

24 April 2024

Attention: Nick Barr

Limitless Developments
 C/- Mewing Planning
 GPO Box 1506
 BRISBANE QLD 4001

RE: Mixed-Use Development, 5 Hercules Street, Hamilton – The Cullen

Operational Refuse Management Letter

Background

TTM Consulting has been engaged to prepare a waste management letter to support the proposed mixed-use development located at 5 Hercules Street, Hamilton. It is understood that this letter will be lodged with a response to the Further Issues Letter provided by EDQ dated 19 March 2024, under application DEV2022/1323.

Refuse Summary

The expected refuse volumes generated by the mixed-use development are shown in Table 1 to Table 3. The generation rates used for the calculation of residential and non-residential refuse produced have been applied based on rates provided by Brisbane City Council. Food and Beverage / Restaurant rates have been used for all non-residential areas denoted on the plans, to provide a worst-case scenario for refuse generation with the intent that these areas could have the flexibility for different land uses in the future.

It should be noted that these rates are standardised generation rates and not site specific however, give an estimation on the potential waste generation. Site specific auditing will be required once operational to establish actual refuse generation of this site and enable refinement of waste strategy and refuse equipment utilised.

Table 1: Waste Generation Rates

Type	Measure	Source	General Waste	All Recycling
Residential Rates	Unit / Week	Brisbane City Council	240	240
Hotel	L / Bed / Day	Brisbane City Council	5	5
Restaurant > 150m ²	L / 100m ² / Day	Brisbane City Council	660	200
Restaurant < 150m ²	L / 100m ² / Day	Brisbane City Council	300	200

The Residential refuse calculations are based on 3 collections per week for waste and recycling.

Table 2: Residential Refuse Summary

Level	Description	Quantity	Measure	General Waste (L/Week)	Commingled Recycling (L/Week)
All Residential Levels	All Apartments	Units	50	12,000	12,000
Volumes (L / Week)				12,000	12,000
Collections Per Week				3	3
Collection Volumes				4,000	4,000
Bins required per collection				4	4

Commercial / Retail refuse calculations are based on 3 collection per week for waste and recycling, and utilise compaction for the general waste and cardboard streams via the use of a bin press or other compaction equipment.

Areas labelled below areas such to reflect the uses proposed on the plans, as mentioned in the refuse summary, food and beverage / restaurant rates have been used to calculate the refuse for these areas.

Table 3: Commercial / Retail Refuse Summary – Highest Rates

Level	Description	Quantity	Measure	General Waste (L/Week)	All Recycling (combined) (L/Week)	Cardboard (L/Week)
All Levels	Hotel	Rooms	70	2,450	2,450	-
Ground Floor	Restaurant	GFA (m ²)	305	14,091	1,495	2,776
Level 1	Office	GFA (m ²)	88	1,848	431	801
Level 2	Office	GFA (m ²)	80	1,680	392	728
Level 3	Restaurant Seating	GFA (m ²)	95	1,995	466	865
Level 4	Restaurant	GFA (m ²)	214	9,887	1,049	1,947
Level 4	Function	GFA (m ²)	135	2,835	662	4,229
Total Volumes (L / Week)				34,789	6,943	8,345
Total Volume – Compacted (L / Week)				11,595	N/A	2,782
Collection Volumes				4,969	2,976	1,192
Bin size (Litres)				1100	1100	1100
Bin numbers				5	3	1

Alternatively, Table 4 has been provided to show the difference if specific land use rates are used for the different tenancies as noted on the plans.

Table 4: Commercial / Retail Refuse Summary – Land Use Rates

Level	Description	Quantity	Measure	General Waste (L/Week)	All Recycling (combined) (L/Week)	Cardboard (L/Week)
All Levels	Hotel	Rooms	70	2,450	2,450	-
Ground Floor	Restaurant	GFA (m ²)	305	14,091	1,495	2,776
Level 1	Office	GFA (m ²)	88	62	86	37
Level 2	Office	GFA (m ²)	80	56	78	34
Level 3	Restaurant Seating	GFA (m ²)	95	1,995	466	865
Level 4	Restaurant	GFA (m ²)	214	9,887	1,049	1,947
Level 4	Function	GFA (m ²)	135	2,363	397	737
Total Volumes (L / Week)				30,903	6,020	6,395
Total Volume – Compacted (L / Week)				10,301	N/A	2,132
Collection Volumes				4,415	2,580	914
Bin size (Litres)				1100	1100	1100
Bin numbers				4	3	1

Refuse Collections

All refuse will be collected on-site. Refuse collection vehicles will enter the site via the driveway off the shared internal roadway of Hercules Street. The vehicle will perform a single reverse manoeuvre from the internal roadway and park in the loading bay provided. The driver will exit the vehicle and collect the bins from the temporary bins store to service the bins, and will return the bins once emptied. Once the collection service has been completed the vehicle will exit the site in a forward's gear. The gradient of the driveway is flat and provides no concern for collection.

Residential bins will be serviced by Council. Bin numbers have been calculated at 3 collections per week for waste and recycling.

Commercial bins will be serviced by a private contractor. Bin numbers have been calculated at 3 collections per week for waste and recycling.

Refer to the traffic management report for details about refuse collection vehicle site access and manoeuvring.

Refuse Storage and Transfer

Residential Refuse

Based on 3 collections per week for general waste and recycling, the following bins and equipment are required:

- 4 x 1100L general waste bins, plus 1 x 1100L waste bin under waste chute during bin collections.
- 4 x 1100L recycling bins.

The bins and equipment numbers above apply as a maximum requirement based on the waste and recycling rates set by Brisbane City Council.

Commercial Refuse

For the Commercial, the following bins are recommended, based on 3 collections per week for waste and recycling:

- 5 x 1100L general waste bins (this includes compaction for general waste).
- 3 x 1100L commingled recycling bin.
- 1 x 1100L cardboard bin
- Bin Press or other compaction equipment is recommended.

In the event of a medical practice occupying one of the tenancies, medical / clinical waste bins will be required. These bins are kept within the medical practice and are collected directly from the practice tenancy, this is to ensure security and safety around the contents of the medical / clinical bins. No additional storage area, outside of the medical practice is required for these bins.

The bins and equipment numbers above apply as a maximum requirement and depend on the operation of the building and the occupants' attitudes to waste disposal and recycling. The rates used are maximum rates set by Brisbane City Council, it is expected that the site would generate less waste. TTM recommend a refuse composition audit be conducted after the commencement of operation to more accurately determine the volume of refuse being generated on site.

Refuse Disposal

Residential Refuse

Residents dispose their waste via the waste chute system which discharges into the under-chute compaction system in the chute discharge room on ground level. Recycling will be manually taken down to the bin room and disposed of directly into the provided recycling bins.

Commercial Refuse

Hotel Staff or cleaners will circulate the hotel rooms as required or during the daily cleaning routes and collected the refuse from each room and communal areas. The refuse will be transferred directly into the bins located on ground floor refuse room. Small bins should be provided in each room for use by the occupants. TTM recommend trolleys be used for the transfer of refuse around the hotel areas.

Bins should be used in the Back of House areas within the restaurants to assist with the immediate disposal of refuse materials. Once full or as required by the restaurant operator, refuse will be transferred directly to the bins provided within the retail refuse room. It is recommended that general waste, food waste and recycling bins are used in the restaurant areas.

Summary

TTM have reviewed the refuse the management arrangements for the proposed development. The recommendations in this letter are considered appropriate for this site to ensure safe and efficient operations.

Yours sincerely,



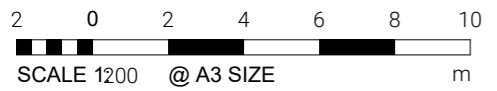
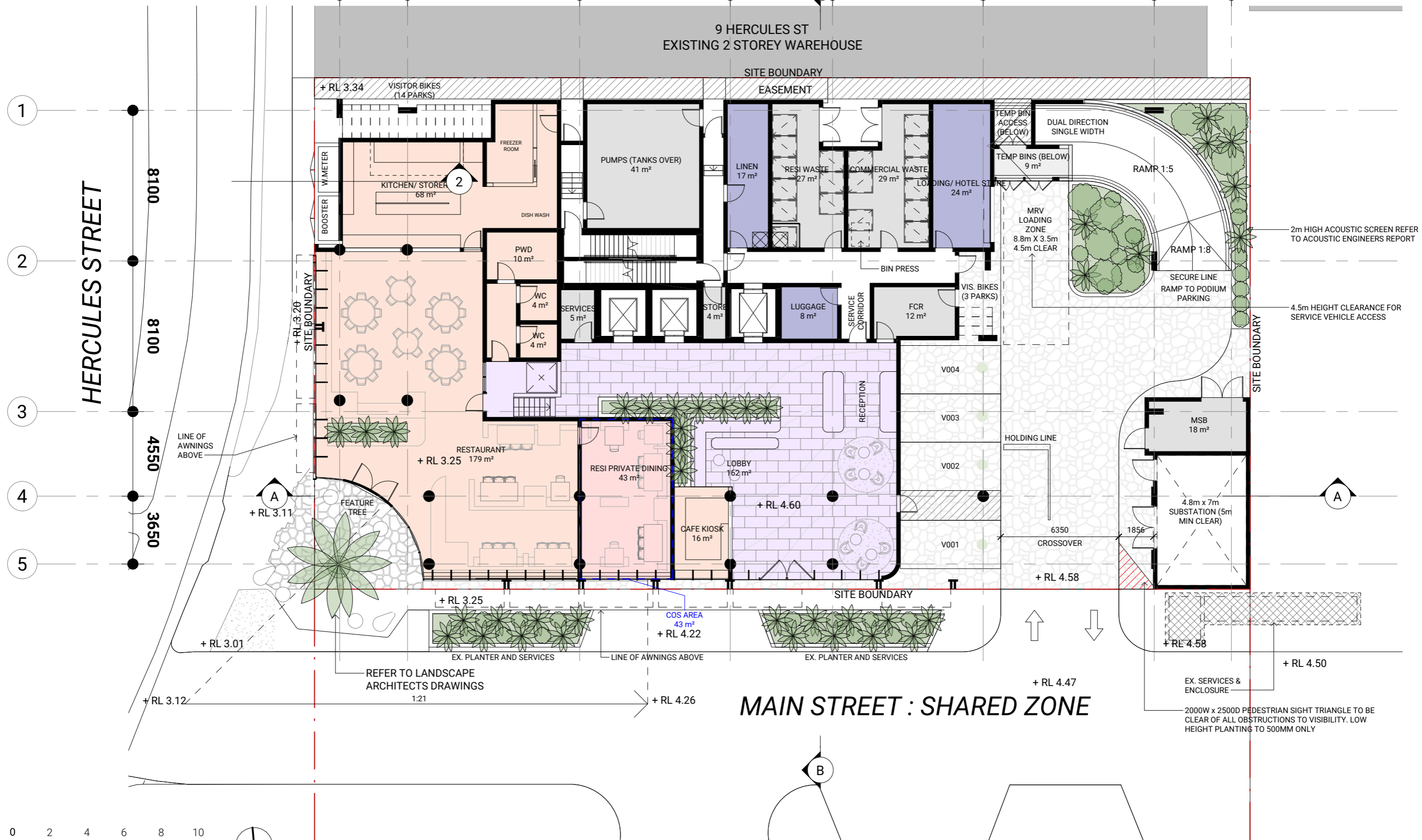
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Appendix

Refuse Storage

DA100 FLOOR PLAN - GROUND LEVEL

A 3650 B 9255 C 8100 D 5500 E 8100 F 9200 G 4150 H



ISSUE 14
Date of Issue | 24.04.16

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