

KNOWLES GROUP

# CONSTRUCTION WASTE MANAGEMENT PLAN

Arcare Huntlee

Part of Lot 4150 DP 1275574 – Land adjoining 97 Kesterton Rise)

1.	Introduction .....	3
1.1	Purpose .....	3
1.2	Description of the Project.....	3
1.3	Scope of this Plan .....	4
1.4	Precedence .....	4
1.5	Project Location .....	4
1.6	Document Control .....	6
2.	Environmental Objectives and Targets.....	7
2.2	Objectives, Targets and programs .....	7
3.	Construction Waste Legislation .....	8
4.	Responsibility and Accountability .....	9
4.1	Roles and Responsibilities.....	9
4.2	Responsibilities for CWMP Implementation.....	9
5.	Waste Management Targets.....	11
5.1	Waste Diversion Targets .....	11
5.2	Report Objectives.....	11
5.3	Monitoring and Reporting .....	11
5.4	Opportunities for Reuse and Recycling.....	12
5.5	Management of Hazardous Waste Materials .....	13
5.6	Management of Excavation Waste .....	13
5.7	Waste and Recycling Receptacles .....	14
5.8	Estimated Site Quantities .....	16

# 1. Introduction

## 1.1 Purpose

This Construction Waste Management Plan (CWMP) has been prepared to address Item 18 – Waste Management of the Secretary’s Environmental Assessment Requirements issued in respect of the proposed Huntlee Arcare residential care facility (Application No. SSD-49283708).

The proposal does not involve the demolition of buildings and this CWMP only applies to the construction of the proposed development. The requirements outlined in this CWMP must be implemented on site during construction and may be subject to review upon any change to the design. Construction waste management requirements will also be subject to review as part of a Construction Management Plan to be prepared prior to commencing works.

The waste management for the operational phase of the development is not addressed in this report and has been provided separately.

This plan forms part of Knowles Management System which is certifiable to AS/NZS ISO 9001:2008 – Quality Management, AS/NZS ISO 14001:2004 – Environmental Management System, AS/NZS 4801:2001 – Occupational Health and Safety Management System, and the NSW Government Environmental Management System Guidelines Edition 2.

This document describes the management system requirements and procedures to be adapted to:

- Comply with all applicable environmental requirements. This means compliance with appropriate Commonwealth and State regulatory environmental requirements, Knowles Company policies and standards, any Construction Environmental Management Plan (CEMP) applying to the development, employer requirements, contractual undertakings and the legal requirements and commitments specific to the Project;
- Minimise environmental risks. This means having adequate internal controls and resources in place to minimise or mitigate foreseeable risks to the Project from environmental factors; and
- Deliver best practicable environmental performance. This means preventing pollution, minimising adverse environmental impacts and securing the potential benefits associated with best practice standards of environmental performance.

This WCMP has been prepared having regard to Cessnock DCP 2010, Part C – General Guidelines and Cessnock City Council’s waste management plan template. The objectives of this CWMP are to:

- Reduce the amount of construction waste going to landfill.
- Reduce amount of waste generated in the operation of a development from going to landfill and maximise resource recovery.
- Ensure waste from within developments can be collected and disposed in a manner that is healthy, efficient, minimises disruption to amenity, and is conducive to the overall minimisation of waste generated.

## 1.2 Description of the Project

The Project involves the construction of a part one and part two storey residential care facility containing 96 beds.

The proposed residential care facility is to be located on a future lot being delivered by Huntlee Pty Ltd under Major Project MP10\_0137. Huntlee Pty Ltd will be responsible for clearing land, earthworks to create the lot, road construction, external stormwater and external utilities provision. The proposed residential care facility will therefore be constructed on a cleared site. Subdivision works relating to clearing of the land and earthworks have already been commenced by Huntlee Pty Ltd.

The ground floor contains 96 bedrooms, main reception including administration and small cafe with outdoor seating, common lounge, dining, sitting rooms for residents and guests, hair salon, allied health consulting room.

The lower ground floor (basement) contains car parking and services and facilities for the residential care facility including car parking for 47 vehicles, delivery area, kitchen and laundry ancillary to the residential care facility, staff amenities and waste and storage rooms.

Landscaping is proposed around the perimeter of the site and within two internal courtyards and landscaped area are integrated with the architectural design of the building.

Stormwater infrastructure is proposed to be constructed to manage stormwater from the development site which will drain into regional infrastructure constructed as part of MP10\_0137. Proposed stormwater for the development is confined to internal infrastructure and connection to the regional infrastructure.

### 1.3 Scope of this Plan

This CWMP applies to the construction works associated with the Project:

Construction activities consume energy, resources and materials and can generate large volumes of waste. Inevitably they also cause some disruption for people, businesses and community resources in the vicinity of construction sites, albeit temporarily.

Using resources and energy more efficiently and minimising wastes can reduce project costs. Well-planned and designed developments can also make a huge contribution to people's quality of life, and can minimise ongoing operating and maintenance costs of the facility. In addition, higher standards of practice help to reinforce Knowles Group's reputation as a responsible organisation that wants to work with the local communities in which it operates.

To secure these benefits and achieve consistent standards of environmental performance across the business, Knowles Group requires all construction projects to adhere to the commitments described in the Knowles Group Environmental Policy and to implement the procedures contained in this Waste Management Plan.

This Construction Waste Management Plan has been developed to meet the legislative requirements as well as the Environmental Management Systems Guidelines (1998). It is also developed to embrace the principles of Ecologically Sustainable Development (ESD) in accordance with State and regional expectations.

### 1.4 Precedence

Where ambiguity is detected between the procedures and requirements in this CWMP and the Knowles Management Systems, the procedures nominated in this CWMP shall take precedence.

### 1.5 Project Location

The location of the site is illustrated in **Figure 1**.

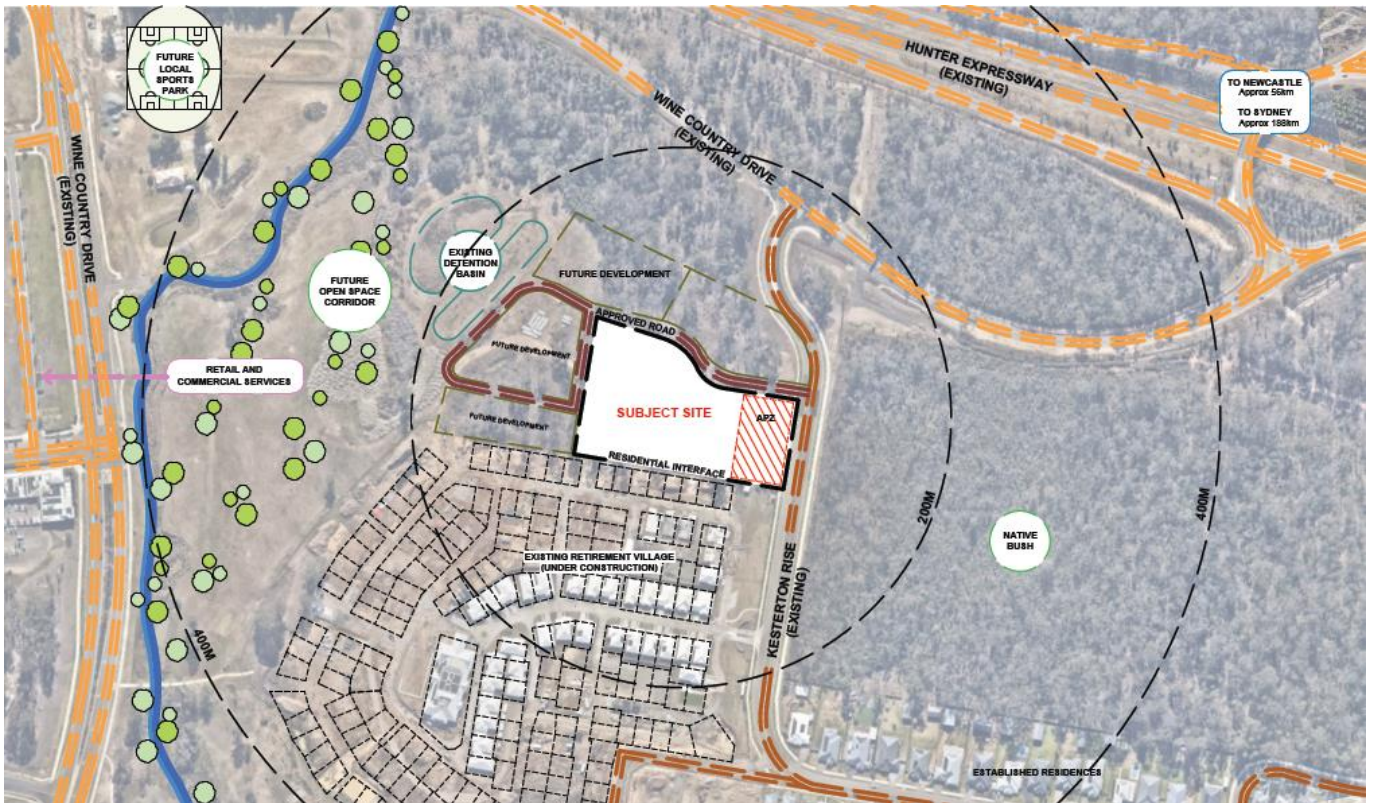


Figure 1: Site Location: (Source: Marchese Partners)

## 1.6 Document Control

Amendments to this CWMP are approved by the Project Manager or National Construction Manager and distributed to all holders of controlled copies.

Date	Name of Recipient	Organisation

Uncontrolled copies of this plan may be distributed to Knowles Construction Party. These copies are not subject to automatic amendment and the receiver should verify currency of the document.

Revisions to this CWMP shall be made as required to reflect the current system requirements.

Revision	Date	Description	Page	Reviewed By	Approved By
Rev 1	06.11.2024	Commencement		Scott Pelchen	

Acknowledgement of Responsibilities			
Position	Name	Signature	Date
National Construction Manager	Scott Pelchen	SP	06.11.2024

## 2. Environmental Objectives and Targets

### 2.2 Objectives, Targets and programs

As a means of assessing environmental performance during construction of the Project, Environmental objectives and targets are established by Knowles Group. These objectives and targets also extend to construction waste management.

The performance of the Project against the objectives and targets will be reviewed by project senior management and updated where necessary.

The key project environmental objectives and targets of Knowles Group on the Project as they relate to construction waste are outlined in **Table 1** below.

*Table 1: Key project environmental objectives and targets*

Core Objective	Key Strategies and Targets
To continuously improve our environmental performance (and implementation of environmental practices) through increased employee knowledge and development of a positive attitude.	Develop and maintain a program of ongoing environmental training.
To implement a rigorous and comprehensive environmental management system (EMS) that meets the requirements of ISO 14001.	Maintain an EMS such that it achieves no nonconformance in each external audit. Continuously monitor and improve environmental performance through a program of inspections, audits and management reviews.
To comply with applicable legal requirements (environmental laws, regulations, statutory requirements and 'instruments of approval').	Establish and maintain a register of legal requirements. Communicate requirements applicable to local operations. No instances of non-compliance with environmental statutory requirements.
To adopt waste minimisation principles throughout construction.	To recycle at least 80% of waste produced on site.
To minimise consumption of natural resources during construction and seek to use recycled materials wherever practicable	To recycle 80% of waste produced on site. Continuously monitor and improve environmental performance through a program of inspections, audits and management reviews.
To monitor the amounts and impacts of non-hazardous and hazardous waste generated during construction.	Continuously monitor and improve environmental performance through a program of inspections, audits and management reviews.

Organisational responsibility for achieving the project Environmental Objectives and Targets ultimately rest with senior management.

These objectives are supported by an agreed set of project targets, which are required to demonstrate 'continuous improvement' in line with the terms of ISO 14001 certification. These objectives will be regularly monitored on site and status will be detailed in monthly reports.

### 3. Construction Waste Legislation

A range of legislative requirements apply to the transfer, transport and disposal of particular wastes, all of which will need to be adhered to during construction of the Project. This legislation applies to the owner of the waste and the transporter.

Under section 143 of the *Protection of the Environment Operations Act 1997*, waste can only be transported to a place that can lawfully accept the waste. If wastes are transported to a place that cannot lawfully accept the material, both the owner of the waste and the transporter can be held liable for clean-up costs and for subsequent lawful disposal. It is essential for the project managers/owners to ensure that due diligence is undertaken prior to transportation of waste materials.

As part of the Development Approval, it will be a requirement to keep a copy of this CWMP along with proof of lawful disposal for all waste that is disposed of, or otherwise recycled from the site must be retained on site in a Waste Data File. Proof is to include a logbook with associated receipt/invoices, waste classification, and site validation certificate. All entries must include:

- Time and date.
- Description and size of waste.
- Waste facility used.
- Vehicle registration and company name.

Both the logbook and associated receipts must be made available for inspection by authorised Council Officers at any time during site works and at the conclusion of works should be retained by the person responsible and made available for inspection by authorised Council Officers.

## 4. Responsibility and Accountability

### 4.1 Roles and Responsibilities

Knowles has identified appropriate levels of individual responsibility and accountability for managing environmental responsibilities across and within its organization which will be applied to all roles within the Project Team.

For effective implementation of the CWMP, experienced and trained members of the Knowles construction team will be assigned management of environmental responsibilities in accordance with this CWMP.

All Site staff will be responsible and accountable for the effective implementation of the CWMP within their overall areas of operations.

### 4.2 Responsibilities for CWMP Implementation

General responsibilities for developing, implementing and reviewing the CWMP are described in **Figure 2** on the following page.

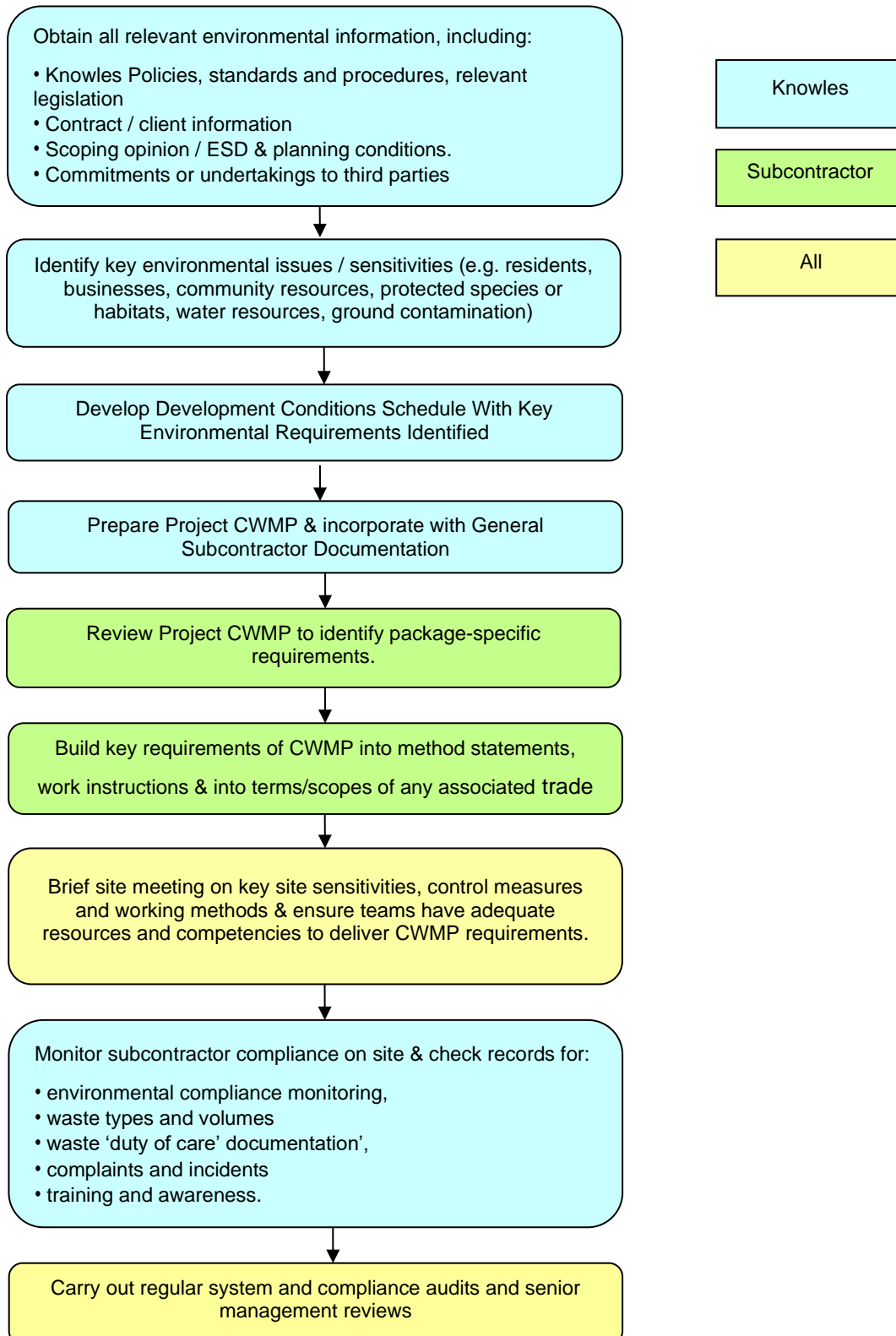


Figure 2: General responsibilities for developing, implementing and reviewing the CWMP

## 5. Waste Management Targets

### 5.1 Waste Diversion Targets

The *NSW Waste and Sustainable Materials Strategy 2041* (DPIE, 2021) is NSW Government's waste strategy. The Strategy sets a number of targets, and relevant to this Project is the target to have an 80% average recovery rate from all waste streams by 2030.

The development is targeting at least 80% diversion of construction waste using the waste minimisation measures in the following sections and this will assist the state to meet the NSW waste strategy targets. Waste reporting and audits are part of this CWMP to assist in monitoring and reviewing the waste minimisation targets during construction.

### 5.2 Report Objectives

This report aims to encourage the following waste management practices for the duration of the construction stages of the development:

- Re-use of excavated material on-site and disposal of any excess to an approved site;
- Green waste mulched and re-used on-site as appropriate, or recycled off-site;
- Bricks, tiles and concrete re-used on-site as appropriate, or recycled off-site;
- Plasterboard waste returned to supplier for recycling;
- Framing timber re-used on site or recycled off-site;
- Windows, doors and joinery recycled off-site;
- All asbestos, hazardous and/or intractable wastes are to be disposed of in accordance with WorkCover Authority and EPA requirements;
- Plumbing, fittings and metal elements recycled off site;
- Ordering accurate quantities of materials and prefabrication of materials where possible;
- Re-use of formwork; and
- Careful source separation of off-cuts to facilitate re-use, resale or recycling.

### 5.3 Monitoring and Reporting

It is recommended that a logbook be maintained the following measures be taken to improve construction waste management and to provide more reliable waste generation figures:

- Compare projected waste quantities with actual waste quantities produced.
- Conduct waste audits of current projects (where feasible).
- Note waste generated and disposal methods.
- Look at past waste disposal receipts.
- Record this information to help in waste estimations for future waste management plans.

Records of waste volumes recycled, reused or contractor removed are to be maintained. Additionally, dockets/receipts verifying recycling/disposal in accordance with the CWMP must be kept and presented to Council or the EPA if and when required.

Daily visual inspections of waste storage areas will be undertaken by site personnel and inspection checklists/logs recorded for reporting to the Site Manager on a weekly basis or as required. These inspections will be used to identify and rectify any resource and waste management issues.

Waste audits are to be carried out by the Building Contractor to gauge the effectiveness and efficiency of waste segregation procedures and recycling/reuse initiatives. Where audits show that the above procedures are not carried out effectively, additional staff training should be undertaken and signage re-examined.

All environmental incidents are to be dealt with promptly to minimise potential impacts. An incident register must be maintained on-site at all times and should include the contact details of the 24-hour EPA Pollution line. Likely incidents to occur during the construction may involve fuel or chemical spills, seepage or mishandling of hazardous waste, or unlicensed discharge of pollutants to environment.

## 5.4 Opportunities for Reuse and Recycling

There are many opportunities to reduce the volume of waste generated during construction. Adaptive reuse of building materials should be encouraged, with significant consideration given to methods of reusing or recycling materials onsite as well as sourcing used or recycled materials from elsewhere to be used on site.

The site should facilitate reuse and recycling by 'deconstruction', whereby various materials are carefully dismantled and sorted. Any unwanted reusable construction materials can be taken to a second-hand building centre, reducing waste disposal costs.

Materials that are individually wrapped should also be avoided where possible, with preference given for materials that can be delivered in returnable packaging such as timber pallets.

Table 2 below gives examples of potential reuse and recycling options for the materials likely to be used/generated in construction and demolition at this development:

*Table 2: Potential Reuse/Recycling Options for Construction Materials*

Material	Reuse/Recycling Potential
<b>Asphalt</b>	Hot in-place recycling or reprocessed into Reclaimed Asphalt Pavement (RAP).
<b>Bricks</b>	Cleaned and/or rendered for reuse, crushed for fill, sold or provided to a recycled materials yard
<b>Cardboard Packaging</b>	Recycled at a paper/cardboard recycling facility
<b>Carpet</b>	Cleaned and reused for the same purpose, reused in landscaping or garages/sheds, recycled at an appropriate processing facility
<b>Concrete, Masonry, Spoil</b>	Reused on-site as fill, levelling or crushed for road base
<b>Doors, Windows, Fittings</b>	Reused in new or existing buildings or sent to second-hand supplier
<b>Glass</b>	Recycled at a glass recycling facility, aggregate for concrete production, crushed for termite barrier, reused as glazing
<b>Green Waste (Organics)</b>	Mulched, composted for reuse, trees chipped for use in landscaping or removed carefully and reused onsite or sold
<b>Hardwood Beams</b>	Reused as floorboards, fencing, furniture or sent to second-hand timber supplier
<b>Insulation Material</b>	Reprocessed to remove impurities and reused for the same purpose or as off-cuts, compressed for ceiling tile manufacture
<b>Metal, Steel/Copper Pipe</b>	Recycled at a metal recycling facility, melted into secondary materials for structural steel, roofing, piping etc. copper sold for re-use
<b>Other Timber</b>	Reused in formwork, ground into mulch for garden or sent to second-hand timber supplier
<b>Plasterboard</b>	Crushed for reuse in manufacture of new plasterboard, returned to supplier or used in landscaping
<b>Plastics</b>	Reused as secondary materials for playgrounds, park benches etc.
<b>Roof Tiles</b>	Cleaned and reused, crushed for reuse for landscaping and driveways or sold or provided to a recycled materials yard

Material	Reuse/Recycling Potential
Soil	Stockpiled onsite for reuse as fill
Synthetic & Recycled Rubber	Reused for the same purpose or reprocessed for use in manufacture/construction of safety barriers, speed humps
Topsoil	Stockpiled onsite for reuse in landscaped areas

Part C, Chapter 5 of the Cessnock DCP 2010 contains a list of facilities and outlets in the Lower Hunter, providing various services for handling the recycling, reuse and disposal of construction waste. The contractors are to refer to the schedule to assist in directing wastes to local facilities.

## 5.5 Management of Hazardous Waste Materials

The Project does not involve the demolition of buildings and a Hazardous Materials Survey is not required, as recognised by the SEARs. This Section only relates to hazardous waste materials that could be encountered during construction.

For the purpose of this report, hazardous waste materials include any waste that poses a hazard or potential harm to human health or the environment, particularly asbestos waste and asbestos containing material (ACM).

During the construction phase of the development, there must be a commitment to engage qualified and certified contractors to remove all contaminated/hazardous materials (e.g. asbestos) and dispose of all contaminated/hazardous waste at an appropriately licenced facility, where applicable.

In the event that any contaminated or hazardous materials are unexpectedly uncovered during demolition or excavation works, the Site Manager is to stop work immediately and contact the relevant hazardous waste contractor prior to further works being undertaken in the area.

The following general mitigation measures will apply:

- Contaminated material stockpiled on site will be minimised as far as possible and should be stored on HDPE liner, in a bunded location which is protected from inclement weather;
- Sediment fences should be installed around the base of stockpiles and the stockpiles should be covered. Where excavated material requires validations, samples should be taken for NATA laboratory testing as per the requirements of the contamination assessment prior to restoration works, backfilling exercises and disposal;
- Any trucks carrying contaminated materials should be securely and completely covered immediately after loading the materials (to prevent windblown emissions and spillage) and must be licensed by the NSW Environmental Protection Authority (EPA);
- Decontamination of all equipment prior to demobilisation from the site is important so that contaminated materials are not spread off-site.

## 5.6 Management of Excavation Waste

For the purpose of this report, excavation waste consists of any unwanted material generated from excavation activities such as a reduced level dig, site preparation and levelling and the excavation of foundations, basements, tunnels and service trenches. This will typically consist of soil and rock.

All excavated material generated on this site may be re-used in the landscaping or used on other sites as fill material, provided no contamination is present. If sandstone is found to be present, this may be sold or incorporated into the building design.

The following measures and safeguards will apply to the development for excavated material:

- Wherever practical, excavation material will be reused as part of the development;

- Excavation material that is not natural (virgin) material will be transported to an approved landfill site or off-site recycling depot;
- A waste classification assessment of the fill material should be undertaken prior to it being acceptable for waste disposal purposes;
- Transportation routes for excavation material removed from site will be identified and used.

## 5.7 Waste and Recycling Receptacles

A sufficient quantity of skip bins should be provided for the separate storage of each type of construction material generated on site. This will assist in maximising source separation and resource recovery, while reducing the costs and quantity of materials disposed of at landfill.

The size of the receptacles should be appropriate to the nature of waste generated and the available storage area. In general, the following options would be acceptable:

Bin Size	Access	Dimensions
2.5m	Top loading	<p>H: 1.0m L: 2.0m W: 1.2m</p>
3m	Drop door walk-in	<p>H: 1.0m L: 2.4m W: 1.5m</p>
4m	Drop door walk-in	<p>H: 1.2m L: 2.6m W: 1.6m</p>
5m	Drop door walk-in	<p>H: 1.4m L: 3.0m W: 1.6m</p>
6m	Double doors walk-in	<p>H: 0.9m L: 4.0m W: 2.0m</p>

All waste containers / skip bins are to be positioned within the property boundary. Bins outside of the property boundary such as the roadway or nature strip may require a permit application to Council. Storage of skip bins / containers should be placed in a suitable location as to not cause disturbance to normal stormwater flow. Under no circumstances should hazardous, flammable or explosive materials be disposed of within skip bins.

All bins should be appropriately labelled, clearly visible to and from the property, easily accessible and stored in a well-lit area.

Access to the construction area is proposed to be from the local road (when constructed) to the north of the site. Each construction waste contractor has different collection methods, bins and vehicles and as such, the site foreman will be responsible for liaising directly with the contractors to ensure correct placement of bins/stockpiles to maximise safe access for both users and transporters.

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Refer to the Construction Traffic Management Plan prepare by other for further details on access and traffic management during construction.

## 5.8 Estimated Site Quantities

Table 3 outlines the destination of wastes and estimated volumes is to be applied to achieve the objective of diverting 80% of construction waste from waste streams. The quantities are based on the experience of Knowles Group in constructing similar residential care facilities and retirement living projects.

Table 3: Estimated waste quantities and destination

MATERIALS ON SITE		DESTINATION		
Type of Materials	Estimated	ON-SITE Specify methods	Reuse and Recycling	Disposal
	Vol. (m <sup>3</sup> )		OFF-SITE Specify contractor and recycling outlet	
<b>Construction:</b>				
Concrete	100	General waste bin.	Transfer for reprocess or recycle/Waste contractor	Nil to Landfill
Masonry, Brick & Tile	0	General waste bin.	Transfer for reprocess or recycle/Waste contractor	Nil to Landfill
Timber	50	General waste bin.	Transfer for reprocess or recycle/Waste contractor	Nil to Landfill
Metal	20	General waste bin	Transfer for reprocess or recycle/Waste contractor	Nil to Landfill
Plasterboard	50	Separate on site.	Transfer for reprocess or recycle/Plasterboard Contractor	Nil to Landfill
Cardboard	1	Separate on site.	Transfer for reprocess or recycle/Contractor to be confirmed	Nil to Landfill
Pallets	1	Separate on site.	Transfer for Re-use/Re-Sale/All Subcontractors	Nil to Landfill
Reels	0	Separate on site.	Transfer for Re-use/Re-Sale/All subcontractors	Nil to Landfill
Mixed waste	20	Separate in designated bin.	Transfer for reprocess or recycle/Waste contractor	80% Recycling

Waste shall be minimized by the design choice of modular components and pre-cast components. The waste stream shall be separated where possible to maximise landfill diversion. There will also be a reuse area on site for the return of pallets and reels. Subcontractors are required to return packaging to the suppliers and suppliers are encouraged to reuse, returnable stackable packaging.