



A103 Memorandum

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25 SSD-9787 Nihon University Newcastle Campus – Waste Management Response

On behalf of Nihon University, dwp are supplying this memorandum to respond to the agency correspondence received from City of Newcastle (CoN), dated 26th June 2019, in relation to the exhibition of the development application for SSD-9787 Nihon University Newcastle Campus.

This correspondence specifically relates to *8. Waste Management*, in particular the following extracts:

8. Waste Management

The following comments are provided regarding the 'Waste Management Report – Building Operation'(WMP) prepared by dwp Australia Pty Ltd:

- The 2019 revision of the Environmental Protection Authority's publication 'Better Practice Guide for Resource Recovery in Residential Developments' suggests that, allowing for variances and increases in waste generation, as a general guide, the allowance for waste and recycling storage for accommodation non-hotel / motel is:
 - General waste: 10 lts per room, per day (70 lts per week)
 - Comingled recycling: 5 lts per room, per day (35 lts per week)

Based on 109 'rooms', the following weekly allowances should be made for the residential component:

- General waste: 7,630 lts / week
- Comingled recycling: 3,815 lts / week

These allowances exceed those stated in the WMP.

- Café / Kitchen allowance under the revised guidelines is as follows:
 - General waste: 400 lts per 100m², per day
 - Comingled recycling: 280 lts per 100m², per day

Based on 384m² of floor space (224m² of cafeteria plus 160m² of kitchen), the following daily allowances should be made for the café / kitchen component:

- General waste: 1,536 lts day / 7,680 lts / week (based on 5 days)
- Comingled recycling: 1,075 lts day / 5,376 lts / week (based on 5 days)

This allowance is based on five days per week, as per the submitted WMP, although it not clear where the residents will eat and prepare meals on the other two days per week considering they reside in the premises 7 days per week.

- Public building (Offices) allowance under the revised guidelines is as follows:
 - General waste: 10 lts per 100m²
 - Comingled recycling: 15 lts per 100m²

Based on 1,210m² of floor space (as proposed), the following daily allowances should be made for the public building component:

- General waste: 121 lts day / 605 lts / week (based on 5 days)
- Comingled recycling: 182 lts / 908 lts / week (based on 5 days)

This allowance is based on five days per week, as per the submitted WMP, although it is not clear whether these areas shall also be used on the other two days per week. An additional allowance may need to be made.

- Education building (Offices) allowance under the revised guidelines is as follows:
 - General waste: 10 lts per 100m²
 - Comingled recycling: 15 lts per 100m²

Based on 1,754m² of Education Building floor space, the following daily allowances should be made for the education building component:

- General waste: 175 lts day / 877 lts / week (based on 5 days)
- Comingled recycling: 263 lts day / 1,316 lts / week (based on 5 days)

This allowance is based on five days per week, as per the submitted WMP, although it is not clear whether these areas shall also be used on the other 2 days per week. An additional allowance may need to be made.

- Total Estimated Volumes Per week:
 - General waste: 16,792 lts / week
 - Comingled recycling: 11,415 lts / week
- Potential Collection Methodology:
 - General waste: 16 x 1,100 lt bins / week (provision for waste room/s to hold at least 6 x 1,100 lt bins, with the potential for 5 bins serviced 3 x per week)
 - Comingled recycling: 11 x 1,100 lt bins / week (provision for waste room/s to hold at least 4 x 1,100 lt bins, with the potential for 3 bins serviced most days)

The design of the two waste bin storage rooms is:

- To be large enough to accommodate the entire fleet of bins plus 0.2m between bins to allow adequate maneuverability space.
- To provide a 1.8m unobstructed clearance zone between the stored bins and the entrance to permit access and maneuverability.
- To provide suitable dual door access for the service of bins with a minimum width of 1.8m and accessed by a 1.8m unobstructed access corridor.
- To be located within proximity to the on-site loading bay.
- To be fully enclosed, walled and not permit through access to other on-site waste infrastructure. Separate unobstructed access is required.

It is noted no provision has been made for bulky goods storage. There should be suitably sized room/s made available for residents to store their unwanted bulky goods, prior to dispatch by the nominated contractor. Such room/s should be located adjacent to the loading bay/s.

The size of the bulky household goods area for developments of 20 or more dwellings is based upon the following calculation:

- Bulky Goods Area (m²) = [number of units x 4] / 26

Note: All calculations are rounded up to next whole number. Based on the above, bulky goods storage of at least 17m² should be allowed for.

The design of the bulky goods storage room/s are:

- To provide a minimum unobstructed width of 1.8m.
- To provide suitable dual door access for the service of bulky goods with a minimum width of 1.8m and accessed by a 1.8m unobstructed access corridor.
- To be near the on-site loading bay.

- To be fully enclosed, walled and not permit through access to other on-site waste infrastructure. Separate unobstructed access is required.

There is no provision in the WMP for green waste management. The Plan needs to outline how green waste generated at the site will be managed.

A satisfactory engagement agreement / statement of intent from a commercial waste collection provider regarding the waste management services as detailed in the approved WMP should be confirmed prior to approval of the development.

25.01 Revised Operational Waste Calculations

The original operational waste calculations, as detailed in the Waste Management Report – Building Operation [Rev A 10.12.2018], were calculated in accordance with the generation rates set out in the *Newcastle DCP 2012 – Waste Technical Manual (June 2012)*. Whilst the CoN Waste Technical Manual does not specifically suggest that waste generation is to be calculated in accordance with EPA's publication "*Better Practice Guide for Resource Recovery in Residential Developments*" (2019), it is appreciated that this document is more recent than CoN's Waste Technical manual and likely to be more relevant to current day waste generation rates.

Therefore, operational waste calculations have been revised in accordance with EPA's publication "*Better Practice Guide for Resource Recovery in Residential Developments*" (2019), as per the following table:

Amended Operational Waste Calculations:

Number of Occupants / Area	Garbage Waste (L)	Comingled Recycling Waste (L)
108 x Residential Occupants	70L/room/week = 7560	35L/room/week = 3780
Cafeteria & Kitchen Net Area = 224m ² + 72m ² = 296m ²	400L per 100m ² /day Operating 7 x days per week = 8288	280L per 100m ² /day Operating 7 x days per week = 5801.6
Public Building Net floor Area = 1210m ²	10L per 100m ² /day Operating 5 x days per week = 605	15L per 100m ² /day Operating 5 x days per week = 907.5
Education Building Net floor area = 1754m ²	10L per 100m ² /day Operating 5 x days per week = 877	15L per 100m ² /day Operating 5 x days per week = 1315.5
TOTAL WASTE PER WEEK (L) – (rounded up to nearest Litre)	= 17330	= 11805
Quantity of 1100L MGB bins (rounded up)	16	11
Quantity of 1100L MGB bins based upon collection 3 x times per week (rounded up)	6	4

Overall, based upon collection frequency of three (3) times per week, the required General Waste bins have increased from 5 x 1100L MGBs to 6 x 1100L MGBs, and the Comingled Recycling Waste increased from 3 x 1100L MGBs to 5 x 1100L MGBs, requiring a slight replanning of the spaces to accommodate the additional bins.

The waste storage rooms are separated into two separate rooms. One for the cafeteria and kitchen facilities and the other for the education and residential facilities.

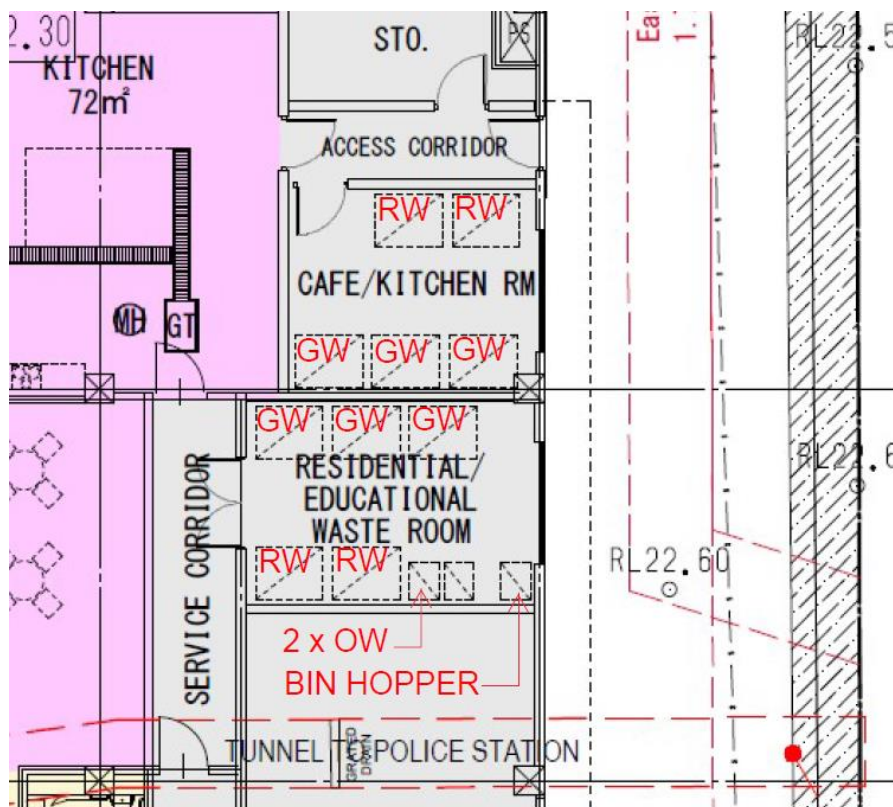
25.02 Design of Waste Storage Rooms

The design of each of the Waste Storage rooms have been amended as follows:

- Increased room sizes to accommodate increased fleet of bins:
 - Cafeteria & Kitchen Garbage Room size = 4.7mL x 4.1W approx,
 3 x Garbage Waste 1100L MGBs
 2 x Recycling Waste 1100L MGBs;
 - Residential & Education Waste Room size = 5.8mL x 4.1W approx,
 3 x Garbage Waste 1100L MGBs
 2 x Recycling Waste 1100L MGBs
 2 x Organic Waste 240L Mobile Wheelie Bins;
- Bin size to remain as typical 1100L MGB sizes: 1373w x 1073d x 1354h (equal to Otto);
- A clear 1800mm unobstructed zone between the stored bins to permit access and manoeuvrability;
- A minimum of 200mm between MGB bins to permit access and manoeuvrability;
- Each waste storage room co-located, with easy access to the adjacent hardstand to access the street;
- Each room is fully enclosed and walled, and does not permit access to other areas of the building.

Please refer to updated drawing A-108, Rev 1 with amendments to the layout and configuration of the waste rooms as indicated above.

Extract from amended drawing A-108:



LEGEND:
 GW - Green Waste
 OW - Organic Waste
 RW - Recycling Waste

25.03 Bulky Goods Storage Areas

CoN have requested consideration for provision of bulky goods storage area, for residents to store their unwanted bulky goods. It is considered that a bulky goods storage room is not required for this type of facility and as such will not be provided, for the following reasons:

- Student residents will be residing at the facility on average for only a couple of months duration;
- All furniture, bulky goods and equipment will be directly provided for the students by Nihon University. Students will not be responsible for supplying their own furniture, bulky goods or equipment and as such there will be no bulk waste generation.

25.04 Organic Green/Garden Waste Management

CoN have indicated that the development does not provide provision for organic green waste management. It should be noted that neither the *Newcastle DCP 2012 – Waste Technical Manual (June 2012)* or the EPA's publication "*Better Practice Guide for Resource Recovery in Residential Developments*" (2019), dictate waste generation rates for organic green/garden waste for this type of development.

The type of landscaping on the site will only generate small amounts of organic garden waste, in the form of minor pruning, weeds and dropped leaves. Species of selected plants that require pruning are minimal, and these are very slow growing. There are no areas of grass or lawn, and as such there will not be any grass clippings produced.

It can be assumed that landscaped areas will produce only small quantities of organic garden waste, and provision shall be provided for a maximum of 2 x 240L organic green waste movable wheelie bins. These can be positioned within the Residential & Education waste room. Collection of these can be by City of Newcastle green waste collection service, and will be collected kerb-side on a fortnightly basis.

25.05 Commercial Waste Contractor Provider

CoN have requested an engagement agreement or statement of intent from a commercial waste collection provider, regarding the waste management services.

At this early stage of the development, undertaking such negotiations and entering into any contractual engagement is premature. The proponent will be undertaking discussions with all relevant waste contractors at the appropriate time, prior to occupation. Some of these contractors will likely be:

- Cleanaway
- JJ Richards and Sons
- Solo
- Veolia
- Suez

We trust the above satisfactorily responds to the issues raised by City of Newcastle, in relation to waste management. If there are any questions regarding the above information, please don't hesitate to contact the undersigned.



Katherine Daunt

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File: 17-0347_A-a04memo_ejc-dwp
Encl: Drawing: A-108, Rev 1