

# Manly Wharf – Waste Management Plan

A Submission to Artemus Group

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## Manly Wharf – Waste Management Plan


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### Disclaimer

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In the spirit of reconciliation MRA Consulting Group acknowledges the Traditional Custodians of country throughout Australia and their connection to land, sea and community. We pay our respects to Aboriginal and Torres Strait Islander peoples and to Elders past, present and emerging.

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## Glossary

| Terminology | Definition   |
|-------------|--|
| AS          | Australian Standard  |
| DA          | Development Application  |
| DC          | Development Consent  |
| DCP         | Development Control Plan   |
| ENM         | Excavated Natural Material   |
| EPA         | Environment Protection Authority   |
| LGA         | Local Government Area  |
| MDCP        | Manly Development Control Plan   |
| MLEP        | Manly Local Environmental Plan   |
| MGB         | Mobile Garbage Bin   |
| MSW         | Municipal Solid Waste (also referred to as domestics or residential waste) |
| WMP         | Waste Management Plan  |
| WSP         | Waste Service Provider   |
| WSRA        | Waste Storage and Recycling Area   |



# 1 Introduction

MRA Consulting Group (MRA) was engaged by Artemus Group to prepare a Waste Management Plan (WMP) related to the proposed development at the existing Manly Wharf in Sydney's Northern Beaches, NSW. The site is situated in the Northern Beaches Council (NBC) Local Government Area (LGA).

This WMP addresses the requirements of the Consent Authority (Council) and conforms to the following reference documents:

- The Manly Local Environmental Plan 2013 (MLEP).
- The Manly Development Control Plan 2013 (MDCP).
- NSW EPA (2019) Better Practice Guidelines for Resource Recovery in Residential Developments.

A Waste and Recycling Management Plan has been prepared in accordance with Section 3.8 of the Manly DCP 2013, and states the following objectives for waste management:

1. To facilitate sustainable waste management in a manner consistent with the principles of Ecologically Sustainable
2. Encourage environmentally protective waste management practices on construction and demolition sites which include:
  - sorting of waste into appropriate receptors (source separation, reuse and recycling) and ensure appropriate storage and collection of waste and to promote quality design of waste facilities;
  - adoption of design standards that complement waste collection and management services offered by Council and private service providers;
  - building designs and demolition and construction management techniques which maximises avoidance, reuse and recycling of building materials and which will minimise disposal of waste to landfill; and
  - appropriately designed waste and recycling receptors are located so as to avoid impact upon surrounding and adjoining neighbours and enclosed in a screened off area.
3. Encourage the ongoing minimisation and management of waste handling in the future use of premises.
4. To ensure waste storage and collection facilities complement waste collection and management services, offered by Council and the private service providers and support on-going control for such standards and services.
5. To minimise risks to health and safety associated with handling and disposal of waste and recycled material, and ensure optimum hygiene.
6. To minimise any adverse environmental impacts associated with the storage and collection of waste.
7. To discourage illegal dumping.

This WMP is used to inform the building design to deliver best practice waste management and promote sustainable outcomes at the demolition, construction and operational phases of the development. The WMP addresses waste generation and storage associated with demolition and construction works through redevelopment, and ongoing occupation of the proposed use.

## 2 Background

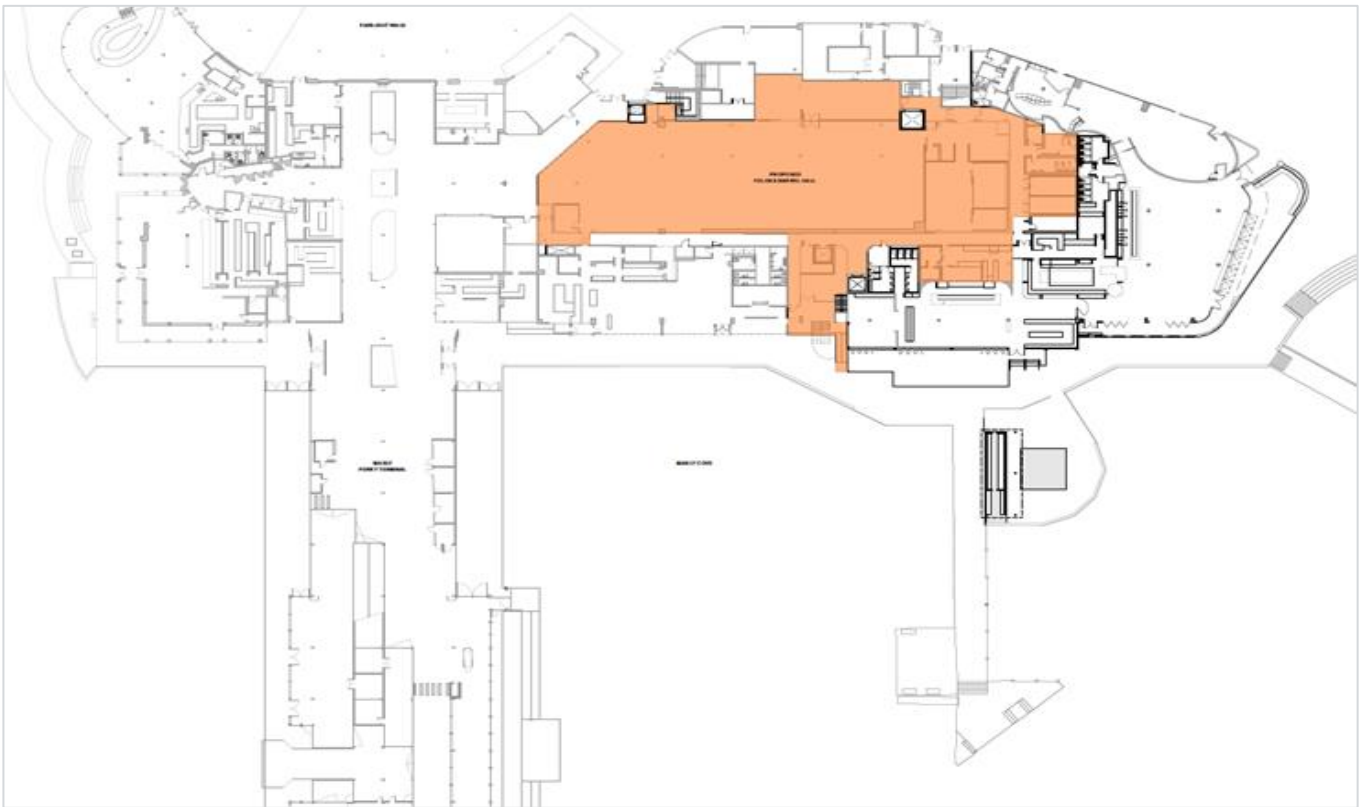
### 2.1 Description of Proposed Development

The proposed development seeks alterations to the existing vacant retail tenancy at Manly Wharf for use as a pub and micro-brewery with ancillary dining and live performance. Key features of the proposed development include:

- change of use of vacant supermarket tenancy to a pub and micro-brewery with ancillary dining and live performance;
- demolition of existing external staircase, office spaces, storage spaces, cool rooms, freezers, supermarket staff toilets and basement public toilets and amenities;
- internal fit-out including two bars, ancillary kitchen, small staff office, new toilets and amenities servicing customers and staff;
- new publicly accessible toilets and amenities servicing the rest of Manly Wharf;
- an internal connection to provide controlled, secondary access for patrons who wish to make their way between the new venue and the existing Manly Wharf Hotel;
- installation of micro-brewing equipment;
- internal fit out works including new wall linings, floor coverings, ceilings and acoustic treatments;
- a new vestibule to provide entry to the premises, with direct connections to the waterside wharf promenade, the basement via both lift and stair, and a
- secondary access link to the existing Manly Wharf Hotel;
- intermittent and occasional weekend markets inside the new venue, four Saturdays a year during daytime trading hours ;
- hours of operation consistent with the Manly Wharf Hotel:
  - 7am to midnight, Monday to Wednesday and Sunday; and
  - 7am to 1am, Thursday to Saturday.

A separate liquor license application will seek an extension of the existing Manly Wharf Hotel license to provide for the service of alcohol within the new premises. (see Figure 1).

**Figure 1: Proposed development in relation to surrounding area**



Source: ACME, 2024.

## 2.2 Site Context

Manly Wharf features a variety of food and dining venues ranging from cafes, takeaway and casual dining options. Licensed establishments with late night trading hours include the Manly Wharf Hotel, Hugos, The Bavarian and El Camino Cantina.

Manly Wharf is located at the junction of East and West Esplanade, and The Corso leading to Manly Beach (Figure 2). Food and dining establishments line The Corso and the northern side of East Esplanade and extend along North and South Steyne facing Manly Beach. There are a variety of licensed premises with entertainment and late-night trading hours that contribute to Manly’s vibrant night time economy. These include 4 Pines Brewpub, Ivanhoe Hotel, New Brighton Hotel and the Hotel Steyne.



Figure 2: Manly Wharf and surrounds



Source: SIXmaps, 2024.

### 2.3 Assumptions

This report is a Waste Management Plan (WMP), forming part of the development documentation and assumes:

- Drawings and information that have been used in waste management planning for this WMP are the final reference/indicative development plan from the project architect, ACME Architects, dated 11/07/2024.
- Existing waste generation data from the site and NSW EPA's *Better Practice Guide for Resource Recovery in Residential Developments* (2019) were considered to estimate waste generation rates and services available for new developments which have been considered in the preparation of this report; and
- This WMP is a living document and therefore, waste management equipment and systems described in this report are subject to change based on future operations and available technology.

## 3 Demolition and Construction Waste

Demolition and construction activities at the site will generate a range of construction and demolition (C&D) wastes. Throughout the development process, all materials will be reused and recycled where possible, minimising the disposal (landfilling) of materials other than those that are contaminated or unsuitable for reuse or recycling processes.

Waste storage during construction operations will involve some stockpiling and separation of reusable material, as well as placement of skip bins for the separation of construction materials for recycling. A skip bin for residual waste or contaminated material will also be made available at the site for disposal where necessary. Skip bins may require alternative placement across construction operations to facilitate the safe and efficient storage of materials and will be retained within property boundaries to avoid illegal dumping.

A waste storage area shall be designated by the demolition and construction contractor and shall be sufficient to store the various waste streams expected during operations. Waste storage areas will be kept clear to maintain vehicular access and shall also be kept tidy to encourage separation of waste materials and for WHS reasons. A potential location for skip bins and material stockpiles has been identified in Appendix B.

Waste management principles, management measures and facilities in use on the site shall be included as part of the site induction for all personnel working on the site.

### 3.1 Demolition

This section details the demolition waste materials expected for the proposed development, including their quantities and management options, and was designed with consideration of the requirements in the MDCP 2013. The information below presents options for materials reuse, recycling and disposal where applicable. All materials are intended to be sent to a suitable, licensed landfill or resource recovery facility.

Table 1 below describes the expected demolition material quantities and appropriate management methods for the proposed development, related to internal and external alterations and additions to the facility. This will require the removal of walls, partitions, joinery, flooring, roofing and other fixtures.

**Table 1: Demolition waste**

| Type of waste generated          | Quantity                 | Reuse | Recycling | Disposal | Methods for reuse, recycling and disposal  |
|----------------------------------|--------------------------|-------|-----------|----------|--|
| Concrete                         | 150 - 250 m <sup>3</sup> | ✓     | ✓         | -        | On site: to be separated wherever possible to enhance resource recovery.<br>C&D processor: crushing and recycling for recovered products (aggregates).   |
| Bricks/pavers                    | 150 - 250m <sup>3</sup>  | ✓     | ✓         | -        | On site: cleaned and separated wherever possible for reuse or to enhance resource recovery.<br>C&D processor: recovery for reuse where possible, crushing and recycling for recovered aggregate products.  |
| Tiles                            | <10m <sup>3</sup>        | ✓     | ✓         | -        | On site: cleaned and separated wherever possible for reuse or to enhance resource recovery.<br>C&D processor: recovery for reuse where possible, crushing  |
| Timber (engineered/ treated)     | 50 - 100m <sup>3</sup>   | -     | ✓         | -        | On site: to be separated wherever possible to enhance resource recovery.<br>Reuse: surplus and offcut material returned to manufacturer for reuse.<br>C&D processor: recovery and recycling for recovered product (e.g. mulch) or organics processing. |
| Metals (ferrous and non-ferrous) | 10 - 20                  | -     | ✓         | -        | Onsite: to be separated wherever possible to enhance resource recovery.<br>C&D processor: metals recovery and recycling.   |
| Plasterboard                     | 50 - 100m <sup>3</sup>   | ✓     | ✓         | -        | On site: to be separated wherever possible to enhance resource recovery.<br>Reuse: surplus and offcut material returned to manufacturer for reuse.   |

| Type of waste generated  | Quantity              | Reuse | Recycling | Disposal | Methods for reuse, recycling and disposal  |
|--|-----------------------|-------|-----------|----------|--|
| Glass  | <10                   | ✓     | ✓         | -        | On site: to be separated wherever possible to enhance resource recovery.<br>Reuse: surplus and offcut material returned to manufacturer for reuse where possible.<br>Glass recycler: recovery and recycling. |
| Fixtures and fittings  | Minor                 | ✓     | ✓         | -        | On site: reuse wherever possible or return to manufacturer.<br>Reuse: surplus and offcut material returned to manufacturer for reuse where possible.<br>C&D processor: recovery and recycling.               |
| Floor coverings  | 20 - 40               | ✓     | ✓         | -        | On site: to be separated wherever possible to enhance resource recovery.<br>Reuse: surplus and offcut material returned to manufacturer for reuse where possible.<br>C&D processor: recovery and recycling.  |
| Residual waste (general refuse)                                | 25 - 50m <sup>3</sup> | -     | -         | ✓        | Separate recyclables where possible and disposal at principal licensed waste facility.   |
| Hazardous/ special waste (e.g. spills and contaminated wastes) | Unknown               | -     | -         | ✓        | Management by a licensed asbestos and site hygienist should hazardous or special waste be found at the site.   |

### 3.2 Construction

The proposal features the refurbishment of the existing facility, including:

- change of use of vacant supermarket tenancy to a pub and micro-brewery with ancillary dining and live performance;
- demolition of existing external staircase, office spaces, storage spaces, cool rooms, freezers, supermarket staff toilets and basement public toilets and amenities;
- internal fit-out including two bars, ancillary kitchen, small staff office, new toilets and amenities servicing customers and staff;
- new publicly accessible toilets and amenities servicing the rest of Manly Wharf;
- an internal connection to provide controlled, secondary access for patrons who wish to make their way between the new venue and the existing Manly Wharf Hotel;
- installation of micro-brewing equipment;
- internal fit out works including new wall linings, floor coverings, ceilings and acoustic treatments;
- a new vestibule to provide entry to the premises, with direct connections to the waterside wharf promenade, the basement via both lift and stair, and a
- secondary access link to the existing Manly Wharf Hotel;
- intermittent and occasional weekend markets inside the new venue, four Saturdays a year during daytime trading hours ;
- hours of operation consistent with the Manly Wharf Hotel:
  - 7am to midnight, Monday to Wednesday and Sunday; and
  - 7am to 1am, Thursday to Saturday.

Table 2 outlines indicative volume to weight conversion factors for common construction materials.

**Table 2: Building waste material by percentage and conversion factor for volume and weight**

| Building waste material | Tones per m <sup>3</sup> | Waste as % of the total material ordered |
|-------------------------|--------------------------|--|
| Soil/aggregate          | 1.4 – 1.6                | –  |
| Bricks                  | 1.2                      | 5–10%                                    |
| Concrete                | 1.5                      | 3–5%                                     |
| Tiles/ceramics          | 0.5 – 1                  | 2–5%                                     |
| Timber                  | 0.3                      | 5–7%                                     |
| Plasterboard            | 0.2                      | 5–20%                                    |
| Metals                  | 0.15 – 0.9               | –  |

Source: Green Building Code of Australia C&D Waste Criteria.

Table 3 outlines the expected construction waste quantities for materials through construction of the proposed new development in addition to the appropriate management methods for each material type.

The information below presents multiple options for materials reuse, recycling and disposal where applicable (e.g. return to manufacturer, recycled at construction and demolition (C&D) processor, or disposed to landfill if contaminated).





**Table 3: Construction waste material by volume**

| Type of waste generated          | Quantity            | Reuse | Recycling | Disposal | Methods for reuse, recycling and disposal  |
|----------------------------------|---------------------|-------|-----------|----------|--|
| Concrete                         | 20-40m <sup>3</sup> | ✓     | ✓         | -        | On site: to be separated wherever possible to enhance resource recovery.<br>C&D processor: crushing and recycling for recovered products (aggregates).   |
| Bricks/pavers                    | <5m <sup>3</sup>    | ✓     | ✓         | -        | On site: cleaned and separated wherever possible for reuse or to enhance resource recovery.<br>C&D processor: recovery for reuse where possible, crushing and recycling for recovered aggregate products.  |
| Tiles (Interior)                 | <2m <sup>3</sup>    | ✓     | ✓         | -        | On site: cleaned and separated wherever possible for reuse or to enhance resource recovery.<br>C&D processor: recovery for reuse where possible, crushing and recycling for recovered aggregate products.  |
| Timber (engineered/ treated)     | <5m <sup>3</sup>    | -     | ✓         | -        | On site: to be separated wherever possible to enhance resource recovery.<br>Reuse: surplus and offcut material returned to manufacturer for reuse.<br>C&D processor: recovery and recycling for recovered product (e.g. mulch) or organics processing. |
| Metals (ferrous and non-ferrous) | <2m <sup>3</sup>    | -     | ✓         | -        | Onsite: to be separated wherever possible to enhance resource recovery.<br>C&D processor: metals recovery and recycling.   |
| Plasterboard                     | <5m <sup>3</sup>    | ✓     | ✓         | -        | On site: to be separated wherever possible to enhance resource recovery.<br>Reuse: surplus and offcut material returned to manufacturer for reuse.   |
| Glass                            | <5m <sup>3</sup>    | ✓     | ✓         | -        | On site: to be separated wherever possible to enhance resource recovery.<br>Reuse: surplus and offcut material returned to manufacturer for reuse where possible.<br>Glass recycler: recovery and recycling.   |

| Type of waste generated  | Quantity         | Reuse | Recycling | Disposal | Methods for reuse, recycling and disposal   |
|--|------------------|-------|-----------|----------|---|
| Fixtures and fittings  | <2m <sup>3</sup> | ✓     | ✓         | -        | On site: reuse wherever possible or return to manufacturer.<br>Reuse: surplus and offcut material returned to manufacturer for reuse where possible.<br>C&D processor: recovery and recycling.              |
| Floor coverings  | <2m <sup>3</sup> | ✓     | ✓         | -        | On site: to be separated wherever possible to enhance resource recovery.<br>Reuse: surplus and offcut material returned to manufacturer for reuse where possible.<br>C&D processor: recovery and recycling. |
| Containers (cans, plastic, glass)                              | Minor            | -     | ✓         | -        | Commercial contractor: recycling.   |
| Packaging materials  | <1m <sup>3</sup> | -     | ✓         | -        | Commercial contractor: segregation of paper, cardboard or other streams.  |
| Residual waste (general refuse)                                | <5m <sup>3</sup> | -     | -         | ✓        | Separate recyclables where possible and disposal at principal licensed waste facility.  |
| Hazardous/ special waste (e.g. spills and contaminated wastes) | Unknown          | -     | -         | ✓        | Management by a licensed asbestos and site hygienist should hazardous or special waste be found at the site.  |

### 3.3 Waste Contractors and Facilities

To ensure best practice waste management, appropriate contractors and facilities have been proposed based on their location and service offerings (Table 4).

**Table 4: Waste service contractors and facilities**

| Role                                    | Details   |
|---|---|
| Recommended Waste Collection Contractor | <p>The following are local skip bin operators for consideration in the management of excavation and construction waste for the site:</p> <ul style="list-style-type: none"> <li>• Brown Bros Skip Bins;</li> <li>• Northern Beaches Skip Bins;</li> <li>• Any Rubbish;</li> <li>• Mobile Skips Balgowlah ; and</li> <li>• Green Corp Skips Bins.</li> </ul> <p>Or another supplier as elected by the building contractor.</p> |
| Principal Off-Site Recycler             | <p>The following are local C&amp;D processing facilities for consideration in the management of C&amp;D waste generated at the site:</p> <ul style="list-style-type: none"> <li>• Cleanaway Belrose Resource Recovery Centre.</li> <li>• Benedict Recycling Belrose.</li> <li>• Kimbriki Resource Recovery Centre.</li> </ul> <p>Or another appropriate facility as elected by the waste management contractor.</p>           |
| Principal Licensed Landfill Site        | <ul style="list-style-type: none"> <li>• Greenwood Landfill &amp; Waste Resource Recovery Centre.</li> <li>• Kimbriki Resource Recovery Centre.</li> </ul> <p>Or other appropriate facility as elected by the waste management contractor.</p>  |

### 3.4 Site Documentation

This WMP will be retained on-site during the excavation and construction phases of the development, along with other waste management documentation (e.g. contracts with waste service providers).

Responsibility for the WMP, waste documentation and processes during the excavation and construction phases will be with the site manager or builder.

A logbook that records waste management and collection will be maintained on site, with entries including:

- Time and date of collections;
- Description of waste and quantity;
- Waste/processing facility that will receive the waste; and
- Vehicle registration and company name.

Waste management documentation, the logbook and associated dockets and receipts must be made available for inspection by an authorised Council Officer at any time during site works.

## 4 Use & Ongoing Waste Management

Waste management strategies related to site operations have been established according to MDCP 2013. Current waste infrastructure and site management is mostly sufficient to accommodate expected waste generation rates.

Ongoing waste management requirements arise from the daily activities of retail, food and beverage, brewery, event and bar components of the proposed development. The ongoing waste generation addressed in the following sections relates to waste generation associated with each of these uses across the site.

Waste generation for the operational phase of the development will be addressed in applying waste generation rates outlined in Section 4.2.

Waste storage and recycling areas were determined with reference to waste generation rates and have been addressed in Section 4.3.

Site waste management responsibilities have been outlined in Section 5.4.

The following space calculations are based off the bin dimensions sourced from NSW EPA's *Better Practice Guide for Resource Recovery in Residential Developments* (2019) (Table 5).

**Table 5: MGB capacity and footprint**

| Bin Capacity (L) | Height (mm) | Depth (mm) | Width (mm) | Footprint (Approx. m <sup>2</sup> ) |
|------------------|-------------|------------|------------|-------------------------------------|
| 120              | 1,080       | 540        | 500        | 0.33                                |
| 240              | 1,100       | 735        | 580        | 0.43                                |
| 660              | 1,250       | 850        | 1,370      | 1.16                                |
| 1,100            | 1,470       | 1,245      | 1,370      | 1.71                                |

Source: NSW EPA's *Better Practice Guide for Resource Recovery in Residential Developments* (2019)

### 4.1 Existing Waste Management Strategy

Bingo is the existing waste service provider for the Manly Wharf precinct. The proposed site is formerly an ALDI supermarket. The existing waste management strategy for the Manly Wharf Hotel has been considered to extrapolate waste generation for the proposed development. Existing waste management practices are as follows:

- General waste - 10 x 87L bin Monday-Thursday and 30 x 87L bin Friday-Sunday,
- Commingled waste – 5 x 87L bin Monday-Thursday and 25 x 87L bin Friday-Sunday,
- Carboard – 5 x 87L bin weekly collection.
- Ad hoc services including two single 240L secure document bin and a 1m x 4m Maintenance Skip is collected as required.
- Cooking Oil and Grease Traps are present onsite and are collected as required by private waste contractors.

Based on the waste data above, the weekly waste volumes for Manly Wharf Hotel are assumed to be approximately as follows:

- 5,655L of General Waste is being generated weekly.
- 435L of Cardboard waste is being generated weekly.
- 8,265L of Commingled waste is being generated weekly.
- \*5,655L of Food waste is being generated weekly.

*\*Note: It is expected that commercial tenancies will produce substantial amounts of food waste. Food waste generation rates are taken as a 50% proportion of existing General Waste rates.*

## 4.2 Site Waste Generation

The existing rates from the Manly Wharf Hotel have been applied to the proposed pub, kitchen and brewery floor space to predict future site waste generation. Whilst there are changes to site uses, the overall existing floor space will not change in size. Table 6 depicts the estimated proposed floor space for each use type and their corresponding waste generation rates.

**Table 6: Proposed floor space increase per use type:**

| Use type                                | Proposed floor space (m <sup>2</sup> ) | Proposed waste generation rates            | Outputs (L/week) |
|---|--|--|------------------|
| <b>Bar, dining, kitchen and brewery</b> | 989                                    | 4.7L General Waste/m <sup>2</sup> /Week    | 4,648            |
|   |  | 0.36L Cardboard waste/m <sup>2</sup> /Week | 356              |
|   |  | 6.9L Commingled waste/m <sup>2</sup> /Week | 6,824            |
|   |  | 4.7L Food waste/m <sup>2</sup> /Week       | 4,648            |

The proposed site involves 989 m<sup>2</sup> of additional floor space consisting of bar, dining, kitchen and brewery uses. Existing weekly waste and recycling rates have been divided by the Manly Wharf Hotel floor space (1,200m<sup>2</sup>) to provide an existing waste/m<sup>2</sup>/week rate for each stream. This rate has been multiplied by the proposed floor space to provide predicted weekly waste outputs of the proposed development.

All areas are expected to operate 7 days per week. Once the site is operational the estimated weekly waste volumes are 4,648L of general waste and 11,828L of recycling streams.

### 4.3 Waste Storage Requirements

Based on waste volumes calculated in Section 4.2 and bin footprints provided in Table 5, the following table outlines bin infrastructure and collection rates for various bin sizes (Table 7).

A food organics stream has been identified to increase source separation practices and promote best practice waste diversion from landfill initiatives. Food organics waste streams have been calculated as proportions of the weekly general waste volume estimates. Due to an increase in food waste being generated by commercial uses at the site, assumptions of 50% of general waste has been attributed to food waste. Table 7 depicts the approximate space needed to incorporate this waste stream for the proposed development.

The current compactor configurations and collection frequencies for general waste and cardboard waste can accommodate the expected waste generation from the proposed development, thus they can be maintained. Management will need to adopt similar practices to Manly Wharf Hotel in using 240L MGBs that can be transferred to the compactor multiple times throughout the day dependant on waste outputs. 240L MGBs will need to be stored in a designated back of house storage area (Appendix A) as a temporary holding bay.

Recommended collection frequencies for commingled and food waste are outlined in Table 7.

**Table 7: Bin configuration and collection schedule**

| Waste Stream  | Weekly Generation (L) | Bin infrastructure | Collection frequency   | Footprint         | Total Area Required* |
|---------------|-----------------------|--------------------|--|-------------------|----------------------|
| Commingled    | 6,824                 | 6 x 240L bins      | 5 times per week   | 2.5m <sup>2</sup> | 8.25m <sup>2</sup>   |
| Food Waste    | 4,648                 | 7 x 240L bins      | 3 times per week   | 3m <sup>2</sup>   |                      |
| General Waste | 4,648                 | Existing compactor | 2 times per week.<br>(Increased to 3 times a week over December & January trade period.) | See site plans    | N/A                  |
| Cardboard     | 356                   | Existing compactor | Fortnightly<br>(Increased to weekly over December & January trade period.)               | See site plans    | N/A                  |

\*Storage space requirement considers additional space of approximately (m<sup>2</sup> x 1.5) for manoeuvring of bins.

\*\* Cardboard and General Waste streams will be transferred via 240L MGBs from the proposed development to existing compactors that service the entire precinct. Considering the compactors are pre-existing, no additional floor space for extra bins is required for Cardboard and General Waste streams from the proposed development.

The proposed storage room is sufficient in accommodating the required 8.25m<sup>2</sup> for the incorporation of food organic waste streams and additional commingled bins.

Bin storage areas are appropriately screened to ensure they do not pose an amenity or odour risk to the public. Bin storage areas are indicated at Appendix A.



## 5 Waste Management Systems

### 5.1 Waste Management System Summary

The following specific management methods are proposed for the various collection waste streams expected to be generated at the site, including alternative waste streams outside of general waste, recycling and organics:

- **General Waste Compactor:** General waste can be either loose or placed within a tied plastic bag in 240L MGBs provided by management prior to transferring to the compactor.
- **Commingled Recycling:** All recyclables will be stored in commingled bins (mixed plastic, paper glass, aluminium, steel). All recyclables should be decanted loose (not bagged) with containers un-capped, drained and rinsed prior to disposal into the recycling bin. Paper should be flattened and placed in paper and cardboard bin if applicable.
- **Carboard Compactor:** All carboard shall be transferred using 240L MGBs provided by management and placed in the designated cardboard compactor.
- **Food Waste:** Commercial food organics waste generation from the development can be collected and treated on-site at small scale should management decide to do so. Organics treatment can be used to produce conditioners, compost or vermiculture castings for application on or off-site. Equipment options include different size and capacity composters, dehydrators, worm farms and macerators. For organics treated to acceptable standards, discharge of effluent or any output to sewer as commercial trade wastewater may be permitted.

Alternatively, management can make arrangements for the separate collection of its organics by its waste management contractor. Food waste can be stored in 240L sealed bins or refrigerated waste storage prior to collection.

- **Food Donation:** Management may like to explore the potential for donation of excess consumable food to charities such as OzHarvest or FoodBank NSW.
- **Film Plastic:** The centre may consider having separate collection points for separated plastic film for example, at the supermarket entrance for use by patrons. 1m<sup>3</sup> bag and frame setups are considered appropriate for film plastic.
- **Secure Documents:** Separate bins for secure document waste may be retained in office spaces, to be serviced by a specialist secure document destruction contractor.
- **Glass Bottles:** a Commingled bin will be used for CDS collection of glass bottles. Site management is responsible for the collection of CDS waste and will be required to monitor commingled waste to ensure there is sufficient space for both waste streams.
- **Other (Problem) Waste:** The disposal of hard, bulky, electronic, liquid or potentially hazardous wastes shall be organised between the operator and site users as necessary. Grease traps are provided for food tenancies cooking oil and its collection will be coordinated between the operator, site users and the contracted WSP. Grease trap servicing will be scheduled monthly or as required.

### 5.2 Waste Loading and Collection

Based on the anticipated waste generation rates for the site, the existing private waste contractor will be required to collect waste generated at the site. The business manager is responsible for holding a valid waste management contract with a commercial waste service provider.

The waste collection contractor will service the bins onsite. Bins will be stored in the waste management area in the basement carpark loading dock area adjacent to the driveway ramp leading to the East Esplanade. The collection vehicle will be required to service bins directly from this area.

**Table 8: Collection points and loading areas requirements and specifications**

| Component                             | Requirement  | Specification   |
|---------------------------------------|--|---|
| Collection point                      | Allow safe waste collection and loading operations   | <ul style="list-style-type: none"> <li>- Adequate clearance and manoeuvring space;</li> <li>- Sufficient clearance for the safe handling of materials and equipment; and</li> <li>- Sectioned loading bay does not impede upon traffic and pedestrian safety.</li> </ul>  |
| Vehicle manoeuvring and loading space | Truck space for adequate lift clearance, manoeuvring and operation for a contractor collection vehicle | <ul style="list-style-type: none"> <li>- Collection from each site use loading area by a rear or front lift collection vehicle;</li> <li>- Adequate loading bay dimensions to not impede lift clearance;</li> <li>- Operational clearance for truck manoeuvring in a forward direction; and</li> <li>- The provision of space clear of vehicle parking spaces.</li> </ul> |
| Operating times                       | Appropriate collection times to limit noise and traffic disturbance                                    | <ul style="list-style-type: none"> <li>- Collection times will be arranged during off-peak times to ensure minimal disturbance to pedestrians and visitors.</li> </ul>  |

### 5.3 Waste Management and Recycling Method

The flow of general waste and recycling goes from generation to collection through several steps:

1. Waste is temporarily stored at its point of generation in an appropriately sized receptacle, clearly marked for type of waste;
2. Site or cleaning staff collect and consolidate waste at each point of generation using 240L MGBs;
3. Consolidated waste is transferred to the respective waste storage room for appropriate disposal into the respective bin.
4. Site management are responsible for maintenance of bins and the waste storage rooms, ensuring bins are clean and in working order. Site management are also responsible for switching out full bins and monitoring bin fullness;
5. Waste collection with a private waste contractor is managed by site management, who also ensure appropriate collection scheduling and access is organised to minimise noise, odour, vermin, and visual amenity impacts to staff, visitors and the public.

### 5.4 Management System and Responsibilities

The site manager will be responsible for the management of waste at the site. Should there be any issues that impact on the operational efficiency, safety and suitability of waste management, management will be responsible for making any necessary changes, responsibilities include:

- Using this WMP to inform waste management operations, design and infrastructure;
- Providing educational materials and information on sorting methods for recycled waste, awareness of waste management procedures for waste minimisation and resource recovery;
- Maintaining a valid and current contract with a licensed waste service provider for waste and recycling collection and disposal;
- Making information available to residents and visitors about waste management procedures.
- Organising, maintaining and cleaning bins as part of a regular maintenance schedule;
- Manoeuvring bins to specified onsite collection point prior to and following scheduled collection of waste bins;
- Organising bulky waste collections as required;

- Ensuring bin allocation and waste/recycling collection frequency is adequate. Requesting additional infrastructure or services where necessary; and
- Monitoring any vermin and pest issues and arranging appropriate controls (traps or fumigating) and maintenance of doors or other points of potential entry.

## 5.5 Signage and Education

Signage that promotes resource recovery, waste minimisation, safety and amenity follows the Australian Standard for safety signs for the occupational environment (Standards Australia, 1994).

Signage will be designed to consider language and non-English speaking backgrounds, vision impairment and accessibility. Illustrative graphics must form a minimum 50% of the area of the signage. Signage is to be prominently posted in the waste room indicating:

- Details regarding acceptable recyclables;
- Recyclables are to be decanted loose (not bagged);
- No standing and danger warnings apply to the area surrounding the waste storage area;
- Contact details for arranging the disposal of bulky items; and
- The area is to be kept tidy.

Standard signage requirements and guidance for application apply (see Appendix C).

## 5.6 Prevention of Pollution, Illegal Dumping and Litter Reduction

To minimise dispersion of litter and prevent pollution (to water and land via contamination of runoff, dust and hazardous materials), building management and the site cleaning staff will also be responsible for:

- Maintenance of communal areas and bin storage areas;
- Ensuring waste room is well maintained and kept clean;
- Securing the waste storage areas from vandalism and the escape of litter;
- Identification and appropriate disposal of goods with hazardous material content (paints, e-waste, fluorescent tubes);
- Taking action to prevent dumping and unauthorised use of waste areas; and
- Requiring contractors to clean up any spillage that may occur during waste servicing or other work.

## 6 References

Australian Standards 4123.7 Mobile Waste Containers.

Australian Department of Sustainability, Environment Water, Population and Communities (2011) Construction and Demolition Waste Guide - Recycling and Re-use Across the Supply Chain.

Department of Planning, Industry and Environment (2021) NSW Waste and Sustainable Materials Strategy 2041

Department of Environment and Energy (2018) National Waste Policy: Less Waste, More resources

Manly Development Control Plan (2013)

Manly Local Environmental Plan (2013)

NSW EPA (2012) Better Practice Guidelines for Waste Management and Recycling in Commercial and Industrial Facilities, Australian Standards and Statutory Requirements.

NSW EPA (2016) Recycling Signs, Posters and Symbols. Available at:  
<http://www.epa.nsw.gov.au/wastetools/signs-posters-symbols.htm>.

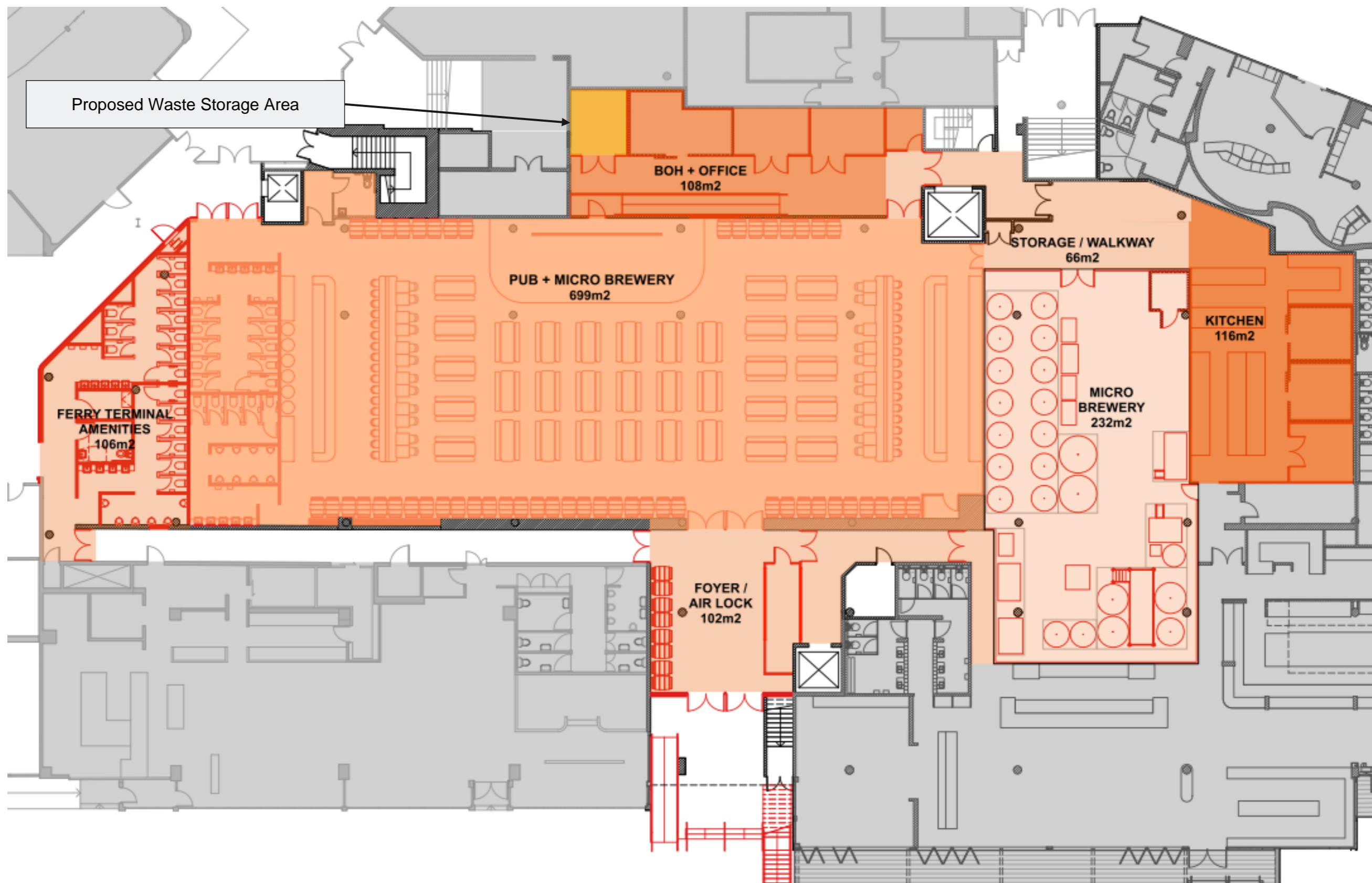
NSW EPA (2019) NSW Better Practice Guide for Resource Recovery in Residential Developments

Standards Australia (1994) AS 1319: Safety signs for the occupational environment, Homebush, NSW: Standards Australia.

Standards Australia (2008) AS 4123 Mobile waste containers.

WorkCover (2011) Managing Work Environment Facilities Code of Practice

## Appendix A Waste Storage Area

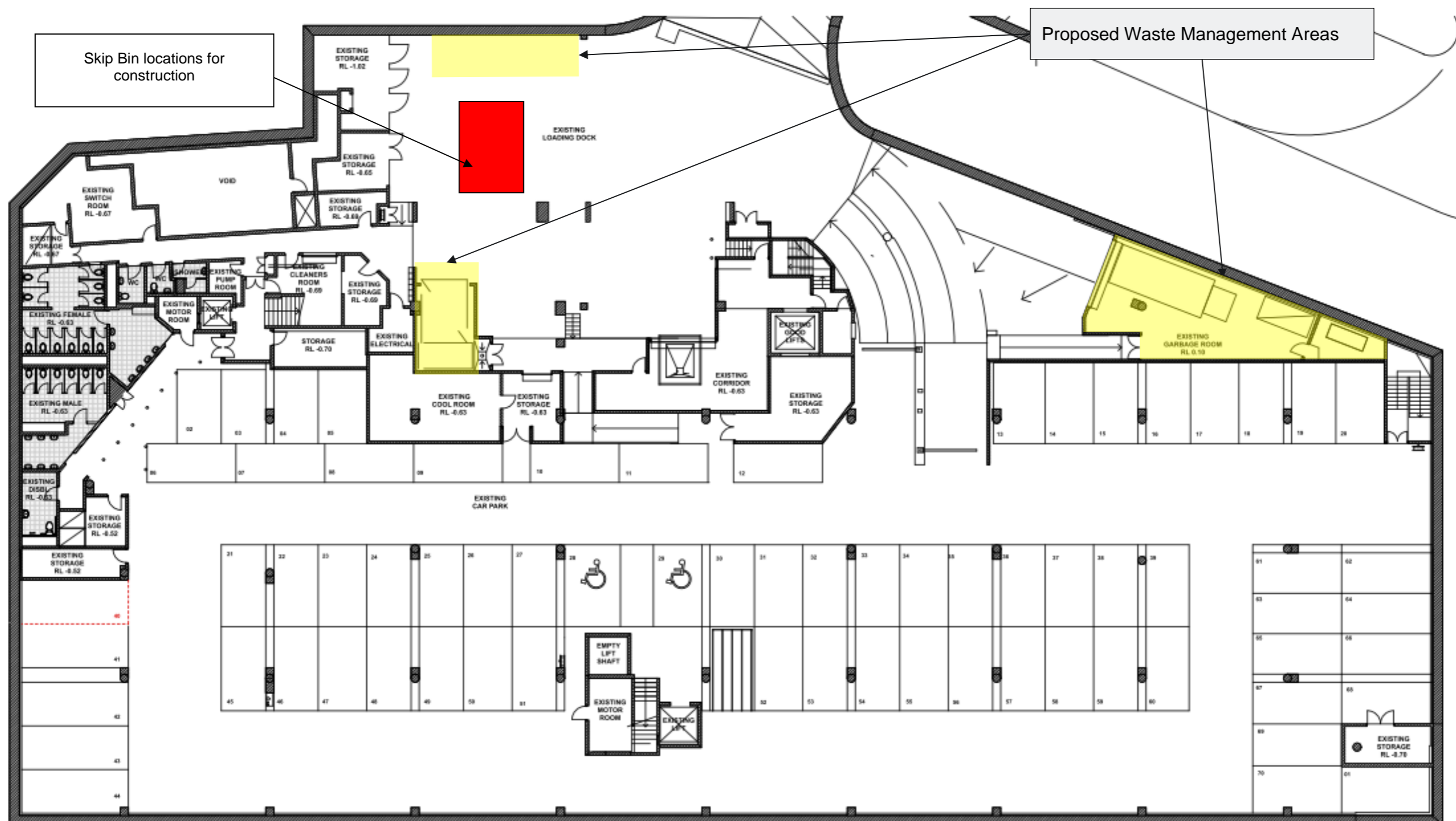


Source: ACME Architects, 2024



# Appendix B Site Plans

Figure 3: Proposed Ground Floor Plan



Source: ACME Architects, 2024



## Appendix C Standard Signage

### Waste Signage

Signs for garbage, recycling and organics bins should comply with the standard signs promoted by the NSW Office of Environment and Heritage (NSW OEH, 2008b).

Standard symbols for use in signage, bin facade and educational materials are promoted through the NSW Environment Protection Authority. They are available for download from the NSW EPA website (NSW EPA 2016), in black and white and colour versions. The Australian Standard series AS 4123 (Part 7) details colours for mobile waste containers (Standards Australia, 2008).



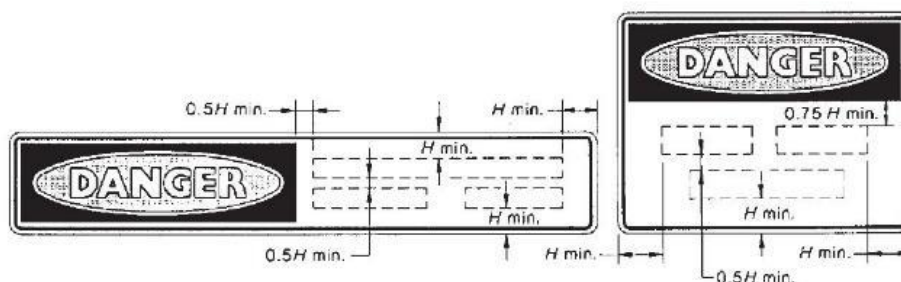
### Safety Signs

The design and use of safety signs for waste and recycling areas and enclosures should comply with AS 1319 (Standards Australia 1994). Safety signs should be used to regulate, and control safety related to behaviour, warn of hazards and provide emergency information, including fire protection information. Below are some examples. Clear and easy to read 'NO STANDING' and 'DANGER' warning signs must be fixed to the external face of each waste and recycling area where appropriate.



(d) Horizontal

FIGURE D5 TYPICAL ARRANGEMENTS OF DANGER SIGNS



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