



Garden Centre/Hardware and Building Supplies Premises, Strathfield South

127 Cosgrove Road, Strathfield South

Operational Waste Management Plan

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This report is based on information provided by Flower Power Pty Ltd coupled with Foresight Environmental's knowledge of waste generated within the retail and commercial sectors. To that extent this report relies on the accuracy of the information provided to the consultant. It has been compiled by Foresight Environmental on behalf of Flower Power Pty Ltd.

This report is not a substitute for legal advice on the relevant environmental related legislation, which applies to businesses, contractors or other bodies. Accordingly, Foresight Environmental will not be liable for any loss or damage that may arise out of this project, other than loss or damage caused as a direct result of Foresight Environmental negligence.

Revision No.	Issue date	Author	Reviewed by	Reason/comments
1	19 July 2017	Scott Ebsary	Sandy Casaroli	Initial issue for review
2	21 July 2017	Scott Ebsary		Incorporated initial comments from Lighthouse
3	31 July 2017	Scott Ebsary		Update with current plans
4	3 August	Scott Ebsary		Incorporate Mills Oakley comments

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1. Executive Summary

This waste management plan has been prepared by Foresight Environmental on behalf of Flower Power Pty Ltd as part of the Development Application for the proposed development located at 127 Cosgrove Rd, Strathfield South NSW. The plan details the way in which the proposed development will manage the waste and recycling generated from ongoing operations in accordance with Part H of the Strathfield Consolidated Development Control Plan 2005 – Waste Minimisation and Management Plan. This plan confirms that the waste facilities provided in the proposed design will adequately cater for the projected waste generation rates at the completion of the development and enable the implementation of operational best practice waste management.

2. Overview of Development

The proposed development is for alterations and additions to the existing tarpaulin factory building and surrounds, including the provision of at grade parking and the adaptive reuse of the building for the purposes of a garden centre and hardware and building supplies premises, which includes a café and the retail sale of:

- Plants
- Landscaping and gardening supplies and equipment
- Outdoor furniture and furnishings
- Barbeques
- Shading and awnings
- Pools, spas and associated supplies
- Pets and pet supplies
- Fresh produce
- Household fixtures
- Timber
- Tools
- Plumbing supplies, and
- Items used in the construction and maintenance of buildings and outdoor areas.

3. Waste Generation Estimate

Based on the information provided and benchmark data from similar developments, the primary waste streams expected to be generated in the ongoing operation of the development would be:

- Mixed recycling (plastics, glass, aluminium, steel)
- Cardboard and Paper Recycling
- Organic Recycling (food waste and vegetation)
- Soft Plastic Recycling
- General waste

3.1 Total Waste Generated

The following tables and charts summarise the expected quantities and composition of waste and recyclables generated through the ongoing operation of the development.

Table 1 – Waste generation estimate

	kg/day	L/day	kg/wk	L/wk
Cardboard/Paper	103	1,730	721	12,141
Food organics	351	1,004	2,466	7,047
Mixed recycling	25	422	178	2,964
Polystyrene/soft plastics	17	539	116	3,786
General waste	67	961	472	6,748
Total	558	4,657	3,919	32,685

Additional ad-hoc streams may be generated periodically– see following sections for further detail on these streams.

4. Waste Management Systems

Table 2 details the recommended systems and indicative collection frequencies to manage the estimated waste profile for the development.

Table 2: Recommended equipment and indicative collection frequency

Waste Stream	Bin Type	No. of Bins	Clearance Frequency	Capacity	Estimated volume / week	Footprint per bin m ²	Total bin Footprint m ²
Cardboard/ Paper Recycling	1100L MGB	3	4	13200	12,141	1.32	3.96
Food Organics	120L MGB*	12	5	7200	7,047	0.27	3.24
Mixed Recycling	660L MGB	1	3	3300	2,964	0.98	0.98
Soft plastic/ polystyrene	Bale Frame	2	2	4400	3,786	1.3	2.6
General Waste	1100L MGB	3	3	9900	6,748	1.32	3.96
Total bin footprint							14.74

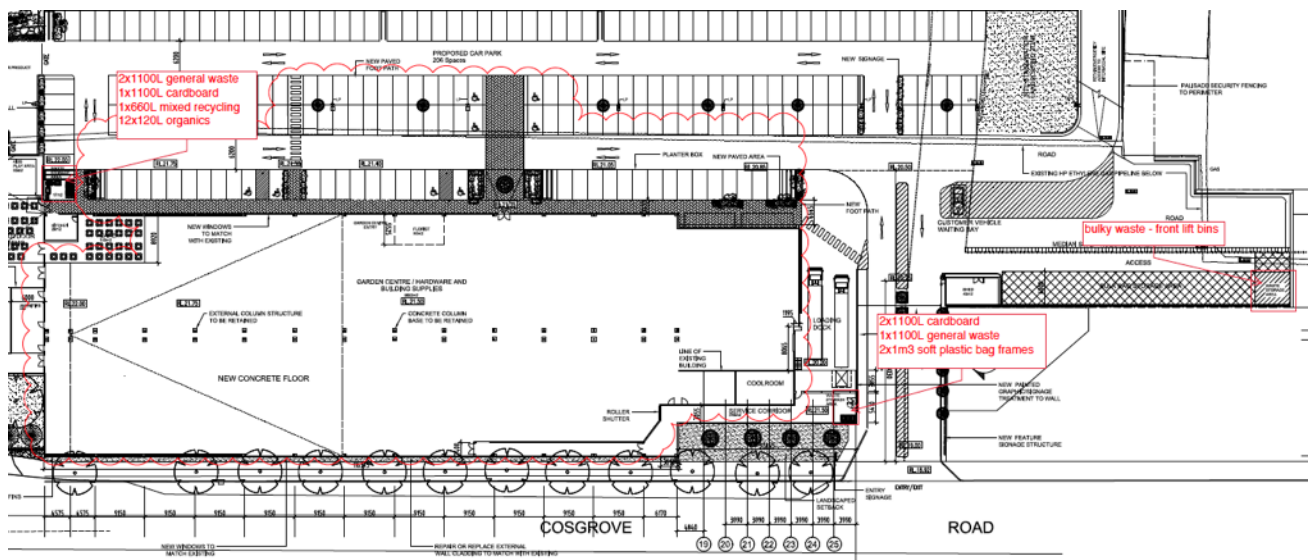
*An alternative onsite organics processing solution may be viable – details provided in section 6.

5. Waste and Recycling Storage Areas

The following figures show the location and indicative layout of the waste storage area and loading dock area.

Figure 1 highlights the location of the main waste storage area, the additional storage area adjacent to the loading dock and the bulky waste storage area.

Figure 1: Waste storage areas



The main waste storage area is adjacent to the café kitchen, providing convenient access for café staff.

The additional waste storage area adjacent to the loading dock provides for convenient access to recycling bins for packaging waste from deliveries to the garden centre i.e. cardboard and soft plastic packaging.

Figures 2 and 3 show indicative layouts of the two waste areas.

Figure 2: Indicative layout of main waste storage area – adjacent to cafe

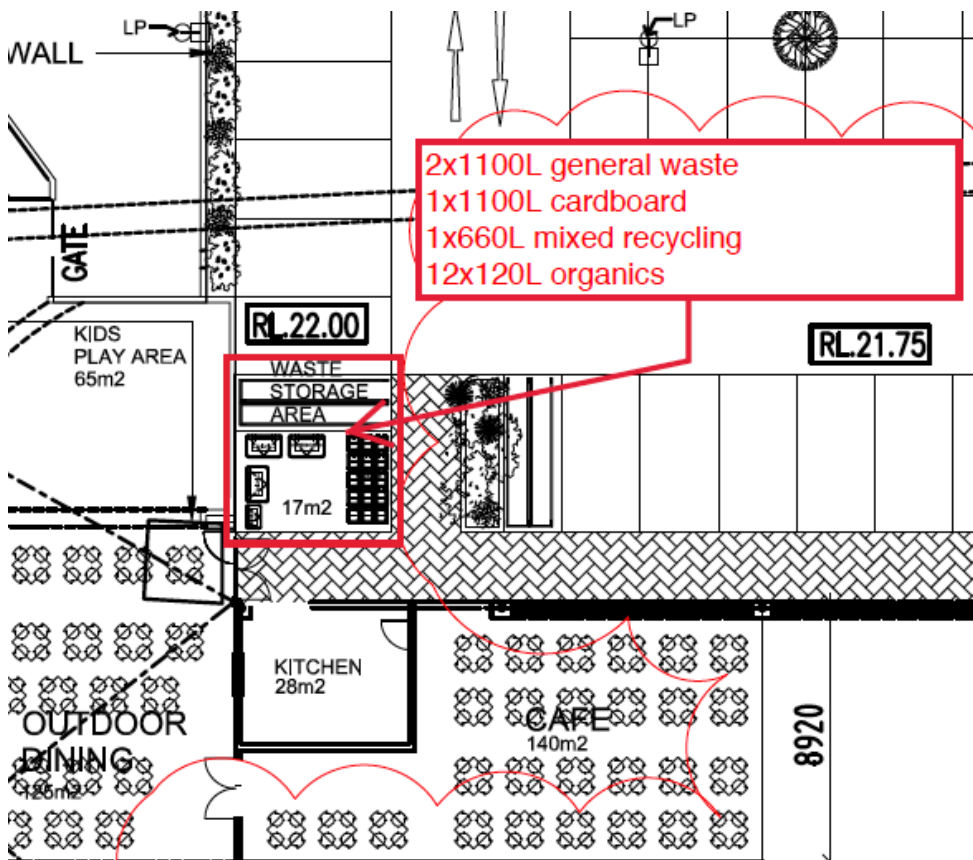
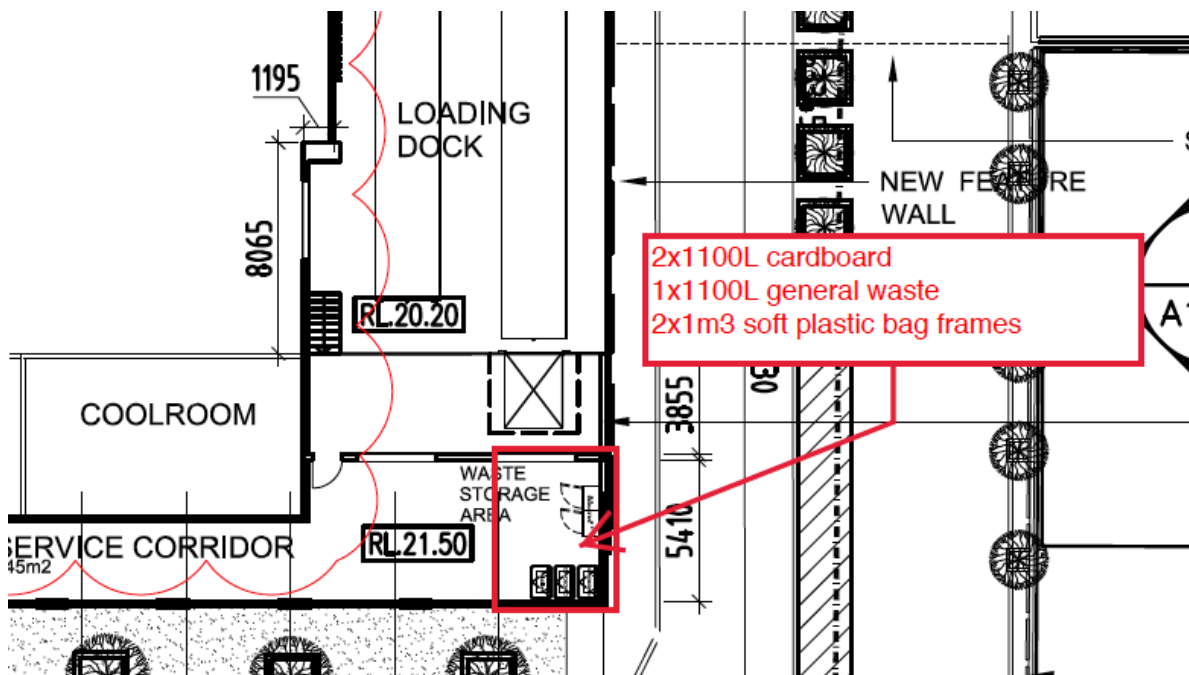


Figure 3: Indicative layout of additional waste storage – adjacent to loading dock

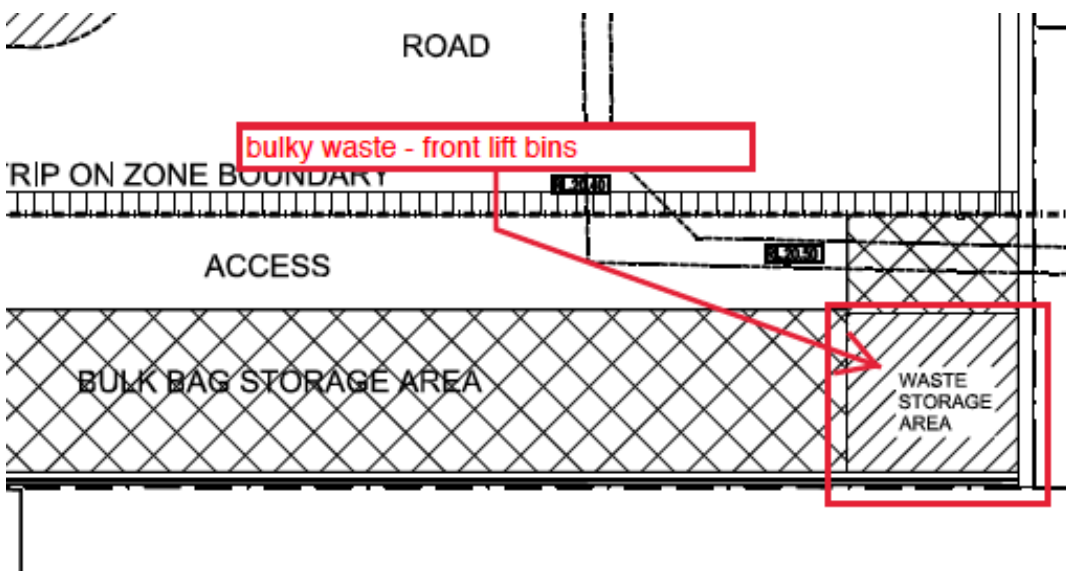


In accordance with the provisions of Part H of the Strathfield Consolidated Development Control Plan 2005 – Waste Minimisation and Management Plan - Appendix D, each waste and recycling storage room will have the following features:

- Ventilation: The bin storage room will be ventilated to external air or mechanically exhausted in accordance with AS 1668.2-2002
- Odour:
 - Cleaners/users are to ensure that bin lids are closed when unattended
 - Collection frequencies are set to adequately mitigate against odour
- Noise: Noise will not be an issue due to the location of the waste storage areas away from public patrons and due to the fact that collections will occur outside of normal trading hours
- Floor: Structural concrete slab with smooth epoxy topping finish with coved wall and floor junctions. Graded drains to approved sewer connections – fitted with an in-floor dry basket arrestor approved by Sydney Water Corporation.
- Lighting: Base building lighting with switches inside and outside waste room (sensors may also be used)
- Water Supply: cold tap and hose connection
- Signage: clear signage identifying the various streams and appropriate use will be prominently displayed (see section on signage below)

Bulky wastes generated from nursery operations and bulk goods handling are recommended to be managed in larger front-lift bins that would be located in an appropriate areas within the outdoor bulk goods area. Figure 4 shows an indicative location for the storage of larger front-lift bins

Figure 4: Location of additional space for bulky waste



5.1 Signage

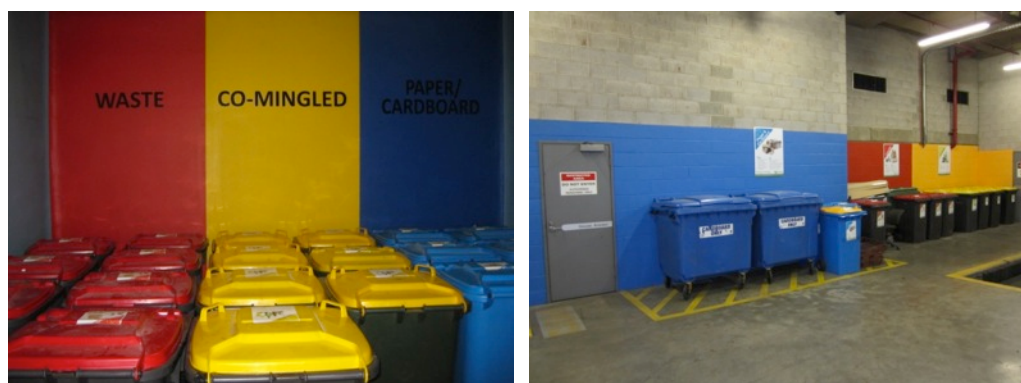
All waste and recycling streams should be differentiated with clear signage on all bins and on walls within the waste storage room. Below are examples of appropriate signage incorporating textual information, pictures and colour-coding to communicate the message.



5.2 Colour-coding

To further reinforce the differentiation between waste and recycling streams, it is highly recommended that the bin storage room be colour-coded to ensure bins are stored in the correct area and to enable easy identification of the streams provided. This can be done by painting borders on the floor indicating where bins should be stored. The colour of the paint should be consistent with the waste stream e.g. yellow paint for mixed recycling, red paint for general waste. The waste room walls can also be painted.

Photographs 1 & 2 – Examples of appropriate colour-coding



6. Onsite Management Protocols

Table 3 below outlines a high-level management procedure for the movement of waste internally. It is expected that a detailed facilities management plan would be developed at an appropriate time with the operator to address the finer details of these procedures.

Table 3: Onsite management protocols

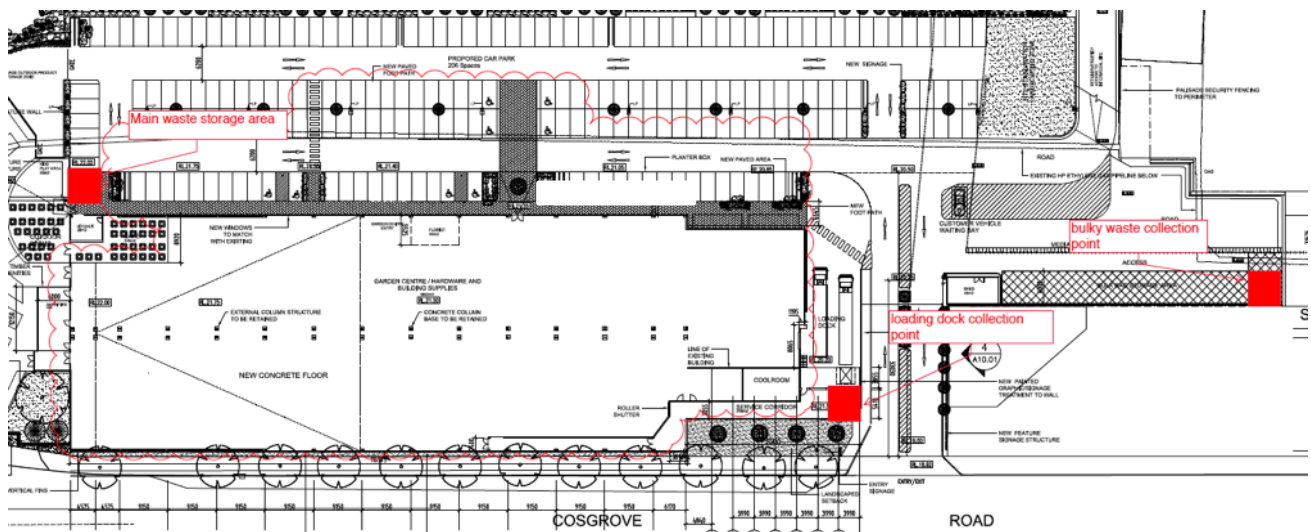
Component	Management Protocol
Café, kitchen	Staff will be responsible for the management and separation of waste and recycling within the kitchen area in smaller bins before transferring the waste and recycling to the bins provided in the main waste storage area as required throughout the day
Fresh Produce	Staff will be responsible for the management and separation of waste and recycling within the back of house (BOH) area. It is expected that the sale of fresh produce will produce a significant quantity of organic waste and so it is recommended there are dedicated 120L MGBs within the BOH area which would then be transferred to the waste storage area for storage and collection as required. Cardboard from deliveries should be dealt with within the service corridor by using the bins provided adjacent to the loading dock.
General waste	The majority of general waste from the garden centre and hardware and building supplies premises will be generated when deliveries are received and so should be dealt with within the service corridor – cardboard and soft plastic packaging can be disposed directly into the bins located adjacent to the loading dock.
Plants and landscaping and gardening supplies/bulky waste	Any bulky waste generated from the sale of plants and landscaping and gardening supplies and bulk goods handling would be managed in larger front lift bins stored in an appropriate area within the outdoor bulk goods area. Due to the ad-hoc nature of these wastes, the stream and size of the bins would be determined by the operator as required once operational i.e. 3m3 landfill bin, 3m3 vegetation bin etc

7. Collection

Collections will be conducted by the appointed waste contractor (TBD). All recommended bin systems will be collected by either a rear-lift truck for MGB systems or a front-lift truck for bulk bins. Collections will occur outside of normal trading hours (early AM) to minimize disruption to public patrons and other deliveries. Collections will occur in the loading dock and within the carpark adjacent to the main waste storage area. Bulky waste front lift bins would be collected directly from their location within the bulk goods area.

Figure 5 shows the proposed collection points.

Figure 5: Proposed collection points



A Traffic Impact and Parking Assessment report has been developed by Transport and Urban Planning Pty Ltd as part of the submission – this report details expected truck movements and onsite accessibility. The report demonstrates that onsite access has been specifically designed for the largest vehicle that may enter the site, in this case a B-double. The report shows the swept paths of large trucks including a B-double and verifies that they can enter the site in a forwards direction, use the loading dock, turn around on site and leave in a forwards direction. The access required for a B-double far exceeds the requirements of the standard rear-lift and front-lift waste trucks that will enter site (as per figures 6 and 7 below).

Waste truck specifications will vary slightly between contractors however as a guide, all streams and bins recommended in this report would typically be collected by a MRV rear lift waste truck with bulky waste being collected by a front-lift truck.

Figure 6: Medium rear-lift commercial waste truck specifications

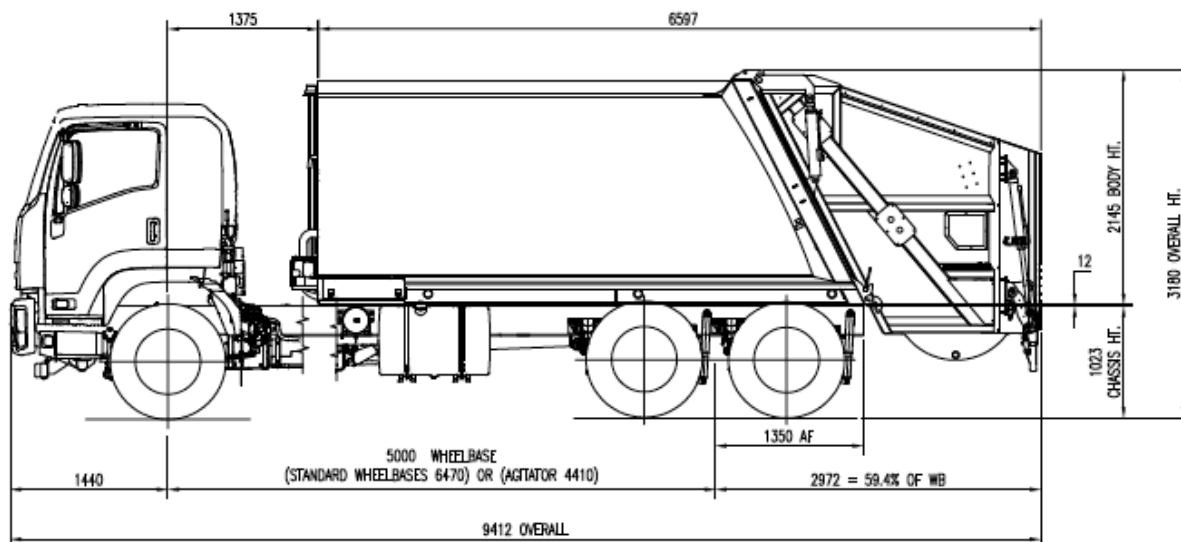
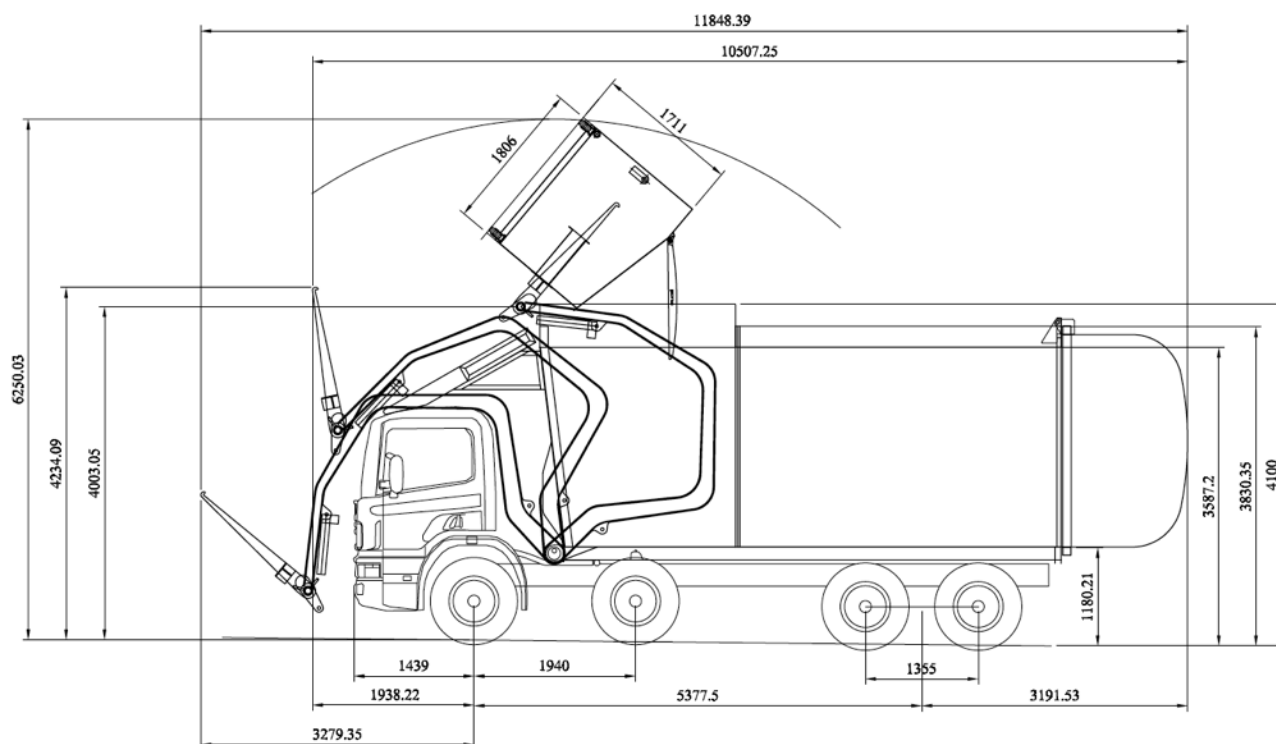


Figure 6: Front-lift commercial waste truck specifications



8. Appendix – Consultant Experience

Foresight Environmental (Fe.) is an industry leading waste management consultancy providing expert waste management advice to business and government organisations.

Fe. specialise in the development of tailored portfolio-wide best practice waste management strategies for retail and commercial property groups. We work with property portfolios at a national, site and tenant level to ensure multi-lateral collaboration to improve recyclable recovery, reduce landfill generation and maximise overall cost savings. Areas of focus include data integrity and reporting, tender management, dock waste management planning and tenant education programs.

Fe. also collaborate with industry groups, including Better Building Partnership, NABERS & City Switch, in an effort to build stakeholder capacity and drive change within the industry. Fe. brings extensive experience and practical solutions for real-world applications to every project and is excited to be part of projects that drive change within the industry. The team at Fe. collectively have over 30 years experience and below is a selection of our work including waste management plans and physical waste audits in line with OEH NSW Guidelines:

- Sydney Opera House – physical contamination audit, due diligence and data review. Detailed strategy and behavioral recommendations were made.
- AMP Capital (national commercial portfolio) – physical contamination audits conducted at all sites across the national portfolio to determine baseline contamination rates and densities
- Westpac (Kogarah Branch) – detailed physical audit of commercial branch offices to achieve baseline data for future recommendations and future analysis/comparison
- Westpac (275 Kent Street) - detailed physical audit of commercial floors to achieve baseline data and separate commercial waste from retail waste. Recommendations for future improvements were made and a contractor data integrity analysis was conducted.

State Property Authority - Conducted a detailed waste audit of the SPA premises in Sydney reporting results, recommendations for future waste management and data to meet WRAPP requirements.

- Department of Human Services - Conducted detailed waste audits of seven DHS premises through Australia. Review of waste generation and waste management practices.
- Transport NSW – Annual audit of offices in Sydney, a detailed site assessment, review of waste generated and waste management practices, reporting of results, continual monitoring and site assessments.
- Sydney International Convention, Exhibition and Entertainment Precinct (Lend Lease) – preparation of waste management strategy and plans for DA encompassing all functions and components within the precinct including exhibition space, convention centre, entertainment centre, hotel, residential, commercial, retail and public domain (CoS and iNSW)
- Barangaroo (Lend Lease) – preparation of waste management plan for residential components and basement infrastructure for DA and Green Star rating (CoS and GBCA)
- Barangaroo (Lend Lease) Public Space waste management strategy (CoS).

- O'Connell Street podium retail and basement redevelopment - preparation of C&D and ongoing operation waste management plans for DA and Greenstar (CoS and GBCA)
- Green Square Community Facilities redevelopment of South Sydney Hospital Site, Zetland – preparation of waste strategy and design input, preparation of waste management plan for DA (CoS)
- Defense Housing Australia Shout Ridge Residential Development, Lindfield – development of waste management plan for DA and Green Star rating (KMC and GBCA)
- Westfield Sydney – preparation of waste management plan for DA and ongoing operational strategy/support (CoS)
- West Keira, Wollongong mixed use development (GPT) – preparation of waste management plan for DA and Green Star rating (Wollongong City Council and GBCA)
- Wet n Wild water park development (Buchan Group) - preparation of waste management plan for DA
- Craigieburn Town Centre retail development (Lend Lease) – preparation of waste management plan for DA and Green Star rating (Hume City and GBCA)