

23 November, 2016

Emily McLaughlin
Bluestone Capital Ventures No 1 Pty Limited
Level 8, 71 Macquarie Street
Sydney NSW 2000

Dear Emily

RE: Stage 4 Residential/Hotel Woollooware Bay – Waste Management

KMH would like thank Capital Bluestone Pty Ltd for the opportunity to undertake a review of spatial allowance for waste management in relation to the Development Application (DA) for the proposed mixed-use development at the Cronulla Sharks Redevelopment on Captain Cook Drive, Cronulla, NSW 2230. This report has been prepared on the basis of a review of relevant documentation submitted to us on 27.10.2016 and 02.11.2016 and clarifications provided to us by Turner Studio on 07.11.2016.

Scope of the Project

This phase of the project entailed:

- Review of the various SEARs documentation to identify matters relating to waste management
- Estimation of the likely waste generation and review of collection requirements
- Review of the spatial allowance for waste management areas within the loading docks.

Documentation Reviewed

The following information has been reviewed as relevant to this deliverable:

- S75 / Stage 4 Residential/Hotel deliverables as at 25.10.2016
- DPE SEARs MP10_0229 Mod2 signed by William Dove on 14 October 2016, NSW EPA
- ESD report Stage 4 Residential/Hotel Woollooware Bay – Arup
- WBTC Stage 4 Residential/Hotel Request for SEARs by JBA
- Latest Architectural and plan drawings.

As per the ESD report, the developer will work with the waste contractor to achieve 80% diversion from landfill for waste generated on site (construction and operation). Two loading docks will share waste recycling facilities, including garbage, cardboard compactors and separate bins for mixed containers and hard waste. It is also proposed to hold periodic waste audits, record keeping and recyclable monitoring in the general garbage bins as well as establishing training programs for tenants to promote waste recycling.

SEARs Relevant Clauses Identified

DPE SEARs require that the goal of the development should ensure that:

- It is in accordance with the principles of waste hierarchy and cleaner production
- The handling, processing and storage of all materials used at the premises do not have negative environmental or amenity impacts

- The beneficial reuse of all wastes generated at the premises are maximized where it is safe and practical to do so
- No waste disposal occurs onsite except in accordance with an EPL (no waste disposal is expected to occur on site at this development).
- An EA is developed to identify, characterize, quantify and classify all waste that will be generated, recycled, reused and disposed from the project. It should also describe the methods of treatment, processing, reuse, recycling and disposal of each waste type both onsite and offsite.
- POEO Act 1997 and below guidelines are to be consulted in developing and implementing the EA:
 - Avoiding the dangers of accepting fill on your land (EPA 2013)
 - Better Practice Guidelines for Waste Management and Recycling in Commercial and Industrial Facilities (EPA 2012)
 - Better Practice Guide for Waste Management in Multi-Unit Dwellings (DECC 2008)
 - Better Practice Guide for Public Place Recycling (DEC 2005)

Discussions and Confirmation

The presented design documentation provides the following details:

1. 1 x serviced apartment/hotel building
2. 3 x residential flat buildings and terraces with 222 units (a mix of 1, 2 & 3 bedroom units) including six (6) townhouses
3. Residential waste management area in level 1 loading docks including:
 - a. 70 m² waste for residential general waste
 - b. 37 m² for bulky goods
4. Temporary residential waste holding areas on level 5, including space for interim waste bins and garbage chutes as:
 - a. 65 m² for building A
 - b. 70 m² for building B
 - c. 47 m² for building C
5. Retail bin room 62 m²
6. Hotel waste management area, 24m² within the hotel switch room on level 1 loading dock 2 under the car park access ramp to level 3
7. Major supermarket plant room on level 1 69 m² and 92 m² bin storage area on level 2 near major supermarket (Woolworths)
8. Pallet store 32 m² on level 1 loading dock 1

Residential

The 240L bins used for temporary storage of recycling on each floor will be emptied into the 1100L bins in the waste room by caretaker using the bin lift mechanism. The waste room will house only the 1100L MGBs, bin lift mechanism and the bin wash area.

As per the calculated waste generation, the minimum required to keep the required bins for residential waste management / bin room space (garbage and recycling) is 40 m² including the bin wash and bin lift mechanisms as per earlier advice. The provided bin space is therefore deemed to be adequate.

Recycling is collected by contractor as comingled and as per earlier advice this should not be via a chute to avoid breakage and contamination. The temporary storage space allowed (240L bin) on each floor next to the garbage chute is deemed adequate. It is recommended to have this space be provided adjacent to the garbage chute, in lieu of the twin chutes shown in the plans. All recycling that can be kept in the temporary store room and taken in the 240L bins by caretaker will be managed that way.

Bulky waste (including large cardboard boxes and other packaging waste such as from furniture or white goods) needs to be taken to the bulk waste room and organised for collection by the waste contractor. The space provided is deemed to be adequate.

Commercial

In the original WMP, all commercial space (hotel, childcare and community centre) were considered together for waste management calculations. The medical centre is not included in the calculations as waste generated at the medical facility (clinical waste) is required to be managed by a specialist contractor. As per latest drawings (S4-A1-90100 08 Leasing Plans) made available to us on 9.11.2016, the commercial GFA is now 9,864 m² leading to 4,932 L of garbage and recycling each per day, which requires six 1100L MGBs each for garbage and recycling assuming daily collection by a waste contractor. KMH understands that this may include childcare, community centre, short stay hotel, club and gym areas.

Generally, a waste (garbage) generation rate of 5L/bed/day is used for hotel accommodation. It is understood that there are 125 keys/rooms (assumed 125 beds). It is also noted that the hotel waste storage will be separately undertaken with space provided at the hotel switch room/communications space on the ground floor within loading dock 2 under the vehicle access ramp to level 3. The allocated space is adequate for the estimated waste generation rates, bin storage and bin movement.

Retail

It is assumed that retail waste management will be as per specific requirements by waste generators such as Woolworths, Dan Murphy and Aldi. Food court waste is expected to be generated at the following rates:

Table 1: Retail waste generation rates – standard figures used in WMP calculations

Retail (Other than food sales)		
Shops less than 100m ² floor space	50L / 100m ² / floor area / day	25L / 100m ² / floor area day
Shops over 100m ² floor space	50L / 100m ² / floor area / day	50L / 100m ² / floor area day
Food Premises:		
Butcher	80L / 100m ² floor area / day	Discretionary
Delicatessen	80L / 100m ² floor area / day	Discretionary
Fish Shop	80L / 100m ² floor area / day	Discretionary
Greengrocer	240L / 100m ² floor area / day	120L / 100m ² / day
Hairdresser	60L / 100m ² floor area / day	Discretionary
Restaurants	10L / 1.5m ² floor area / day	2L / 1.5m ² floor area / day
Supermarket	240L / 100m ² floor area / day	240L / 100m ² / day
Takeaway	80L / 100m ² floor area / day	Discretionary

As per latest drawings (S4-A1-90100 08 Leasing Plans) provided to us on 9.11.2016, the retail GFA on levels 1 and 2 together (including the four major retail spaces, specialty stores and other mixed retail, restaurants and cafes), is 15,602 m². This requires 63 m² for waste management. Considering the separate waste management space and arrangements for the major retailers, this space is considered adequate.

If you require any further clarifications or information within the scope of this project please contact the undersigned.

Yours sincerely,

Dr Avanish Panikkar
Senior Waste Engineer
KMH Environmental