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26th October 2023

Touchstone Partners
Louise Norton
Project Director
Suite 1, Level 8, 92 Pitt Street
Sydney NSW 2000

Dear Louise,

RE: University of New England (UNE) Tamworth – Waste Management Statement

1 Introduction

MRA Consulting Group was engaged by Touchstone Partners on behalf of the University of New England to prepare a waste management plan (WMP) for the proposed development of a university campus in Tamworth. The proposed development site is the existing Prince of Wales Park which is currently occupied by a concrete velodrome structure which will require demolition prior to construction of the proposed campus building.

The purpose of this WMP is to address the generation and flow of demolition, construction and operational waste that will be produced because of the proposed development. This WMP addresses waste management across the site and complies with relevant waste management requirements outlined in the Tamworth Development Control Plan (TDCP) 2010 and other statutory requirements. Consideration has also been given to the NSW Environment Protection Authority (EPA) *Better Practice Guide for Resource Recovery in Residential Developments (2019);*

1.1 Development Description

The proposed development is located within part of Lot 73 DP1107041. The development will consist of one four level building featuring:

- teaching spaces,
- meeting rooms,
- clinical simulation/consult labs,
- workspaces,
- amenities, and
- A carparking area.

1.2 Location

The proposed development site is situated between Roderick Street, Scott Road and Peel Street (see Figure 1). The site is located within an E2 (Commercial Centre) zone and adjacent to a RE1 (Public Recreation) zone.

Vehicle access to the site will be available from Peel Street with a secondary pedestrian frontage on Roderick Street.

Figure 1: University of New England Tamworth Campus location

Source: Nearmap, 2023.

1.3 Assumptions

The following assumptions have been made:

- Drawings and information that have been used in waste management planning for this WMP are the final reference/indicative design set from the project architect, Architectus (July 2023);
- Waste generation volumes have been modelled based on similar size tertiary education establishments owned and operated by UNE. The amount of waste generated in practice is affected by the level of activity and application of waste management methods;
- Waste management equipment and infrastructure recommendations have been made according to estimated waste generation based on similar examples;
- This WMP is a living document and therefore, waste management equipment and systems described in this report are subject to change based on future operations and available technology.

2 Demolition and Construction Waste Management

Demolition and construction activities at the site will generate a range of construction and demolition (C&D) wastes. Throughout the development process, all materials will be reused and recycled where possible, minimising the disposal (landfilling) of materials other than those that are contaminated or unsuitable for reuse or recycling processes.

Waste storage during construction operations will involve some stockpiling of reusable material, as well as placement of wheeled bins for the separation of construction materials for recycling. A bin for residual waste or contaminated material will also be made available at the site for disposal where necessary. Bins may require alternative placement across construction operations to facilitate the safe and efficient storage of materials and will be retained within property boundaries to avoid illegal dumping.

A waste storage area shall be designated by the demolition or construction contractor and shall be sufficient to store the various waste streams expected during operations. Waste storage areas will be kept clear to maintain access and shall also be kept tidy to encourage separation of waste materials and for WHS reasons. The waste storage area will retain multiple bins to allow for source separation of waste to allow for ease of recovery and reuse of materials.

Waste management principles, management measures and facilities in use on the site shall be included as part of the site induction for all personnel working on the site.

2.1 Demolition Waste Management

The proposed development will require demolition of existing structures prior to commencement of excavation and construction operations. Demolition works will include the removal of the existing velodrome, interspersed trees and other existing concrete features associated with the site.

Table 1 outlines the expected demolition waste quantities to be generated at the site, in addition to the appropriate management methods for each material type. Other materials with limited reuse potential either on or offsite will be removed in bulk bins for recycling at an appropriately licenced and capable recycling facility.

Table 1: Demolition waste generation estimates

Type of Material	Estimated volumes (m^3)	Re-use on-site	Recycle (Separate collection)	Recycle (Off-site)	Estimated % Landfill	Estimated % of landfill diversion	Methods for re-use, recycling or disposal
Concrete	300-500	✓	✓	✓	<5%	>95%	Onsite: Separated wherever possible and reused or crushed for filling, levelling or road base. Offsite: Removed to C&D facility for crushing and recycling for recovered products.
Bricks/pavers	Minor	✓	✓	✓	<5%	>95%	Onsite: Separated wherever possible and reused or crushed for landscaping and driveways. The development will be able to reuse a number of existing building bricks as paving in landscaped areas. Offsite: Removed to C&D facility for crushing and recycling for recovered products.
Timber (treated)	5-10	-	✓	✓	50%	50%	Onsite: Separated wherever possible to improve resource recovery. Offsite: Removed to C&D facility for recovery where possible.
Metals (ferrous & non-ferrous)	5-10	-	✓	✓	<10%	>90%	Onsite: Separated wherever possible to improve resource recovery. Offsite: Removed to C&D facility for recovery and recycling.

Vegetation	10-20						
Residual waste	5-10	-	-	-	100%	-	Resource recovery dependant on facility destination capability.
Hazardous Waste	Unknown	-	-	-	100%	-	Existing buildings may contain potentially hazardous materials. Should contaminated or potentially hazardous materials be discovered they would be handled according to the demolition and/or materials management plan
Total % Diversion from Landfill Estimated						**>80%**	

2.2 Construction Waste Management

Table 2 outlines indicative volume to weight conversion factors for common construction materials.

Table 2: Building waste material by percentage and conversion factor for volume and weight

Building waste material	Tones per m^3	Waste as % of the total material ordered
Soil/aggregate	1.4 - 1.6	-
Bricks	1.2	5-10%
Concrete	1.5	3-5%
Tiles/ceramics	0.5 - 1	2-5%
Timber	0.3	5-7%
Plasterboard	0.2	5-20%
Metals	0.15 – 0.9	-

Source: Green Building Code of Australia C&D Waste Criteria.

Table 3 outlines the expected construction waste quantities for materials through construction of the proposed new development in addition to the appropriate management methods for each material type.

The information below presents multiple options for materials reuse, recycling and disposal where applicable (e.g. return to manufacturer, recycled at construction and demolition (C&D) processor, or disposed to landfill if contaminated).

Table 3: Construction waste generation estimations

Type of Material	Estimated Volumes (m^3)	Re-use on-site	Recycle (Separate collection)	Recycle (Off-site)	Landfill	% of landfill diversion	Methods for re-use, recycling or disposal
Excavated material	50	✓	✓	✓	<5%	>95%	Onsite: Reuse for fill and levelling. Offsite: Removed from site for reuse as recycled fill material or soil. Disposal: Removal of any contaminated material for appropriate treatment or disposal.
Concrete	150 - 200	✓	✓	✓	<10%	>90%	Onsite: Separated wherever possible and reused or crushed for filling, levelling or road base. Offsite: Removed to C&D facility for crushing and recycling for recovered products.
Asphalt	<10	-	✓	-	<10%	>90%	Onsite: Separated wherever possible and reused to enhance resource recovery. Offsite: Returned to supplier for reuse or removed to C&D facility for crushing and recycling for recovered products.
Bricks/ pavers	<10	✓	✓	✓	<10%	>90%	Onsite: Separated wherever possible and reused or crushed for landscaping and driveways.

Type of Material	Estimated Volumes (m^3)	Re-use on-site	Recycle (Separate collection)	Recycle (Off-site)	Landfill	% of landfill diversion	Methods for re-use, recycling or disposal
							Offsite: Returned to supplier for reuse or removed to C&D facility for crushing and recycling for recovered products.
Tiles	<10	✓	✓	✓	<10%	>90%	Onsite: Separated wherever possible and reused or crushed for landscaping and driveways. Offsite: Returned to supplier for reuse or removed to C&D facility for crushing and recycling for recovered products.
Timber (clean)	<5	-	✓	✓	<10%	>90%	Onsite: Separated wherever possible to improve resource recovery. Offsite: Returned to supplier for reuse removed to C&D facility for recovery where possible.
Timber (treated)	<5	-	✓	✓	50%	50%	Onsite: Separated wherever possible to improve resource recovery. Offsite: Returned to supplier for reuse removed to C&D facility for recovery where possible.
Plasterboard	5-10	-	✓	✓	<10%	90%	Onsite: Separated wherever possible to improve resource recovery. Offsite: Returned to supplier or removed to a C&D/plasterboard recovery facility for recovery where possible.

Type of Material	Estimated Volumes (m^3)	Re-use on-site	Recycle (Separate collection)	Recycle (Off-site)	Landfill	% of landfill diversion	Methods for re-use, recycling or disposal
Glass	<5	✓	✓	✓	<10%	>90%	Onsite: Separated wherever possible and reused or crushed for landscaping and driveways. Offsite: Returned to supplier for reuse or removed to C&D facility for crushing and recycling for recovered products.
Metals (ferrous) Metals (non-ferrous)	<10	-	✓	✓	<10%	>90%	Onsite: Separated wherever possible to improve resource recovery. Offsite: Returned to supplier for reuse or removed to C&D facility for recovery and recycling.
Floor covering	5-15	-	✓	✓	<10%	>90%	Offcut carpet separated where possible and returned to supplier for reuse.
Electronic waste	<5	-	✓	✓	<10%	>90%	Offcut wires and electronics separated where possible or returned to supplier for reuse.
Packaging materials (pallets, wrap, cardboard, etc)	50-100	-	✓	✓	<10%	>90%	Returned to supplier where possible or separated by material type for resource recovery.

Type of Material	Estimated Volumes (m^3)	Re-use on-site	Recycle (Separate collection)	Recycle (Off-site)	Landfill	% of landfill diversion	Methods for re-use, recycling or disposal
Residual waste	25 - 50	-	✓	✓	100%	-	Resource recovery dependant on facility destination capability.
					Total Diversion %		**>90%**

2.3 Best Practice Construction Waste Methods

The most efficient way of maximising reuse and recycling is to separate wastes as early as possible. Providing multiple bins (of varying sizes, depending on expected volumes of waste generation) will allow contractors to separately dispose of waste as it is generated, rather than having to sort mixed waste loads. Smaller bins should be provided for general waste, to encourage separation of useable waste. An array of bins can be provided, such as in Figure 2 below.

Figure 2: Example of C&D source separation bins

Source: Envirowaste, 2019.

Bin sizes should be based on expected quantities of each waste type, which can be confirmed with the site construction contractor.

2.4 Waste Contractors and Facilities

To ensure best practice waste management, appropriate contractors and facilities have been proposed based on their location and service offerings (Table 4).

Table 4: Waste service contractors and facilities

Role	Details
Recommended Waste Collection Contractor	The following are local skip bin operators for consideration in the management of excavation and construction waste for the site: • Tamworth Skip Eze; • Ausskips; • TRAILAskip; Or another supplier as elected by the building contractor.

Principal Off-Site Recycler	The following are local C&D processing facilities for consideration in the management of C&D waste generated at the site: • Tamworth Waste Management Facility; Or another appropriate facility as elected by the waste management contractor.
Principal Licensed Landfill Site	• Tamworth Waste Management Facility; Or other appropriate facility as elected by the waste management contractor.

2.5 Waste Management Procedure

The construction contractor and waste service provider will manage waste generated during construction in accordance with this WMP. Responsibility for the WMP, waste documentation and processes during the excavation and construction phases will be with the site manager or builder.

This WMP will be retained on-site during the excavation and construction phases of the development, along with other waste management documentation (e.g. contracts with waste service providers).

A logbook that records waste management and collection will be maintained on site, with entries including:

- Time and date of collections;
- Description of waste and quantity;
- Waste/processing facility that will receive the waste; and
- Vehicle registration and company name.

Waste management documentation, the logbook and associated dockets and receipts must be made available for inspection by an authorised Council Officer at any time during site works.

2.6 Waste minimisation, reuse and recycling:

The following strategies will help minimise the waste generated on-site and help with recycling and reuse where possible:

- The waste strategy will be included in project induction and all contractors and personnel will be informed about the site waste management principles and facilities.
- Ensure that suppliers deliver materials of expected quality to reduce any need for rework stemming from product quality.
- Prefabricated material will be used where practice and reasonable.
- Reuse equipment and material whenever possible.
- Reuse green waste depending on species for landscaping purposes on and off site when feasible. Mulch or compost all other green waste on or offsite.
- Provide source separation bins in site offices and facilities.
- Clear signage on bins, waste collection points and facilities.
- Feedback from waste management service provider.
- On-going checks by site supervisors.
- Providing commingled recycling bins for food containers and educating staff to separate food waste and food packaging waste from waste to avoid contamination of C&D waste.
- Recycle timber, formwork, and waste concrete.

- Recycle general waste generated on site offices and facilities such as paper, cardboard and aluminium cans.

2.7 Waste Storage and handling

- All demolition and excavation waste will be removed by licensed contractors and sent to approved waste and resource recovery facilities.
- The handling, storage and transport of hazardous materials and waste will be in accordance with relevant codes and guidelines hazardous materials management procedures.
- During construction skip bins and wheelie of varying capacities will be placed strategically on site for use by subcontractors and site staff.
- A food scrap bin will be provided for putrescible waste products.
- Waste oils and chemicals will be stored in a secured bunded area. An emergency response spill kit will be located adjacent to the bunded area.
- All storage containers and locations for the various waste streams will be clearly labelled to ensure that waste mixing and contamination is avoided as much as possible.
- Records will be retained detailing the quantity, classification and disposal of waste.

2.8 Site Documentation

This WMP will be retained on-site during the excavation and construction phases of the development, along with other waste management documentation (e.g. contracts with waste service providers).

Responsibility for the WMP, waste documentation and processes during the excavation and construction phases will be with the site manager or builder.

A logbook that records waste management and collection will be maintained on site, with entries including:

- Time and date of collections;
- Description of waste and quantity;
- Waste/processing facility that will receive the waste; and
- Vehicle registration and company name.

Waste management documentation, the logbook and associated dockets and receipts must be made available for inspection by an authorised Council Officer at any time during site works.

3 Operational Waste Management

3.1 Overview

Ongoing waste management requirements for the site will result from the daily operation of campus facilities including multiple individual and group study spaces, laboratories and conference or seminar rooms that will be used by university staff, students, and guests.

All waste storage and management areas at the site are to be located within the building or in the site loading area, to minimise potential impacts on active street frontages and site users.

The following space calculations are based off the bin dimensions sourced from NSW EPA's *Better Practice Guide for Resource Recovery in Residential Developments* (2019) (MGBs: Table 5, Front lift bins: Table 6).

Table 5: MGB capacity and footprint

Bin Capacity (L)	Height (mm)	Depth (mm)	Width (mm)	Footprint (Approx. m^2)
120L	940	560	485	0.27
240L	1,080	735	580	0.43
660L	1,250	850	1,370	1.16
1,100L	1,470	1,245	1,370	1.71

Source: Better practice guide for resource recovery in residential developments (2019).

Table 6: Front lift bin capacity and footprint

Bin Capacity (L)	Height (mm)	Depth (mm)	Width (mm)	Footprint (Approx. m^2)
1.5m^3	900	900	1,800	1.65
3m^3	1,200	1,325	1,800	2.40
4.5m^3	1,500	1,600	1,800	2.90
6m^3	1,650	1,900	2,000	3.80

Source: Better practice guide for resource recovery in residential developments (2019).

3.2 Waste Generation

The TDCP does not provide specific waste generation rates for tertiary education facilities and UNE own and operate a number of university campuses across Australia. As such, existing waste generation data and methods from similar sized and function sites have been relied upon to determine the waste generation expectations for the site.

Based on existing operation of a similar campus with comparable student and teacher capacity to the proposed development, the following infrastructure is utilised to service waste:

- *2 x 240L general waste bins / collected weekly (staff)*
- *2 x 240L recycling bins / collected weekly (staff and students)*

- *1 x 3m^3 general waste skip / collected weekly (students)*

3.3 Additional Waste Streams

The following waste streams are representative of materials that may be common for the proposed use and may have the opportunity to provide a separate waste service should it be efficient and appropriate for the site.

3.3.1 Hazardous Waste

Medical, Biological, and Radioactive wastes are to be handled in accordance with the University's Waste Management Guidelines and Work Health and Safety Policy. Under no circumstances should these wastes be disposed of in General Waste bins. Cleanaway currently manage medical waste for the University of Newcastle.

3.3.2 Chemical Waste

Chemical waste may be generated as a result of typical teaching and research laboratory activities. The following strategies will help management mitigate any risks associated with the handling and disposal of chemical wastes.

Chemical waste is to be stored in a separate, locked cupboard within lab areas. Bunding of the chemical waste storage area is required to mitigate any spill or leak risk and prevent run-off into the drainage system. A suitably licensed chemical or chemical waste contractor will remove any related wastes or containers from the site on a regular basis, to be defined between UNE and the contractor.

3.3.3 Paper and Cardboard

Should large quantities of paper and carboard waste be generated from proposed site uses a separate service may be suitable for application at the site. The contracted waste service provider may be able to provide separate paper and cardboard bins for the source separation and collection of paper and cardboard waste.

3.3.4 Secure Documents

Separate bins for secure document waste may be retained in office spaces, to be serviced by a specialist secure document destruction contractor.

3.3.5 E-Waste

This can be either an on-call service or scheduled collection depending on the need. On call collections generally take 1-2 weeks until collection. The bins supplied are standard blue 660L bins with an education sticker and phone number. Collection is completed via a Pantech and the bins are swapped at time of collection.

3.4 Waste Storage Requirements

On the basis of waste generation expectations identified in Section 3.2 and 3.3, the following (see Table 7) waste storage infrastructure is proposed to service the site.

Table 7: Proposed site waste infrastructure

Waste Stream	Bins	Quantity	Footprint (m^2) (includes space to manoeuvre)	Total approxiamte area with handling space*
General Waste	3m^3	1	2.5m^2	10m^2

	(or equivalent MGB capacity)			
	240L	2	1m	
Commingled Recycling	240L	1	0.5m^2	
Paper/Cardboard	240L	1	0.5m^2	

**a factor of 2x is applied to the expected bin footprint to accommodate for handling and manoeuvring space.*

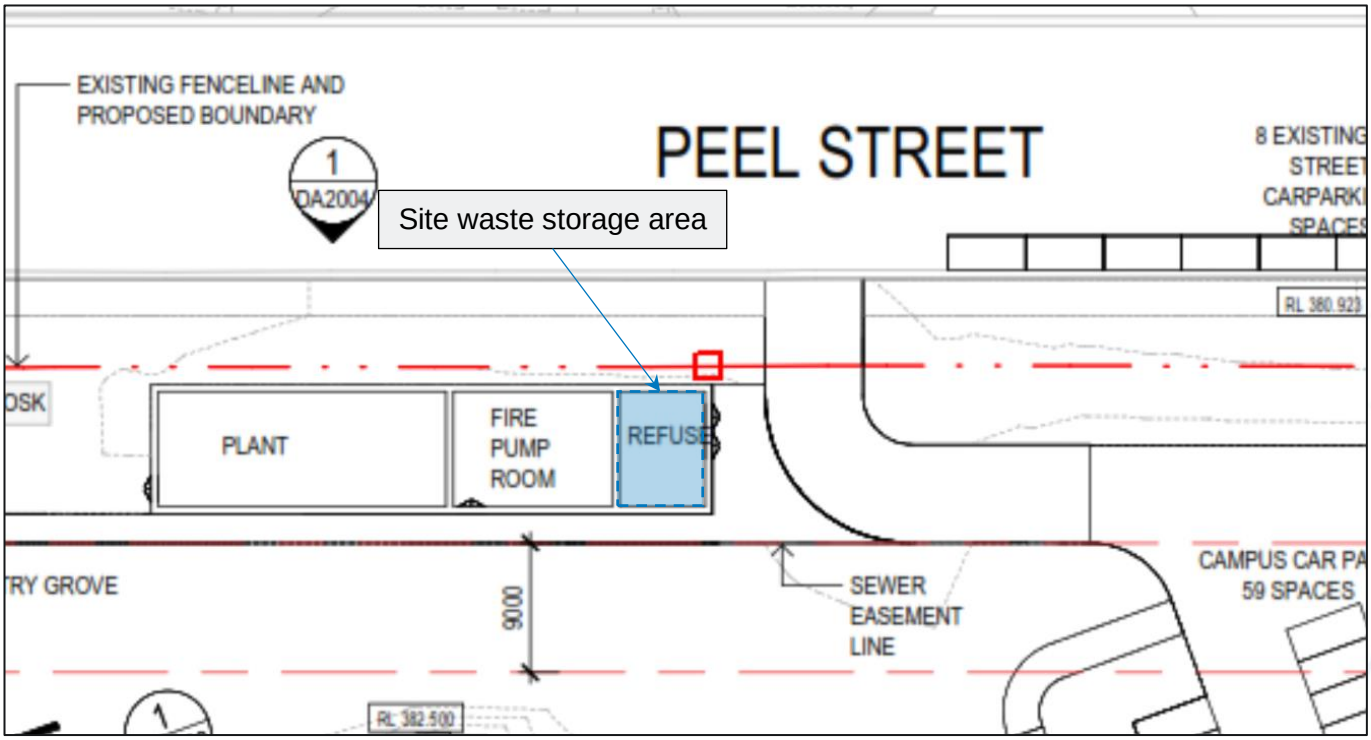
A private waste contractor will service this development, and the following collection schedule is recommended:

- General Waste / collected weekly; and
- Commingled Recycling / collected weekly; and
- Paper and Cardboard / collected weekly.

Building management can observe bin fullness levels upon full occupancy and adjust the number of collections and services accordingly.

On the basis of the above noted waste management infrastructure, the proposed waste storage area located on the ground floor near Peel Street (see Figure 3) is designed for the site is approximately **48m^2**. The expected bin infrastructure required to service the site can be easily accommodated in the proposed space and is sufficiently sized to cater for changes to the waste management needs of the proposed use that may occur in future or on commencement of operations.

Figure 3: Proposed waste storage area



Source: Architectus, 2023.

4 Equipment and Waste Management Systems

4.1 Collection Method and Loading Areas

Waste will be collected from the site by a suitably licensed private waste service provider (WSP). The collection point for the WSP and areas for handling and loading are as follows:

- Collection and loading will occur at the loading dock which accessible Peel Street;
- The loading dock will be located on the lower ground level, with appropriate space for a waste truck to manoeuvre to the waste storage area;
- Clear, safe, accessible and convenient space for handling of MGBs and equipment and loading of collection vehicles; and
- Identifiable areas where students, staff, visitors and site staff can recognise and avoid any risk associated with moving vehicles, and bin moving and handling.

Table 8 outlines relevant specifications.

Table 8: Collection point and loading area specifications

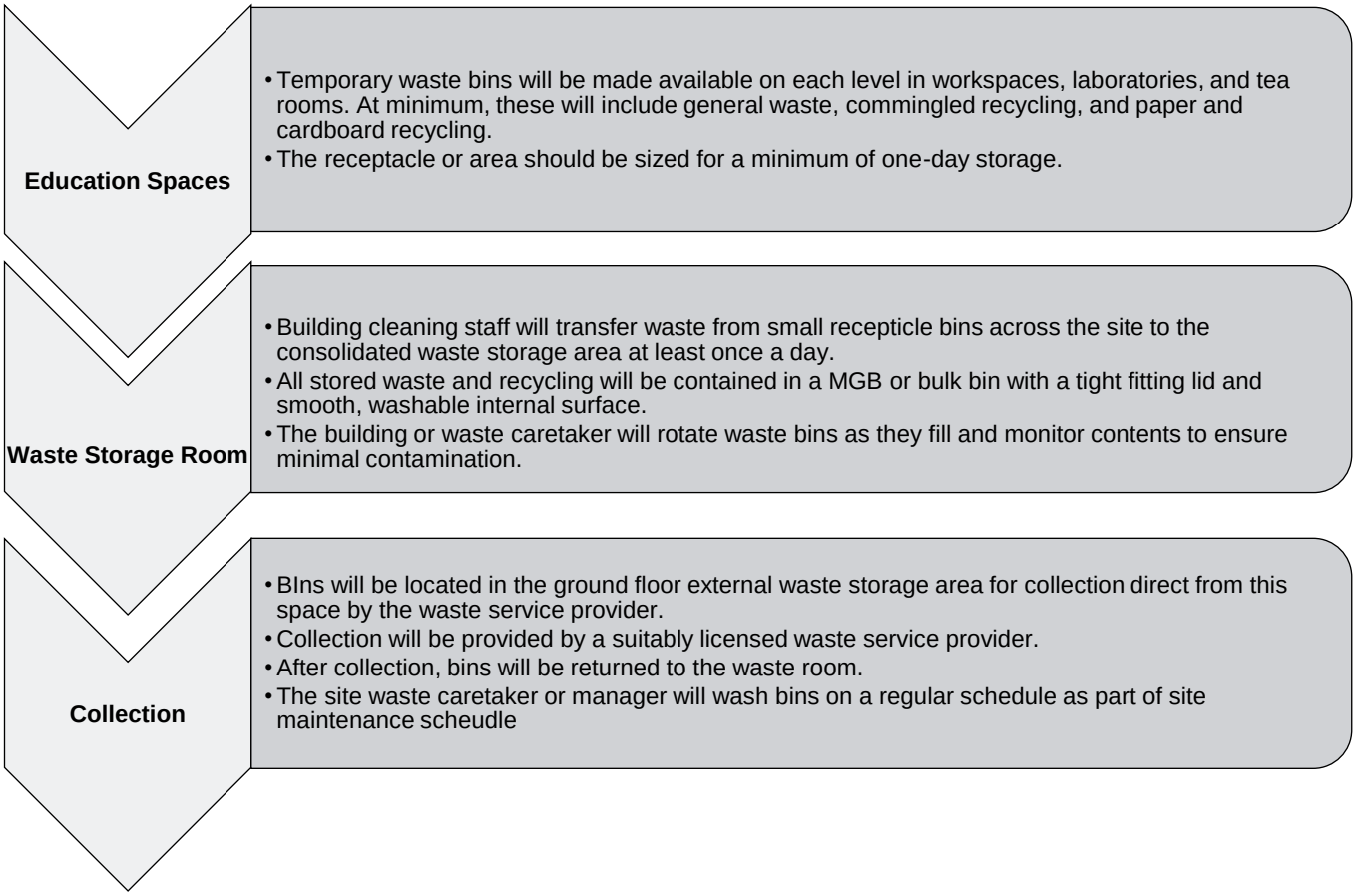
Component	Requirement	Specification
Collection point	Allow safe waste collection and loading operations	- Adequate clearance and manoeuvring space; - Sufficient clearance for the safe handling of materials and equipment; and - Sectioned loading bay does not impede upon traffic and pedestrian safety.
Vehicle manoeuvring and loading space	Truck space for adequate lift clearance, manoeuvring and operation for a contractor collection vehicle	- Adequate loading bay dimensions do not impede rear lift clearance; - Operational clearance for truck reversing into the loading bay, and exiting in a forward direction; and - The provision of space clear of vehicle parking spaces.
Operating times	Appropriate collection times to limit noise and traffic disturbance	- Collection times will be arranged to ensure minimal disturbance to students, staff, pedestrians and visitors.

Collection of site waste bins by the contracted WSP will be facilitated through building management or the site waste caretaker who will provide access to the ground floor waste management and storage area via the loading dock.

4.1.1 Waste management

Waste generated as a result of education activities onsite will be temporarily stored on each level in source-separation bins. Bins will be provided on each level in circulation areas, workspaces, laboratories, and in kitchen and bathroom facilities. Waste is then transferred to the ground floor waste storage area by site cleaning staff where it will remain until scheduled collection from the contracted waste service provider. Figure 4 below outlines the flow of waste from each level to collection.

Figure 4: Site waste flow



4.2 Management System and Responsibilities

Building management and the site waste caretaker will be responsible for the management of waste at the site. Should there be any issues that impact on the operational efficiency, safety and suitability of waste management, the waste caretaker will inform management. Operation of the waste management system is the responsibility of building management and the waste caretaker. Responsibilities include:

- Using this WMP to inform waste management operations, design and infrastructure;
- Providing educational materials and information on sorting methods for recycled waste, awareness of waste management procedures for waste minimisation and resource recovery;
- Maintaining a valid and current contract with a licensed waste service provider for waste and recycling collection and disposal;
- Making information available to students, visitors and site staff about waste management procedures;
- Collection of waste from ground floor ancillary services in a mobile waste management/janitor trolley, for direct disposal into designated bins retained in ground floor bin storage area;
- Manoeuvring bins to specified onsite collection point prior to and following scheduled collection of waste bins;
- Organising, maintaining and cleaning waste management areas as part of a regular maintenance schedule;
- Maintenance of equipment and infrastructure for waste where possible (within the means of staff);
- Organising the relevant waste contractor for additional maintenance or waste management for the site (including bulky waste);

- Ensuring bin allocation and waste/recycling collection frequency is adequate. Requesting additional infrastructure or services where necessary; and
- Monitoring any vermin and pest issues and arranging appropriate controls (traps or fumigating) and maintenance of doors or other points of potential entry.

4.3 Waste Storage and Recycling Area Specifications

The waste storage area will provide centralised storage that has adequate capacity to receive and store the maximum likely generation of waste and recycling between collection times. The waste storage area will be constructed to improve amenity, minimise odour, protect surrounding areas and promote user safety. specifications include:

- Signage for safety and waste bin identification;
- Safety precautions, staff training and signage for plant;
- Noise attenuation for waste management areas that limits effects to university students, staff, and visitors, from compactor, bin transfer and collection vehicle noise;
- Floors constructed of concrete or other approved solid, impervious material that is easily cleaned;
- Grading and draining to an approved drainage fitting located in the room;
- A smooth, even floor surface covered with vertical wall and plinth faces;
- Doorway ramp (if not level);
- Light colour finish for all room surfaces;
- Adequate supply of water with hose cock as close as practicable to the doorway;
- Suitable construction including limited entry paths to prevent vermin;
- Ventilation through permanent unobstructed ventilation (5% of floor area) or mechanical exhaust ventilation system (5L/s per m^2 of floor area); and
- Security and lighting.

4.4 Signage and Education

Signage that promotes resource recovery, waste minimisation, safety and amenity follows the Australian Standard for safety signs for the occupational environment.

Signage is designed to consider language and accessibility (i.e. to be understood as clearly as possible by those with different abilities of vision, knowledge of the English language, intellectual ability and with other conditions). Signage is to be prominently posted in or near each waste storage area and relevant waste service area indicating:

- Detail on acceptable recyclables;
- Recyclables are to be decanted loose (not bagged);
- No standing and danger warnings apply to the area surrounding the waste storage area;
- Contact details for arranging the disposal of bulky items; and
- The area is to be kept tidy.

Standard signage requirements and guidance for application apply (see Figure 7, Appendix B).

4.5 Prevention of Pollution, Illegal Dumping and Litter Reduction

To minimise dispersion of litter and prevent pollution (to water and land via contamination of runoff, dust and hazardous materials), site management will also be responsible for:

- Maintenance of communal areas and the waste storage area;
- Securing the waste storage area from vandalism and the escape of litter;
- Identification and appropriate disposal of goods with hazardous material content (paints, e-waste, fluorescent tubes);
- Acting to prevent dumping and unauthorised use of waste areas; and
- Requiring contractors to clean up any spillage that may occur during waste servicing or other work.

Should you require further clarification on the details contained in this report, please contact the undersigned.

Sincerely,

James Cosgrove / Senior Environmental Consultant
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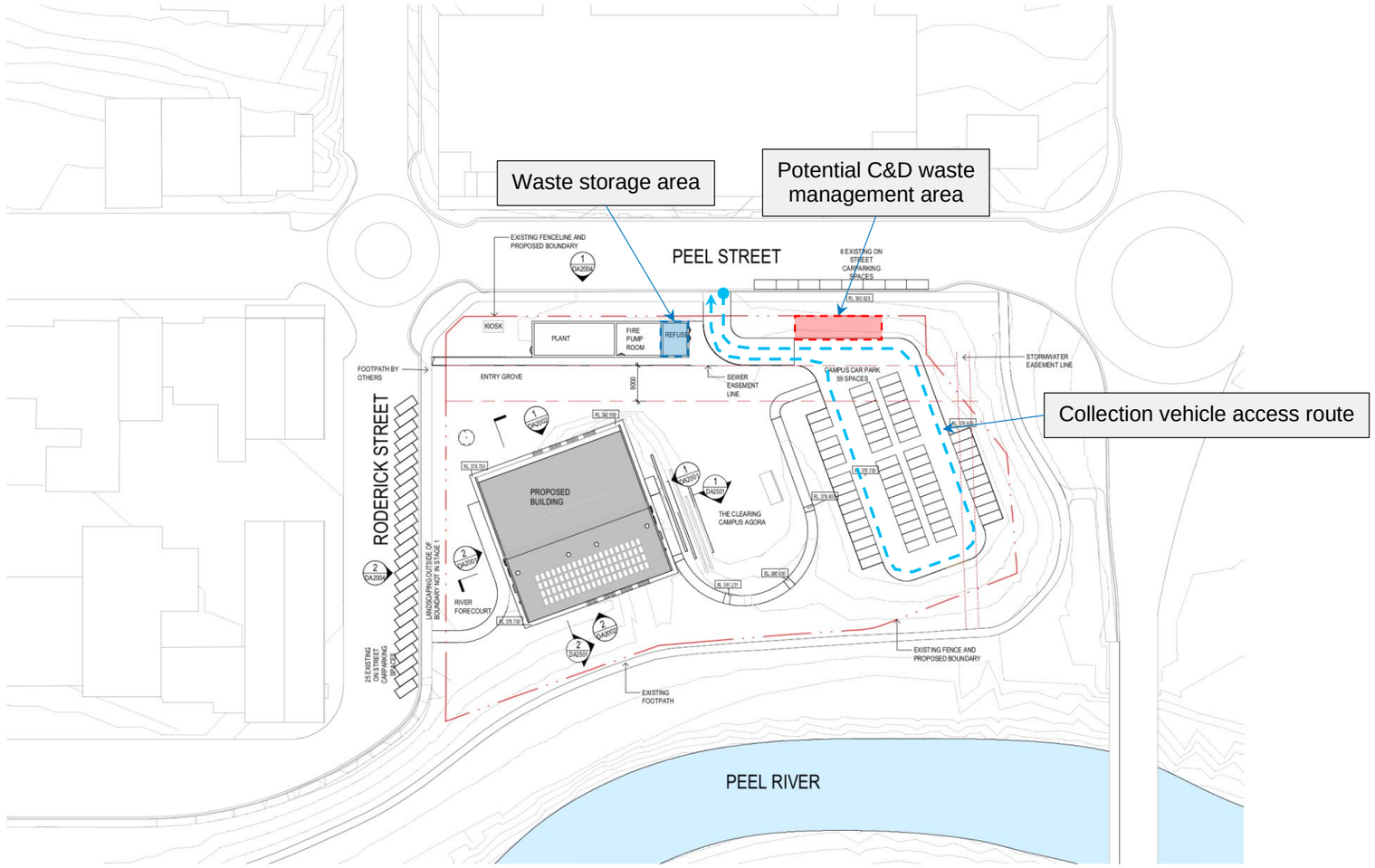
Disclaimer

Appendix A Site Plans

Figure 5: Proposed site plans and waste management arrangement



Source: Architectus, 2023.

Appendix B Standard Signage

Waste Signage

Signs for garbage, recycling and organics bins should comply with the standard signs promoted by the NSW Office of Environment and Heritage (NSW OEH 2008b).

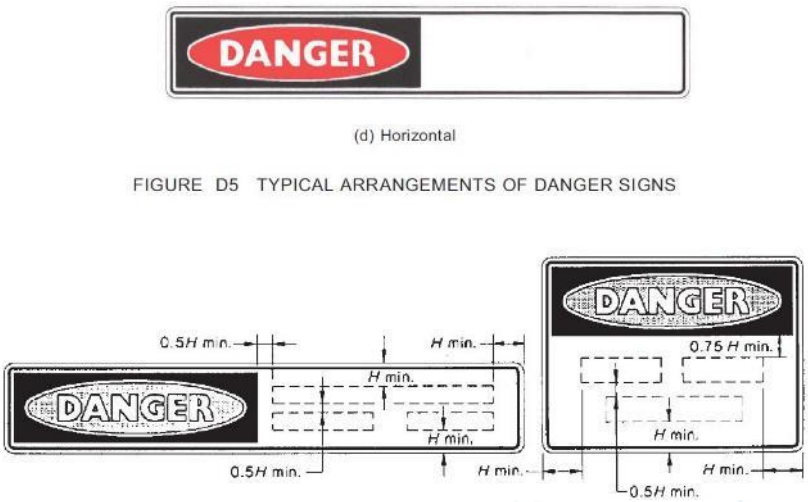
Standard symbols for use in signage, bin facade and educational materials are promoted through the NSW Environment Protection Authority. They are available for download from the NSW EPA website (NSW EPA 2016b), in black and white and colour versions. The Australian Standard series AS 4123 (Part 7) details colours for mobile waste containers (Standards Australia 2008).

Figure 6: Examples of standard signage for bin uses

Safety Signs

The design and use of safety signs for waste and recycling rooms and enclosures should comply with AS 1319 (Standards Australia 1994). Safety signs should be used to regulate, and control safety related to behaviour, warn of hazards and provide emergency information, including fire protection information. Below are some examples. Clear and easy to read 'NO STANDING' and 'DANGER' warning signs must be fixed to the external face of each waste and recycling room where appropriate.

Figure 7: Example and layout of safety signage



(d) Horizontal

FIGURE D5 TYPICAL ARRANGEMENTS OF DANGER SIGNS