DICKENS SOLUTIONS

WASTE MANAGEMENT PLAN

FOR
URBAN LINK ARCHITECTS
(LUCKY STONE NO 2 PTY LTD)

PROPOSED
RESIDENTIAL FLAT BUILDING
@
2 LORD SHEFFIELD CIRCUIT
PENRITH

APRIL 2019

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PART 1 – OVERVIEW AND PROPOSAL

1.1 EXECUTIVE SUMMARY

This Waste Management Plan (WMP) describes in detail the manner in which all waste and other materials resulting from the excavation, construction and on-going use of the building on the site are to be dealt with.

The aims and objectives of this WMP are to: -

a) Satisfy all State and Local Government regulatory controls regarding waste management and minimisation practices;
b) Promote the use of recyclable materials in the excavation, construction and on-going operation of the building;
c) Maximise waste reduction, material separation, and resource recovery in all stages of the development;
d) Ensure the design of waste and recycling storage facilities are of an adequate size, appropriate for the intended use of the building, hygienic with safe and manoeuvrable access:
e) Ensure that the provision of waste and recycling services to the completed building is carried out in an efficient manner, which will not impact negatively on the health, safety and convenience of all stakeholders.

This WMP is prepared in accordance with: -

- Penrith Local Environment Plan 2010;
- Penrith DCP 2014 – Part C5 – Waste Management;
- All conditions of consent issued under the approved development application;
- The 'Better Practice Guide for Waste Management in Multi Unit Dwellings'; and,
- The objective of ensuring that all waste management facilities and collection services will provide an outcome that will be effective and efficient, as well as promote the principles of health, safety and convenience.

This Waste Management Plan has been prepared for a Development Application to be submitted to Penrith City Council, for the construction of a part seven (7) and part eight storey (8) storey Residential Flat Building containing a total of 173 studio apartments, one, two and three bedroom units, with three (3) levels of basements for the provision of car parking, services and ancillary facilities, at Lot 211, No 2 Lord Sheffield Circuit, Penrith.

This WMP is dated 5 April 2019.

1.2 INTRODUCTION

This Waste Management Plan (WMP) has been specifically designed for the development described below: -

DESCRIPTION	**Seven (7) and eight (8) Storey Residential Flat Building**
NUMBER OF UNITS	**173 Sole Occupancy Residential Units consisting of: -** **- 31 x Studio apartments;** **- 79 x 1 bed room units;** **- 47 x 2 bed room units;** **- 16 x 3 bed room units; and,** **three (3) basement levels for the provision of car parking, service and ancillary facilities.**
LOCATION	**Lot 211, No 2 Lord Sheffield Circuit, Penrith**
LGA	**Penrith City Council**

1.3 DESCRIPTION OF PROPERTY

PROPERTY DESCRIPTION	**The development is to be constructed over one large Torrens Title allotment at Lot 211, No 2 Lord Sheffield Circuit, Penrith**
STREET ADDRESS	**No 2 Lord Sheffield Circuit, Penrith**
DIMENSIONS	**- Front (South) Boundary – 98.84m;** **- Rear (North) Boundary – 98.29m;** **- Side (West) Boundary – 32.44m; and,** **- Side (South) Boundary – 32.40m.**
AREA	**3,089.0 square metres**
ZONING	**Zone B2 – Local Centre**
PLANNING INSTRUMENTS	**Penrith LEP 2010** **Penrith Development Control Plan 2014**

The site is located in the Thornton Residential Housing Estate, a relatively new community precinct. It is a large single allotment, on the north-western corner of Lord Sheffield Circuit and Combewood Avenue, with Fernandez Lane to its north and Radcliffe Place to its east. It has frontages to all four roads.

Immediately to the south is the Penrith Rail Station and the Penrith CBD, which is characterised by a large Westfield Shopping Centre and low-rise commercial buildings.

To the north and east are a range of new and recently constructed high and medium density residential flat building developments, and recently developed low density residential neighbourhoods. The Nepean River is approximately 1.5km's west of the estate.

The land on which the development is proposed is vacant, relatively flat and largely clear of all vegetative overgrowth.

1.4 APPLICANTS DETAILS

APPLICANT	**Urban Link (Lucky Stone No 2 Pty Ltd)**
ADDRESS	**PO Box 2223, Burwood. NSW. 2134.**
TELEPHONE	**02 9745 2014**
E-MAIL	**Tony@urbanlink.com.au**

1.5 PROPOSAL

Urban Apartments Pty Ltd have received Development Consent for the construction of a six (6) storey residential flat building, containing 139 residential units on this site.

It is now proposed to re-design the development and submit a new Development Application to Council for the construction of a part seven (7) and part eight (8) storey residential flat building containing a total of 173 sole occupancy units comprising of: -

- 31 x Studio Apartments;
- 79 x 1 bed room units;
- 47 x 2 bed room units; and,
- 16 x 3 bed room units.

Upon receipt of approval, this development will supersede the previous approval.

Three (3) basement levels, will be constructed under the building, providing for: -

- A total of 188 car parking facilities in Basements 1 and 2; and,
- Areas for lift wells, fire stairs, bicycle racks, and other facilities in each basement.

It is proposed to incorporate a 'Garbage Chute System', into the building design. There will be three (3) separate chute systems installed, one for each core of the building: -

- Chute 1 – Western Core;
- Chute 2 – Central Core; and,
- Chute 3 – Eastern Core.

The chutes will be dual chutes for the reception of both waste and recyclable material and will be installed with Chute Compartments located on each residential level of the building. Within each compartment will be separate waste and recycling chutes with separate openings (hoppers) to each.

Waste storage facilities in the form of three (3) garbage chute (Bin Rooms) rooms, will be provided to facilitate all waste and recycling activities. All three (3) chute rooms are located in Basement 1 of the building as indicated on the Architectural Drawings.

The site is vacant, relatively flat and largely clear of vegetation.

The project consists of:

a) The excavation of the site to construct two (2) basement levels for car parking and other services;
b) The construction of the residential flat building;
c) The provision of landscaping, driveways, concrete pathways and other elements associated with the development; and,
d) The on-going use of the building.

PART 2 – CONSTRUCTION

2.1 CONSTRUCTION – GENERALLY

The land upon which the development is proposed is vacant. As such there is no demolition component to this WMP.

Construction of the building will commence with the excavation of the site for the basement levels of the building. All materials sourced from these activities will be disposed of in accordance with the information provided in Part 2.2 on pages 6, 7, 8, 9 and 10 of this WMP.

Additionally, all materials used in the construction of the building that are not required to be incorporated into it, shall be recycled, reused or disposed of in accordance with these provisions, and the requirements of the Protection of the Environment Operations Act (1997). It will be the developer's overall responsibility to ensure compliance in this regard.

Mobile Bins of an appropriate size will be located on site for the collection of food scraps, beverage containers, and other waste generated on site by workers.

2.2 CONSTRUCTION – RECYCLING, REUSE & DISPOSAL DETAILS

The following details prescribe the manner in which all material surplus to the construction of the building will be dealt with.

The following details prescribe the manner in which all materials surplus to the construction of the building will be dealt with, and includes: -

a) An estimate of the types and volumes of waste and recyclables to be generated;
b) A site plan showing sorting and storage areas for construction waste and vehicle access to these areas (see Part 2.2 of this Plan);
c) How excavated and other materials surplus to construction will be reused or recycled and where residual wastes will be disposed (see below); and,
d) The total percentage of demolition waste that will be reused or recycled.

1. Excavated Materials

Volume / Weight	18,000 cubic metres / 30,600 Tonnes
On Site Reuse	Yes. Keep and reuse topsoil for landscaping. Shore on site. Use some for support of retaining walls (Excavated Materials are only to be used if the material is not contaminated or has been remediated in accordance with any requirements specified by any Environmental Consultancy engaged to carry out any contamination assessment of excavated material).
Percentage Reused or Recycled	To be determined (see above comments)
Off Site Destination	To an approved Agency – excavated materials may need to be assessed to determine the quality of the material to ensure that all excavated material will be acceptable to the designated receival authority.

2. Bricks

Volume / Weight	10 cubic metres / 10 Tonnes
On Site Reuse	Clean and remove lime mortar from bricks. Re-use in new footings. Broken bricks for internal walls. Crush and reuse as drainage backfill. Crushed and used as aggregate.
Percentage Reused or Recycle	75% - 90%
Off Site Destination	Brandown, Lot 9 Elizabeth Drive, Kemps Creek (Tel 02 9826 1256) or, Bingo Industries, 3-5 Duck Street, Auburn (Tel 1300 424 646) or, Jacks Gully Waste Management Centre, Richardson Road, Narellan (Tel 1300 651 116)

3. Concrete

Volume / Weight	5 cubic metres / 12 Tonnes
On Site Reuse	Existing driveway to be retained during construction. Crushed and used as aggregate, drainage backfill.
Percentage Reused or Recycled	60% - 75%
Off Site Destination	Brandown, Lot 9 Elizabeth Drive, Kemps Creek (Tel 02 9826 1256) or, Bingo Industries, 3-5 Duck Street, Auburn (Tel 1300 424 646) or, Jacks Gully Waste Management Centre, Richardson Road, Narellan (Tel 1300 651 116)

4. Timber

Volume / Weight	5 cubic metres / 2 Tonnes
On Site Reuse	Re-use for formwork and studwork, and for landscaping
Percentage Reused or Recycled	65% - 90%
Off Site Destination	Bingo Industries, 3-5 Duck Street, Auburn (Tel 1300 424 646) or, Hallinan's Recycling Centre, 37 Lee Holm Road, St. Marys (Tel 02 9833 0883)

5. Plasterboard & Fibro

Volume / Weight	12 cubic metres / 4 Tonnes
On Site Reuse	Break up and use in landscaping. Any material containing asbestos will be dealt with separately
Percentage Reused or Recycled	To be determined – depended on quantities of asbestos
Off Site Destination	Ecocycle, 155 Newtown Road, Wetherill Park (Tel 02 0757 2999) or, Jacks Gully Waste Management Centre, Richardson Road, Narellan (Tel 1300 651 116)
Off Site Destination (Asbestos)	Jacks Gully Waste Management Centre, Richardson Road, Narellan (Tel 1300 651 116) or, Enviroguard, Cnr Mamre and Erskine Roads, Erskine Park (Tel 02 9834 3411).

6. Metals / Steel / Guttering & Downpipes

Volume / Weight	15 cubic metres / 3.75 Tonnes
On Site Reuse	No
Percentage Reused or Recycled	60 – 90%
Off Site Destination	Sydney Wide Scrap Metal, 4/18 Alfred Street, Chipping Norton (Tel 9738 9771) or, Boral Recycling, 3 Thackeray Street, Camelia (Tel 9529 4424) or, Hallinan's Recycling Centre, 37 Lee Holm Road, St. Marys (Tel 02 9833 0883) or, Bingo Industries, 3-5 Duck Street, Auburn (Tel 1300 424 646)

7. Roof Tiles / Tiles

Volume / Weight	8 cubic metres / 6 Tonnes
On Site Reuse	Broken up and used as fill.
Percentage Reused or Recycled	80% - 90%
Off Site Destination	Bingo Industries, 3-5 Duck Street, Auburn (Tel 1300 424 646) or, Hallinan's Recycling Centre, 37 Lee Holm Road, St. Marys (Tel 02 9833 0883)

8. Plastics

Volume / Weight	6 cubic metres / 1 Tonne
On Site Reuse	Nil
Percentage Reused or Recycled	80% - 95%
Off Site Destination	Bingo Industries, 3-5 Duck Street, Auburn (Tel 1300 424 646) or, Recycle Works, 45 Parramatta Road, Annandale (Tel 02 9517 2711)

9. Glass, Electrical & Light Fittings, PC items

Volume / Weight	6 cubic metres / 1 Tonne
On Site Reuse	No
Percentage Reused or Recycled	70% - 90%
Off Site Destination	To an approved agency, or agencies.

10. Fixture & Fittings (Doors Fittings, Other Fixtures, etc.)

Volume	25 cubic metres / 8 Tonnes
On Site Reuse	Broken up and used as fill.
Percentage Reused or Recycle	80% - 90%
Off Site Destination	Bingo Industries, 3-5 Duck Street, Auburn (Tel 1300 424 646) or, Recycle Works, 45 Parramatta Road, Annandale (Tel 02 9517 2711)

11. Pallets

Volume / Weight	25 cubic metres / 8 Tonne
On Site Reuse	No
Percentage Reused or Recycle	90% - 100%
Off Site Destination	To an approved agency, or agencies, for reuse and resale.

It is noted that the quantities of materials detailed in this part (Part 2.2) are estimates only, based on current industry standards and quantity analysis, and may vary due to the prevailing nature of construction constraints, weather conditions, and any other unforeseeable activities associated with the construction of the buildings, which are

beyond the control of the developer, including but not being limited to theft, accidents, and other acts of misadventure.

Notwithstanding any of the above, the developer will provide Council with all details in relation to any major variations in this regard.

The facilities and agencies that have been nominated to receive the materials listed above have been identified within the NSW waste industry as being a facility or agency that will accept the materials specified in each respective table. The developer understands that any costs associated with the transportation and receival of these materials will be their responsibility.

The developer is under no obligation to use any nominated facility or agency, but should any alternative arrangements be made, it will be the developers' responsibility to ensure that all materials excess to construction removed from the site are disposed of, or processed, appropriately.

The developer will keep a written record of all documentation associated with the transportation, disposal and processing of all materials associated with the demolition of all structures on site.

Additionally, during the construction of the building, every effort will be made to reduce and minimise the amount of building materials excess to construction.

2.3 CONSTRUCTION – ON SITE STORAGE OF MATERIALS

During the construction of the buildings, an area will be set aside on the site as a compound for the on-site storage of materials prior to their removal from the site. This compound will provide for: -

- Material sorting;
- Segregation of materials that may be hazardous and which will be required to be disposed of;
- Recovery equipment, such as concrete crushers, chippers, and skip bins;
- Material storage; and,
- Access for transport equipment.

Appropriate vehicular access will be provided on and off site, and to the compound, to enable the efficient removal of reusable, recyclables, and waste materials.

Prior to the commencement of construction works, the developer will provide Council with a 'Site Plan for the On-Site Storage of Materials at Construction'. This plan will show in detail the location of each area within the compound, set aside for the segregated storage of all materials involved in the demolition of all buildings on the site.

2.4 CONSTRUCTION – EXCAVATED MATERIAL

All excavated material removed from the site, as a result of any activities associated with the construction of the building, must be classified in accordance with the Department of Environment, Climate Change and Water NSW Waste Classification Guidelines prior to removal, transportation and disposal to an approved waste management facility.

All relevant details must be reported to the PCA.

PART 3 – GARBAGE CHUTE SYSTEM

3.1 DESIGN REQUIREMENTS

A linear Garbage Chute System, for the reception of both waste and recycling material emanating from the occupation and use of all units, will be incorporated into the building design.

Three (3) Garbage Chute Systems will be provided, one for each core of the building:

- Chute 1 – Western Core;
- Chute 2 – Central Core; and,
- Chute 2 – Eastern Core.

Each Garbage Chute System will contain two (2) separate chutes: -

- one for the reception and transfer of waste; and,
- one for the reception and transfer of recyclables.

All waste deposited into the waste chutes for all cores, will discharge into 1100 mobile bins placed onto a two (2) bin mechanically operated linear track system in the bin room in Basement 1.

All recyclable material deposited into the recycling chutes for all cores, will discharge into 1100 mobile bins placed onto a two (2) bin mechanically operated linear track system in the bin room in Basement 1.

Each chute will be located adjacent to one another in a 'Chute Compartment'. A chute compartment will be located on each residential floor of both buildings.

At a minimum the Garbage and Recycling Chute Systems will be designed to meet the following requirements: -

1. Chutes and service openings must be constructed of metal or other smooth faced, durable, fire resistant and impervious material of non-corrosive nature.
2. Chutes will be cylindrical in section with a minimal internal diameter of 500 mm. The diameter around each chute will be a minimum width of 750 mm to allow for infrastructure fittings, such as fixing brackets and noise insulation.
3. Chutes will be vertical without bends or "off-sets" (except for the chute outlets) and not be reduced in diameter.
4. The waste chute in the West Core will terminate in Bin Room 1 located in Basement 1 and discharge all waste into an 1100-litre receptacle placed onto the 2 Bin Linear track system.
5. The recycling chute in the West Core will terminate in Bin Room 1 located in Basement 1 and discharge all recyclable material into an 1100-litre receptacle placed onto the 2 Bin Linear track system.
6. The waste chute in the Central Core will terminate in Bin Room 2 located in Basement 1 and discharge all waste into an 1100-litre receptacle placed onto the 2 Bin Linear track system.
7. The recycling chute in the Central Core will terminate in Room 2 located in Basement 1 and discharge all recyclable material into an 1100-litre receptacle placed onto the 2 Bin Linear track system.
8. The waste chute in the East Core will terminate in Bin Room 3 located in Basement 1 and discharge all waste into an 1100-litre receptacle placed onto the 2 Bin Linear track system.

9. The recycling chute in the East Core will terminate in Room 3 located in Basement 1 and discharge all recyclable material into an 1100-litre receptacle placed onto the 2 Bin Linear track system.
10. The Chute and service openings must be capable of being easily cleaned.
11. Chutes must be ventilated to ensure that air does not flow from the chute through any service opening.
12. The Garbage Chute systems must comply with the relative provisions of the Building Code of Australia, and relevant Australian Standards (e.g., AS1530.4-2005).
13. All Linear Bin Systems will be designed, manufactured and installed in accordance with relevant Australian Standards and to manufacturers specifications.

3.2 USE & OPERATION OF GARBAGE CHUTE – CHUTE 1 – WEST CORE

In the West Core of the building, a 'Chute Compartment' is provided to each residential floor level of the building. Each chute compartment is located at the end of the lobby on the eastern side of the lift.

The two (2) chutes will be installed in a fire rated chute compartment. Each chute will be fire separated in accordance with the relative provisions of the BCA.

3.2.1 – Waste Chute

Residents will deposit waste material into the chute inlet hopper, labelled 'Waste Chute – Reception of Garbage Only'. Waste from the chute outlet will fall directly into an 1100 litre mobile waste bin located in the Garbage Chute Outlet Compartment in Bin Room 1 directly opposite the lift in the western section of Basement 1.

The 1100 bin will be placed onto a two (2) bin mechanically operated linear track system, which will be programmed to move the bins so that when one bin is full, an empty one will automatically be placed under the chute outlet.

Representatives of the Owners Corporation will monitor all activities associated with the use and operation of the Chute, the depositing of waste into it, and the operation of the 2 Bin Linear track system, in order to ensure that there will be no spillage as a result of these activities, and that the system operates effectively.

Representatives of the Owners Corporation will be responsible for transferring full 1100-litre waste bins from the Bin Room, into the Residential Waste Collection Area located in the north-eastern corner of the ground floor (See Ground Floor Plan).

Bins will be transferred to the collection area on the ground floor by way of a Mobile Bin Towing Device.

The Garbage Chute Outlet Compartment will be inspected daily in order to ensure that receptacles will be removed when full. Full bins will be removed from the Chute compartment and replaced immediately with an empty one.

3.2.2 – Recycling Chute

Residents will deposit waste material into the chute inlet hopper, labelled 'Recycling Chute – Reception of Recycling Material Only'. Recycling material from the chute

outlet will fall directly into an 1100 litre mobile recycling bin located in Bin Room1 directly opposite the lift in the western section of Basement 1.

The 1100 bin will be placed onto a two (2) bin mechanically operated linear track system, which will be programmed to move the bins so that when one bin is full, an empty one will automatically be placed under the chute outlet.

Representatives of the Owners Corporation will monitor all activities associated with the use and operation of the Chute, the depositing of recyclables into it, and the operation of the 2 Bin Linear track system, in order to ensure that there will be no spillage as a result of these activities, and that the system operates effectively.

Representatives of the Owners Corporation will be responsible for transferring full 1100-litre recycling bins from the Bin Room, into the Residential Waste Collection Area located in the north-eastern corner of the ground floor (See Ground Floor Plan).

Bins will be transferred to the collection area on the ground floor by way of a Mobile Bin Towing Device.

The Recycling Chute Outlet Compartment will be inspected daily in order to ensure that receptacles will be removed when full. Full bins will be removed from the Chute compartment and replaced immediately with an empty one.

3.3 USE & OPERATION OF GARBAGE CHUTE – CHUTE 2 – CENTRAL CORE

In the Central Core of the building, a 'Chute Compartment' is provided to each residential floor level of the building. Each chute compartment is located at the end of the lobby on the eastern side of the lift.

The two (2) chutes will be installed in a fire rated chute compartment. Each chute will be fire separated in accordance with the relative provisions of the BCA.

3.3.1 – Waste Chute

Residents will deposit waste material into the chute inlet hopper, labelled 'Waste Chute – Reception of Garbage Only'. Waste from the chute outlet will fall directly into an 1100 litre mobile waste bin located in the Garbage Chute Outlet Compartment in Bin Room 2 directly opposite the lift in the middle section of Basement 1.

The 1100 bin will be placed onto a two (2) bin mechanically operated linear track system, which will be programmed to move the bins so that when one bin is full, an empty one will automatically be placed under the chute outlet.

Representatives of the Owners Corporation will monitor all activities associated with the use and operation of the Chute, the depositing of waste into it, and the operation of the 2 Bin Linear track system, in order to ensure that there will be no spillage as a result of these activities, and that the system operates effectively.

Representatives of the Owners Corporation will be responsible for transferring full 1100-litre waste bins from the Bin Room, into the Residential Waste Collection Area located in the north-eastern corner of the ground floor (See Ground Floor Plan).

Bins will be transferred to the collection area on the ground floor by way of a Mobile Bin Towing Device.

The Garbage Chute Outlet Compartment will be inspected daily in order to ensure that receptacles will be removed when full. Full bins will be removed from the Chute compartment and replaced immediately with an empty one.

3.3.2 – Recycling Chute

Residents will deposit waste material into the chute inlet hopper, labelled 'Recycling Chute – Reception of Recycling Material Only'. Recycling material from the chute outlet will fall directly into an 1100 litre mobile recycling bin located in Bin Room 2 directly opposite the lift in the middle section of Basement 1.

The 1100 bin will be placed onto a two (2) bin mechanically operated linear track system, which will be programmed to move the bins so that when one bin is full, an empty one will automatically be placed under the chute outlet.

Representatives of the Owners Corporation will monitor all activities associated with the use and operation of the Chute, the depositing of recyclables into it, and the operation of the 2 Bin Linear track system, in order to ensure that there will be no spillage as a result of these activities, and that the system operates effectively.

Representatives of the Owners Corporation will be responsible for transferring full 1100-litre recycling bins from the Bin Room, into the Residential Waste Collection Area located in the north-eastern corner of the ground floor (See Ground Floor Plan).

Bins will be transferred to the collection area on the ground floor by way of a Mobile Bin Towing Device.

The Recycling Chute Outlet Compartment will be inspected daily in order to ensure that receptacles will be removed when full. Full bins will be removed from the Chute compartment and replaced immediately with an empty one.

3.4 USE & OPERATION OF GARBAGE CHUTE – CHUTE 3 – EAST CORE

In the East Core of the building, a 'Chute Compartment' is provided to each residential floor level of the building. Each chute compartment is located at the end of the lobby on the eastern side of the lift.

The two (2) chutes will be installed in a fire rated chute compartment. Each chute will be fire separated in accordance with the relative provisions of the BCA.

3.4.1 – Waste Chute

Residents will deposit waste material into the chute inlet hopper, labelled 'Waste Chute – Reception of Garbage Only'. Waste from the chute outlet will fall directly into an 1100 litre mobile waste bin located in the Garbage Chute Outlet Compartment in Bin Room 3 adjacent to the lift and fire stair in the eastern section of Basement 1.

The 1100 bin will be placed onto a two (2) bin mechanically operated linear track system, which will be programmed to move the bins so that when one bin is full, an empty one will automatically be placed under the chute outlet.

Representatives of the Owners Corporation will monitor all activities associated with the use and operation of the Chute, the depositing of waste into it, and the operation of the 2 Bin Linear track system, in order to ensure that there will be no spillage as a result of these activities, and that the system operates effectively.

Representatives of the Owners Corporation will be responsible for transferring full 1100-litre waste bins from the Bin Room, into the Residential Waste Collection Area located in the north-eastern corner of the ground floor (See Ground Floor Plan).

Bins will be transferred to the collection area on the ground floor by way of a Mobile Bin Towing Device.

The Garbage Chute Outlet Compartment will be inspected daily in order to ensure that receptacles will be removed when full. Full bins will be removed from the Chute compartment and replaced immediately with an empty one.

3.4.2 – Recycling Chute

Residents will deposit waste material into the chute inlet hopper, labelled 'Recycling Chute – Reception of Recycling Material Only'. Recycling material from the chute outlet will fall directly into an 1100 litre mobile recycling bin located in Bin Room 3 adjacent to the lift and fire stair in the eastern section of Basement 1.

The 1100 bin will be placed onto a two (2) bin mechanically operated linear track system, which will be programmed to move the bins so that when one bin is full, an empty one will automatically be placed under the chute outlet.

Representatives of the Owners Corporation will monitor all activities associated with the use and operation of the Chute, the depositing of recyclables into it, and the operation of the 2 Bin Linear track system, in order to ensure that there will be no spillage as a result of these activities, and that the system operates effectively.

Representatives of the Owners Corporation will be responsible for transferring full 1100-litre recycling bins from the Bin Room, into the Residential Waste Collection Area located in the north-eastern corner of the ground floor (See Ground FloorPlan).

Bins will be transferred to the collection area on the ground floor by way of a Mobile Bin Towing Device.

The Recycling Chute Outlet Compartment will be inspected daily in order to ensure that receptacles will be removed when full. Full bins will be removed from the Chute compartment and replaced immediately with an empty one.

3.5 LINEAR BIN TRACK SYSTEM

The 2 Bin Linear Track System is to be designed, manufactured and installed strictly in accordance with applicable Australian Standards and to manufacturers specifications. The system is to be monitored and serviced on a regular basis.

Any breakdowns or system malfunctions are to be attended to and addressed immediately. In the event of any system breakdown, the Owners Corporation shall make immediate alternative arrangements to ensure that there is no disruption to the provision of scheduled waste and recycling services, and that any spillage from the bins is removed and cleaned up immediately.

As required by the provisions of Section 3.5.2 of Council's 'Residential Flat Building Waste Management Guideline', sufficient space is provided around the tracks (900mm on the sides and 1.8m at the end) to allow for maintenance of the system and the movement of bins on and off the tracks.

3.6 ON GOING MANAGEMENT & MAINTENANCE OF CHUTE SYSTEM

3.6.1 Generally

The Owners Corporation will be responsible for all issues associated with the on-going management and maintenance of the Garbage Chute Systems and all activities associated with it.

These activities will include, but not be limited, to the following: -

a) Displaying signage indicating appropriate use of all waste management systems, including what is and what is not recyclable.
b) Educating residents in the correct use of the chute, and the need to keep bulky items out of the chute systems.
c) Providing regular maintenance, including cleaning and unblocking chutes.
d) Regular inspection of the Garbage Chute Compartments, the Garbage Chute Outlet Compartments, and the Bin Rooms to ensure that all waste and recyclables are managed appropriately.
e) Educating residents in the correct use of each chute, to ensure that waste material is not deposited into the recycling chute, and that recycling material is not placed into the waste chute.

3.6.2 Chute Room Infrastructure

In accordance with Council requirements, the following infrastructure will be incorporated into the design of all chute rooms: -

a) Suitable door access for the service of bins;
b) Where roller doors are provided, an additional service door will be provided inclusive of an Abloy key system;
c) All floors will be finished with a non-slip and smooth and even surface covered at all intersections;
d) The floor will be graded to a central drainage point connected to the sewer;
e) The room will be fully enclosed and roofed with a minimum internal room height in accordance with the BCA 2016
f) The room is to be provided with an adequate supply of water through a centralised mixing valve with hose cock; and.
g) Incorporation of adequate light and ventilation to meet the requirements of the BCA 2016.

PART 4 – ON GOING USE OF BUILDING

4.1 OBJECTIVES

1. To ensure that the storage, amenity and management of waste is sufficient to meet the needs of the development.
2. To ensure that all waste management activities are carried out effectively and efficiently, and in a manner, that promotes the principles of health, safety and, convenience.
3. To promote waste minimisation practices.

4.2 ASSUMPTIONS

In preparing this proposal, the following assumptions have been made: -

1. Three (3) Garbage Chute Systems will be incorporated into the development, with separate Chute Systems being installed in each core of the building.
2. The chutes will be dual chutes for the reception of both waste and recyclables.
3. Waste and Recycling Chute Compartments will be provided to all three (west, central and east) cores on all residential levels for the use of residents to deposit both waste (into the garbage chute) and recyclable material (into the recycling chute) – (see Floor Plans).
4. All waste and recycling material deposited into the chutes will discharge into separate waste and recycling bins located on a linear track system in the respective bin rooms in Basement 1 of the building.
5. The waste chute in the West Core will terminate in Bin Room 1 on the western side of Basement 1 and discharge all waste directly into an 1100 receptacle placed onto the 2 Bin Linear track system.
6. The recycling chute in the West Core will terminate in Bin Room 1 on the western side of Basement 1 and discharge all recyclable material directly into an 1100 receptacle placed onto the 2 Bin Linear track system.
7. The waste chute in the Central Core will terminate in Bin Room 2 in the middle section of Basement 1 and discharge all waste directly into an 1100 receptacle placed onto the 2 Bin Linear track system.
8. The recycling chute in the Central Core will terminate in Bin Room 2 in the middle section of Basement 1 and discharge all recyclable material directly into an 1100 receptacle placed onto the 2 Bin Linear track system.
9. The waste chute in the East Core will terminate in Bin Room 3 on the eastern side of Basement 1 and discharge all waste directly into an 1100 receptacle placed onto the 2 Bin Linear track system.
10. The recycling chute in the East Core will terminate in Bin Room 3 on the eastern of Basement 1 and discharge all recyclable material directly into an 1100 receptacle placed onto the 2 Bin Linear track system.
11. All waste will be stored in 9 x 1100-litre mobile bins.
12. All recycling will be stored in 9 x 1100-litre mobile bins.
13. All waste services will be provided weekly.
14. All recycling services will be provided weekly.
15. The number and size of bins have been calculated from information provided by Penrith City Council, by Council staff and from information Penrith City Council's Residential Flat Building Developments Waste Management Guidelines Part 3.4 'Waste Generation Rate Calculations for 1100-litre Bin Allocation – Page 12'.

16. An on-site waste collection area (Loading Bay) is located in the north-western corner of the ground floor adjacent to the corner of Radcliffe Place and Fernandez Lane will be provided to facilitate all collection activities.
17. All waste and recycling collections will take place from the dedicated loading bay located within the waste collection area.
18. Penrith City Council will provide all waste and recycling services to the development.

4.3 WASTE HANDLING & MANAGEMENT

A cabinet will be located within each residential unit so that a receptacle, or receptacles, may be stored or housed in a convenient and practical location within the unit, for the reception of waste and recyclable material.

All waste and recyclables should be appropriately bagged or wrapped prior to being deposited into the designated garbage chute or recycling bin.

4.4 WASTE & RECYCLING – SERVICE REQUIREMENTS

All waste and recycling materials will be stored in approved receptacles of an appropriate size as specified in this WMP. The lids of the bins shall be closed at all times to reduce litter, stormwater pollution, odour and vermin.

The Council in general requires that colour coded receptacle lids that distinguish each service component are to be provided: -

- Waste Service – Red Lidded receptacle;
- Recycling Service – Yellow Lidded receptacle; and,
- Green Waste – Green Lidded receptacle.

No formal green waste service will be provided to the building. All green waste will be disposed of privately by a contractor to be appointed by the Owners Corporation.

It will be the responsibility of the Owners Corporation to ensure that all green waste is removed from the complex in an appropriate manner.

4.5 WASTE & RECYCLING – SERVICE ARRANGEMENTS

The following table (Table 1) specifies the criteria for waste and recycling generation rates (as specified by Penrith City Council) based on: -

- Waste – 18 dwellings (units) or 61.2-litres of bin space per unit per week; and,
- Recycling – 18 dwellings (units) or 61.2-litres of bin space per unit per week.

All waste and recycling generation rates were obtained from discussions with and advice from Council staff, and from information contained in Penrith City Council's Residential Flat Building Developments Waste Management Guidelines Part 3.4 'Waste Generation Rate Calculations for 1100-litre Bin Allocation – Page 12'.

TABLE 1 – RESIDENTIAL WASTE & RECYCLING GENERATION RATES

SERVICE TYPE	UNITS	BIN SPACE PER UNIT	TOTAL SPACE REQUIRED	BINS SIZE	SERVICES PER WEEK	BINS REQUIRED	BINS PROVIDED
Waste	173	61.2	10,587.60	1100	1	9.62	10
Recycling	173	61.2	10,587.60	1100	1	9.62	10

The following table (Table 2) specifies the proposed bin servicing requirements for the building and is based on the above waste and recycling generation rates: -

TABLE 2 – PROPOSED SERVICING ARRANGEMENTS

WASTE	RECYCLING
10 x 1100-litre bins / Weekly	10 x 1100-litre bins / Weekly

4.6 PROVISION OF WASTE & RECYCLING SERVICES

4.6.1 Waste and Recycling Collection Service Provider Details

Penrith City Council's waste and recycling contractors will provide all waste and recycling services to the building.

4.6.2 Bin Assignment Arrangements & Details of Mobile Containers

In relation to the size and design of the waste and recycling mobile bins, the following technical information is provided: -

CONTAINER TYPE	HEIGHT (metres)	DEPTH (metres)	WIDTH (metres)
1100 litre mobile container	1.470	1.070	1.240

In order to satisfy Council's requirements in terms of the assignment of bins to the development, the following arrangements will be made: -

a) Waste Bins – in addition to the 10 x 1100 litre mobile waste bins required by Council as part of their service requirements, the Owners Corporation will provide an additional number of 1100 litre mobile waste bins in order to ensure that a bin is provided at all times below the Waste Garbage Chute Outlet, and,
b) Recycling Bins – in addition to the 10 x 1100-litre mobile recycling waste bins required by Council as part of their service requirements, the Owners Corporation will provide an additional number of 1100 litre mobile waste bins in order to ensure that a bin is provided at all times below the Recycling Chute Outlet.

4.6.3 Mobile Bin Towing Device

A Mobile Towing Device will be provided to transport bins through the basement. It will be designed and manufactured to transport a minimum of 4 x 1100 litre waste bins with a weight of 1,200kg's at any one time. As soon as the device is purchased and prior to the occupation of the building a full and comprehensive manufacturers specification of the mobile bin towing device (tug) will be provided to Council.

Prior to the occupation of the building the Owners Corporation will carry out a risk assessment of this activity and as a result will provide Council with a Safe Work Method Statement (SWMS) demonstrating how this work will be undertaken to comply with all relative work, health and safety requirements.

4.6.4 Waste & Recycling Requirements

Waste and recycling requirements are provided in the table below.

SERVICE	NUMBER OF CONTAINERS	COLLECTION FREQUENCY
Waste Service	10 x 1100- litre mobile containers	Weekly
Recycling Service	10 x 1100-litre mobile containers	Weekly

4.6.5 Location, Design, and Construction of Waste Storage and Collection Areas

Details of all storage and collection areas are provided below.

4.6.5.1 Chute Compartments

Waste and recycling Chute Compartments are provided on all residential floor levels of the building in each of the two cores. Each compartment will have dimensions of 2.0m x 1.0m, with a floor area of 2.0 square metres, and will provide space for: -

- Garbage Chute compartment, which will have internal dimensions of 750 mm x 750 mm. The Garbage Chute will be installed within these confines in a fire rated compartment; and,
- Recycling Chute compartment, which will have internal dimensions of 750 mm x 750 mm. The Garbage Chute will be installed within these confines in a fire rated compartment.

Residents will deposit waste into the garbage chute and recyclable material into the recycling chute.

4.6.5.2 Bin Room 1 – Chute 1 (Western Core)

Bin Room 1 is located towards the western end of Basement 1 opposite the lift and fire stair. Within its confines is a Garbage Chute Outlet Compartment for the reception of all waste and recycling material derived from the dual chute system in this core of the building.

Each chute is installed on a two (2) bin mechanically operated linear track laid side-by-side. The track system for each chute has been design so that there is a minimum clearance of 900mm on each side and a minimum of 1.8m at the longitudinal end of the room, so that there is sufficient area to allow for bin and track maintenance and the movement of bins in and out of the room.

Within the confines of the room will be areas for: -

- The waste and recycling chute outlets;
- 2 x 1100-litre 2 bin linear track systems;
- 1 x 1100-litre spare mobile waste bin;
- 1 x 1100-litre spare mobile recycling bin; and,
- Appropriate infrastructure.

According to the architectural drawings the size and design of the WSA is a large fully enclosed rectangular structure, measuring 8.0m x 4.5m, with a floor area of approximately 36 square metres (See Basement 1 Floor Plan).

As required by the provisions of Section 3.5.2 of Council's 'Residential Flat Building Waste Management Guideline', sufficient space is provided around the tracks (900mm on the sides and 1.8m at the end) to allow for maintenance of the system and the movement of bins on and off the tracks.

4.6.5.3 Bin Room 2 – Chute 2 (Central Core)

Bin Room 2 is located in the middle of Basement 1 opposite the lift and fire stair. Within its confines is a Garbage Chute Outlet Compartment for the reception of all waste and recycling material derived from the dual chute system in this core of the building.

Each chute is installed on a two (2) bin mechanically operated linear track laid side-by-side. The track system for each chute has been design so that there is a minimum clearance of 900mm on each side and a minimum of 1.8m at the longitudinal end of the room, so that there is sufficient area to allow for bin and track maintenance and the movement of bins in and out of the room.

Within the confines of the room will be areas for: -

- The waste and recycling chute outlets;
- 2 x 1100-litre 2 bin linear track systems;
- 1 x 1100-litre spare mobile waste bin;
- 1 x 1100-litre spare mobile recycling bin; and,
- Appropriate infrastructure.

According to the architectural drawings the size and design of the WSA is a large fully enclosed rectangular structure, measuring 9.0m x 4.5m, with a floor area of approximately 41 square metres (See Basement 1 Floor Plan).

As required by the provisions of Section 3.5.2 of Council's 'Residential Flat Building Waste Management Guideline', sufficient space is provided around the tracks (900mm on the sides and 1.8m at the end) to allow for maintenance of the system and the movement of bins on and off the tracks.

4.6.5.4 Bin Room 3 – Chute 3 (Eastern Core)

Bin Room 3 is located towards the eastern end of Basement 1 adjacent to the lift and fire stair. Within its confines is a Garbage Chute Outlet Compartment for the reception of all waste and recycling material derived from the dual chute system in this core of the building.

Each chute is installed on a two (2) bin mechanically operated linear track laid side-by-side. The track system for each chute has been design so that there is a minimum clearance of 900mm on each side and a minimum of 1.8m at the longitudinal end of the room, so that there is sufficient area to allow for bin and track maintenance and the movement of bins in and out of the room.

Within the confines of the room will be areas for: -

- The waste and recycling chute outlets;
- 2 x 1100-litre 2 bin linear track systems;
- 1 x 1100-litre spare mobile waste bin;
- 1 x 1100-litre spare mobile recycling bin; and,
- Appropriate infrastructure.

According to the architectural drawings the size and design of the WSA is a large fully enclosed rectangular structure, measuring 8.0m x 4.5m, with a floor area of approximately 36 square metres (See Basement 1 Floor Plan).

As required by the provisions of Section 3.5.2 of Council's 'Residential Flat Building Waste Management Guideline', sufficient space is provided around the tracks (900mm on the sides and 1.8m at the end) to allow for maintenance of the system and the movement of bins on and off the tracks.

4.6.5.5 Waste Collection Area / Loading Bay

The Waste Storage and Collection Area is the main Waste Storage Area (WSA) for the complex. It is fully enclosed and is located at the north-western end of the complex and adjacent to the driveway into the building (from Radcliffe Avenue).

Access to the collection area is from Radcliffe Place and egress is onto Fernandez Lane at the rear of the site. The collection area has been designed to ensure that collection vehicles can enter and leave the site in a forward direction.

According to the architectural drawings the bin standing area has a total floor area of approximately 26.6 square metres.

In assessing the size and design of each area of this area, it is considered that it is of a sufficient size and dimension to adequately store and manoeuvre (for collection and return) all of the required number of bins and ancillary facilities.

All electrical equipment, including the provision of lighting, will be installed in accordance with the relevant Australian Standards.

Natural and mechanical ventilation will be required to be installed within each Garbage Room in accordance with the relative provisions of the Building Code of Australia.

All collection and servicing activities will take place wholly within the confines of the collection area from a designated collection point, where all waste and recycling bins will be removed from the adjacent storage area and presented for servicing.

The area has been designed to ensure that all collection activities do not interfere with the movement of traffic both in and out of the basements below.

4.6.5.6 Bin Room Infrastructure

In accordance with Council requirements, the following infrastructure will be incorporated into the design of all chute and bin rooms, and waste storage and collection areas: -

a) Suitable door access for the service of bins;
b) Where roller doors are provided, an additional service door will be provided inclusive of an Abloy key system;
c) All floors will be finished with a non-slip and smooth and even surface covered at all intersections;
d) The floor will be graded to a central drainage point connected to the sewer;
e) The room will be fully enclosed and roofed with a minimum internal room height in accordance with the BCA 2016
f) The room is to be provided with an adequate supply of water through a centralised mixing valve with hose cock; and.
g) Incorporation of adequate light and ventilation to meet the requirements of the BCA 2016.

4.6.6 Servicing Arrangements – Waste Collections

All waste services will be provided by Penrith City Council's waste collection contractor, using a rear loading collection vehicle, that will enable all collections to be carried out effectively and efficiently, and in a manner, that will aim not impact negatively on the principles of health, safety or convenience.

In accordance with Penrith Council's requirements for 'on-site collections' for large residential flat buildings of this type, Council's waste collection contractor will collect the bins directly from the Loading Bay adjacent to the waste collection area and empty the bins into the collection vehicle.

Collections will take place from a designated collection point as indicated on the Architectural Drawings.

In order to assist and facilitate this process, the Building Manager / Caretaker will be responsible for presenting waste bins for servicing and returning them to the designated bin rooms and waste storage areas after collection.

According to Council's collection schedule, waste services are provided to this area weekly, on a day to be determined by the Council.

Waste bins will be presented for collection at a suitably arranged time, as specified by the Council. The waste bins will be returned to the storage area as soon as practicable after they have been serviced.

All 10 x 1100 litre mobile waste bins will be presented for servicing on each collection day.

4.6.7 Servicing Arrangements – Recycling Collections

All recycling services will be provided by Penrith City Council's recycling collection contractor, using a rear loading collection vehicle, that will enable all collections to be carried out effectively and efficiently, and in a manner, that will aim not impact negatively on the principles of health, safety or convenience.

In accordance with Penrith Council's requirements for 'on-site collections' for large residential flat buildings of this type, Council's recycling collection contractor will collect the bins directly from loading bay adjacent to the waste collection area and empty the bins into the collection vehicle.

Collections will take place from a designated collection point as indicated on the Architectural Drawings.

In order to assist and facilitate this process, the Building Manager / Caretaker will be responsible for presenting recycling bins for servicing and returning them to the designated bin rooms and waste storage areas after collection.

According to Council's collection schedule, recycling services are provided to this area weekly, Thursday of the week. Recycling bins will be presented for collection at a suitably arranged time, as specified by the Council. The recycling bins will be returned to the storage area as soon as practicable after they have been serviced.

All 10 x 1100-litre mobile waste bins will be presented for servicing on each collection day.

4.7 GREEN WASTE

No formal green waste service will be provided to the development.

It will be the responsibility of the Owners Corporation to ensure that all green waste

generated from the on-going use of the development is disposed of appropriately.

4.8 BULKY WASTE STORAGE

Secure storage spaces are required to be provided for each residential unit in accordance with the provisions of Council's DCP 2014.

This space may be used to store bulky waste items that can be disposed of as part of any Council Clean Up services to be provided to this complex.

Consistent with these requirements, a secured Bulky Waste Storage Area has been provided for residents to place unwanted materials awaiting collection and removal.

This area is located in the south-western corner of the Waste Storage and Collection Area, with a total floor area of approximately 32 square metres (Council's requirement for 166 units is 25.53sqm).

All residents of the building will be provided with unrestricted 24-hour access to this facility.

The Owners Corporation will monitor this area regularly to ensure that all materials stored within its confines are done so in a manner that will not adversely impact on the health, safety and convenience. Regular maintenance of this area will be carried out.

The Owners Corporation will also be responsible for arranging 'Clean Ups' with the Council, to ensure the efficient and regular removal at these materials.

It will be the responsibility of the occupants of individual residential units, to dispose of this material, appropriately.

In accordance with Council requirements, the following infrastructure will be incorporated into the design of all chute and bin rooms, and waste storage and collection areas: -

a) Suitable door access for the service of bins;
b) Where roller doors are provided, an additional service door will be provided inclusive of an Abloy key system;
c) All floors will be finished with a non-slip and smooth and even surface covered at all intersections;
d) The floor will be graded to a central drainage point connected to the sewer;
e) The room will be fully enclosed and roofed with a minimum internal room height in accordance with the BCA 2016
f) The room is to be provided with an adequate supply of water through a centralised mixing valve with hose cock; and.
g) Incorporation of adequate light and ventilation to meet the requirements of the BCA 2016.

4.9 ON GOING OPERATION, USE & MAINTENANCE OF WASTE MANAGEMENT FACILITIES

All waste management facilities will be maintained in a clean and hygienic condition that will promote the principles of health, safety and convenience.

In order to achieve these objectives, the following facilities and devices will be required: -

1. The Chute and Linear Tack Systems will be appropriately maintained in accordance with relevant manufacturers specifications and regular maintenance programs will be undertaken to ensure the efficient operation of all systems at all times.
2. The walls and floors of all Bin Rooms, Waste Storage and Collection Areas (WSA's) are to be constructed of smooth faced masonry or concrete, and all walls will be painted with light coloured and washable paint.
3. The junction between all floors and walls will be coved and sealed up to 100mm above the floor level, in order to eliminate the build-up of dirt and grime.
4. A floor waste, connected to the Sydney Water drainage system in accordance with that Authority's requirements, will be provided to all WSA's, and the floors will be graded to drain into it.
5. Appropriate washing facilities will be provided to all WSA's, including appropriate plumbing and drainage fixtures and fittings, and the provision of running water.
6. The WSA's will be washed and cleaned on a regular basis.
7. All mobile bins will be washed and cleaned on a regular basis.
8. All electrical equipment, including the provision of lighting, will be installed in accordance with the relevant Australian Standards.
9. Natural and mechanical ventilation will be required to be installed within each WSA in accordance with the relative provisions of the Building Code of Australia.
10. A Mobile Bin Towing Device, of an approved type, will be provided to transport and manoeuvre bins through the development.
11. Appropriate signage will be displayed in both basements clearly identifying waste and recycling bins and the waste storage areas.
12. Appropriate signage will be erected within each WSA providing instruction to residents on how to use waste and recycling facilities, including what is and what is not recyclable.
13. The Building Manager / Caretaker will be responsible for the supervision and management of all waste activities and facilities.
14. The Owners Corporation will be responsible for ensuring that all waste and recyclable matter and materials are placed and stored within the appropriate containers provided.

PART 5 – SUMMARY

5.1 SUMMARY

In summarising this proposal, the following information is provided:

1. Penrith City Council have insisted that all activities associated with the installation of waste management facilities and the provision of waste management services are to take place in accordance with the requirements of their waste management guidelines for residential flat buildings.
2. This Waste Management Plan has been developed and documented in accordance with the Councils directions.
3. The number and size of bins have been calculated from information provided by Penrith City Council.
4. All waste and recycling services will be provided by Council's respective waste and recycling collection contractors.
5. The Owners Corporation will be responsible for ensuring that all on-going waste management activities are carried out in accordance with the provisions of this Waste Management Plan.

This is a unique development with a unique set of arrangements for its waste management activities.

The measures set out in this WMP aim to demonstrate that all such activities will be carried out effectively and efficiently, in a healthy, safe and convenient manner, to acceptable community standards, and to the requirements of Penrith City Council.