Melrose Park Public School
110 Wharf Rd, Melrose Park NSW 2114
Educational Facility

OPERATIONAL WASTE MANAGEMENT PLAN

1/04/2025
Report No. 6269
Revision C

Client

NSW Department of Education
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GLOSSARY OF ABBREVIATIONS AND TERMS

TERM	DESCRIPTION
Bin-Carting Route	Travel path for transporting bins from their allocated storage location to the nominated collection point
Bin Lifter	A device used to mechanically lift bins for the purpose of emptying them into larger bins and/or compactors.
Bin Mover	Either a handheld device (commonly referred to as a bin tug) or a ride-on device (typically a tractor or Class C vehicle with an attached bin trailer) used to facilitate the movement of bins across long distances or up ramps
Bulky Waste	Recycling items that are too large to be deposited into bins, including furniture, whitegoods, electronics and mattresses
Collection Area/Point	Designated area or point where bins are loaded onto the collection vehicle for servicing
Comingled Recycling	Waste stream for the recycling of plastic bottles, other plastics, paper, glass and metal containers
DA	Development Application
DCP	Development Control Plan
EPA	Environment Protect Authority
FOGO	Food Organics and Garden Organics
General Waste	All non-recyclable and non-hazardous waste that is sent to landfill
HRV	Heavy Rigid Vehicle
Kerbside Collection	A collection arrangement whereby bins are presented in a single row along the kerb and serviced by a collection vehicle on the street.
L	Litre
LEP	Local Environmental Plan
Mobile Bins	Containers with a capacity up to and including 1100L designed to be collected by a rear-loading vehicle
MRV	Medium Rigid Vehicle
Onsite Collection	A collection arrangement whereby all bins are serviced by a collection vehicle within the property boundary, either in the building's basement or at grade and off-street.
Paper/ Cardboard Recycling	Waste stream for the recycling of paper and cardboard only.
Recycling	Waste stream that combines all recycling, including comingled recycling, paper/cardboard and metals.
Source Separation Receptacles	Communal containers used throughout the development for the day-to-day disposal of different waste streams
SRV	Small Rigid Vehicle

Waste Stream	A classification used to describe waste of a particular type (eg. food waste stream)
WHS	Workplace Health and Safety
Wheel-Out Wheel Back	A collection arrangement whereby a collection vehicle parks on the street and collection staff exit the vehicle to wheel each bin from a designated storage area to the vehicle for servicing and returns them upon completion.

1.0 ACKNOWLEDGEMENT OF COUNTRY

Elephants Foot Consulting (EFC) acknowledges that every project we work on takes place on First Peoples land. We recognise Aboriginal and Torres Strait Islander People as Traditional Custodians of this land. We pay respect to ancestors and Elders, past and present.

2.0 INTRODUCTION

This Operational Waste Management Plan (OWMP) has been prepared to accompany a Review of Environmental Factors (REF) for an activity proposed by the Department of Education under Part 5 of the Environmental Planning and Assessment Act 1979 (EP&A Act) and State Environmental Planning Policy (Transport and Infrastructure) 2021 (SEPP TI).

This document has been prepared in accordance with the Guidelines for Division 5.1 assessments (the Guidelines) by the Department of Planning, Housing and Infrastructure.

This report examines and takes into account the relevant environmental factors in the Guidelines and *Environmental Planning and Assessment Regulations 2021* under Section 170, Section 171 and Section 171A of the EP&A Regulation as outlined in **Table 1.**

Table 1: Summary of Relevant Section of the Part 5 Guidelines and EP&A Regulation

Regulation / Guideline Section	Requirement	Response	Report Section
a) Environmental impact on the community	Waste and servicing arrangements	The waste and recycling streams will be collected by an applicable private contractor or contractors according to an agreed schedule. The loading bay is accessible from Mary Street via the access way (see APPENDIX A.1)	Section 6.4 of the OWMP.
j) Risk to the safety of the environment	Impact on soil resources and related infrastructure	The following procedures should be followed to manage contamination: - Signage must be placed on each bin indicating which waste stream the bin is used for. - Cleaners should visually inspect each bin when emptying it in its operational position. - The waste contractors should visually inspect the bins when servicing bin - If contamination occurs –one of the two courses of action should be followed: If the contamination is minimal and easy to remove without risk to personnel, the waste stream should be decontaminated. - If contamination is significant or may cause risk to human or environmental health. The load must be rejected, and the contents should be treated as landfill waste, etc	Section 9 and 10 of the OWMP.
l)pollution of the environment	l1) any pollution during construction and post construction e.g. air (including odours and greenhouse gases); water (including runoff patterns, flooding/tidal regimes, water quality health); soil (including contamination, erosion, instability risks); noise and vibration (including consideration of sensitive receptors); light pollution; waste, including hazardous waste l2) impact of contamination spill, movement or disturbance	The following measures should be implemented to prevent any waste pollution on the site: - Assessing any manual handling risks and prepare a manual handling control plan for waste and bin transfers. - Preventing storm water pollution by taking necessary precautions (securing bin areas, preventing overfilling of bins). - Cleaning and transporting of bins as required. - Organising, maintaining and cleaning the general and recycled waste holding area. - Organising both garbage and recycled waste pick-ups as required. - Organising replacement or maintenance requirements for bins.	Refer to table 5 of the OWMP.

Regulation / Guideline Section	Requirement	Response	Report Section
	during and post construction, and into the long term	- Organising bulky goods collection when required. - Investigating and ensuring prompt clean-up of illegally dumped waste materials. - Rectifying contamination issues.	
m) environmental problems associated with the disposal of waste	(m1) environmental problems of waste during and after construction (left over construction materials, and personnel waste), transport and disposal of waste, ongoing use and eventual decommission of the development	School management must have written evidence of waste contracts on the premises at all times. School management should also have documented evidence that the waste contractors are authorised to accept that type of waste stream. This document can be an environmental protection licence or other environmental permit or exemption issued by a government agency.	Section 6.4 of the OWMP.

2.1 ACTIVITY DESCRIPTION

The activity is for upgrades to Melrose Park Public School within a one to three-storey built form, including:

- Demolition of existing school buildings;
- Site preparation works including tree removal;
- Construction of the following buildings:
  - Block A: One (1) storey building comprising:
    - universal pre-school;
    - outdoor play area for the UPS; and
    - detached storeroom;
  - **Block B1**: Two (2) storey building comprising:
    - staff and administration areas;
    - library;
    - 4 special programs rooms;
    - Pedestrian bridge to Block B2;
  - **Block B2:** Three (3) storey building comprising:
    - 23 classrooms;
    - amenities/services cores; and
    - pedestrian bridge to Block B3;
  - **Block B3:** Three (3) storey building comprising:
    - 12 classrooms; and
    - amenities/services cores;
  - **Block C**: One (1) storey building comprising:
    - hall;
    - amenities;
    - canteen;
    - OSHC; and
    - COLA;
- Construction of two (2) car parking areas; and
- Landscaping works.

2.2 ACTIVITY SITE

Melrose Park Public School is located at 110 Wharf Road, Melrose Park and is legally known as Lot 3 in DP 535298 with an approximate site area of 2.5 hectares. The site has a frontage to Wharf Road (east), Mary Street (south), and Waratah Street (west). The site is adjoined by 2-3 storey light industrial development to the north, 1-2 storey industrial and commercial developments to the south, residential dwellings to the east and industrial and commercial development to the west.

An aerial photograph of the site is provided in **Figure 1** below.

3.0 MITIGATION MEASURES

Table 2: Mitigation Measures

Mitigation Number/ Name	When is Mitigation Measure to be complied with	Mitigation Measure	Action/responsible
Recycling and Reuse	Construction and School Operation	Implement recycling programs to recover valuable materials from waste.	**Action** Recycling Program: Educate students regarding the correct use of the bins. Set up labelled bins in key locations. **Responsible**: School administration, teachers and staff, cleaners
Education	Construction and School Operation	Conduct campaigns to inform the community about proper waste disposal and the benefits of reducing waste.	**Action** Organize workshops, campaigns, and presentations on waste reduction and sustainability for students, staff, and parents. **Responsible**: Teachers
Monitor Energy and Resource Usage	Construction and School Operation	Implement data collection and reporting systems for waste management activities.	**Action** Regularly monitor utility bills to track energy, water, and other resource consumption in the school. Report monthly or quarterly on energy-saving progress and areas for improvement. **Responsible**: School administration
Policy and Regulation Compliance	Construction and School Operation	Regularly review and update waste management plans to comply with environmental regulations.	Action Regularly review the school's policies to ensure they remain in line with evolving environmental regulations, best practices, and the school's own sustainability goals. Responsible: School administration, teacher and staff

4.0 EVALUATION OF ENVIRONMENTAL IMPACTS

The following table evaluates key elements of the waste management plan, assesses potential environmental impacts, and provides recommendations to mitigate negative impacts.

Table 3: Evaluation of Environmental Impacts

Waste Management Aspect	Environmental Impact	Evaluation of Impact	Mitigation/measures	Evaluation impact
Waste Generation (Type and Volume)	- Excessive non-recyclable materials increase landfill volume	-Large quantities of waste, especially organic and non-recyclable, contribute significantly to environmental harm.	- Implement waste reduction programs (e.g., reducing packaging, encouraging reusable containers). - Expand food waste segregation.	Not a significant effect on the environment considering the recommended mitigation measures.
Recycling and Resource Recovery	- Recycling reduces raw material consumption and saves energy. - Contaminated recyclables reduce recycling efficiency.	- Contamination from improper recycling (e.g., food waste in plastic bins) undermines the program's effectiveness.	- Increase recycling education programs for students and staff. - Improve bin labelling and separation at source.	Not a significant impact considering the recommended mitigation measures.
Landfill Use	- Increased waste diversion reduces landfill usage. - Landfill waste contributes to greenhouse gas emissions (methane).	- A large portion of the school's waste still ends up in landfills, particularly non-recyclable materials.	- Decrease reliance on landfilling by increasing diversion rates (recycling and reuse). - Explore partnerships with waste diversion programs.	Not a significant impact considering the recommended mitigation measures.
Sustainability and Education	- Waste management systems can serve as educational tools for sustainability practices	While there are initiatives, education and involvement in sustainability practices are insufficient.	- Create sustainability education programs to involve students in waste management and teach environmental responsibility.	Not a significant impact considering the recommended mitigation measures.

4.1 SCOPE OF REPORT

This OWMP only applies to the **operational** phase of the proposed development; therefore, the requirements outlined in this OWMP must be implemented during the operational phase of the site and may be subject to review upon further expansion of, and/or changes to the development.

The waste management of the **construction** and **demolition** phases of the development are not addressed in this report. A construction and demolition WMP will be provided separately.

4.2 REPORT CONDITIONS

The purpose of this report is to document an OWMP as part of a development application, which is supplied by EFC with the following limitations:

- Drawings, estimates and information contained in this OWMP have been prepared by analysing the information, plans and documents supplied by the client and third parties including Council and other government agencies. The assumptions based on the information contained in the OWMP is outside the control of EFC,
- The figures presented in the report are an estimate only – the actual amount of waste generated will be dependent on the occupancy rate of the building/s and waste generation intensity as well as the school management's approach to educating residents and tenants regarding waste management operations and responsibilities,
- School management will adjust waste management operations as required based on actual waste volumes (e.g. if waste is greater than estimated) and increase the number of bins and collections accordingly,
- The report will not be used to determine or forecast operational costs or prepare any feasibility study or to document any safety or operational procedures,
- The report has been prepared with all due care; however no assurance is made that the OWMP reflects the actual outcome of the proposed waste facilities, services, and operations, and EFC will not be liable for plans or results that are not suitable for purpose due to incorrect or unsuitable information or otherwise,
- EFC offer no warranty or representation of accuracy or reliability of the OWMP unless specifically stated,
- Any manual handling equipment recommended in this OWMP should be provided at the recommendation of the appropriate equipment provider who will assess the correct equipment for supply,
- Design of waste management chute equipment and systems must be approved by the supplier,
- EFC cannot be held accountable for late changes to the design after the OWMP has been submitted to Council,
- EFC will provide specifications and recommendations on bin access and travel paths within the OWMP, however it is the architect's responsibility to ensure the architectural drawings meet these provisions,
- EFC are not required to provide information on collection vehicle swept paths, head heights, internal manoeuvring or loading requirements. It is assumed this information will be provided by a traffic consultant,
- Council are subject to changing waste and recycling policies and requirements at their own discretion.
- This OWMP is only finalised once the draft watermark has been removed. If the draft watermark is present, the information in the OWMP is not confirmed.

5.0 LEGISLATION & GUIDANCE

Waste management and resource recovery regulation in Australia is administered by the Australian Constitution, Commonwealth laws, and international agreements. State and territory governments maintain primary responsibility for controlling development and regulating waste. The following legislation has been enacted in New South Wales, and provides the lawful underpinnings of this OWMP.

- NSW Environmental Planning & Assessment Act 1979
- NSW Protection of the Environment Operations Act 1997
- NSW Waste Avoidance & Resource Recovery Act 2001

At the local level, councils or Local Government Areas (LGAs) require OWMPs to be included in new development applications. This OWMP is specifically required by:

- Parramatta Development Control Plan 2023
- Parramatta Local Environmental Plan 2023

The primary purpose of a Development Control Plan (DCP) is to guide the planning process according to the aims of the corresponding local environmental plan (LEP). The DCP must be read in conjunction with the provisions of the relevant LEP.

Information provided in this OWMP comes from a wide range of waste management guidance at the local, state, and federal levels. The primary sources of guidance include:

- Parramatta Development Control Plan 2023: Appendix 2: Waste Management
- NSW Department of Education *Educational Facilities Standards and Guidelines Requirement DG02 (2.7.2)*
- School Infrastructure Pattern Book : Standardised for School
- NSW Better Practice Guide For Resource Recovery In Residential Developments 2019
- NSW Better Practice Guidelines for Waste Management and Recycling in Commercial and Industrial Facilities 2012
- NSW Waste Avoidance and Resource Recovery (WARR) Strategy 2014-2021
- NSW Waste Classification Guidelines 2014
- Australia's National Waste Policy 2018

6.0 SCHOOL WASTE MANAGEMENT

The following section outlines best practice waste management for the development, including waste generation estimates and waste disposal and collection procedures.

6.1 WASTE GENERATION ESTIMATES

The NSW EPA's *Better Practice Guide for Resource Recovery in Residential Developments* (2019) has been referenced to calculate the total number of bins required for the educational facility. It is assumed that the waste and recycling generation rates from the NSW EPA's *Better Practice Guide For Resource Recovery In Residential Developments 2019* for educational facilities actually reflects weekly generation per student rather than a 'daily' generation.

Calculations are based on generic generation rates. Actual volumes of waste and recycling may differ in operation according to the school's actual waste management practices.

The following table shows the estimated volume (L) of general waste and recycling that will be generated by the by school as well as the recommended number of bins for the site.

Table 4: Estimated General Waste and Recycling Volumes

Type	# Students	General Waste Generation Rate (L/student/week)	Generated General Waste (L/week)	Recycling Generation Rate (L/student/week)	Generated Recycling (L/week)
Schools: Primary	**705**	15	10575	20	14100
Support learning	**15**	15	225	20	300
Preschools	**60**	10	600	15	900
Bins & Collections		General Waste Bin Size (L)	1100	Recycling Bin Size (L)	1100
		General Waste Collections per Week	2	Recycling Collections per Week	2
		Total General Waste Bins Required	**5**	**Total Recycling Bins Required**	**7**

6.2 BIN SUMMARY

Based on the estimated waste and recycling volumes generated by the site, the recommended bin quantities and collection frequencies are as follows:

General Waste: 5 x 1100L bins collected **2 x weekly**

Recycling: 7 x 1100L bins collected **2 x weekly**

Bin sizes, quantities, and/or collection frequencies may be modified by the school management once the proposed development is operational. School management will also be required to negotiate any changes to bins or collections with the collection service provider. Fluctuations in waste generation (for example school holidays) should also be considered.

The general waste and general recycling can be further divided into more specific waste and recycling streams to increase recovery. The general waste stream can be separated into landfill waste, food waste and soft plastics recycling. The general recycling can be divided into co-mingled recycling, glass recycling and refundable containers. It is recommended that the further separation of waste streams is conducted once the site is operational to best reflect the operations of the site and the proportion of each waste stream generated. It is recommended that annual waste audits are conducted to help understand the composition and total volumes of each waste stream generated during operation.

6.3 WASTE DISPOSAL PROCEDURES

A bin storage area will be located on the ground level next to the preschool parking (See Appendix A.1). The bin storage area will contain 1100L MGBs for the collection of waste and recycling. The groundskeeper, waste collection staff and cleaners will be the only personnel with access to the bin storage area. All transportation of waste and recycling must be co-ordinated with the groundskeeper or cleaners.

Suitably labelled waste and recycling receptacles or bins approx. 20L in size will be placed in each room and throughout the campus grounds. Waste and recycling receptacles should be provided in convenient locations and areas of high waste generation.

The school and preschool students, staff and visitors will be responsible for placing their waste and recycling into the correct receptacle. The fullness of the source separation bins will be monitored by the groundskeeper and cleaners.

A recycling service for soiled disposable nappies should be investigated for the preschool. Relivit offers a recycling service and will call the centre 8 weeks out from the commencement of the service to put in place a formal waste contract and arrange the implementation of the service if desired.

On completion of each school day or as required, the cleaners will circulate throughout the campus after hours and empty the waste and recycling receptacles situated throughout the school. The cleaners will then transport will transport all general waste and recycling to the bin storage area and dispose of the waste and recycling into the appropriate collection bins.

6.4 WASTE COLLECTION PROCEDURES

A private waste collection contractor will be engaged to service the waste and recycling bins per an agreed schedule. The collections will be in accordance with the Department of Education's contracts with a private waste collection service. This report assumes that general waste and recycling will be collected two times weekly.

On the day of service, a private waste collection vehicle will enter the site from Mary Street and park in the loading bay adjacent to the bin storage area. The waste collection staff will collect the bins from the bin storage area. Once the bins are serviced, the collection vehicle will exit the site onto Mary Street in a forward direction.

6.5 OTHER WASTE MANAGEMENT CONSIDERATIONS

Based on the types of tenancies anticipated for this development, the following waste management practices are recommended.

6.5.1 WASHROOM FACILITIES

Washroom facilities should be supplied with collection bins for paper towels (if used) and dedicated bins for soiled nappies. Sanitary bins for female restroom facilities must also be arranged with an appropriate contractor.

6.5.2 PRINTING & PHOTOCOPYING ROOMS

It is recommended that rooms designed for printing or photocopying be provided with an area for the interim storage of paper receptacles, as well as separate receptacles for used toner and/or printer cartridges for recycling. The cleaners or nominated staff are responsible for monitoring these receptacles and ensuring that items are collected and recycled by an appropriate contractor.

6.5.3 E-WASTE

E-waste (electronic waste) refers to any equipment containing printed circuit boards. It must not be placed in standard garbage or recycling bins, as improper disposal can contaminate soil and water bodies.

The school is responsible for the storage and management of e-waste. All staff members must coordinate with building management for assistance with disposal. Since e-waste is generated infrequently, school management should designate a specific bin or cupboard for its storage. Once a sufficient amount is collected, school management will engage an appropriate e-waste recycling service.

6.5.4 BULKY & SPECIAL WASTE

School management is responsible for managing bulky waste. Staff should contact the groundskeeper when there is furniture or other large items that are broken or no longer required. Reusable furniture should be labelled and kept in storage or donated to a charitable organisation. Non – reusable furniture will be removed from the school grounds and disposed of at an appropriate recycling facility.

6.5.5 PROBLEM WASTE

School management is responsible for making arrangements for the disposal and recycling of problem waste streams with an appropriate contractor. Problem wastes cannot be placed in the general waste stream as they can have adverse impacts to human health and the environment if disposed of in landfill.

Problem waste streams include:

- Chemical Waste
- Liquid wastes
- Toner cartridges
- Lightbulbs
- Batteries

6.5.6 FUTURE WASTE AND RECYCLING STREAM SEPARATION

To design the bin storage area and waste facilities in the site, all possible waste and recycling streams have been grouped together into 'general waste' and 'general recycling'. This is to ensure the waste facilities have adequate capacity to manage total volumes of waste and recycling streams, regardless of the management of waste and recycling during operation.

Once the school is operational, the school management can choose to separate the general recycling stream and the general waste stream into more specific recycling waste streams. This allows the site's waste management system to have greater potential to divert waste from landfill and contribute to wider environmental sustainability.

The more waste streams that are separated, the more complex the waste management strategy becomes. In turn, it is likely to increase operational cost, manual input of building caretaker and cleaners as well as the level of engagement required by all stakeholders involved in waste management. Therefore, it is recommended that the decision to separate and manage any additional waste streams comes from the school management, once the school is operational, and is directed by the operational experience and needs of the school.

As identified in NSW Department of Education *Educational Facilities Standards and Guidelines Requirement DG02 (2.7.2)* the waste streams that can be managed at schools are as follows;

- Food Organics and Garden Organics
- Co-Mingled Container Recycling
- Paper & Cardboard Recycling
- Container Deposit Scheme Recycling
- Soft Plastic Recycling
- General Waste
- Other waste streams such as batteries, e-waste, coffee cups

The school management can choose which waste streams are handled in the waste management strategy at any time by assessing the composition of waste and recycling generated in operation as well as the costs/benefits at that time.
The successful separation of the waste streams is significantly impacted by the behaviours of the waste generators and the key personnel who look after the waste management systems. The managers of the waste system will be the school management and grounds keeper.

The following are the key responsibilities required for successful ongoing source separation. These responsibilities should be taken into consideration when assessing whether to introduce the separation and management of more waste streams.

Responsibilities of the waste stream generator:

- Correctly identify the waste type.
- Place the waste item into the correct bin.
- Pending on waste item, partially dismantle waste item into different stream types (e.g. empty food waste into organics, lid into recycling and main container into landfill)

Responsibilities of the key staff managing the waste systems:

- Provide source separation bins in convenient locations.
- Monitor contamination of waste streams.
- Organise contracts with collection and recycling services of all waste streams.

- Educate waste stream generators on a ongoing basis
- Provide signage on all bins.
- Monitor and correct any issues.

If the management of any additional waste stream is introduced during operation, the school management would be responsible for setting up and maintaining the waste stream management procedures. Including;

- The provision of appropriate source separation bins around the campus.
- The update all waste related signage and waste management education material.
- The introduction of the collection bins of the waste stream in the Bin Storage Area.
- The reduction to the number of bins (or size of bins) for the general waste or general recycling stream being diverted.
- Engaging a specialist contractor to collect the bins and recycle the waste stream.
- Ensuring the collection timetables minimise conflicts with the loading area.
- Educating all staff and students on the new procedures, including which items are accepted in each bin.

Separation of food waste and soft plastic recycling streams will reduce the volume of general waste. Therefore, it is assumed that the number of general waste bins would go down by the corresponding number of food waste bins and or/soft plastic bins.

Separation of co-mingled recycling, paper & cardboard recycling and items refundable under the container deposit scheme will reduce the volume of general recycling. Therefore, it is assumed that the number of general recycling bins would go down by the corresponding number of co-mingled, paper & cardboard and refundable container bins introduced.

In addition, as identified in NSW Department of Education's *Educational Facilities Standards and Guidelines Requirement DG02 (2.7.2),* during operation the school management can implement measures to reduce the volumes of waste generated by;

- Examining all processes to determine where wastes are produced and to devise measure for waste prevention or reduction.
- Devising ways of recycling waste with students so they too can share in the savings (for example rewards for students who reduce waste).
- Partnering with other organisations to assist with waste minimisation.
- Keep track of changes and improvements
- Reusing drums, cartridges and containers where possible
- Selling or donating usable waste materials to other organisations.

7.0 STAKEHOLDER ROLES & RESPONSIBILITIES

The following table outlines the primary roles and responsibilities of the respective stakeholders:

Table 5: Stakeholder Roles and Responsibilities

Roles	Responsibilities
School Management	• Coordinate the waste strategy within the site; • Organising internal waste audits/visual assessments on a regular basis; • Ensure all waste service providers submit regular (i.e. monthly) reports on all equipment movements and waste quantities/weights; and • Manage any non-compliances/complaints reported through waste audits.
School Management or Grounds Keeper	• Ensuring effective signage, communication and education is provided to students, staff and cleaners; • Providing staff/contractors with equipment manuals, training, health and safety procedures, risk assessments, and PPE to control hazards associated with all waste management activities; • Ensuring site safety for students, visitors, staff and contractors; • Abiding by all relevant OH&S legislation, regulations, and guidelines; • Assessing any manual handling risks and prepare a manual handling control plan for waste and bin transfers; • Preventing storm water pollution by taking necessary precautions (securing Bin Storage Area, preventing overfilling of bins) • Cleaning and transporting of bins as required; • Organising, maintaining and cleaning the general and recycled waste holding area; • Organising both garbage and recycled waste pick-ups as required; • Organising replacement or maintenance requirements for bins; • Organising bulky goods collection when required; and • Investigating and ensuring prompt clean-up of illegally dumped waste materials.
Cleaners, Staff and Students	• Dispose of all general waste and recycling in the allocated MGBs provided; • Ensure adequate separation of general waste and recycling; and • Comply with the provisions of Council and the OWMP.
Private Waste Contractor	• Provide a reliable and appropriate waste collection service; • Provide feedback to school management regarding contamination of recycling; and • Work with school management to customise waste systems where possible.
Gardening/ Landscaping Contractor	• Remove all garden organic waste generated during gardening maintenance activities for recycling at an offsite location.

8.0 SOURCE SEPARATION

Better practice waste management includes the avoidance, reuse, and recovery of unwanted items, which can be achieved through source separation. The table below outlines what is typically included in various waste streams and how they can be managed. Refer to your local council for a list of accepted materials. Planet Ark can be accessed online to find other facilities that recover unwanted items.

Table 6: Operational Waste Streams

Waste Stream	Description	Typical Destination	Waste Stream Management
General Waste	The remaining portion of the waste stream that is not recovered for re-use, processing, or recycling. May include soft plastics, food scraps, polystyrene, etc.	Landfill	Waste should be bagged before placing in the designated waste bins.
Recycling	A mixture of items that are commonly recycled usually segregated through a MRF. Typically include food and beverage containers (e.g. aluminium, glass, steel, hard plastics, cartons). Also included cardboard and paper products.	Resource Recovery Centre	Recycling must not be bagged, and instead should be placed loosely in the designated recycling bins. Cardboard should be flattened before placing in the designated recycling bin.
Secure Documents	Secure documents are printed paper materials that contain sensitive information.	Recycling Facility	Secure documents are placed in allocated secure document bins. Private contractor removes bins from site.
Green Waste	Green waste consists of unwanted organic materials that are easily biodegradable and/or compostable (e.g. lawn clippings, branches)	Resource Recovery Centre	Landscape Maintenance Contractors will remove the green waste from site during scheduled maintenance.
Electronic Waste	Discarded e-waste, electronic components and materials such as computers, mobile phones, keyboards, etc.	Resource Recovery Centre	A location should be dedicated to the storage of e-waste. When a suitable amount has been accumulated, the Grounds Keeper or school management is responsible for arranging the collection of e-waste with an appropriate recycling service.
Bulky Items	Items that are to too large to place into general rubbish collection. This includes disused and/or broken furniture, mattresses, white goods, etc.	Resource Recovery Centre or Landfill	A location should be dedicated to the storage of bulky waste. When a suitable amount has been accumulated, the Grounds Keeper or school management is responsible for arranging the collection of bulky waste with an appropriate recycling service.
Sanitary Waste	Feminine hygiene waste generated from female bathrooms.	Incineration or Landfill	Sanitary bins are serviced by sanitary waste contractor.
Other	Other recycling items that require special recovery may include ink cartridges, batteries, chemical waste, fluorescent tubes, etc.	Resource Recovery Facility	School management arranges collection by appropriate recycling services when required.

9.0 EDUCATION

The school management is responsible for creating and implementing the waste management education process.

Educational material encouraging the correct separation of waste and recycling items must be provided to each staff member, cleaner and student to ensure the correct disposal of waste and minimise the possibility of contamination in the waste and recycling bins.

It is recommended that the school investigates programs to teach students about recycling and resource recovery. These programs can be implemented into the operation of the school to reduce overall waste generation.

9.1 SIGNAGE

Signage and education are essential components to support best practice waste management including resource recovery, source separation, and diversion of waste from landfill.

Signage should include:

- Clear and correctly labelled bins,
- Instructions for separating and disposing of waste items. Different languages should be considered,
- Locations of, and directions to, the waste storage areas with directional signs, arrows, or lines,
- The identification of all hazards or potential dangers associated with the waste facilities, and
- Emergency contact information should there be issues with the waste systems or services in the building.

School management is responsible for waste areas signage including safety signage. Appropriate signage must be prominently displayed on doors, walls and above all bins, clearly stating what type of waste or recycling is to be placed in each bin.

All signage should conform to the relevant Australian Standards.

10.0 POLLUTION PREVENTION

School management shall be responsible for the following to minimise dispersion of site litter and prevent stormwater pollution to avoid impact to the environment and local amenity:

- Promoting adequate waste disposal into the bins
- Securing all bin storage areas (whilst affording access to staff/contractors)
- Prevent overfilling of bins, keep all bin lids closed and bungs leak-free
- Taking action to prevent dumping or unauthorised use of waste areas
- Require collection contractor/s to clean up any spillage when clearing bins

11.0 BIN WASHING

The bins will be cleaned by the Groundskeeper and/or cleaners periodically to ensure hygiene and minimise odour.

Bin washing can occur within the bin storage area. Alternatively, a specialist bin washing contractor can be engaged to clean the bins to an agreed schedule. The specialist bin contactor would collect the bins from the bin storage area and clean the bins with their specialised vehicle.

12.0 BIN MOVING PATHS

Minimal movement of bins is anticipated for this site, as bins are to be collected directly from their storage location.

The cleaners are responsible for the transportation of receptacles from their designated operational locations to the collection area when full and returning them once emptied to resume operational use. Typically waste and recycling is transported using trollies containing other cleaning equipment.

Any movement of bins should minimise manual handling where possible, as bins become heavy when full. The school management must assess manual handling risks and provide any relevant documentation to key personal.

The routes along any bin moving paths should;

- Allow for a continuous route that is wholly within the property boundary.
- Be free from obstruction and obstacles such as steps and kerbs.
- Be constructed of solid materials with a non-slip surface
- Be A minimum of 300mm wider than the largest bin used onsite.
- If bins are moved manually, the route must not exceed a grade of 1:14.
- If a bin moving device is used, the route cannot exceed the maximum operating grade of the device. This is typically a grade of 1:4, however this will vary depending on the model of bin moving device acquired for the site.

13.0 WASTE AREAS

The areas allocated for waste management are detailed in the table below and are estimates only. Final areas will depend on the waste storage area and bin layouts.

To design the school's bin storage area, all possible waste and recycling streams have been grouped together into 'general waste' and 'general recycling', as detailed in the table below. This is to ensure the waste facilities have adequate capacity to manage total volumes of waste and recycling streams, regardless of the management of waste and recycling during operation. At any time during the operation of the school, at the school management's discretion, the waste streams separated from the 'general waste' or 'general recycling streams can be adjusted general waste and general recycling can be separated into any of the following waste streams:

General Waste:

- Food waste and Garden Organics
- Soft Plastic Recycling
- Waste (landfill disposal only)

General Recycling:

- Co-Mingled Container Recycling
- Paper & Cardboard Recycling
- Container Deposit Scheme Recycling

As further separation of waste streams will reduce the volume of general waste or general recycling, it is assumed that the number of general waste bins or general recycling bins would go down by the corresponding number of bins. Thus, the space within Bin Storage Area required to store the bins should remain consistent.

Table 7: Waste Room Areas

Level	Waste Area	Equipment	Estimated Area Required (m^2)
Ground Floor	Bin Storage Area	**General Waste**: 6 x 1100L bins **Recycling:** 7 x 1100L bins	>38

The "estimated area required" in the table above have been calculated based on equipment requirements and/or bin dimensions with an additional 70% of bin GFA factored in for manoeuvrability.

The following table provides further waste area requirements.

Table 8: Waste Area Requirements

Waste Area	Waste Area Requirements
Bin Storage Area	• Bins should be arranged so that all bins are accessible. Bins are not to be placed in front of one another or in such a way as to restrict access to the other bins for use.

14.0 USEFUL CONTACTS

EFC does not warrant or make representation for goods or services provided by suppliers.

LOCAL COUNCIL

Parramatta Customer Service	Ph: (02) 9806 5524	E: council@cityofparramatta.nsw.gov.au

PRIVATE WASTE COLLECTION PROVIDER

Capital City Waste Services	Ph: 02 9599 9999	E: service@ccws.net.au
Sydney Waste	Ph: 02 8661 0031	
Waste Clear	Ph: 1300 525 352	E: admin@wastecleart.com.au

BIN MOVING DEVICE SUPPLIERS

Elephants Foot Equipment	Ph: 1300 435 374	E: equipment@elephantsfoot.com.au
Sitecraft	Ph: 1300 363 152	E: sales@sitecraft.com.au

BALER SUPPLIERS

Elephants Foot Equipment	Ph: 1300 435 374	E: equipment@elephantsfoot.com.au

ORGANIC DIGESTERS AND DEHYDRATORS

Elephants Foot Equipment	Ph: 1300 435 374	E: equipment@elephantsfoot.com.au
Waste Master	Ph: 1800 614 272	E: hello@wastemasterpacific.com.au

COOKING OIL CONTAINERS AND DISPOSAL

Cookers	Ph: 1300 882 299	E: info@cookers.com.au
Auscol	Ph: 1800 629 476	E: sales@auscol.com

ODOUR CONTROL

Elephants Foot Equipment	Ph: 1300 435 374	E: equipment@elephantsfoot.com.au

SOURCE SPERATION BINS

Method Recycling	Ph: 0499 890 455	

BINS AND BIN EQUIPMENT

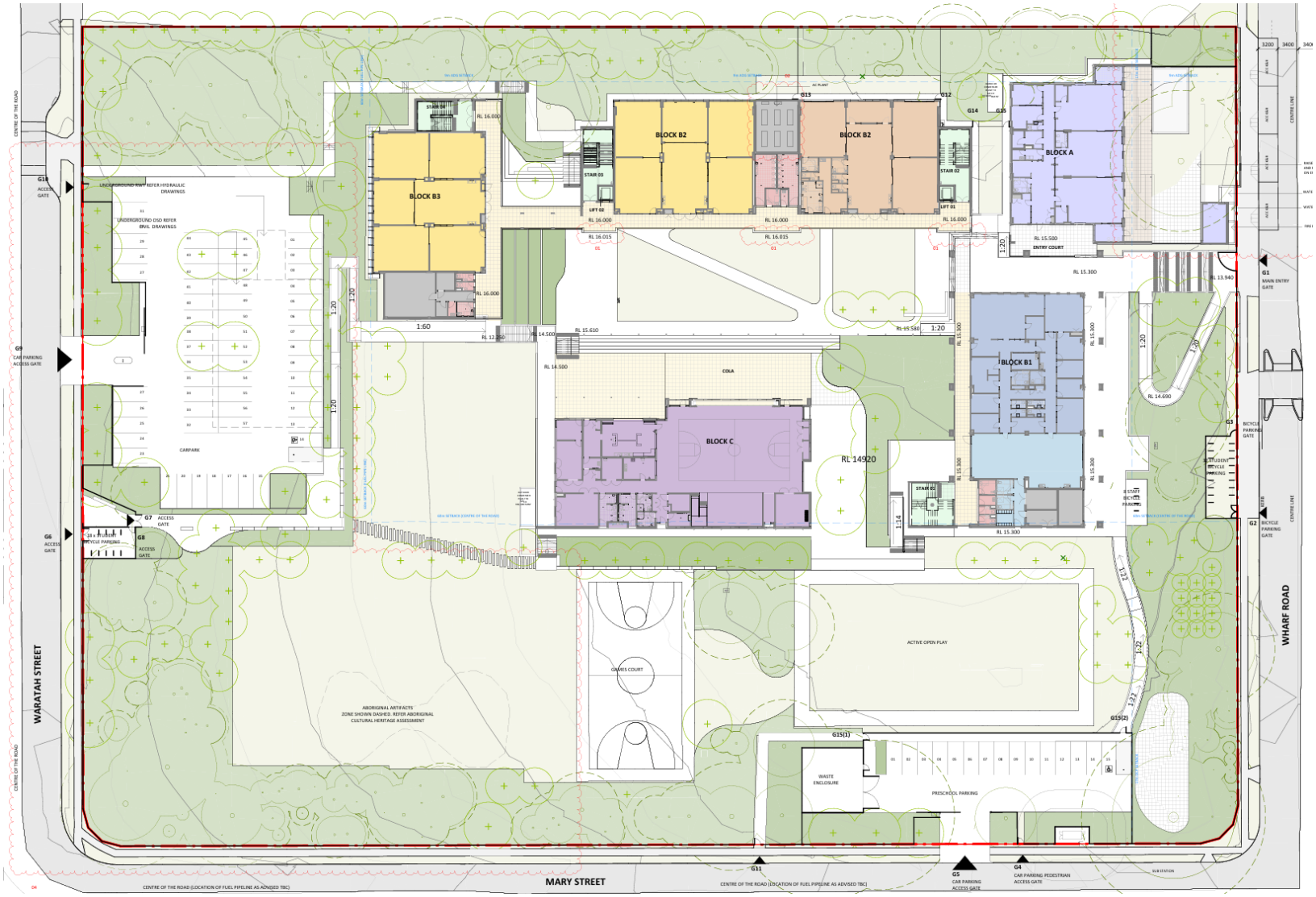
Elephants Foot Equipment	Ph: 1300 435 374	E: equipment@elephantsfoot.com.au
SULO	Ph: 1300 364 388	E: sulosales@pactgroup.com

CHUTES, COMPACTORS AND EDIVERTER SYSTEMS

Elephants Foot Chute Solutions	Ph: 1300 435 374	E: chutes@elephantsfoot.com.au

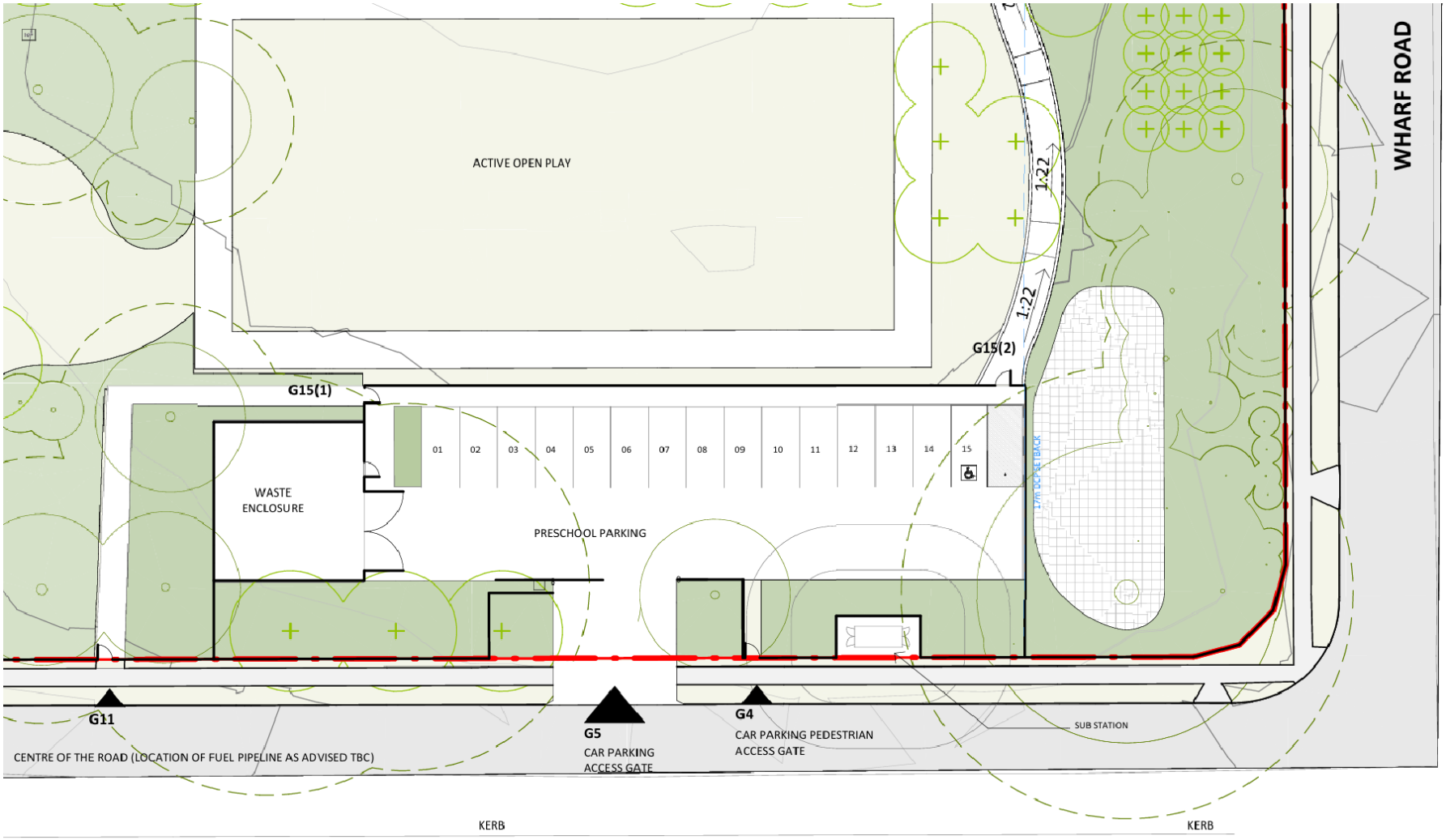
APPENDIX A: ARCHITECTURAL PLANS

APPENDIX: A.1 GROUND FLOOR PLAN



Source: PTW, Drawing Number: MPPS- PTW-ZZ-ZZ-DR-A-020004,, Site Plan- Rev T2, 21/03/2024

APPENDIX: A.2 GROUND FLOOR PLAN- WASTE ENCLOSURE



Source: PTW, Drawing Number: MPPS- PTW-ZZ-ZZ-DR-A-020004,, Site Plan- Rev T2, 21/03/2024

APPENDIX B: PRIMARY WASTE MANAGEMENT PROVISIONS

APPENDIX: B.1 TYPICAL BIN SPECIFICATIONS

Mobile bins

Mobile bins come in a variety of sizes and are designed for lifting and emptying by purpose-built equipment.

Mobile bins with capacities of up to 1700L must comply with *AS4123.6-2006 Mobile waste containers* which specifies standard sizes and sets out the colour designations for the bodies and lids of mobile waste containers indicating the type of materials they are used to collect.

The most common bin sizes are provided below, although not all sizes are shown. The dimensions are a guide only and differ slightly between manufacturers. Some bins have flat or domed lids and are used with different lifting devices. Refer to *AS4123.6-2006* for further details.

Table G1.1: Average dimension ranges for two-wheel mobile bins

Wheelie bin

Bin capacity	80L	120L		140L		240L	360L
Height (mm)	870	940	1065	1080	1100		
Depth (mm)	530	530		540		735	820
Width (mm)	450	485		500		580	600
Approximate footprint (m^2)	0.24	0.26–0.33		0.27-0.33		0.41–0.43	0.49
Approximate weight (kg)	8.5	9.5		10.4		15.5	23
Approximate maximum load (kg)	32	48		56		96	Not known

Sources include Sulo, Single Waste, Cleanaway, SUEZ, just wheelie bins and Perth Waste for two-wheel mobile bins

Table G1.2: Average dimension ranges for four-wheel bulk bins

Dome or flat lid container

Bin capacity	660L	770L	1100L	1300L	1700L
Height (mm)	1250	1425	1470	1480	1470
Depth (mm)	850	1100	1245	1250	1250
Width (mm)	1370	1370	1370	1770	1770
Approx footprint (m^2)	0.86–1.16	1.51	1.33–1.74	2.21	2.21
Approx weight (kg)	45	Not known	65	Not known	Not known
Approx maximum load (kg)	310	Not known	440	Not known	Not known

Sources include Sulo, Signal Waste, Cleanaway, SUEZ, Just Wheelie Bins and Perth Waste

Source: Better Practice Guide For Resource Recovery In Residential Developments 2019, NSW Environmental Protection Authority

APPENDIX: B.2 SIGNAGE FOR WASTE AND RECYCLING BINS

Waste signs

Signs and educational materials perform several functions including:

- informing residents why it is important to recover resources and protect the environment
- providing clear instructions on how to use the bins and services provided
- alerting people to any dangers or hazards within the bin storage areas.

All waste, recycling and organic bins should be Australian Standard colours and clearly and correctly labelled, such as by a sticker on the lid and/or the body of the bin.

Communal bin storage areas should be clearly signposted with signs outlining how to correctly separate waste into the bins provided. The local council responsible for waste services may be a good source of signs and posters and can advise on what signs are suitable.

Information on who to contact to find out more about the recycling and/or other resource recovery services in the building should also be displayed in communal areas, such as on a noticeboard.

The Planet Ark website also has resources available free of charge for use by businesses and councils. These signs can be found at businessrecycling.com.au/research/signage.cfm

Figure I1.1: Examples of waste wall posters (EPA supplied)

Figure I1.2: Examples of bin lid stickers (EPA supplied)

Source: Better Practice Guide For Resource Recovery In Residential Developments 2019, NSW Environmental Protection Authority

Problem waste signs

The EPA has also produced a range of images and signs that can be used for problem wastes, such as fluoro globes and tubes, household and car batteries, e-waste and smoke detectors. To access these resources, contact the NSW EPA. Some examples are shown below.

Figure I2.1: Problem waste signs

Safety signs

The use of safety signs for waste resource recovery rooms must comply with *AS1319 Safety signs for occupational environments*. Safety signs must be used to regulate and control safety related to behaviour, warn of hazards and provide emergency information, including fire protection information. Suitable signs should be decided for each development as required.

Figure I3.1: Example safety signs

Source: Better Practice Guide For Resource Recovery In Residential Developments 2019, NSW Environmental Protection Authority

APPENDIX: B.3 EXAMPLE COLLECTION VEHICLE INFORMATION

General

Appropriate heavy rigid vehicle standards should be incorporated into the road and street designs in new developments where onsite collections are proposed. Road and street designs must comply with relevant Acts, regulations, guidelines, and codes administered by Austroads, Standards Australia, NSW Roads and Maritime Services, WorkSafe NSW and any local council traffic requirements.

Applicants and building designers should consult with councils and other relevant authorities before designing new roads or streets and access points for waste collection vehicles to establish specific design requirements.

Table H4.1: Australian Standards for turning circles for medium and heavy rigid class vehicles

Vehicle class	Overall length (m)	Design width (m)	Design turning radius (m)	Swept circle (m)	Clearance (travel) height (m)
Medium rigid vehicle	8.80	2.5	10.0	21.6	4.5
Heavy rigid vehicle	12.5	2.5	12.5	27.8	4.5

Source: Better Practice Guide For Resource Recovery In Residential Developments 2019, NSW Environmental Protection Authority

Large collection vehicles

Waste collection vehicles may be side-loading, rear-loading, front-lift-loading, hook or crane lift trucks. Vehicle dimensions vary by collection service, manufacturer, make and model. It is not possible to provide definitive dimensions, so architects and developers should consult with the local council and/or contractors.

The following characteristics represent typical collection vehicles and are provided for guidance only. Reference to *AS2890.2 Parking facilities: off-street commercial vehicle facilities* for detailed requirements, including vehicle dimensions, is recommended.

Table B2.1: Collection vehicle dimensions

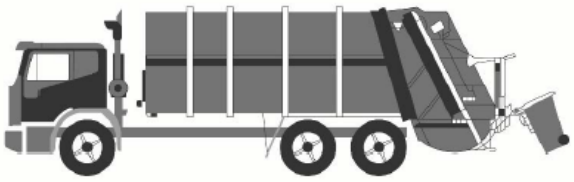
Vehicle type	Rear-loading	Side-loading*	Front-lift-loading	Hook truck	Crane truck
Length overall (m)	10.5	9.6	11.8	10.0	10.0
Width overall (m)	2.5	2.5	2.5	3.0	2.5
Travel height (m)	3.9	3.6	4.8	4.7	3.8
Operational height for loading (m)	3.9	4.2	6.5	3.0	8.75
Vehicle tare weight (t)	13.1	11.8	16.7	13.0	13.0
Maximum payload (t)	10.0	10.8	11.0	14.5	9.5
Turning circle (m)	25.0	21.4	25.0	25.0	18

* The maximum reach of a side arm is 3 m.

Sources: JJ Richards, SUEZ, MacDonald Johnson, Cleanaway, Garwood, Ros Roca, Bingo and Edbro. Figures shown represent the maximum dimensions for each vehicle type.

Rear-loading collection vehicles

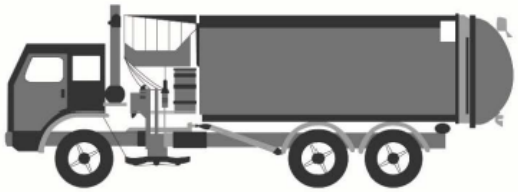
These vehicles are commonly used for domestic waste collections from MUDs and RFBs and sometimes for recycling. They can be used to collect waste stored in mobile bins or bulk bins, particularly where bins are not presented at the kerbside. They are also used for collecting bulky waste.



Rear-loading waste collection vehicle

Side-loading collection vehicles

This is the most commonly used vehicle for domestic waste, recycling and organics collections. It is only suitable for collecting mobile bins up to 360L in capacity.



Side-loading waste collection vehicle

Front-lift-loading collection vehicles

These vehicles are commonly used for collecting commercial and industrial waste. They can only collect specially designed front-lift bulk bins and not mobile bins.

Front-lift-loading waste collection vehicle

Small collection vehicles

Typically, councils and their contractors operate with large collection vehicles (heavy rigid class vehicles) because they carry greater payloads and allow for more cost-effective collection services. Some councils, or their contractors, may have smaller collection vehicles in their fleet. Early discussion with the council is important to confirm this, but it should not be assumed that the council will have access to small collection vehicles.

The waste management systems and the location of the collection point should always be designed so that the council can provide the standard domestic waste service.

Source: Better Practice Guide For Resource Recovery In Residential Developments 2019, NSW Environmental Protection Authority

APPENDIX C: SECONDARY WASTE MANAGEMENT PROVISIONS

APPENDIX: C.1 EXAMPLE SOURCE SEPARATION RECEPTACLES

In order to assist with education and the correct usage of bins, SINSW provide bins that are aligned to the Australian standard colours for waste management. Black/green base bins are used with different coloured lids:

- Red = General waste/landfill – non-recyclable materials
- Yellow = Co-mingled recycling- containers, drink bottles, cans
- Blue = Paper recycling – paper and cardboard products
- Green = Organic waste – compostable materials

There is currently no standard colour for Return and Earn or soft plastics. We recommend that a consistent colour scheme is used throughout NSW schools to aid students if they change schools.

> SINSW recommends that white is used for Return and Earn and orange for soft plastics (where soft plastics are collected).

3.3 Recommended bin infrastructure by school area

	Bin type	Primary	Secondary	# bins
CLASSROOM		24L Murfe stackable bins: General waste: red Paper and cardboard: blue		1 per type per classroom
		7L organic food scraps caddy	Organic caddies not provided as no sip and crunch!	1 per classroom (primary only)
PLAYGROUND		80 or 120L wheelie bins: General waste: red Co-mingled: yellow OR Return and Earn: white		1 per 75-100 students OR 1 per common area

	Bin type	Primary	Secondary	# bins
OFFICE/STAFFROOM	 	40 or 60L MultiSort bins: General waste: red Paper and cardboard: blue Co-mingled: yellow Return and Earn: white Note: Murfe bins may be more suitable in smaller areas		1 per type per office or staffroom
		7L organic food scraps caddy		1 per office / staffroom
LIBRARY		40/60L MultiSort bins: General waste: red 60/90L MultiSort bins: Paper and cardboard: blue		1 of each type by area
CANTEEN		40/60L MultiSort bins: General waste: red Paper and cardboard: blue		1 of each type by area
	 	Organic food waste: 7L food scraps caddy OR 23L depending on the volume of waste generated. More than 23L is not recommended due to the weight of organic waste.		Up to 2

8.6 Bin specifications

Bin type	Image	Volume	Dimensions	Type	EdBuy order codes
Organic caddy bins		7L	H 235mm W 225mm D 225mm	Small caddy bin	WAST1024
Organic caddy		23L	H 450mm W 400mm D 320mm	Large caddy bin	WAST1110
Murfe stackable bins		24L	H 320mm W 295mm D 380mm	Red Blue Yellow	WAST1001 WAST1007 WAST1003
MultiSort bins		40L	H 495mm W 325mm D 405mm	Dark grey base Red lid Blue lid Yellow lid White lid Orange lid	WAST1101 WAST1103 WAST1105 WAST1104 Not currently available Not currently available
MultiSort bins		60L	H 670mm W 290mm D 520mm	Dark grey base Red lid Blue lid Yellow lid White lid Orange lid	WAST1091 WAST1092 WAST1094 WAST1093 WAST1097 WAST1099
MultiSort bins		90L	H 785mm W 290mm D 520mm	Dark grey base Blue lid	WAST1100 WAST1094
Wheelie bins		120L	H 920mm W 561mm D 481mm	Red Blue Yellow Green White Orange	tba

8.7 Bin liners

Bin type	Image	Volume	Bin colour	Descriptor	EdBuy order codes
Organic caddy bins		7L	Green	8L compostable bag	BAGS2800
Organic caddy		23L	Green	30L compostable bag	BAGS2801
Murfe stackable bins		24L	Red Blue Yellow	54L natural 54L natural	BAGS2600 Not required BAGS2600
MultiSort bins		40L	Red Blue Yellow White Orange	54L natural 54L natural 54L natural 54L natural	BAGS2600 Not required BAGS2600 BAGS2600 BAGS2600
MultiSort bins		60L	Red Blue Yellow White Orange	75L natural 75L natural 75L natural 75L natural	BAGS2574 Not required BAGS2574 BAGS2574 BAGS2574
MultiSort bins		90L	Blue		Not required
Wheelie bins		120L	Red Blue Yellow Green White Orange	 240L natural 240L natural	Cleaner supplied Not required BAGS2578 No liner (use insert) BAGS2578

Source: Waste Handbook, A Practical Guide to Introducing Waste Separation into Schools, October 2023, NSW Government