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INTRODUCTION

Sellick Consultants Pty Ltd on behalf of Jega have prepared this Waste Management Report for the proposed multi-unit residential developments on Block 9, Section 132 – Casey. This report has been prepared in accordance with The Development Control Code for Best Practice Waste Management in the ACT 2019 (DCC 2019).

This report considers the following:

- The proposed developments residential waste and recycling generation; and
- Waste and recycling operation procedures that will be adopted to service the development.

1.1 PROPOSED DEVELOPMENT

The overall proposed development will include 143 residential dwellings and commercial tenancies along the ground floor. The development will be 8 levels, including ground and the total site with 3 levels of basement parking.

Please refer to Annexure C for the Architectural Site Plan of the proposed overall development for further reference.

1.1.1 RESIDENTIAL LAND USES

Based on the below yield schedule the proposed development will consist of the following apartment allocations.

Table 1 – Proposed Development Residential Yield

Enclosure	1 Bedroom	1 Bedroom + Study	2 Bedrooms	3 Bedrooms	4 Bedrooms	Total
A	16		110	17		143
Total	16	0	110	17	0	143



2.0 WASTE AND RECYCLING GENERATION RATES

The Development Control Code for Best Practice Waste Management in the ACT 2019 (DCC 2019) provides residential waste and recycling generation rates. These rates have been applied to the proposed development, as indicated in Table 2 below.

Table 2 – Residences' Waste and Recycling Generation Rates

	Weekly Waste Generation Rate (Litres)	Weekly Recycling Generation Rate (Litres)
1 Bedroom	80	70
1 Bedroom + Study	90	80
2 Bedrooms	100	90
3 Bedrooms	120	110
4 Bedrooms	140	120

Green Waste is in accordance with TCCS allocations:

- Single Unit residence with individual garbage and recycling MGB's
 - One (1) 0.24m³ MGB per unit
- Multi-Unit residence with ground floor private open space
 - One (1) 0.24m³ MGB per 300m² GFA (rounded up)
- Multi-Unit residence without ground floor private open space
 - One (1) 0.24m³ MGB per 50 units

Refer Annexure A for the Multi-Unit Residential Development Shared Waste and Recycling Allocation Calculator.



2.1 WASTE AND RECYCLING HOPPER/MGB NUMBERS

The above generation rates from Section 2.0 have been applied to the proposed development as indicated below:

2.1.1 ENCLOSURE A

Waste								
Type	No. of Units	Waste/ Unit/ Week (Litres)	No. of Bins	Bin Size (m ³)	No. of Collections	Compaction (1:x)	Weekly Generation (litres)	Weekly Capacity (litres)
4B		140					0	
3B	17	120	2	2			2.04	
2B	110	100	+	+	2	1	11	14.00
1B + S		90	1	3			0	
1B	16	80					1.28	
Total Units	143						14.32	

Recycling								
Type	No. of Units	Waste/ Unit/ Week (Litres)	No. of Bins	Bin Size (m ³)	No. of Collections	Compaction (1:x)	Weekly Generation (litres)	Weekly Capacity (litres)
4B		120					0	
3B	17	110					1.87	
2B	110	90	6	1.1	2	1	9.9	13.20
1B + S		80					0	
1B	16	70					1.12	
Total Units	143						12.89	

Green Waste				
Type	Breakup	No. of Units	GFA (m ²)	Weekly Generation (litres)
Shared	With PoS			0
	Without PoS	143	N/A	3
Total Units		143		3

Refer Annexure D for Civil Waste drawings.



3.0 WASTE AND RECYCLING OPERATIONS MANAGEMENT PLAN (OMP)

The operation for collecting waste and recycling from the resident generation to TCCS collection is considered within this section.

3.1 MGB/HOPPER STORAGE

3.1.1 ENCLOSURE A

Enclosure A is located within the upper ground floor near the center of the development. This enclosure services all residential dwellings and will be accessed by TCCS. This enclosure has the following Hoppers as per Section 2.1 above:

- Waste
 - Two (2) x 2.0m³ Hoppers, One (1) x 3.0m³ Hoppers.
 - There will also be one hopper located under the chute and a spare hopper within the enclosure to meet TCCS requirements.
- Recycling
 - Six (6) x 1.1m³ Hoppers
 - There will also be one hopper located under the chute and a spare hopper within the enclosure to meet TCCS requirements.

Refer Annexure D for Civil Waste drawings.

3.2 WASTE AND RECYCLING TRANSFER FROM GENERATION TO COLLECTION

3.2.1 ENCLOSURE A

Enclosure A will service all residential dwellings. Residents will access the enclosure through the chutes located on each individual residential floor.

The Building Manager will then utilize then rotate the hoppers underneath the chute with the empty hoppers within the enclosure.



3.3 RESPONSIBLE PARTIES FOR CLEANING AND MAINTENANCE OF STORAGE FACILITIES

3.3.1 ENCLOSURE A

As per DCC 2019, all equipment not required to be transferred around the development will be provided by the Territory, including:

- Waste
 - Two (3) x 3.0m³ Hoppers
 - Three (2) x 2.0m³ Hoppers
- Recycling
 - Eight (8) x 1.1m³ Hoppers
- Green Waste
 - Three (3) x 0.24m³ MGB's (as required)

3.4 COLLECTION OPERATIONS

Collection for the development's waste and recycling will be onsite via the internal laneway located along the southern boundary. Collection vehicles will be able to enter the development from Bentley Place in a forward direction, perform a three point turn into the collection area and then exit onto Bentley Place in a forward direction. Please refer to Annexure F for collection vehicle turning demonstrations.

The proposed collection point is directly outside of Enclosure A and will have a max carting distance of 4m and not have a grade exceeding 3%.

Collection for the development's green waste will be onsite via kerb side collection. Please refer to Annexure D for collection vehicle turning demonstrations.

Collection frequency for waste and recycling will be as per Table 3 above and Annexure A.



4.0 MINIMUM SUBMISSION REQUIREMENTS

Refer below for the submission requirements for onsite collection for multi-unit residential developments:

Number	Submission Requirement	Requirement Met
R1	Each development application must include a completed copy of all relevant Parts of the WRMP	All relevant parts of the WRMP have been provided as part of this report, please refer to Annexure B.
R2	Development application submission documents must include plans, elevations, sections and written descriptions or specifications for collection services, as applicable, showing:	All relevant parts of the WRMP have been provided as part of this report, please refer to Annexures D & E.
R2.1	The location and dimensions of the waste and recycling storage facility with tabulated calculations to demonstrate the adequacy of this space.	Locations and dimensions of all residential enclosures are shown on Civil and Architectural drawings, please refer Annexures D & E.
R2.2	Tabulated waste and recycling generation rates per dwelling (i.e. bedrooms) in accordance with Table 7.1	Residential waste and recycle generation have been calculated using the generation rates provided in Table 7.1 of the DCC 2019, please refer Annexure A & D.
R2.3	A method statement describing how waste and recycling must be transferred from each dwelling to the waste and recycling storage facility.	The methods adopted to transfer waste and recycle from each residential dwelling to the storage facility is described within this waste management plan in Section 3.2. The path of travel can be seen on Sellick drawing, please refer Annexure D.
R2.4	The location of any waste and recycling chutes (if included in a proposed development) and the location and dimensions of any waste service compartment on each floor of the building; it must include tabulated calculations to demonstrate the adequacy of these facilities.	The Apartment building is the only location of a chute within the proposed development, please refer Annexure E.
R2.5	The location of the designated collection point, hopper pad or both for the collection and emptying of the Territory's waste and recycling bins.	The location of the designated collection point for waste and recycle is directly outside of Enclosure C, please refer Annexure D.
R2.6	The path of travel for moving bins from the waste and recycling storage facility to the designated collection point; it must indicate dimensions, clearances and gradients, where applicable.	The maximum path of travel for building management from the waste and recycle enclosure and transfer rooms to the designated collection point shown on the Civil drawings, please refer Annexure D.
R2.7	The path of travel for collection vehicles if collection occurs on site; it must indicate all clearances, travel, turning and maneuvering paths, ramp access, clearances in all directions and pavement details, where applicable.	Collection vehicle turning demonstrations have been provided for all vehicles proposed as part of this development. Vehicle turning path has the 1m clearance provided, with head height clearances clear to sky. Please refer to Annexure E.
R2.8	Supporting documentary evidence on the type of compaction and associated waste and recycling plant and equipment proposed; this must include the manufacturer, model, compaction ratio, and dimensions – including maximum height at point of lift, volume, and expected weight when fully loaded at the defined compaction ratio.	As part of this submission, all relevant brochures of an example of the equipment to be used have been provided. No compaction is proposed. Refer Annexure G.



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5.0 CONCLUSION

The proposed developments waste and recycling management process has been undertaken in accordance with the relevant part of the Development Control Code for Best Practice Waste Management in the ACT 2019. Steps outlined in the report have been taken to minimize risks and handling associated with development waste and recycling management for both building management and Territory contractors.

The waste and recycling management process for the development is recommended for TCCS approval.