

Operational, Demolition & Construction Waste Management Plan

Broken Hill Base Hospital Redevelopment

170-320 Thomas Street, Broken Hill NSW

July 2023

This report contains confidential information. It has been compiled by Tandem Solutions Pty Ltd on behalf of Acorn Project Advisory for the Broken Hill Hospital Redevelopment Works.

This Waste Management Plan is not a substitute for legal advice on the relevant environmental legislation, which applies to Acorn Project Advisory, its contractors or other bodies. Accordingly, Tandem Solutions Pty Ltd will not be liable for any loss or damage that may arise out of this project, other than loss or damage caused as a direct result of Tandem Solutions Pty Ltd's negligence.

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1 Introduction

This Waste Management Plan (WMP) has been prepared on behalf of Acorn Project Advisory to accompany a REF for the Broken Hill Hospital (Acute Adult Mental Health Unit and Emergency Department) Redevelopment located at 176 Thomas Street, Broken Hill New South Wales 2880.

The project essentially consists of expansion of the existing Emergency Department and the addition of a new 8-bed Acute Mental Health Unit, Related Infrastructure and Stage 2 Works (additional Northern Carparking and Landscaping, MHU Solar Panel and connection to SARU building).

The following site map provides the location(s) for the project Works.

Development of this WMP has referred to Broken Hill City Council's Development Control Plan 2016 (various Sections) in addition to the NSW Environment Protection Authority's *Better Practice Guide for Waste Management and Recycling in Commercial and Industrial Facilities*.

Management strategies reflect current best-practice requirements, and relevant Sections of the *Protection of the Environment Operations Act 1997* and the NSW Environment Protection Authority *Waste Classification Guidelines, Part 1: Classifying Waste*, as well as consideration of industry best practice for this type of development.

Note that provision of systems for recycling will be subject to the availability of recycling within Broken Hill.

The following publications have also been referred to in the development of this Waste Strategy:

 NSW Health Policy Directive (Clinical and Related Waste Management for Health Services), 14 August 2017

- Waste Management Association of Australia, Biohazardous Waste Industry Group, Manual for the Management of Biohazardous Waste, 8th edition, 2020
- Australian Standard AS3816:2018 Management of clinical and related wastes
- Australian Standard AS/NZ 4261 reusable containers for the collection of sharp items used in human and animal medical applications
- Australian Standard AS4031, Non-reusable containers for the collection of sharp medical items used in health care areas
- Protection of the Environment Operations (Waste) Regulation 2014
- Waste Avoidance and Resource Recovery Act 2001
- NSW Waste Avoidance and Resource Recovery Strategy 2014-2021

Waste audit and management strategies are recommended for new developments to provide support for the building design and promote strong sustainability outcomes for the building. All recommended waste management plans will comply with council codes and any statutory requirements.

To assist hospital management in achieving effective waste and recycling management, this waste management plan has three key objectives:

- i. to minimise the environmental impacts of the operations of the development this will be achieved by ensuring maximum diversion of waste from landfill; correct containerisation and transport of materials; correct segregation of materials into appropriate management streams; awareness among tenants of waste avoidance practices.
- ii. to minimise the impact of the management of waste within the development on the community this will be achieved by ensuring waste is managed so as to avoid odour and litter and collected during suitable times.
- iii. to ensure waste is managed so as to reduce the amount landfilled and to minimise the overall quantity generated – this will be achieved by implementing systems that assist tenants to segregate appropriate materials that can be recycled; displaying signage in all tenant areas to remind and encourage avoidance and recycling.

The Demolition Waste Management Plan has been developed to ensure that all waste resulting from demolition activities is managed in an effective, safe and environmentally aware manner. Specifically,

- To minimise the generation of waste to landfill
- To maximise waste material avoidance and reuse on site
- To ensure that where practicable, an efficient recycling procedure is applied to waste materials
- To raise awareness among employees and subcontractors of their waste management responsibilities

Management strategies reflect current best-practice requirements, and relevant Sections of the *Protection of the Environment Operations Act 1997* and the NSW Environment Protection Authority *Waste Classification Guidelines, Part 1: Classifying Waste*, as well as consideration of industry best practice for this type of development.

In particular, there will be compliance with *Australian Standard AS2601: The demolition of structures.* This in summary requires that the demolition of structures:

- sets out requirements for the planned demolition of buildings and certain other structures so that the risk of injury to workers, other site personnel and the public, and the risk of damage to adjacent property and the immediate environment is minimised;
- covers the methods and safety procedures applicable to demolition work in general as well as procedures for some types of structures;
- deals with manual and mechanical demolition techniques including those employing specialised earth-moving type machinery;
- includes informative appendices covering some contractual considerations, a checklist for contractors and qualifications for site personnel;
- safety and health issues are addressed under the headings of:
 - Health and safety of the public covering general requirements, lighting, falling materials, fencing, hoardings and warning notices, scaffolding, overhead protection for footpaths, and hazardous materials and conditions;
 - Safety and health of site personnel covering general safety, personal protective clothing and equipment, cutting and welding, fire protection, first aid, amenities, removal of hazardous material and electrical safety;
 - Protection of adjoining buildings and protection of immediate environment - covering requirements relating to access and egress, damage and structural integrity, vibration and concussion, weatherproofing, burning, dust control, noise control, protection of public roads and protection of sewers and water courses; and protection of the site.

Adherence to AS2601 is required under the Environmental Planning and Assessment Regulation 2000.

Section 143 of the Protection of the Environment Operations Act 1997 requires waste to be transported to a place that can lawfully accept it. It will be the responsibility of the site developers to ensure all contractors clearly specify where all wastes are to be transported, the capacity of the nominated facilities to receive/manage the waste and to ensure that reports on management aspects (types, quantities and disposal pathways) are provided.

2 Waste Generation

2.1 Waste Generation

2.1.1 Waste Streams

Based on the development profile (as per Section 1), the following are the main waste streams that would be expected:

- General waste;
- Paper and cardboard;
- Comingled recycling; and
- Clinical waste (including sharps).

For this Development, it is not expected that cytotoxic, radioactive or chemical wastes will be generated by these two departments. Pharmaceutical wastes will essentially be residues and will mainly be in syringes and IV flasks – these are managed in the clinical waste stream.

The Hospital will conduct a waste assessment once the site is operational to determine any additional types and quantities of wastes that may be generated. Following this, appropriate management systems will be implemented and where necessary generators advised of these management requirements.

2.2 Waste Generation Estimates

The following table show the estimated waste generated from the various components of the development (based on the profile of the development as provided) – these estimates are based on averages for quantity of waste generated and composition as determined by industry data (ie., data/information provided by waste audits conducted in the healthcare sectors).

Note that actual types and volumes of the various wastes will be dependent on the type of patient services as well as treatments delivered. With healthcare, this can fluctuate according to time of year and changes in treatments and services.

However, this issue is one that healthcare facilities recognise and are equipped to manage in terms of systems implemented to manage those changes in waste types and volume generated.

The following are the estimated generation rates for each aspect of the proposed development – these rates are based on the healthcare services (or other services), to be provided – these rates are "per week":

- Accident and Emergency
 - General waste 3,300 litres
 - Recyclables 1,400 litres
 - Clinical Waste 5,700 litres

- Mental Health Unit
 - General waste 720 litres
 - Recyclables 480 litres
 - Clinical Waste 30 litres

It is estimated that these two departments will generate a total of approximately **11,630** litres (**11.6** m³) of waste and recyclables per week¹.

2.3 Waste/Recycling Bin Requirements

For both the Accident and Emergency and Mental Health Unit, smaller bins will be located in various areas of each department for the collection of wastes and recyclables.

In the Accident and Emergency department, these will mainly consist of bins for clinical waste and sharps in the treatment areas. Other bins for general waste and recyclables will be located near sinks and office areas. The actual type and location of the bins will be determined prior to this department being operational.

For the Mental Health Unit, general waste and recycling bins will be located in areas, again determined by the operational aspects of the department. Bins for clinical waste and sharps will be located in treatment rooms.

Larger Mobile Garbage Bins (MGB), for consolidation of waste and recyclables will be positioned in dirty utility rooms. These are the bins that will be transported to the collection points as illustrated in Appendix A.

The required number of bins for each stream per department are as follows:

- Accident and Emergency
 - General waste 1 x 660 litre MGB with red lid
 - Recyclables 1 x 660 litre MGB with blue lid
 - Clinical Waste 1 x 660 litre MGB with yellow body and lid
- Mental Health Unit
 - General waste 1 x 240 litre MGB with red lid
 - Recyclables 1 x 240 litre MGB with blue lid
 - Clinical Waste 2 x 20 litre pails with yellow body and lid

Note that these bins will be transferred to the collection point (as per Appendix A), as required and this for the hospital would be a minimum of twice per day for the Accident and Emergency department and daily for the Mental Health Unit.

The required space for storage of these MGB (and pail), for each department is²:

- Accident and Emergency 4.0 m²
- Mental Health Unit 1.3 m²

¹ This estimate is based on a "7 day" week for provision of patient services.

² This also includes an allowance for bin movement

The areas currently allocated for where these bins will be located is adequate in both terms of required space and location for both staff to use and to ensure that patients and visitors are not able to access them.

The following (over the page), illustrate indicative areas for the waste/recycling bins located in these two departments (red arrow).

Accident and Emergency





3 Waste Management Systems/Practices

Guidance for determining "best practice" waste management for this Development has been obtained from the Waste Management Association of Australia, Biohazardous Waste Industry Group, Manual for the Management of Biohazardous Waste, 8th edition, 2020³, NSW Health Department publication *Clinical and Related Waste Management for Health Services 2017* and NSW EPA.

The waste management system within these two areas of development will be integrated within the existing waste system. That is the collection frequency by the service contractor(s) and internal consolidation and movement of waste/recycling bins will also be integrated with the current system.

As per detailed in Section 2.3 of this Plan, there will be smaller bins (and sharps containers), located within patient and other area. These are collected, and contents deposited into mobile garbage bins (MGB), located in dirty utility rooms.

As part of the hospital's continual improvement program, reviews of the location, type and size of waste/recycling containers will be undertaken on a regular basis.

The following summarises the waste and recycling system that will be implemented for the redevelopment.

3.1 General Waste

All general waste will be deposited into dedicated bins that have been located in the various areas of the Redevelopment.

MGB will be transported by Hospital staff to the central area for collection (as illustrated in Appendix A).

3.2 Recycling System

The provision of recycling systems/services will be dependent on what is available within Broken Hill. If any materials are able to be sustainably recycled, then the following system(s) will be implemented.

Mobile garbage bins will be located within the A&E and MHU for recyclables (commingled, paper and cardboard). These will be transported on a "needs" basis by site cleaners, taken to the central storage area (as illustrated in Appendix A), and replaced with an empty bin.

³ This publication is referred to by a number of Government agencies as representing "best practice" for the management of biohazardous waste generated within healthcare facilities.

3.3 Clinical Waste

MGB will be positioned in each disposal room on each floor. In addition, in accord with the NSW Health publication "*PD2012_061: Environmental Cleaning Policy*", sharps containers will be located throughout the development as required.

Due to the risks involved with the generation and handling of clinical and related wastes, extreme care must be maintained when handling, packaging, transporting and disposing of these materials. Consequently, there are strict requirements for all generators, transporters and disposal site operators to ensure that there is protection to the community and the environment.

All clinical and related wastes must be:

- Handled by staff with knowledge and access to appropriate Personal Protective Equipment
- Packaged so that there is no risk of wastes escaping
- Transported and disposed of in accordance with State EPA legislation and guidelines and relevant Codes of Practice
- Sharps containers should be placed within "arms reach" of where the sharp is generated – then the full containers are located in utility rooms awaiting collection by healthcare facility staff and/or contractors.
- These containers will range from 1.0 litre sharps containers through to 40 litre clinical waste drums all meeting the required standard in terms of construction and colour coding etc. The actual number and sizes to be utilised will depend on the patients and discussions with the appointed clinical waste contractor.
- It would be unexpected to have cytotoxic waste generated within these two departments, but if this was to occur, then dedicated cytotoxic waste containers would be obtained from the contractor and placed in appropriate position in the facility.
- According to the Industry "best practice" waste management manual (Waste Management Association of Australia, Biohazardous Waste Industry Group, Manual for the Management of Biohazardous Waste, 8th edition, 2020), storage can be a dedicated and purpose built room or mobile garbage bins – what is appropriate depends on the type of waste, volumes and servicing processes.

Clinical waste must be stored in uniquely identified receptacles, and disposed of according to designated Clinical and Hazardous Waste Procedures.

In keeping with best practice sustainability programs, all waste areas and waste and recycling bins will be clearly differentiated through appropriate signage and colour coding to Australia Standards to reflect the materials contained.

The waste areas will be accessed by Hospital and appointed contractor staff only.

Signage will be a crucial element of the waste management system. The waste contractor should provide all signage for bins and walls in waste storage rooms. Below are examples of the types of signage that can be used at the Redevelopment.



Don't waste YOUR future

MIXED RECYCLING



Don't waste YOUR future



The following are alternate types of signs and are available from: <u>http://www.sustainability.vic.gov.au/services-and-advice/community/public-place-recycling/signage-library</u> and are free to download.









CLINICAL



3.4 Waste Management Education

All waste management strategies (particularly resource management programs), rely on all staff to participate and co-operate in order to ensure that objectives are at least met. Staff therefore must receive appropriate training/education or else they are not going to know what to do.

All staff and contractors shall attend a waste management training session.

This is to be conducted during all induction programs in the first instance.

For those staff and contractors currently employed on-site, they will be required to attend a dedicated training session so that they are fully aware of their roles and responsibilities in respect to waste management.

Records shall be maintained of all staff and contractors attendance at a training session to ensure that all personnel attend.

The Waste Management Committee (apart from ensuring staff education programs are developed and implemented), should also address other methodologies in order to ensure that staff receive information on waste reduction programs (eg., signage, information sheets and flow charts).

All staff will receive information regarding the waste collection systems including how to use the system, which items are appropriate for each stream and collection times. Appropriate signage and updated information will also be provided, as well as receiving feedback on issues such as contamination of the recycling stream or leakage of the recyclables into the general waste. Facilities management will have the responsibility for these tasks.

All waste receptacles will be appropriately signed, and additional room signage is usually provided from most waste contractors during implementation of the waste contract.

It is recommended that all signs should:

- Clearly identify the waste/recycling stream;
- Use correct waste/recycling stream colour coding;
- Identify what can and cannot be disposed of in the receptacle; and
- Include highly visual elements to accommodate for individuals with inadequate English literacy.
- As part of the staff (and resident) induction and welcoming process, a waste and recycling toolkit will be provided. This toolkit will include the details of each of the systems in place; acceptance criteria for each stream and how each stream is managed.

An active waste monitoring program will be employed. The waste and cleaning contracts will ensure that contractors actively participate in the waste reduction program for the site and meet regularly to identify performance and new opportunities for diversion and avoidance.

4 Demolition and Construction Waste Management Principles

4.1 Waste Management Principles

The following waste hierarchy will be used as a guiding principle:



Avoid and Reduce

Minimise the production of waste materials in the demolition and construction process by:

- Assessing and taking into consideration the resultant waste from different demolition, design and construction options
- Purchasing materials that will result in less waste, which have minimal packaging, are pre-cut or fabricated.
- Not over ordering products and materials

Reuse

Ensure that wherever possible, materials are reused either on site or offsite.

- Identify all waste products that can be reused
- Put systems in place to separate and store reusable items
- Identify the potential applications for reuse both onsite and offsite and facilitate reuse

Recycling

Identify all recyclable waste products to be produced on site.

- Provide systems for separating and stockpiling of recyclables
- Provide clear signage to ensure recyclable materials are separated
- Process the material for recycling either onsite or offsite

Note: The provision of recycling will be dependent on the availability of systems for Broken Hill. In some cases, it may be more economical to send the unsorted waste to specialised waste contractors who will separate and recycle materials at an offsite location.

Disposal

Waste products which cannot be reused or recycled will be removed and disposed of. The following will need to be considered:

- Ensure the chosen waste disposal contractor(s) complies with regulatory requirements
- Implement regular collection of bins

Section 143 of the Protection of the Environment Operations Act 1997 requires waste to be transported to a place that can lawfully accept it. It will be the responsibility of the site developers to ensure all contractors clearly specify where all wastes are to be transported, the capacity of the nominated facilities to receive/manage the waste and to ensure that reports on management aspects (types, quantities and disposal pathways) are provided.

4.2 Liquid Waste

Liquid waste may be produced on site for environmental control measures such as:

- Site and vehicle cleaning
- Dust control waste

The following measures will be taken to minimise the impact of liquid waste:

- Ensure water is used in moderation and no taps are left continuously running
- Use any grey water produced on site for irrigation or for dust suppression
- Only discharge clean water into storm water

4.3 Stormwater Pollution Prevention

All actions will be undertaken to avoid pollution entering stormwater drains and for litter generation. The following will be initiated:

- i. Prior to commencement of any works a Safe Work Method Statement will be completed and reviewed to determine potential for stormwater pollution and/or litter generation
- ii. The proponent (contractor), will need to develop a management strategy to manage the potential for these issues to be realised
- iii. Site inspections will be conducted during the working day to monitor potential for stormwater pollution generation and where identified, works will cease until appropriate controls are implemented
- iv. Wastewater and storm water will be managed and disposed of in accordance with Water Authority requirements.

4.4 Litter Management

- i. Daily site inspections will be conducted to identify litter, remedy the situation and investigate the cause so as to reduce the potential for the issue to occur in the future.
- ii. Sufficient quantities of bins (and/or bin space), will be made available so as to avoid dumping of materials outside bins
- iii. All waste/recycling bins will have covers so as to ensure that wastes cannot be blown out during windy conditions. This will also apply to relevant stocks of materials to be used in construction.
- iv. Personnel will be allocated the role of litter management in that they will periodically inspect the site and surrounds for litter and if identified collect and dispose of it.

4.5 Records

Records will be kept of all wastes and recyclables generated and either used on site or transported off–site during the construction stages of the development.

It will be a condition of appointment that all waste/recycling contractors involved in the construction stages provide these records, and that they also contain details of the facilities that the materials are transported to.

These records will be made available to Council on request.

4.6 Waste/recyclables storage (on-site)

All waste and recycling materials (if systems for the latter can be implemented) will be stored in bins provided by the appointed contractor(s). These bins will be appropriately coloured and signed to indicate what materials are to be deposited into them and located so as to maximise the recovery of reusable/recyclable materials.

As construction activities progress, the designated bins will be moved so as to maximise the collection of materials that will be diverted from landfill. This will also involve relocating signage advising as to correct waste management.

4.7 Waste/recyclables treatment (on-site)

There will be no treatment of wastes or recyclables on-site except for possible removal of contaminants prior to forwarding to off-site recyclers.

5 Demolition Materials

This section applies to all demolition activities for all aspects of the project.

5.1 Overview

The table below details the different waste streams expected in the demolition phase. The relevant disposal/recycling facilities have not been detailed as the waste contractor and sub-contractors have not yet been appointed for the project.

Note that while there are proposed recycling management pathways for some materials, this will be dependent on the availability of recycling for the Broken Hill area.

All waste contractors/sub-contractors will be required to detail all intended disposal facilities to ensure that legislative and safety requirements are met, the guiding principles of the waste hierarchy are upheld and maximum diversion from landfill is achieved. As previously stated, records will be required to be maintained by all contractors and made available to Council to validate management pathways.

The potential for reuse of materials on-site (and this will be encouraged for both demolition activities as well as considering what could be used for the construction phase of the development), will depend on the quality of the materials once demolition proceeds.

5.2 Estimated Volumes

The following table details the estimated composition by m³ of demolition waste to be generated and management strategy. It is important to note that these are estimates and the important issue is that the materials will be managed so as to avoid wherever possible disposal to landfill.

This process and the management of any excavation and removal of contaminated soil and waste (if identified), from the site will be undertaken and managed by qualified contractors and consultants in accordance with all the relevant standards and regulations and is not addressed in this report.

Materials	on site		Destination	
Type of material	Estimated volume (m³/tonnes)	On-site (Reuse or recycle)	Off-site	Disposal (contractor and site)
Concrete	2m³	No on-site reuse	Collected by contractor and disposed at concrete recycling facility	No disposal to landfill

Waste management systems – demolition by m³

Materials	s on site		Destination	
Type of material	Estimated volume (m³/tonnes)	On-site (Reuse or recycle)	Off-site	Disposal (contractor and site)
Asphalt (from Stage 2 carpark)	150m³	No on-site reuse	Collected by contractor and disposed at asphalt recycling facility if available	Facility TBA upon appointment of contractor ⁴
Bricks	5m ³	Bricks will be stockpiled and reused wherever possible.	Acceptable quality bricks collected by a contractor and sold for reuse. Unusable bricks will be collected and	Facility TBA upon
			recycled at an appropriate brick/rubble recycling facility to be used in aggregate gravel products	contractor
Timber	25m ³	No on-site reuse	Recyclable timber (untreated) will be collected and recycled at an appropriate timber yard. Unrecyclable timber will be disposed at landfill	Facility TBA upon appointment of contractor
Mixed hard plastics	3m³	No on-site reuse	Collected by contractor for recycling. Facility TBA upon appointment of contractor.	No disposal to landfill
Plasterboard	8m³	No on-site reuse	Collected by the waste subcontractor on a weekly basis (or as required) for recycling.	Facility TBA upon appointment of contractor

⁴ The actual site will be finalised once waste/recycling contractors have been appointed.

Materials	on site	Destination		
Type of material	Estimated volume (m³/tonnes)	On-site (Reuse or recycle)	Off-site	Disposal (contractor and site)
Metals	10m³	No on-site reuse	Collected by specialist metal subcontractor for recycling.	No disposal to landfill. Facility TBA upon appointment of contractor.
Carpet	2m ³	No on-site reuse	This will be disposed of into a designated bin and collected regularly as required for recycling is of the required quality or disposal to landfill	Facility TBA upon appointment of contractor
Glazing	0.5m ³	No on-site reuse	Recyclers consulted as to potential for recycling and if suitable separated for recycling by a facility	Facility TBA upon appointment of contractor
Mixed Recyclables	10m ³	No on-site reuse or recycling	Separated onsite into dedicated receptacles. Collected by the waste subcontractor for recycling.	Facility TBA upon appointment of contractor
General waste	30m ³	No on-site reuse or recycling	Separated onsite into dedicated receptacles. Collected by the waste subcontractor for disposal to landfill with the facility TBA upon appointment of contractor.	Disposed into general waste bins onsite and collected by the waste contractor for disposal.

5.3 Other Materials

A range of other materials may be present on the site once the demolition activities commence.

All potentially recyclable materials are to be separated and stored on-site for an appointed waste/recycling contractor to inspect and to determine the suitability of the material for recycling (or even reuse). If approved for either action, then the contractor can then remove the items.

For materials that are not designated as potentially able to be reused or recycled, then they are to be disposed of at a landfill licenced to receive those specific materials.

6 Construction Materials

6.1 Overview

The following summarises the types, quantities and management systems for construction materials that may be generated during construction.

The quantity of waste materials to be generated onsite are estimates and therefore the systems that will be put in place need to incorporate flexibility to allow for variation in the total quantities generated. Active site management during the construction phase will ensure all waste/recyclable materials are disposed of appropriately and that all waste receptacles are of sufficient capacity to manage onsite activities.

Finalisation of the system(s) that will be implemented for the recovery of materials and for disposal of others to landfill will occur following appointment of contractor(s). A component of the appointment will be that contactors will be required to provide data as to the disposal pathway (eg., materials, volumes and final disposal site), as well as a validation process for this information.

The appointed contractor(s) will also be responsible for sourcing speciality recycling facilities for the materials that cannot be reused on site

6.2 Estimated Volumes

The following table details the estimated composition by m³ of construction waste to be generated for the total site.

Note that while there are proposed recycling management pathways for some materials, this will be dependent on the availability of recycling for the Broken Hill area.

Materials o	n site		Destination	
Type of material	Estimated volume (m ³)	On-site (Reuse or recycle)	Off-site	Disposal (contractor and site)
Excavation material	6m³	Will either be stockpiled for use during construction if required and if not disposed off-site.	Collected and used as clean fill (if appropriate), by the appointed contractor and/or forwarded to various facilities such as garden landscapers, or roadworks.	Facility TBA upon appointment of contractor.

Waste management systems – construction by m³

Materials o	n site	Destination			
Type of material	Estimated volume (m ³)	On-site (Reuse or recycle)	Off-site	Disposal (contractor and site)	
Concrete	1m³	Separated on site and crushed for use in pavement construction where possible	Collected by contractor and disposed at concrete recycling facility	Facility TBA upon appointment of contractor	
Timber (mainly formwork)	15m³	Separated and where feasible, reused for further formwork	Unused material separated and stockpiled onsite. Collected by specialist timber subcontractor for recycling	Facility TBA upon appointment of contractor	
Metals	3m³	No on-site reuse	Collected by specialist metal subcontractor for recycling	Facility TBA upon appointment of contractor	
Mixed hard plastics	5m³	No on-site reuse	Collected by contractor for recycling.	Facility TBA upon appointment of contractor.	
Mixed Recyclables	8m³	No on-site reuse	Contractor appointed to collect and recycle	No disposal to landfill. Facility TBA upon appointment of contractor	
General waste	20m ³	No on-site reuse	No recycling or reuse	Facility TBA upon appointment of contractor	

7 Hazardous Waste Materials

7.1 Management Procedures

Reference has been made to the JBS&G Australia Pty Ltd, *Pre-Demolition Hazardous Building Materials Survey*, 22nd February 2023 and *Preliminary Site Investigation*, 10th March 2023, for determination of the presence or otherwise of any hazardous materials located in relation to the project.

A small quality of asbestos was located in some of the fill on the site. JBS&G Australia Pty Ltd is preparing an Asbestos Management Plan and if there are any requirements during the project, the requirements of the Plan will be adhered to.

If needed to be used, contractors employed to manage any identified hazardous wastes will be required (prior to appointment), to demonstrate their compliance with NSW EPA and WorkSafe NSW requirements for management of the specific materials they are contracted to manage.

The following are the recommended approaches for managing any hazardous wastes and other materials should they be identified during the demolition or construction activities.

The key principles that need to be adhered to are⁵:

- 1. All hazardous wastes need to be correctly identified and managed in accord with all relevant legislation and Codes of Practices.
- 2. Hazardous materials need to be separated into their individual categories and not mixed with any other materials

Prior to commencing any demolition or clean-up activities, a Workplace Health & Safety Plan will be developed, implemented and monitored with all relevant site personnel receiving specific training in management of hazardous waste materials (including suspected hazardous materials).

For what has been conclusively identified as asbestos containing materials (including soils), a specialist/licenced asbestos contractor will be used. As required, only workers trained in asbestos removal techniques will be allowed to manage the removal of asbestos contaminated soil and any contained on the buildings.

In regard to disposal of asbestos containing materials, there are regulatory requirements under clause 42 of the Protection of the Environment Operations (Waste) Regulation 2005 that apply to the management of asbestos waste, including:

- Waste must be stored on the premises in an environmentally safe manner.
- Non-friable asbestos material must be securely packaged at all times.

⁵ Reference should be made to the NSW EPA publication, Waste Classification Guidelines Part 1: Classifying Waste.

- Friable asbestos material must be kept in a sealed container.
- Asbestos-contaminated soil must be wetted down.
- All asbestos waste must be transported in a covered, leak-proof vehicle.
- Asbestos waste must be disposed of at a landfill site that can lawfully receive this waste. Always contact the landfill beforehand to find out whether asbestos is accepted and any requirements for delivering asbestos to the landfill.
- It is illegal to dispose of asbestos waste in domestic garbage bins.
- It is also illegal to re-use, recycle or dump asbestos waste

These requirements will be adhered to.

8 Contracts and purchasing

Each subcontractor working on the site will be required to adhere to this Waste Management Plan.

The Head Contractor will ensure each subcontractor:

- Takes practical measures to prevent waste being generated from their work
- Implements procedures to ensure waste resulting from their work will be actively managed and where possible recycled, as part of the overall site recycling strategy or separately as appropriate
- Ensures that the right quantities of materials are ordered, minimally packaged and where practical prefabricated. Any oversupplied materials are returned to the supplier
- Implements source separation of off cuts to facilitate reuse, resale or recycling.

The Site Manager will be responsible for:

- Ensuring there is a secure location for on-site storage of materials to be reused on site, and for separated materials for recycling off site.
- Engaging appropriate waste and recycling contractors to remove waste and recycling materials from the site
- Co-coordinating between subcontractors, to maximise on site reuse of materials
- Monitoring of bins on a regular basis by site supervisors to detect any contamination or leakage
- Ensuring the site has clear signs directing staff to the appropriate location for recycling and stockpiling station/s. And that each bin/skip/stockpile is clearly sign posted
- Proving training to all site employees and subcontractors in regard to the WMP as detailed in Section 9 below.

Should a subcontractor cause a bin to be significantly contaminated, the Site Manager will be advised by a non-conformance report procedure. The offending subcontractor will then be required to take corrective action, at their own cost. The non-conformance process would be managed by the Head Contractors' Quality Management Systems

9 Training and Education

All site employees and sub-contractors will be required to attend a site-specific induction that will outline the components of the WMP and explain the site-specific practicalities of the waste reduction and recycling strategies outlined in the WMP.

All employees are to have a clear understanding of which products are being reused/recycled on site and where they are stockpiled. They are also to be made aware of waste reduction efforts in regard to packaging.

The site manager will post educational signage in relation the recycling activities on site in breakout areas, lunchrooms etc.

Appendix A – Waste Transfer Routes

The following illustrates the routes to be taken for the transfer of waste/recycling bins from the Accident and Emergency and Mental Health Units to collection points by the contractor(s).

