

Waste Audit & Consultancy Services (Aust) Pty Ltd Level 21, 133 Castlereagh Street Sydney, NSW 2000 Australia T +61 2 9199 4521 W www.wasteaudit.com.au ABN 38 607 054 820

Wyong Hospital Redevelopment Stage 3 Review of Environmental Factors Operational Waste Management Plan August 2023

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1 Introduction

This Operational Waste Management Plan (OWMP) report has been prepared by Waste Audit & Consultancy Services for Colliers International Project Management and Health Infrastructure NSW for the Wyong Hospital Redevelopment Stage 3 project located at 664 Pacific Highway, Hamlyn Terrace, NSW.

This OWMP report provides details of the following:

- Estimates of operational general waste and recycling volumes;
- Equipment and storage requirements;
- Recommended management systems;
- Staff education programs; and
- Waste and recycling contractor expectations and standards.

We would like to thank all those whose knowledge and insights contributed towards production of this report.

2 Project Overview

The Wyong Hospital Redevelopment Stage 3 Refurbishment works comprises adaptive reuse of the existing decanted spaces within both blocks B and C.

- Block B will be refurbished to accommodate the following departments:
 - Nunyara Aboriginal Health Unit
 - Wyong Women's Centre Clinics
 - Medical Staff Workspace
 - New South Wales Health Pathology
- Block C will be refurbished to accommodate the following departments:
 - Expanded Cancer Day Unit
 - Carer Support Unit

3 Key Legislation, Standards & Guidelines

This Waste Management Plan has been prepared in accordance with the requirements of the following legislation, standards, and guidelines:

- NSW EPA Protection of the Environment Operations Act 1997 and Amendment Act 2011, and Protection of the Environment Operations (Waste) Regulation 2014, Part 11
- NSW Health Clinical and Related Waste Management for Health Services Policy, August 2017
- Australian Government Department of Environment, Climate Change and Water *Waste Classification Guideline 2009*
- Australian Standards for Clinical Waste Management and Sharps Management (AS3816, AS4031 and AS 4939)
- Waste Management Association of Australia, *Biohazardous Waste Industry Group, Manual* for the Management of Biohazardous Waste, 7th edition, 2014

4 Operational Waste & Recycling Volumes

The generation rates shown in Table 1, in litres per day per 100 m² of floor space, have been used to calculate ongoing operational waste and recycling volumes. Applying the above figures to the refurbished tenancy area of 3,999 m² yields the figures shown in the third column:

Material Stream	Litres/100 m ² /Day	Total Litres/Day
General Waste	20.0	800
Cardboard Recycling	5.0	200
Commingled Recycling	2.0	80
Clinical Waste	7.5	300
Secure Paper Recycling	1.5	60
E-Waste Recycling	0.5	20
Polystyrene Recycling	1.0	40
Sharps	0.1	4

 Table 1: Waste Generation Rates & Ongoing Operational Waste Volumes

These volumes of materials will be able to be incorporated into the Hospital's existing waste management systems, as the refurbished Blocks B and C will not represent <u>additional</u> occupied space compared to current usable areas.

Movement pathways for all operational waste streams from Blocks B and C to the main storage area in Building A are shown in green arrows in Figure 1 below:

Cleaning staff will bring, general, recyclable, and clinical wastes daily from Blocks B and C to Building A via the connecting corridor as shown in Figure 1. From here, they will take the materials via the service lift to the main Ground Level waste storage area.



Figure 1: Waste Movement Pathways

5 Operational Waste & Recycling Streams

5.1 Clinical Wastes

Due to the risks involved with the generation and handling of these wastes, extreme care must be taken by all generators, transporters, and disposal site operators when handling, packaging, transporting and disposing of these materials. All clinical and related wastes must be:

- Handled by staff with access to appropriate Personal Protective Equipment
- Packaged so that there is no risk of wastes escaping
- Transported and disposed of in accordance with EPA NSW legislation and guidelines and relevant Codes of Practice

The NSW Health *Clinical and Related Waste Management for Health Services* Policy, August 2017 provides clear guidance and detailed procedures for managing various types of clinical waste. These materials must be stored in uniquely identified receptacles located in separate rooms from all other wastes and recyclables, as per the colour-coding outlined in Appendix 2 and disposed of according to the Hospital's standard Clinical and Hazardous Waste management procedures.

Clinical and Hazardous wastes generated from ongoing operations will include:

- Anatomical
- Laboratory
- Sharps
- Cytotoxic

- Pharmaceutical
- Radioactive
- Chemical
- Anatomical, laboratory, and sharps wastes must be managed using the following protocols:
- 1. Community sharps accepted or collected at a public hospital or authorised outlet of the Needle and Syringe Program are classified as clinical sharps waste and must be managed in accordance with this Policy.
- 2. Genetically modified organisms (GMO) must be disposed of in clinical waste, except if the GMOs also contain cytotoxic waste, in which case they must be disposed of as cytotoxic waste for incineration.
- 3. Incontinence pads and disposable nappies can be treated as general waste unless the material is locally judged to come from an infectious patient (and consistent with the *CEC* Infection Prevention *and Control Practice Handbook*), is visibly blood stained, or is disposed of in a manner likely to cause offence such as in unusually large quantities, in which case it must be treated as clinical waste.
- 4. Sharps containers that are resistant to impact, penetration and leakage, are stable, have integrity of the handles/other carrying features and closure device, and have a capacity indicator (fill line) marked on the outside wall of the container must be used.
- 5. Reusable sharps containers must be readily emptied and cleaned before reuse.
- 6. Microbiological and pathological wastes must be decontaminated in accordance with *Australian and New Zealand Standard 2243.3: Safety in Laboratories* and shredded by the waste contractor prior to disposal.
- 7. Waste service providers require the application form for approval of a method to treat clinical waste if they collect, transport and treat clinical waste. Refer to the *Guideline for Approval of Method to Treat Clinical Waste*.
- 8. Reclassify waste in accordance with the EPA step-by-step waste classification process after treatment and before recycling or disposal.
- 9. For further clarification on requirements for disposal of infectious substances, refer to the most current *Australian and New Zealand Standard 2243.3: Safety in Laboratories*.

Cytotoxic, pharmaceutical, and radioactive wastes must be managed as follows:

- 1. Radioactive sharps must be placed in a clinical sharps bin and the bin must be labelled with a radioactive sticker while the waste is radioactive, the name of the substance, activity level and the date at which it is measured. When radioactivity decays to background, the sticker must be removed and waste disposed of as clinical waste.
- 2. For requirements on medication handling and destruction of Schedule 8 Medications, refer to NSW Health Policy Directive *Medication Handling in NSW Public Health Facilities* (PD2013_043).
- 3. Refer to the RPS No.20 *Safety Guide for Classification of Radioactive Waste* for the classification of radioactive waste in consideration of long-term safety and disposal.
- 4. Refer to the EPA classification guidelines for the step-by-step procedure to classify and manage radioactive waste.
- 5. For guidance on safe waste handling, segregation and storage of radioactive waste, refer to Part A2 'Requirements for Radioactive Waste' of the Code of Practice for Radiation Protection in the Medical Applications of Ionizing Radiation (RPS14). The Radiation Management Plan document needs to address dose limit requirements for the public and occupationally exposed persons as provided in Schedule 5 of the Radiation Control Act 1990.
- 6. The policy and procedure for radioactive sharps waste management is to be determined locally, e.g. storage in a dedicated room.
- 7. Specific obligations are placed on the responsible person (including obtaining consent) and transporter by the *Code for the Safe Transport of Radioactive Material* (RPS2) which is mandated by the *Radiation Control Regulation* 2013.

Chemical wastes must be managed as follows:

Chemical waste is generated by the use of chemicals in medical, veterinary and laboratory procedures. Chemical waste is to be classified in accordance with the step-by-step process in the *Waste Classification Guidelines Part 1: Classifying Waste* and the ADG Code.

These wastes must be managed and disposed of as per the Safety Data Sheet (SDS) for the hazardous chemical and recommended handling precautions, PPE and disposal.

All containers containing chemical waste must have labelling as per the requirements in Part 3 of Schedule 9 Classification, packaging and labelling requirements of the *WHS Regulation 2017* and the *Labelling of Workplace Hazardous Chemicals Code of Practice*. This applies for a waste product that is reasonably likely to be a hazardous chemical. The waste is to be packed in a container with a label in English including the following for the hazardous chemical:

- Product identifier
- Name, and the Australian address and telephone number of the manufacturer or importer
- Hazard pictogram and hazard statement consistent with the classification of the chemical

A licence may be required for the disposal of high activity level radioactive substances classified as hazardous waste in accordance with the *Waste Classification Guidelines* Part 3: Waste Containing Radioactive Material.

5.2 General Waste

General waste is to be contained in clearly labelled white or opaque bags. General waste is any waste that:

- Is not covered in Section 5.1 or Sections 5.3 -5.7
- Has not been in contact with infectious agents, hazardous chemicals or radioactive material
- Does not pose a sharps hazard

5.3 Cardboard and Paper Recycling

Most cardboard packaging will originate from deliveries of supplies and stationery. Paper materials such as non-confidential office paper, newspapers, magazines, etc. will be generated from offices, reception areas, and waiting rooms, and managed as follows:

- 1. Hospital staff will dispose of paper into correct bin within bin hubs
- 2. Hospital staff will flatten cardboard boxes and leave in designated area for collection
- 3. Cleaners will collect materials and transfer to the bins within storage room
- 4. Recycling contractor will collect from here according to designated schedule

5.4 Secure Document Destruction

These materials will be placed in 240-litre bins located in each office area and collected on an asrequired basis by a specialist contractor. To avoid contractors using lifts for transporting these materials during busy times, the following system is recommended:

- 1. Hospital staff will dispose of secure documents into designated bin(s)
- 2. Hospital will arrange for cleaning contractor to collect bins and take to storage room
- 3. Secure document contractor will collect from here according to designated schedule

5.5 Commingled Recycling

Commingled recycling consists of all (non-hazardous) mixed plastic bottles and containers, glass bottles, and steel and aluminium cans. This material will have the following separation and collection processes:

- 1. Hospital staff will dispose of materials into correct bin within bin hubs
- 2. Cleaners will collect materials and transfer to the designated bins in storage room
- 3. Recycling contractor will collect from here according to designated schedule

5.6 Polystyrene Recycling

Variable quantities of polystyrene packaging will be generated from deliveries of medical supplies. An 1100-litre bin located in the main Hospital storage area will be used for these materials and collections will be done as required by the Hospital's recycling contractor.

- 1. Hospital staff will leave polystyrene boxes in designated area for collection
- 2. Cleaners will collect materials and transfer to the designated bin within storage room
- 3. Recycling contractor will collect from here as required

5.7 Specialised Recycling (E-Waste, Printer Cartridges, Lamps, Batteries)

Variable quantities of e-waste (discarded electrical and electronic items, printer cartridges, batteries, etc.) will be generated from office areas and general hospital operations. Either a 660-litre or 1100-litre bin is recommended for storage of these materials in the main Hospital bin area.

Maintenance staff and electrical contractors are generally required to remove all lamps and globes generated through their activities for correct disposal offsite. Alternatively, a dedicated recycling box can be left in the main storage room for this purpose. The full box would be collected by a specialist contractor on request by the Hospital.

Used batteries would be stored and collected separately, or combined with the e-waste materials, depending on contract arrangements.

6 Operational Management Procedures

6.1 Labelling of Waste

All waste containers and bin liners are to be colour coded and identified in accordance with Tables 1 and 2 ('Waste streams'). The labelling, packing and transport of Division 6.2 Infectious Substances must comply with the ADG Code for dangerous goods. These requirements typically apply for waste classified as UN 2814 (Category A Infectious Substances) and UN 3291 (Category B Infectious Substances).

Portable and mobile bins must be marked, labelled and placarded as required by Chapters 5.2 and 5.3 of the ADG Code. Refer to the SafeWork NSW fact sheet *Packing and Transporting Clinical Waste*. Health service staff will need to liaise with the transporter to ensure they have a transport document describing what is being transported.

6.2 Mobile Garbage Bins (MGBs) and Trolleys

MGBs are rigid-walled bins used to contain and move clinical and related wastes. Trolleys are used to move clinical wastes contained in plastic bags or non-mobile rigid-walled containers.

MGBs and trolleys must be dedicated solely for collecting and transporting waste to decrease spills, minimise collector contact with waste and minimise manual handling. MGBs and trolleys must be washable, with a lid that is lockable. MGBs must be securely closed during movement but not necessarily locked, unless the MGB is a pharmaceutical waste bin.

MGBs and trolleys must never be overfilled and the load is to not be more than three- quarters full (i.e., less than 55 kg). Waste collection rounds are to be performed as often as necessary to minimise housekeeping hazards.

The following procedures are recommended to be regularly completed by the hospital:

- Rinse with cold water then wash with warm water and a neutral detergent, or equivalent (e.g., chemical formulated for cold water use)
- Trolleys and MGBs are to be drained to sewer and left to dry
- Clean trolleys and bins are to be stored separately to soiled containers
- Appropriate personal protective equipment must be worn when cleaning MGBs
- Waste water may only be diverted to the sewer

In addition, MGBs are to be inspected and cleaned after each use. Defective containers must be repaired before use or taken out of service. Plastic bags/liners must have sufficient strength to safely contain waste and be suitable for the purpose if used for moist heat sterilization. Chemical waste containers must be suitable for the chemical contained within and labelled.

6.3 Handling of Bags/Bin Liners

It is best practice to minimise the handling of waste bags and to avoid decanting from one bin to another. When clinical waste bags must be handled, all bags are to be held away from the body by the closed top of the bag, and placed directly into a bin appropriate to the waste (see Table 1).

Gloves, apron and protective eyewear must be worn when closing the bags and placing them into the container. Gloves worn are to be appropriate for the type of waste being handled. Workplace hazard identification and risk assessment are to be undertaken before purchase to select a range of gloves of suitable material, size, style and fit and consider maintenance and disposal methods.

Waste bags must not be filled to more than two-thirds of capacity and contents are to be secured within the bag when closing. Excess air is to be excluded without compaction, prior to closure at the point of waste generation. The bag is not to be secured with sharp protuberances, e.g. staples.

All clinical waste stream bags and receptacles must be stored in secure areas with restricted access. Pathology specimens and associated materials must be double packaged. Anatomical waste must be packaged to minimise the risk of contents spilling or puncturing the bin liner before being placed into the anatomical waste bin. This includes triple bagging of body parts or amputated limbs that may have sharp bone edges and/or the use of wet bags.

6.4 Internal Transport and Tracking

Waste transport routes need to avoid food preparation and heavily used areas where possible. Chutes must not be installed or used for the transport of wastes. Waste collection times must be routine to facilitate effective housekeeping and waste disposal practices.

The hospital will comply with the record keeping requirements specified in the EPA clinical waste tracking exemption for clinical waste, cytotoxic waste, sharps waste, pharmaceuticals and poisons, and radioactive waste.

6.5 Storage Areas

Storage areas will be cleaned regularly and to be kept free from odour and vermin. Health services must provide A separate enclosed area will be used to store waste. This area will be located away from food and clean storage areas, be inaccessible to the public, and have a lockable door and rigid impervious flooring. Clean-up facilities, spills kits, appropriate drainage and bunding (i.e. retaining walls within the storage area to contain any material that has escaped) will be provided.

The storage area for anatomical and/or clinical waste may require refrigeration to prevent decomposition of the waste, if the waste is not removed on a frequent basis.

6.6 Spill Management

Spills will be managed according to standard procedures. The hospital will ensure that:

- Personnel involved in spill management are trained in emergency procedures and handling requirements, including use of spill kits. Spill kits are to be readily accessible throughout the health service and clearly labelled and mapped
- Health services have personal protective equipment and emergency spill kits that are appropriate to the waste streams handled, so staff can safely and effectively clean spills and dispose of the waste
- Spill kits are restocked with the necessary components immediately after use, returned to their locations and regularly inspected for malfunctioning or missing components
- Spill kits are to be disposed of with the relevant waste stream

6.7 Auditing

Auditing is important to establish benchmarks and whether waste is appropriately managed. This includes reviewing contractor information and developing an agreed auditing process, including frequency and selection of samples. Audits will include:

- Checking waste streams are appropriately used and managed
- Checking that bags and MGBs/trolleys are not filled with loads more than two-thirds or threequarters of their capacity, respectively
- Reviews of WMP procedures
- Interviews with key staff
- Reviews of records

7 Workplace Health & Safety

As detailed in the NSW Health *Clinical and Related Waste Management for Health Services* Policy, August 2017, the following procedures must be followed:

7.1 Notifying Incidents

Reporting serious injuries and illnesses is a requirement under WHS legislation. If a serious injury or illness, a death or a dangerous incident occurs, processes must be in place to ensure it is reported to SafeWork NSW immediately and the workers compensation insurer is notified within 48 hours. Staff must be made aware of and trained in processes for notifying incidents.

Depending on the nature of materials involved in incidents, there may be other legislative requirements regarding who must be informed if there is an incident.

7.2 Hygiene & Cleaning

The health service must provide hand hygiene facilities for workers and promote regular hygiene procedures that comply with the NSW Health Policy Directive *Infection Prevention and Control Policy* (PD2017_013).

In addition, the health service must:

- Designate specific areas for equipment cleaning (e.g. bunding or enclosed areas), maintenance and hygiene that are properly equipped with emergency showers and drainage to sewer. Locations of emergency showers and spills equipment are to be understood by relevant workers and identified throughout the health service (e.g. on the evacuation diagram),
- Regularly clean and maintain equipment used to contain and transport waste
- Clean all contaminated items as soon as possible, using approved detergents and hospital grade disinfectants.
- When cleaning contaminated items ensure staff wear appropriate Personal Protective Equipment (PPE), including face protection, use a scrubbing brush, and avoid splashing the water. If any item of PPE becomes contaminated or damaged, the item must be changed before continuing with the task.

7.3 Personal Protective Equipment (PPE)

Staff must use appropriate PPE when necessary and the health service must have a range of PPE that is suitable for the nature and degree of the identified hazard.

For tasks involving hazardous chemicals, ensure that the PPE recommended in the Safety Data Sheet (SDS) is provided and used. Staff must be trained in the proper selection, fitting (donning/doffing, or putting on/removing), storage and maintenance of PPE.

Health services must ensure all contractors, such as waste collectors, comply with all WHS and other legislative requirements, e.g. wearing appropriate PPE.

7.4 Sharps, Blood & Body fluids Exposures

Needlestick injuries or exposures to blood and/or body fluids (or body substances) must be reported internally in accordance with the health organisation policy and are to be managed as outlined in NSW Health Policy *Directive HIV, Hepatitis B and Hepatitis C - Management of Health Care Workers Potentially Exposed* (PD2017_010).

Not all needlestick injuries or exposures to blood and/or body fluids need to be notified to SafeWork NSW – refer to their factsheet for guidance on what incidents must be notified.

8 Waste and Recycling Contractor Requirements

8.1 Transport and Disposal

While external transporters' obligations are covered by the NSW Government waste contract, the requirements of the ADG Code may apply to the contractor for the transport of Division 6.2 Infectious Substances. When triggered, there may be requirements to supply the transporter with appropriate transport documents.

Transport documents must describe the dangerous goods being transported, and appropriate emergency information for those goods. The ADG Code requirements commonly apply for the packing and transport of the following waste categories:

- UN 2814 (Category A Infectious Substances): Infectious substances affecting humans
- UN 3291 (Category B Infectious Substances): Infectious substances which do not meet the criteria for inclusion in Category A, which includes clinical wastes which are reasonably believed to have a low probability of containing infectious substances. (Refer to Chapter 2.6.3 of the ADG Code for further information on classification).

Refer to the SafeWork NSW factsheet *Packing and Transporting Clinical Waste*, which assists health services with the handling and transport of UN3291 clinical waste in accordance with Packing Instruction P62A of the ADG Code. UN 2814 waste may involve higher hazards and will need to comply with full packing and transport requirements of the ADG Code.

8.2 Servicing & Access

As the expected systems will be integrated with the existing Hospital's programs, there should be no changes to current collection vehicle servicing and access requirements, as all collections will take place from the main Hospital's waste storage dock.

It is possible that differently sized collection vehicles may be used for collection of some additional streams; if so, the waste contractor will be responsible for notifying the Hospital in advance of any vehicles entering the site, to ensure specifications (heights and turning circles in particular) are consistent with access and clearance requirements,

8.3 General

To maintain best practice, the Hospital's waste and recycling contractor(s) will be required to demonstrate high service standards and comply with the following requirements:

- Reliable and efficient servicing, and meeting all agreed schedules
- Having collection vehicles fitted with suitable weighing technology
- Working with the Hospital to achieve improved resource recovery
- Maintaining accurate and comprehensive tracking systems for all materials collected, including hazardous and prescribed wastes
- Providing detailed monthly and annual reports on diversion and financial outcomes
- Maintaining current details of processing facilities used, and providing information on these if requested by the Hospital

10 General Waste & Recycling Bins

All office and administrative areas will be equipped with 3-stream bin hubs for:

- 1. Paper & Cardboard Recycling
- 2. Commingled Recycling
- 3. General Waste

Bins should be situated in areas which effectively service a group of workstations and offices, with no bins under desks; this improves cleaner efficiencies by reducing the number of bins that require collection, and also reduces the number of bin liners required.

The photos below show examples of bins commonly used in office applications. Differently colored bin liners (general waste-black; paper-clear; commingled-blue) are recommended to assist cleaning staff to distinguish the 3 streams and enable them to identify contamination, prior to final disposal in the bins in the central storage room.

The Hospital may wish to consider installing additional infrastructure for collection of refundable NSW CDS (Container Deposit Scheme) containers.



For areas requiring bins to be kept within housings or pull-out drawers, care should be taken to ensure these systems are well designed to foster proper separation. An example of best practice drawer design is shown below which provides for two or three streams (paper, commingled, and general waste in this case), clearly distinguished from each other by colour and shape of lid.



11 Training and Education

All building users (clinical staff, facilities team, and cleaning contractors) should be provided with detailed information on recycling and waste management, as part of general building induction and orientation; this should be updated on at least an annual basis.

The following should be elements of any education program developed for the Hospital:

- · Waste management hierarchy and principles
- Importance of sound waste management and effective waste segregation
- Brief overview of legislation pertaining to clinical waste management
- Overview of all Hospital waste types, issues, and potential risks
- Management accountabilities
- Handling, packaging, and disposal routes for waste and recycling
- Competency assessment

The Hospital's facilities management team will be responsible for delivering this program.

12 Monitoring and Reporting

The Hospital will implement systems for monitoring, measurement, and reporting of operational waste management performance. Reports and invoices from the Hospital's waste contractors will provide weights of materials streams and numbers of bins collected.

Annual performance and contract reviews will be conducted with the waste contractor to assess progress towards annual waste diversion targets and other KPIs, identify operational issues, and address any shortcomings. Waste audits will also be conducted at minimum annually to benchmark performance.

Appendix 1: Glossary

Abbreviation/Term	Definition
Anatomical Waste	Limbs, organs, placenta, pathological specimens, biopsy specimens and body tissue taken during laboratory testing, surgery or autopsy and/or resulting from investigation or treatment of a patient.
Chemical Waste	Chemical waste generated by the use of chemicals in medical, veterinary and laboratory procedures.
Clinical Waste	 (a) Human tissue waste (b) Discarded sharps (c) Laboratory waste (d) Animal waste
Commingled Recycling	Refers to a mixed container recycling stream. Typically this would include glass containers, aluminium cans, milk cartons, tins, and plastic containers. This stream does not strictly include any paper or cardboard materials however small portions of these materials are acceptable. Drinking glasses, ceramic mugs or plates, coffee cups or plastic bin liners are considered contaminants.
Contamination	Any item not designated under the contract as a recyclable.
Cytotoxic Waste	Material, which is, or may be, contaminated with a cytotoxic drug during the preparation, transport or administration of cytotoxic therapy.
General Waste	Assorted waste materials put into the recycling stream, usually characterised by being contained in plastic "garbage" bags. There may or may not be recyclable materials in the bag.
Hazardous Waste	Component of the waste stream which poses a danger to humans, the environment, equipment and physical structures.
Landfill	Land used for the burial of waste
Material Recovery Facility	Plant and equipment for sorting and pre-processing materials from the
(MRF)	waste stream for resource recovery.
MGB	Mobile Garbage Bin
Organic Waste	Component of the waste stream derived from living organisms.
Plastics:	
PET	Polyethylene Terephthalate. Clear, tough material that may come in different colours: used in soft drink bottles, as filling for pillows and sleeping bags and other textile fibres.
HDPE	High Density Polyethylene. Very common plastic usually white or coloured, used for milk and cream bottles, shampoo and cleaners, freezer bags and milk crates.
LDPE	A plastic material – Low Density Polyethylene, a soft flexible plastic that is made into the lids of icecream containers, garbage bags, garbage bins and black plastic sheet material.
PVC, UPVC, PPVC	 Plastic materials in the polyvinyl chloride class. UPVC is Unplasticised Polyvinyl Chloride which is usually made into clear cordial and juice bottles, blister packs and plumbing pipes and fittings. PPVC is Plasticised Polyvinyl Chloride and is usually made up into items such as garden hose, shoe soles and blood bags and tubing.
PP	Polypropylene, a hard but flexible plastic that has many uses. Examples of uses are ice cream containers, potato crisp bags, drinking straws and hinged lunch boxes.
PS & EPS	 Polystyrene PS is a rigid brittle plastic that may appear clear and glassy. It is used for yoghurt containers, plastic cutlery and imitation "crystal" glassware. EPS – expanded polystyrene is the white material that is made into hot drink cups, food containers, meat trays and fruit boxes.

Abbreviation/Term	Definition
Other Plastic	There is another category of plastic – Category 7 which includes all other plastics including acrylic and nylon.
Pharmaceutical Waste	Consists of pharmaceutical (drug, remedy/medicinal substance) or other chemical substance specified in the Poisons. Pharmaceutical waste, excluding cytotoxics, may arise from expired or discarded pharmaceuticals, those no longer required by patients, and waste materials/substances generated during the manufacture and administration of pharmaceuticals.
Recycled Materials	Materials recovered and manufactured into new products of the same general type (which may be manufactured from virgin recycled materials).
Recycling	Set of processes (including biological) for converting recovered materials that would otherwise be disposed of as wastes, into useful materials and or products.
Resource Recovery	Process that extracts material or energy for a useful purpose
Sharps Waste	Means any waste resulting from medical, nursing, dental, veterinary, pharmaceutical, skin penetration or other related clinical activity, and that contains instruments or devices:
	(a) That have sharp points or edges capable of cutting, piercing or penetrating the skin (e.g. needles,
	syringes with needles or surgical instruments), and (b)that are designed for such a purpose, and (c) that have the potential to cause injury or infection.
Waste	Materials and energy which have no further use and are released to the environment as a means of disposal.
Waste Generator	Any person or organisation that consumes goods and services resulting in addition to the waste stream.
Waste Management	Entire process of monitoring process of monitoring, collecting, sorting, storing and transporting for processing and reclamation of materials and energy resources and disposal of waste.

Appendix 2: Clinical Waste Stream Management

The following tables are taken from the NSW Health *Clinical and Related Waste Management for Health Services* Policy and details procedures for management of waste and recycling streams that may be generated by the development's tenants during the operational phase.

Waste Stream	Anatomical Waste	Clinical Sharps Waste	Clinical Waste (Including Pathological Waste)
Definition	Identifiable human body parts such as limbs, organs, placenta and recognisable or large pathological specimens resulting from investigation or treatment of a patient It does not include deceased bodies	Any clinical object capable of inflicting a penetrating injury which may or may not be contaminated with blood and or body substance. This includes needles, ampoules and any other sharp objects or instruments designed to perform penetrating procedures May contain clinical material or Genetically Modified Organism (GMO) waste	 Clinical waste with the potential to cause injury, infection or offence: Unrecognisable human tissue (excluding hair, teeth, nails and anatomical waste) Bulk blood or other body fluids (or body substances) Material and equipment visibly stained by blood or body fluids (includes incontinence pads and disposable nappies from an infectious patient) Lab specimens, cultures or other waste from lab investigations Waste from medical or veterinary research Genetically Modified Organisms (GMOs)
Bin Colour	Yellow	Yellow	Yellow
Bin Lid Colour	Orange	Yellow	Yellow
Bin Liner	Orange	N/A	Yellow
Symbol		D	
Label (if GMOs present)		Contains GMOs	Contains GMOs
Specific Requirements	For incineration only	For incineration or autoclaving and shredding Sharps containers must be rigid-walled and meet the requirements specified in AS/NZS 4031 and AS/NZS 4261[4,5] Autoclave tape and bag indicators must be used to show autoclaving has been completed	For incineration or autoclaving [6] and shredding. Autoclave tape and bag indicators must be used to show autoclaving has been completed. Fluid may be able to be discharged into sewer depending on Liquid Trade Agreement between the health service and water utility All clinical waste once treated by a process acceptable to NSW Health[7] may be reclassified in accordance with the Waste Classification Guidelines[8] before recycling or disposal There are special precautions regarding disposal of waste related to cases of viral haemorrhagic fever

Waste Stream	Anatomical Waste	Clinical Sharps Waste	Clinical Waste (Including Pathological Waste)
Relevant Act/ Regulation /Australian Standard	AS/NZS 3816:1998 Management of clinical and related waste AS/NZS 4123:2008 Mobile Waste Containers	AS/NZS 3816:1998 Management of clinical and related waste AS/NZS 4123:2008 Mobile Waste Containers Protection of the Environment Operations Act 1997 Protection of the Environment Operations (Waste) Regulation 2014	AS/NZS 3816:1998 Management of clinical and related waste AS/NZS 4123:2008 Mobile Waste Containers Protection of the Environment Operations Act 1997 Protection of the Environment Operations (Waste) Regulation 2014
EPA licence requirements	No	No	No

Waste Stream	Cytotoxic Waste	Pharmaceutical Waste	Radioactive Waste
Definition	Material contaminated with residues or preparations containing materials toxic or otherwise harmful to cells. This includes any residual cytotoxic drug or laboratory chemical and any discarded material or clinical waste associated with the preparation or administration or excretion of cytotoxic drugs May include Genetically Modified Organisms (GMOs) or tissues containing GMOs	Pharmaceuticals or other chemical substances specified as regulated goods in the Poisons and Therapeutic Goods Act 2008. Includes any substance specified in a Schedule of the Poisons List under the Act, as well as any therapeutic good which is unscheduled Includes expired or discarded pharmaceuticals, filters or other material contaminated by pharmaceutical products	Waste material, including sharps and clinical waste contaminated with a radioisotope which arises from the medical or research use of radionuclides, e.g. during nuclear medicine, radioimmunoassay and bacteriological procedures, and may be in solid, liquid or gaseous form, and which emits a level of radiation above the level set by regulatory authorities
Bin Colour	Purple	Red	Red
Bin Lid Colour	Purple	Red	Red
Bin Liner	Purple	N/A	Red
Labelling of Bins	Cytotoxic waste	Pharmaceutical waste	Radioactive waste plus specific requirements below
Symbol	\bigcirc	None	
Label (if GMOs present)	Contains GMOs		

Waste Stream	Cytotoxic Waste	Pharmaceutical Waste	Radioactive Waste
Specific Requirements	fic irements For incineration only Collection, transport and handling only by licensed and registered waste management companies	Storage, destruction and disposal methods must comply with PD2013_043 Medication Handling in NSW Public Health Facilities Pharmaceutical waste must be incinerated at a licensed controlled waste facility. Certain pharmaceuticals may only be destroyed by authorised persons under the <i>Poisons and Therapeutic</i> <i>Goods Act 1966</i> Pharmaceutical waste bins must be lockable	Radioactive material to be stored on- site in appropriate storage area until it decays to below the thresholds of a "radioactive substance" as defined under the Radiation Control Act and Regulation
			Waste is to be classified with reference to the Safety Guide for the Classification of Radioactive Waste[4] and in accordance with the EPA Waste Classification Guidelines[5]
			Radioactive waste must be labelled with the substance, activity level and the date at which it is measured
			Handling and storage to comply with a Radiation Management Plan in accordance with the Code of Practice for Radiation Protection in the Medical Applications of Ionizing Radiation (ARPANSA 2008)
			Radioactive sharps
			When radioactive waste is to be transported, health services must comply with the Code of Practice for the Safe Transport of Radioactive Material (ARPANSA 2014)
Relevant Act & Regulation	AS/NZS 4123:2008 Mobile Waste Containers	Poisons and Therapeutic Goods Act 1966	AS/NZS 4123:2008 Mobile Waste Containers
	Protection of the Environment Operations Act 1997	Poisons and Therapeutic Goods Regulation 2008	Radiation Control Act 1990 Radiation Control Regulation 2013
	Protection of the Environment Operations (Waste) Regulation 2014		
EPA Licence Requirements	No	No	Yes - Waste Classification Guidelines Part 3: Waste containing radioactive material (EPA, 2014)

Appendix 3: Bin Specifications

120-litre MGB



240-litre MGB



660-litre MGB



1100-litre MGB





Appendix 4: Signage Examples - Hazardous Waste



Appendix 5: Signage Examples - Non-Hazardous Waste