



Westmead Catholic Community – Education Works
Education Centre Development

OPERATIONAL WASTE MANAGEMENT PLAN

9/03/2020
Revision C

Client

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SCOPE

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

The waste management of the **construction** and **demolition** phases of the development are not addressed in this report. It is EFRS's understanding that a construction and demolition WMP will be completed by a separate party appointed by the developer, and submitted separately to this report. Typically, the head contractor of the site will be responsible for removing all construction-related waste offsite in a manner that meets all authority requirements.

REVISION REFERENCE

Revision	Date	Prepared by	Reviewed by	Description	Signed
A	23/01/2020	J Parker	A Armstrong	Draft	
B	21/02/2020	J Parker	A Armstrong	Final	
C	9/03/2020	J Parker	A Armstrong	Amendment	

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GLOSSARY OF TERMS

TERM	DESCRIPTION
<i>Baler</i>	A device that compresses waste into a mould to form bales which may be self-supporting or retained in shape by strapping
<i>Collection Area/Point</i>	The identified position or area where garbage or recyclables are actually loaded onto the collection vehicle
<i>Compactor</i>	A machine for compressing waste into disposable or reusable containers
<i>Composter</i>	A container/machine used for composting specific food scraps
<i>Crate</i>	A plastic box used for the collection of recyclable materials
<i>Garbage</i>	All domestic waste (Except recyclables and green waste)
<i>Green Waste</i>	All vegetated organic material such as small branches, leaves and grass clippings, tree and shrub pruning, plants and flowers
<i>Hopper</i>	A fitting into which waste is placed and from which it passes into a chute or directly into a waste container. It consists of a fixed frame and hood unit (the frame) and a hinged or pivoted combined door and receiving unit
<i>L</i>	Litre(s)
<i>Liquid Waste</i>	Non-hazardous liquid waste generated by commercial premises that is supposed to be connected to sewer or collected for treatment and disposal by a liquid waste contractor (including grease trap waste)
<i>LRV</i>	Large rigid vehicle described by AS 2890.2-2002 Parking facilities – Off-street commercial vehicle facilities as heavy rigid vehicle (HRV)
<i>Mobile Garbage Bin(s) (MGB)</i>	A waste container generally constructed of plastic with wheels with a capacity in litres of 120, 240, 360, 660, 1000 or 1100
<i>MRV</i>	Medium rigid vehicle
<i>Putrescible Waste</i>	Component of the waste stream liable to become putrid. Usually breaks down in a landfill to create landfill gases and leachate. Typically applies to food, animal and organic products.
<i>Recycling</i>	Glass bottles and jars – PET, HDPE and PVC plastics; aluminium aerosol and steel cans; milk and juice cartons; soft drink, milk and shampoo containers; paper, cardboard, junk mail, newspapers and magazines
<i>Refuse</i>	Material generated and discarded from residential and commercial buildings including general waste, recyclables, green waste and bulky items
<i>SRV</i>	Small rigid vehicle as in AS 2890.2-2002 Parking facilities – Off-street commercial vehicle facilities, generally incorporating a body width of 2.33

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INTRODUCTION

This report supports a State Significant Development Application for the Westmead Catholic Community (WCC) at 2 Darcy Road, Westmead.

The WCC project seeks to meet the needs of the growing population within the region by providing upgraded school facilities for Mother Teresa and Sacred Heart Primary Schools, as well as a new Parish church. WCC is a collaboration between the Diocese of Parramatta, the Sisters of Mercy Parramatta and the Marist Brothers.

As the proposal is for the purposes of alterations and additions to an existing school and has a capital investment value in excess of \$20 million, it is State Significant Development (SSD) for the purposes of the Environmental Planning and Assessment Act 1979 (the Act). The Parish church is also SSD under clause 8(2)(a) of State Environmental Planning Policy (State and Regional Development) 2011 as it forms part of the proposal which comprises a single, integrated development with significant functional links between the education and church uses.

DEVELOPMENT SUMMARY

The State Significant Development application will seek approval for:

- A primary school with capacity for approximately 1,680 students, to provide expanded facilities for the existing Mother Teresa Primary School on the site and to replace the existing Sacred Heart Primary School at Ralph Street;
- A new Parish church;
- A Catholic early learning centre (fit-out within an existing building);
- New landscaping.

This report concerns only the education works. Elephants Foot will produce a separate report to address the parish works.

EXISTING DEVELOPMENT

The site currently contains three separate schools being the Catherine McAuley Westmead (girls high school) which predominantly occupies the northern part of the site, and the Parramatta Marist High School (boys school) which occupies the eastern part of the site. The Mother Teresa Primary School occupies part of the Catherine McAuley school building in the centre of the site. The southern portion of the site contains open sports fields associated with the Parramatta Marist High School.

The existing Brother's residence is located in the north-eastern corner of the site, and an at grade car park occupies the western part of the site, to the north of the sports fields. Collectively, the three schools currently accommodate approximately 2,637 students and 190 staff.

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SITE LOCATION

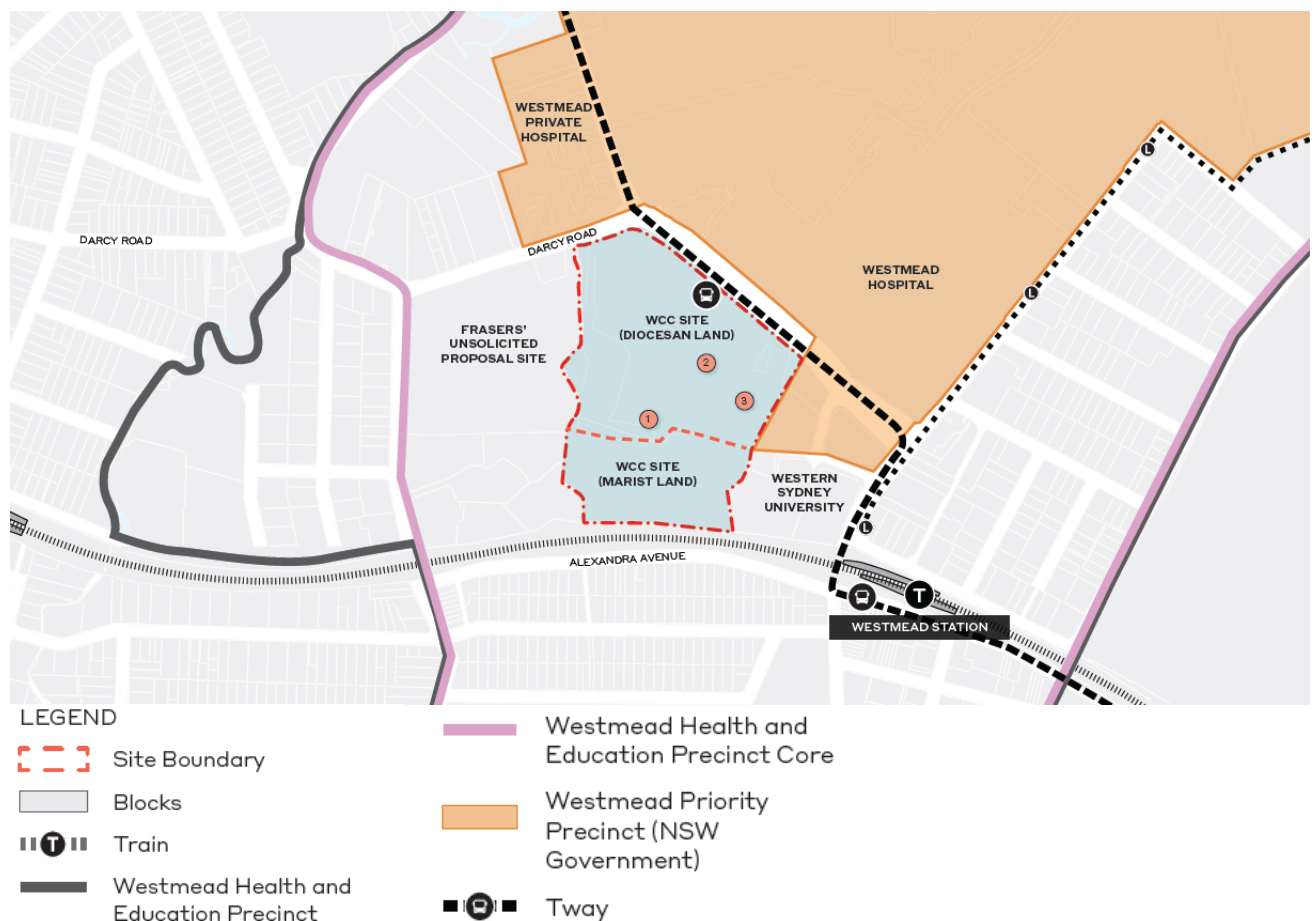
The subject site is located at 2 Darcy Road, Westmead, approximately 2km to the north-west of the Parramatta CBD and approximately 300m to the west of Westmead Train Station. The site is located within the Parramatta Local Government Area (LGA).

The site has an area of approximate 12ha and a frontage of approximately 430m to Darcy Road. The site consists of two lots, which are legally described as Lot 1 in DP1095407, which is owned by the Trustees of the Roman Catholic Church of Parramatta, and Lot 1 in DP1211982, which is under the ownership of the Trustees of the Marist Brothers.

The site is bound by Darcy Road (to the north), the T1 North Shore & Western / T5 Cumberland train lines (to the south), the Western Sydney University Westmead Campus (to the east) and residential uses (to the west).

To the north of the site, across Darcy Road is the Westmead Health and Education Precinct comprising the Westmead Hospital, Westmead Private Hospital and the Western Sydney University Medical Research Institutes. The locational context of the site is shown below.

The Westmead Health and Education Precinct, the WCC site and the surrounding residential land collectively form part of the recently nominated Westmead Priority Precinct Area.



CITY OF PARRAMATTA (PARRAMATTA CITY COUNCIL)

The development is within City of Parramatta jurisdiction. City of Parramatta is the amalgamation of parts of Parramatta City Council, The Hills Shire Council, Auburn City Council, Holroyd City Council and Hornsby Shire Council. At time of writing this waste management plan, the waste services and associated policies operate under the original council divisions.

Therefore, the garbage and recycling generated by this development will be guided by the services and acceptance criteria of the Parramatta City Council. All waste facilities and equipment are to be designed and constructed to be in compliance with the Parramatta City Council's *Parramatta Development Control Plan 2011*, Parramatta City Council's *Waste Management Guidelines for New Development Applications 2016*, Australian Standards and statutory requirements.

COUNCIL OBJECTIVES

- To reduce the quantity of waste and encourage the recycling of waste generated by demolition and the construction of new developments.
- To encourage building design that will minimise waste generation over the lifetime of the building.
- To ensure that the disposal of waste generated by a building's occupants over its lifetime is managed appropriately, efficiently and provides for maximum recovery, recycle or reuse.
- To ensure that waste storage facilities are located appropriately and do not impact negatively on the streetscape.
- To ensure that waste can be effectively collected and managed.
- To assist in achieving Federal and State Government waste minimisation and resource recovery (landfill diversion) targets.
- To minimise the overall environmental impacts of waste, in line with the principles of Ecologically Sustainable Development (ESD).

COUNCIL REQUIREMENTS

Access – Ensure waste systems are easy to use and collection vehicles are able to access buildings to safely remove waste and recycling;

Safety – Ensure safe practises for storage, handling and collection of waste and recycling;

Pollution Prevention – Prevent stormwater pollution that may occur as a result of poor waste storage and management practises;

Noise Minimisation – Provide acoustic insulation to the waste service facilities, waste storage facilities and waste collection vehicle access points;

Ecologically Sustainable Development (ESD) – Promote the principles of ESD through resource recovery and recycling leading to a reduction in the consumption of finite natural resources;

Hygiene – Ensure health and amenity for residents, visitors and workers in the City of Parramatta.

STAKEHOLDER ROLES AND RESPONSIBILITIES

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

Table 1: Stakeholder Roles and Responsibilities

Roles	Responsibilities
Management	<ul style="list-style-type: none"> Ensuring that all waste service providers submit monthly reports on all equipment movements and waste quantities/weights; Organising internal waste audits/visual assessments on a regular basis; and Manage any non-compliances/complaints reported through waste audits.
Building Manager/Waste Caretaker	<ul style="list-style-type: none"> Ensuring effective signage, communication and education is provided to occupants, tenants 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 residents, children, 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 rooms, 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.
Staff, Students and Cleaners	<ul style="list-style-type: none"> Dispose of all garbage and recycling in the allocated MGBs provided; Ensure adequate separation of garbage and recycling; and Compliance with the provisions of Council and the WMP.
Waste Contractor	<ul style="list-style-type: none"> Provide a reliable and appropriate waste collection service; Provide feedback to building managers/residents in regards to contamination of recyclables; and Work with building managers to customise waste systems where possible.
Gardening/Landscaping Contractor	<ul style="list-style-type: none"> Removal of all garden organic waste generated during gardening maintenance activities for recycling at an offsite location.
Building Contractors	<ul style="list-style-type: none"> Removing all construction related waste offsite in a manner that meets all authority requirements.

EDUCATION

Management and staff are responsible for creating and managing the waste management education process.

Educational material encouraging the correct separation of garbage and recycling items must be provided to all staff to ensure the correct disposal of waste, including bulky goods (old furniture, large discarded items, etc.) It is recommended that information is provided in multiple languages to support correct practises and minimise the possibility of contamination in the collective waste bins.

LIMITATIONS

The purpose of this report is to document a Waste Management Plan (WMP) as part of a development application and is supplied by Elephants Foot Recycling Solutions (EFRS) with the following limitations:

- Drawings, estimates and information contained in this waste management plan have been prepared by analysing the information, plans and documents supplied by the client, and third parties including Council and government information. The assumptions based on the information contained in the WMP is outside the control of EFRS;
- 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 building managements approach to educating staff regarding waste management operations and responsibilities;
- the building manager will make adjustments as required based on actual waste volumes (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 or representation is made that the WMP reflects the actual outcome and EFRS will not be liable to you for plans or outcomes that are not suitable for your purpose, whether as a result of incorrect or unsuitable information or otherwise;
- EFRS offer no warranty or representation of accuracy or reliability of the WMP unless specifically stated;
- any manual handling equipment recommended should be provided at the recommendation of the appropriate equipment provider who will assess the correct equipment for supply;
- Design of waste management equipment and systems must be approved by the supplier.

SCHOOL WASTE MANAGEMENT

The New South Wales Environmental Protection Authority *Better Practice Guide for Resource Recovery* (2019) and the school's current waste operations have been referenced to calculate the total number of bins required for the new school buildings.

ESTIMATED WASTE VOLUMES AND PROVISIONS

The following data illustrates the number of bins currently utilised by the buildings in operation, as well as the anticipated increase following the proposed works. The primary school currently operates a take-home waste policy.

Existing Bin Numbers:

Garbage – 2 x 1.5m³ bulk bins collected **3 times per week**

Paper/Cardboard – 1 x 1.5m³ bulk bin collected **2 times per week**

Additional Proposed Bin Numbers:

Garbage – 2 x 1.5m³ bulk bins collected **3 times per week**

Paper/Cardboard – 1 x 1.5m³ bulk bin collected **2 times per week**

Total Bin Numbers:

Garbage – 4 x 1.5m³ bulk bins collected **3 times per week**

Paper/Cardboard – 2 x 1.5m³ bulk bin collected **2 times per week**

It is the responsibility of the caretaker to monitor the number of bins required for the. Waste volumes may change according to the development's management, and attitudes to waste disposal and recycling. The bin numbers, sizes and collection frequencies may need to be altered to suit the school's operation. Seasonal periods i.e. public and school holidays should also be considered.

SCHOOL ROOMS AND FACILITIES WASTE MANAGEMENT STRATEGY

All operations within the school buildings will share bins, the bin holding area and collection services.

The bin holding area will be located on the ground level, close to the carpark on the Western side of the site and will not be an enclosed waste room but a screened area that is naturally ventilated. This area will be required to be permanent, unobstructed, and opening direct to the external air, not less than one-twentieth of the floor area. The bin storage area will contain 1.5m³ bins for the collection of the garbage and paper/cardboard recycling.

It is Elephants Foot's understanding that the school is currently in negotiation with a service provider for the provision of 240L bins for comingled recycling. These will be located around the school where required as per the recommendations of the service provider and will not be stored in the bin holding area.

The caretaker, waste collection staff and cleaners will be the only personnel with access to the bin holding area. All transportation of waste and recycling must be co-ordinated with the caretaker or cleaners.

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Suitably labelled waste and recycling bins will be placed throughout each building as required for the collection of waste and recycling generated in each space. Receptacles should be provided in convenient locations and areas of high waste generation.

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

The cleaners will circulate throughout the buildings after hours and empty the waste and recycling receptacles situated throughout the school. The cleaners will then transport the waste and recycling to the bulk bins in the bin storage area and dispose of the waste and recycling into the appropriate bins.

BATHROOMS

Washroom facilities should be supplied with collection bins for paper towels (if used).

Sanitary bins for female restroom facilities must also be arranged with an appropriate contractor.

SOURCE SEPARATION

Waste avoidance, recovery and reuse of discarded materials and responsible management of hazardous waste are all crucial elements of sustainable development. Effective waste management practices in developments significantly improve environmental, social, and economic outcomes on both a local and regional scale and should be integrated into the waste management processes.

GENERAL WASTE (GARBAGE) AND RECYCLING

Waste and recycling bins will be located around the building where considered appropriate. It is recommended that bins are placed in areas of high waste generation and in convenient locations. Recycling must not be bagged.

MANAGEMENT OF SPECIALITY WASTE STREAMS

The caretaker/management are responsible for making arrangements for the disposal and recycling of specialised waste streams with an appropriate contractor. Specialised waste cannot be placed in general waste bins as they can have adverse impacts to human health and the environment if disposed of in landfill. Staff will need to liaise with the building manager when disposing of specialised waste streams.

Specialised waste streams include:

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

SIGNAGE

The building manager/caretaker is responsible for waste storage area signage including safety signage (see *APPENDIX B.2*). Appropriate signage must be prominently displayed on walls and above all bins, clearly stating what type of waste or recyclables is to be placed in the bin underneath.

MOVEMENT AND TRANSPORTATION OF BINS

The cleaners are responsible for the transportation of bins from their designated operational locations to the bin holding area when full and returning them once emptied to resume operational use.

Transfer of waste and all bin movements should require minimal manual handling. The school management must assess manual handling risks. If required, the school management should contact a bin-tug, trailer or tractor consultant to provide equipment recommendations.

COLLECTION OF WASTE

A private contractor will be engaged by the school to service the waste and recycling to an agreed schedule. Collections will be in-line with the school's current collection arrangement whereby garbage is collected three times per week and paper/cardboard is collected twice weekly.

The waste collection vehicle will access the site from Darcy Road and pull into the existing carpark on the Western side of the site. The vehicle is to pull-up adjacent to the bin holding area. Collection staff will then collect the bins directly from the bin holding area.

Once all bins have been collected, the vehicle will leave the site in a forward-facing direction via the same route.

COLLECTION AREA

It is Elephant Foot's understanding that the collection areas have been reviewed by a traffic consultant to confirm the swept paths, load requirements and clearances for waste collections.

INSTALLATION EQUIPMENT AND DESIGN

EQUIPMENT SUMMARY

Table 2: Equipment Summary

Component	Part	Qty	Notes
Equipment	Suitable Bin Moving Equipment	N/A	Optional (See APPENDIX B.4 & APPENDIX B.5 for Typical Bin Movers)

WASTE STORAGE AREAS

The areas allocated for waste storage are detailed in Table 3 below. The areas provided are estimates only. Final areas will depend upon storage area and bin layouts.

Table 3: Waste Storage Areas

Level	Storage Area Type	Equipment	Estimated Area (m ²)
Ground	Bin Holding Area	4 x 1.5m ³ bulk bins (Garbage) 2 x 1.5m ³ bulk bins (Paper/Cardboard Recycling)	20

USEFUL CONTACTS

Elephants Foot Recycling Solutions does not warrant or make representation for goods or services provided by suppliers.

CITY OF PARRAMATTA CUSTOMER SERVICE

Phone: (02) 9806 5050

Email:

council@cityofparramatta.nsw.gov.au

SULO MGB (MGB, Public Place Bins, Tugs and Bin Hitches)

Phone: 1300 364 388

CLOSED LOOP (Organic Dehydrator)

Phone: 02 9339 9801

ELECTRODRIVE (Bin Mover)

Phone: 1800 333 002

Email: sales@electrodrive.com.au

RUD (Public Place Bins, Recycling Bins)

Phone: 07 3712 8000

Email: Info@rud.com.au

CAPITAL CITY WASTE SERVICES (Private Waste Services Provider)

Phone: 02 9359 9999

REMONDIS (Private Waste Services Provider)

Phone: 13 73 73

SITA ENVIRONMENTAL (Private Waste Services Provider)

Phone: 13 13 35

NATIONAL ASSOCIATION OF CHARITABLE RECYCLING ORGANISATIONS INC.
(NACRO)

Phone: 03 9429 9884

Email: information@nacro.org.au

PURIFYING SOLUTIONS (Odour Control)

Phone: 1300 636 877

Email: sales@purifyingsolutions.com.au

MOVEXX (Bin Movers)

Phone: 1300 763 444

AUSCOL (Recycling Oils & Animal Fats)

Phone: 1800 629 476

KOMPACT EQUIPMENT (Equipment & Servicing Provider)

Phone: 1300 566 722

Email: info@kompactequipment.com.au

ELEPHANTS FOOT RECYCLING SOLUTIONS (Chutes, Compactors & eDiverter Systems)

44 – 46 Gibson Avenue

Padstow NSW 2211

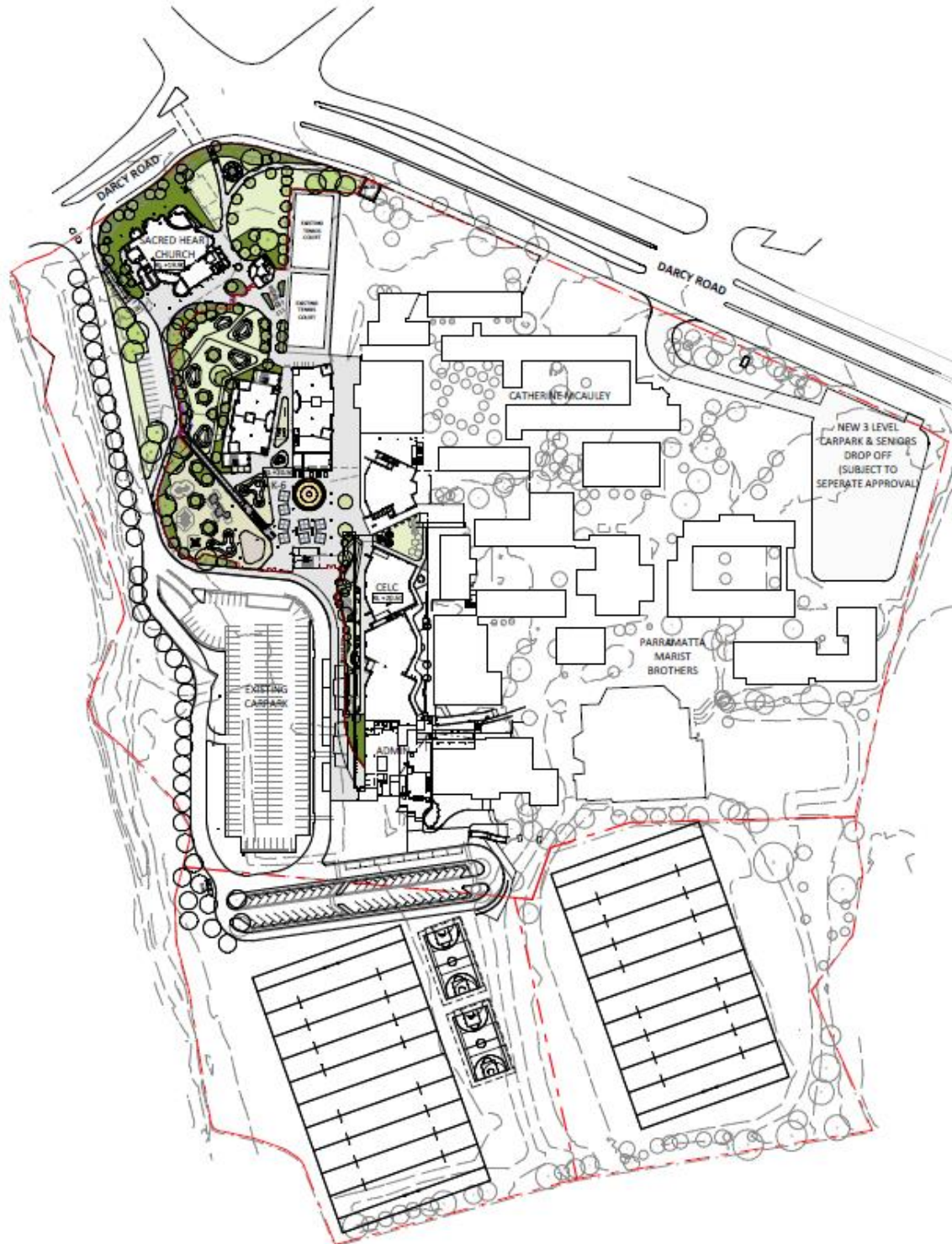
Phone: 1300 434 374

Email: wmp@elephantsfoot.com.au

APPENDICES

APPENDIX A ARCHITECTURAL DRAWING EXCERPTS

APPENDIX A.1 SITE PLAN



Source: Alleanza Architecture – Site Plan

APPENDIX A.2 BIN STORAGE AREA



Source: Alleanza Architecture – Site Plan

APPENDIX B PRIMARY WASTE MANAGEMENT PROVISIONS

APPENDIX B.1 TYPICAL 1.5M³ BIN SPECIFICATIONS

Container options and accessories

- Castors
- Rubber wheels
- Forklift pockets
- Range of bin sizes
- Tow hitches
- Sloping fronts
- Wheel brakes
- Liners
- Bin lifters
- Carts
- Docket holder
- Padlocks and chains



Container specifications

Capacity	1.5m ³	3.0m ³	4.5m ³
Depth	0.905m	1.505m	1.605m
Width	1.805m	1.805m	1.805m
Height	0.910m	1.225m	1.570m



APPENDIX B.2 SIGNAGE FOR WASTE & RECYCLING BINS

Waste Signs

Signs for garbage, recycling and organics bins should comply with the standard signs promoted by the EPA (Environmental Protection Authority).

Examples of waste wall posters (EPA supplied)



Examples of bin lid stickers (EPA supplied)



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.



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.

Example safety signs



Source: New South Wales Environmental Protection Authority *Better Practice Guide for Resource Recovery* (2019)

APPENDIX B.3 TYPICAL FRONT LIFT COLLECTION VEHICLE INFORMATION

Overall length	Up to 11.0m
Overall width	2.5m
Height (travel)	Up to 4.2m
Height (in operation)	Up to 8.5m
Weight (vehicle only)	16.5t
Weight (payload)	11.0t
Turning circle	25.0m



Source: Suez

APPENDIX B.4 TYPICAL MOTORISED BIN TUG



Typical applications:

- Move trolleys, waste bin trailers and 660/1100L bins up and down a ramp incline.
- Quiet, smooth operation with zero emissions and simple to use, no driver's licence required
- Suitable for:
 - High rise building & apartment basements
 - Large factories & warehouse with sloped ground
 - Caravan parks & other large outdoor areas

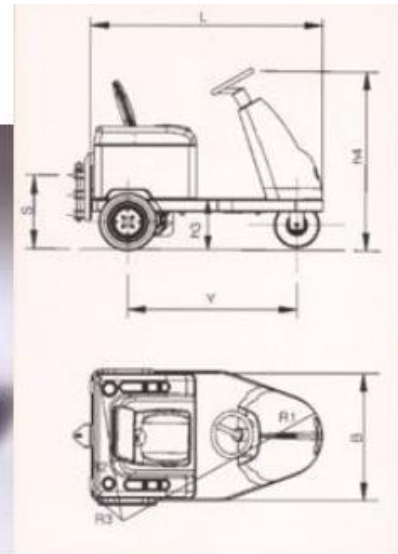
Features:

- 1 tonne tow capacity of inclines up to 8 degrees
- 500kg tow capacity if inclines up to 14 degrees
- CE Compliant
- 4.5 km/h max speed
- 2 x 80amp batteries – includes charger
- Powerful transaxle
- Hitch to suit 660L bins

Safety Features:

- Intuitive paddle lever control
- Stops and repels the unit if activated when reversing.
- Site assessment recommended to assess ramp incline steepness (*See Useful Contacts*)

APPENDIX B.5 TYPICAL SEATED BIN MOVER



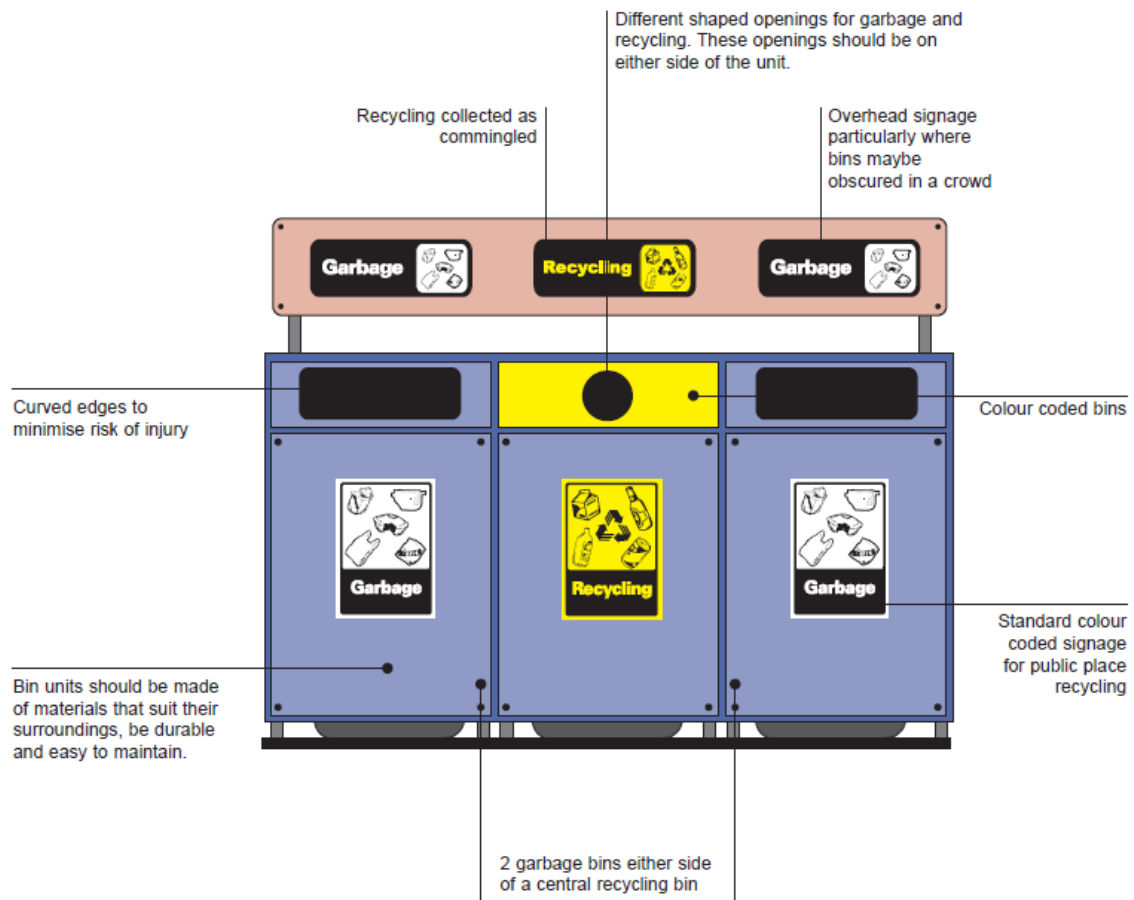
		UNIT M.	BULL 2	BULL 4
Manufacturer	DEC			
Model	BULL			
Platform loading cap.	Nominal capacity	kg	-----	-----
Pull capacity	Pull nominal capacity	kg	2000	4000
Power type	Electric - endothermic		electric	electric
Control type	Standing / seated thiller / steer		seated / steer	seated / steer
Tyres	Pn=pneum. Se=superelastic		Pn	Pn
Wheels	N. front/rear - x drive	n.	1/2X	1/2X
Platform dimensions	L x B (lengh x width)	mm	-----	-----
Platform hight	h6 = unload clearence	mm	-----	-----
Overall dimensions	L = lenght	mm	1500	1600
	B = width	mm	900	930
	h1 = foot leve	mm	1820	1960
	h3 = Seat height	mm	310	340
	h4 = Steer height	mm	1250	1330
Turning radius	R1 = front min. external	mm	1400	1500
	R2 = rear min. external	mm	1000	1000
	R3 = front min. internal	mm	400	400
Aisle width	A = 180° turn	mm	2200	2300
Tow hook height	s = center from ground	mm	220-350-490	240-380-520

APPENDIX C SECONDARY WASTE MANAGEMENT PROVISIONS

APPENDIX C.1 TYPICAL BACK OF HOUSE BINS



APPENDIX C.2 TYPICAL PUBLIC PLACE WASTE BINS



Source: *Department of Environment and Conservation (NSW) Better Practice Guide for Public Place Recycling 2005*