



JWD Developments

Updated Waste Management Plan – Section 4.55

Proposed Residential Unit Development – Amended Plans

89 John Whiteway Drive, Gosford

February 2022

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Table of Contents

1	Author and Project Details	4
2	Council Requirements.....	5
3	Demolition	6
4	Construction.....	7
4.1	Waste Generation	7
4.2	Waste Management.....	8
4.3	Waste Avoidance and Reduction	8
4.4	Management of Excavation Material	8
5	Ongoing Operation.....	9
5.1	Waste Generation	9
5.2	Waste Storage	10
5.3	On-going Waste Removal Procedures	11
5.4	Maintenance and Cleaning	11
5.5	Education	11
6	Plans and Drawings	12

List of Tables

Table 1: Council controls included in Section 5.8.29	5
Table 2: Waste Generation	7
Table 3: Total Waste Calculations for Proposed Development	9
Table 4: General Waste per Block	9
Table 5: Recycled Waste per Block.....	10
Table 6: Details of Waste Storage	10
Table 7: Details of Plans	12

1 Author and Project Details

Author Details

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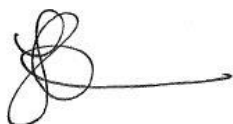
Development Details

Project Details	Section 4.55 amendment to include 188 residential units within four blocks and neighbourhood shop
Address of Development	89 John Whiteway Drive, Gosford.
Existing Buildings and other structures currently on the site	The current site is vacant of any existing buildings or structures.
Description of proposed development	Section 4.55 amendment – Residential apartments including 188 units within four blocks. The development also includes a neighbourhood shop, underground car parking, landscaping and communal open space. It will be constructed over stages.

This development achieves the waste objectives set out in the DCP. The details on this form are the provisions and intentions for minimising waste relating to this project. All records demonstrating lawful disposal of waste will be retained and kept readily accessible for inspection by regulatory authorities such as council, OEH or WorkCover NSW.

Contact Name Lisa Wrightson

Signature



Date 22 February 2022

2 Council Requirements

This WMP has been prepared having regard for the specific waste management objectives of the Gosford City Centre Development Control Plan (DCP) 2018. These objectives include:

- A. To minimise waste generation and disposal to landfill with careful source separation, reuse and recycling.
- B. To minimise the generation of waste through design, material selection, building and best waste management practices.
- C. To plan for the types, amount and disposal of waste to be generated during demolition, excavation and construction of the development as well as the ongoing generation of waste.
- D. To ensure efficient storage and collection of waste and quality design of facilities.

The table below reviews the controls from the DCP and provides comment as to compliance.

Table 1: Council controls included in Section 5.8.29

DCP Control	Comment / Compliance												
All development is to provide for storage of waste bins on-site in an area of sufficient size to accommodate waste generated by the development in accordance with the following tables: <table><tr><th>Type of Waste</th><th>Quantity per dwelling</th><th>Collection frequency</th></tr><tr><td>General Waste</td><td>140 litres /week/unit</td><td>weekly</td></tr><tr><td>Recycling</td><td>120 litres/week/unit</td><td>fortnightly</td></tr><tr><td>Garden organics</td><td>A nominal number of 240 litre Green Waste MGB's for shared use of the residents may be provided subject to suitable storage provisions and available street frontage to the development for kerbside collection by the current Domestic Waste Collection Contractor</td><td>fortnightly</td></tr></table>	Type of Waste	Quantity per dwelling	Collection frequency	General Waste	140 litres /week/unit	weekly	Recycling	120 litres/week/unit	fortnightly	Garden organics	A nominal number of 240 litre Green Waste MGB's for shared use of the residents may be provided subject to suitable storage provisions and available street frontage to the development for kerbside collection by the current Domestic Waste Collection Contractor	fortnightly	Refer to architectural plans for details and waste generation calculations for ongoing waste in Section 5 below.
Type of Waste	Quantity per dwelling	Collection frequency											
General Waste	140 litres /week/unit	weekly											
Recycling	120 litres/week/unit	fortnightly											
Garden organics	A nominal number of 240 litre Green Waste MGB's for shared use of the residents may be provided subject to suitable storage provisions and available street frontage to the development for kerbside collection by the current Domestic Waste Collection Contractor	fortnightly											
The storage area must accommodate the number of individual mobile bins required or accommodate sufficient larger bulk bins with the following minimum dimensions:	Refer to architectural plans for size of rooms and number of bins provided.												

DCP Control			Comment / Compliance									
<table><tr><th>Bin Type</th><th>Length (metres)</th><th>Width (metres)</th></tr><tr><td>Mobile bin (140 or 240 litres)</td><td>0.65 x No. of bins</td><td>1.5m for single row and 2.5m for 2 rows between engaged piers or other obstructions within the enclosure</td></tr><tr><td>Bulk bins (e.g. 1,100 litres)</td><td>1.45 x No of bins</td><td>1.45 x No of bins + 1m corridor space</td></tr></table>	Bin Type	Length (metres)	Width (metres)	Mobile bin (140 or 240 litres)	0.65 x No. of bins	1.5m for single row and 2.5m for 2 rows between engaged piers or other obstructions within the enclosure	Bulk bins (e.g. 1,100 litres)	1.45 x No of bins	1.45 x No of bins + 1m corridor space			
Bin Type	Length (metres)	Width (metres)										
Mobile bin (140 or 240 litres)	0.65 x No. of bins	1.5m for single row and 2.5m for 2 rows between engaged piers or other obstructions within the enclosure										
Bulk bins (e.g. 1,100 litres)	1.45 x No of bins	1.45 x No of bins + 1m corridor space										
3. The storage area must be located in a position which is: a. visibly unobtrusive from the street and compatible with the design of the main building, b. easily accessible to dwelling occupants, c. accessible to waste collection vehicles and operators (or adequately managed by the body corporate to permit relocation of bins to an approved collection point), d. has water and drainage facilities for cleaning and maintenance; and e. does not immediately adjoin private open space, windows or clothes drying areas.			All waste storage areas are located as part of the basement and are compatible with the building design. There are waste chutes on each floor which are easily accessible for all building occupants. Refer to paths of travel in the architectural plans. A site manager will be responsible for transporting the large bins with a bin tug or similar. An area has been provided for cleaning of bins which will be undertaken by a contractor. Refer to details in Section 5. The waste areas are not located near private open space or clothes drying areas. Refer to architectural plans for details.									
4. Provision is to be made to allow collection of the waste either directly from the waste storage area, or by transfer to a waste collection point. The collection point will be: a. where street frontage and WorkCover requirements permit, by placement of mobile bins in line at the kerbside, or b. on-site, with access in accordance with the requirements of Council's Waste Control Guidelines.			The collection point is on site and is shown on the architectural plans, including access and loading areas.									

3 Demolition

The subject site is vacant and does not include any buildings or structures, except for some small areas of concrete slab that are proposed to be removed or demolished as part of the construction phase.

All the excavation and material that is required to be removed from the site is included within the construction phase of this WMP.

4 Construction

4.1 Waste Generation

Table 2 below includes the waste generation for the construction stage of the development with no changes from the original application as the building waste will be similar.

Table 2: Waste Generation

Type of Waste Generated	Reuse Estimate Volume (m³)	Recycle Estimate Volume (m³)	Disposal Estimate Volume (m³)	Comment Specify method of on-site reuse, contractor and recycling outlet and/or waste depot to be used
Excavation material	270m³	69,730m³		Excavated materials will be reused as fill on other developments or on-site.
Timber (Side façade / dressed)		40.6m³	6.6m³	Transferred to waste management facility or recycling facility.
Gyprock / Cladding		74.6m³	3.4m³	Transferred to waste management facility or recycling facility.
Concrete		31.2m³		Any excess concrete will be retained in the truck and used elsewhere.
Masonry (Hebel Block/Fibre cement sheeting/ Pavers)		109.2m³		Transferred to waste management facility or recycling facility.
Tiles (roof)		0.31m³		Transferred to waste management facility or recycling facility.
Metal (roofing / framing / façade)		56.6m³		Transferred to waste management facility or recycling facility.
Glass	N/A	N/A	N/A	All glass will be made to order
Furniture	N/A	N/A	N/A	Not at this stage.
Fixtures / fittings		71.7m³		Fixtures will be made to order.
Floor coverings		46.8m³		Transferred to waste management facility or recycling facility.
Packaging (used pallets / pallet wrap)		46.8m³		Pallets will be transferred to a Material Recovery Facility. Wrap and packaging will be a transferred to Councils Waste Management Facility.
Garden organics	4.7m³			Organics will be ordered to size in accordance with the quantity survey.
Containers (cans / plastic / glass)		78m³		Containers will be a transferred to Councils Waste Management Facility.
Paper / cardboard		18.7m³		Transferred to waste management facility or recycling facility.
Residual waste			18.7m³	Residual waste will be transferred to Councils Waste Management Facility.

Type of Waste Generated	Reuse	Recycle	Disposal	Comment
	Estimate Volume (m ³)	Estimate Volume (m ³)	Estimate Volume (m ³)	Specify method of on-site reuse, contractor and recycling outlet and/or waste depot to be used
Hazardous / special waste (specify)	N/A	N/A	N/A	No hazardous materials will be utilised in the construction.
Other	270m ³	18.7m ³		N/A

4.2 Waste Management

Waste management during demolition and construction will be provided as part of a construction management plan included as part of the construction certificate process.

4.3 Waste Avoidance and Reduction

- All fixtures and fittings will be made to measure;
- All materials will be ordered in accordance with a bill of quantities;
- Recycled materials will be utilised where ever possible;
- Measures will be taken to ensure the construction contractor is aware of the waste management procedures and adheres to appropriate guidelines.
- Salvage materials for recycling and reuse during the construction process; and
- The remaining waste to be transported to a recognised builders recycling yard or waste facility.

4.4 Management of Excavation Material

Geotechnical investigations indicate that excavation will encounter minor volume of surface fill with the remainder of the site underlain with high strength sandstone excavation materials which will be primarily classified as Virgin Excavated Natural Materials. The primary options for reuse of the sandstone are therefore as follows:

- Saw cut sandstone for construction or landscaping use; or
- Excavate and crush sandstone material for use in construction materials.

If the sandstone is not sawn, it is understood that excavation of sandstone could be achieved via an 'impact ripper' or heavy tractor however it was recommended in the submitted Geotechnical Investigation (JK Geotechnics 2019) that contractor's excavation methodology should be supplied to project engineers for review prior to construction activities.

It is expected that excavated materials, either saw cut sandstone blocks or crushed sandstone material, would be transported off site for use on other development sites. Note the intended end location for waste reuse or recycling would not be determined until tendering/ contract award stage where the successful contractor would determine specific work methodology and intention for offsite reuse or recycling.

5 Ongoing Operation

5.1 Waste Generation

The tables below show the expected waste generation from the amended proposed development. As detailed below, each residential block will have a separate waste storage area for the bins within the basement area car park. Tables 4 and 5 detail the numbers of general waste and recycling bins required for each block. Residents will be required to transport their waste to the chutes or waste storage areas.

Table 3: Total Waste Calculations for Proposed Development

DCP Requirements	Recyclables	General Waste	Green Waste
Residential			
Amount generated (L per day)	3,222.9L	3,760L	Green waste will be removed by a landscape contractor for communal space. 5 x 240L green waste bins for residents
Amount generated (L per week)	22,560L (based on DCP of 120L per dwelling per week)	26,320L (based on DCP of 140L per dwelling per week)	
Number and size of bins	8 x 1,100L Spread between basement block areas and removed three times a week.	9 x 1,100L Spread between basement block areas and removed three times a week.	
Neighbourhood Shop			
Amount generated (L per day)	50.3L	50.3L	See above, not applicable for neighbourhood shop
Amount generated (L per week)	352.1L 50L per 100m² per day	352.1L 50L per 100m² per day	
Number and size of bins	1 x 240L Total Cycle 240L Removed twice weekly	1 x 240L Per Cycle 240L Removed twice weekly	

Table 4: General Waste per Block

Block	Number of Units per Block	Waste Generated (L per week)	Number of Bins Required Block / Week (1,100L / 1.1m ³ Bin)	Number of bins for three times a week collection
Block A	27	3,780	3.4	1
Block B	47	6,580	6.0	2
Block C	52	7,280	6.6	3
Block D	62	8,680	7.9	3
TOTAL	188	26,320	23.9	9

Table 5: Recycled Waste per Block

Block	Number of Units per Block	Waste Generated (L per week)	Number of Bins Required Block / Week (1,200L / 1.1m ³ Bin)	Number of bins for three times a week collection
Block A	27	3,240	2.9	1
Block B	47	5,640	5.1	2
Block C	52	6,240	5.7	2
Block D	62	7,440	6.8	3
TOTAL	188	22,560	20.5	8

It should be noted that the number of bins for each block in total is slightly higher than that needed for the overall development. Some blocks will have slightly more capacity than needed and some others slightly under, however the waste generation will be managed, and additional pick-ups used as required based on the final development.

5.2 Waste Storage

Table 6: Details of Waste Storage

Waste Storage Areas	
Floor area for storage bins (m ²)	The storage rooms will be located for each block within the basement car parking areas. Details of storage room sizes are shown on architectural plans.
Green Waste	General / common area green waste will be removed from the site by contractors as required. Resident's green waste bins will be removed by Council on a fortnightly basis as kerbside pick-up.
Bulky Waste	An area has been provided for the storage of bulky waste.
Floor area required for manoeuvrability (m ²)	The storage area is wide enough for bins to move passed each other while leaving enough space for human passage between passing bins.
Height required for manoeuvrability (m)	The collection area has been designed with sufficient height to cater for waste vehicles and ingress and egress in a forward direction.
Comment	Recycle: This development will provide adequate recycling bins to meet the minimum recycle requirements. Waste: This development will provide adequate waste bins to meet the minimum waste requirements. Note: The penthouse is unable to access a chute, therefore a waste cupboard has been provided on that level which can be emptied as required by the building managers.

5.3 On-going Waste Removal Procedures

Residential Waste

- Residents will transfer their general and recycle waste to the bins located in the basement via the respective dual chutes as shown in the architectural plans.
- Residents will transfer any green waste to the green waste bins provided.
- An on-site manager will ensure general and recycled waste is transferred to the correct points on a daily basis and for collection three times per week. A waste tug or vehicle will be used as necessary. This includes transfer of waste from the penthouse waste cupboard.
- A bin lifter will facilitate transfer of waste from MGB's into bulk waste bins in all basement locations if required.
- An on-site manager will also be responsible for the disposal of any bulky waste through kerbside collections or removal to an appropriate waste or recycling facility.
- An on-site manager will ensure the green waste bins are transferred to the kerbside for collection by Council on a fortnightly basis.
- Council or a private contractor will collect waste and recycling from the allocated collection point as shown on the Waste plan included in the architectural plan package.

Commercial Waste

- Staff will transfer general and recycled waste to the 2 x 240L bins provided.
- Waste bins will be stored within the neighbourhood shop and transferred twice a week to the kerbside for collection by a private contractor.

5.4 Maintenance and Cleaning

- **Maintenance:** Management shall be responsible for the maintenance of signage and the security of the waste storage area.
- **Hygiene:** An arrangement will be made with a bin cleaning contractor for regular bin cleaning. The bin contractor will provide a specialised filtration service to ensure pollutants are collected by the mobile unit and appropriately disposed in accordance with EPA Guidelines. A cleaning area has been provided.

5.5 Education

- Intelligible signage will be erected in the garbage storage areas and near waste chutes to identify which chutes and bins should be used for different waste and recyclable materials in accordance with the Councils waste minimisation policy.
- Building tenants will be supplied with a copy of this WMP to inform them on the concepts of waste minimisation and recycling.
- Correct use of the dual chutes is key to effective waste minimisation on the site. Signage should be clearly located in each chute area to ensure correct operation of the facility.

6 Plans and Drawings

The following checklists are designed to help ensure WMP are accompanied by sufficient information to allow assessment of the application.

Drawings are to be submitted to scale, clearly indicating the location of and provisions for the storage and collection of waste and recyclables during:

- Demolition;
- Construction; and
- Ongoing operation.

Table 7: Details of Plans

Demolition	Tick Yes
Size and location(s) of waste storage area(s)	NA*
Access for waste collection vehicles	NA*
Areas to be excavated	✓
Types and numbers of storage bins likely to be required	NA*
Signage required to facilitate correct use of storage facilities	NA*
Construction	Tick Yes
Size and location(s) of waste storage area(s)	NA*
Access for waste collection vehicles	NA*
Areas to be excavated	✓
Types and numbers of storage bins likely to be required	NA*
Signage required to facilitate correct use of storage facilities	NA*
On-going Operation	Tick Yes
Space	
Size and location of waste storage areas	✓
Recycling bins placed next to residual waste bins	✓
Space provided for access to and the manoeuvring of bins	✓
Any additional facilities	✓
Access	
Access route(s) to deposit waste in storage room/area	✓
Access route(s) to collect waste from storage room/area	✓

Bin carting grade not to exceed 10% and travel distance no greater than 100m	✓
Location of final collection point	✓
Clearance, geometric design and strength of internal access driveways and roads	✓
Direction of traffic flow for internal access driveways and roads	✓
Amenity	
Aesthetic design of waste storage areas, including being compatible with the main building/s and adequately screened and visually unobtrusive from the street	✓
Signage – type and location	✓
Construction details of storage rooms/areas (including floor, walls, doors, ceiling design, sewer connection, lighting, ventilation, security, wash down provisions, cross & longitudinal section showing clear internal dimensions between engaged piers and other obstructions, etc)	✓

*Details provided at construction certificate stage.

Refer to the architectural plans for further detail.