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Company Profile – The Urban Leaf Pty Ltd

Mission Statement

We are a team of professionals, dedicated to encouraging sustainable design within the building industry and its related businesses.

We provide clients with reports that comprehensively outline, describe and recommend ecological solutions for different stages of the construction process.

Our team's professional and personal growth is fostered within a positive working environment. Our innovative, original thinking works diligently towards ensuring the social, economic and environmental needs of our community are met and enjoyed by future generations.

Company Philosophy

Our philosophy and motivation is simple. We believe everyone has a responsibility to protect the Earth's eco-systems.

By preserving natural resources, we can guarantee that communities will continue to benefit from an uncompromised quality of life.

In addition, conserving natural resources within our lifetime ensures the legacy we leave for future generations is one that advocates respect for our environment as well as for each other.

Our role in assessing and encouraging sustainable design within the building industry is an important one because it supports ecologically-sound practises.

Our work enables us to promote more efficient use of ecological resources and reduce unnecessary environmental impact.

Services

All of our services are connected to our company's philosophy and contribute to supporting a sustainable environment. We pride ourselves on delivering professional, independent, objective appraisals and reports. Any recommendations we make are underpinned by legislative and regulatory compliance.

URBANLEAF

1. Introduction

The Urban Leaf Pty Ltd has been engaged to undertake a Waste Management Report for the proposed multi-unit development located at **149 Hansworth Street, Mulgrave**. This report has been prepared to address the requirement of the **City of Monash**.

All results generated by this report are based on:

- Town Planning drawings prepared by **Sgourakis Architects**
- Revision : **P2**
- Date : **April 19 2017**

2. Description & Use of Proposed Development

Considering the large scale of this development, the waste management report has been divided into two portions. This particular report will be assessing the apartment component, which shall consist of:

- **37 one-bedroom apartments**
- **62 two-bedroom apartments**

The proposal will span over 10 levels, which include two levels of car parking. The proposed bin store is located on the Upper Ground level.

Please note: This Waste Management Report is only applicable to the operational phase of the development. It is not relevant to any demolition or construction works to be undertaken on site.



3. Estimated Garbage & Recycling Generation

Please note:

- For medium/high density dwellings, council's household bin allowance has been reduced based on typical apartment waste yields guidelines from The City of Monash.

Tower A

WASTE SOURCE	NO. of UNITS	WEEKLY TOTAL GARBAGE (litres)	WEEKLY TOTAL RECYCLING (litres)
Apartments (2 bedroom)	32	100L x 32 = 3200L	120L x 32 = 3840L
Apartments (1 bedroom)	22	80L x 22 = 1760L	80L x 22 = 1760L
Total		4960L	5,600L

Tower B

WASTE SOURCE	NO. of UNITS	WEEKLY TOTAL GARBAGE (litres)	WEEKLY TOTAL RECYCLING (litres)
Apartments (2 bedroom)	30	100L x 30 = 3000L	120L x 30 = 3600L
Apartments (1 bedroom)	15	80L x 15 = 1200L	80L x 15 = 1200L
Total		4200L	4800L

4. Recommended Collection Service

- Municipal kerbside bins would affect the streetscape and require a substantial onsite storage facility, based on the estimated weekly garbage and fortnightly recycling collections of approximately 198 bins.
- The table below indicates the minimum spacing require for one pair of bins and the available space on the streetscape which is away from obstructions, i.e. driveway and tree canopies. The Frontage Plan shows that there is **insufficient** space on the streetscape to accommodate the municipal bins.

NO of BINS	MIN. WIDTH REQUIRED (one pair of bins)	REQUIRED SPACE	AVAILABLE SPACE
198 (99 pairs)	0.58m+0.58m+1.0m (Spacing)= 2.16m	(99 x 2.16m) + (98 x 1.0m) = 311.84	44.98m

- Therefore, it is recommended that a private contractor is engaged to collect waste. This must be organised by the Owner/Owners Corporation.

Please note: Every rateable tenement is liable to pay for municipal charges regardless of the level of collection services provided by council.

5. Access to Waste Facilities

- The proposed development will have a dual chute system as indicated on the relevant floor plans. Each respective chute is to transfer general waste and recyclable waste from every residential level.
- Residents will place garbage and recyclables into chutes with a direct route to the collection bins located within the Bin Store.
- Each chute door on each floor shall have proper labels to indicate the specific type of waste stream.
- The appointed caretaker will have access to the Bin Store and must rotate the bins, ensuring that all residents are able to reach the empty bins.
- Access to bin rooms, chutes, drop-off areas, hard waste areas, green waste and charity services will be via the proposed vehicle entry/exit. Please refer to **APPENDIX B** for further details.



6. System and Size

- The waste management system and facilities are as specified below:
 - Receptacles in kitchen bins for garbage and recycling.
 - Bin Store is located on the Ground Level.
 - Collection bins kept within the Bin Store.
- The various collection waste-streams are summarised below:
 - Garbage: Household rubbish and food waste (if no compost system is in place). For collection purposes, garbage shall be stored within collection bins.
 - Recycling: This may include items such as paper, cardboard, cartons, aerosol cans, polyethylene terephthalate (PET), glass, aluminium, steel, and HDPE containers. All recyclables shall be commingled into one collection bin.
 - Garden Waste: Organic waste produced by garden sources. Examples include, grass, leaves, weeds, tree prunings. Based on minor landscaping, very minimal garden waste generation is anticipated (however, the Owners' Corporation shall engage a contractor, if required). Alternatively council offers green waste bins.
 - Compost: A home unit worm farm or compost bin will provide the opportunity for residents to reuse their own food scraps. If residents choose to install such system in the future, the appropriate space must be located with consideration of: potential odour generation, connection of any run-off to drainage system, positioning of dwellings, caretaker necessity and increasing awareness through visibility and accessibility.
 - Other Waste Streams: This may include hard, electronic, liquid wastes and home detox (paint/chemicals). If required, the disposal of items classified under this category shall be organised with the assistance of the Owner/Owners' Corporation and the chosen contractor.

PROPERTY TYPE	WASTE STREAMS	BIN SIZE (litres)	BIN AREA (m ²)	BIN QUANTITY	TOTAL AREA for specific bin type (m ²)
Residential Tower A	Garbage	660L	1 m ²	8	8 m ²
	Recycling	660L	1 m ²	9	9 m ²
	Hard Waste	-	3 m ²	-	3 m ²
Residential Tower B	Garbage	660L	1 m ²	7	7 m ²
	Recycling	660L	1 m ²	8	8 m ²
	Hard Waste	-	3 m ²	-	3 m ²

7. Total Designated Bin Store Area & Number of Bins

Tower A

TOTAL NUMBER OF BINS TO BE STORED	REQUIRED BIN UNIT/S AREA/S (M2)	AVAILABLE BIN STORE AREA/S (M2)
17 and a 3 m ² hard waste collection area	20 m2	43.5 m2

Tower B

TOTAL NUMBER OF BINS TO BE STORED	REQUIRED BIN UNIT/S AREA/S (M2)	AVAILABLE BIN STORE AREA/S (M2)
15 and a 3 m ² hard waste collection area	18 m2	52 m2

8. Collection Frequency

- Below indicated the proposed waste collection frequency for the proposed development:

WASTE	COLLECTION FREQUENCY
Garbage	Weekly
Recycling	Weekly



9. Assessment of Town Planning Drawings

The inspected plans illustrate that sufficient space has been provided for onsite bin storage, as required by the above schedule and waste systems.

Collection frequency will also be sufficient.

However, should the proposed waste system fail to cope, the Owner's Corporation must make the necessary operational adjustments.

10. Collection Arrangements

- A private contractor will have to enter the address to complete the collection service. However due to turning internal limitations, the collection vehicle is to be parked near the proposed vehicle entry/exit point.
- The engaged contractors are to have access to the carpark area on Upper Ground level. They are to transfer the bins from the two proposed bin stores onto the collection vehicle and back again.
- Additional support equipment (ie. mechanical bin mover or manual bin tug) shall be used.
- Should the proposed system fail to cope, the Owner/Owner's Corporation must make the necessary operation adjustments. The appointed building caretaker may be required to have the bins ready during the agreed collection time for the arriving contractors. The efficiency of the collection process must be maximised.
- The principles, duties and rights within The Occupational Health and Safety Act (2004) and the Occupational Health and Safety Regulation (2007) will be adhered to by relevant parties in relation to bin movement to and from the collection area.

Note: For increased safety, collections will be performed during off- peak traffic hours

11. Noise Minimisation

Glass being emptied from collection bins and subsequently into the collection vehicle, and alarms from a reversing collection vehicle are identified as major sources of noise during the regular domestic waste collection.

- The following methods are recommended to be applied to minimise noise during collection hours:
 - Careful consideration of the proximity of the Bin Store and collection points to the future dwellings/residents. Increasing the distance will minimise the noise impacts

- Design and planning interventions within the proposed scheme to minimise the need for the engaged collection vehicle to reverse.
- Collection bins shall consist of a plastic lid and body, with rubber castors for quiet rolling during transfer periods.
- Appropriate surface covers should be considered to minimise noise during bins transfer.
- Insulation the chosen chute system.
- All operations in public areas and roads shall adhere to local regulations.
- In the case of a private service, collection hours must in adherence to Council's regulations. Additionally, Section 5 of the Victorian EPA Noise Control Guideline TG302/92 must be observed to minimise noise disturbance and preserve the acoustic amenity of the development and surroundings.
- Private contractors will be required to negotiate their collection services with the relevant council so that their services for this address coincide with council's normal residential collection.

The operator shall ensure that the private collection contractor complies with the guidelines to minimise the acoustic impact of waste collection activities.

Victorian EPA Noise Control Guidelines, Publication 1254, October 2008 (excerpt)

Section 5. Domestic Refuse Collection

The main annoyance produced by domestic refuse collections occurs in the early morning (in other words, before 7 am).

Therefore, if possible, routes should be selected to provide the least impact on residential areas during that time.

Collection of refuse should follow the following criteria:

- Collections occurring once a week should be restricted to the hours 6 am — 6 pm Monday to Saturday
- Collections occurring more than once a week should be restricted to the hours 7 am — 6 pm Monday to Saturday
- Compaction should only be carried out while on the move.
- Bottles should not be broken up at the point of collection.
- Routes that service entirely residential areas should be altered regularly to reduce early morning disturbance.
- Noisy verbal communication between operators should be avoided where possible.

12. Litter & Pollution Reduction

The Owner/Owner's Corporation will be responsible for:

- Promoting adequate waste disposal into the bins (to avoid waste-dumping)
- Securing the Bin Store (whilst leaving it accessible to relevant parties)
- Preventing overfilled bins, keeping lids closed leak-free
- Taking action to prevent dumping and/or unauthorised use of waste areas
- Requiring the collection contractor to clean-up any spillage that might occur when clearing bins.

Fulfilling the obligations set out above will minimise the dispersion of site litter and prevent stormwater pollution, thus avoiding negative impact to the local amenity and environment.

13. Hygiene

- The Bin Store will be ventilated in accordance with Australian Standard AS1668.
- The Bin Store will feature tightly fitted doors. All other openings shall have vermin-proof mesh or similar.
- The floor will be porous, smooth, slip-resistant, and have appropriate drainage.
- Store doors must be kept closed when unattended.
- The Bin Store will include a graded bin wash area with bibcock, hose, and floor-waste with silt trap, connected in accordance with the relevant authority requirements.
- The bin and wash areas may overlap, as stored bins can be moved-out so that a bin can be washed.
- The Owner/Owners Corporation will regularly clean waste areas/equipment and keep bin lids closed.

14. Design, Safety & Aesthetics

Waste will be placed within the bins and stored in designated onsite areas (hidden from external view).

- Following waste collection activities, bins will be returned to the storage areas as soon as practicable.
- Waste facilities will be constructed from durable materials and finishes, and maintained to ensure that the aesthetics of the development are not compromised. These facilities and associated passages shall be suitably illuminated. This provides comfort, safety, and security to users, staff, and contractors.
- The design and construction of waste facilities and equipment shall conform to the Building Code of Australia, Australian Standards, and local laws.
- Childproofing and public safety will be assessed and ensured.

15. Waste Sorting & Collection Responsibilities

- Garbage will be placed within tied plastic bags prior to transferring into the collection bins.
- Cardboard shall be flattened and recycling containers un-capped, drained, and rinsed prior to disposal into the appropriate bin.
- Bagged recycling is not permitted.

16. Facility Management

- It shall be the responsibility of the Owner/Owners' Corporation to maintain all waste areas and components, to the satisfaction all relevant parties.
- It is recommended that an appointed owner/ site caretaker is responsible for managing the site's waste management procedures.
- The Owner/Owners' Corporation will ensure that maintenance and upgrades are carried-out on the facility and components of the waste system.

When required, the Owner/Owners' Corporation will engage an appropriate contractor to conduct services, replacements, or upgrades.

17. Protection of Waste Equipment

It will be the responsibility of the Owner/Owners' Corporation to protect the equipment from theft and vandalism. This may include the following initiatives:

- Secure the bin storage area
- Labelling/numbering the bins according to property address
- Residents will ensure that only waste emanating from the development's site/owners/residents is to be placed in the bins.
- The private collection contractor shall transfer bins from the store to the truck and back (bins shall not be placed on the street).

18. Labelling, Education & Communication

Signage is available at the following internet address:

<http://www.sustainability.vic.gov.au/www/html/2040-images-for-download.asp>

The operator shall publish and distribute "house rules" and educational material to:

- Inform users about the waste management system and the use/location of the associated equipment (include Sect. 5 of this report)
- Improve facility management results (lessen equipment damage, reduce littering, and achieve cleanliness)
- Advise users to sort and recycle waste with care to reduce contamination of recyclables.



19. Sustainability Obligations & Initiatives

The *Getting Full Value – the Victorian Waste and Resource Recovery Policy* and the *Statewide Waste and Resource Recovery Infrastructure Plan (SWRRIP)* have recently been put in place to promote a more effective and integrated waste management system within Victoria. As the State's population is rapidly growing, it is essential to minimise waste generation and provide more efficient and accessible waste infrastructure within Victoria. The two frameworks aim to be more responsible in addressing the environmental and public health risks of waste. Furthermore, *Getting Full Value* targets to "facilitate a Victorian waste and resource recovery system that maximises the economic value of waste."

The Owner/Owners' Corporation will observe the guidelines of the state's EMS initiatives and will encourage users to participate in minimising the impact of waste on the environment.

For improved sustainability, all relevant parties shall consider the following:

- Peruse the Sustainability Victoria Website: www.sustainability.vic.gov.au;
- Participate in council, community, and in-house programs for waste minimisation
- Establish waste reduction and recycling targets
- Conduct periodic waste audits, keep records, and monitor the amount of recyclables found in landfill-bound bins (sharing results with users/staff).

20. Strategy for the Future

For any future changes in legal requirements (revised best practice, new/updated legislation, by-laws, etc) or changes to the development's waste patterns (waste composition, volume, or distribution), the Owner/Owners' Corporation will be responsible for making the necessary adjustments to the waste management system, including:

- Conduct a waste audit and define a new waste strategy;
- Revise the waste system (bin-type/size/quantity/waste-streams);
- Re-educate users/staff; and

Revise the services provided by the collection contractor.



21. Summary of Waste Management Plan

1. The inspected plans indicate sufficient space has been allocated to meet the specifications as outlined in this report.
2. Collection arrangements and frequency will be sufficient.
3. Adequate access to all relevant parties is available.
4. Noise Minimisation as per Victorian EPA Noise Guidelines will be possible.
5. Litter, Pollution and Hygiene minimisation will be possible.
6. Safety, Design and Aesthetics of Bin Store is suitable.
7. Waste Management and Equipment Protection will be the owner's/Owners Corporation's responsibility.
8. Owners/Owners Corporation will be responsible for adjusting waste management strategies.
9. Obligations and initiatives regarding achieving Victoria's sustainability policies are being adhered to.

22. Contact Information

City of Monash (local council) ph 03 518 3433

Waste Wise Environmental (private waste collector) ph 03 9359 1555

Cleanaway (private waste collector) ph 131339

KS Environmental (private waste collector) ph 03 9551 7833

Eco-Safe Technologies (odour control equipment supplier) ph 03 9706 4149

Solution for Workplace Health and Safety (OH&S consultant) ph 0425 802 669

Electrodrive Pty Ltd (tug & trailer supplier – for bin transfers) ph 03 9357 7699

Sabco Commercial (supplier of cleaner's trolleys) ph 03 8698 2851

Sulo MGB Australia (bin supplier) ph 03 9357 7320

One Stop Garbage Shop (bin supplier) ph 03 9338 1411

Note: The above is a complimentary listing of collection contractors and equipment suppliers. The stakeholders are not obligated to procure goods/services from these companies. The Urban Leaf does not warrant (or make representations for) the goods/services provided by these suppliers.

23. Limitations

- The purpose of this report is to document a Waste Management Plan, as part of a Town Planning Application.
- This report is based on the following conditions:
 - Operational use of the development (excludes demolition/construction stages).
 - Drawings and information supplied by the project architect.
 - The figures presented in this report are estimates only. The actual amount of waste will depend on the development's occupancy rate and waste generation intensity, the operator's disposition toward waste and recycling, and the operator's approach to waste management. The operator shall make adjustments, as required, based on actual waste volumes (if the actual waste volume is greater than estimated, then the number of bins and/or the number of collections per week shall be increased).

This report shall not be used to determine/forecast operational costs, or to prepare feasibility studies, or to document operational/safety procedures.

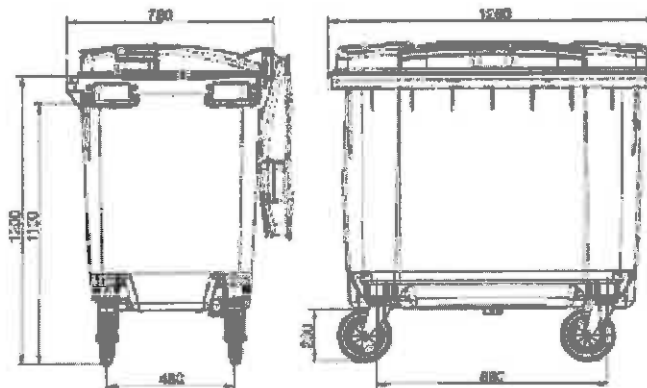


Appendix 1 – Bin Capacities & Dimensions

Dimensions - Weights - Standards

■ Nominal volume:	660 litres
■ Net weight:	43 kg
■ Max. load:	255 kg
■ Permitted total weight:	310 kg

Measurements to be used as a guide only - variations will occur





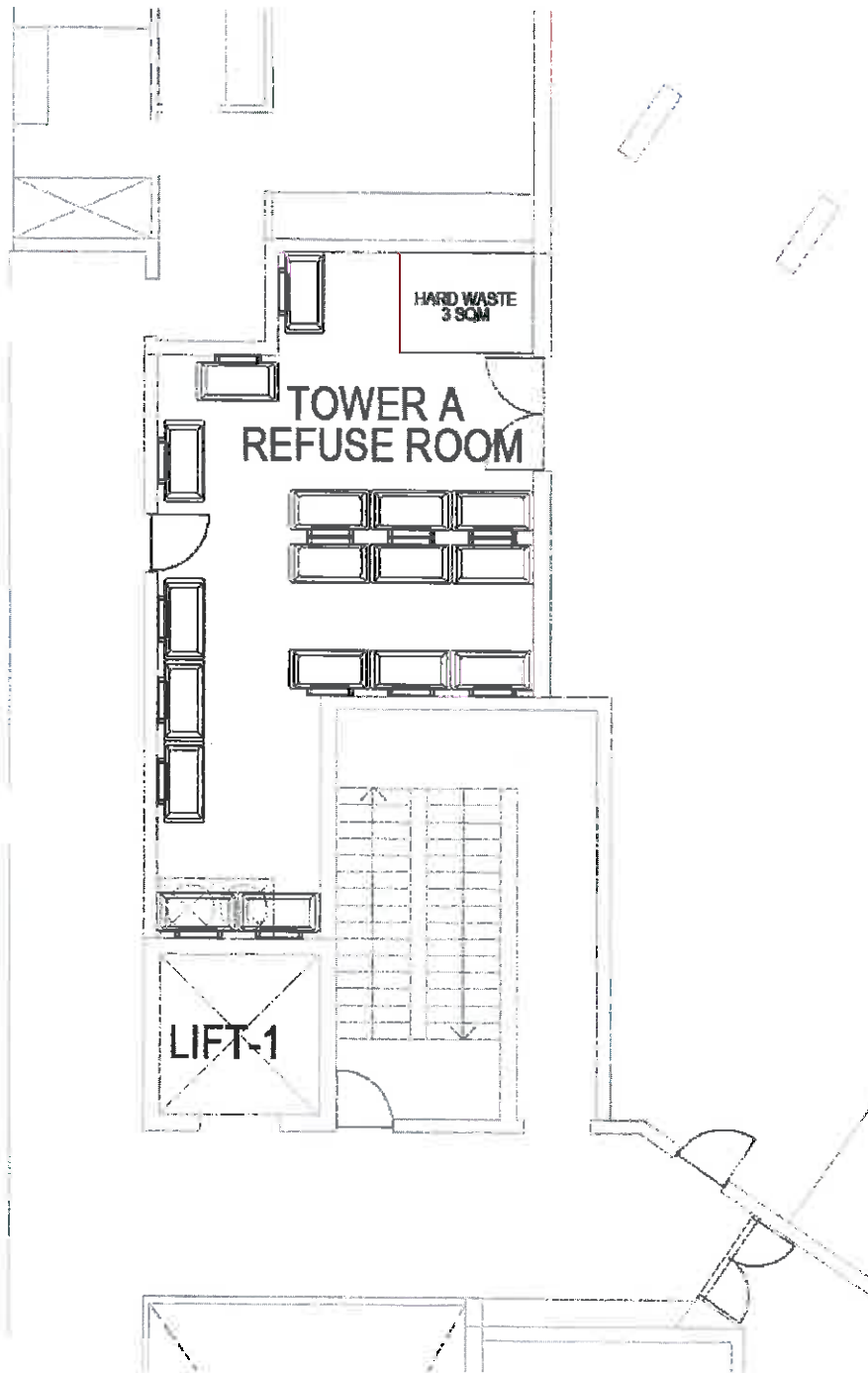
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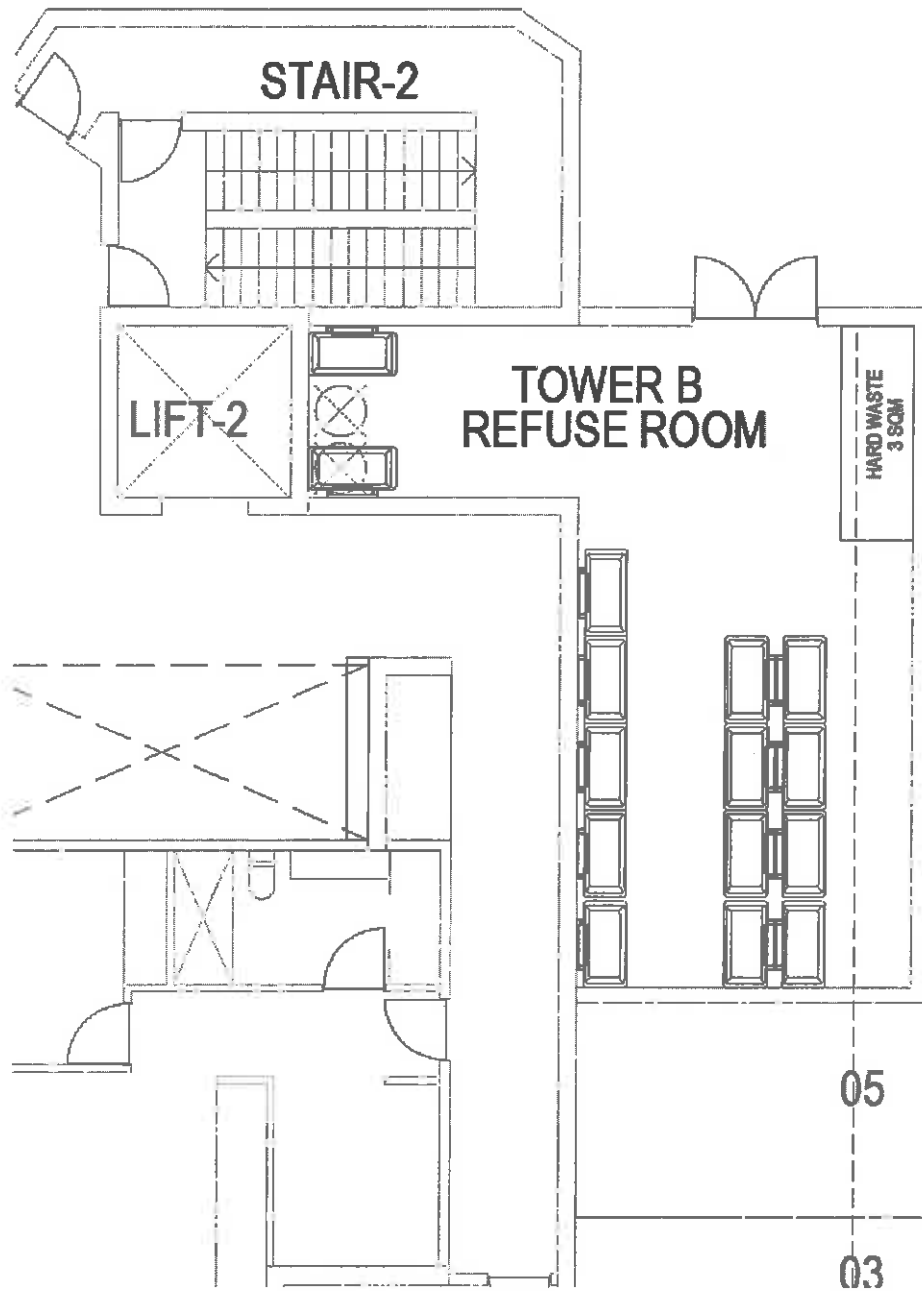
03 9553 7230

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Appendix 2 – Shared Bin Layout







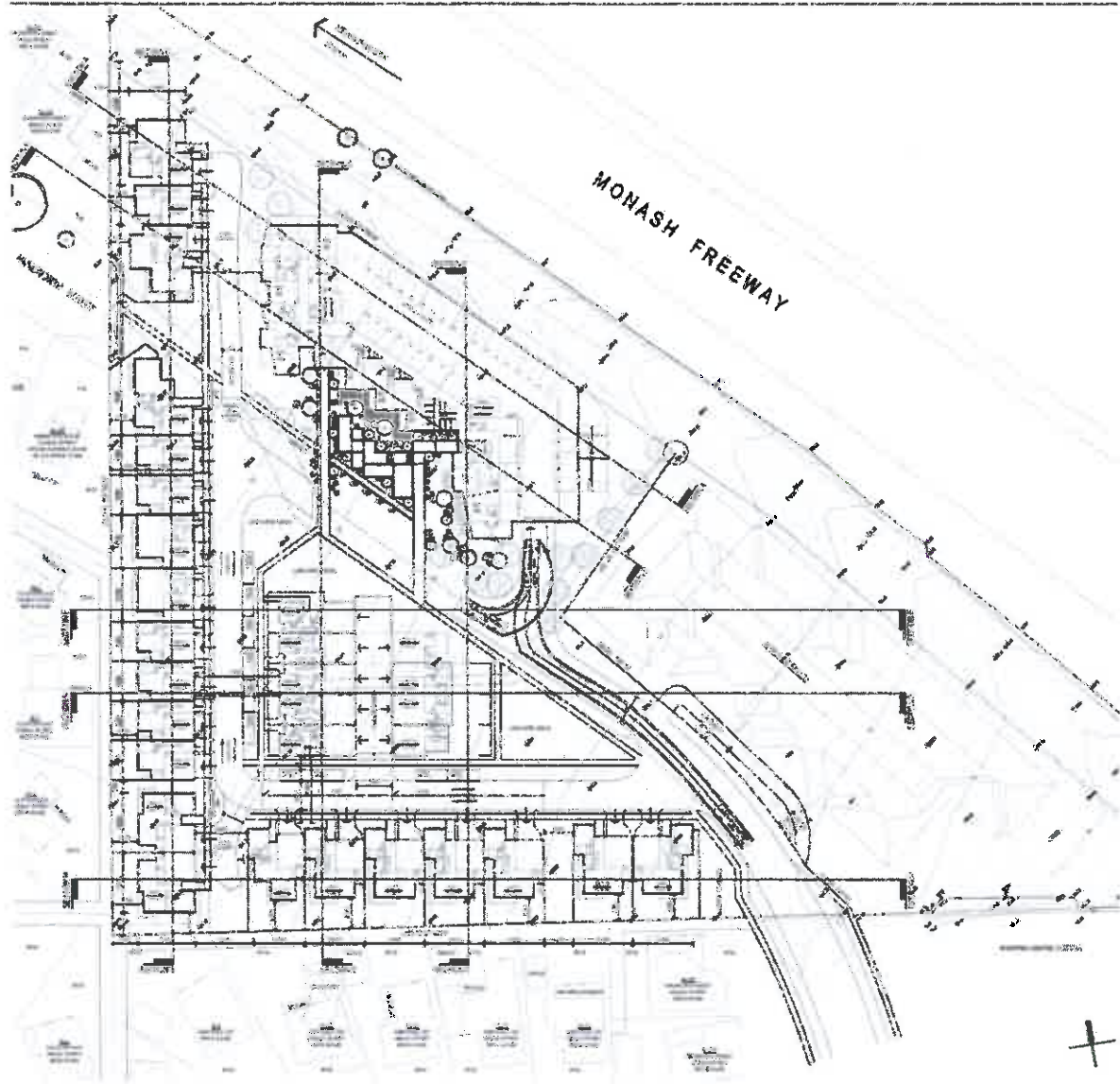
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Appendix 3 – Collection Vehicle Swept Path



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