Appendix X)

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Version: 1, Version Date: 18/03/2016

integratedDESIGNgroup
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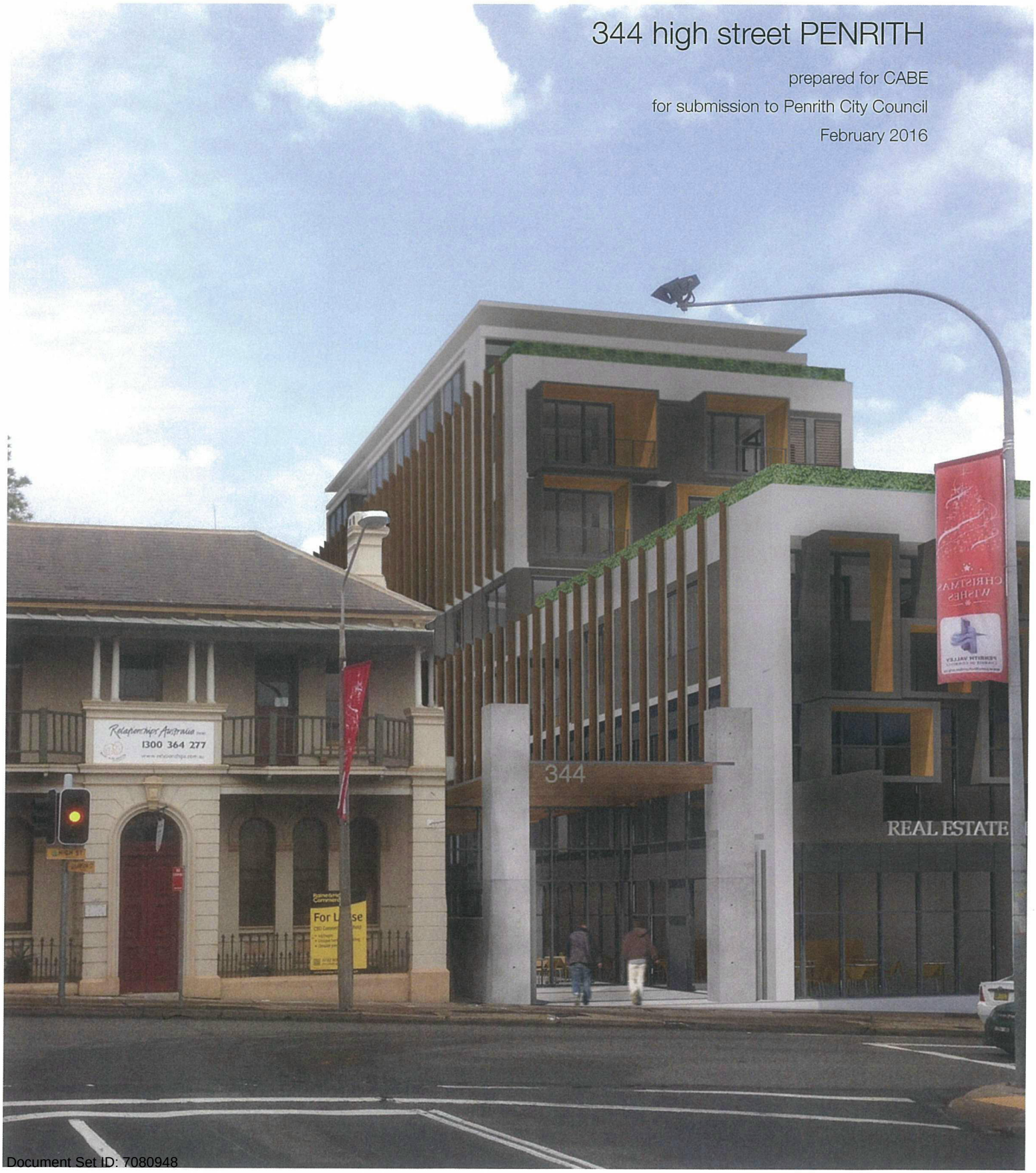
waste management report

344 high street PENRITH

prepared for CABE

for submission to Penrith City Council

February 2016



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applicant and project details	
applicant details	
name	CABE
representative	Joe Bevaqua
address	Suite 502, Level 5, 2-8 Brookhollow Avenue, Baulkham Hills NSW 2153
phone	(02) 8818 3600
email	joeb@cabe.com.au
project details	
site address	344 High Street Penrith NSW 2750
existing building(s) and/or other structure(s) on site	The site currently contains a 2 storey masonry retail /commercial building on High Street. The rear of the site is an on-grade carpark with concrete surface and a small carpot structure.
description of proposed development	The proposed 7 storey development is a mix of uses including commercial, retail and residential apartments. The ground floor contains retail/commercial tenancies to High Street with apartments above (total 39 across the site) and an on grade carpark off John Cram Place with a single storey basment level carparking.

waste transfer and recycling centre
Throughout this report reference is made to the nominated Waste transfer and recycling centre. We note that for this development this refers to …

signature _____

date _____

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demolition					
type of waste generated	**estimated waste: volume (m^3) weight (t)**	**intent**			**method of onsite reuse, contractor and recycling outlet and/or waste depot to be used**
		reuse	**recycle**	**disposal**	
excavation material	480m^3		✓	✓	Excess material will be removed by excavation contractor to nominated waste transfer/recycle centre.
green waste	30m^3	✓			Removed trees to be mulched, stored on site, and re-used in landscaping.
bricks/pavers	120m^3	✓	✓		All waste bricks will be crushed and utilised at the principal entrance to the site for gravel shaker ramp to minimise soil deposits on the surrounding road network.
concrete	630m^3	✓	✓		Reused for filling, levelling or road base. All excess material to be recycled at nominated waste transfer/recycle centre.
timber (specify)	170m^3	✓	✓		Reuse for formwork, remainder removed from site and recycled off site at nominated waste transfer/recycle centre
plasterboard	150m^3		✓	✓	Any leftovers to be disposed of or recycled at nominated waste transfer/recycle centre.
metal (roof sheet)	70m^3		✓	✓	Any leftovers to be disposed of or recycled at nominated waste transfer/recycle centre.
glass	60m^3		✓	✓	Any leftovers to be disposed of or recycled at nominated waste transfer/recycle centre.
fixtures & fittings	10m^3		✓	✓	Any leftovers to be disposed of or recycled at nominated waste transfer/recycle centre.
floor coverings	80m^3		✓	✓	Any leftovers to be disposed of or recycled at nominated waste transfer/recycle centre.
hazardous/special waste e.g. asbestos (specify)	TBC at demolition			✓	All quantities of asbestos will be determined at the time of demolition. Removal and Disposal will be in accordance with the relevant Australian Standards, OH&S and EPA guidelines. All work to be completed by a suitably qualified and registered contractor.
Waste generation quantities are estimated based on area. Detailed volumes and recycling / disposal locations to be confirmed by contractor / builder at construction stage.					

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construction					
type of waste generated	**estimated waste: volume (m^3) weight (t)**	**intent**			**method of onsite reuse, contractor and recycling outlet and/or waste depot to be used**
		reuse	**recycle**	**disposal**	
excavation material	5,280m^3		✓	✓	Excess material will be removed by excavation contractor to nominated waste transfer/recycle centre.
green waste	10m^3	✓	✓		Mulched, composted in landscape
bricks/pavers	10m^3	✓	✓		Offcuts crushed and used in landscape. Excess material removed by contractor to nominated waste transfer/recycle centre.
concrete	10m^3		✓	✓	Excess material removed by contractor to nominated waste transfer/recycle centre.
timber (specify)	10m^3	✓	✓		Reuse for formwork, remainder removed from site and recycled off site at nominated waste transfer/recycle centre.
plasterboard (offcuts)	10m^3	✓	✓		Removal for recycling or return to supplier.
metal (roof sheet)	n/a				No metal roofing to be used in this development.
glass	n/a				Made to measure into proposed AFS wall system with construction off site.
floor coverings	10m^3		✓	✓	Any leftovers to be disposed of or recycled by appropriate sub-contractor.
packaging (used pallets, pallet wrap)	15m^3		✓		Recycled by appropriate sub-contractor.
containers (cans, plastic, glass)	3m^3		✓		Recycled by appropriate sub-contractor.
paper/cardboard	5m^3		✓		Recycled by appropriate sub-contractor.
Waste generation quantities are estimated based on area. Detailed volumes and recycling / disposal locations to be confirmed by contractor / builder at construction stage.					

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ongoing operation (multi dwelling residential & commercial/retail)								
type of waste generated	cafe		commercial (retail)		commercial (office)		apartments	
	general waste	recyclable waste	general waste	recyclable waste	general waste	recyclable waste	general waste	recyclable waste
amount	160 m^2 NLA		204 m^2 NLA		400 m^2 NLA		39 units	
days/week	7 days		7 days		5 days		7 days	
amount generated (L per unit per week)	7467	1493	713	713	200	200	3120	1560
any reduction due to compacting equipment	1	1	1	1	1	1	4	1
frequency of collections (weeks)	2	2	1	1	1	1	1	1
size of bins (L)	1100	1100	1100	1100	1100	1100	1100	1100
number of storage bins required	0.8	0.7	0.6	0.6	0.2	0.2	2.8	1.4

Waste generation quantities are estimated based on rates provided in the Penrith City Council Draft Development Control Plan 2010 – Waste Management APPENDIX F5. Reference has been made to the Draft Waste management Plan DCP.

It is suggested that the waste management system be monitored in the initial stages to ensure that sufficient bins have been provided to handle the waste generated. The number of bins provided and collection frequency will need to be monitored and adjusted to suit the needs of the individual tenants. Tenants may nominate an appropriate bin size to suit their needs. Compaction facilities will be provided for use as required.

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ongoing operation (multi dwelling residential & commercial/retail)	
on-site waste collection	
driveway location	The site is accessed from John Cram Place to the west.
driveway and access route width	The access driveway is 5500mm clear with 300mm kerbs on either side
type of waste collection area, ie basement, loading dock etc	A waste collection point is to be provided at ground level adjacent to the commercial entry from John Cram Place (see architectural plan DA 9002 - Waste management).
maximum reversing distance for collection vehicles and configuration of path (straight, curved etc)	Collection Vehicles are required to turn 90º into paved area adjacent to the building entry from John Cram place for rear loading. To exit vehicles must then reverse in a curved configuration to then exit into John Cram place in a forwards direction (see architectural plan DA 9002 - Waste management). This template has been set up on an 11m long truck to allow for the 10.5m long trucks used by Penrith City Council for collection from multi-unit residential developments. *Refer to Traffic Report by Varga Traffic Planning Associates*
distance from collection area to the property boundary	Pick up area is on site but directly adjacent to the property boundary.
headroom along vehicle travel path - measured at its lowest point from ceiling, ducting, conduits or any other obstruction.	6.0m clear space over loading area. 3.8m clear area over reversing area. *Refer to Sections in Architectural drawings*
dimensions for vehicle manoeuvring/ turning circles, including on-street turning circles.	A Sweep path analysis has been conducted based on a 11m truck. *Refer to Traffic Report by Varga Traffic Planning Associates*
structural capacity of slab for collection areas.	The driveways and basement floor are to be designed and constructed to offer sufficient structural capacity to accommodate Council vehicles of a minimum 16 tonnes
ramp gradients	n/a
vehicle turntable use – weight capacity – max. wheel base – provision for overhang	n/a
dimensions, layout and floor area provided at bin collection point	An area of 5.0m x 3.0m is provided for the waste collection room for residential waste.

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ongoing operation (multi dwelling residential & commercial/retail)	
on-site waste collection	
dimensions, layout and floor area provided for collection vehicle standing/collection area.	An area of 6.1m x 7.3m is provided for the collection vehicle standing area
grade of bin collection area, including for waste collection vehicle.	Step free and level access is provided between waste storage room and collection point. Maximum gradient is 1 in 35.
obstructions to other users during waste collection	There is no obstruction to other users whilst the waste collection vehicle is loading.
legal arrangements for access for collection staff	Garbage Collection room will be locked and master key provided to maintenance / collection staff
screening and amenity of collection areas.	Garbage Collection room will be enclosed by floor to ceiling concrete wall and accessed via locked roller shutters

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design for waste management

Materials
The development has been designed to incorporate a consistent floor plate within its different uses. Standardisation generally results in more efficient construction.

Most of the materials used are pre-fabricated offsite and can be made and be purchased to measure, minimising wastage onsite. In particular, the proposed wall system (AFS concrete walls) is a permanent formwork system which is pre-made off-site, cranes and locked into position on site and concrete poured into the walls to minimise all concrete waste on site, and reduce the waste from on-site construction methods such as brick and cladding.

Where possible, existing materials on site, such as demolished concrete / bricks can be reused in landscaping and on roof tops.

Lifecycle
Durable, low maintenance materials are selected to form the building fabric. For instance the external louvres are aluminium finish which has a long durability and does not require constant maintenance over its lifecycle. The windows are an aluminium frames system which is powder coated and requires no maintenance. The AFS wall system is a textured paint finish which depending on the manufacturer can have up to a 20 year lifecycle between maintenance.

Disposal
Residents and Commercial tenants will be serviced by a centrally located garbage chute on each level which delivers waste to 1100 L bins on a linear waste compaction system on the basement level. A chute is also provided for recycling which leads directly to a 1100L bin in the basement. Tenants are required to transport all waste to the garbage chutes and recycling bins in the garbage rooms. A bulky items storage area is also provided for residents to use to avoid these items being stored at street level.

A retail and commercial waste room is also provided at the ground level. This has a compacter in it for the retail food cafe, and a general 1100L bin for the other commercial areas.

Transfer
Once compaction bins under the waste chutes are full, building maintenance will move the bins to the garbage holding room on basement level one.

Recycling bins and rubbish from retail tenants will also be transferred by building maintenance staff after hours and transferred to the garbage holding room on basement level one for compaction, sorting and storage.

Collection
Commercial/cafe waste is to be collected by a private contractor via the ground level commercial waste room. Adequate turning and height clearances have been provided and are shown on the DA documentation provided as necessary. Pickup will occur on a contractual basis via John Cram Place.

For residential waste the garbage will be transferred from basement waste storage rooms to a ground level holding room by building management. From here the waste will be picked up by Penrith City Council's waste collection service once a week where the truck will park on site adjacent tot he John Cram Place street entrance (see Waste management drawing DA 9002). Bins will be transferred from holding room to the truck. The truck will then leave the site in a forward fashion. The swing and access of the truck is accessed in the Traffic Report prepared by Varga Traffic Planning and Associates.

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Waste Caretaker
Building maintenance is to be employed to manage the garbage system of the development. Furthermore, it is also strongly suggested that a part-time caretaker be employed to manage the system in the full time caretakers absence, i.e. on weekends and Public Holidays when the waste generation is expected to peak.

The caretaker's duties would include the following:

- Generally maintaining and cleaning the garbage rooms. (Suggested at least once per week)
- Organising, maintaining and cleaning the general and recycled materials holding areas. Due to the nature of the waste it is recommended that in addition to cleaning, the garbage rooms be deodorised (suggested at least once per week).
- Sorting recycled materials into appropriate receptacles.
- Organising for both Garbage and Recycled Materials pick-ups as required.
- Transporting appropriate waste containers between garbage rooms and collection areas to coincide with collection cycles and vice versa.
- Assisting with the emptying of bins during collection.

Organic Waste
It is suggested that all organic waste be handled and managed by the personnel responsible for maintaining communal rooftop landscaped areas.

Composting Waste Storage
Considering the impact on amenity involved with establishing a compost farm, it is suggested that a compost farm be used on this development on the rooftop landscaped garden areas. This process will be handled and managed by the personnel responsible for maintaining landscaped areas.

Garbage Rooms
Construction of both the garbage areas and garbage rooms is to meet all requirements set out in Penrith City Council Codes, BCA, Australian Standards and WorkCover NSW Work Health and Safety requirements.
Construction of waste storage room, including its finishes, fittings and hardware, should be durable. Each garbage room should have a minimum of one (1) hose cock to allow for the connection of a hose for washing and cleaning purposes.
Sufficient signage should be installed to inform, educate and encourage users of the appropriate waste bins to use and storage methods.

Construction Waste Management
A construction waste management plan will need to be prepared by the contractor engaged for the construction stage of the development detailing access and storage for on-site construction waste.

This report has been prepared by integratedDESIGNgroup on behalf of the applicant CABE Pty Ltd.

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