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4-6 Bligh Street Sydney

Waste Management Plan

December 2022

Table of Contents

1 Executive Summary

This Waste Management Plan (WMP) has been prepared by Waste Audit and Consultancy Services ('Waste Audit') to accompany a detailed State Significant Development Application (SSDA) for the mixed-use redevelopment proposal at 4-6 Bligh Street, Sydney. The site is legally described as Lot 1 in Deposited Plan 1244245.

This report has been prepared to address the Secretary's Environmental Assessment Requirements (SEARs) issued for the project (SSD-48674209).

This report concludes that the proposed mixed-use hotel and commercial development is suitable and warrants approval subject to the implementation of the following mitigation measures:

- Implementing systems for recovering over 90% of construction waste materials for beneficial reuse
- Implementing recycling programs for cardboard, paper, glass, metals, plastics, food waste, and other operational materials generated in smaller quantities
- Providing education, signage, and written procedures to all stakeholders to support the implementation of the new programs
- Ensuring the development has adequate equipment and infrastructure to facilitate the efficient handling of operational general waste and recyclables from the Hotel and commercial operations
- Clearly defined process and accountabilities for ongoing management, monitoring, and reporting for the Hotel and commercial operations

Following the implementation of the above mitigation measures, we consider that the remaining impacts are appropriate.

2 Introduction

This report has been prepared to accompany an SSDA for the for the mixed-use redevelopment proposal at 4-6 Bligh Street, Sydney.

The Council of the City of Sydney, as delegate for the Minister for Planning and Public Spaces (the Minister), is the Consent Authority for the SSDA under an Instrument of Delegation issued by the Minister on 3 October 2019.

The application seeks consent for the construction of a 59-storey mixed-use hotel and commercial development. The purpose of the project is to revitalise the site and deliver new commercial floorspace and public realm improvements consistent with the City's vision to strengthen the role of Central Sydney as an international tourism and commercial destination.

A separate development consent (D/2018/892) relating to early works for the proposed application was granted for the site on 31 January 2020. Consent was granted for the demolition of the existing site structures, excavation and shoring of the site for three basement levels (to a depth of RL9.38m) to accommodate the proposed mixed-use hotel and commercial development.

As such, this application does not seek consent for these components and instead seeks to rely upon and activate D/2018/892 for early works.

Specifically, development consent is sought for:

- Site establishment, including removal of three existing trees along the Bligh Street frontage and de- commissioning and removal of an existing substation (s2041) on the site.
- Construction of a 59-storey hotel and commercial office tower. The tower will have a maximum building height of RL225.88 (205m) and a total gross floor area (GFA) provision of 26,796sqm, and will include the following elements:
    - Five basement levels accommodating a substation, rainwater tank, hotel back of house, plant and services. A porte cochere and four service bays will be provided on basement level 1, in addition to 137 bicycle spaces and end of trip facilities on basement level 2.
    - A 12-storey podium accommodating hotel concierge and arrival at ground level, conference facilities, eight levels of commercial floor space and co-working facilities, and hotel amenities including a pool and gymnasium at level 12.
    - 42 tower levels of hotel facilities including 417 hotel keys comprising standard rooms, suites and a penthouse.
    - Two tower levels accommodating restaurant, bar, back of house and a landscaped terrace at level 57.
    - Plant, servicing and BMU at level 59 and rooftop.
- Increase to the width of the existing Bligh Street vehicular crossover to 4.25m and provision of an additional 4m vehicular crossover on Bligh Street to provide one-way access to the porte cochere and service bays on basement level 1.
- Landscaping and public domain improvements including:
    - Replacement planting of three street trees in the Bligh Street frontage,
    - Construction of a landscape pergola structure on the vertical façade of the north-eastern and south- eastern podium elevations,
    - Awning and podium planters, and
    - Provision of a feature tree at the level 57 terrace.
- Identification of two top of awning building identification signage zones with a maximum dimension of 1200mm x 300mm. Consent for detailed signage installation will form part of a separate development application.
- Utilities and service provision.
- Installation of public art on the site, indicatively located at ground level.

This report has been prepared in response to the requirements contained within the Secretary's Environmental Assessment Requirements (SEARs) dated 1/10/22 and issued for the SSDA. Specifically, this report has been prepared to respond to the SEARs requirement issued below.

Table 1: SEARs Requirements

Stage/Item	Description of Requirement	Report Section
Item 18. Waste Management	• Identify, quantify and classify the likely waste streams to be generated during construction and operation	Sections 5,6,10
	• Provide the measures to be implemented to manage, reuse, recycle and safely dispose of this waste	Section 8
	• Identify appropriate servicing arrangements for the site	Sections 7,9
	• If buildings are proposed to be demolished or altered, provide a hazardous materials survey	See separate consultant's report

3 The Site

The site for the purposes of this SSDA is a single allotment identified as 4-6 Bligh Street, Sydney and known as Lot 1 in Deposited Plan 1244245. The site has an area of 1,218 square metres and is identified in Figure 1.

The site is relatively flat, with a slight slope ranging from 21m AHD in the north-western corner to 19.5m AHD in the south-western corner.

The site is located within the north-eastern part of Central Sydney in a block bound by Bligh Street to the west, Hunter Street to the south, Chifley Square/Phillip Street to the east, and Bent Street to the north. The surrounding buildings are generally characterised by a mix of commercial office and hotel uses with ground level retail, restaurant and café uses and are of varying heights, ages and styles, including a number of State and local listed heritage buildings.

The site is also located in proximity to a number of Sydney Metro City & Southwest (opening 2024) and Sydney Metro West (opening 2030) station sites.

Specifically, the site is located to the immediate east of the Sydney Metro Hunter Street station (east site), which is located on the corner of Hunter Street and Bligh Street, and approximately 350m east of the Sydney Metro Hunter Street station (west site). The Hunter Street station sites are part of the Sydney Metro West project. SEARs for the preparation of Concept SSDAs for the sites were issued in August 2022.

Approximately 150m to the south of the site is Sydney Metro Martin Place Station site, located to the south of Hunter Street between Castlereagh Street and Elizabeth Street. The Martin Place Station site is currently under construction and forms part of the Sydney Metro City & Southwest project.

The site is occupied by a vacant commercial office building with ground floor retail and basement car parking known as "Bligh House". Completed in 1964, Bligh House is a 17-storey tower inclusive of a three-storey podium with the podium levels built to the Bligh Street alignment and the tower setback from the street frontage. The building was designed by Peddle Thorp and Walker and was constructed as part of the post-World War II development boom in the Sydney CBD. The podium overhang along the footpath provides continuous pedestrian protection.

Vehicle access to the site is off Bligh Street via a single 2.6m wide driveway that is restricted by a security gate under one-lane, two-way access arrangements. The driveway provides access to the basement car park, containing 21 car parking spaces.

The site contains no vegetation; however, two existing street trees are located adjacent to the site boundary on Bligh Street.

Development consent for the demolition of the existing site structures, excavation and shoring of the site for three basement levels (to a depth of RL9.38m) was granted by City of Sydney on 31 January 2022 (D/2018/892).

Figure 1 – Site Identification Plan

4 Methodology

In calculating total operational volumes of general waste and recycling, we have taken into account all areas and functions of the development that will produce general waste and recycling as a guide to calculating future volumes of materials.

Hotel general waste and recycling volumes have been calculated based on room numbers and standard generation rates; for commercial areas these were calculated from GFA schedules provided, and an expected occupancy rate of 100% for the Levels 3-10 commercial tenancies.

Volumes of construction waste have been estimated using standard formulae used for previous projects, based on percentages per square metre of floor space for different material types.

Table 2 shows the various areas of the development that will produce operational general waste and recyclable items; areas such as plant and storage rooms that produce only minimal and/or infrequent quantities have not been included in these calculations.

Table 2: Development Areas

Area Usage	Details
Office/Commercial	5,856 m^2
Hotel Guest Rooms	417 rooms
Hotel Food & Beverage, Events, Meeting Spaces	3,106 m^2

5 Expected Materials Streams

The development is expected to produce the following operational materials streams:

Table 3: Operational Materials Streams

Material Stream	Tenancy Type
General Waste	All Tenancies
Mixed Recycling	Offices, Retail, Hotel
Secure Document Destruction	Offices, Hotel
Food Organics Recycling	Offices, Retail, Hotel
E-Waste Recycling	Offices, Hotel
Toner Cartridge Recycling	Offices, Hotel
Fluorescent Lamp Recycling	Offices, Hotel
Bulky Waste	All Tenancies

Recommended systems for managing each of these streams are detailed in Section 8 of this report.

6 Operational General Waste & Recycling

The tables below show daily volumes of materials that will be generated by the development, based on standard generation rates for the office and hotel components.

In preparing this plan, we have also taken into consideration The City of Sydney's *Policy for Waste Minimisation in New Developments* and the *City of Sydney Guidelines for Waste Management in New Developments.*

General waste and recycling from the Hotel and commercial floors will be stored in a dedicated area in Basement Level 03 and brought to the collection point on Basement Level 01, from where it will be collected by a private contractor with vehicles that are able to access this level, which has a clearance height of 2.8 metres.

There are a limited number of commercial waste service providers operating in the Sydney CBD that have vehicles of this kind, and this factor will be consideration when selecting a contractor for the development's operational waste requirements.

There will be a bin wash facility on Basement Level 01 for cleansing of bins following collection, as well as separate areas for storage of empty bins and bulky waste items.

The general waste and paper & carboard will be processed through the APS1100 Roto Compactor to reduce the volume of waste. The roto compactor has the capacity to compact certain materials by a ratio of 10:1. For this report, a compaction ration of 5:1 has been used to

conservatively measure the capacity of the technology ensuring that there is no overflow of waste/recyclables.
Table 4 shows expected volumes of materials, numbers and sizes of bins, collection frequencies, and storage area requirements. Total bin footprints include 20% space allowance between bins for access and handling within storage areas.

Table 4: Weekly Materials Volumes & Collection Frequencies

Hotel & Commercial	Bins		Compaction Ratio	Litres per Week	Collections per Week	Total Bin Footprint m^2
	Size	No.				
General Waste	1100	4	5	48,789	3	8.2
General Waste	660	3	5	12,255	3	4.2
Cardboard & Paper Recycling	1100	6	5	36,109	3	12.3
Cardboard & Paper Recycling	660	2	5	6,212	3	2.8
Commingled Recycling	1100	4		12,999	3	8.2
Commingled Recycling	240	3		1,209	3	1.5
Organics Recycling	120	4		2,157	3	1.3
Oil Recycling	500	1		500	As required	1.0
E-Waste Recycling	500	1		<100 litres	As required	1.0
Fluorescent Lamp Recycling	500	1		<100 litres	As required	1.0
APS1100 Roto Compactor						2.5
Total		29		112,809		44.0

The bin storage room on Basement Level 03 is 60 square metres in area. Based on the bin sizes shown and recommended collection frequencies in the table above, the storage room's current size and layout will be adequate.

Separate areas will also be provided for bin washing and storage of bulky waste (furniture, bedding, appliances etc.) on Basement Levels 03 and 01 respectively. The bin wash facility will be next to the bin staging and collection area on Basement Level 01, allowing bins to be washed immediately following collection and before being returned to the storage room.

7 Bin Transfer & Collection

All general waste and recyclables will be stored in the bin room on Basement Level 03 between collections and brought to Basement Level 01 via the goods lift located nearby. There will be provisions for internal waste/recycling receptacles to be located on each floor of the hotel and commercial spaces to collect one days' worth of waste. These waste/recyclables will be transferred to the main waste holding room on a daily basis. Empty bins will then be returned to this room after servicing by the waste contractor.

While specific responsibility for these tasks remains to be defined, we would expect them to be carried out by the site's cleaning contractor, for general waste and recyclables from both commercial tenancies and the Hotel.

On the designated collection days, bins will be arranged in the collection area on Basement Level 01 for servicing by the waste contractor's truck, which will be a low-profile vehicle able to access the site, having a maximum height of 2.8 metres.

The truck will drive forward onto the turntable, which will rotate until the rear of the truck is facing the bins, and the bin contents will be emptied into the truck. Contractor staff will be responsible for the entire process including operation of the turntable.

Once all bins have been emptied, the turntable will be rotated to point the truck in a forward direction, and it will drive out, having first ensured that all bins have been collected and the empty bins rearranged in an orderly manner.

Collections will take place during the early morning and will conform with the City of Sydney's time restrictions for waste collection.

8 Operational Waste Management Systems

Table 5: Management Systems

Tenancy	Material Streams	Collection, Storage, & Management Processes
Commercial	General Waste Paper Cardboard Mixed Recycling (Glass, Metal, & Plastic Containers)	Cleaners will collect all materials from office floors nightly and bring them to the bin storage room via the goods lift. From here, they will bring full bins to the Basement Level 01 collection area. The building's private waste contractor will collect these materials on a schedule to be set once the building is operational. Collections will take place outside standard business hours to avoid vehicle congestion in the loading dock area. Cleaning staff will maintain the organisation and cleanliness of the bin storage room and the collection area.
	E-Waste Recycling Fluorescent Lamp Recycling	These materials, which will be generated on an infrequent basis, will be stored in the bin storage room until they are full, when they will be taken to Basement Level 01 for collection. Collections will be done on an on-call basis, as quantities of these materials generated will be relatively small.
Hotel	General Waste Paper Cardboard Mixed Recycling (Glass, Metal, & Plastic Containers) Food Organics Recycling	Hotel staff and/or cleaners will collect all materials from hotel guest rooms, back of house, hospitality, event spaces, etc. and bring them to the bin storage room via the goods lift. From here, they will bring full bins to the Basement Level 01 collection area. The building's private waste contractor will collect these materials on a schedule to be set once the building is operational. Collections will take place outside standard business hours to avoid vehicle congestion in the loading dock area. Cleaning staff will maintain the organisation and cleanliness of the bin storage room and the collection area.

	E-Waste Recycling Fluorescent Lamp Recycling Cooking Oil Recycling	These items will be collected on an as-needed basis; site staff will bring the materials to Basement Level 01 as for the other materials listed above. For cooking oil recycling, a transportable unit that can easily be moved to Basement Level 01 via goods lift will be required to be installed in the bin storage room.
	Bulky Waste	Bulky hotel waste such as furniture, bedding, appliances, etc. will be stored in a dedicated area within the bulky goods storage room on Basement Level 03. An area of at least 8 square metres within this room will be required for this purpose. These items will be brought to Basement Level 01 for collection, on an as-needed basis. We recommend that these be done at minimum quarterly to avoid excessive build-up of excessive quantities of materials.

9 Storage Areas: General Requirements

A dedicated general waste and recycling room facilities will be located on Basement Level 03 with a bin wash area and space for bulky goods storage. This room will be locked and accessible by authorised staff only, and will have the following features and maintenance practices to minimise odours, deter vermin, and maintain it a user-friendly and safe area:

- Mechanically ventilated as required by AS 1668.2
- Walls to be constructed from masonry or similar, washable, and painted with light colour
- Floors to be sealed, with flat and even surface and graded drains to sewer connection
- All corners coved and sealed 100 mm up to eliminate build-up of dirt
- Storm water entrance preventative measures in place
- Lighting to Australian standard and light switches at 1.6 m height (sensors recommended)
- All doors lockable, tightly fitted, hinged, and self-closing and of at least 2 m width
- Conformance with the Building Code of Australia, Australian standards, and local laws
- Childproofing and public/operator safety assessed and ensured
- A regular cleaning schedule and documented pest control regime
- All bin lids to be kept closed when not being used

All streams will be clearly differentiated through standard signage and colour coding, with each stream located in a designated area within the storage room, and large and clear signage to assist in easy identification by users, as shown in Appendix C. Other best practice standards for storage and handling areas include:

- Ensuring the loading dock and waste loading areas are level and free of kerbs, steps, etc.
- Line markings showing the loading area and positions of bins within the storage room
- Highly visible signage as shown in Appendix C

10 Construction Waste

Table 6 shows preliminary estimates of volumes of the main materials that will be generated. A detailed Construction Waste Management Plan will also be produced by the development's builder before commencement of the construction phase.

Table 6: Construction Waste Volumes

Material Stream	Volume m^3	Recovery %	Net m^3
Excavation	16,800	98%	16,464
Plastics Recycling including Pallet Wrap	123	96%	118
Used Pallets	80	95%	76
Cardboard Recycling	64	100%	64
Metal Offcuts, Sheeting, Wiring, etc.	56	98%	55
Plasterboard (Excess)	51	95%	48
Floor Coverings (Excess)	48	95%	46
Timber (Excess)	38	95%	36
Concrete (Excess)	32	100%	32
General Waste	54	0%	0
Total	17,347	97.7%	16,940

11 Waste Contractor Requirements

To achieve and maintain best practice, the site's waste contractor will be required to demonstrate high standards of service and comply with the following requirements:

- Reliable and efficient servicing, and meeting all agreed schedules
- Vehicle fleets fitted with suitable onboard bin weighing technology
- Suitably sized collection vehicles to be able to access the building's loading dock
- Maintaining accurate and comprehensive tracking systems for all materials collected
- Working with the site to achieve continuous improvements in recovery rates
- Providing detailed monthly and annual reports on diversion and financial outcomes
- Maintaining current details of all processing facilities used

12 Tenant & Stakeholder Education

For the new systems to be successful an intensive education program will be required for commercial tenants and the Hotel.

Cleaners will be a key element in the effectiveness of the new systems and as such, relevant procedures will need to be written into contract specifications, including requirements for monitoring contamination of recycling streams and condition of bins and other equipment, and providing users with feedback on ongoing systems performance.

13 Ongoing Management & Reporting

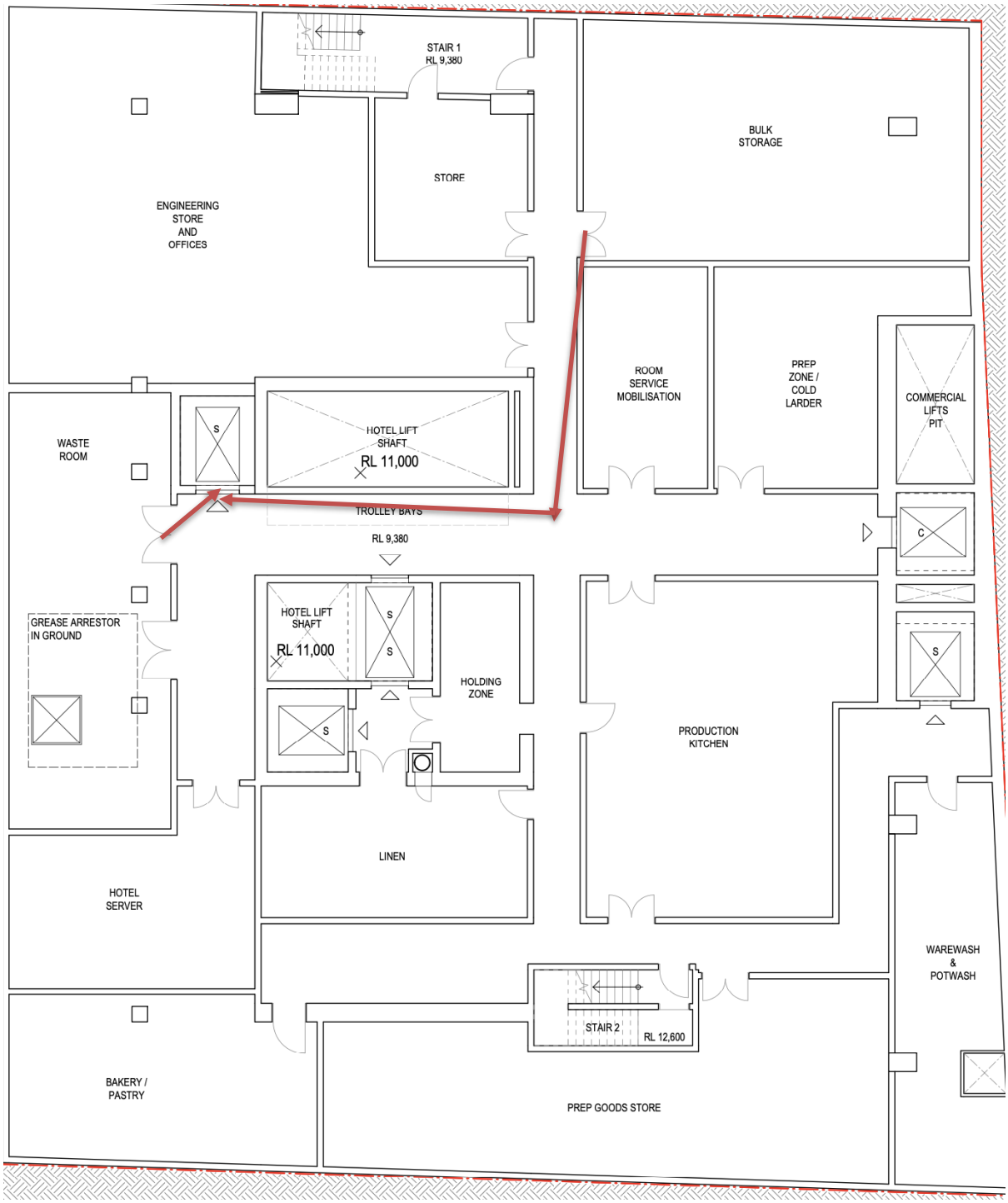
Following implementation of the new systems, a monthly performance reporting system, based on the Better Buildings Partnership (BBP) *Operational Waste Guidelines*, should be instituted. This will ensure the continued success of the site's waste minimisation initiatives, accurate tracking of performance, and cost-effective waste removal.

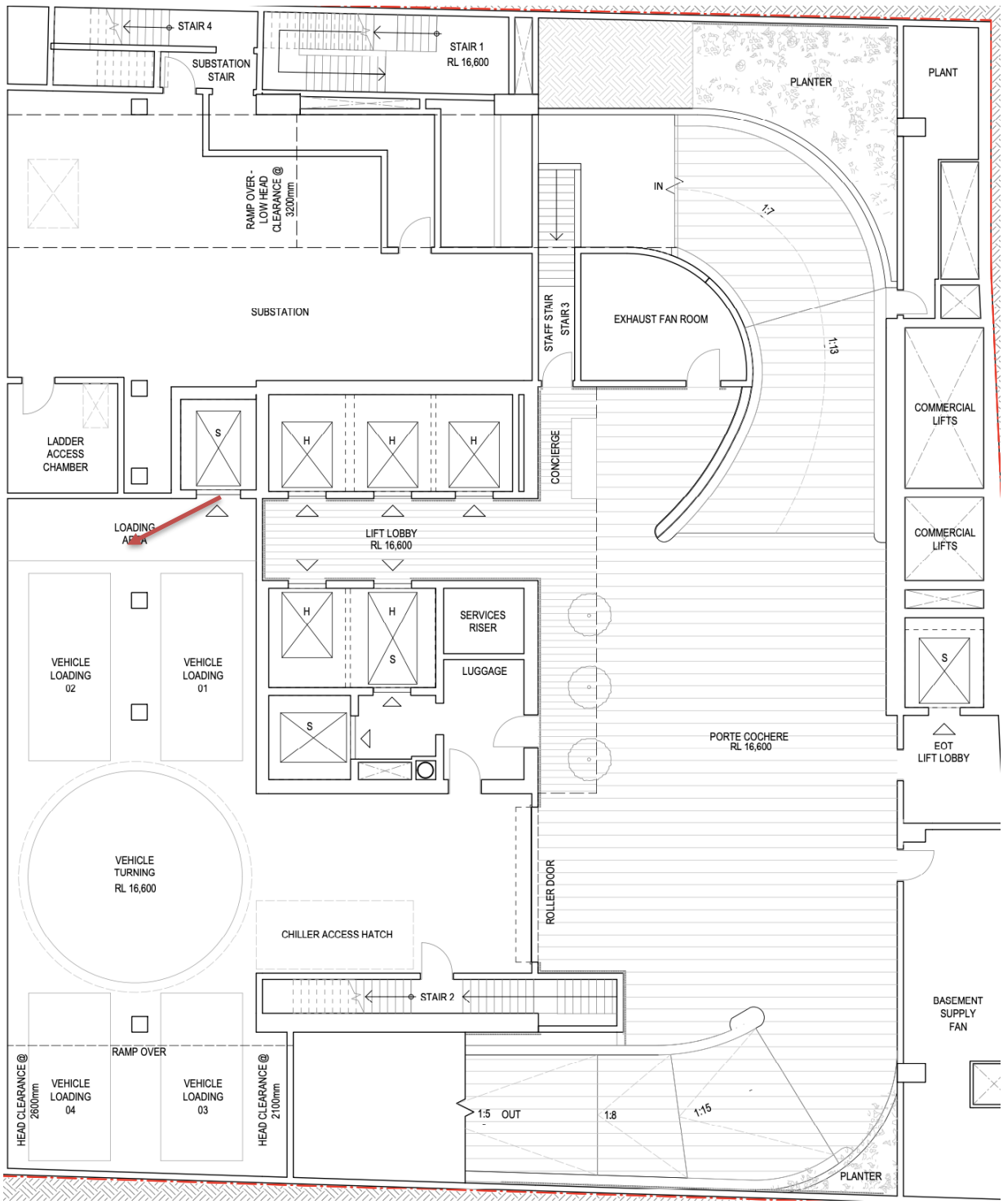
Specific performance clauses and KPIs in contracts will ensure that all service providers actively participate in the waste reduction program for the site and meet on a monthly basis to resolve performance issues and identify new opportunities for diversion and avoidance.

Waste and recycling contractors will be required to report actual volumes and tonnages by stream so that site management can monitor performance and report to stakeholders.

Appendix A: General Waste & Recycling Storage

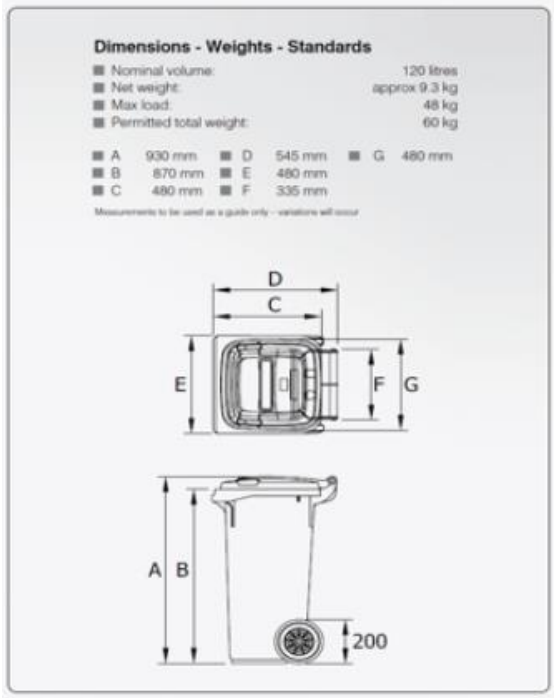
The drawings below show storage and loading areas and movement pathways:



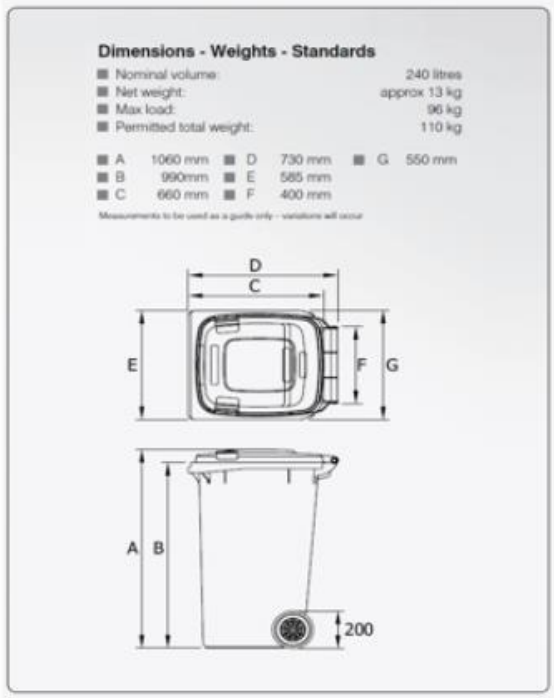


Appendix B: Bin Specifications

120-litre MGB



240-litre MGB



660-litre MGB

1100-litre MGB

Appendix C: Storage Area Design & Signage

The photographs below show examples of good practice in this regard:

The signage examples below are for illustration purposes only. Actual signage should include suitable site-specific branding.