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Maroubra

Demolition and Construction Waste Management Plan

195-213 Fitzgerald Avenue and 40-64 Yorktown Parade

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1. Introduction

This Demolition and Construction Waste Management Plan (D&CWMP) has been prepared by Waste Audit & Consultancy Services (Aust) on behalf of Homes NSW for a State Significant Development Application (SSD-71454960) for the redevelopment of existing social housing (the Project) at 195-213 Fitzgerald Avenue and 40-64 Yorktown Parade, Maroubra (the Site). The Project involves the replacement of the 33 social housing units across eight 2 storey apartment buildings and a single storey dwelling with 144 units across four 3 storey buildings and two part 3/part 4 storey buildings.

This waste management plan is designed to provide guidance on the management of demolition and construction general waste and recyclable materials generated by the works taking place and to address the industry specific Secretary's Environmental Assessment Requirements (SEARs) for the project issued on 6 June 2024 which identified the following specific assessment requirements:

Table 1. Demolition and Construction Waste SEARs

SEARs Requirement 17. Waste Management	Section Addressing SEARs Requirement
Identify, quantify and classify the likely waste streams to be generated during construction and operation	Section 4 Section 5
Provide the measures to be implemented to manage, reuse, recycle and safely dispose of this waste	Section 6 Section 7

2. Site Overview

The Site is located within the Randwick City Council local government area (LGA) and is zoned R3 Medium Density Residential under the *Randwick Local Environmental Plan (LEP) 2012*.

The Site has a total area of approximately 9,596 square metres (sqm) with frontages to Fitzgerald Avenue to the north and Yorktown Parade to the south. Refer to Figure 1.

The existing buildings on the Site are currently occupied. There are street trees located along the Fitzgerald Avenue frontage and a series of trees within the Site between the buildings and along both street frontages. The site is accessible by public transport with services that run along Fitzgerald Avenue with frequent services to Maroubra town centre and Bondi Junction, with connecting services to Sydney CBD.

A boundary of the main development site and surrounding area is shown below:



Figure 1: Site Location

The proposed development comprises demolition of existing buildings and the construction of four 3 storey buildings and two part 3/part 4 storey residential flat buildings to accommodate 144 social and affordable housing apartments, a communal room and a single level basement car park including bulk earthworks, tree removal and associated landscaping and public domain works.

Refer to proposed Site Plan below:

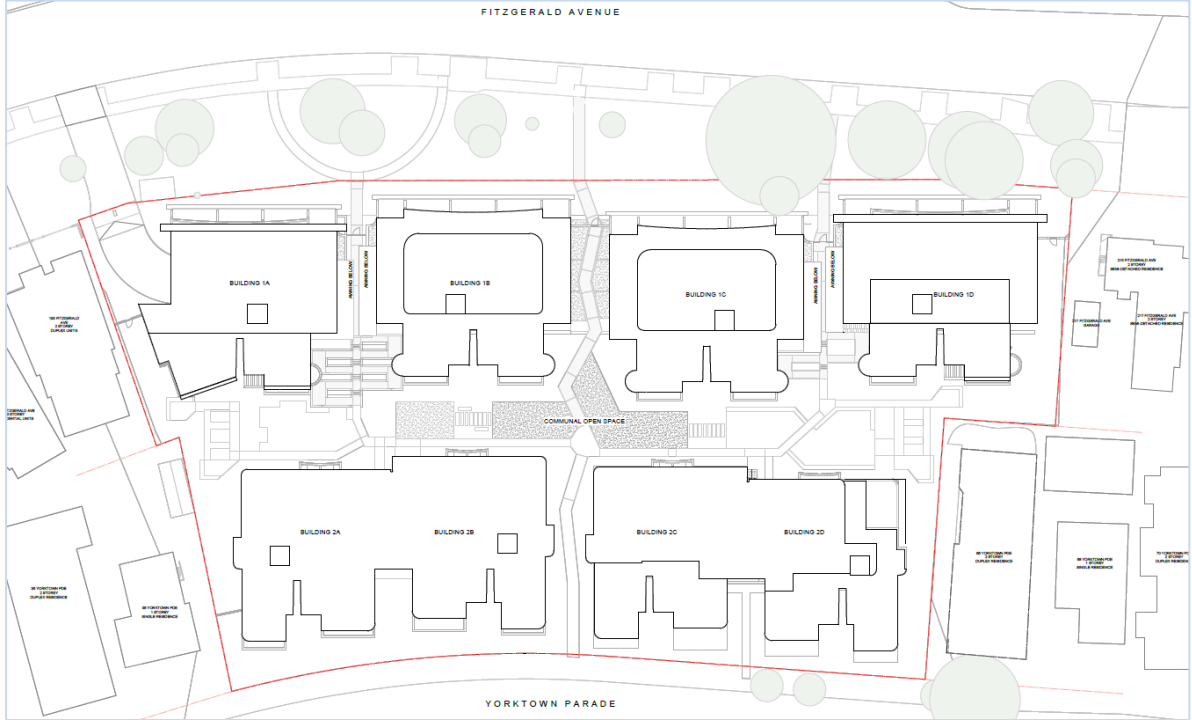


Figure 2: Site Plan

Buildings and structures to be demolished include;

- 195/ 157 - Two storey brick residential units
- 199 - Two storey brick residential units
- 203 - Two storey brick residential units
- 209 - Two storey brick residential units
- 213 - Two storey brick residential units
- 58/ 64 - Two storey brick residential units
- 50/ 56 - Two storey brick residential units
- 42/ 48 - Two storey brick residential units
- 40 - Brick cottage and other sheds
- Landscaping, associated other works, Infrastructure and services work

3. Waste Management Strategy

All waste management provisions have been designed to ensure safe and sustainable management of materials, consistent with best practice standards and requirements.

In particular, compliance with *Australian Standard AS2601: The Demolition of Structures* is required under the Environmental Planning and Assessment Regulation 2000, which:

- 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 appendices covering the demolition of pre-stressed concrete structures, some contractual considerations, a checklist for contractors and qualifications for site personnel;
- Addresses safety and health issues under the headings of:
 - Health and safety of the public - covering general requirements, lighting, falling materials, fencing, hoardings, notices, scaffolding, overhead protection, and hazardous materials and conditions;
 - Health and safety 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 for access and egress, damage and structural integrity, vibration, weatherproofing, burning, dust control, noise control, protection of public Streets and protection of sewers and water courses; and
 - General protection of the site.

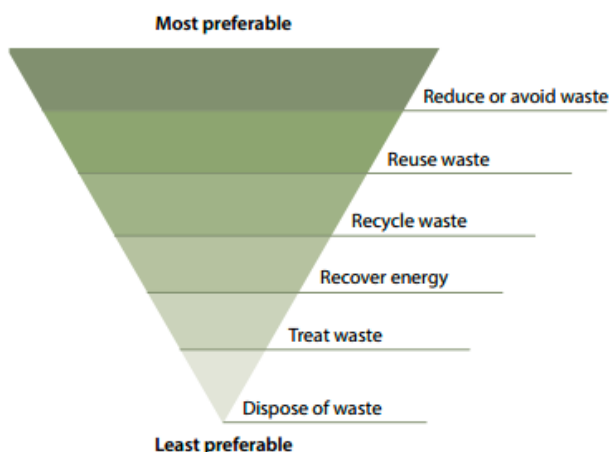
Section 143 of the *Protection of the Environment Operations Act 1997* requires waste to be transported to a place that can lawfully accept it. It will be the responsibility of the site's developer to ensure that all contractors:

- Provide details of their operating licence to transport waste
- Clearly specify where all wastes are to be transported
- Confirm the capacity of the nominated facilities to receive/manage the waste;
- Retain demolition, excavation, and construction waste/recycling dockets to confirm which authorized waste/recycling facilities received the material for recycling and disposal; and
- Provide reports on management aspects (types, quantities and disposal pathways).

Note: The testing and classification of any excavated material is not covered in this report. Where necessary, the development's managers will arrange for separate specialist testing to be conducted. If acid sulphate soils are present on site, a separate management plan will need to be prepared for the handling and disposal of such soil.

3.1 Waste Management Principles

The following waste hierarchy has been used to guide this waste management plan:



Reduce and Avoid

Adopt sound work practices during the demolition process that avoid the creation of waste products in the first place; reduce the use of materials during the demolition process that require treatment or disposal

Reuse

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

- Identify and put systems in place to separate and store materials for reuse on-site
- Identify the potential applications for reuse offsite and facilitate this process

Recycle

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 on-site or offsite

Note: 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.

Recover Energy

If possible, send materials to a licensed waste to energy facility (e.g. organic waste to Earthpower in Camellia).

Treatment and Disposal

Waste products which cannot be reused or recycled will be removed and treated/disposed of at appropriately licensed facilities, ensuring the following:

- Chosen waste disposal contractor complies with OEH requirements
- Bins to be monitored for fullness and collected on an efficient schedule minimising transport

3.2 Record Keeping

Records will be kept of all waste materials generated and either re-used on site or transported off-site. It will be a condition of appointment that all contractors 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 the relevant authorities (council) on request.

3.3 Materials Storage

All waste materials 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.

3.4 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
- Manage all wastewater and runoff in accordance with Sydney Water requirements

3.5 Hazardous Materials

The Remedial Action Plan (RAP) is addressed in a separate report provided by Alliance Geotechnical Pty Ltd (Alliance) dated 13/09/2024 (7716.2-ER-1-2).

The process for managing any materials suspected of being, or containing, asbestos is¹:

- i. Treat the material as asbestos unless proven otherwise
- ii. Do not disturb the material (i.e., shift or place into a container)

¹ Alternatively, any material suspected of being asbestos can simply be classified as such, and then managed accordingly.

- iii. Seek advice from a suitably qualified laboratory to test the material(s) to determine if it is or is not asbestos
- iv. If determined not to be asbestos, then it can be managed as an inert waste
- v. If determined to be asbestos then it must be managed by a licenced contractor for packaging, removal and disposal
- vi. If the material has accidentally been uncovered, then the area should be cleared, barriers erected to prevent access, NSW WorkCover and EPA notified, and if the material is broken, it should be covered with a fine spray/mist of water.

For what has been conclusively identified as asbestos-containing materials (including soils), a specialist/licensed 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 material contained in the buildings.

There are strict regulatory requirements under Clause 42 of the *Protection of the Environment Operations (Waste) Regulation 2005* that apply to 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.
- 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.
- It is illegal to re-use, recycle or dump asbestos waste.

4. Demolition Phase – Materials Streams

The table below shows the materials streams expected to be generated during the demolition process, including excavation, for existing structures on site, for 195-213 Fitzgerald Avenue and 40-64 Yorktown Parade.

Specific disposal/recycling facilities are not shown, as a waste contractor has not yet been appointed for the project. All contractors and sub-contractors, once appointed, will be required to detail all intended and actual disposal facilities used, in order to ensure the principles of the waste hierarchy are upheld and maximum diversion from landfill is achieved.

The following table details estimated quantities, in cubic metres, of demolition waste to be generated, and the recommended management strategy for each type of material.

Table 2: Demolition Materials

Materials on Site		Destination/Treatment		
Type of Material	Estimated Volume (m ³)	On-site (Reuse/Recycle)	Offsite (Reuse/Recycle)	Disposal (Landfill)
Bricks	600 m ³	No on-site reuse	Collected and recycled at recycling facility to be used in aggregate gravel products	No disposal to landfill
Concrete	600 m ³	No on-site reuse	Collected by contractor and taken to recycling facility	No disposal to landfill
Misc. General Waste	300 m ³	No on-site reuse or recycling	Separated on-site into dedicated receptacles and collected by the waste contractor for disposal	Disposal to landfill
Structural Steel	300 m ³	No on-site reuse	Removed if still serviceable and sold for reuse to an appropriate contractor, or collected by specialist contractor for recycling	No disposal to landfill

Materials on Site		Destination/Treatment		
Type of Material	Estimated Volume (m ³)	On-site (Reuse/Recycle)	Offsite (Reuse/Recycle)	Disposal (Landfill)
Plasterboard	200 m ³	No on-site reuse	Material to be separated and stockpiled on-site and collected by waste contractor for recycling. Possible use as soil improver with gypsum etc. removed by recycler	Material that cannot be recycled will be disposed of at landfill facility
Ceiling Tiles	180 m ³	No on-site reuse	Material to be separated and stockpiled on-site and collected by the waste contractor for recycling	Material that cannot be recycled will be disposed of at landfill facility
Wood	300 m ³	Retained on-site for reuse in construction work	Material to be separated and stockpiled on-site for reuse	No disposal to landfill
Cabinetry	150 m ³	No on-site reuse	Collected by contractor and taken to recycling facility	No disposal to landfill
Carpet	50 m ³	No on-site reuse	Removed if still serviceable and sold for reuse to an appropriate contractor, or collected by specialist contractor for recycling	No disposal to landfill
Electrical Cabling & Fixtures	20 m ³	No on-site reuse	Collected by contractor and taken to recycling facility	Material that cannot be reused will be disposed of at landfill facility
Plumbing Pipework	40 m ³	No on-site reuse	Collected by contractor and taken to recycling facility	No disposal to landfill
Electrical Pipework	30 m ³	No on-site reuse	Collected by contractor and taken to recycling facility	Material that cannot be reused will be disposed of at landfill facility
Garden Organics	600 m ³	No on-site reuse	Collected by contractor and taken to organics/ mulching facility	No disposal to landfill
Glazing	30 m ³	No on-site reuse	Recyclers consulted re: potential for recycling, possibly as Street base; windows should be removed intact as there is a higher potential for them to be reused	No disposal to landfill
Bathroom Tiles	15 m ³	No on-site reuse	Collected by contractor and disposed of at recycling facility or sold for reuse, if of sufficient quality	Material that cannot be reused will be disposed of at landfill facility
TOTAL VOLUME OF MATERIALS	3,415 m³	POTENTIAL RECOVERY	3,107 m³	91%

In total, the development's demolition phase will produce around 3,415 m³ of waste materials, including excavation materials, of which it is estimated, over 91% should be able to be diverted from landfill disposal, either by being reused on or off site or recycled off-site at a specialised facility.

5. Construction Phase – Materials Streams

The table below shows estimated quantities in cubic metres of construction waste to be generated, and the recommended management strategy for each type of material.

Excavation materials are not included in the final calculations, which will produce a significant volume of material allowing for both reuse in cut and fill processes on-site and disposal.

Specific disposal/recycling facilities have not been shown, as a waste contractor has not yet been appointed for the project. Waste contractors and sub-contractors, once appointed, will be required to detail intended and actual facilities used.

Table 3: Construction Waste Materials

Materials on Site		Destination		
Type of Material	Estimated Volume (m ³)	On-site (Reuse or Recycle)	Off-site (Reuse or Recycle)	Disposal (Landfill)
Excavation Material	17,406 m ³	Disposed off-site	Collected and possibly used as clean fill by waste contractor with notification of location	Material that cannot be reused will be sent to landfill
For further information on excavation please refer to the remediation strategy on page 40 of the Alliance Geotechnical's remedial action plan (RAP).				
Used Pallets	50 m ³	Reused on site for temporary storage where possible	Collected by contractor and disposed of at recycling facility	No disposal to landfill
Paper/Cardboard Recycling	30 m ³	Reuse cardboard boxes for temporary storage where possible	Separated on-site into dedicated receptacles and collected by the waste contractor for recycling	No disposal to landfill
Timber Offcuts	30 m ³	Reuse for formwork where possible	Untreated recyclable timber will be collected and recycled at appropriate timber yard. Unrecyclable (treated) timber will be disposed of at landfill	Material that cannot be recycled will be disposed of at landfill facility
Plasterboard Offcuts	15 m ³	No on-site reuse	Material to be separated and stockpiled on-site and collected by the waste contractor for recycling for use as soil improver with gypsum etc. removed by recycler	Material that cannot be recycled will be disposed of at landfill facility
Concrete (Excess)	15 m ³	No on-site reuse	Collected by contractor and taken to concrete recycling facility	No disposal to landfill
General Waste (All Other Materials)	36 m ³	No on-site reuse or recycling	Separated on-site into dedicated receptacles and collected by the waste contractor for disposal	Disposal to landfill
Metal Offcuts, Roof Sheeting, Wiring, etc.	6 m ³	No on-site reuse	Collected by specialist metal subcontractor for separation into different metal types for recycling	No disposal to landfill
Glass (Excess)	6 m ³	No on-site reuse	Recyclers consulted as to potential for recycling	No disposal to landfill
Mixed Recyclables	48 m ³	No on-site reuse or recycling	Separated on-site into dedicated receptacles and collected by the waste contractor for recycling	No disposal to landfill
Floor Coverings	6 m ³	No on-site reuse	Disposed of into a designated bin and collected for recycling, or disposal to landfill if not	Material that cannot be recycled will be disposed of at landfill facility

Materials on Site		Destination		
Type of Material	Estimated Volume (m ³)	On-site (Reuse or Recycle)	Off-site (Reuse or Recycle)	Disposal (Landfill)
TOTAL VOLUME OF MATERIALS	236 m ³	POTENTIAL RECOVERY	198 m ³	84 %

In total, the development's construction phase is estimated to produce around 236 m³ of waste materials, of which over 84% should be able to be diverted from landfill disposal, either by being reused on or off site, or recycled off-site at specialized facilities.

Bulk excavation is estimated to be 17,406 m³, which will be disposed of offsite. Excavation materials are assumed to be made up of 80% ENM and 20% GSW.

6. Work Plan

The following summarises the principles for the work plan to be provided for demolition activities for the development; a comprehensive work plan will be developed and submitted to the relevant authorities after the demolition contractor(s) have been appointed.

It will be a condition of appointment that the contractor(s) will develop a work plan and the requirement for submitting it following the appointment will be conditioned in the DA for lodgment with the reviewing authority.

A copy of AS 2601-2001 *The Demolition of Structures* will be kept on site, and during site induction all workers will be advised as to the requirements contained within the Standard.

It is recommended that the following requirements are included in the work plan:

Proposed Demolition Methods

- The contractor will detail all machinery that will be used on-site as well as for transporting materials off-site, including vehicles to be used by waste/recycling contractors
- All operators of machinery will be required to provide evidence of licences and insurances to operate machinery
- All machinery will have to be demonstrated to be in good working order
- Safe work method statements will be required for all aspects of the demolition

Estimated Time for Work to be Completed

It is difficult to state with accuracy the actual time for the demolition activities to occur (i.e., be completed), due to issues such as weather and other unforeseen issues. Once the contractor(s) have been appointed a timeframe for demolition activities will be developed.

Hours of Operation

Hours of all activities are to be confirmed by council prior to the start of any demolition activity. There are a large number of residences in close proximity to the site, so all contractors will be required to ensure that hours of operation, noise, dust and other adverse impacts, do not cause nuisance to these other premises (Q.3. Controls for Demolition and Construction).

Sediment Control Measures

All drains located on or off-site that could have any sediment flow to them will be protected by bunding. The type of bunding used will depend on the location.

Contractors will be responsible for undertaking activities that minimise sediment generation and this will be required to be included in their work plan as to the methodologies to be used. All measures used for sediment control will be inspected daily.

Site Access

The site will be protected by fencing, and all gates locked when the site is not occupied. Access during working hours will be controlled by a gatekeeper, and there will be clearly signed and controlled entry and exit points. Site access will only be granted to those who have attended site induction and/or required to be on site due to their employing organizations requirements (e.g., Council or WorkCover officers).

7. Contractor Management

Each subcontractor working on the site will 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 any waste that is created will be actively managed and where possible recycled, as part of the overall site recycling strategy or separately
- Ensures that the right quantities of materials are ordered, minimally packaged and where practical pre-fabricated, and 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 qualified contractors to remove waste and recycling materials from the site
- Coordinating subcontractors to maximise on site reuse of materials
- Regular monitoring of bins by site supervisors to detect any contamination or leakage
- Ensuring the site has clear signs directing staff to the correct location for recycling and stockpiling, and that each bin/skip/stockpile is clearly signposted
- Providing training to all site employees and subcontractors in regard to the waste management plan as detailed in Section 8

Should a subcontractor cause a bin to be significantly contaminated, the site manager will be advised through a non-conformance report and 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 contractor's quality management system.

8. Training and Education

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

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