PROPOSED MIXED USE DEVELOPMENT

2-6 GIRAWAH PLACE, MATRAVILLE

WASTE MANAGEMENT PLAN

PROPOSED MIXED USE DEVELOPMENT, 2-6 GIRAWAH PLACE, MATRAVILLE
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EXECUTIVE SUMMARY

SALT has been engaged by Spirecorp Pty Ltd to prepare a Waste Management Plan (WMP) for a proposed mixed use development located at 2-6 Girawah Place, Matraville.

SALT understands that the proposal involves the development of mixed use spaces, consisting of food and drink premises, café, hi-tech industrial units, aquatic and indoor recreation centre, gym spaces and a childcare centre.

Waste would be stored on-site in the two bin rooms located at basement level 2.

Waste would be collected by private contractor, with:

- 11 x 1,100L garbage bins collected twice per week;
- 6 x 1,100L commingled recycling bins collected twice per week;
- 3 x 120L dehydrated organic bins collected once per week and 1 x 240L raw organic bin collected four times per week or 15 x 240L raw organic bins collected four times per week;
- 7 x 140L glass bins collected twice per week; and
- 5 x 1,100L paper and cardboard bins collected twice per week.

Waste vehicles would prop safely within the loading area adjacent to each bin room. Vehicle operators would ferry waste bins from the waste store to the collection vehicle and return upon emptying.

In the opinion of SALT, the enclosed Waste Management Plan would provide efficient waste management for the proposed development. This report must be read in detail prior to implementation of the waste management strategy.

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1 INTRODUCTION

SALT has been requested by Spirecorp Pty Ltd to prepare a Waste Management Plan for a proposed mixed use development located at 2–6 Girawah Place, Matraville.

This Waste Management Plan (WMP) has been prepared based on industry best practice and the Randwick City Council *Waste Management Guideline for Proposed Developments*,

Waste generation rates have been adopted based on commercial waste generation rates contained in the Randwick City Council *Waste Management Guideline for Proposed Developments and EPA NSW Better Practice Guide for Resource Recovery in Residential Developments*.

Construction waste generation rates have also been adopted from *The Hills Shire Council Development Control Plan* Appendix A (2012) in the absence of published rates in the Randwick City Council guidelines.

In the circumstance that the development plans are amended or new legal requirements are introduced, a revision of the enclosed WMP may be required by the Responsible Authority. The developer would be responsible in engaging with a waste consultant or engineer to prepare the updated report accordingly.

2 INCLUDED IN THIS REPORT

Enclosed is the Waste Management Plan for the proposed development at 2–6 Girawah Place, Matraville. Included are details regarding:

- Land use;
- Waste generation;
- Waste systems;
- Bin quantity, size and colour;
- Collection frequency;
- Bin storage area;
- Signage;
- Waste collection;
- Responsibilities;
- Ventilation, washing and vermin-prevention;
- Noise reduction;
- DDA compliance;
- Supplier contact information; and
- Scaled waste management drawings.

3 LAND USE

Planning application number: to be allocated

Land Zone: General Industrial IN1 and Private Recreation Zone RE2

Land use type: Industrial

Number of levels: 6 (with 3 additional basement levels)

Mixed Use Spaces:

- 560.9m^2 food and drink premises;
- 234.4m^2 café restaurant;
- 4,880.6m^2 hi-tech industrial units;
- 335.7m^2 indoor recreation area;
- 770.7m^2 gym areas;
- 896.1m^2 pool area; and
- 455.8m^2 of indoor childcare spaces with a 79-children capacity.

4 DEMOLITION WASTE MANAGEMENT PLAN

As the site is vacant, no demolition waste management plan has been prepared for this site.

5 CONSTRUCTION WASTE MANAGEMENT PLAN

5.1 CONSTRUCTION WASTE GENERATION

Construction waste generation rates have been adopted from *The Hills Shire Council Development Control Plan* Appendix A (2012) due to the lack of rates in Randwick City Council waste management guidelines and other relevant documentation.

The construction waste generation rates for blocks of flats (per 1000m^2) have been adopted as these are found to be the most suitable rates for the proposed use of the subject site. These generation rates are shown in Table 1.

Table 1 Estimate Waste Generation Rates for Construction Materials

Building Material	Waste Quantity (tonnes per 1000m^2)
Timber	0.70
Concrete	6.70
Bricks	3.20
Gyprock	1.30
Sand/Soil	28.70
Metal	1.30
Other	0.60

The estimated construction waste volumes for each material have been calculated based on the total gross floor area of the proposed development of 11,340.4m^2. The estimated volumes and management strategies for construction waste are presented in Table 2.

Table 2 Estimated Construction Waste Generation Volumes and Management Options

Type of Waste Generated	Most to Least Favorable			Specify method of onsite reuse, contractor and recycling outlet and /or waste depot to be used
	Reuse Estimate Volume Weight (t)	Recycle Estimate Volume Weight (t)	Disposal Estimate Volume Weight (t)	
Timber	-	7.94	-	Delivered to the off-site recycler listed below. Chip remainder may be used in landscaping.
Concrete	-	75.98	-	To be used as hardstand during construction, then as base under pavements. Any unused concrete would be returned to batch plant for re-use.
Bricks	-	36.29	-	Clean and reuse lime mortar bricks for footings. Delivered to the off-site recycler listed below. Noted: it should not be mixed with other materials from construction and demolition waste and reinforced concrete.
Gyprock	-	-	14.74	Disposed of in a designated general waste skip.

				Should asbestos be present, the waste must be removed and disposed of in accordance with the requirements of Work Cover.
Sand/Soil	-	325.47	-	Delivered to the off-site recycler listed below.
Metal	-	14.74	-	Clean metal (i.e. without presence of other materials) will be delivered to the off-site recycler listed below. Any contaminated metal should be separated to be landfilled.
General waste (including residual waste and dust)	-	TBA	TBA	Disposed into a general waste skip.
Other	-	-	6.80	Sorted accordingly based on recycling potential of each material

5.2 CONSTRUCTION WASTE STORAGE AND COLLECTION

Construction waste material generated during the construction of the proposed development will be recycled where possible. Recyclable material will be sorted and stored onsite in an appropriately labelled skip.

It is anticipated that garbage will be generated on the subject site during the construction phase. Any garbage generated shall be sorted and store onsite in waste skips.

Construction waste will be sorted and stored on-site in skips.

Please note that the nominated facilities below are suggested as suitably located, licensed facilities capable of accepting the relevant waste materials. Alternative facilities may be utilised if preferred, however must be licensed to receive the generated waste materials. Please also note that the capacities of the nominated facilities in accepting and recycling the specified materials may differ upon the time of construction hence it is recommended that they are contacted prior to transfers of waste to the site.

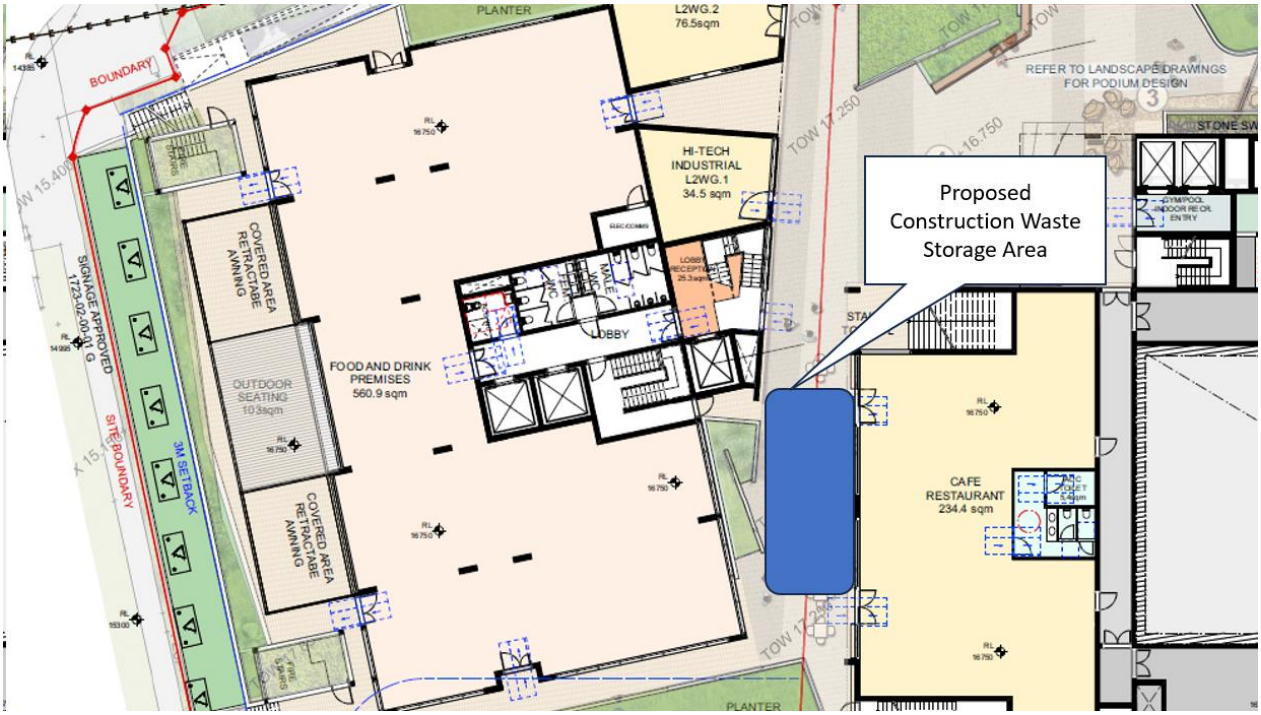
Waste skips should be provided for the following:

- 1 or more general waste skips for products including sand and soil not classified as VENM, gyprock, treated timber, residual waste and dust, to be delivered to BINGO Alexandria Facility, 1300 424 646;
- Recycling skips with one skip per material type for bricks, sandstone and concrete to be delivered to Cleanaway's Auburn Resource Recovery Centre, 02 8645 4304;
- 1 recycling skip for clean metal to be delivered to Cleanaway's Auburn Resource Recovery Centre, 02 8645 4304;
- 1 organics waste skip for untreated timber and VENM that is not reused on site including garden vegetation and untreated timber, to be delivered to Cleanaway's Lucas Heights Organic Resource Recovery Facility, NSW 2234;
- Additional recycling skips, as required for paper & cardboard, glass, plastics and others to be delivered to Cleanaway's Auburn Resource Recovery Centre, 02 8645 4304 or a suitable recycling facility.

Waste skips will be enclosed within waste bays. Waste bays will be lined with sediment fencing or shade cloth. Waste bays would be located in the area, as shown in Figure 1.

Construction waste shall not be stored along footpaths, public reserves and street gutters or in areas that would lead to contamination of stormwater and waterways.

Figure 1 Proposed Construction Storage Area



6 ONGOING WASTE MANAGEMENT PLAN

6.1 WASTE GENERATION

Waste generation rates are shown in Table 3. Calculations are based on 5 operational days per week for the hi-tech industrial and child care spaces and 7 operational days for the pool, gym, food and beverage, café and recreation spaces.

Generation rates have been adopted based on commercal waste generation rates enclosed in Appendix A of the Randwick City Council *Waste Management Guideline for Proposed Developments*.

Since there are no waste generation rates available for the childcare centre, café and gym spaces in the Council guidelines, these waste generation rates have been adopted from *EPA NSW Better Practice Guide for Resource Recovery in Residential Developments* 2019.

The waste generation volumes for tenancies below have been adopted based on the type of use and advice received:

- Café waste generation rates have been adopted from EPA NSW for the café restaurant space;
- Food (Restaurants) waste generation rates have been adopted for the food and drink premises;
- Office waste generation rates have been adopted for the hi-tech industrial spaces;
- Gymnasium waste generation rates have been adopted from EPA NSW for the gym, indoor recreation and pool areas; and
- Childcare waste generation rates have been adopted from EPA NSW for childcare centres.

It is assumed that 50% of garbage waste generation within the café and restaurant spaces consists of organics waste.

It is assumed that 25% of commingled recycling generation volume within F&B spaces consist of glass recycling and 50% of commingled recycling within F&B spaces and hi-tech industrial areas consist of paper and cardboard.

The remaining types of spaces are anticipated to generate minimal volumes of organics, glass and paper and cardboard thus the volumes for these waste streams have not been calculated separately for these areas, in the assessment below.

Childcare waste generation estimate is based on 79 children as per advice received.

Any common spaces to the hi tech industrial areas, including meeting rooms, lobbies, lounges, landscaped areas, plant, common spaces, plaza and terraces, have not been included in these calculations as any waste generated in these areas is generated in service of the mixed use areas and therefore incorporated into the below rates.

Table 3 Waste Generation Rates

Use	Garbage	Commingled Recycling	Organics	Glass	Paper and Cardboard
Café	50 (L/100m²/day)	30 (L/100m²/day)	50 (L/100m²/day)	30 (L/100m²/day)	60 (L/100m²/day)
Food (Restaurant)	335 (L/100m²/day)	35 (L/100m²/day)	335 (L/100m²/day)	35 (L/100m²/day)	70 (L/100m²/day)
Office	10 (L/100m²/day)	12.5 (L/100m²/day)	-	-	12.5 (L/100m²/day)
Gymnasium	20 (L/100m²/day)	15 (L/100m²/day)	-	-	-
Childcare	5 (per child/day)	5 (per child/day)	-	-	-

The waste generation assessments are provided in Table 4 and Table 5.

The weight of cardboard is calculated using a waste conversion factor of 0.1 kilograms/litres which is adopted from the Government of South Australia *Zero Waste SA; Solid Waste and Recycling Reporting Template.*

The weight of the food waste generated is calculated using a waste conversion factor of 0.425 kilograms/litre which is adopted from the Government of South Australia *Zero Waste SA: Solid Waste and Recycling Reporting Template.*

Table 4 Waste Generation Assessment for Building 1

Use	Area/Child	Waste Per Week				
		Garbage	Recycling	Organics	Glass	Paper and Cardboard
Café	234.4m²	820L	492L	820L	492L	985L
Gym	2002.5m²	2,804L	2,103L	-	-	-
Childcare	79 Children	1,975L	1,975L	-	-	-
Total Waste Generated per Week		**5,599L**	**4,570L**	**820L**	**492L**	**985L**

Table 5 Waste Generation Assessment for Buildings 2 and 3

Use	Area/Child	Waste Per Week				
		Garbage	Recycling	Organics	Glass	Paper and Cardboard
Restaurant	560.9m²	13,153L	1,374L	13,153L	1,374L	2,748L
Hi-tech industrial (Office rates)	4,880.6m²	2,440L	3,050L	-	-	3,050L
Total Waste Generated per Week		**15,593L**	**4,424L**	**13,153L**	**1,374L**	**5,798L**

6.2 WASTE SYSTEMS

Waste would be sorted on-site by occupants as appropriate into the following streams:

- Garbage (General Waste);
- Commingled Recycling;
- Food Organics/ Garden Organics;
- Glass Recycling;
- Paper and Cardboard; and
- Hard Waste.

6.2.1 BIN STATIONS

Based on Method *Westpac NZ Case Study*, the use of bin stations throughout their office spaces have reduced waste to landfill by 40%. The case study discusses the significance of accountability in ensuring diversion of waste from landfill. It is therefore recommended that bin stations are provided within each space and within public areas.

While recommended, the provision of bin stations along with the type and/or number of bin stations provided would depend on the occupants' preference.

If provided, each bin station should be equipped with one bin for each waste stream. This would encourage the user to make a conscious decision before depositing their waste product into a specific bin and encourage appropriate segregation especially when bins are placed within an area open to public view.

An example bin station with vertical signage is shown in Figure 2. This is only provided as an example noting that any bin stations that may be provided on-site could differ from that shown in Figure 2.

The vertical signage is recommended to be implemented at each bin station to educate the users on the appropriate separation methods. This would allow for maximum diversion of waste from landfill and recovery of the respective waste streams to be achieved.

Figure 2 Example Bin Station with vertical signage

6.2.2 GARBAGE (GENERAL WASTE)

All spaces would be furnished with plastic lined bins for the temporary holding of garbage waste, to have minimum cumulative capacities of:

- Café – 50L per 100m^2
- Restaurant – 335L per 100m^2
- Hi-tech industrial – 10L per 100m^2
- Gym – 20L per 100m^2
- Childcare – 400L for the entire centre

These capacities are based on the transfer of waste to the bin room occurring once per day.

Occupants would dispose of waste from their bins directly into the appropriate 1,100L bin provided within the basement level 2 bin room, accessed via the lift and loading dock (refer to Appendix 1).

Garbage is to be disposed of bagged.

6.2.3 COMMINGLED RECYCLING

All spaces would be furnished with unlined bins for the temporary holding of commingled recyclables, to have minimum cumulative capacities of:

- Café – 30L per 100m^2
- Restaurant – 35L per 100m^2
- Hi-tech industrial – 12.5L per 100m^2
- Gym – 15L per 100m^2
- Childcare – 400L for the entire centre

These capacities are based on the transfer of recyclables to the bin room occurring once per day.

Occupants would dispose of waste from their bins directly into the appropriate 1,100L bin provided within the basement level 2 bin room, accessed via lift and the loading dock (refer to Appendix 1).

Commingled recyclables would be disposed of loosely.

6.2.4 FOOD ORGANICS AND GARDEN ORGANICS

It should be noted that either of the following options would be provided for on-site storage of organics waste generated within Buildings 2 and 3:

(a) Organics dehydrator with 120L storage bins

(b) 240L organic bins

These options have been listed separately in Table 7 below as well. Building 1 would only provide 240L organic bins given the significantly lower volumes estimated to be generated here.

The café and restaurant spaces would be furnished with unlined bins or bins lined with compostable lining that has been approved by the collection contractor or dehydrator provider, if a dehydrator is used, for the temporary holding of food organics. These bins will have minimum cumulative capacities of the following:

- Café – 50L per 100m^2
- Restaurant – 335L per 100m^2

These capacities are based on the transfer of food organics to the bin room occurring once per day.

Occupants would dispose of waste from their bins directly into the bin located adjacent to the organics dehydrator (if provided) and/or directly into the 240L organics bins, located within the basement level 2 bin room. The organics waste equipment can be accessed via lift and the loading dock (refer to Appendix 1).

Where appropriate, organics waste is to be disposed of loosely or in compostable bags that have been approved by the collection contractor or dehydrator provider. These compostable bags should be marked with the Australian Standard compostable logo as shown in Figure 3 below. It should be noted that non-compostable bags should not be placed into the organics bins as it cannot be composted and thus will affect the quality of the organic product.

Figure 3 Australian Standard Compostable Logo

If used, the dehydrator would reduce the organics waste volume by 80% and generate a product which may be utilised as a soil enhancer or fertiliser. The product can be applied on the landscaped areas on-site or on nearby parklands upon approval from the relevant authority. It is recommended that the product is tested on the landscaped areas prior to application throughout the site.

Any remaining product could be distributed among the development's occupants, or nearby community groups upon approval by the relevant regulatory body. Alternatively, the product can be collected by EcoGuardians, to be utilised on their farmlands.

Any garden organics generated from the landscaping works on-site will be disposed by the engaged landscaper.

6.2.5 GLASS RECYCLING

The café and restaurant spaces would be furnished with unlined bins for the temporary holding of glass recyclables, to have minimum cumulative capacities of the following:

- Café – 30L per 100m^2
- Restaurant – 35L per 100m^2

140L glass bins have been provided within the waste room for glass recycling. Occupants would have access to this waste room and bin via the lift and loading dock, as shown in Appendix 1.

Building management would arrange glass bin collections with collections to be conducted by private contractor.

6.2.6 PAPER AND CARDBOARD

The café, restaurant and hi-tech industrial spaces would be furnished with unlined bins for the temporary holding of paper and cardboard, to have minimum cumulative capacities of the following:

- Café – 60L per 100m^2
- Restaurant – 70L per 100m^2
- Hi-tech industrial – 12.5L per 100m^2

Occupants would dispose of paper and cardboard from their bins directly into the appropriate 1,100L bin provided within the basement level 2 bin room, accessed via lift and the loading dock (refer to Appendix 1).

Paper and cardboard would be disposed of loosely.

6.2.7 HARD WASTE

Hard waste will be managed independently by the respective tenants. Hard waste will be temporarily stored within the respective tenancies prior to when collections occur.

Occupants would arrange for hard waste collections to occur via a private contractor, as required.

6.3 BIN QUANTITY, SIZE AND COLLECTION FREQUENCY

The bin quantity, size and the frequency of collection are shown below in Table 6 to Table 8.

Table 6 Bin Size and Collection Frequency for Building 1

Waste Stream	Collections per Week	Bin/Equipment Capacity	No. Bins/Equipment	Weekly Capacity	Weekly Volume
Garbage	2	1,100L	3	6,600L	5,599L
Commingled Recycling	2	1,100L	3	6,600L	4,570L
Glass	2	140L	2	560L	492L
Paper and Cardboard	2	2,200L	1	2,200L	985L
Organics (Bins only)	4	240L*	1	960L	820L

*It should be noted that some waste contractors provide a maximum bin size of 120L for organics due to the significant weight of this waste stream hence the available organic bin sizes should be clarified prior to engaging the contractor.

Four organic waste collections per week is recommended where a dehydrator is not provided, given the volume and nature of the waste generated in the food and beverage spaces.

Two options for the provision of organics waste management equipment have been listed for Buildings 2 and 3, for further review and consideration in the future design stages.

Note: The number of bins required for storage of the dehydrated organics would depend on the extent of material utilisation on-site.

Table 7 Bin Size and Collection Frequency for Buildings 2 and 3

Waste Stream	Collections per Week	Bin/Equipment Capacity	Compaction/Mass Reduction ratio	No. Bins/Equipment	Weekly Capacity (*Baled/ Dehydrated)	Weekly Volume /Weight (*Baled/Dehydrated)
Garbage	2	1,100L	N/A	8	17,600L	15,593L
Commingled Recycling	2	1,100L	N/A	3	6,600L	4,424L
Glass	2	140L	N/A	5	1,400L	1,374L
Paper and Cardboard	2	1,100L	N/A	3	6,600L	5,798L
			Option 1 for Organics			
Organics (Dehydrator)	N/A	GC-1200 (1,200kg daily capacity)	1:5	1	8,400kg	5,590kg
Organics (Bins for dehydrated product)	3	120L (70kg/bin)	N/A	6	1,260kg*	1,118kg*
			Option 2 for Organics			
Organics (Bins only)	4	240L**	N/A	14	13,440L	13,153L

Note: Each 120L bin has the capacity to store 70kg of dehydrated organic waste as per advice received by EcoGuardians
**It should be noted that some waste contractors provide a maximum bin size of 120L for organics due to the significant weight of this waste stream hence the available organic bin sizes should be clarified prior to engaging the contractor.

Table 8 Typical Equipment Dimensions

Capacity (L)	Width (mm)	Depth (mm)	Height (mm)	Area (m^2)
1,100	1240	1070	1330	1.33
240	585	730	1060	0.43
140	535	615	915	0.33
120	480	545	930	0.26
Note: The above dimensions are based on SULO's flat lid bin specifications				

Please refer to the specifications of the organics dehydrator in APPENDIX 3.

6.4 BIN COLOUR AND SUPPLIER

All bins would be provided by private supplier. The below bin colours are specified by Australian Standard AS4123.7–2006, however due the private nature of the collection, these are only recommendations and are not mandatory:

- Garbage (general waste) shall have red lids with dark green or black body;
- Recycle shall have yellow lids with dark green or black body;
- Organics shall have green lids with dark green or black body; and
- Glass shall have purple lids with dark green or black body.

Note, private contractors often supply bins for collection.

6.5 WASTE STORAGE AREA

Tables 9 and 10 demonstrate the cumulative space requirements and provision of waste areas in the proposed development.

The height clearance within the waste room shall be 2700mm at minimum if the organics dehydrator is provided.

Please refer to scaled drawing shown in Appendix 1.

Table 9 Waste Area Space Requirements (Building 1)

Stream	Space Required (excluding circulation)	Space Provided
General Waste	3.99m^2	34.00m^2
Commingled Recycling	3.99m^2	
Organics Bins	0.43m^2	
Glass	0.66m^2	
Paper and Cardboard	1.33m^2	
TOTAL	**10.40m^2**	**34.00m^2**

Table 10 Waste Area Space Requirements (Buildings 2 and 3)

Stream	Space Required (excluding circulation)	Space Provided
General Waste	10.64m^2	30m^2
Commingled Recycling	3.99m^2	
Organics Bins	6.02m^2	
Glass	1.65m^2	
Paper and Cardboard	5.32m^2	
TOTAL	**27.62m^2**	**30m^2**

An organics dehydrator and corresponding bins for storage (in lieu of the number of bins noted above) or refrigerated room may be provided within the Building 2 and 3 waste room, given the number of bins required. If provided, the refrigerated room can be used to store the organics bins upon being filled with organics waste and prior to collections, to prevent potential odour and vermin issues.

Waste management would be overseen by building management.

6.6 WASTE COLLECTION

Waste would be collected by private contractor as follows:

- 11 x 1,100L garbage bins collected twice per week;
- 6 x 1,100L commingled recycling bins collected twice per week;
- 6 x 120L dehydrated organic bins collected three times per week and 1 x 240L raw organic bin collected four times per week or 15 x 240L raw organic bins collected four times per week;
- 7 x 140L glass bins collected twice per week; and
- 5 x 1,100L paper and cardboard bins collected twice per week.

All waste bins would be stored on-site in the two bin rooms provided on basement level 2.

General waste collections would occur via a 6.4m low profile vehicle which has an operating height of 2.5 metres. This height clearance allows the waste truck to access and operate within the new double height access road.

Waste collection vehicles would enter the subject site via the new access road in a forward motion from Girawah Place.

Waste collection vehicles would prop safely adjacent to each bin room and within the basement level 2 loading dock.

Vehicle operators would ferry waste bins from each bin room and return upon emptying.

Waste collection vehicles would exit the loading dock in a forward direction, via the new access road onto Girawah Place.

Please refer to the swept path analysis attached in APPENDIX 4.

Building management would ensure that waste vehicle operators are able to access the bin rooms.

Waste bins would not be presented to street kerb at any point.

7 RESPONSIBILITIES

Building management would be responsible for overseeing waste management within the development. Responsibilities would include:

- Provide all tenants with a waste management handbook which would include information on bin storage areas, transfer paths and waste management methods onsite;
- Ensure that all bins throughout the site and the bin room are equipped with appropriate signages to guide users on appropriate segregation methods for their waste and recyclables;
- Inspecting waste stores;
- Reviewing contamination within bins;
- Investigating incidents of inappropriate waste storage (or aggregation).

Building management would ensure anyone found responsible for inappropriate waste disposal would be appropriately educated and made aware of correct waste disposal techniques.

It is recommended that building management conducts a waste audit if waste is found to be inappropriately deposited by users or if the bin capacities need to be reviewed.

8 SIGNAGE

Waste storage areas and bins would be clearly marked and signed with the industry standard signage approved by NSW EPA or equivalent. The typical NSW EPA signage is illustrated in Figure 4.

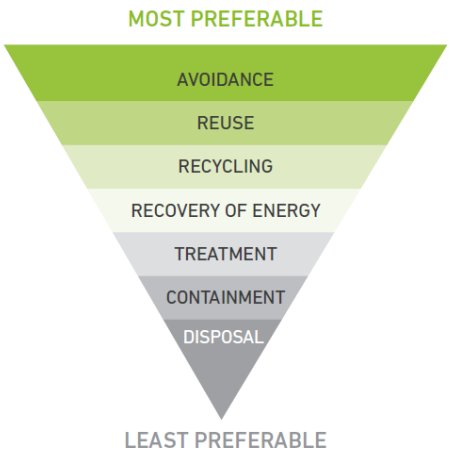
Figure 4 NSW EPA Signage

9 SUSTAINABILITY ACTION PLAN AND INITIATIVES

The importance of restructuring the institutional waste management methods in developments is becoming more apparent as we experience the adverse impacts of increasing waste volumes and declining recycling rates. Developments such as the proposed subject site can contribute towards the prevention and reduction of nationwide waste generation volumes as well as to promote a local circular economy system.

Building management should encourage users by demonstrating a commitment towards waste avoidance and minimisation initiatives. The waste hierarchy as detailed in the *Environmental Protection Act* 2017 should be observed in order of preference (refer to Figure 5).

Figure 5 Waste Hierarchy



In addition to the waste management strategy detailed in the enclosed report, building management can establish landfill diversion and recycling targets and conduct periodic waste audits to monitor contamination levels in recycling, organics and glass bins. The results of the audit could be shared with all tenants to encourage them to continue or to improve their waste separation efforts. The audit may also be beneficial from a cost perspective as it would inform building management of opportunities to reduce bin numbers or collection frequencies.

Occupants could be inducted on on-site waste management practices and on the development's sustainability action plan via the provision of a handbook or in-person training, as deemed necessary. All tenancies could be encouraged to minimise single use packaging and promote re-use by providing opportunities to consumers to utilise their own reusable containers or bags.

10 WASTE AREA DESIGN REQUIREMENTS

10.1 VENTILATION

Ventilation would be provided in accordance with Australian Standard AS1668.

The waste room will be equipped with tight fitting doors and impervious flooring. Any openings within the waste room will be fitted with vermin-proof mesh.

10.2 LITTER MANAGEMENT, WASHING AND STORMWATER POLLUTION PREVENTION

An appropriately drained wash down area would be provided within the bin room in which each bin is to be washed regularly by building management. Bin washing areas or bin wash bays must discharge to a litter trap and/or grease trap. Bin wash areas should not discharge into stormwater drainage.

Alternatively, a third-party bin washing service can be engaged to perform this service. Bin washing suppliers must retain all waste water to within their washing apparatus so as to not impact on the drainage provisions of the site.

Building management would be responsible in ensuring the following to prevent or minimise the dispersion of litter throughout the site:

- Prevent overfilling of bins by ensuring bin lids are closed at all times;
- Require waste contractor to remove any spillage that may occur during waste collections; and
- Ensure anyone found responsible for inappropriate waste disposal or dumping would be appropriately educated and made aware of correct waste disposal techniques.

10.3 NOISE REDUCTION

All waste areas would meet EPA, BCA and AS2107 acoustic requirements as appropriate within operational hours assigned to minimise acoustic impact on surrounding premises.

Waste contractors should also abide by the following regulations to ensure minimal noise impacts to the neighboring properties:

- Compaction only to be carried while on the move;
- Bottles should not be broken up at the point of collection;
- Routes that service entirely residential areas should be altered to reduce early morning disturbances; and
- Noisy verbal communication between operators should be avoided where possible.

10.4 DDA COMPLIANCE

All waste areas to be accessed by occupants would comply with AS1428.1:2009.

11 RISK AND HAZARD ANALYSIS

Table 11 shows the potential risks, severity and suggested control methods that could be considered to avoid the risks from occurring during waste collections.

Note that this is a preliminary risk assessment and does not replace the need for the building management and collection contractors to complete their respective OHS assessment for waste collections.

The information provided below have been adopted from WorkCover NSW *Collection of Domestic Waste: Code of Practice*. The severity of each risk has been determined based on the risk rating table enclosed in Department of the Environment *Environmental Management Plan Guidelines* 2014.

Table 11 Potential Risks and Control Methods During Waste Collections

Area	Risk	Severity	Suggested controls
Waste collection	Incidents during waste collection vehicle ingress or egress movements	Low	Vehicle operators would be trained in ensuring the following Tailgate is closed after clearing waste area Move vehicle slowly when tailgate or body is raised Clear waste from tailgate seal and from rear of machine before departure from the subject site Ensure tailgate is locked after unloading operation Vehicle operators should not exit the vehicle body unless engine is switched off, ignition key is removed, safety prop is in position and the vehicle body is well ventilated. Regular safety checks and inspection of vehicles should be conducted.
	Incidents during manual handling of bins	High	Vehicle should meet relevant Australian Design Rules. Ensure that vehicles with low bowl height are used to avoid lifting of bins above shoulder height. Vehicle operator should be clear of the equipment before activation of packing or tipping controls.
	Slip and trip hazards in moving into and out of the vehicle	Medium	Maintain sufficient and frequent communication between driver and runner. The hose should not be used as handholds when mounting or dismounting.
	Slips and trips while transporting bins	Low	As the loading docks are at the same grade with that of the waste storage area, there are no hazards presented from the presence of slopes or steps. The car parking and waste storage area would also be well lit at all times to ensure good visibility to occupants/vehicle operators. However, to ensure that any other potential risks are mitigated, frequent communication should be maintained between the driver and runner and the runner should only transfer one bin at a time.
Surrounding traffic	Conflict with other vehicle operators and tenants within the car park during collection	Medium	Ensure that collection is to occur only at off-peak hours. The collection area should also be well-lit to allow for better visibility of oncoming traffic and pedestrians.
Waste bins	Type of wastes handled – risk associated in contact with unknown hazardous substances or sharp objects	Medium	All tenants should be educated on safe disposal of hazardous substances and sharp objects. Waste vehicle operators should be trained and informed on safe handling of unknown substances. Operators could be provided with PPE to avoid infections and to assist in handling of waste bins.
Waste Bins	Overflowing bins affecting the transport of bins to the waste collection vehicle or presenting as a trip hazard.	Low	The recommended number of bins enclosed in this WMP provides larger capacities than the volumes generated for all waste streams hence there would be a low likelihood of this occurring.

12 SUPPLIER CONTACT INFORMATION

Table 12 provides a list of equipment specified by this waste management plan.

Below is a complimentary listing of contractors and equipment suppliers. You are not obligated to procure goods/services from these companies. This is not, nor is it intended to be, a complete list of available suppliers.

SALT does not warrant (or make representations for) the goods/services provided by these suppliers.

Table 12 High Level Purchasing Schedule

Item	Quantity	Supplier	Notes
1,100L Bins	22	Private Supplier*	11 x 1,100L garbage bins 6 x 1,100L commingled recycling bins 5 x 1,100L cardboard bins
140L Bins	7		7 x 140L glass recycling bins
240L Organic Bins (Option 2 for buildings 2 and 3)	15		1 x 240L organic bin for Building 1 14 x 240L organic bins for Buildings 2 and 3
Organics Dehydrator and 120L bins (Option 1 for Buildings 2 and 3)	Refer to the "Notes" column	Private Supplier	1 x organics dehydrator with a daily capacity of at least 800kg; and 6 x 120L organic bins
Bin Station	As required	Private Supplier	Internal and external bin stations. Each bin station will contain one bin per waste stream.

*Private waste collection contractors often supply their own bins for collection.

12.1 EQUIPMENT SUPPLIERS

12.1.1 BIN SUPPLIER

- Sulo MGB Australia (wheelie bin) – 1300 364 388
- Method Recycling (bin stations) – 0477 630 220 / 0412 001 686
- Source Separation System (wheelie bin and bin stations) – 1300 739 913

12.1.2 ORGANICS DEHYDRATOR

- EcoGuardians – 1300 556 628

12.1.3 ORGANICS BIN BIO-FILTER

The bio bin-filter may be purchased for odour and vermin prevention purposes.

- Smart Biz Oz – 02 9160 7833

12.2 WASTE COLLECTORS

12.2.1 GARBAGE, RECYCLING AND ORGANICS

- Cleanaway – 13 13 39
- JJ Richards – 1300 971 325
- SUEZ Environment – 13 13 35
- Veolia Environmental Services – 132 955

12.3 BIN WASHING SERVICES

- The Bin Butler – 1300 788 123
- Calcorp Services – 1888 225 267
- WBCM Environmental – 1300 800 621

13 PURPOSE AND LIMITATIONS

This Waste Management Plan has been prepared to form a part of the town planning/development application. The report is prepared to:

- Demonstrate that an effective waste management system is compatible with the design of the development. An effective waste management system comprises of a system that is hygienic, clean, tidy, minimises waste being landfilled and maximises recycling and resource recovery;
- Ensure stakeholders are well informed of the design, roles and responsibilities required to implement the system;
- Provide supporting scaled drawings to confirm that the final design and construction is compliant with the report;
- Define the relevant stakeholders involved in ensuring the implementation of the waste management system; and
- Ensure tenants are not disadvantaged in access to recycling and other sustainable waste management options.

The following should be noted regarding the enclosed information:

- The waste generation volumes provided are estimates based on the best available waste generation rates. The actual waste volumes generated on-site may differ slightly from that estimated as it would depend on the occupancy rate of the development and tenant type (i.e. families or renters);
- The equipment specifications and any information provided regarding the recommended equipment are provided for reference purposes only and should not be relied upon for procurement. SALT recommends that the developer attains the latest specifications of the required equipment and service provisions from the respective contractor(s) prior to engaging them or purchasing the relevant equipment.
- The report should be updated if the development plans are amended or if new legal requirements are introduced.

APPENDIX 1 DESIGN DRAWINGS

1m 5m 10m 22m

NOTES

THIS DRAWING IS PART OF A SET, AND SHOULD BE READ IN CONJUNCTION WITH ALL OTHER DOCUMENTS. VERIFY ALL DIMENSIONS ON SITE PRIOR TO COMMENCING CONSTRUCTION OR FABRICATION. REPORT ANY DISCREPANCIES TO THE ARCHITECT FOR VERIFICATION.

DO NOT SCALE DRAWINGS. FIGURED DIMENSIONS TAKE PRECEDENCE OVER SCALED DIMENSIONS. THIS DRAWING AND THE DESIGNS CONTAINED HEREIN ARE PROTECTED BY COPYRIGHT. THE ARCHITECT GRANTS THE COPYRIGHT LICENCE ONLY FOR THE SPECIFIC PROJECT, AND FOR THE PURPOSE SHOWN AT "STATUS."

REVISION SCHEDULE

Rev.	Date	Issued By	Revision Notes
I	19/9/2023	DC	ISSUED FOR INFORMATION
J	20/9/2023	DC	ISSUED FOR INFORMATION
K	13/10/2023	DC	ISSUED FOR REVIEW
L	16/10/23	DC	ISSUED TO COUNCIL
M	19/10/2023	DC	ISSUED TO COUNCIL
N	20/10/2023	DC	ISSUED TO COUNCIL
O	23/10/2023	DC	AMENDED GRAPHICAL ERROR
P	2/11/23	DC	ISSUED TO COUNCIL

LEGEND / KEY

NOTE: ALL INTERNAL LAYOUTS ARE INDICATIVE ONLY AND MIGHT REQUIRE ADDITIONAL APPLICATIONS FOR FIT-OUT

Bennett Murada Architects

Suite 404, 1 Chandos Street, St Leonards, NSW 2065 ph.(02) 9043 9968 e.info@bennettmurada.com.au

nominated architect: Dominic Bennett 7365

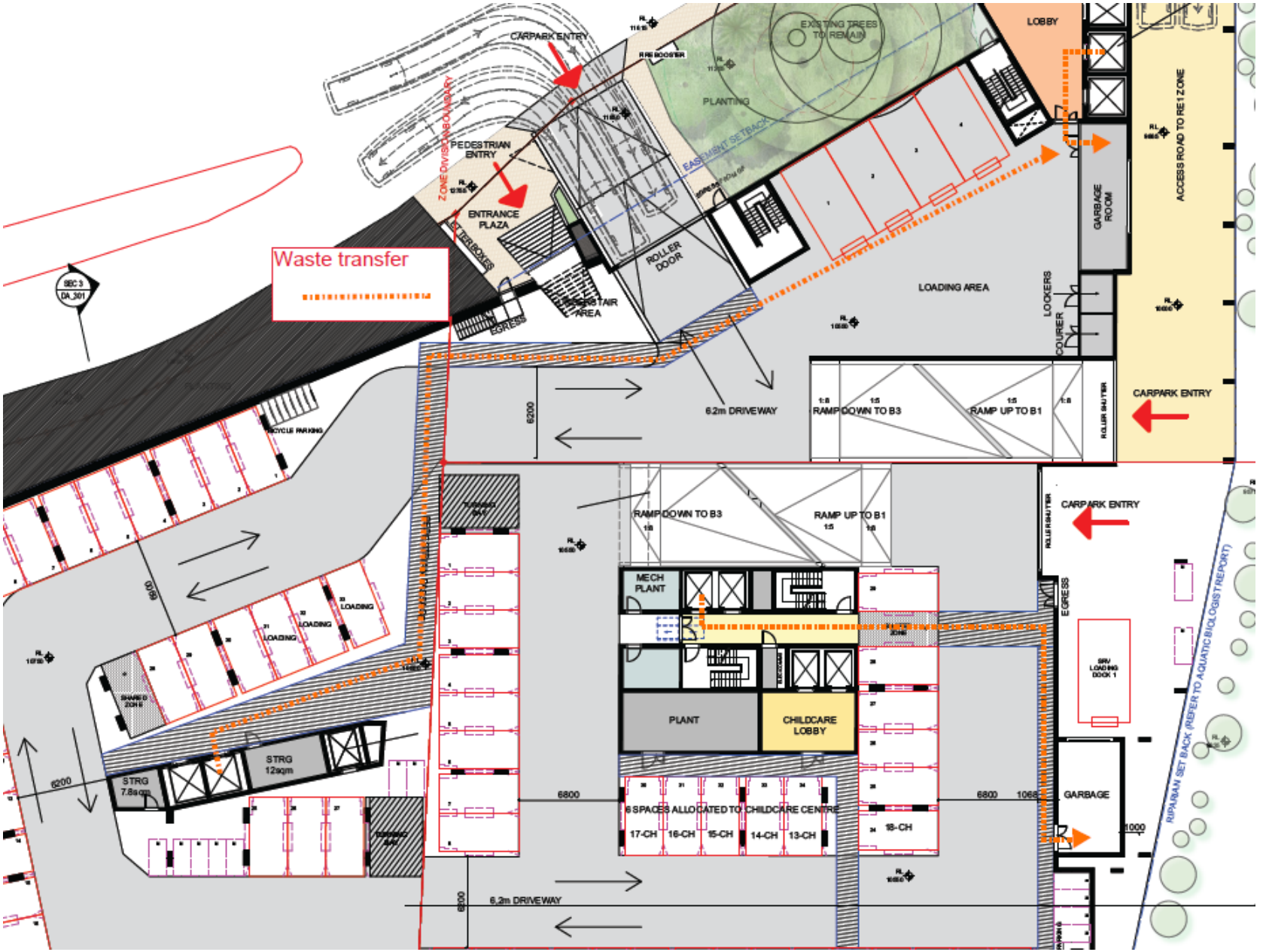
Project:
2-6 GIRAWAH PLACE MATRAVILLE
Lot 1-3, 1901 Botany Rd.

Client:
SPIRECORP Pty Ltd

Drawing Name:
BASEMENT 2 PLAN

Job Number: **2143**
Scale: 1:200 @ B1
Plot Date: 3/11/23
Drawing Status: **DA**
Drawn By: LDA
Drawing No: **DA_101**
Revision: **P**

APPENDIX 2 WASTE TRANSFER PATH


Waste transfer
CARPARK ENTRY
PEDESTRIAN ENTRY
ENTRANCE PLAZA
ZONE DIVISION BOUNDARY
EASEMENT SETBACK
EXISTING TREES TO REMAIN
PLANTING
LOBBY
GARBAGE ROOM
ACCESS ROAD TO RE1 ZONE
ROLLER DOOR
LOADING AREA
LOCKERS
COURIER
CARPARK ENTRY
6.2m DRIVEWAY
RAMP DOWN TO B3
RAMP UP TO B1
RAMP DOWN TO B3
RAMP UP TO B1
CARPARK ENTRY
MECH PLANT
EGRESS
PLANT
CHILDCARE LOBBY
6 SPACES ALLOCATED TO CHILDCARE CENTRE
17-CH
16-CH
15-CH
14-CH
13-CH
18-CH
GARBAGE
6,2m DRIVEWAY
RIPARIAN SET BACK (REFER TO AQUATIC BIOLOGIST REPORT)
STRG 12sqm
STRG 7.8sqm
LOADING
SHARED ZONE
6200
6800
1000

APPENDIX 3 ORGANICS DEHYDRATOR SPECIFICATIONS (OPTIONAL)

Item	Specification	
Model code	**SoilFood GC-1200**	
Input capacity	1200 kg per 24 hrs in 2 x 600 kg batches	
Dimensions	Processing unit only	With load / unload accs
Width	3300 mm	4330 mm
Depth	1850 mm	3121 mm
Height, main body	2040 mm	
Max Height with load door open	2576 mm	
Max height at top of bin arc	2630 mm	
Net weight	4600 kg	6000 kg
Electrical input	AC 415V-50hz-3phN+E (5 wire)	
Connected load and current	60.2 kW, 83.8 Amp	**INSTALLATION**
Energy used per kg waste input	0.5 kWh, variable	
Gas Inlet diameter	n/a	Installation area needs to be under cover to protect the machine from direct impingement by rain. Proximity to a sewer inlet is required
Gas flue connection diameter	n/a	
Natural Gas input rate	n/a	
Condense outlet connection	20A (27.2 mm OD)	
Bin lifter configuration	120 litre wheelie bin approx 480 W x 560 D x 930 H	
Standard external finish	Powder coated. (S/S on request at extra cost)	

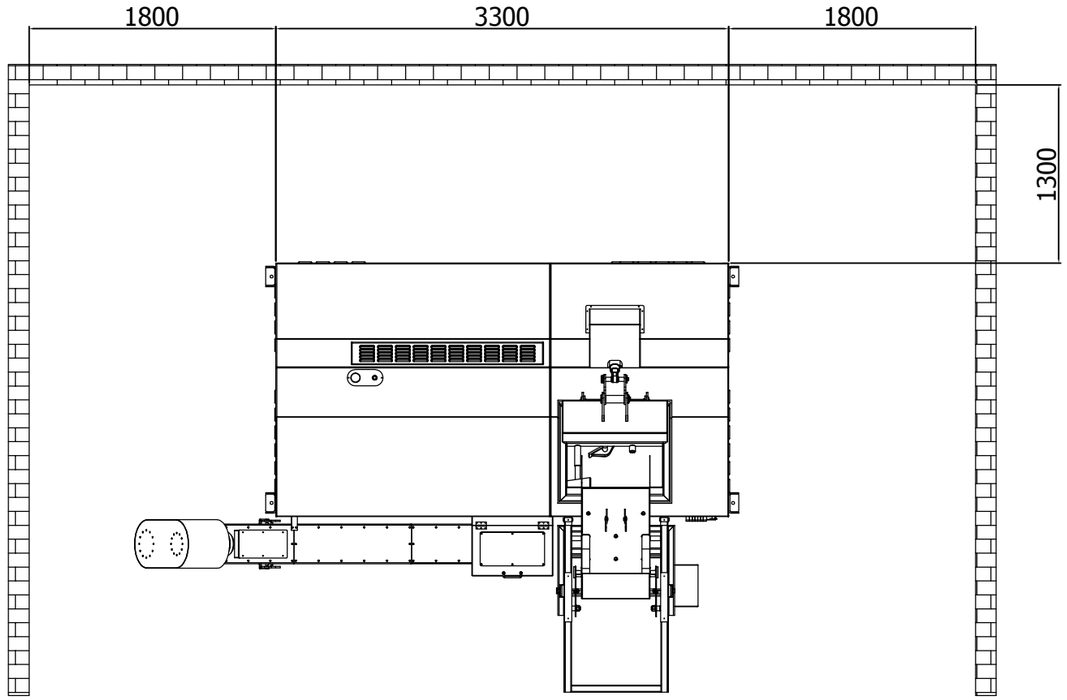
SoilFood
GC-1200

Bin lifter safety guarding not shown

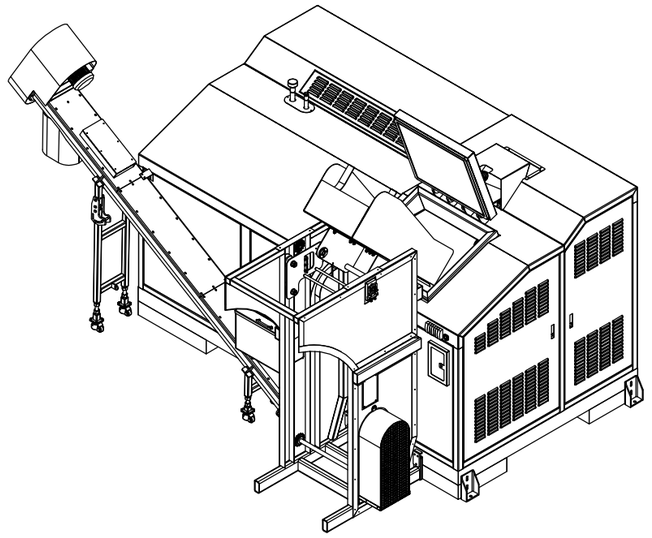
Dec-18

ecoguardians
sustainability...by design

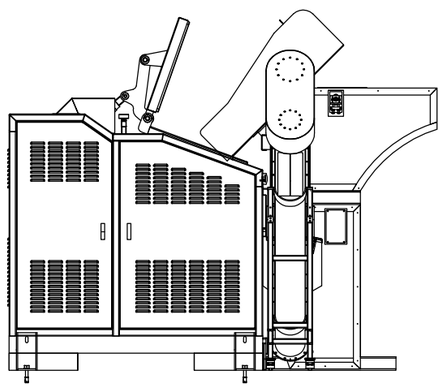
2/94 Voltri St, MENTONE VIC 3194
T. 1300 55 66 28 E. info@ecoguardians.com.au



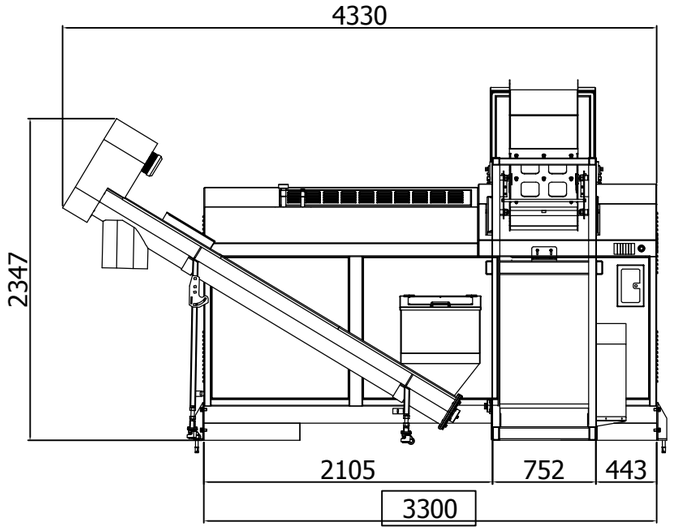
Top view



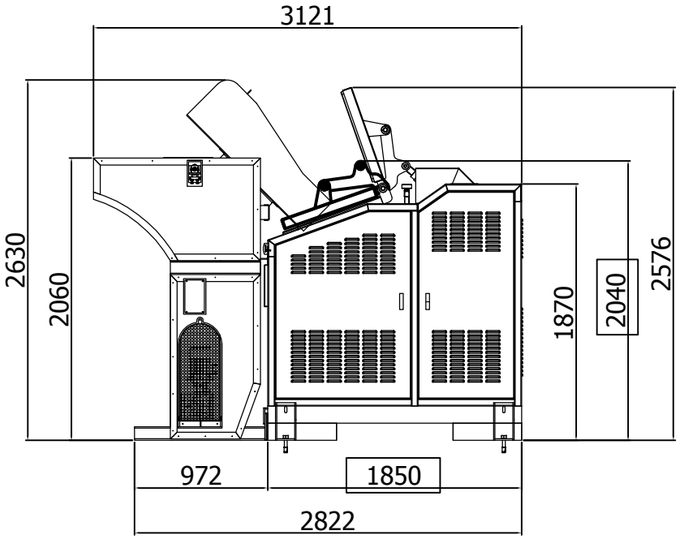
GC-1200
3300(L) x 1850(W) x 2040(H)



Left Side view



Front view



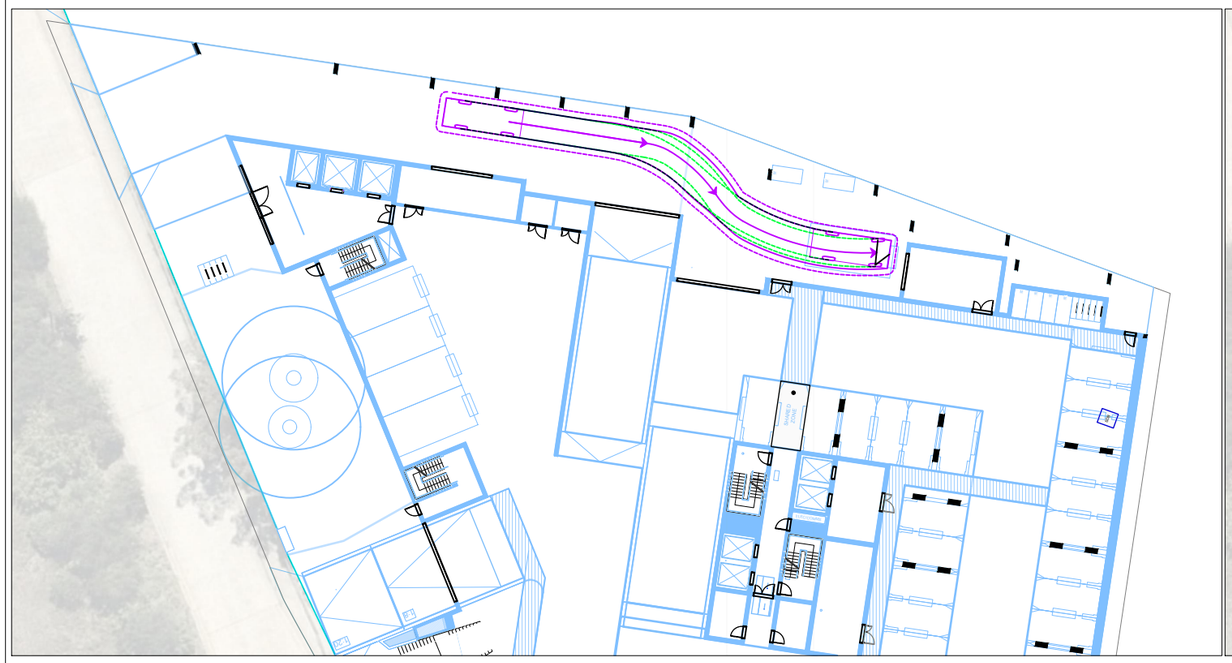
Right Side view

NOTE
1. The images used in this drawing may differ from the actual products.
2. All dimensions are unit mm.

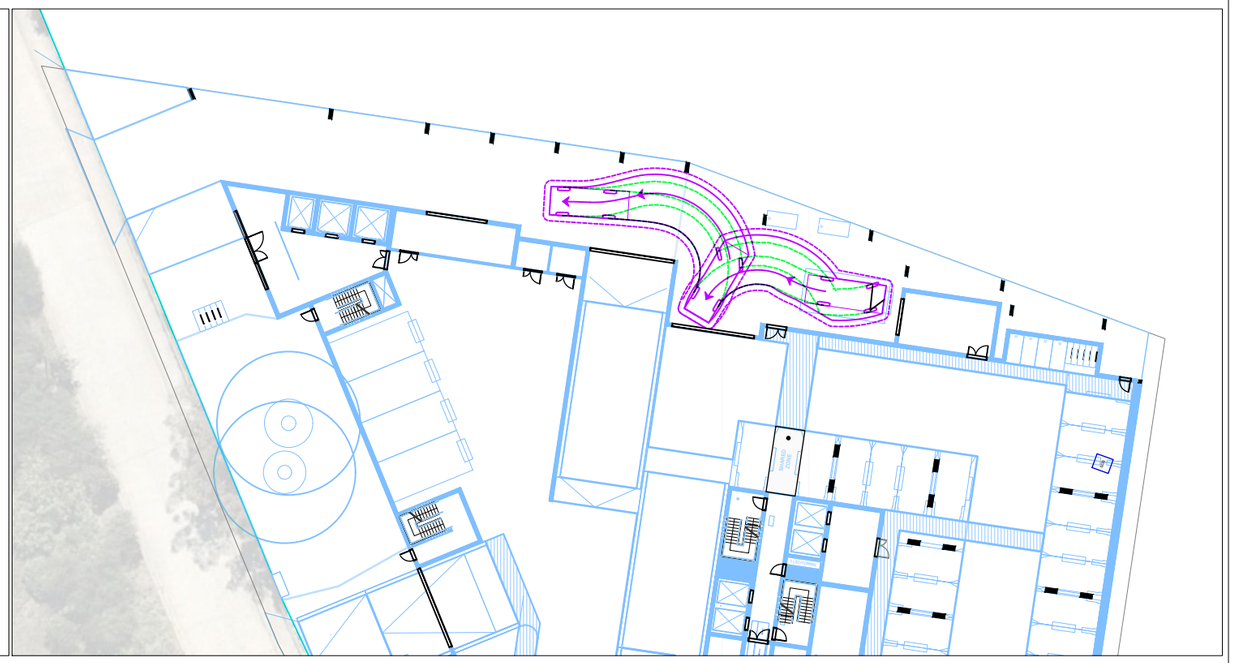
Designer	S.K.C	Approval	S.J. Hong	Date	2015. 12. 17
GAIA Corp. www.gaia21.co.kr		GC-1200			
		INSTALLATION DRAWING	Rev. No 0001	1 / 1	

APPENDIX 4 SWEPT PATH ANALYSIS

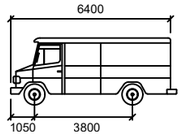
EXTERNAL LOADING BAY 1 - INGRESS



EXTERNAL LOADING BAY 1 - EGRESS



VEHICLE USED IN SIMULATION



SRV (AS 2890.2) mm

Width	:	2300
Track	:	2300
Lock to Lock Time	:	6.0
Steering Angle	:	38.0

500MM BODY CLEARANCE ADOPTED.

HORNE GROUP PTY LTD

PROPOSED MIXED USE DEVELOPMENT

2-6 GIRAWAH PLACE

MATRAVILLE

6.4M SRV DESIGN VEHICLE SWEPT PATHS

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Ph: 33 9020 4225

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Sydney: 303, 61 Marlborough Street Surry Hills NSW 2010
Hobart: Level 4, 116 Bathurst St Hobart TAS 7000
Canberra: 45 West Row Canberra ACT 2601

0 2.5 5 10

SCALE: 1:500 @ A3

DRAWN / CHECKED	DATE	SIZE
CG / CB	20/10/2023	A3

DRAWING NUMBER	REVISION
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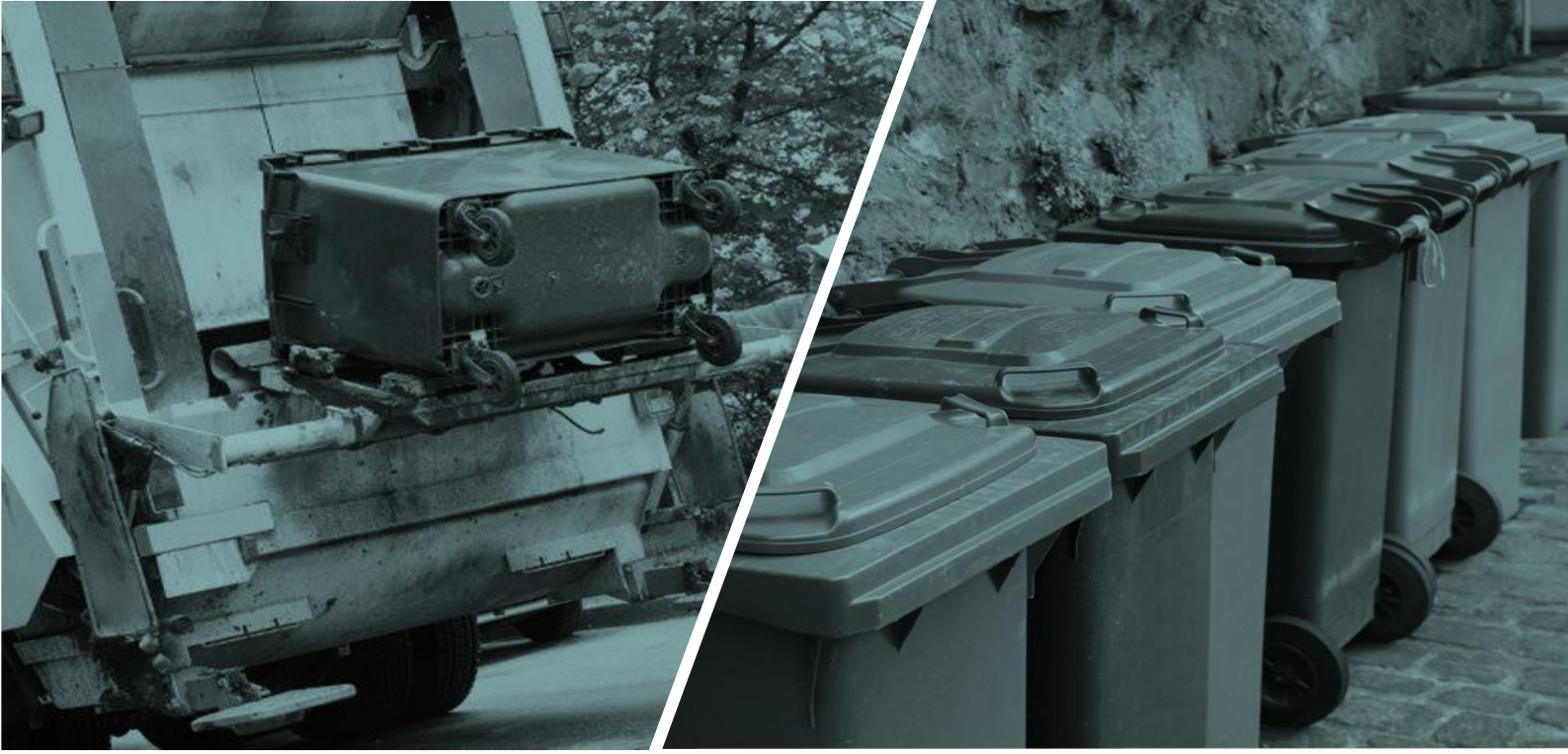

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