Frasers Property Australia Pty Ltd

Central Park Block 8

Waste Management Statement

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Job number 232836-00

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Document Verification

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1 Introduction

This report has been prepared on behalf of Frasers Broadway Pty Ltd to accompany a State Significant Development Application for a mixed use development known as Block 8 at Central Park, Chippendale. Frasers prides itself on delivering high quality and environmentally responsible development projects and Block 8 demonstrates the Frasers ethos.

Block 8 is located at the south western corner of the Central Park site and is bound by Irving Street and proposed student housing to the north, Central Park Avenue and Chippendale Green to the east, O'Connor Street and existing commercial and industrial development to the south, and Abercrombie Street and existing residential and mixed use development to the west.

The current Block 8 proposal is consistent with the Central Park approved Concept Plan (as modified) and comprises the following:

- 13 storey mixed use building including residential and retail uses;
- 178 apartments;
- Terraces, balconies and/or loggias to all apartments;
- Residents' lounge;
- Ground floor retail tenancies;
- Basement car parking; and
- Public domain works.

Block 8 will provide a mix of much needed residential accommodation in an area well serviced by public transport, and in close proximity to the retail, work and education opportunities offered by the Sydney Central Business District and surrounds.

1.1 Purpose of Waste Management Statement

This document addresses aspects of waste management relating to requirements of the SSDA under the NSW Environmental Planning and Assessment (EP&A) Act (1979), Director General Requirements (DGRS), and the project's Green Star objectives.

This WMS identifies waste sources and proposes management measures for the project design, construction and operation. The format of this document can assist with the completion of a Waste Management Plan, which will be required by the contractor prior to the construction of the development. It may also assist with the development of a waste auditor report required as part of the future Green Star submission.

The key purposes of the WMS are to:

- Address the waste management requirements for the proposal to a standard suitable for approval under Part 4 of the EP&A Act;

- Provide guidance for the project in waste minimisation from construction activities;
- Increase economic feasibility of the project through effective waste separation, recycling and re-use measures; and
- Identify management requirements for construction and operation.

1.2 Project context

Central Park is a sustainably designed and operated major mixed use development, located on land formerly occupied by the CUB Brewery at Chippendale, 2km to the south of the Sydney CBD.

The site sits next to the University of Technology Sydney, and near to the University of Sydney, Central Railway station and the CBD.

Block 8 is located along the south western side of the Central Park site (shown in Figure 1).

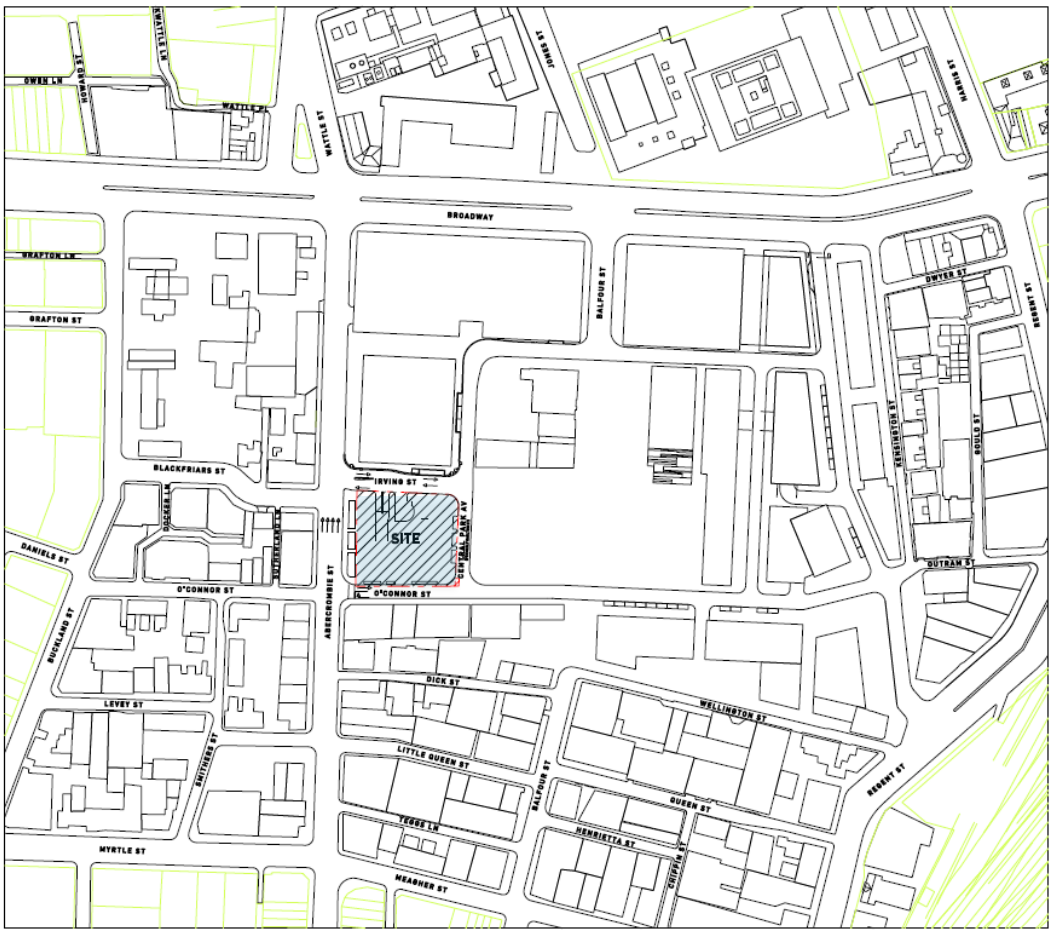

Figure 1: Site context plan

2 Legislative requirements

2.1 NSW state legislation

2.1.1 The Protection of the Environment Operations Act, 1997

The Protection of the Environment Operations Act 1997 covers the requirements for waste generators in terms of storage and correct disposal of waste. The Act establishes the waste generator as having responsibility for the correct management of waste, including final disposal.

2.1.2 Waste Avoidance and Resource Recovery Act 2001

Due to concerns about waste management practices and increasing volumes of waste, the NSW government introduced the Waste Avoidance and Resource Recovery Act 2001, superseding the Waste Minimisation and Management Act 1995 following its five year review.

The object of the Waste Avoidance and Resource Recovery Act is to encourage the most efficient use of resources, to reduce environmental harm, and to provide for the continual reduction in waste generation in line with the principles of ecologically sustainable development (ESD).

The WMS is a requirement for a new development in NSW and is written with reference to the NSW Waste Avoidance and Resource Recovery Strategy 2003, made under the Act.

The following hierarchy for managing waste, from most desirable to least desirable, meets the objects of the Act:

- Avoid unnecessary resource consumption;
- Recover resources (including reuse, reprocessing, recycling and energy recovery); and
- Dispose (as a last resort).

2.1.3 The NSW Waste Reduction and Purchasing Policy 2007 (WRAPP)

The NSW Waste Reduction and Purchasing Policy (WRAPP) requires all state government agencies and state owned corporations to develop and implement a WRAPP plan to reduce waste in four scheduled waste sources:

- Paper products;
- Office equipment and components;
- Vegetation material; and
- Construction and demolition materials.

WRAPP is not directly applicable to the project, but has been used as a guiding document for waste initiatives.

2.2 Council of the City of Sydney *Policy for Waste Minimisation in New Developments*, 2005

The Council of the City of Sydney *Policy for Waste Minimisation in New Developments* ('CoS Waste Policy') was developed in 2005 in support of the NSW Waste Avoidance and Resource Recovery Strategy (2003). The CoS Waste Policy is the guiding document for many of the waste initiatives and requirements for the proposed adaptive reuse project.

The specific sections which pertain to the proposed development include:

- Section A – All developments;
- Section B – Residential Provisions; and
- Section C – Commercial Provisions.

Key requirements of the CoS Waste Policy include:

- All commercial premises must have a dedicated and enclosed waste and recycling storage area which has adequate storage to meet generation rates;
- All businesses must have written evidence, held on site, of a valid and current contract with a licensed collector for waste and recycling collection and disposal; and,
- All businesses are encouraged to include provisions within waste contracts that allow for the collection and recycling of significant waste streams.

Numerous other requirements are specified within the Waste Policy. These have been addressed throughout this WMS where required.

2.3 Green Star

A Green Star assessment is being sought for this development under the Green Building Council of Australia (GBCA) Green Star Multi Unit Residential v1 rating tool, under a requirement to achieve a 5 Star rating. Two submissions are required: a submission for a 'Design' Certified Rating; and a submission for an 'As Built' Certified Rating (in operation).

A number of the Green Star goals for this project relate to waste management in the areas of design, demolition/construction, and operation. These objectives are summarised below in Table 1.

This WMS has not been developed for use as the waste auditor report required as part of the future Green Star submission under MAT-1 (recycling waste storage), but will inform the development of such a report and will also inform the development of a Building User Guide (MAN-5) and a Construction Waste Management Plan to be prepared by the contractor (MAN-7).

Table 1: Environmentally sustainable objectives for waste management

Relevant Green Star Credit	Initiative	Target	Environmental Benefit	Requirements
Multi Unit Residential V1 MAN-5	Building User's Guide *Up to 1 point*	To encourage and recognise information management that enables building users to optimise the building's environmental performance – to include a materials and waste policy.	Reduces waste sent to landfill; responds to resource depletion.	Development of a Building User's guide, relevant for building management and residents, including a Materials and Waste Policy to address: • What can be recycled; • Where recycling storage areas are, and • Schedules for waste and recycling removal.
Multi Unit Residential V1 MAN-7	Waste Management (construction) *Up to 2 points*	To encourage and recognise management practices that minimise the amount of construction waste to landfill (at least 80% of all construction waste to be reused or recycled).	Reduces waste sent to landfill; responds to resource depletion.	Appointment of a Contractor to: • Develop a Waste Management Plan, retain waste records and submit quarterly reports to the building owner, and • Achieve a 60% (1 point) or 80% (2 points) rate of recycle or re-use for construction/ demolition waste.
Multi Unit Residential V1 MAT-1	Recycling Waste Storage *Up to 2 points*	To encourage and recognise the inclusion of storage space that facilitates the recycling of resources used within buildings to reduce waste going to landfill.	Reduces waste sent to landfill; responds to resource depletion.	Points are awarded for: • Provision of a dedicated storage area for waste recycling; • Convenience of recycling; • Waste chutes for recycling and general waste; • Compost facilities, and • Facilities for over-sized household items.

3 Waste management approach

3.1 Method for estimation of waste generation

Waste volumes for the proposed development have been estimated in order to determine waste storage and collection requirements.

Waste generation is calculated from the appropriate waste generation rate and according to number of units or total gross floor area (GFA), according to the intended occupancy type.

Relevant waste generation rates in this development relate to:

- Multi-unit residential;
- General retail; and
- Lobby/ lounge areas.

3.2 Waste generation rates

All waste generation estimates are based on the relevant waste generation rates provided in the CoS Waste Policy. The waste generation rates which are applicable to this development are shown below in Table 2.

Table 2: Applicable waste and recycling generation rates

Building space use	Applicable waste generation type	Waste generation rate	Co-mingled recycling generation rate
Commercial retail	Retail < 100 m^2	50 L / 100 m^2 / day	25 L / 100 m^2 / day
Residential	Multi-unit residential	80L / unit / week	40L / unit / week
Lobby / lounge	Office	10 L / 100 m^2 / day	10 L / 100 m^2 / day

3.2.1 Retail waste generation rates

The specific tenancy of the commercial area on the ground floor of the proposed development is not yet determined, but is likely to be a mix of retail and showrooms. Based on the information provided it is understood that this is unlikely to include food services; no food preparation will occur onsite.

3.3 Method for estimation of waste storage and management requirements

Waste storage area requirements are calculated from the estimation of waste generation and bin compaction ratio, based upon the bin sizes within the CoS Waste Policy and from site waste contractors (Table 3).

One 4x 660L lateral bin compactor will be located in the residential waste storage room to receive the mixed general waste discharged from upper levels. Specifications for this compactor are attached in Appendix B. The assumed compaction ratio is 1:2.

Waste storage requirements and management practices for common waste storage areas are in accordance with the General, Space, Access and Amenity requirements detailed in Section A ('All Developments'), Section B ('Residential Provisions') and Section C ('Commercial Provisions') of the CoS Waste Policy.

Table 3: Waste bin capacity and area requirement

Bin Capacity (L)	Bin floor dimensions (m)	Bin GFA (m^2)
120	0.56 x 0.49	0.27
240	0.74 x 0.58	0.43
360	0.85 x 0.63	0.54
660	1.26 x 0.78	0.96
1000L	1.36 x 1.16	1.58

3.4 Assumptions and limitations

The findings of this WMS have been incorporated into the proposed building design order to meet requirements of the State Significant Development Application (SSDA).

It should be noted that the rates provided are best practice estimates using the CoS Waste Guidelines. Actual observed rate of waste generation will vary according to specific tenants and their behaviours.

All figures and calculations in this document are based upon the following supplied building design schedule and plans:

- *Smart Design Studio Drawing Set*: issued 16/12/13 via ACONEX transmission
- *Smart Design Studio Area Schedule Revision 22:* issued 16/12/13 via ACONEX transmission

All waste facilities and equipment are required to be designed and constructed in accordance with City of Sydney requirements in the Waste Policy, the Building Code of Australia (BCA), and Australian standards.

4 Construction waste

4.1 Construction waste streams

Construction works for this development are to take place with consideration of 'principle led' Green Star pathway goals, particularly in regards to use of recycled building materials and recycling of construction waste streams. The primary goal for waste management in the construction phase is to ensure at least 80% of waste is recycled or reused.

An overview of the major waste streams resulting from construction is provided below in Figure 2. Waste streams which are predicted to generate the greatest volume are highlighted in orange.

Further detail regarding construction waste management is provided below in sections 4.2 – 4.3.

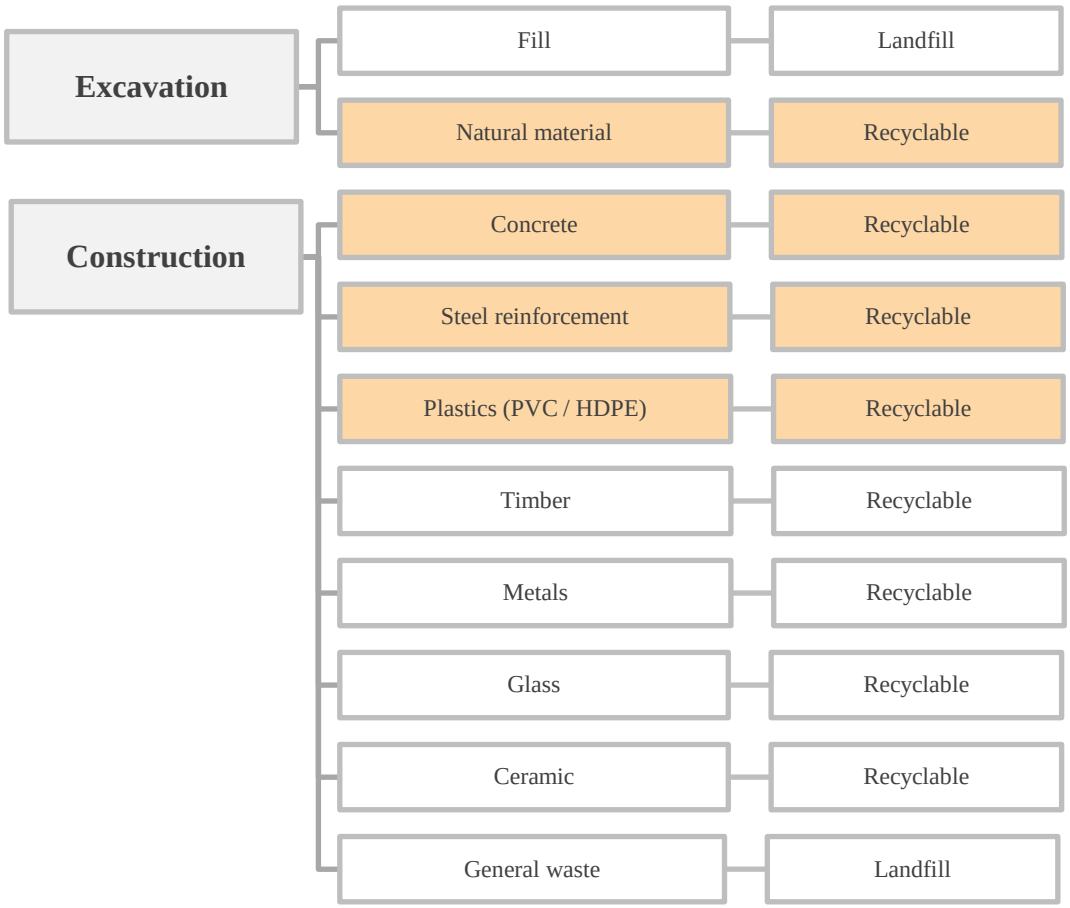

Figure 2: Excavation and construction waste streams

4.2 Construction waste management

Waste generation and management during excavation and construction phases is the responsibility of all on site, as it relates to materials procurement, handling, storage and use. Waste generated during construction will be reused and recycled as a priority, or disposed to landfill otherwise.

During construction, suitable areas on site (or off site, if necessary), will be provisioned which provide adequate space and access for:

- Storage of building materials;
- Storage of demolition and construction waste;
- Sorting of demolition and construction waste; and
- Removal of demolition and construction waste for recycling, re-use or landfill.

A preliminary overview of site construction has allocated areas for construction materials and waste storage to the north west of the site, and to the centre north of the site. Please refer to Appendix D for an overview of these areas (marked blue).

Construction waste management will be performed to meet the specific goals of the project 'principle led' Green Star pathway. Within the Management category of Green Star, the Waste Management (MAN-7) indicator addresses construction waste management and is worth a maximum of 2 points:

- **MAN-7**: **Construction Waste Management -** To encourage and recognise management practices that minimise the amount of construction waste to landfill (at least 80% of all construction waste to be reused or recycled to achieve 2 points).

As a requirement of MAN-7, the construction contractor will develop a Construction Waste Management Plan (CWMP) in order to ensure that construction waste is minimised and diverted from landfill where ever possible. The MAN-7 indicator is the only directly applicable Green Star indicator to be influenced by the Construction Waste Management Plan.

A construction waste tracking sheet is to be completed by the demolition contractor during this phase of the project, as provided in the CoS Waste Policy. This sheet is attached in Appendix C.

4.3 Construction vehicle access

Construction vehicles (including construction waste collection vehicles) will enter and exit the site via Abercrombie Street, in a forward direction only. Traffic will be directed via two gates. A truck turning bay will be provided in the same location as the future loading dock.

Please refer to Appendix D for an overview of site construction vehicle access.

5 Operational waste estimate

5.1 Area schedule

This section provides an overview of gross floor areas (GFA) and occupancy for space uses within the proposed development which will contribute to waste generation. These areas have been used in developing estimates of operational waste and have been referenced from the *Smart Design Studio, Central Park Block 8 Area Schedule Rev 18*.

Note that the area schedule shown in Table 4 applies only to areas that contribute to waste generation estimations. Full details regarding the layout of the Ground Floor of the building can be found in Appendix A. All other floor plans can be found in the relevant drawing sets prepared by Smart Design Studio for this Project Application.

Table 4: Waste generation area and occupancy schedule

Level	Retail	Lobby / lounge	Residential	
	GFA (m^2)	GFA (m^2)	No. of units	GFA (m^2)
Basement 1	-	-	-	-
Basement 2	-	-	-	-
Basement 3	-	-	-	-
Ground Floor	142 (max)	200	8	653
Level 1	-	-	15	1,303
Level 2	-	-	20	1,408
Level 3	-	-	20	1,451
Level 4	-	-	20	1,451
Level 5	-	-	20	1,451
Level 6	-	-	20	1,451
Level 7	-	-	20	1,451
Level 8	-	-	13	1,028
Level 9	-	-	8	952
Level 10	-	-	7	679
Level 11	-	-	5	665
Level 12	-	-	2	225
Total	**142**	**200**	**178**	**14,168**

5.2 Operational waste streams

The waste streams which will be generated during operation of the proposed development are identified below in Table 5.

Table 5: Operational waste streams

Waste Stream	Predominant Source	Destination
Mixed general waste	Entire building	Landfill
Co-mingle recycling	Entire building	Recycle
Cardboard and paper recycling	Commercial (retail)	Recycle
Electronic waste	Entire building	Recycle
Hard rubbish	Entire building	Recycle / landfill

5.3 Waste generation estimations

Estimates of daily waste generation for each operational section of the development are summarised below in Table 6.

Table 6: Waste generation estimations

	Mixed general waste (L/day)	Co-mingle recycling (L/day)
Lobby/ lounge	20	20
Commercial	71	36
Residential	2,020	1,020
TOTAL	**2,111 L / day**	**1,076 L /day**

6 Waste storage

6.1 Key waste components

Provision and design for waste storage is described in the sections below.

The proposed residential development includes two small commercial spaces which will occupied by retail tenants. As the estimated waste generated in these spaces is minor, one central waste storage area will accommodate waste from both accommodation and retail tenants; however waste bins will be stored in separate locations within the storage area and will be clearly labelled as to their designated user.

The main waste facilities for **residential waste** from the proposed development will include:

- 1x waste chute (general waste) to service the upper residential levels (Levels 1 – 12), with discharge of waste directly into a compactor in the central waste storage room;
- 1x 360L co-mingle recycling MGB (Mobile Garbage Bin) on each residential level, to be rotated daily with empty bins in the central waste storage room (2 sets of bins, 26 in total);
- Waste collection rooms on all residential floors, each holding a recycling MGB and a waste chute compartment;
- 'Main Garbage Room' (refer Appendix A) located on the Ground Floor to store all residential waste prior to collection, and
- An internal vehicle loading dock and turntable located adjacent to the central waste storage area on the Ground Floor.

The main waste facilities for **commercial (retail) waste** from the proposed development will include:

- Separate sets of MGBs for the following waste streams: general waste, co-mingle recycling and paper recycling;
- Waste to be stored prior to collection in 240L MGBs (660L MGB for paper/ card) located in the 'Garbage Room' (refer Appendix A); and
- Waste collection from inside the vehicle loading dock within the main building.

6.1.1 Residential waste – central storage

Storage provision for the central waste storage room will be as follows:

- The 'Main Garbage Room' (refer Appendix A) would be used to store residential waste prior to collection. It would have separate storage areas for recycling and general waste;
- A lateral compactor and 6 x 660L waste bins (red lid) to service the general waste chute (refer to plans attached in Appendix B). The lateral compactor services 4 x 660L bins at any time;

- 13 x 360L co-mingle recycle bins to service each of the residential floors (NB: 13 bins will sit in the central storage room at any one time and an additional 13 bins will be located on upper levels);
- 1x 240L waste bin (red lid) to service residents and on the Ground Floor (NB 1 bin will sit in the central storage room at any one time and an additional bin will be located in the central waste storage area); and
- 1x receptacle for small e-waste (0.25m^2).

The basement of the building will also host a larger, longer-term storage area for bulky items and large e-waste from commercial and residential areas. This storage area would be located within the main garbage room and would be no less than 8m^2.

6.1.2 Residential waste – waste collection rooms

Each residential level will host a waste collection room, which will include

- Access to the general waste chute via a hand loaded compartment;
- 1x 360L MGB to collect co-mingle recycling, and
- Space for temporary storage of larger recyclables such as flattened cardboard boxes.

Note that as the residential waste collection room on the Ground Floor will not have access to the waste chute system, a 240L MGB will be provided to collect general waste.

6.1.3 Commercial (retail) waste – central storage

The two commercial spaces (sized approximately 63.4 to 71.1m^2 each) are expected to be used for retail or showroom purposes and as such will produce minimal waste.

As such, the waste collected from these commercial tenancies will be stored in the building's central waste storage area (adjacent to the loading dock) prior to collection.

Storage provision in the 'Garbage Room' will be as follows:

- 2x 240L general waste bin (red lid);
- 1x 240L co-mingle recycling bins (yellow lid);
- 1x 660L paper/ cardboard recycling bin (blue lid), and
- Space for temporary storage of larger recyclables such as flattened cardboard boxes and crates.

As described above in Section 6.1.1, the basement of the building will also host a larger, longer-term storage area for bulky items and large e-waste from commercial and residential areas. This area will be no less than 8m^2 and located in the Main Garbage Room.

6.2 Waste storage design

Recyclables and general waste will be stored in colour coded bins to ensure waste streams are not inadvertently mixed. All waste storage areas and bins will be provided with clear labels and directions for use in order to maximise appropriate separation of waste streams and enhance environmental outcomes.

All waste storage rooms will be designed according to the provisions stipulated by the CoS Waste Policy (Section A, All Developments – Construction). Provisions for this development are outlined in Table 7.

The vehicle dock and turntable located on the Ground Floor will have unimpeded access via Irving Street.

The distance between the central waste storage rooms and their respective collection points will not exceed 10 m.

Table 7: Waste storage design

Design aspect	Design provision
Floor	The floors of the waste storage rooms will be constructed of concrete of at least 75mm thickness and graded and drained to the sewerage system as approved by Sydney Water Corporation. The floors will be finished to a smooth, even surface, and covered at their intersection with walls and plinths. A ramp to the doorway will be provided if necessary.
Structure	The walls, ceilings and floors of the storage rooms will be finished with a light colour. The walls of the waste storage rooms will be constructed of approved solid impervious material and will be cement rendered internally to a smooth even surface coved at all intersections. The storage area will be constructed and finished to prevent absorption of liquids and odours, and will be easily cleanable.
Doors	The waste storage rooms will be fitted with close fitting and self-closing doors which may be readily opened from within the room. A sign will be erected in a prominent position clearly stating that the doors must be kept closed at all times when not in use.
Water	Hot and cold water will be provided to the waste storage rooms. Water will be mixed through a centralised mixing valve with hose cock.
Lighting	Adequate lighting will be provided for all rooms, controllable from a switch located both outside and inside the room. Lighting will ensure safe access to the area at night.
Pest control	The waste storage rooms, areas and containers will be constructed in a manner as to prevent the entry of vermin.
Ventilation	The waste storage rooms will be supplied with an approved system of mechanical exhaust ventilation.
Safety	Smoke detectors will be fitted in accordance with AS1670 Automatic Fire Detection and Alarm Systems and connected to the fire prevention system of the building. The waste compactors will be fully fire proofed and child proofed. Only trained building management and waste contracting staff will have access to compactor equipment. All equipment will be protected from theft and vandalism.
Signage	Signs will be provided to demonstrate how to use the waste management system

Design aspect	Design provision
	(including segregation of wastes for recycling, use of waste compactor), as well as appropriate safety signage. The different recycling and waste bins will be clearly identified and signed appropriately.
General	All waste management facilities will be compliant with the Building Code of Australia (BCA) and all relevant Australian Standards. The waste management system and storage areas will not be visible from the exterior of the building.

6.2.1 Waste chute

General waste from all residential units in the building will be transported to the Ground Floor central waste storage area via a waste chute system.

On each floor, the waste chute will be accessed by a dedicated compartment. The waste chutes will be loaded by residents using a hand-loading door. Signage will be positioned on each chute to ensure appropriate use.

Waste chute design specifications are provided below in Table 8. These are drawn from the CoS Waste Policy and additional technical specifications.

Table 8: Waste chute design

Design aspect	Design provision
Chute	Chutes, service openings and charging devices will be constructed of metal or other smooth faced, durable, fire resistant, impervious, non-corrosive material. Chutes will be cylindrical with adequate internal diameter. Chutes will be vertical without bends, off-sets or reduction in diameter Chute branches to charging devices will be capable of delivering the waste to the chute without using force. Chutes will terminate in the waste room and discharge the waste directly into a receptacle or waste compactor. A cut-off will be provided at or near the base of the chute to effectively close off the chute whilst the receptacle or compacting device is withdrawn. If the terminating end of the waste chute is to discharge into a compactor or skip at an angle, this angle shall not exceed 45º for a general waste chute.
Charging devices	Charging devices will: • Be designed to close off the service opening in the chute when the device is opened for loading; • Automatically return to the closed position after use; • Permit free flow of waste into the chute; • Not project into the chute; • Permit easy cleaning of the device and connection between the service opening and the chute.
Service storage room	Service storage rooms will: • Be provided in convenient, well lighted and ventilated positions; • Be provided with a charging device in accordance with 1.7; • Not be less than one metre (1m) or more than one and one-half metres (1.5m) above the floor level; • Have an area of no more than one-half (1/2) the cross sectional area of the

Design aspect	Design provision
	chute.
General	The floor below each charging device and service opening must be finished with a smooth impervious material with a minimum area of not less than one square metre ($1m^2$) situated centrally below the charging device. The chute, charging device and service opening will be capable of being easily cleaned. Chutes will be ventilated to ensure that air does not flow from the chute through any service opening.

7 Waste management

7.1 Waste management responsibilities

The major responsibilities associated with waste management are outlined below in Table 9. These responsibilities will be implemented separately for each section of the building where they fall under separate management.

All contracts with building managers, tenants and cleaners will clearly outline the waste management and collection system, and will clearly allocate waste management responsibilities.

Table 9: Waste management responsibilities

	Task	Responsibility
WASTE STORAGE AREAS	Cleaning of temporary and central waste storage areas, service lifts, transfer areas and collection areas.	**Building management**
	Rotation of full recycling/waste MGBs on all residential levels (including the Ground Floor) with empty bins in the central waste storage room	**Building management**
	Removal of commercial (retail) waste to the designated commercial bins in the central waste storage area.	**Commercial tenants**
WASTE COMPACTION	Safety training for appropriate staff for use of waste compaction equipment.	**Building management**
	Procurement of servicing of waste compactor equipment to a frequency specified by the equipment manufacturer.	**Building management**
	Regular cleaning and servicing of waste compaction equipment.	**Building management**
SIGNAGE	Provision of signage in all communal waste collection and storage areas to demonstrate how to use the waste management system, and what materials are acceptable in recycling bins and chutes.	**Building management**
	Provision of prominently displayed signage identifying: • Waste and recycling storage areas; • Waste and recycling compartments; and • Safety signage for compaction equipment.	**Building management**
	Provision of clear labels on all waste and recycling receptacles to identify which materials may be placed in which bin / chute.	**Building management**
WASTE COLLECTION	Transfer of bins between the central waste storage areas and loading dock.	**Waste collection contractor**
	Return of waste bins to their appropriate storage areas after emptying into waste collection truck in the loading dock.	**Building management**

7.2 Waste stream management logistics

Particular considerations for management of different waste streams are summarised below in Table 10.

Table 10: Waste stream management considerations

Waste Stream	Source	Management considerations
Mixed general waste	Residential	General waste will be transferred from the upper levels to the central waste storage room via the general waste chute. General waste from residents on the Ground Floor will be collected in a 240L MGB, which will be exchanged when full on a rotational system with an empty bin in the central waste storage room.
	Lobby/ lounge	Waste from the lobby/lounge area is to be moved nightly to the 240L waste MGB in the Garbage Room on the Ground Floor by cleaners.
	Commercial (retail)	General waste volumes from commercial tenants are relatively small and will be manually transferred by tenants or cleaners to the Garbage Room on the Ground Floor to await collection. Commercial bins will be clearly marked as such and will be physically separated from residential bins. Bins will not be left sitting on the outside of the building or in the public domain at any time.
Organic ('wet') waste	Residential	Residents will have access (if they desire) to on-site composting facilities for organic waste (organic waste is not anticipated to be generated in commercial areas as the area will be occupied by retail/ show rooms). The location of composting equipment will be resolved in detailed design.
Co-mingle recycling	Residential	Co-mingle recycling from residents on upper levels will be collected on each floor in 360L MGBs. Each bin will be emptied when full (approximately every 3 days) on a rotation system with empty bins in the central waste storage room, via the service lift.
	Lobby / lounge	Waste from the lobby/lounge area is to be moved nightly to the 360L waste MGB in the residential waste collection room on the Ground Floor by cleaners.
	Commercial (retail)	Co-mingle waste will be manually transferred by tenants to the central waste storage room on the Ground Floor to await collection, as per the arrangement for general waste (above). Commercial bins will be clearly marked as such and will be physically separated from residential bins in the central waste room.
Cardboard and paper recycling	Commercial	Cardboard and paper recycling will be collected separately wherever possible and stored in dedicated recycling bins in the central waste storage room.
Electronic waste	Residential	Residents will be offered access to electronic waste

Waste Stream	Source	Management considerations
		receptacles in common areas. Electronic waste will then be transferred to a receptacle within the Main Garbage Room area by building management. Larger electronic waste, such as televisions and other equipment, will be collected by building management and placed in in the hard rubbish storage compartment within the Main Garbage Room.
	Commercial (retail)	Small electronic waste will be transferred by commercial tenants to a receptacle within the commercial central waste storage area. Larger electronic waste, such as televisions and other equipment, should be transferred to a dedicated hard rubbish storage area in the Main Garbage Room and scheduled for collection.
Hard rubbish	All areas	Hard rubbish is to be moved by building management to the designated hard rubbish storage compartment in the Main Garbage Room. Building management/ commercial tenants will then schedule collection as necessary.

7.3 Waste compaction

One 4x 660L lateral bin compactor will be located in the residential central waste storage room. The compactor will receive the mixed general waste discharged via the general waste chute from the upper residential levels.

The compactor equipment will only be accessed by specified building management staff with suitable training and safety induction. All necessary safety induction training, childproofing and safety signage for access and use of the compactor equipment will be provided by building management.

All compactor equipment will be located in a locked and secured area, to be accessible only by trained management staff and licenced contractors.

The waste compactors will be serviced as necessary, to a schedule determined by the equipment manufacturer.

8 Waste collection

8.1 Waste collection frequency

Waste collection frequencies are summarised below in Table 11 (residential waste waste) and Table 12 (commercial/ retail waste).

Waste collection services for each waste stream will be provided by appropriate licenced contractors. Written evidence will be provided and held on site at all times of a valid and current contractor with a licenced collector for waste and recycling collection and disposal.

Waste collection arrangements for the proposed development are described below.

Table 11: Waste collection summary: residential waste

Waste Stream	Collection Frequency	Licenced Collector
General waste	3x per week (every 2 – 3 days)	Council
Co-mingle recycling	3x per week (every 2 – 3 days)	Council
Electronic waste	Collection monthly or as necessary	E-waste collector
Hard rubbish	Collection scheduled as necessary	Council / private waste contractor (as necessary)

Table 12: Waste collection summary: retail waste

Waste Stream	Collection Frequency **Ground floor central waste storage (temporary)**	Licenced Collector
General waste	2x per week (every 3 – 4 days)	To be determined*
Cardboard/ paper recycling	1x per week	To be determined*
Co-mingle recycling	2x per week (every 3 – 4 days)	To be determined*
Electronic waste	Collection scheduled as necessary	E-waste collector
Hard rubbish	Collection scheduled as necessary	Council / private waste contractor (as necessary)

***NB:** As there is only predicted to be a very small amount of waste generated from retail operations which will be stored alongside residential waste, consultation should be undertaken with Council as to whether or not it will be possible for this to be collected with residential waste. Alternatively, a private waste contractor will collect this waste.

8.2 Waste collection arrangements

8.2.1 Residential waste

Residential waste bins will be transferred from the central storage area to the loading dock by waste contractors upon collection. Empty bins will be transferred room the loading dock back to central storage by building management.

8.2.2 Commercial waste

Commercial waste bins will be transferred from the central storage area to the loading dock by waste contractors upon collection. Empty bins will be transferred room the loading dock back to central storage by building management.

8.3 Waste contractor vehicle access

The route for waste contractor access to loading dock is via Irving Street. Access via this street will at no time cause the flow of traffic to be blocked.

Vehicle access to the basement has been designed according to a waste collection vehicle with specifications summarised in Table 13 below.

Table 13: Waste Collection Vehicle Space Requirements – Rear Lift Truck[1]

Vehicle Specification	Measurement
Overall length	9.54 m
Travel height	3.4 m
Working height	4 m
Recommended ceiling height	5 m
Typical width	2.6 m
Turning circle diameter	18.0 m

[1] Specifications for length, width, height, working height, and turning circle diameter sourced from Veolia Environment Services Ltd. and the CoS Waste Policy.

8.4 Amenity

The management systems and constructed elements of this development will be designed and installed so as to enhance outcomes for building amenity. Any potential for noise and odour to arise will be minimised. Specifically:

- **Visual aspects:** The waste management and central storage areas will not be visible from the exterior of the building.
- **Noise:** significant noise-generating waste management equipment will not be utilised in this development. The compactor equipment utilised will generate minimal noise, and will be located in an area containing adequate acoustic insulation. Production of 'offensive noise,' as defined under the *Protection of the Environment Operations Act 1997*, will be avoided.
- **Odour**: Any putrescible waste awaiting collection will be stored in a Council approved container with permanently tight fitting lids and smooth, washable internal surfaces.

  All waste storage areas will be fitted with mechanical vertical ventilation systems.

  General and organic waste will be collected daily, which will minimise putrescence.

  Adequate mechanical ventilation and regular collection of waste will eliminate the risk of odour to building inhabitants and neighbours.

9 Next steps

This WMS forms a framework to implement best practice for waste management across all design and planning stages. The waste management approach supports the Green Star requirement for the project to enhance outcomes for waste minimisation, reuse and recycling.

If planning approval is granted for the proposed development, this WMS will:

1. Inform the development of a detailed Waste Policy Design Compliance Certificate for the Construction Certificate application, which is to include details regarding disposal and recycling of different materials expected from demolition, construction, and the transport and destinations of these materials;
2. Inform the development of a building user guide (MAN-5), waste auditor report (MAT-1), and Construction Waste Management Plan (MAN-7) associated with a future Green Star submission;
3. Ensure that detailed design and fit-out of the building is consistent with best practice standards and plans for waste management, and
4. Inform all plans and procedures for operational waste management.

Appendix A

Ground floor plan (L00)

LEGEND

- NEW WALL
- CENTRAL PARK BOUNDARY
- BLOCK 8 BOUNDARY
- EASEMENT BOUNDARY
- MODIFIED CONCEPT PLAN ENVELOPE

NEW TREE — EXISTING TREE

SHC — SHARED CAR PARKING

NOTES

1. All dimensions to be verified on site.
2. Report any discrepancies or omissions to SDS prior to construction.
3. Refer to architect for ambiguous details or when clarification is required.
4. All drawings to be read in conjunction with specification.
5. All drawings to be read in conjunction with consultants' drawings.
6. All structure to structural engineer's details.

PRELIMINARY
NOT FOR CONSTRUCTION

ISSUE	REASON	DATE
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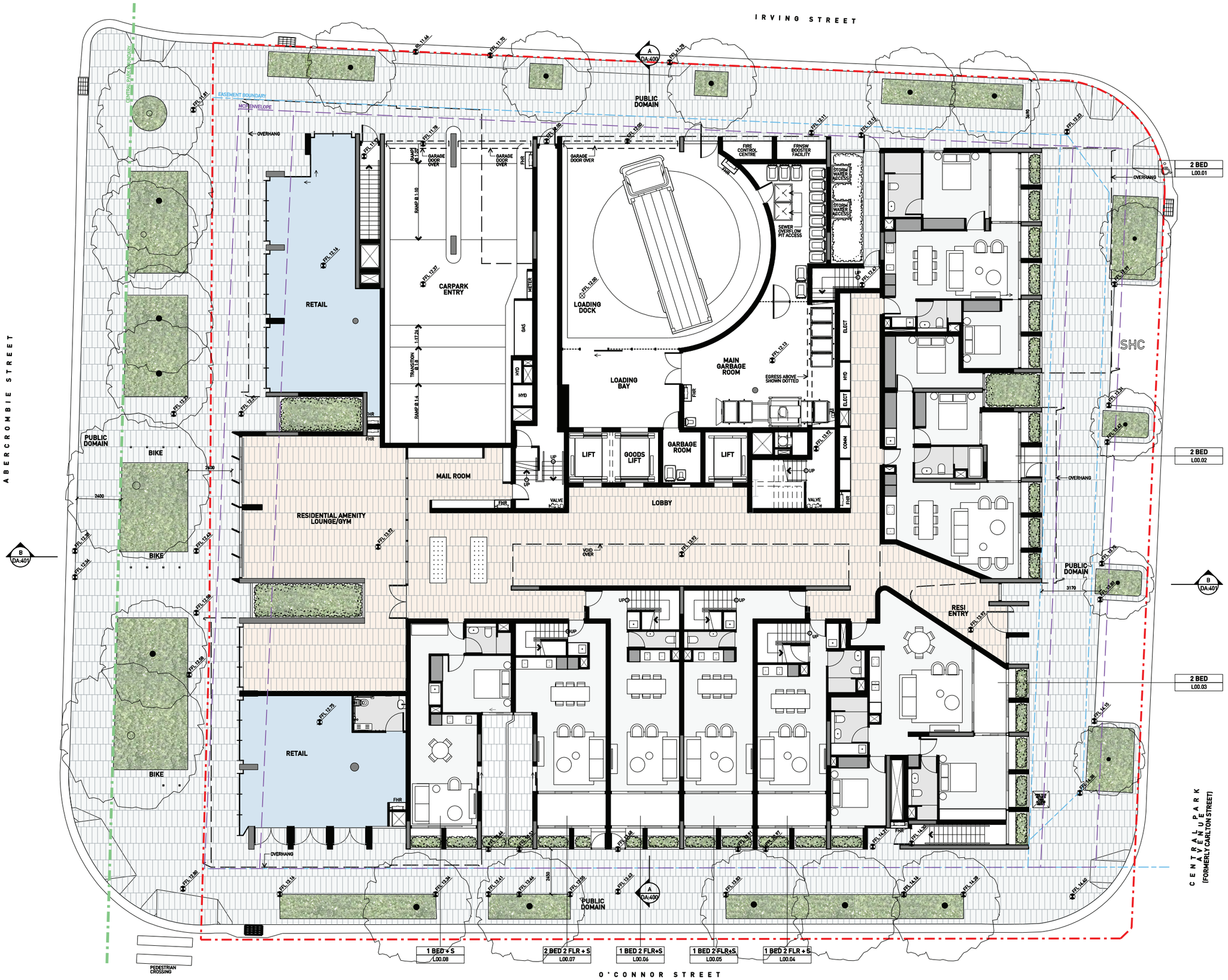

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NOM ARCH WILLIAM SMART 6381

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CLIENT: CENTRAL PARK JV No. 2

SCALE: 1:100 @ A1, 1:200 @ A3

PROJECT: 1260 CENTRAL PARK 8

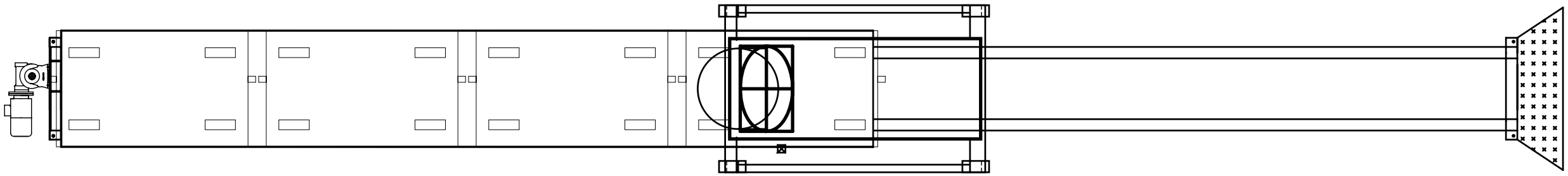
DRAWN: HL APP'D: WS

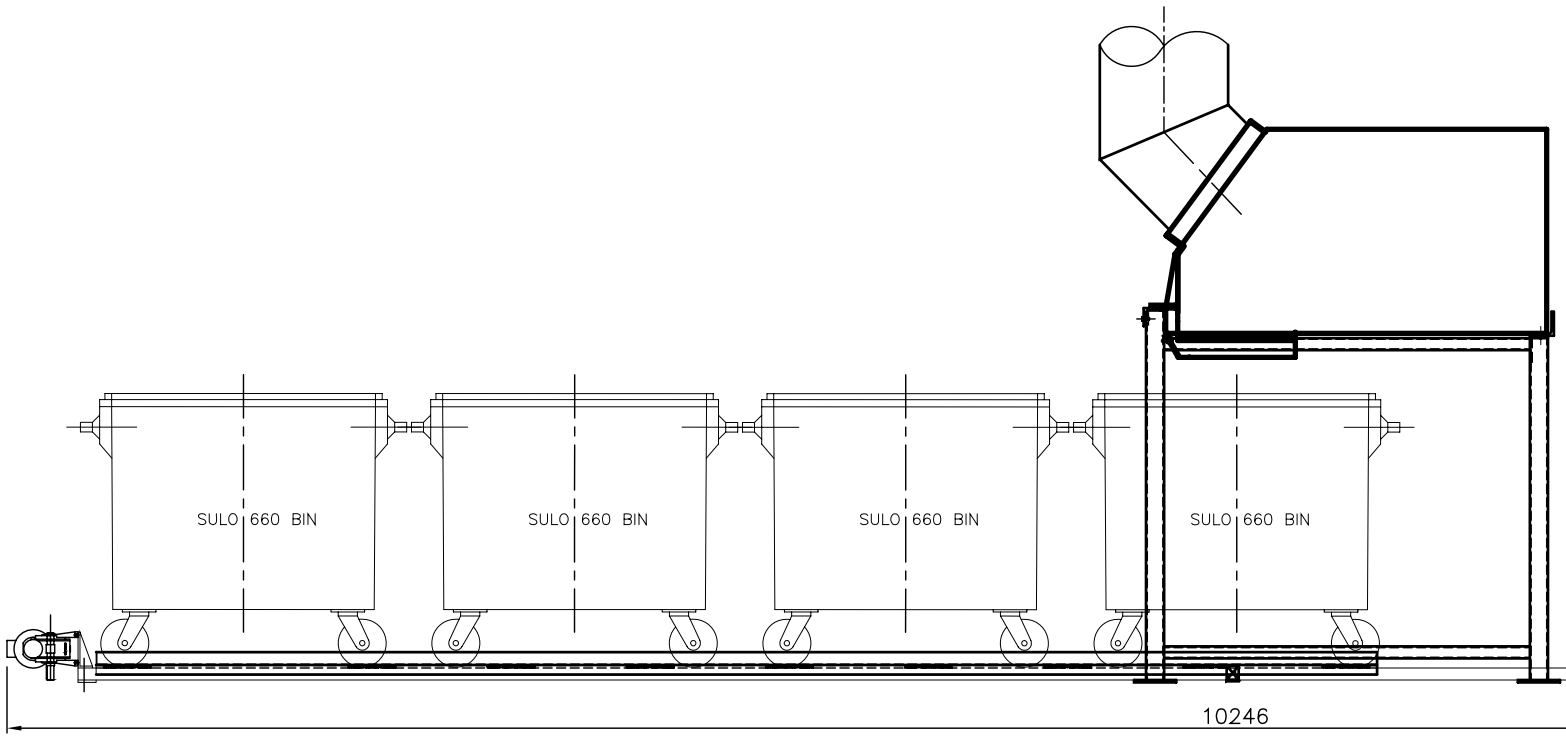
DWG TITLE: GROUND FLOOR PLAN

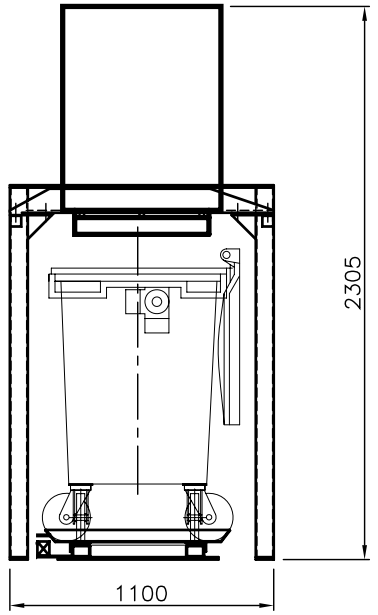
DWG NO: DA:103 REV: D1

Appendix B

Waste compactor specifications







No:	DATE	REVISION	APPD

MATERIAL

UNLESS OTHERWISE STATED
ALL DIMENSIONS IN MILLIMETRES

DEBURR ALL EDGES

QTY:

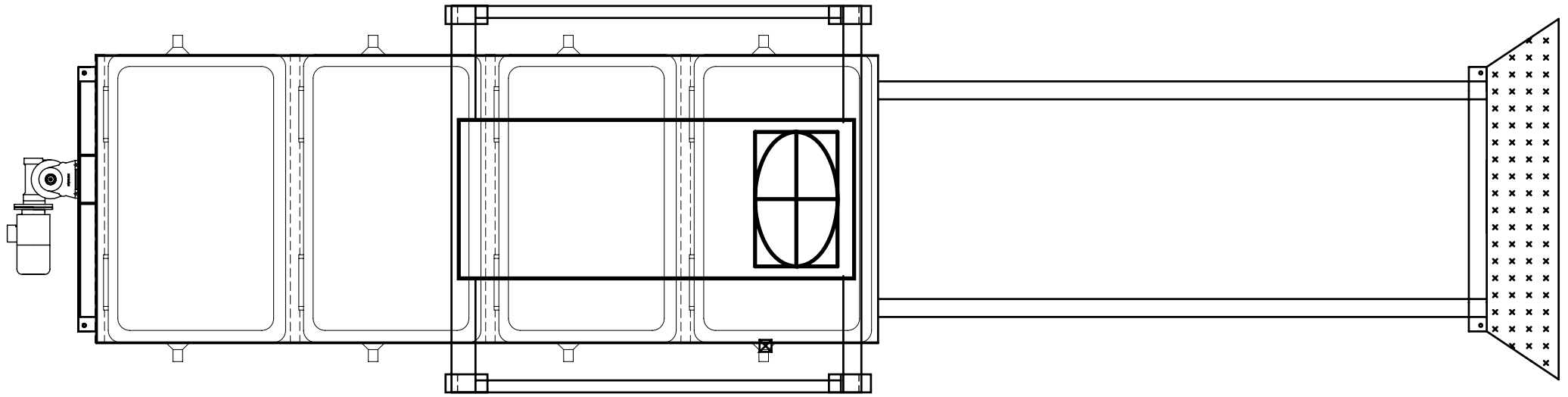
W/O

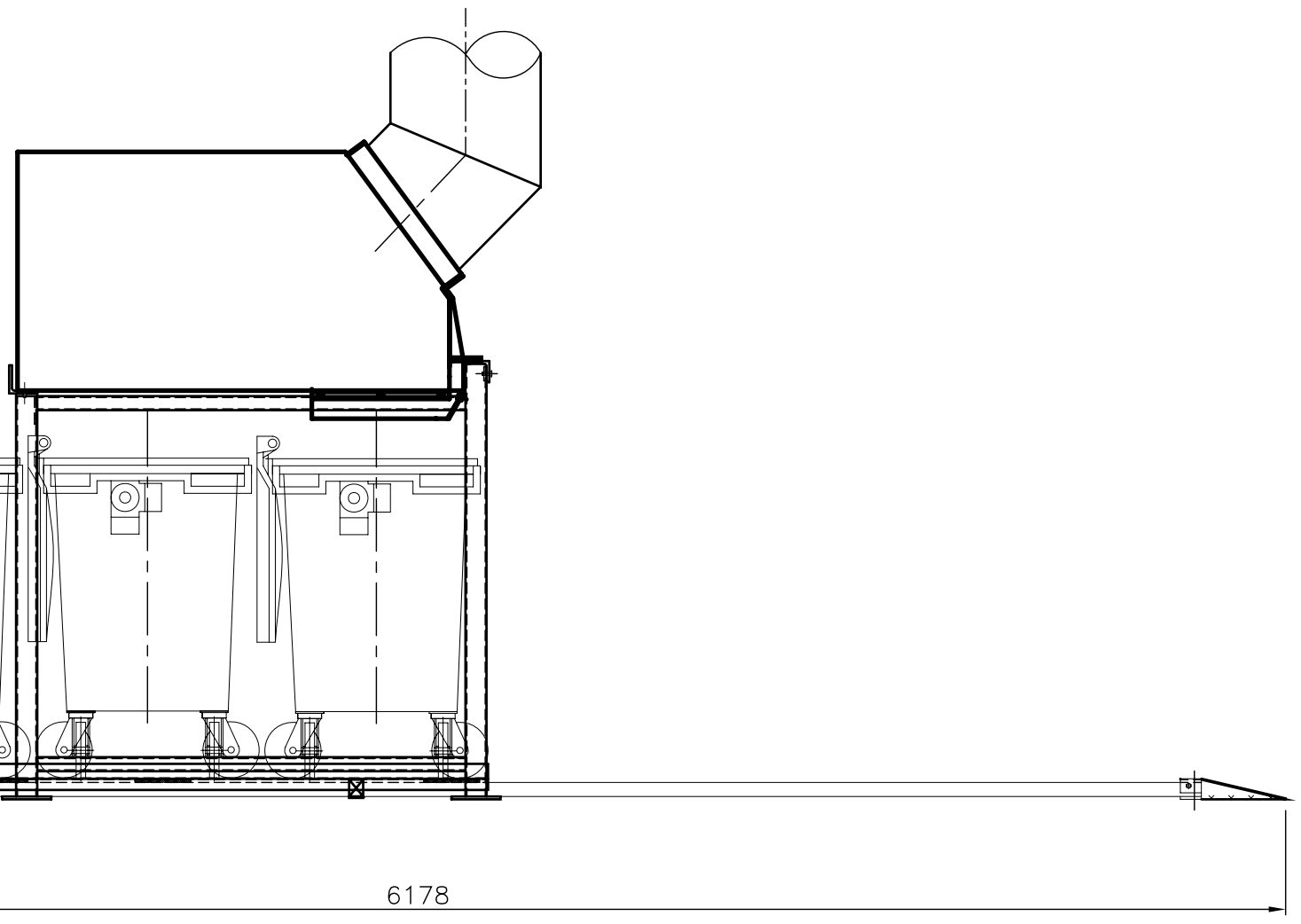
WASTECH ENGINEERING

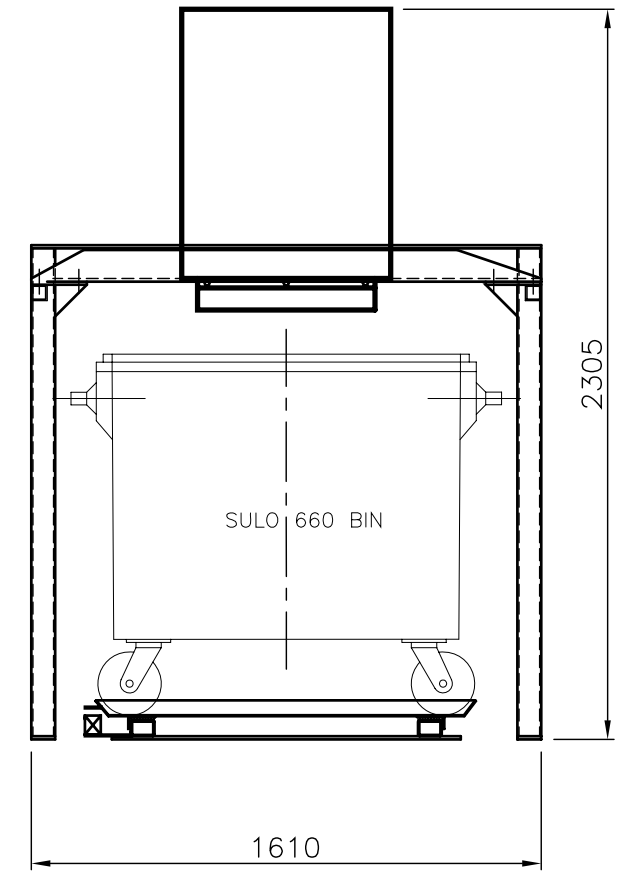
SPECIALISING IN: DESIGN, MANUFACTURE AND SERVICE OF WASTE DISPOSAL AND RECYCLING EQUIPMENT

21 CAPITAL DRIVE, DANDENONG ,VIC. 3175 PHONE (03) 97947155 FAX (03) 9794 7636

DRN –	TITLE	ECOPACK 100	
CKD –		4X660 LT BIN CONVERYOR GA	
APP –––	SCALE D.N.S	CAD FILE NAME	REV.
DATE 08.10.99	VIEWS –––	CONVEY 4X660	







No:	DATE	REVISION	APPD

MATERIAL

UNLESS OTHERWISE STATED
ALL DIMENSIONS IN MILLIMETRES

DEBURR ALL EDGES

QTY:

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WASTECH ENGINEERING
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21 CAPITAL DRIVE, DANDENONG ,VIC. 3175 PHONE (03) 97947155 FAX (03) 9794 7636

DRN —
CKD —
APP ———
DATE 08.10.99

TITLE ECOPACK 100
4X660 LT BIN CONVERYOR GA

SCALE D.N.S
VIEWS ———

CAD FILE NAME
CONVEY 4X660—WIDE

REV.

Appendix C

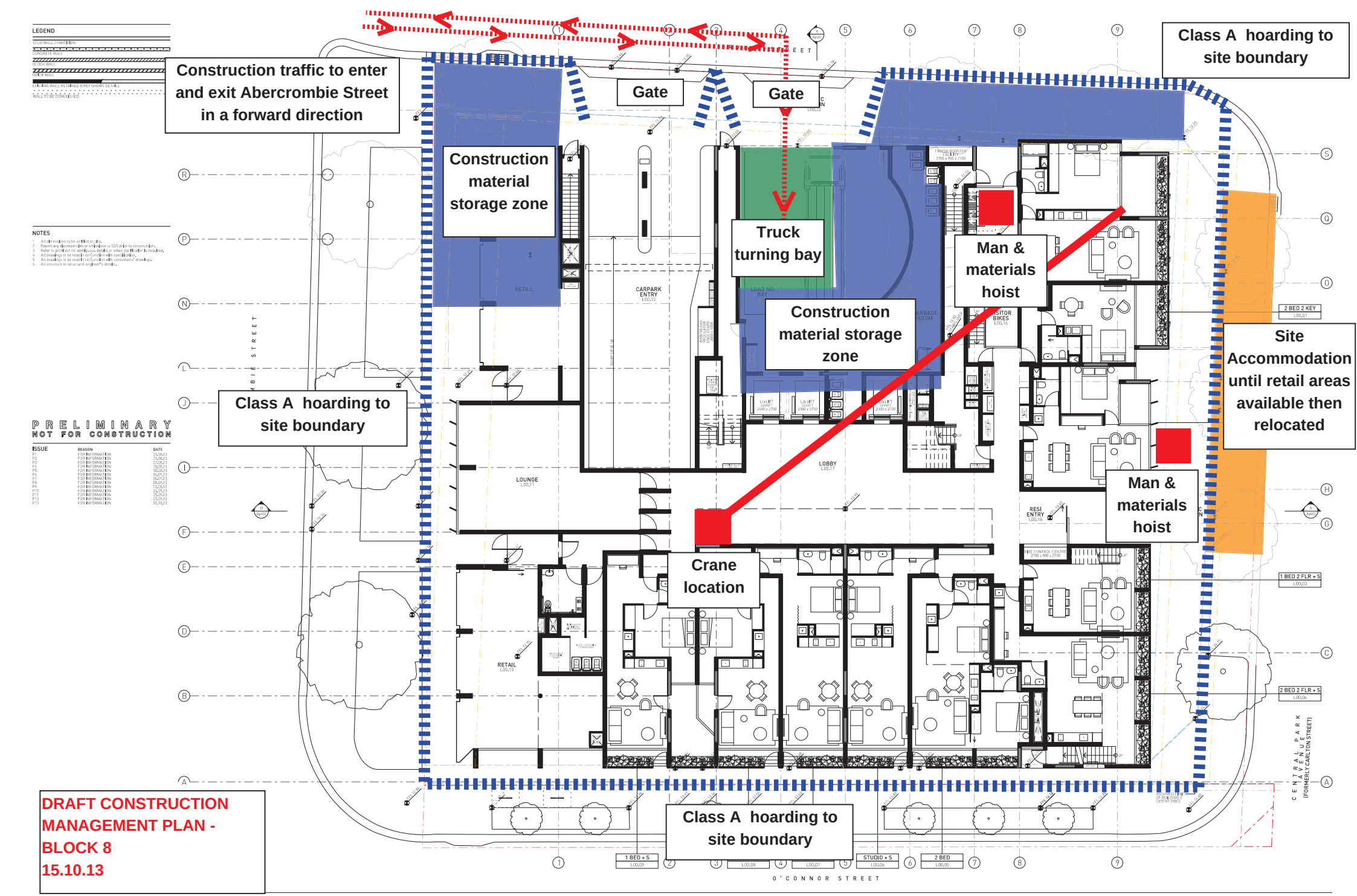
Details of waste management form - Construction phase

Details of waste management – construction phase

MATERIALS ON-SITE			DESTINATION		
			REUSE AND RECYCLING		DISPOSAL
Type of materials	**Est. Vol. (m^3)**	**Est. Wt. (t)**	**ON-SITE** **- specify proposed reuse or on-site recycling methods**	**OFF-SITE** **- specify contractor and recycling outlet**	**- specify contractor and landfill site**
Excavated Materials					
Garden Organics					
Bricks					
Tiles					
Concrete					
Timber – please specify					
Plasterboard					
Metals					
Other waste eg. ceramic tiles, paints, PVC tubing, cardboard, fittings					

Appendix D

Site construction outline



LEGEND

STUD WALL / PARTITION
CONCRETE WALL
BLOCK WALL
EXISTING WALL RETAINED (GREY SHOWS DETAIL)
WALL TO BE DEMOLISHED

NOTES

1. All dimensions to be verified on site.
2. Report any discrepancies or omissions to SDS prior to construction.
3. Refer to architect for ambiguous details or when clarification is required.
4. All drawings to be read in conjunction with specification.
5. All drawings to be read in conjunction with consultants' drawings.
6. All structure to structural engineer's details.

PRELIMINARY
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ISSUE	REASON	DATE
P1	FOR INFORMATION	26.08.13
P2	FOR INFORMATION	26.08.13
P3	FOR INFORMATION	27.08.13
P4	FOR INFORMATION	28.08.13
P5	FOR INFORMATION	28.08.13
P6	FOR INFORMATION	04.09.13
P7	FOR INFORMATION	05.09.13
P8	FOR INFORMATION	06.09.13
P9	FOR INFORMATION	12.09.13
P10	FOR INFORMATION	24.09.13
P11	FOR INFORMATION	25.09.13
P12	FOR INFORMATION	27.09.13
P13	FOR INFORMATION	01.10.13

DRAFT CONSTRUCTION MANAGEMENT PLAN - BLOCK 8
15.10.13

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PROJECT 1260 CENTRAL PARK 8

DRAWN HL APP'D

DWG TITLE GROUND FLOOR PLAN (OPTION 2)

DWG NO DA:103.2 REV P13