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Darling Square South East Plot Waste Management Plan

**[Updated May 2017
for Section 96 Application]**

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1. Introduction

This report supports an application made under section 96 of the *Environmental Planning and Assessment Act 1979* (EP&A Act) to modify Development Consent SSD 6633 relating to the development of the South East Plot of Darling Square which is part of the Sydney International Convention, Exhibition and Entertainment Precinct (SICEEP).

Development Consent SSD 6633 was granted on 16 December 2016 by the delegate of the Minister for Planning for the following components of development:

- Staged construction of 9 storey, 10 storey and 29 storey buildings, including a 6 storey podium, to be used for ground floor retail, above ground parking and residential apartments;
- Various public domain and landscaping improvements;
- Vehicle access from Harbour Street; and
- Remediation works

This section 96 application (the Modification Application) constitutes the first modification to the consent. This Modification Application follows the approval and current assessment of a number of SSDAs within the SICEEP site as set out in **Table 1**.

Table 1 - Status of Initial SICEEP SSD DAs

DA No	Description of Application	Status
12_5752	SICEEP Core Facilities – Exhibition Centre, Convention Centre, The Theatre, Event Deck and Tumbalong Park	Approved: 22 August 2013
MOD 1	S96(1A) - various	Approved: 20 February 2014
MOD 2	S96(1A) – various	Approved: 18 July 2014
MOD 3	S96(1A) – various	Approved: 1 July 2015
13-5878	Darling Square Concept Proposal	Approved: 5 December 2013
MOD 1	S96(1A) – various	Approved: 26 November 2015
MOD 2	S96(1A) – various	Approved: 4 October 2015
6010	Western Plot (Student Accommodation – Building W2)	Approved: 7 May 2014
MOD 1	S96(2) – various	Approved: 1 April 2016
6013	North-West Plot (Public car park/ commercial office building)	Approved: 7 May 2014
MOD 1	S96(2) – various	Approved: 20 July 2015
MOD 2	S96(1A) – various	Approved: 26 November 2015
MOD 3	S96(1A) – various	Approved: 23 December 2016
6011	South-West Plot (Mixed Use Residential Development)	Approved: 21 May 2014
MOD 1	S96(1A) – various	Approved: 27 July 2015
MOD 2	S96(1A) – various	Approved: 14 March 2017
6116	ICC Hotel	Approved: 15 June 2014
MOD 1	S96(1A) – various	Approved: 8 July 2015
6626	North-East Plot (Mixed Use Residential Development)	Approved: 16 April 2015
MOD 1	S96(1A) – various	Approved: 21 April 2017
6831	ICC Hotel fit-out, façade lighting system and subdivision	Approved: 16 October 2015
MOD 1	S96(1A) – various	<i>Under Assessment</i>
7133	Western Plot (Student Accommodation – Building W1)	Approved: 1 April 2016
6633	South East Plot (Mixed Use Residential Development)	Approved: 16 December 2016
MOD 1	S96(1A) – various	Subject of this modification application
7021	North Plot (Community and Retail Building and Public Open Space)	<i>Under Assessment</i>

Overview of Proposed Modifications

This report supports a State Significant Development (SSD) Development Application (DA) submitted to the Minister for Planning pursuant to Part 4 of the *Environmental Planning and Assessment Act 1979* (EP&A Act).

The Application (referred to as SSDA 9) follows the approval of a staged SSD DA (SSDA 2) in December 2013. SSDA 2 sets out a Concept Proposal for a new mixed use residential neighbourhood at Haymarket referred to as “Darling Square”, previously known as “The Haymarket”. Darling Square forms part of the Sydney International Convention, Exhibition and Entertainment precinct (SICEEP) Project, which will deliver Australia’s global city with new world class convention, exhibition and entertainment facilities and support the NSW Government’s goal to “make NSW number one again”.

More specifically this subsequent DA seeks approval for mixed use development within the South East development plot of Darling Square and associated public domain works. The DA has been prepared and structured to be consistent with the Concept Proposal DA.

This updated report had been prepared to support the Section 96 application dated May 2017.

2. Overview of Proposed Modifications

This Modification Application seeks approval for the following amendments:

- Internal amendments to the podium levels, including design amendments to the retail tenancies and provision of additional car parking spaces within the approved maximum car parking rates;
- Internal revisions to some residential apartments resulting in a reduction in the overall number of apartments; and
- Minor external amendments at the upper and lower levels, including improved interfaces with the public domain.

A range of other minor amendments resulting from design development are illustrated on the amended Architectural Drawings. These changes are to be expected in any project, especially given the nature and scale of the approved South East Plot development.

3. Site Description

The SICEEP Site is located within Darling Harbour. Darling Harbour is a 60 hectare waterfront precinct on the south-western edge of the Sydney Central Business District that provides a mix of functions including recreational, tourist, entertainment and business.

With an area of approximately 20 hectares, the SICEEP Site is generally bound by the Light Rail Line to the west, Harbourside shopping centre and Cockle Bay to the north, Darling Quarter, the Chinese Garden and Harbour Street to the east, and Hay Street to the south (refer to **Figure 1**).

The Darling Square Site is:

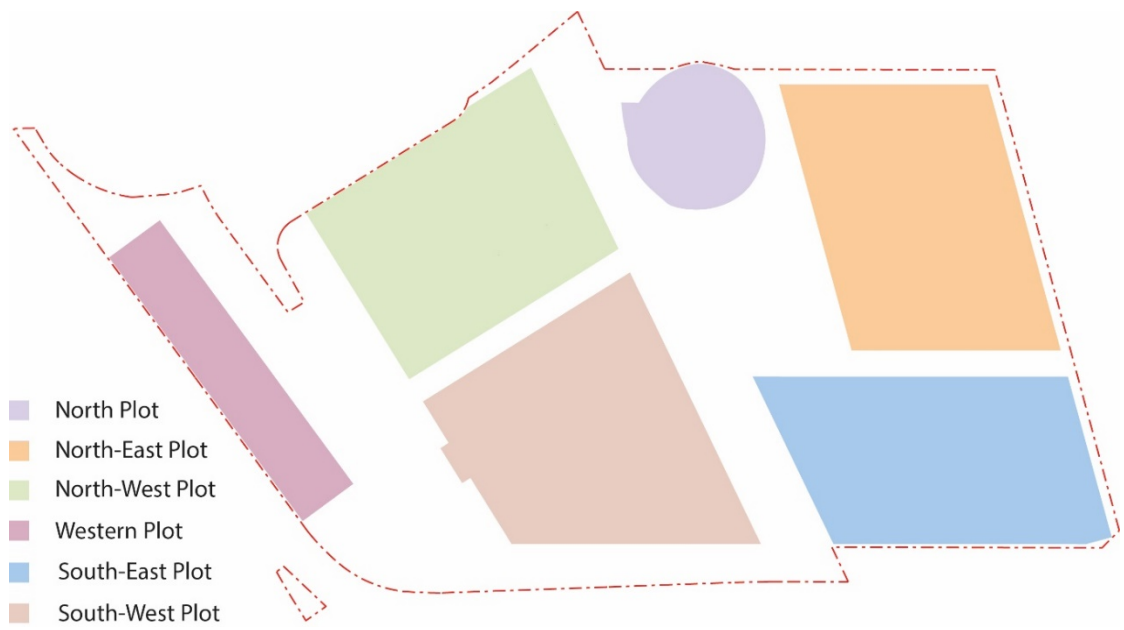
- Located in the south of the SICEEP Site, within the northern portion of the suburb of Haymarket;
- Bounded by the Powerhouse Museum to the west, the Pier Street overpass and Little Pier Street to the north, Harbour Street to the east, and Hay Street to the south; and
- Irregular in shape and occupies an area of approximately 37,701m².

Figure 1 - Aerial Photograph of the SICEEP Site



The Modification Application Site relates to the South East Plot and surrounds as detailed within the drawings submitted in support of Modification Application. **Figure 2** illustrates the South East Plot in the approved Concept Proposal.

Figure 2 – Concept Proposal Development Plots



4. The Development

The proposal relates to a detailed ('Stage 2') DA for a mixed use residential development in the South East Plot of Darling Square together with associated public domain works. The Darling Square Site is to be developed for a mix of residential and non-residential uses, including but not limited to residential buildings, commercial, retail, community and open space. The South East Plot is one of six development plots identified within the approved Concept Proposal.

The total proposed development for which this report has been prepared consists of 390 residential apartments across 3 towers (SE1, SE2, and SE3), and a total of 1,356 m² of retail premises. These are summarised in Tables 1 and 2 below:

Table 2 - Residential Apartment Mix

Residential Tower	Apartments
SE1	292
SE2	28
SE3	70
TOTAL	390

Table 2 - Retail Tenancy Mix

Retail Type	GLA m ²
Restaurant & Café	961
Non-Food	395
TOTAL	1,356

5. Waste Generation

5.1 Waste Streams

Based on the estimated waste profile, the following waste streams are expected:

1. General Waste
2. Cardboard/Paper Recycling
3. Commingled (Container) Recycling
4. Food Organics Recycling
5. Used Cooking Oil
6. E-Waste Recycling
7. Battery Recycling
8. Mobile Phone Recycling
9. Toner Cartridge Recycling
10. Fluorescent Light Tube Recycling

Streams 1-10 will be generated by retail tenancies and the base building in varying quantities depending on the tenancy type; streams 1-3 only will be generated by residential tenants.

5.2 Waste & Recycling Generation - Residential

The following tables summarise the expected weekly quantities of waste and recyclables that will be generated by the development's residential dwellings:

Table 3a - Residential Tower SE1 (292 apartments)

Material Stream	Generation/Apt/Week		Total/Week	
	kg	L	kg	L
General Waste	6.4	80	1,869	23,360
Paper/Cardboard Recycling	0.7	25	204	7,300
Commingled Recycling	1.4	15	409	4,380
TOTAL	8.5	120	2,482	35,040

Table 3b - Residential Tower SE2 (28 apartments)

Material Stream	Generation/Apt/Week		Total/Week	
	kg	L	kg	L
General Waste	6.4	80	179	2,240
Paper/Cardboard Recycling	0.7	25	20	700
Commingled Recycling	1.4	15	39	420
TOTAL	8.5	120	238	3,360

Table 3c - Residential Tower SE3 (70 apartments)

Material Stream	Generation/Apt/Week		Total/Week	
	kg	L	kg	L
General Waste	6.4	80	448	5,600
Paper/Cardboard Recycling	0.7	25	49	1,750
Commingled Recycling	1.4	15	98	1,050
TOTAL	8.5	120	595	8,400

5.3 Waste & Recycling Generation – Retail

The following table summarises expected weekly quantities of waste and recyclables that will be generated by the development's retail tenancies:

Table 4 - Retail Waste & Recycling Generation

Material Stream	kg/week	%	L/week	%
General Waste	861	28.2%	12,303	49.5%
Paper/Cardboard Recycling	676	22.1%	6,764	27.2%
Commingled Recycling	226	7.4%	2,829	11.6%
Organics Recycling	1,292	42.2%	2,691	11.1%
Soft Plastics Recycling	3	0.1%	277	1.1%
TOTAL	3,058	100.0%	24,867	100.0%

5.4 Total Waste & Recycling Generation

Based on industry averages for quantity of waste generated and composition, and the expected residential and retail profiles, it is estimated that the development will generate the following totals of general waste and recyclables per week:

Table 5 - Total Waste & Recycling Generation

Material Stream	kg/week	%	L/week	%
General Waste	3,357	52.68%	43,503	60.70%
Paper/Cardboard Recycling	949	14.90%	16,514	23.04%
Commingled Recycling	772	12.12%	8,679	12.11%
Organics Recycling	1,292	20.27%	2,691	3.75%
Soft Plastics Recycling	3	0.04%	277	0.39%
TOTAL	6,373	100.00%	71,663	100.00%

6. Storage Area Requirements

6.1 Residential Waste & Recycling

The number, type, and total footprint of bins required has been estimated based on collection of general waste and mixed recycling once weekly. Bin sizes are in litres and footprints include 20% allowance for space between bins and circulation.

There will be a total of three waste rooms, one servicing each individual residential tower, as detailed below. The e-diverter split chute system will terminate in each waste room, depositing general waste and recyclables into 660-litre bins stored within the rooms.

The waste areas will be accessed by the site cleaning staff only; residents and retailers will not have access to these areas except by special arrangement with building management.

Table 6a - Storage Room SE1

Material Stream	Bin Size	No.	Clearances/ Week	Capacity Litres/ Week	Est. Litres/ Week	Footprint/ Bin (m ²)	Total Footprint
General Waste*	660	18	1	23,760	23,360	1.40	25.2
Mixed Recycling	660	18	1	11,880	11,680	1.40	25.2
TOTAL		36		36,540	35,040		50.4
STORAGE ROOM AREA (m²)							60.0

* With compaction based on a 2:1 ratio

Table 6b - Storage Room SE2

Material Stream	Bin Size	No.	Clearances/ Week	Capacity Litres/ Week	Est. Litres/ Week	Footprint/ Bin (m ²)	Total Footprint
General Waste	660	4	1	2,640	2,240	1.40	5.6
Mixed Recycling	660	2	1	1,320	1,120	1.40	2.8
TOTAL		6		3,960	3,360		8.4
STORAGE ROOM AREA (m²)							27.7

Table 6c - Storage Room SE3

Material Stream	Bin Size	No.	Clearances/ Week	Capacity Litres/ Week	Est. Litres/ Week	Footprint/ Bin (m ²)	Total Footprint
General Waste	660	9	1	5,940	5,600	1.40	12.6
Mixed Recycling	660	5	1	3,300	2,800	1.40	7.0
TOTAL		14		9,240	8,400		19.6
STORAGE ROOM AREA (m²)							30.0

Table 6d shows net area sizing requirements for all bins and equipment in SE1, SE2, and SE3 including linear systems. The linear track footprint is 2.3 m² (750 mm x 3,000 mm).

Due to the small volume of waste that will be produced by SE2, it may be worth considering not installing a linear system, and instead having cleaners manually exchange full bins for empty ones.

Table 6d - Residential Waste Storage Area Equipment and Sizing

Storage Area	Bin Footprint	Linear System Footprint	Bin Wash Area m ²	Total m ² Required	Total m ² Area Size
SE1	37.8	2.3	3	43.1	60.0
SE2	3.8	2.3	3	9.1	27.7
SE3	11.6	2.3	3	16.8	30.0
Bulky Waste Store	N/A				11.0

6.2 Retail Waste & Recycling

Table 7 shows retail waste and recycling generation based on 7 days per week trading and the lettable area figures shown in Section 4, Table 2. General waste and recyclables other than soft plastics will be collected 5 days per week, and soft plastics will be collected once per week.

Space for a waste cooking oil storage unit and bin wash area has also been allowed for in the retail waste storage room. An example of a suitable waste oil collection unit is shown in Appendix B.

As the available space in this room is limited, bulky waste from retailers, which will only be produced on an intermittent basis, can be stored in a separate part of the area that is currently allocated for residential bulky waste storage in the Ground Floor loading dock area.

Table 7 - Retail Waste and Recycling Generation

Material Stream	Bin Size	No.	Clearance Frequency per Week	Capacity Litres/ Week	Est. Litres/ Week	Footprint/ Bin (m ²)	Total Footprint (m ²)
General Waste	660	5	5	16,500	12,303	1.40	7.0
General Waste	240	2	5	2,400		0.51	1.0
Cardboard Recycling	660	3	5	9,900	6,764	1.40	4.2
Commingled Recycling	660	1	5	3,300	2,829	1.40	1.4
Commingled Recycling	240	1	5	1,200		0.51	0.5
Organics Recycling	120	7	5	4,200	2,691	0.33	2.3
Soft Plastics Recycling	Frame	1	1		277		2.5
Waste Cooking Oil	~100	1	Weekly	100	100	1.50	1.5
Bin Washing Area	N/A						3.0
TOTAL		21		37,600	24,963		23.4
STORAGE ROOM AREA (m²)							31.0

7. Collection and Management Practices

A commercial contractor will provide general waste and recycling collection five times per week and soft plastic recycling collections once per week for retail tenancies. The City of Sydney will provide collection of general waste twice weekly and recycling once weekly.

Residential and retail waste and recycling will be managed and stored separately as detailed in Sections 7.2 and 7.3 respectively.

7.1 General

The waste and recycling area and loading zone is level with no raised platforms or steps. This will allow cleaners and contractors to easily manoeuvre waste bins throughout these areas.

Doorways and corridors have been designed with sufficient horizontal clearance to accommodate the width of the largest recommended bins (660-litre MGBs – dimensions 1250 mm H x 850 mm D x 1370 mm W). Gradients throughout back of house areas between waste storage rooms and the central loading zone meet acceptable limits.

The waste chute locations are suitable within each of the residential storage rooms SE1-SE3, although we note that the chute in SE3 is located behind a wall. This could potentially mean that any blockages requiring direct access to the chute itself may require demolition of part of this wall, although this is quite unlikely as blockages can usually be cleared by other means without requiring this level of intervention.

7.2 Residential

Chute access will be provided for residents on each floor. The split chute system allows general waste and recycling to be deposited in the one chute – residents select which stream they are depositing and a diverter will direct the material into the correct bin in the storage room at the base of the chute.

As waste arrives via chute, the general waste falls into a 660-litre MGB located on a linear track: as the bin fills, it then is moved forward and an empty bin becomes available. Cleaners are then responsible for removal of full bins and then replacing with empty ones (indicative designs for the chute and linear system are provided in Appendix B). Recyclables fall directly into a 660-litre MGB.

Residents will be briefed on the proper use of the split chute system and any contamination of the recycling stream will be monitored and reported by cleaners/building management. Residents will be encouraged to maximise the separation of general waste and mixed recyclables within their apartments to aid the proper disposal of all materials.

Prior to each collection, cleaning staff will transfer all bins from each individual waste storage room to the central waste collection area within the loading dock. Council's vehicle will service the bins from the loading zone and it will be the responsibility of building management/onsite cleaning staff to return the bins to their respective waste rooms after collection.

Due to the use of compacted 660-litre MGBs in the SE1 residential waste room, a power-assisted tug is recommended for cleaning staff to assist in transferring multiple bins in one movement to the central waste collection area. Appendix D shows examples of such equipment.

Residents will liaise with building management to organise access and disposal of bulky items in the storage area. Items such as furniture/whitegoods stored within the bulky items storage area will be offered to other residents for reuse if desired. Alternatively, City of Sydney offers a bulky goods collection service which would be booked by building management as required.

7.3 Retail

Retailers will separate general waste and recyclables within their tenancies and have them contained for transfer to the waste room periodically throughout each day by cleaning staff. Cleaners will be responsible for transporting all waste and recycling from the retail tenant's points of generation to the waste storage areas and depositing materials in the correct bins. This will enable more efficient management of each stream and avoid contamination of recycling streams.

Site cleaning staff will then wheel bins from the retail waste room to the central loading zone within the basement level loading dock. Once emptied, the waste contractor will return the bins to the retail waste room for use. The only exception is the oil caddy which will be emptied via a hose connected from the tanker truck directly to the oil unit within the waste room.

Site management will liaise with the appointed waste contractor to advise on the most suitable collection times for all streams to ensure traffic congestion is limited in the loading area. Within the retail areas, recycling hubs have been provided where waste and recycling bins will be stationed. This allows retailers easy access to bins. These areas will be colour coded and signed. They will be serviced throughout the day by cleaners to ensure bins do not overflow.

The retail tenancies will be designed so as to allow effective segregation of recyclables and will have provision for the following streams:

- Paper/Cardboard Recycling
- Commingled Recycling
- Organics Recycling
- Soft Plastics Recycling (Clean material only from general retail)
- General Waste

Used cooking oil will be stored in the waste room for collection. Measures will be taken to ensure safe transportation to the waste room and safe storage, with any spillages cleaned up immediately.

Retailers will also be provided with recycling systems for e-waste; batteries; mobile phones etc. Systems for these will be located within each tenancy or in common areas or available on request from building management. Fluorescent tubes will be kept separated when changed, and recycled.

Building management will ensure that tenants are equipped with appropriate systems to effectively manage their waste and maximize the diversion of recyclables from general waste, and establish a system of monitoring and reporting that allows any non-compliant tenant (in terms of correct segregation) to be identified to enable review and education.

Cleaners will be trained to ensure they are fully aware of the acceptance criteria detailed in Section 9 and will be responsible for cleaning all waste storage areas and ensuring they stay litter free.

8. Bins and Signage

8.1 Bins

Containers located within the development for waste and recycling should be consistent. The following table outlines the colour coding that has been developed by Standards Australia.

Table 8 - Standards Australia Waste/Recycling Container Colour Coding

Material Stream	Bin Body Colour	Lid Colour
Paper Recycling	Blue	Blue
Cardboard Recycling	Green	Blue
Food Organics	Burgundy	Burgundy
Commingled Recycling	Green	Yellow
General Waste	Green	Red

8.2 Signage

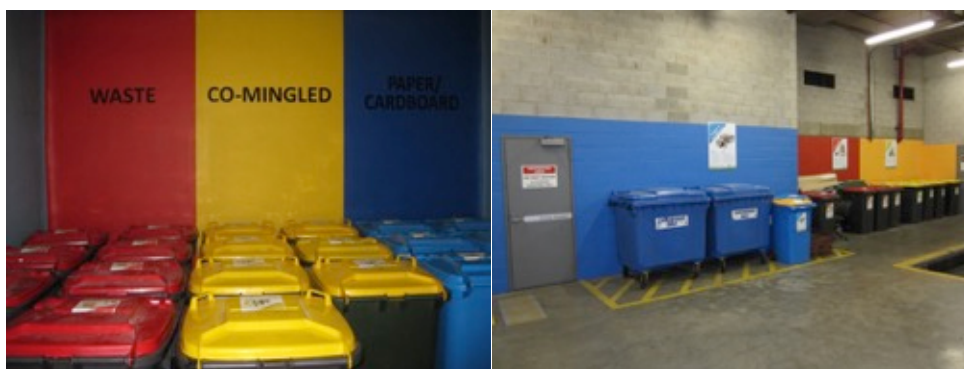
All waste receptacles will be appropriately signed and additional room signage is usually provided from most waste contractors during implementation of the waste contract. Signage will be displayed on bin lids as well as at eye level on the wall of the storage area.

All signs will:

- Clearly identify the waste/recycling stream and identify what is and is not be accepted
- Use correct waste/recycling stream colour coding
- Include highly visual elements for individuals for whom English is not a native language
- (Optionally) include text in other languages likely to be spoken by retailer staff/site users

Examples of waste storage area colour coding are shown below. Signage examples are provided in Appendix C.

Photographs 1 & 2 - Examples of Waste Storage Area Colour Coding



9. Waste Stream Acceptance Criteria

General Waste

Hazardous materials such as batteries, fluorescent light tubes, light bulbs and/or toner cartridges; recyclable materials such as cardboard, paper, or commingled recyclables; or electronic equipment such as computers, TVs and mobile phones, must not be placed in the general waste bins. The site should make separate arrangements for recycling these materials.

Cardboard/Paper Recycling

The cardboard and paper recycling stream can include all types of cardboard except waxed cardboard, and all office type paper. Common contaminants include non-office papers (e.g. food wrappers) and packaging materials from inside cardboard boxes (e.g. polystyrene).

Commingled Recycling

Commingled recycling systems generally accept: all recyclable plastic containers; aluminium containers; steel cans; glass bottles; and liquid paperboard. Since acceptance criteria can vary slightly for different contractors, specific requirements should be confirmed with the site's waste contractor before implementing a program.

Organics Recycling

Organics recycling systems accept materials such as food waste (from food preparation, leftovers, and spoiled or past use by date items), fruit and vegetable pulp, coffee grounds, tea bags, and dead flowers. These systems are particularly sensitive to contamination: common contaminants include plastic wrap and food scraps left inside containers. Acceptance criteria can vary slightly so specific requirements should be confirmed with the waste contractor before implementing a program.

10. Compliance Criteria

Two Green Star points are awarded where a dedicated storage area for the separation and collection of recyclable waste is provided and:

- Recycling is as convenient as general waste disposal (e.g. e-diverter or dedicated recycling chute)
- 2m³ storage area provided for re-use of oversized items.
- Storage sizes and access requirements to be confirmed by qualified waste auditor.

The development should also meet the requirements of “*Policy for Waste Minimisation in New Developments*” (Council of the City of Sydney, 2005)

Notes:

- The waste and recycling storage area addressed in this report refers to the waste and recycling areas within the development boundary, designed specifically for the storage of waste and recycling generated from both areas.
- Waste/recyclables from apartments will be disposed of to the storage areas via chutes and the materials from retail areas will be collected by cleaners and wheeled by cleaners to the waste and recycling storage area through a direct pathway.

Table 9 - Compliance With City of Sydney Criteria

Ref.	City of Sydney Requirement	Compliance Status
A-6	Waste and recycling storage containers must be stored at all times within the boundary of the subject site unless formally approved by Council under a Local Approvals Policy (LAP) for the storage of waste in a public place.	Complies – no storage will occur outside the development’s boundary
A-10	Sufficient space must be provided for equipment to handle or manage all waste and recycling likely to be generated on the premises between collections	Complies
A-11	Space must be provided within the premises in close proximity to the vehicle entrance and no lower than one level below street level for the storage of waste and recycling. The space allocated must be sufficient to store, in separate containers, the volume of waste and recycling likely to be generated during the period between collections.	Complies
A-12	The room/s for storing waste and recycling must be located in a position that is convenient for both users and waste collection staff.	
A-24	The walls, floors and ceilings of the waste room(s), recycling room(s) and service compartment(s) must be finished with a light colour.	Complies - Waste storage area will be painted in a light colour.
A-25	The waste and recycling room(s) must be provided with an adequate supply of hot and cold water mixed through a centralised mixing valve with hose cock. This does not include waste and recycling service compartments located on residential floors of multi-occupancy dwellings.	Complies – There is hot and cold water provided to the storage room.
A-28	Waste rooms and recycling room(s) must be constructed in such a manner as to prevent the entry of vermin.	Complies – The construction is designed to prevent vermin access and in addition no waste/recyclables will be stored on the floor or outside a bin.

Ref.	City of Sydney Requirement	Compliance Status
A-29	Waste and recycling rooms must be ventilated by either: <ul style="list-style-type: none"> • Permanent, unobstructed natural ventilation openings direct to the external air, not less than one-twentieth i.e. 5% of the floor area. • A mechanical exhaust ventilation system exhausting at a rate of 5L/s.m2 floor area, with a minimum rate of 100L/s min; or (A-30). 	Complies – Natural ventilation is provided.
A-30	Waste and recycling rooms must be provided with artificial light controlled by switches located both outside and inside the room.	Complies - Light switches are provided outside and inside the waste storage area.
A-35	The refrigerated waste room must comply with Section G.1 of the Building Code of Australia as well as being provided with artificial light controllable from within the room.	Not Applicable - There will be no refrigerated waste storage.
A-36	Noise from the use of the refrigeration equipment associated with the waste room must not give rise to “offensive noise” as defined under the Protection of the Environment Operations Act 1997.	Not Applicable - There will be no refrigerated waste storage.
A-37	Clear and easy to read “NO STANDING” signs and “DANGER” warning signs for children must be fixed to the external face of each waste and recycling room where appropriate.	Complies - Will be provided.
A-38	Clear and easy to read sign(s) designating the storage of RECYCLABLES must be fixed to the internal wall(s) or on any racks provided.	Complies - Will be provided.
A-39	Any compactors or mechanical devices for the storage of waste must be child proofed.	Complies - All compactors will be in locked rooms accessible only to authorised personnel.
A-40	Vermin must be prevented from entering waste areas and containers.	Complies - Refer to Section A-28.
A-41	Equipment must be protected from theft and vandalism.	Complies - All equipment will be in locked rooms accessible only to authorised personnel.
C-12	Waste and recyclables from the waste service compartment or waste and recycling holding area on each floor must be transferred to the centralised waste and recycling room or holding area daily or more frequently as required.	Complies - There are no holding areas on floors. All materials will be transported directly to the waste storage area.
C-14	Where collections takes place inside a building, appropriate clearances need to be allowed for the collection vehicle to enter the premises, clear the waste container and exit the premises. It must be noted that some systems require the waste container to be lifted above the collection vehicle to be emptied (front lift-bulk bin) or loaded (waste compactor).	Complies – all clearances are over 3.8m
C-15	If clearance proposed is less than 3.8m, then vehicle specifications will be required from the waste provider that conforms with the proposed development.	Not applicable – see above
C-16	For premises, <ul style="list-style-type: none"> • Whose waste generated contains 20% by weight or volume of fish, poultry or meat, or • Which generates 50 litres of seafood, poultry or meat waste per day, Waste must be collected daily or refrigerated whilst awaiting collection. 	Complies - The percentages for organic materials will not be exceeded, as there will be no retail premises generating these volumes on a daily basis.
C-17	Storage of paper and cardboard must be in a dry, vermin-proof area. Paper and cardboard must not be stored for more than 2 weeks to prevent breeding of pests in the stored material.	Complies - Refer to Section A-28. Collections will be weekly.

11. Tenant Education

On commencing operations, all tenancies will receive information, including training in the waste collection systems, including: how to use the systems; which items are acceptable for each stream; and collection times. This could also include a short video to support tenants in educating staff.

There should also be a focus on ongoing waste minimisation and initiatives that seek to increase the use of recyclable materials in supplier packaging and also minimise the amount of packaging used by suppliers and in retailers' products.

Guidelines to tenants regarding packaging could include the following information regarding:

- Reusability
- Recyclability
- Recycled material content
- Utilisation of renewable resources
- Supplier take-back programs
- Packaging minimisation

Following implementation of these programs, an ongoing monitoring program will be established. On a monthly basis, waste and recycling performance reports will be reported back to tenants so that they are aware of their performance and potential areas for improvement.

Waste and cleaning contracts will also include requirements for contractors to actively participate in the site's waste reduction program and contribute to the site's efforts to improve performance.

12. Other Material Streams

The following materials will be also produced in variable quantities by tenants and base building:

- Used Cooking Oil
- Fluorescent Light Tubes
- Electrical and Electronic Recycling (E-Waste)
- Batteries
- Mobile Phones
- Printer and Toner Cartridges

Used Cooking Oil

This will be decanted into the original container and transported by retailer staff to the SE Plot storage area, where a dedicated oil recycling unit will be located.

Fluorescent Light Tubes

A recycling receptacle should be located in the SE Plot storage area for use by in-house maintenance staff and/or electrical contractors.

E-Waste

The site will produce small quantities of this material (obsolete/broken computers, keyboards, screens, copiers, fax machines, etc.). A small area of around 8 cubic metres (4 square metres floor space) should be set aside for this purpose in the SE Plot storage area.

Batteries, Mobile Phones

Mobile phones can be collected in secure receptacles at centralised collection points, with separate or combined battery recycling boxes co-located with these. The Library foyer would be a suitable location for these receptacles.

Toner Cartridges

A toner cartridge recycling bin/box would be located next to any photocopiers, such as in the Library or Child Care centre. These would be collected directly from the tenancy as needed by the company servicing the equipment, or by a dedicated recycler such as Cartridges for Planet Ark.

13. Ongoing Management

Prior to acceptance of the cleaning contract, the contractor will be required to demonstrate how the management of waste and recycling will be carried out so as to ensure that segregated materials are placed in the correct systems. This process will be agreed and a training program implemented by the cleaning contractor to ensure uptake by all staff, with monitoring and reporting carried out by the cleaning supervisor throughout the term of the contract.

In addition, cleaners will be required to feed back to site management any non-compliance issues they observe during their cleaning activities. This may include contamination of recycling; non-participation in the recycling system; or missing or damaged bins.

Waste and recycling contractors will be required to report actual volumes collected by stream so that site management can monitor performance and feed this back to stakeholders.

It is highly recommended that a reporting program be set up at the site which would include bin tally sheets that detail the number of bins collected and how full they are at the time of collection, in addition to procedures for waste contractors to provide feedback on contamination and leakage.

14. Public Place Recycling

With public open spaces, consideration needs to be given to public place recycling (PPR). General waste and recycling facilities will be provided in public realm areas throughout the precinct. The final number of bins will be determined in consultation with SHFA.

Simple, colour-coded and consistent representation of common recycling and waste streams makes it easier for people to know how and what to recycle. Introducing a public recycling system also has environmental, social and financial benefits including:

- Responding to community expectations
- Reducing the amount of waste sent to landfill and recovering valuable resources
- Financial benefits as materials are diverted from landfill and into recycling
- Contributing to triple bottom line reporting

It is important that general waste and recycling bins are always located together in order to make recycling as accessible as general waste disposal. Recycling bins should never be located in isolation as patrons are likely to contaminate the bin if there is no other option to dispose of general waste.

The implementation of organics recycling is not recommended in public places due to the high levels of contamination commonly observed in such systems.

All bins should be clearly signed and appropriately colour-coded to ensure the streams are readily identifiable. All signage for PPR should be:

- Colour-coded: red for general waste and yellow for recycling
- Large and easily viewed from all angles: this may mean that signs are placed on all sides of the bin or above the bin
- Simple and jargon-free (acronyms such as PET, HDPE and even the recycling triangle can be confusing as this symbol can appear on items that are not necessarily recyclable)
- Unambiguous and uses visual imagery

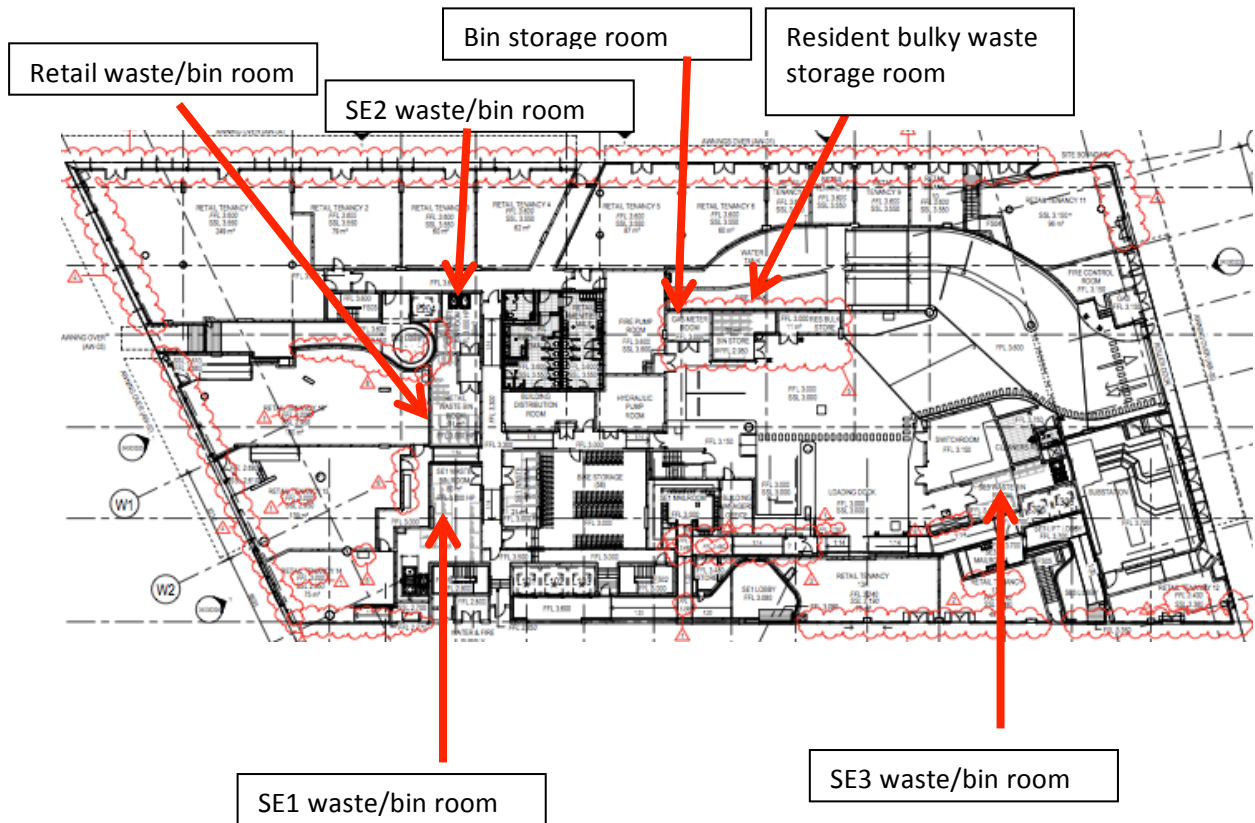
Any public domain waste and recycling would be managed and collected by SHFA.

The *Public Place Recycling Toolkit* produced by Sustainability Victoria in August 2013 is a comprehensive resource that can be used to guide the development of PPR for The Square.

15. Conclusion

In conclusion, having reviewed current site plans and documentation, we conclude that the revised Section 96 Ground Level plans satisfy all waste management requirements and the relevant Green Star criteria.

Appendix A – Location of Waste Storage Areas



Appendix B – Oil Collection Unit Example



Appendix C – Indicative Chute Design & Linear System Space Requirements

Get a higher star rating for your projects with the new **eChute**

THE WAY INTO THE FUTURE!

LINEAR NO COMPACTOR
Built to minimise strata cost
Can be fitted with 240, 660 or 1100 litre bins
Fully automatic
Designed for building where no compaction required
Minimises bin movement
Low maintenance
415 Volts - 10Amp

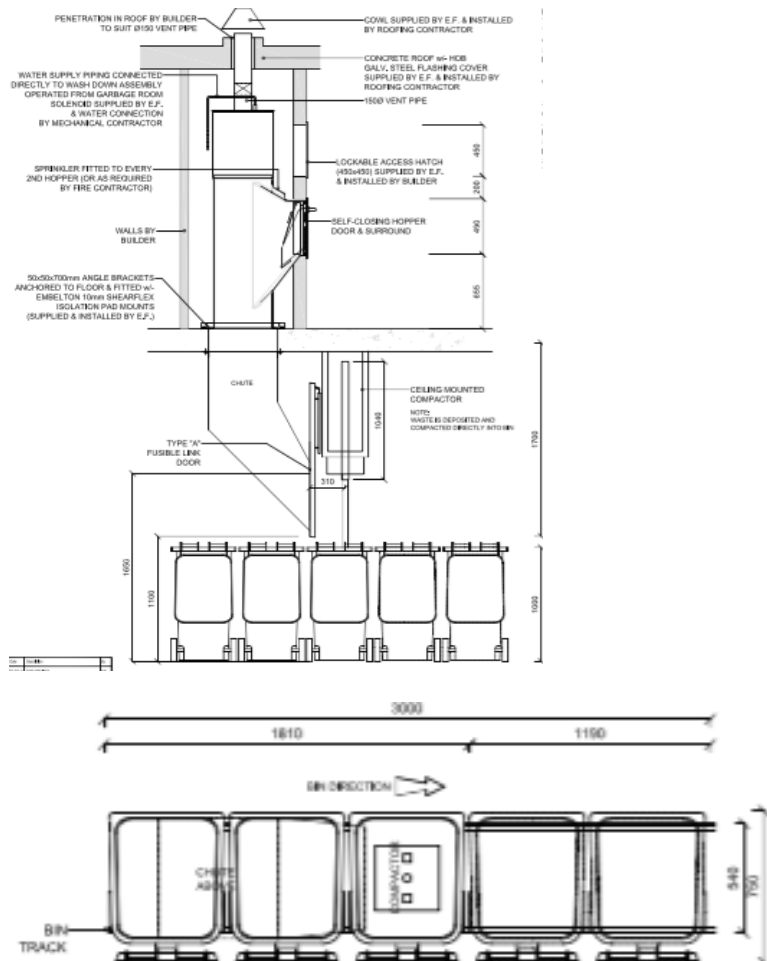
240 LITRE

660 LITRE

BIN COMPACTOR + CAROUSEL OR LINEAR
Built for under chute systems in high rise building
Waste falls directly into bins
Fits over carousel or linear system
Compacts into 240, 660, 1100 standard bins
Fully automatic, compaction ratio 2:1
Minimise strata cost
Low cost maintenance
415 Volts - 10Amp

1100 LITRE

LINEAR



Appendix D – Example Signage

LANDFILL



✓

- Plastic Bags
- Ceramics
- Polystyrene
- Window glass, mirror & pyrex
- Chip packets & wrappers

NO RECYCLABLES

NO OIL & PAINT

NO BUILDING MATERIALS

Don't waste YOUR future

MIXED RECYCLING



✓

- Aluminium & steel cans
- Plastic milk & Juice containers
- Plastic soft drink & water bottles
- Glass bottles & jars
- Paper & Cardboard

NO SOFTY CUPS

NO PLASTIC BOTTLES

NO POLYSTYRENE

Don't waste YOUR future

PAPER & CARDBOARD



✓

- Newspaper, junk mail & magazines
- Office, computer paper & envelopes
- Cereal & food boxes
- Telephone books
- Cardboard

NO WAXED CARDBOARD

NO PLASTIC FILM

Please cut oversized boxes into smaller pieces before placed in the recycling bin

Appendix E – Examples of Tugs

Below are examples of tugs and trailers that could be utilised for the transport of bins.

