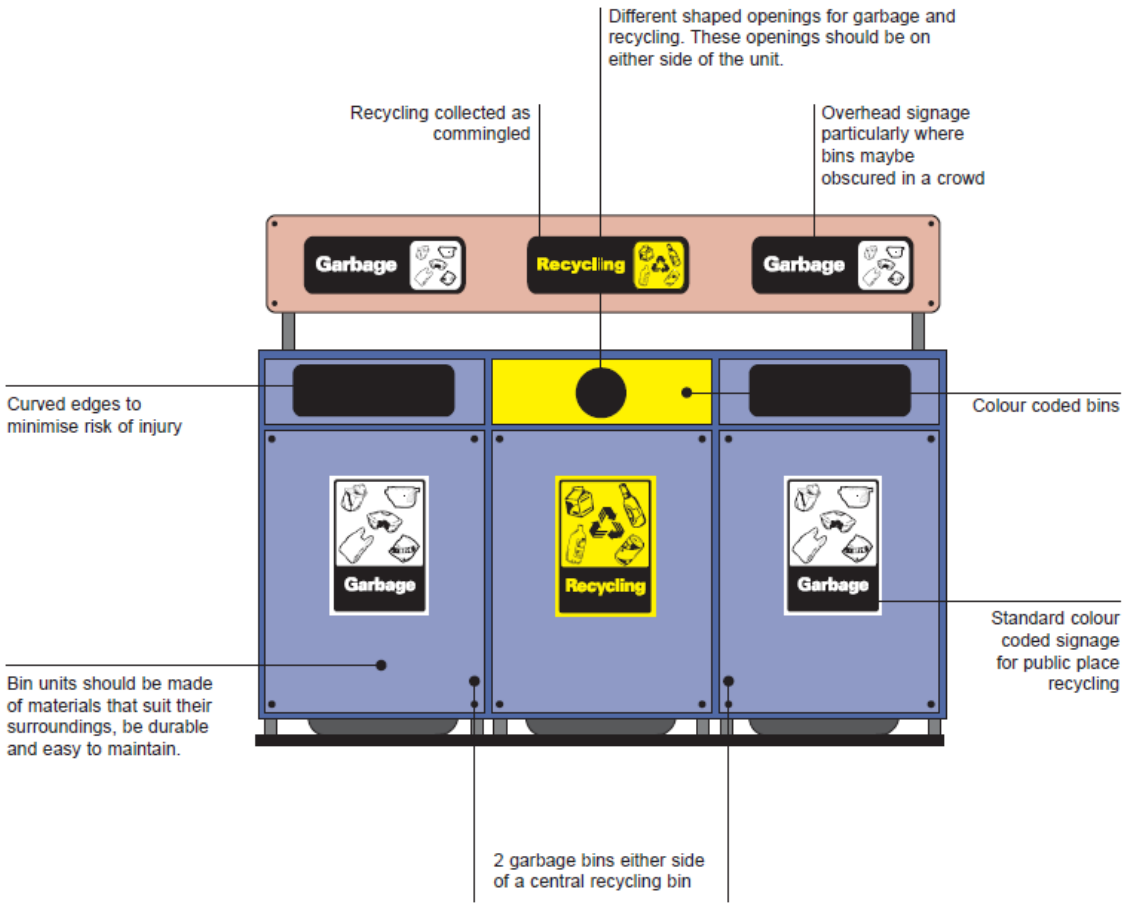
- Collection Service
- Collection Systems
- Recycling & Environment
- Safety
- Fresh Oil *(WA Only)*

Eco Systems

Direct-Connect to Fryer

APPENDIX D.5 TYPICAL BACK OF HOUSE BINS

APPENDIX D.6 TYPICAL PUBLIC PLACE WASTE BINS



Source: *Department of Environment and Conservation (NSW) Better Practice Guide for Public Place Recycling 2005*