WASTE MANAGEMENT PLAN

PREPARED FOR

CID GROUP

ON BEHALF OF

zta

MIXED-USE DEVELOPMENT
JORDAN SPRINGS BOULEVARD
CRANEBROOK NSW 2747

MARCH 2014

Eddy Saidi
1800 025 073

ELEPHANTS FOOT WASTE COMPACTORS PTY LTD ABN 70 001 378 294
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ABOUT ELEPHANTS FOOT

Elephants Foot Recycling Solutions is a family owned Australian company whose philosophy is providing quality recycling and waste solutions through product innovation. We are Australia's leading supplier of garbage, recycling and laundry chute systems.

Our team of experts has been proudly assisting architects, builders and developers with advice on how best to solve waste management and odour issues in dwellings since 1976. We have a long history of completed projects within the Australian building environment.

If you require any further information please do not hesitate to call me on 02 9780 3500.

Regards

Eddy Saidi
Director
Elephants Foot Recycling Solutions

REVISIONS

Revision	Copy No.	Date	Prepared by	Reviewed by	Approved by	Remarks
A	1	Nov-13	D Trinder	N Beattie	E Saidi	Preliminary
B	1	Nov-13	D Trinder	N Beattie	E Saidi	Preliminary
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Authorised By: 
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EXECUTIVE SUMMARY

This waste management plan covers the ongoing management of waste generated by the proposed mixed-use development located at Jordan Springs Boulevard, Cranebrook NSW 2747.

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

i. ***Ensure waste is managed to reduce the amount of waste and recyclables to land fill*** by assisting residents to segregate appropriate materials that can be recycled; displaying signage to remind and encouraging recycling practices; and through placement of recycling and waste bins in the retail precinct to reinforce these messages.

ii. ***Recover, reuse and recycle*** generated waste wherever possible.

iii. ***Compliance*** with all relevant codes and policies.

The residential waste and recycling will be guided by the services and acceptance criteria of the Penrith City Council. The residential waste and recycling will be collected by council. The retail/commercial waste and recycling will be collected by private waste services contractor.

To assist in providing clean and well-segregated waste material, it is essential that this waste management plan is integral to the overall management of the building and clearly communicated to residents and tenants.

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INTRODUCTION

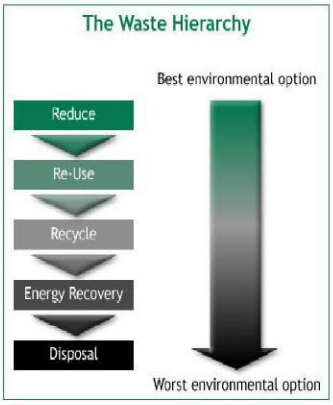
The following waste management plan pertains to the proposed development located at Jordan Springs Boulevard, Cranebrook NSW 2747.

The plan outlines measures to achieve the following objectives:

- avoid the generation of unnecessary waste;
- minimise the quantities of wastes generated ending up as landfill;
- recover, reuse and recycle waste generated onsite where possible; and
- aim to achieve Federal and State Government waste minimisation targets in accordance with regional waste plans.

This is achieved by:

- encouraging development that facilitates ongoing waste avoidance and complements waste services offered by both Council and/or private contractors;
- requiring on-site source separation and other design and siting standards which assist waste collection and management services offered by Council and/or the private sector;
- encouraging designs and construction techniques that minimise waste generation; and
- reducing the demand for waste disposal.



Source: Penrith Development Control Plan 2010, Section C5 Waste Management

For the purpose of this report the proposed development will consist of:

- 69 townhouses
- High rise of 160 apartments in total with a central Piazza and basement below
- Retail/commercial/office space totalling 2,887sqm

Each section of this development has been examined individually however; the waste management process must be effectively coordinated between all areas for the system to work. Note there is reference to a Block E on the plans in the appendices, which is to be noted as a future development only, and does not form part of this report.

All figures and calculations are based on area schedules as advised by our client and shown on architectural drawings.

All waste facilities and equipment are to be designed and constructed in compliance with the Penrith City Council's *Penrith Local Environment Plan 2010* and *Penrith Development Control Plan 2010*, Australian Standards and statutory requirements.

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UNIT MIX SUMMARIES

TOWNHOUSES

Unit Type	Number of Units	
2 Bed	2	3%
2 Bed + Study	52	75%
2 Bed SOHO	1	1%
3 Bed	4	6%
3 Bed + Study	6	9%
3 Bed SOHO	4	6%
	69	**100%**

HIGH RISE APARTMENTS

Unit Type	Number of Units	
1 Bed	20	13%
2 Bed	111	69%
2 Bed + Study	12	8%
3 Bed	10	6%
3 Bed + Study	7	4%
	160	**100%**

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GENERATED WASTE VOLUMES

This assessment of waste volumes is an estimate only and will be influenced by the development's management and occupants' attitude to waste disposal and recycling.

CONSTRUCTION AND DEVELOPMENT WASTE

The head contractor will be responsible for removing all construction-related waste offsite in a manner that meets all authority requirements. Please refer to the separate waste management plan submitted for construction waste as part of the Development Application.

BUILDING MANAGEMENT - WASTE CARETAKER

It is assumed that the developments management will appoint full time waste caretaker/s (assisted by maintenance personnel/cleaners) who will carry the overall responsibility for staffing and managing all waste generated by the buildings.

All equipment movements in the waste rooms are managed by the building manager/ cleaners at all times. No tenants will be allowed to transport waste or recyclables from the waste room; tenants will only transport their waste to the room allocated.

The building manager/ cleaner duties include, but are not limited to, the following:

- General maintenance and cleaning of the chute doors on each level (Frequency will depend on waste generation and will be determined based upon building operation)
- Organising, maintaining and cleaning the general and recycled waste holding areas (Frequency will depend on waste generation and will be determined based upon building operation)
- Educating and updating all tenants on sorting methods for recycled waste into appropriate receptacles, ensuring all waste drop-off points safe and accessible to tenants at all times
- Organising both garbage and recycled waste pick-ups as required
- Cleaning and exchanging all bins
- Transporting all bins to and from collection areas

WASTE CALCULATION RATES

Using council's waste generation rates, the total apartments waste generated by the development can be calculated as follows:

Waste:	80 litres (L) per unit/week
Recycling:	40 litres (L) per unit/week

To effectively calculate the apartments waste generated per building, calculations have been made according to each core within each building. The retail/commercial waste calculations will follow and are listed together in one table, as all retail/commercial waste will be stored and collected together. The townhouses will be detailed last.

NOTE: Additional recycling bins will be required to ensure all residential waste compartments are adequately supplied with bins for collection of recycling material. 1 x 240L MGB will be allocated in each waste compartment on each residential level with full bins transported to the loading dock by the caretaker for collection.

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BUILDING A1

Unit Type	Number of Units	
1 Bed	2	9%
2 Bed	18	78%
2 Bed + Study	2	9%
3 Bed	1	4%
	23	**100%**

Waste
23 apartments @ 80L/unit = 1,840L with compaction at 2:1 = 920L requires 4 x 240L MGB

Recycling
23 apartments @ 40L/unit = 920L requires 4 x 240L MGB

BIN SUMMARY
Total number of bins required for weekly collection:
Waste 4 x 240L bins
Recycling 5 x 240L bins
TOTAL 9 x 240L bins

MGB = mobile garbage bin

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BUILDING A2

Unit Type	Number of Units	
1 Bed	5	33%
2 Bed	10	67%
	15	**100%**

Waste
15 apartments @ 80L/unit = 1,200L with compaction ratio of 2:1 = 600L requires 3 x 240L MGB

Recycling
15 apartments @ 40L/unit = 600L requires 3 x 240L MGB

BIN SUMMARY
Total number of bins required for weekly collection:
Waste 3 x 240L bins
Recycling 6 x 240L bins
TOTAL 9 x 240L bins

BUILDING B1

Unit Type	Number of Units	
1 Bed	5	33%
2 Bed	10	67%
	15	**100%**

Waste
15 apartments @ 80L/unit = 1,200L with compaction ratio of 2:1 = 600L requires 3 x 240L MGB

Recycling
15 apartments @ 40L/unit = 600L requires 3 x 240L MGB

BIN SUMMARY
Total number of bins required for weekly collection:
Waste 3 x 240L bins
Recycling 6 x 240L bins
TOTAL 9 x 240L bins

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BUILDING B2

Unit Type	Number of Units	
1 Bed	8	38%
2 Bed	6	29%
2 Bed + Study	3	14%
3 Bed	4	19%
	21	**100%**

Waste
21 apartments @ 80L/unit = 1,680L with compaction ratio of 2:1 = 840L requires 4 x 240L MGB

Recycling
21 apartments @ 40L/unit = 840L requires 4 x 240L MGB

BIN SUMMARY
Total number of bins required for weekly collection:
Waste 4 x 240L bins
Recycling 6 x 240L bins
TOTAL 10 x 240L bins

BUILDING C

Unit Type	Number of Units	
2 Bed	24	83%
3 Bed	5	17%
	29	**100%**

Waste
29 apartments @ 80L/unit = 2,320L with compaction ratio of 2:1 = 1,160L requires 5 x 240L MGB

Recycling
29 apartments @ 40L/unit = 1,160L requires 5 x 240L MGB

BIN SUMMARY
Total number of bins required for weekly collection:
Waste 5 x 240L bins
Recycling 5 x 240L bins
TOTAL 10 x 240L bins

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BUILDING D1

Unit Type	Number of Units	
2 Bed	15	65%
2 Bed + Study	1	4%
3 Bed + Study	7	30%
	23	**100%**

Waste
23 apartments @ 80L/unit = 1,840L with compaction ratio of 2:1 = 920L requires 4 x 240L MGB

Recycling
23 apartments @ 40L/unit = 920L requires 4 x 240L MGB

BIN SUMMARY
Total number of bins required for weekly collection:
Waste 4 x 240L bins
Recycling 5 x 240L bins
TOTAL 9 x 240L bins

BUILDING D2

Unit Type	Number of Units	
2 Bed	28	82%
2 Bed + Study	6	18%
	34	**100%**

Waste
34 apartments @ 80L/unit = 2,720L with compaction at 2:1 = 1,360L requires 6 x 240L MGB

Recycling
34 apartments @ 40L/unit = 1,360L requires 6 x 240L MGB

BIN SUMMARY
Total number of bins required for weekly collection:
Waste 6 x 240L bins
Recycling 6 x 240L bins
TOTAL 12 x 240L bins

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RETAIL WASTE

Using council's waste generation rates, the total number of bins required for the retail areas of Building B1 can be calculated as follows. Retail spaces will be office-based, such as real estate, solicitor, travel agent, etc. Please note this is a generic calculation; waste generation rates may alter and should be monitored post occupancy. A seven day operating week has been assumed for the purpose of this report.

Retail Type	Area (m²)	Waste calculation	Recycling calculation	Waste/ day (L)	Recycling/ day (L)
Building A1					
Retail 4	128	10L/100m²/day	10L/100m²/day	12.8	12.8
SUB-TOTAL	**128**			**12.8**	**12.8**
Building A2					
Retail 1	197	10L/100m²/day	10L/100m²/day	19.7	19.7
Retail 2	73	10L/100m²/day	10L/100m²/day	7.3	7.3
Retail 3	90	10L/100m²/day	10L/100m²/day	9.0	9.0
SUB-TOTAL	**360**			**36.0**	**36.0**
Building B1					
Retail 5	204	10L/100m²/day	10L/100m²/day	20.4	20.4
Restaurant 2	235	10L/100m²/day	10L/100m²/day	23.5	23.5
SUB-TOTAL	**439**			**43.9**	**43.9**
Building B2					
Retail 6	125	10L/100m²/day	10L/100m²/day	12.5	12.5
Restaurant 1	320	10L/1.5m² floor area/day	2L/1.5m²/day	2,133.3	426.7
Restaurant 2	227	10L/1.5m² floor area/day	2L/1.5m²/day	1,513.3	756.7
SUB-TOTAL	**672**			**3,659.1**	**1,195.9**
Building C					
Restaurant 3	238	10L/1.5m²/day	2L/1.5m²/day	1,586.7	317.3
Retail 7	145	10L/100m²/day	10L/100m²/day	14.5	14.5
Retail 8	147	10L/100m²/day	10L/100m²/day	14.7	14.7
SUB-TOTAL	**530**			**1,615.9**	**346.5**
Building D1					
Restaurant 4	151	10L/1.5m² floor area/day	2L/1.5m² floor area/day	1,006.7	201.3
Retail 9	160	10L/100m²/day	10L/100m²/day	16.0	16.0
Mgt Office	75	10L/100m²/day	10L/100m²/day	7.5	7.5
SUB-TOTAL	**386**			**1,030.2**	**224.8**
Building D2					
Restaurant 5	372	10L/1.5m² floor area/day	2L/1.5m² floor area/day	2,480.0	496.0
SUB-TOTAL	**372**			**2,480.0**	**496.0**
GRAND TOTAL	**2,887**			**8,877.9**	**2,355.9**

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BIN SUMMARY

Total number of bins required for daily collection:

Waste	8 x 1100L bins
Recycling	3 x 1100L bins
TOTAL	11 x 1100L bins

Each Retail tenant will be required to be responsible for their own storage of waste and recycling back of house (BOH). On completion of each trading day or as required, nominated retail staff/cleaners will transport their waste and recycling to the retail waste room on Piazza level and place waste and recycling into the appropriate collection bins. It is recommended that:

- All waste should be bagged and waste bins should be plastic lined
- Bagging of recyclables is not permitted
- All waste collections located BOH during operations
- Individual recycling programs are recommended for retailers to ensure commingled recycling is separated correctly
- Any food and beverage tenant will make arrangements for storing used and unused cooking oil in a bunded storage area
- The food and beverage operator will organise grease interceptor trap servicing
- A suitable storage area needs to be provided and affectively bunded for chemicals, pesticides and cleaning products
- Dry basket arresters need to be provided to the floor wastes in the food preparation and waste storage areas.

Food scraps should be collected on a frequent basis (daily). Where large quantities of perishable wastes and/or infrequent collections are proposed, a refrigerated waste room should be provided.

It is recommended that office amenities and work stations should be furnished with suitable recycling and waste facilities. Recycling collection receptacles will be located appropriately with signage prominently displayed.

Paper: Work stations and copy areas are allocated with dedicated paper and cardboard collection bins which can be emptied into the recycling bins.

If required, secure destruction contractor/s will be appointed to manage confidential office waste. Secure bins will be managed by the appointed contractors on a walk in/walk out basis.

Staff tea points will be supplied with dedicated comingled collection receptacles for the collection of all recyclable glass and plastic items. Appointed cleaners/staff will empty recycling into the appropriate collection bin.

Washroom facilities should be supplied with collection bins for paper towels (if used) and disposed into the waste bin.

Other waste: Office facilities usually make their own arrangements for the disposal and recycling of toner cartridges and batteries. Disposal of hard, electronic, liquid waste and any paint/chemicals etc. shall be organised with the assistance of the maintenance staff or cleaners.

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Public areas (such as the Piazza) should be provided with clearly marked receptacles such as the urban container (see below) for the disposal of waste. The caretaker will be required to monitor this area and ensure bins are maintained/emptied and cleaned on a regular basis. Any waste generated from these bins will be managed through the retail/commercial waste and recycling streams.

**mörbel urban containers by SULO*

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TOWNHOUSES

As standard, the townhouses will be supplied with the following bins each:

Organics:	1 x 240L MGB collected weekly
Recycling:	1 x 240L MGB collected fortnightly
Residual Garbage:	1 x 140L MGB collected fortnightly

BIN SUMMARY

Total number of bins required for weekly collection:

Organics	69 x 240L bins

Total number of bins required for fortnightly collection:

Recycling	69 x 240L bins
Residual Garbage	69 x 140L bins

All residents will be supplied with a collection area in each unit (generally in the kitchen) suitable for one day's waste and should enable source separation of garbage, recyclables and compostable materials. Residents should wrap or bag their waste before depositing into their waste bins. Recycling must be sorted prior to being emptied into their recycling bins.

It will be the responsibility of each townhouse occupant to present bins to kerbside for collection, and return them to their premises when empty. Bins will need to be stored within the property. If there is no access from the front courtyard to the rear courtyard, adequate screening for bins needs to be in place at the front. Access for bin movement needs to be at ground level (no stairs).

Please note, although the standard service will only have two bins presented kerbside per week, some families will need an alternative service where up to four bins will be presented kerbside per week.

There must be enough available kerbside space for placement of bins at kerbside; 3 metres wide (along the kerbside) and at least 2.5 metres deep from the nearest obstruction (e.g. fence, tree, hedge, parked car in driveway, letterbox, etc.).

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APARTMENTS WASTE MANAGEMENT SYSTEM

Council states for any building comprising three or more storeys, as a minimum, a garbage chute system is to be provided for the residential levels of the building(s).

As per the drawings, there are seven waste chutes servicing each residential level with waste falling into a compactor carousel located in the waste room on the Piazza level for Buildings A1, A2, B1, B2, C, D1, and D2. Bins will be rotated and compacted on a 2:1 ratio and full bins will be transferred to the collection room on the Piazza level via the service lift in Building D2.

Recycling bins will be situated in the waste compartment on each residential level for collection of recyclable items and will be transferred to the waste collection room for collection.

WASTE HANDLING

All residents will be supplied with a collection area in each unit (generally in the kitchen) suitable for one day's waste and should enable source separation of garbage, recyclables and compostable materials. Residents should wrap or bag their waste before depositing into the waste chute.

Recycling must be sorted prior to being emptied into the recycling bins located in the waste compartment on each residential level. Recycling is not permitted to be bagged.

Part of the caretaker/cleaner's duty will be to exchange or remove recyclable bins from each level and store them in the main bin storage room, ready for collection. The caretaker/cleaner will also be required to check the 240L MGB collecting waste from each chute, rotate full bins to the storage and collection area, and replace empty 240L MGB under each chute operation.

WASTE CHUTES

The waste chute for the residential areas are supplied per following specifications:

- 510mm galvanised steel or 510mm recycled LLDPE polyethylene plastic with 2-hour fire rated doors
- galvanised steel chutes are wrapped with 50mm poly-wool R1.3 noise insulation foil to assist in noise reduction
- penetrations on each building level at vertically perpendicular points with minimum penetration dimensions 600mm x 600mm (square or round) are required to accommodate the chute installation

Chutes must be installed without offsets to achieve best operational outcome for all buildings.

The chute systems will be fitted with carousel tracks to rotate full bins and place an empty bin under the chute outlets. A compacting device will also be attached to reduce waste volume and bin numbers. *(see Appendix 3 – 5-bin 240L Carousel Compactor System)*

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CHUTE SUMMARY

Galvanised steel or recycled LLDPE plastic chutes as supplied by Elephants Foot Recycling Solutions (or similar). Seven required with seven carousel compactor systems suitable for 240L MGB.

GREEN WASTE

There will be a moderate amount of green waste generated by the apartment and retail/commercial development. Any green waste will be collected and removed from site by the maintenance contractor.

Residents of the townhouses can apply to council for supply of a green waste/organics bin.
(See Useful Contacts page 20, and Appendix 8 – Green Space)

COMPOSTING

An area for composting is to be provided on site and made available for resident's use. The siting of composting facilities should consider:

- The location and proximity of dwellings (including those adjoining the subject property), to minimise likely odour impacts/nuisance;
- The location of the drainage system;
- Whether the facility is appropriately designed for composting; and
- Provision of signposting to ensure inappropriate waste is no added to the compost.

Consideration should be given to providing space for individual home unit worm farms or small compost bins on the balconies. *(see Appendix 2 – Waste Management Equipment)*

OTHER WASTE STREAMS

As per the plans, a bulky goods area of 15m² has been provided for the storage and collection of bulky waste such as electronic, liquid waste and home detox (paint/chemicals), furniture or appliances etc. Storage and collection shall be organised with the assistance of the building caretaker.

Council advises that each household can book up to 4 bulky waste collections per calendar year (each up to 2m³ of waste) and that at least 36m² of space needs to be available for these collections. The best location for the bulky goods area would be near the main garbage collection rooms off the loading bay.

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WASTE ROOM AREAS

Each garbage room will need to hold all the bins generated weekly, and allow enough room to clean and manoeuvre bins.

The waste chute room located on each level of each building will contain the chute access door and recycling bins for use by residents on that floor. The size of the waste chute rooms need to be a minimum of 0.5m² per dwelling located on that floor, plus circulation space to access all the bins and the chute.

The main waste rooms located on Piazza level needs to be a minimum of 0.5m² per dwelling located within the building, plus circulation space to access all the bins on collection days.

The following is the recommended minimum spatial requirements for each garbage room under each chute on Upper Basement level.

Building	Minimum Spatial Requirement (m²)
A1	15
A2	15
B1	15
B2	15
C	15
D1	15
D2	16

The main garbage room on Piazza level should be at least 55m² to allow enough room to hold all bins from Buildings A1, A2, B1, B2, C, D1, and D2, and allow for safe manoeuvrability and cleaning.

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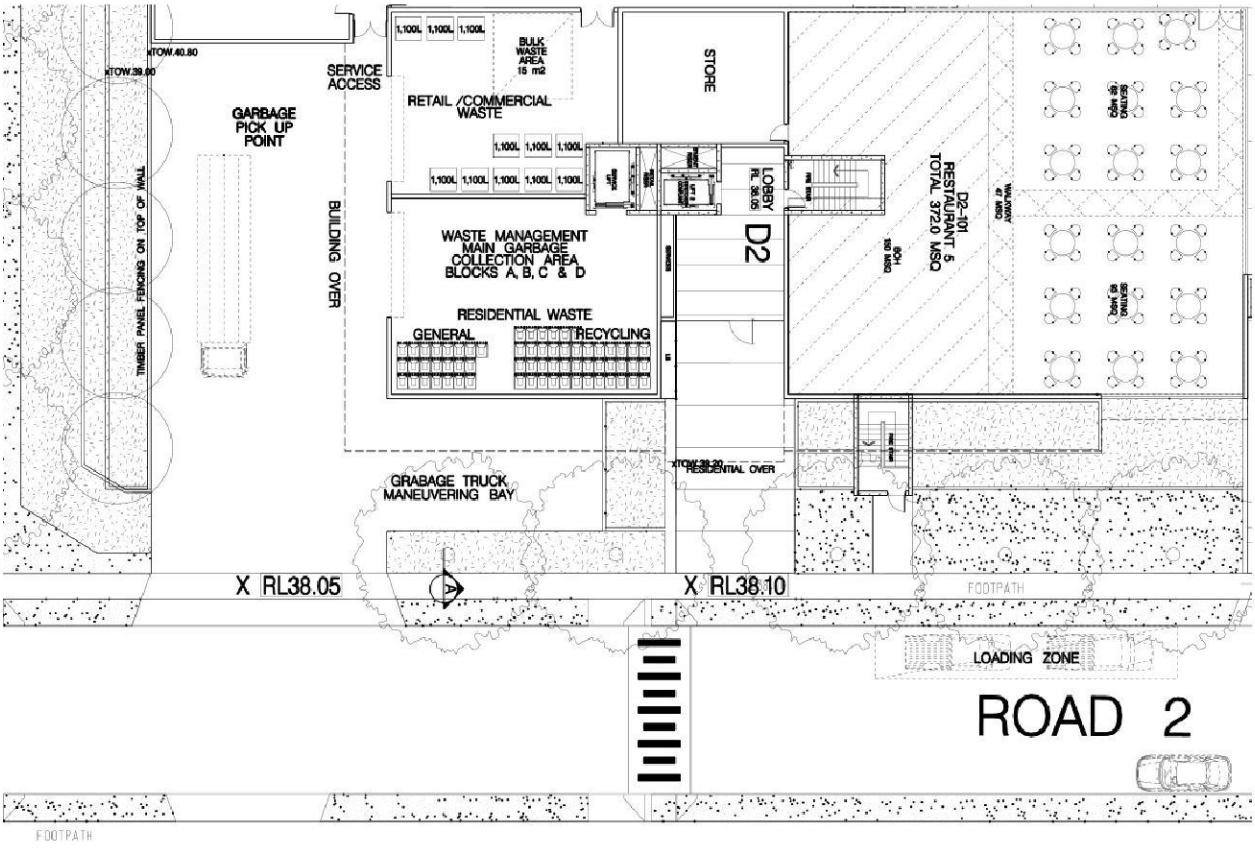
WASTE MANAGEMENT

COLLECTION OF WASTE

The design and location of waste storage and/or collection areas should allow for ease of access for both tenants and waste contractors and should be separated from the car parking area(s) or located away from the circulation path of other vehicles.

Council requires that vehicles enter a property at ground level. Access driveways, vehicle circulation paths, and internal roads must be designed in accordance with Australian Standards AS 2890.2-2002 'Parking facilities – Off-street commercial vehicle facilities'. A site plan (drawn to a scale of 1:200) detailing vehicle manoeuvres needs to be provided with the DA to council where on-site access by collection vehicles is proposed.

Council will collect apartment waste and recycling for Buildings A1, A2, B1, B2, C, D1, and D2 from the residential garbage room on Piazza level accessed via the loading dock. The loading dock is accessed off "Road 2" (see below).



Council will collect townhouse waste and recycling bins from the front of each townhouse on kerbside. Council will service these bins from "Road 1", "Road 3" and "Road 4".

Retail waste and recycling bins will be collected by private waste services contractor from the retail/commercial waste room (see image on previous page).

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GARBAGE ROOMS AND GARBAGE AREAS

There are seven apartment waste rooms with carousel compactor systems located under each chute. There is one main apartment garbage room and one main retail/commercial garbage room adjacent the loading dock on Piazza level, which service Buildings A1, A2, B1, B2, C, D1, and D2.

GARBAGE ROOMS CONSTRUCTION REQUIREMENTS

The garbage room will be required to contain the following facilities to minimise odours, protect surrounding areas, and make it a user-friendly and safe area:

- Waste room floor to be sealed with a two pack epoxy
- Waste room floor surface is flat and even
- All corners coved and sealed 100mm up, this is to eliminate build-up of dirt
- A hot and cold water facility provided for washing the bins
- Tap height of 1.6m
- Drain to sewer and storm water access preventatives (grate)
- All walls painted with light colour and washable paint
- Equipment electric outlets to be installed 1700mm above floor levels
- The room must be mechanically ventilated
- Light switch installed at height of 1.6m
- Waste rooms must be well lit
- Optional automatic odour and pest control system installed to eliminate all pest types. This process generally takes place at building handover – building management make the decision to install. Please note that odour systems spraying product directly onto galvanised steel surfaces may cause corrosion.
- All personnel doors are hinged and self-closing
- Appropriate signage prominently displayed on walls and above all bins clearly stating what type of waste or recyclable is to be placed in the bin underneath
- Building management/caretaker is responsible for waste room signage and further education after building handover
- Waste collection area must hold all bins – bin movements should be with ease of access
- All chute doors on all levels will be labelled with signs encouraging occupants to recycle and minimise their waste
- Signage directing chute operations regarding waste and recycling will be posted on each chute door

Where the waste storage area will be secured, the locking mechanism installed must be an Abloy system employed by Council. The installation of the locking system and the supply of keys will be provided by Council at the developer's cost.

GARBAGE CHUTES

All chute doors on all levels will be labelled with signs encouraging occupants to recycle and minimise their waste. A sign stating '*GARBAGE ONLY IN THE CHUTE'* will be posted and separate signage instructing residents on how and where to place recycling will also be placed on each level.

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ADDITIONAL INFORMATION

Transfer of waste and all bin movements require minimal manual handling therefore the operator must assess manual handling risks and provide any relevant documentation to building management.

LIMITATIONS

The purpose of this report is to document a Waste Management Plan as part of a development application and is supplied with the following conditions:

- Drawings and information supplied by the project architect
- The figures presented in the report are an estimate only. The actual amount of waste generated will be dependent on the occupancy rate of the building/s and waste generation intensity as well as the building managements approach to waste management.
- The building manager will make adjustments as required based on actual waste volumes (if waste is greater than estimated) and increase the number of bins and collections accordingly.
- The report will not be used to determine or forecast operational costs or prepare any feasibility study or to document any safety or operational procedures.

USEFUL CONTACTS

Penrith City Council
PO Box 60
Penrith NSW 2751
Customer Service: 02 4732 7777
Email: council@penrithcity.nsw.gov.au

Elephants Foot Recycling Solutions (Chutes, compactor and eDiverter systems)
Natalie Beattie
44 – 46 Gibson Avenue
Padstow NSW 2211
Free call: 1800 025 073
Email: natalie@elephantsfoot.com.au

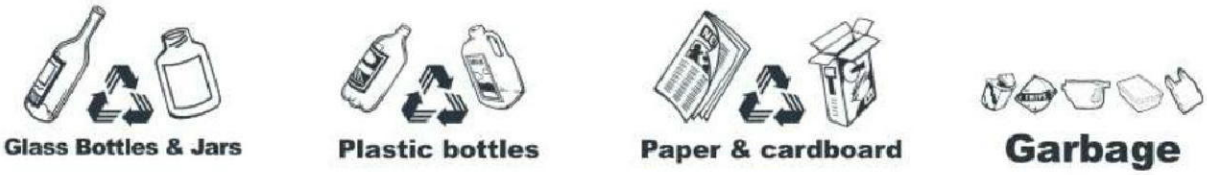
APPENDIX 1 – STANDARD SIGNAGE FOR WASTE AND RECYCLING BINS

WASTE SIGNS

Signs for garbage, recycling and organics bins should comply with the standard signs promoted by the Department of Environment and Heritage.

Example wall posters

Example bin lid stickers



SAFETY SIGNS

The design and use of safety signs for waste rooms and enclosures should comply with AS1319 Safety Signs for Occupational Environment. Safety signs should be used to regulate and control safety behaviour, warn of hazards and provide emergency information, including fire protection information. Below are some examples. Each development will need to decide which signs are relevant for its set of circumstances and service provided.

Examples of Australian Standards:

Australian Standards are available from the SAI Global Limited website (www.saiglobal.com).

Source: Better Practice Guide to Waste Management in Multi-Unit Dwellings, 2008, DECC

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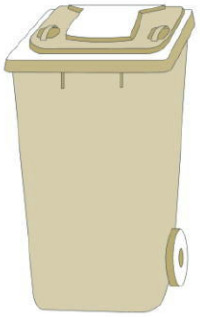
APPENDIX 2 – WASTE MANAGEMENT EQUIPMENT

MOBILE GARBAGE BINS (MGBs)

MGBs with capacities up to 1700L should comply with the Australian Standard for Mobile Waste Containers (AS 4123). AS 4123 specifies standard sizes and sets out the colour designations for bodies and lids of mobile waste containers that relate to the type of materials they will be used for.

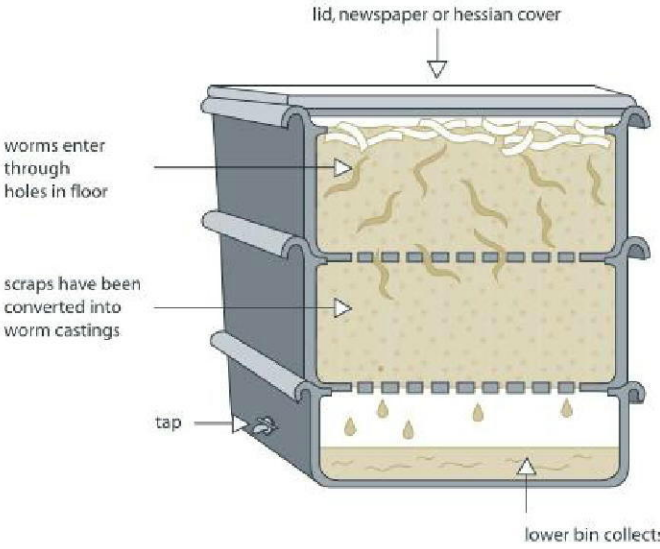
Indicative sizes only for common MGB sizes are provided below. Note that not all MGB sizes are shown; the dimensions are only a guide and differ slightly according to manufacturer, if bins have flat or dome lids and are used with different lifting devices. Refer to AS 4123 for further detail.



	Height	Depth	Width
80L MGB	870mm	530mm	450mm
120L MGB	940mm	560mm	485mm
140L MGB	1065mm	540mm	500mm
240L MGB	1080mm	735mm	580mm
360L MGB	1100mm	885mm	600mm

Source: Department of Environment and Climate Change NSW 2008, *Better Practice Guide for Waste Management in Multi-Unit Dwellings*

WORM FARMS



Space requirements for a typical worm farm for an average household:

Height – 300mm per level

Width – 600mm

Length – 900mm

There are many worm farm arrangements. The above dimensions are indicative only.

Source: Department of Environment and Climate Change NSW 2008, *Better Practice Guide for Waste Management in Multi-Unit Dwellings*

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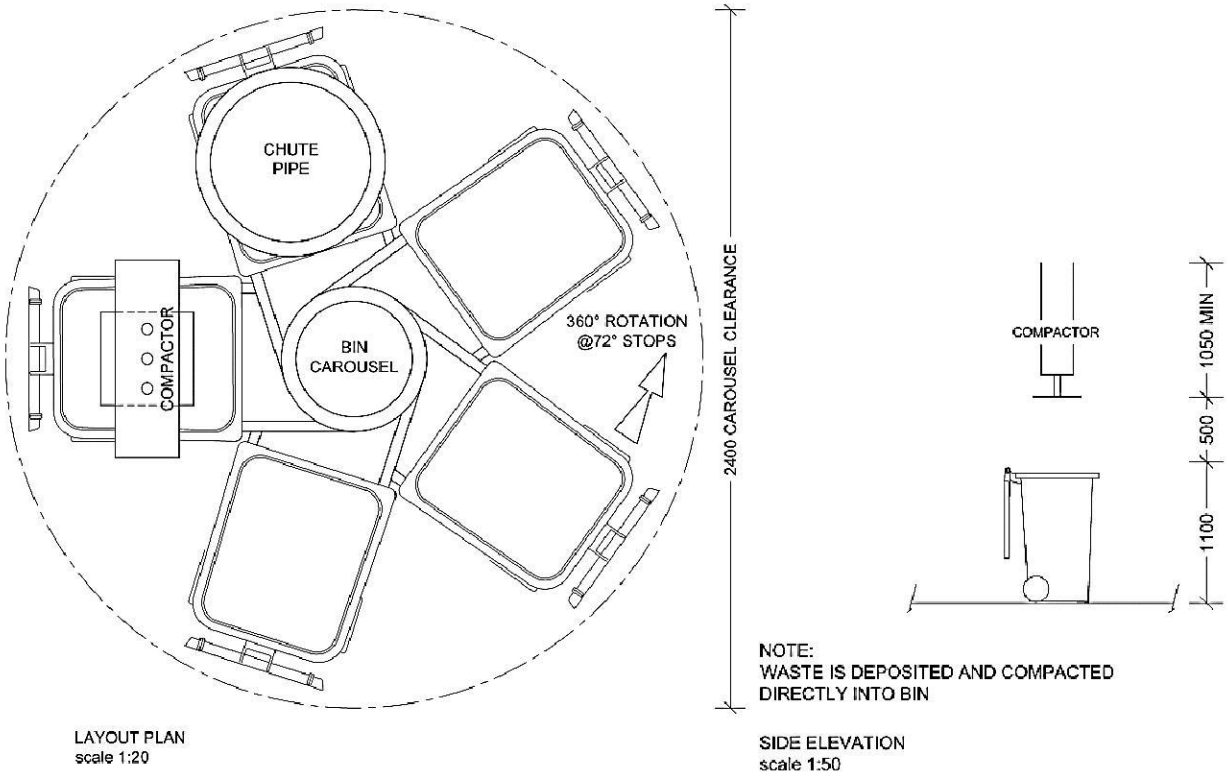
APPENDIX 3 – 5-BIN 240L CAROUSEL COMPACTOR SYSTEM



Source: Elephants Foot standard drawing, Drawing No DM009-5bin240car

BENEFITS:

- Built for under chute systems in high rise buildings
- Waste falls directly into bins
- Fits over carousel or linear system
- Compacts into 240L, 660L, and 1100L standard bins
- Fully automatic compaction (2:1 ratio)
- Minimise strata cost
- Low cost maintenance

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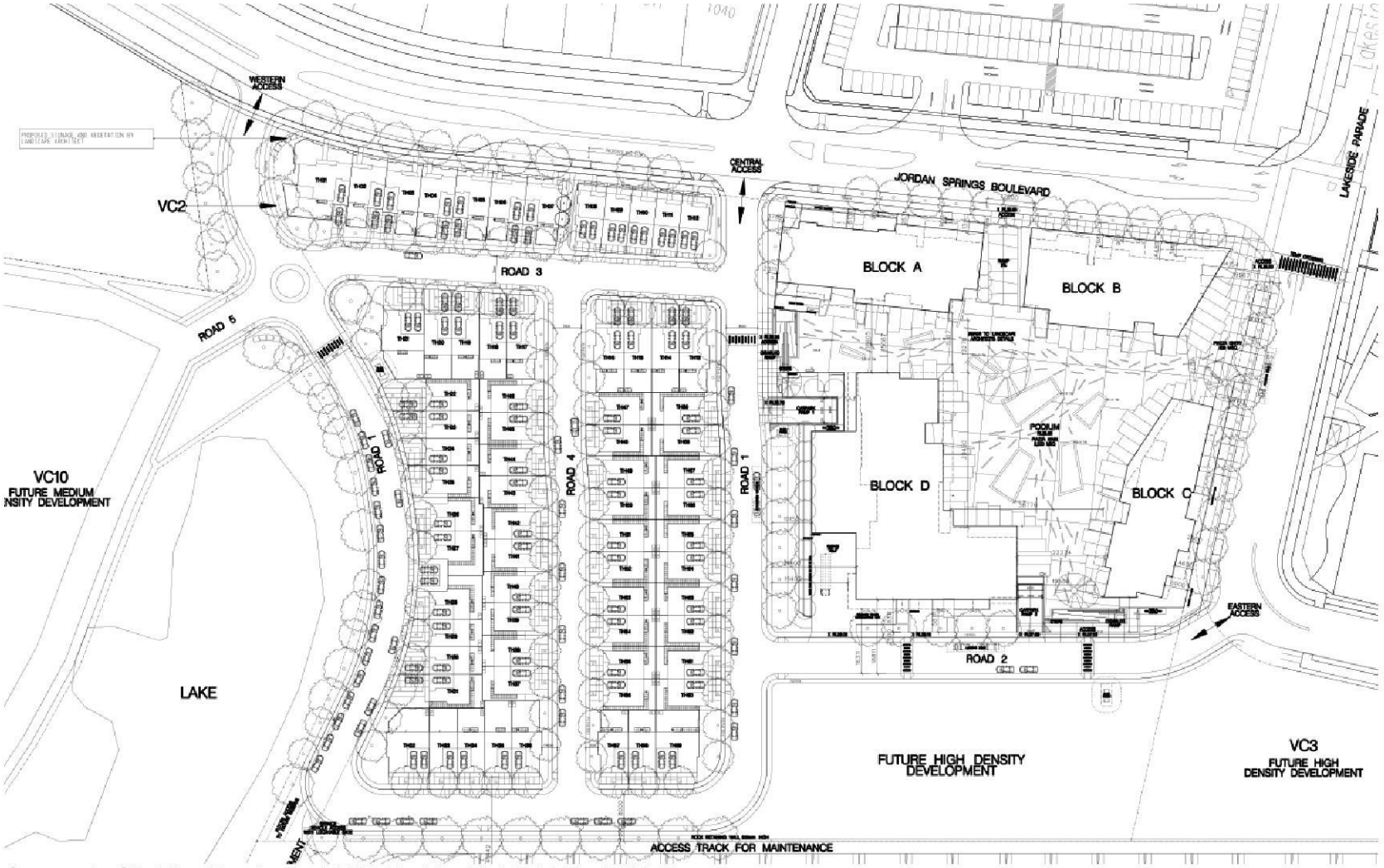
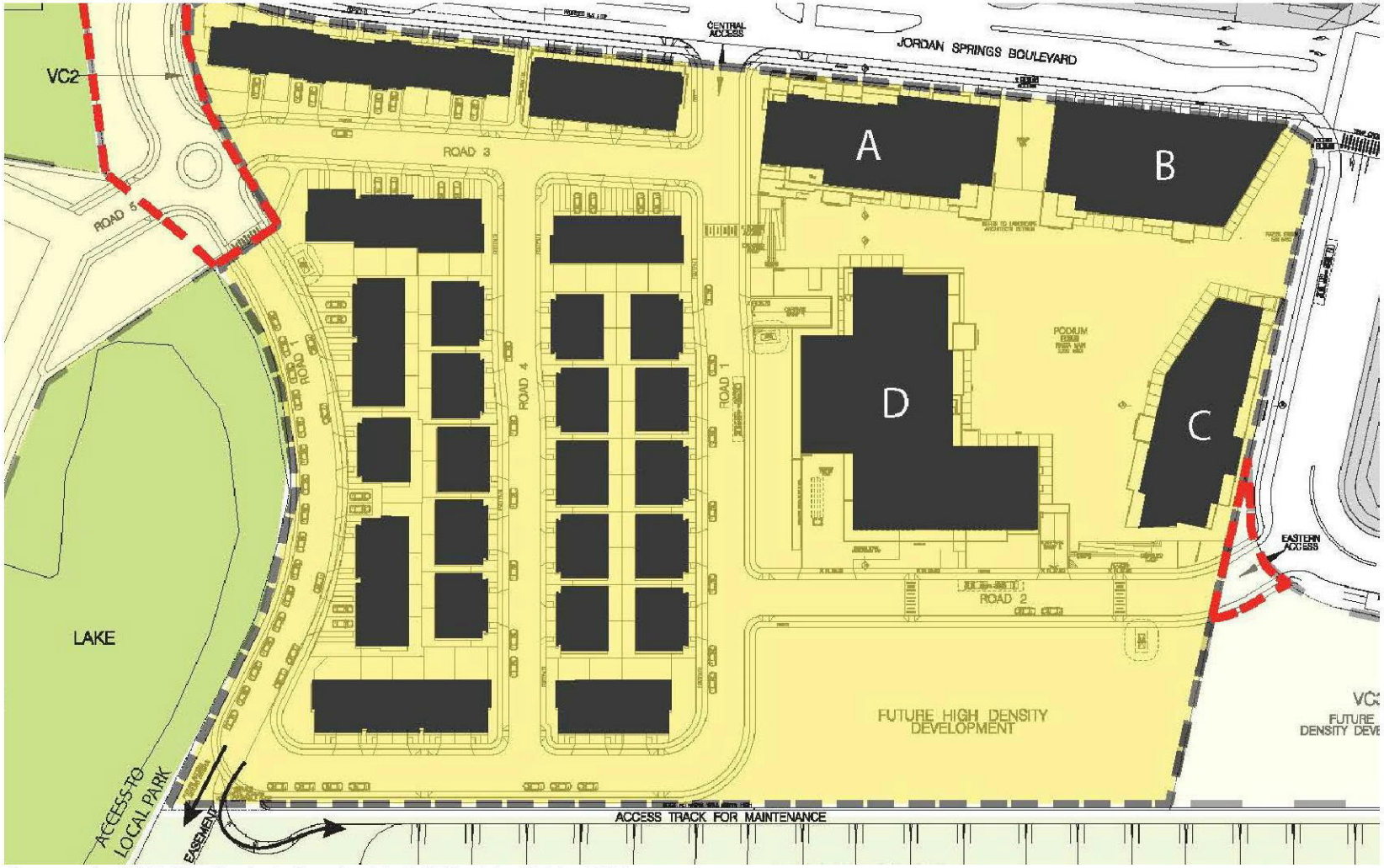
APPENDIX 4 – SITE PLAN (PIAZZA LEVEL)



Source: zta, Site Plan, Drawing No A1000, Revision F, dated 3 Mar 2014

APPENDIX 5 – APARTMENT BLOCK LOCATION PLAN



Source: zta, 0001 Site Context, Drawing No A1000, dated 3 Mar 2014

APPENDIX 6 – GARBAGE ROOMS – PIAZZA BASEMENT 1

Source: zta, Piazza Basement 1 CP1 (Upper), Drawing A2001, Revision F, dated 23 Feb 2014

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APPENDIX 7 – TOWNHOUSES ARRANGEMENT

Source: zta, excerpt from Site Plan, Drawing No A1000, Revision F, dated 3 Mar 2014

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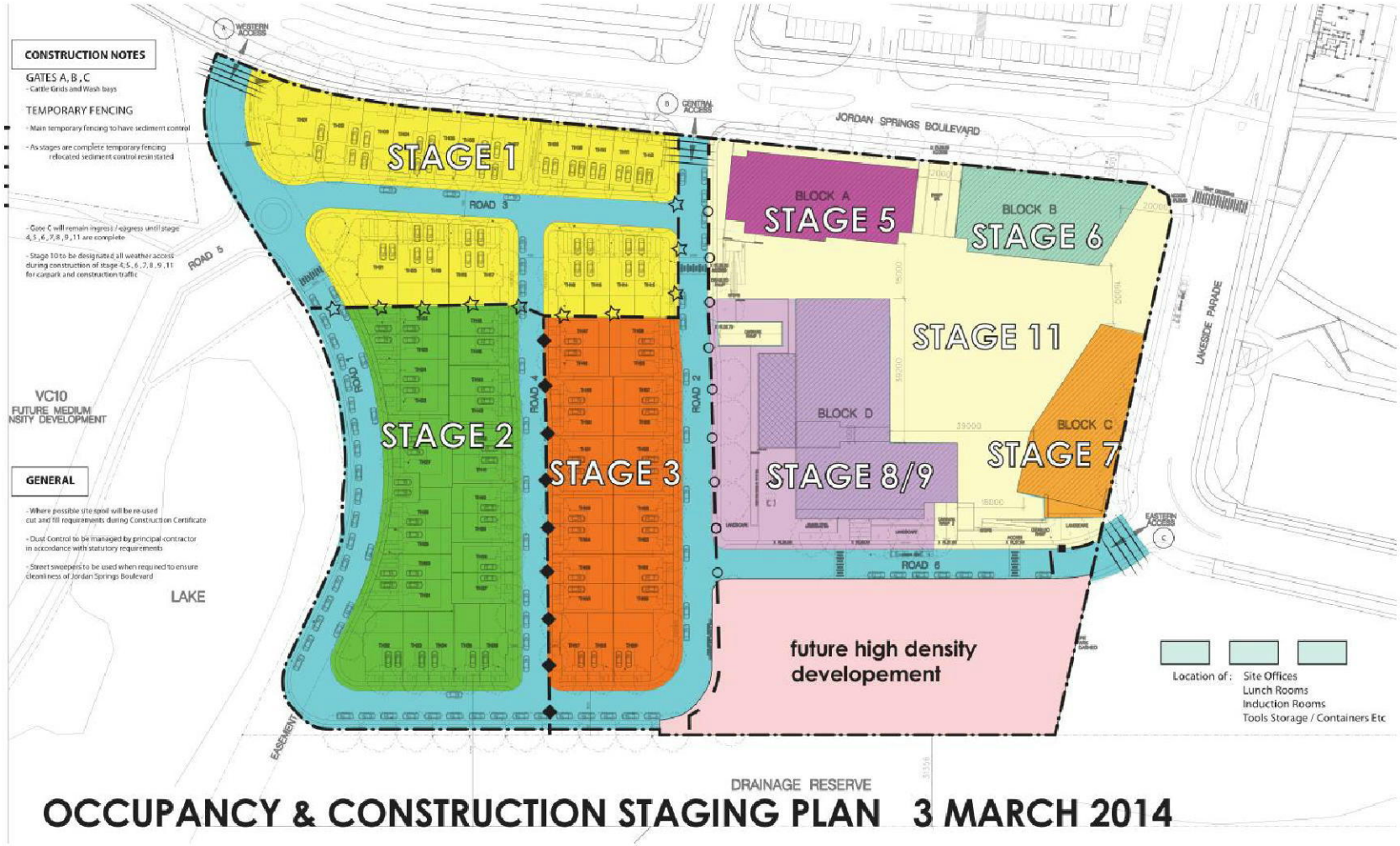
APPENDIX 8 – GREEN SPACE

Source: Clouston, S13-0083_DA_KEY PLAN - Small

APPENDIX 9 – OCCUPANCY & CONSTRUCTION STAGING PLAN



Source: zta, Site Plan, Drawing No. A1000, dated 3 March 2014