InterContinental Sydney

Waste Management Plan

October 2020

Table of Contents

1 Introduction

This Waste Management Plan (WMP) has been prepared by Waste Audit and Consultancy Services ('Waste Audit') for Built for the proposed development at the InterContinental Sydney to provide guidance on expected operational general waste and recycling volumes, storage area requirements, bins and equipment, site and contractor waste handling and collection practices, and management systems and responsibilities.

2 Site Description

The site comprises two allotments containing the InterContinental Hotel (incorporating the former NSW Treasury Building) at 115-119 Macquarie Street. The legal description of the site is:

- Lot 40 DP 41315; and
- Lot 4 DP 785393,

The site (115-119 Macquarie Street) contains two interconnected buildings that comprise:

- The 32-storey Intercontinental Hotel tower, which is located on the corner of Phillip and Bridge Streets set above a podium
- The State Heritage listed former NSW Treasury Building, which is located on the corner of Macquarie and Bridge Streets

Immediately to the north of the site (99-113 Macquarie Street) is a seven-storey commercial building known as Transport House, which is locally heritage listed. This site was part of the SSD 7693 Concept approval. Works relating to this portion of the Concept SSDA site will be progressed via a separate planning approval/application. The building is separated from the Treasury Buildings by a narrow laneway, known as Macquarie Lane.

3 Proposed Work

The proposal is a Stage 2 (Detailed) SSDA that seeks approval for:

- Various refurbishments to the InterContinental Hotel tower.
- Alterations to the roof of the InterContinental Hotel, including expansion of the club lounge and terrace – in compliance with the approved envelope under SSD 7693 (the Concept approval).

The proposed land use is 'tourist and visitor accommodation' (including ancillary uses), consistent with the existing use and what was considered/approved under the Concept approval.

From a staging perspective, no works will be undertaken to Transport House due to its sensitivity and requirement for more consideration, including a competitive design process. It is also noted that internal fit outs to hotel rooms has been progressed via a Complying Development Certificate (CDC) process.

The proposal would increase the GFA of the InterContinental Hotel tower by 250 square metres. The proposal also provides a maximum height of building of RL 114.55 (consistent with the envelope approved under the Concept approval).

4 SEARS Requirements

Preparation of this Operational Waste Management Plan has been undertaken with reference to the following SEARs requirement **14. Servicing and Waste**, **Stage 1 Consent Condition C21** as well as industry best practices.

1. *Prepare a Waste Management Plan to identify, quantify and classify the likely waste streams to be generated during construction and operation of the development and describe the measures to be implemented to minimise, manage, reuse, recycle and safely dispose of this waste with reference to relevant policies and guidelines.*
2. *Identify appropriate servicing arrangements (including but not limited to, waste management, loading zones and mechanical plant) for the site.*

5 Relevant Policies & Guidelines

The following guidelines and standards have been consulted as references in compiling this Waste Management Plan:

- The City of Sydney's *Policy for Waste Minimisation in New Developments*
- The City of Sydney's *Guidelines for Waste Management in New Developments*
- NSW EPA *Protection of the Environment Operations Act 1997* and *Protection of the Environment Operations (Waste) Regulation 2014, Part 11*
- NSW EPA *Waste Classification Guidelines* 2014
- *SEARs Requirements*

6 Operational Waste

In calculating future operational volumes of general waste and recycling, we have taken into account current and proposed areas and functions of the development, existing general waste and recycling generation, and future usage and occupancy levels.

The net increase in GFA of 250 square metres that will result from the proposed development consists of the changes shown in Table 1:

Table 1: GFA Breakdown

Level	Existing GFA m^2	Changed GFA m^2	Proposed GFA m^2
5	2,267	-4	2,263
6	2,669	0	2,669
7	2,575	0	2,575
8	0	0	0
32	371	+254	625
Total	**7,882**	**250**	**8,132**

The proposed Level 32 works that will result in the additional GFA will consist of the following:

- Refurbishment of existing club lounge
- Western extension of club lounge to align with building line below
- Extension of eastern club lounge to build new deck and enclosed space over existing roof slab
- New façade to club lounge level

6.1 Operational General Waste & Recycling - Current Volumes

The Hotel currently produces the following average monthly quantities of general waste and recycling shown in Table 2, based on our review of invoices for the July 2019-February 2020 period. Due to the impacts of COVID-19 on the Hotel's operations, the March-June 2020 period was excluded from calculations to obtain figures that were more reflective of normal operations.

Please also note the following:

- Bottle recycling invoices are for a fixed monthly charge with no other details; volume has been estimated based on an average 5 x 240-litre bins per day (152 bins/month)
- No data was received for cardboard recycling; volume has been estimated based on an average 2 bales per day (45 bales/month)
- Specialised recycling streams (e.g. used oil recycling, e-waste, batteries, fluorescent lamps, etc.) have not been included in either analysis; recommendations for managing these materials are provided in Section 8

Table 2: Current General Waste & Recycling

Waste Stream	Litres/Month	Equipment
General Waste	636,333[1]	23 cubic metre compactor
Food Organics Recycling	18,120[2]	120-litre mobile bins
Cardboard & Paper Recycling	169,736[3]	Front-loading vertical baler
Bottle Recycling	36,500[4]	240-litre mobile bins
CDS Container Recycling[5]	Not known	Collection box
Total	**860,689**	

1 Uncompacted volume; based on 3:1 compaction ratio, average 9 collections/month (369.09 tonnes collected from Jan-Dec 2019)
2 Based on an average 6-8 x 120-litre bins per day
3 Uncompacted volume; based on 5:1 compaction ratio, average 45 bales/month
4 Based on an average 5 x 240-litre bins per day
5 NSW Container Deposit Scheme eligible items only

6.2 Operational General Waste & Recycling - Predicted Volumes

The proposed works as detailed in Section 3 will result in minor changes to the Hotel's waste profile, presuming standard operating conditions and normal occupancy levels. Predicted volumes of materials are shown in Table 3:

Table 3: Predicted General Waste & Recycling

Waste Stream	Litres/Month	Equipment
General Waste	638,101	23 cubic metre compactor
Food Organics Recycling	18,221	120-litre mobile bins
Cardboard & Paper Recycling	170,679	Front-loading vertical baler
Bottle Recycling	36,906	240-litre mobile bins
Total	**863,908**	

It is important to note that managing these increased operational waste volumes will not, in themselves, require fundamental modifications to existing processes or significant additional collections. However, as part of a general improvement strategy concurrent with the refurbishment program, the Hotel may wish to consider the following changes that will improve the efficiency of waste management:

6.3 Operational General Waste & Recycling - Recommendations

General Waste Compactor

The existing compactor is not being used to optimum efficiency and is being collected with an average weight (based on June 2019-February 2020 Cleanaway invoicing data) of 3.23 tonnes. 83 collections were performed during this period, with a total of 266.60 tonnes collected and a maximum weight of 5.84 tonnes recorded on 2/12/19.

If this maximum weight had been regularly achieved by extending the time between collections, then the same tonnage could have been removed in 46 collections, which would have produced a significant financial saving for the Hotel. It should also be noted that an efficient compactor of this size (23 cubic metre capacity) should be able to hold at least 8 tonnes of material.

It was mentioned by the Hotel's Director of Operations during our site visit on 6/7/20 that the compactor is an old and inefficient unit, and subject to hydraulic leaks and breakdowns. This was apparent from visual inspection of the compactor unit and storage room (see photo below), with cracks in the compactor body and evidence of leakage.

We understand that the compactor is owned by the Hotel.

Waste Audit will provide the InterContinental Sydney with a separate report on options for a new general waste compactor, with equipment recommendations and a detailed financial analysis of capital and operating costs.

Cardboard Baler

The existing baler shown in the first photo is also a relatively old piece of equipment, and not in use due to the COVID-19 pandemic and attendant risks to staff in handling cardboard material, as of the time of writing; all cardboard is currently going into the general waste compactor.

An automated top-loading baler of the type shown in the second photo would be a more operationally efficient system than the current one, and also reduce manual handling. Waste Audits' separate report will provide a detailed analysis of this option.

Food Organics & Bottle Recycling

The photo below shows the existing bin storage area on Level 3. The finishes upgrade which will take place as part of the proposed development should include installation of suitable signage, with bins stored in designated zones and properly colour-coded, based on the examples shown in Section 7.2.

Loading Dock

To facilitate loading of bins onto standard rear lift collection vehicles, a dock leveller should be installed in the area shown below. Options and cost estimates for this will be provided in our separate report.

6.4 Operational General Waste & Recycling - Summary

Table 4 summarises recommended systems following resumption of standard operating conditions and normal occupancy levels at the Hotel.

Table 4: Summary of Recommended Systems

Material Streams	Collection, Storage, & Management Processes
General Waste **Cardboard Recycling** **Bottle Recycling** **Food Organics Recycling**	Cleaners and Housekeeping staff will collect all separated materials from guest rooms, offices, and public areas at scheduled times throughout the day and evening and bring them to Level 3 via the goods lift. Food organics recycling will be carried out in kitchen and banquet areas, but not guest rooms, due to the difficulty of separating this material from other types of waste. A designated staff member will be tasked with maintaining the organisation and cleanliness of the bin storage room and the Loading Dock area.
E-Waste Recycling **Battery Recycling** **Fluorescent Lamp Recycling** **Cooking Oil Recycling**	These items will be collected on an as-needed basis; site staff will bring the materials to Level 3 as for the other materials listed above. A dedicated storage area will need to be set aside for this purpose when the planned upgrade to Level 3 takes place.
Bulky Waste	Bulky waste such as furniture, bedding, appliances, etc. will be stored in a dedicated area on Level 3. These items will be collected on an as-needed basis. We recommend that these collections are done at least quarterly to avoid excessive build-up of excessive quantities of materials.

7. Storage Areas

7.1 General Requirements

The development's central waste and recycling storage facilities will be located on Level 3 with dedicated rooms for storage of waste and recycling, including a bin wash area, and space for bulky goods storage. All rooms will be locked and accessible by authorised staff only, and will have the following features and maintenance practices to minimise odours, deter vermin, and maintain it a user-friendly and safe area:

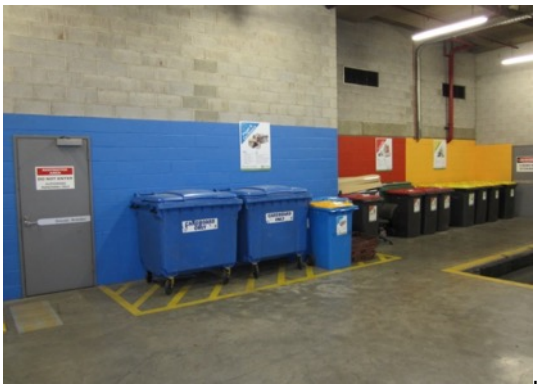
- Mechanically ventilated as required by AS 1668.2
- Walls to be constructed from masonry or similar, washable, and painted with light colour
- Floors to be sealed, with flat and even surface and graded drains to sewer connection
- All corners coved and sealed 100 mm up to eliminate build-up of dirt
- Storm water entrance preventative measures in place
- Brightly lit to Australian standard and light switches at 1.6 m height
- All doors are lockable, tightly fitted, hinged, and self-closing and of at least 2 m width
- Conformance with the Building Code of Australia, Australian standards, and local laws
- Childproofing and public/operator safety assessed and ensured
- A regular cleaning schedule and documented pest control regime
- All bin lids to be kept closed when not being used

7.2 Signage

All waste and recycling containers will be clearly differentiated through appropriate signage and colour coding to reflect the materials contained, with each stream located in a designated area within storage rooms, with large and clear signage to assist in easy identification by users, as shown in Appendix C. Other best practice standards for storage and handling areas include:

- Ensuring the loading dock and waste loading areas are level and free of kerbs, steps, etc.
- Line markings showing the loading area and positions of bins within the storage room
- Highly visible signage

The photographs below show examples of good practice in this regard:



The signage examples on the following page are for illustration purposes only. Actual signage should include suitable Hotel/IHG branding.

8. Demolition & Construction Waste

8.1 Refurbishment

A range of waste materials will be generated during refurbishment works and efforts will be made to minimise the volume of material requiring disposal, as detailed in Table 5. Some waste will also be generated during construction works as detailed in Section 8.2.

Table 5: Refurbishment - Expected Materials Streams

Materials on Site		Destination/Treatment		
Type of Material	**Estimated Volume (m^3)**	**Onsite (Reuse/Recycle)**	**Offsite (Reuse/Recycle)**	**Disposal (Landfill)**
Misc. General Waste	**5 m^3**	No onsite reuse or recycling	Separated onsite into dedicated receptacles and collected by the waste contractor for disposal	Disposal to landfill
Glass	**5 m^3**	No on-site reuse	Recyclers consulted as to potential for recycling	No disposal to landfill
Plaster	**3 m^3**	No on-site reuse	Material to be separated and stockpiled onsite and collected by the waste contractor for recycling for use as soil improver with gypsum etc. removed by recycler	Material that cannot be recycled will be disposed of at landfill facility
Carpet	**3 m^3**	No on-site reuse	Disposed of into a designated bin and collected for recycling if of the required quality, or disposal to landfill if not	Material that cannot be recycled will be disposed of at landfill facility
Cabinetry, Wood Fixtures	**2 m^3**	No on-site reuse	Removed if still serviceable and sold for reuse to an appropriate contractor, or collected by specialist contractor for recycling	No disposal to landfill
Tiles	**1 m^3**	No onsite reuse	Removed if still serviceable and sold for reuse to an appropriate contractor, or collected by specialist contractor for recycling	No disposal to landfill
Metal Ductwork, Wiring, Lighting Fixtures	**1 m^3**	No on-site reuse	Removed if still serviceable and sold for reuse to an appropriate contractor, or collected by specialist contractor for recycling	No disposal to landfill
TOTAL VOLUME	**20 m^3**	**POTENTIAL RECOVERY (REUSE + RECYCLING) = 75%**		

8.2 Construction

Table 6: Construction - Expected Materials Streams

Materials on Site		Destination		
Type of Material	**Estimated Volume (m^3)**	**Onsite (Reuse or Recycle)**	**Offsite (Reuse or Recycle)**	**Disposal (Landfill)**
Used Pallets	**10 m^3**	Reused on site for storage where possible	Collected by contractor and disposed of at recycling facility	No disposal to landfill
Cardboard Recycling	**5 m^3**	Reuse cardboard boxes for storage where possible	Separated onsite into dedicated receptacles and collected by the waste contractor for recycling	No disposal to landfill
Misc. General Waste	**3 m^3**	No on-site reuse or recycling	Separated onsite into dedicated receptacles and collected by the waste contractor for disposal	Disposal to landfill
Mixed Recyclables	**2 m^3**	No on-site reuse or recycling	Separated onsite into dedicated receptacles and collected by the waste contractor for recycling	No disposal to landfill
Glass (Excess)	**1 m^3**	No on-site reuse	Recyclers consulted as to potential for recycling	No disposal to landfill
Timber Offcuts	**1 m^3**	Reuse for formwork where possible	Untreated recyclable timber will be collected and recycled at appropriate timber yard. Unrecyclable (treated) timber will be disposed of at landfill	Material that cannot be recycled will be disposed of at landfill facility
Plasterboard Offcuts	**1 m^3**	No on-site reuse	Material to be separated and stockpiled onsite and collected by the waste contractor for recycling for use as soil improver with gypsum etc. removed by recycler	Material that cannot be recycled will be disposed of at landfill facility
Floor Coverings	**1 m^3**	No on-site reuse	Collected in designated bin and sent for recycling if of required quality; otherwise sent to landfill	Material that cannot be recycled will be disposed of at landfill facility
Metal Offcuts, Roof Sheeting, Wiring, etc.	**1 m^3**	No on-site reuse	Collected by specialist metal subcontractor for separation into different metal types for recycling	No disposal to landfill
TOTAL VOLUME	**25 m^3**	**POTENTIAL RECOVERY (REUSE + RECYCLING) = 88%**		

9. Waste Contractor Requirements

To achieve and maintain best practice, the Hotel's waste contractor will be required to demonstrate high standards of service and be able to comply with the following requirements:

- Reliable and efficient servicing, and meeting all agreed schedules
- Vehicle fleets fitted with suitable onboard bin weighing technology
- Suitably sized collection vehicles to be able to access the building's loading dock
- Maintaining accurate and comprehensive tracking systems for all materials collected
- Working with the site to achieve continuous improvements in recovery rates
- Providing detailed monthly and annual reports on diversion and financial outcomes
- Maintaining current details of all processing facilities used

10. Tenant & Stakeholder Education

For the new systems to be successful an intensive education program will be required for commercial tenants and the Hotel.

Cleaners will be a key element in the effectiveness of the new systems and as such, relevant procedures will need to be written into contract specifications, including requirements for monitoring contamination of recycling streams and condition of bins and other equipment, and providing users with feedback on ongoing systems performance.

11. Ongoing Management & Reporting

Following implementation of the new systems, a monthly performance reporting system, based on the Better Buildings Partnership (BBP) *Operational Waste Guidelines*, should be instituted. This will ensure the continued success of the Hotel's waste minimisation initiatives, accurate tracking of performance, and cost-effective waste removal.

Specific performance clauses and KPIs should be included in contracts to ensure that all service providers actively participate in the Hotel's waste reduction program and meet on a monthly basis to resolve performance issues and identify new opportunities for diversion and avoidance.

Waste and recycling contractors should be required to report actual volumes and tonnages by stream so that the Hotel can monitor performance and report this to stakeholders.