



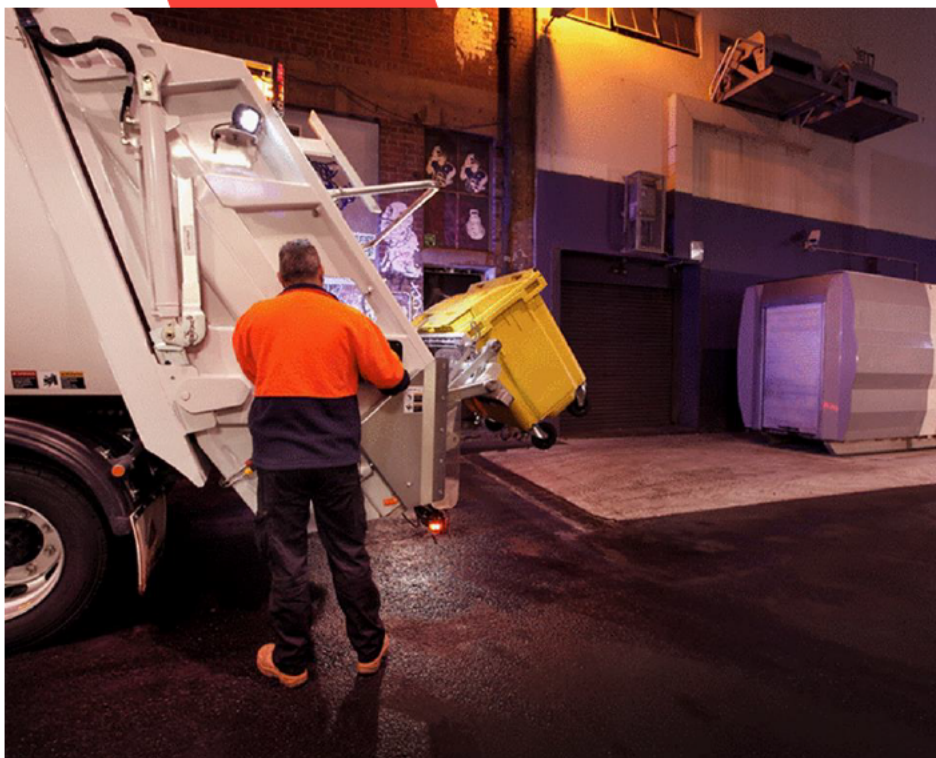
Confidential

Precinct Properties Ltd

Operational Waste Management Plan

Downtown Carpark Site Development


10 October 2025



Operational Waste Management Plan
Downtown West
Precinct Properties Ltd

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This report ('Report') has been prepared by WSP exclusively for Precinct Properties Limited ('Client') in relation the development of an Operational Waste Management Plan ('Purpose') and in accordance with Short form Agreement with the Client and Variation (PCN01) dated 18/09/2025. The findings in this Report are based on and are subject to the assumptions specified in the Report, our Project Change Notice (PCN01), and Offer of Services dated 17/07/2025. WSP accepts no liability whatsoever for any reliance on or use of this Report, in whole or in part, for any use or purpose other than the Purpose or any use or reliance on the Report by any third party.

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EXECUTIVE SUMMARY

The below is a summary of the waste management plan proposed for the subject site. The complete report must be read in detail prior to implementing the waste management plan.

LOCATION: Quay Street, Auckland CBD

SIZE: 72,350 NLA, 200 Hotel rooms and 160 Apartments.

COMPOSTION: The design encompasses a multi-tower commercial & residential development, Tower 1 (55 levels) will consist of 42 levels of office space, with Tower 2 (45 levels) encompassing 22 levels of residential development (160 apartments) and 12 levels of hotel (200 rooms). The two towers will sit across 4-9 levels of podium commercial development, including additional office, retail, hospitality (food and beverage) and 4 basement levels.

The final development will comprise of:

- 71,381m² Office
- 160 Accommodation units (mix of 1-3 bedroom)
- 200 Hotel rooms
- 494m² Hospitality
- 475m² Retail

The Development will be serviced by six separate waste rooms, the following summary of waste volumes has been used to define the waste systems and collection arrangements proposed for the development, with collections occurring upto 3 days per week.

Table 1-1: Waste Summary (Weekly Waste Volumes)

Building ID	Use	Waste Volume (L/week)*				
		Garbage	Recycling	Paper/Card	Organics	Glass
T1 -P1	Office, Retail	29,904	13,359	19,735	3,188	0
T2	Residential	13,883	15,820	0	1,937	0
T2	Hotel	6,000	4,000	3,000	1,000	
T2 -P2	Office, Retail	3,879	1,750	2,512	381	0
P3	Retail (Food and Beverage)	8,301	2,248	4,669	2,075	0
Total		61,967	37,177	29,916	8,581	0

All waste collections will occur on-site via private collection contractor. Waste equipment will not be stored outside the title boundary. Building Management will ensure sufficient access is provided for collection contractor(s) during agreed collection times. Typically, operators are provided with keypad/swipe card access to service doors as required.

Waste materials will be collected from the Loading dock located in Basement level (B01), Waste receptacles will be transferred from each dedicated waste room to the loading dock level for collection by nominated commercial collectors, with space allowed for bin washing and storage.

Collections will be undertaken by 8.1m - 8.3m Medium Rigid Vehicles with turning circle of 18.6m.

Operators to collect appropriate waste containers from the dedicated waste room and return containers immediately upon emptying.

The objective is to ensure that each tenant is supplied with a collection system that matches their individual waste requirements while also supporting a whole of building approach. For residential apartments Tower 2 will be fitted with twin waste chutes, discharging directly into collection containers (via overhead compactor). Waste room access will also be provided for the disposal of organic waste, bulky cardboard and extended waste streams.

Each waste room will be provided with 2-4m² of the storage of extended waste streams and bulky waste items.

Waste streams associated with building fit outs and other occasional sources of waste will be coordinated by building management - to be arranged separately via private collection contractor.

1 INTRODUCTION

The following Operational Waste Management Plan (OWMP) has been prepared to support operational efficiencies and maximise waste diversion from landfill.

This OWMP and the waste generation rates within have been prepared based on comparative waste generation studies, best practice waste management methodology and technologies commonly available in New Zealand.

1.1 BUILDING DETAIL

Building Name:	Downtown Carpark Site Development
Location:	2 Lower Hobson Street Auckland CBD
Building Use:	Commercial mixed use (Offices, Retail, Hospitality, Hotel and Residential Accommodation)
Number of Levels:	55 (including podium, excluding basement levels)

Table 1-1: Development Summary

Use	Net Leasable Area
Office	71,381 m ²
Accommodation	160 Apartments
Hotel	200 Keys
Hospitality	494 m ²
Retail	475 m ²

1.2 LEGISLATIVE DRIVERS

Solid waste policy is delivered nationally through the Waste Minimisation Act (2008) and supporting Waste Strategy, with the most recent version being the current government's Waste and Resource Efficiency Strategy (2025). The 2025 Strategy and the associated work program (2024-2026) outline the Government's priorities for increasing reuse and recycling of materials.

Prior to the 2025 Strategy, the previous Government introduced a significant program of work under the Rautaki Mahi – the NZ Waste Strategy (2023) and the Emissions Reduction Plan, to support the country's transition to a more Circular Economy. Aspects of this previous approach remain relevant to the targets and direction in this OWMP, including the diversion of organics and putrescible materials from landfill.

At a high level, the type and volume of waste requiring disposal is generally influenced by the user and available systems to manage waste materials. The New Zealand Waste Hierarchy (Ministry for the Environment, 2023) is used to explain the different steps to manage and minimise waste. The most desirable steps are at the top of the hierarchy with least favoured approaches at the base.



Figure 1-1: NZ Waste Hierarchy

The following Operational Waste Management Plan has been developed in accordance with the NZ Waste Hierarchy and in alignment with the Waste strategy 2025, demonstrating Precinct Properties commitment to proactively support the transition to a more effective waste management system for New Zealand.

1.3 LOCAL SUPPLIER CAPABILITIES

An understanding of the available waste and recycling collection infrastructure is critical to define which waste streams in which to separate waste on site and the applicable generation rate for each. Auckland is well serviced by commercial operators with a range of waste and recycling streams able to be collected.

The available commercial services offered in Auckland include (but are not limited to):

Table 1-2: Commercial Waste Services Available

Waste Operator	General Waste	Mixed Recycling	Paper/ Cardboard	Glass	Organics
Enviro NZ	✓	✓	✓		✓
Green Gorilla	✓	✓	✓		✓
Reclaim	✓	✓	✓	✓	✓
Rubbish Direct	✓	✓	✓	✓	✓
Waste Management	✓	✓	✓		✓
JJ's	✓	✓	✓		✓

2 GREEN STAR CRITERIA ASSESSMENT

The Operational Waste Management Plan (OWMP) within this document follows best practice waste engineering systems. Section 6 of this report outlines waste generation across the development and identifies the key waste streams, storage and collection requirements. Section 4 considers Credit 8A (Operational Waste) of *Green Star Design & As Built v1.1* criteria in comparison to this OWMP and details applicable waste reduction targets, education strategies and monitoring of system efficacy required.

A summary of Credit 8A requirements is provided in *Table 2-1* below.

Table 2-1: Green Star Criteria Assessment (Credit 8A)

Green Star Credit 8A Criteria	Operational Waste Management Plan Response
Identify the site boundary, the waste streams relevant to the project, and the individual roles responsible for delivering and reviewing the OWMP;	Appendix A identifies the site boundaries and dedicated waste storage area. Section 3.3 identifies the relevant waste streams, including general waste, separate recycling and extended waste streams. Section 3.6.1 identifies the individual roles with regard to delivery and review of the OWMP.
Set diversion from landfill targets and/or targets for reducing total materials generation (general waste materials and recyclable/reusable materials), as well as monitoring and measurement procedures for waste and recycling streams by weight;	Section 3.1.1 and 3.5.2 identifies required landfill diversion targets. Section 3.6 addresses monitoring and measurement procedures.
Outline methods for encouraging the separation of waste streams, such as bins, storage areas, or recycling facilities in public areas as required;	Sections 3.3 through 3.3.3 contain relevant information regarding the provision of bin storage, recycling facilities and encouragement for waste stream separation.
Identify storage areas for all waste streams and outline best practice safety and access requirements for their collection;	Sections 3.3.4 and 3.4 detail the waste storage requirements and collection methods respectively, adhering to best practice waste design and safety.
Identify safe methods for vehicle access and transfer of waste; and	Section 3.4 identifies the waste collection method in accordance with best and safe practices.
Incorporate a review process to assess the success of the OWMP and make improvements based on operational experience.	Section 3.6.1 identifies the review process to be implemented for the OWMP.

3 WASTE MANAGEMENT PLAN

The waste management strategy for the Downtown Carpark Site Development Project has been developed in alignment with the services typical of the commercial activities associated with the building, including Commercial Office, Retail and Hospitality tenancies, 200 Hotel rooms and 160 Residential apartments. It should be utilised to guide and implement the day-to-day management of waste within the building once new facilities are operational.

This waste management plan considers the locally available services and anticipated diversion from landfill when the new facilities are completed and systems implemented, with further improvements anticipated over time as staff behaviours towards waste minimisation change, supporting new initiatives and opportunities to reduce waste beyond the systems established in this document.

3.1 STRATEGIC OBJECTIVES

As onshore processing of recovered materials continues to gain momentum, including recent increased capacity for producing recycled plastics. It is likely that opportunities for resource recovery will continue to evolve. Having a waste collection system and approach which is agile to these changes, including through the contracts for collection and processing will support cities and the communities they contain meet the collective objectives to maximise the diversion from landfill and recover valuable resources.

Through correct waste separation, the highest value of recoverable materials can be maintained, the use of appropriate systems can therefore encourage greater recovery and increase opportunities for value add across a materials lifecycle. By providing flexible systems the development can meet the changing needs of its tenants, including as materials, material recovery and processing technology advances, ensuring the building and proposed waste management system remains fit for purpose over time.

By working closely with building tenants and council staff members to encourage the separation of waste streams and providing education around the waste management system, the application of a wholistic waste minimisation approach across the building will support higher quality diverted materials and reduced waste to landfill.

3.1.1 WASTE REDUCTION TARGETS

Waste reduction targets for the development have been developed and are described in Section 3.5.

The following core targets for waste reduction and diversion are described in *Table 3-1* below.

Table 3-1: Waste Targets Summary

Target	Office	Residential Accom	Hotel	Hospitality	Retail
Baseline Landfill Diversion by volume	50%	52%	50%	40%	50%
Target Landfill Diversion by volume	55%	56%	57%	52%	50%
Waste Reduction Target	10%	10%	10%	10%	10%

3.2 WASTE GENERATION

To provide appropriate waste generation figures, the following Waste generation calculations have been used to confirm appropriate sizing of waste rooms and associated service frequency.

3.2.1 WASTE GENERATION RATES

Based on local supplier capabilities, available waste planning calculators have been considered (Auckland and Wellington City Council) and outputs compared with waste generation data held by WSP. Based on the available data and relative limitations of the two council calculators relative to commercial developments, WSP have supplemented the waste generation assessment for the development with waste assessment data provided by Sustainability Victoria (Australian Government Agency) and data held by WSP. The application of Sustainability Victoria rates are considered to provide a conservative estimate for the development, and ensure suitable capacity is provided to support appropriate waste systems.

Table 3-2 and Table 3-3 below detail the applicable waste generation rates for each activity type:

Table 3-2: Waste Generation Rates (By Commercial Area)

Use	Waste Generation Rate (L/100m2/week)				
	Garbage	Recycling	Paper/Card	Organics	Glass
Office	45	20	30	5	0
Retail (Non-Food)	350	175	175	0	0
Retail (Food & Beverage)	1,680	455	945	420	0
Hotel*	30	20	15	5	0

*Hotel waste generation per room/key.

Table 3-3: Waste Generation Rates (by Residential Unit)

Use	Waste Generation Rate (L/Quantity/week)				
	Garbage	Recycling	Paper/Card*	Organics	Glass
Residential (1 Bed)	70	80	0	10	0
Residential (2 Bed)	88	100	0	12	0
Residential (3 Bed)	105	120	0	15	0

*Residential volumes of paper/cardboard are calculated within comingled recycling, not counted separately.

3.2.2 WASTE GENERATION ASSESSMENT

A site waste generation assessment has been developed based on the development summary described in *Table 1-1*. Weekly waste generation volumes, based on Net Leasable Area (NLA) for each space and relevant Hotel Keys/Apartment units are detailed in *Table 3-4* below.

Table 3-4: Waste Generation Assessment

Building ID	Use	Waste Volume (L/week)*				
		Garbage	Recycling	Paper/Card	Organics	Glass
T1 - P1	Office, Retail	29,904	13,359	19,735	3,188	0
T2 - Resi	Residential	13,883	15,820	0	1,937	0
T2 - Hotel	Hotel	6,000	4,000	3,000	1,000	
P2	Office, Retail	3,879	1,750	2,512	381	0
P3	Hospitality (Food and Beverage)	8,301	2,248	4,669	2,075	0
Total		61,967	37,177	29,916	8,581	0

*Generation is based on 5 days/week for office utilisation and 7 days/week utilisation for all other activities.

3.3 WASTE STREAMS

As per the supplier capabilities and the generation assessment in section 3.2 above, waste is sorted onsite as appropriate into the following **core** streams:

- General Waste
- Recyclables, including:
 - Commingled Recycling (plastic beverage containers, glass and metal cans)
 - Paper/Cardboard
- Food / Organics

Further storage provisions have been made for the following **extended** waste streams:

- Bulky Waste / Crates
- Additional recyclables, as required by occupier (examples include: Polystyrene (EPS), Soft Plastics, Electronic Waste (e-waste), Batteries, Cooking Oil, Fluorescent Lighting).

Throughout the building, it will be ensured that it is as easy to dispose of recyclable materials as it is general waste. This will be achieved by ensuring the site is appropriately furnished with bin stations throughout the various public spaces. Bin stations are to be clearly signed such that waste stream separation is easily identifiable and correct use of the bins is upheld.

Bin stations encourage the source separation of recyclable materials. This system incorporates the provision of multiple bins for different waste streams at central locations and common areas for ease of disposal. An example of potential temporary waste storage containers is provided in section 3.3.2 below. Providing separate bins at each bin station is beneficial, as users are required to make a conscious decision as to which bin they place their items. This typically increases diversion of waste from landfill.



Figure 3-1: Example Source Separation Bins (Brand: Method)

3.3.1 INTERNAL WASTE HOLDING AND SEPARATION

GENERAL WASTE

Each space of the building shall have provision for plastic lined bins for the temporary holding of general waste, to have minimum cumulative holding capacities as deemed appropriate by building management.

General waste from these temporary holding bins will be transferred by building management/cleaning staff to the dedicated waste rooms located in Basement Level (B01), where materials will be transferred into larger bins for collection (see Appendix A).

For residential apartments in Tower 2, a dedicated waste chute will be supplied for the transfer bagged General Waste to the T2 - Resi waste room.

RECYCLING (COMMINGLED)

Each space of the development shall have provision for the temporary holding of mixed recycling (paper and cardboard, plastic beverage containers and metal tins and cans), to have minimum cumulative holding capacities as deemed appropriate by building management.

Recycling from these temporary holding bins will be transferred by building management/ cleaning staff to the dedicated waste rooms located in Basement Level (B01), where materials will be transferred into the larger bins for collection (see Appendix A).

For residential Apartments in Tower 2, a dedicated waste chute will be supplied for the transfer of recycling to the T2 – Resi waste room.

Recycling materials to be loose in collection containers (no bagged materials).

RECYCLING (PAPER/CARDBOARD)

Commercial tenancies to ensure provision for the temporary holding of paper/cardboard, to have minimum cumulative holding capacities as deemed appropriate by building management.

Paper/cardboard from these temporary holding bins will be cleared and transferred by building management/cleaning staff to the dedicated waste rooms in Basement Level (B01), where materials will be transferred into the larger bins for collection (see Appendix A).

For residential apartments in Tower 2, it is envisaged that larger cardboard boxes will be able to be deposited directly in the waste room rather than via the recycling chute (to avoid blockages).

Paper/cardboard to be loose in collection containers (no bagged materials).

ORGANICS

Each space of the development shall have provision for the temporary holding of food waste (organics), to have minimum cumulative holding capacities as deemed appropriate by building management (locations are likely to include kitchenettes and food preparation areas). It is recommended that Building management/cleaning staff have a suitable methodology for transferring organics via leakproof container for transfer to the relevant waste room.

It is recommended that residential apartments be provided with suitable spaces and containers for the collection of household food scraps (e.g. benchtop caddies), noting this waste will need to be transferred to the Basement Level (B01) waste room for collection. It is strongly recommended that containers are leak proof and or are used in conjunction with a suitable liner, to reduce spillage during transfer.

EXTENDED WASTE STREAMS

The extent to which extended waste streams are separated and managed throughout the site will be subject to commercial viability and operational preference. It is recommended that at least 1.0m² be provided within each waste room for the temporary storage of bulky materials and other extended waste streams, including, for example, handheld batteries, electronic waste, fluorescent lighting and soft plastics.

ONSITE COLLECTION SERVICES

A number of externally supplied solid waste services are likely to operate within the building, with contractors removing waste from the site as part of their services – examples include secure paper (for destruction) and sanitary bathroom waste. These materials are not quantified in this report or included in the diversion statistics or storage requirements considered in this report.

3.3.2 TEMPORARY WASTE STORAGE

In accordance with this plan it is recommended that bin stations be established at each level and within appropriate communal areas. Please refer to Suggested Temporary Holding Bin Information located in Appendix B.

INTERNAL WASTE TRANSFER AND HANDLING

Temporary waste storage areas across the commercial tenancies will be serviced by the contracted cleaning services provider. Waste will be separated into the following waste streams and transferred to the corresponding collection container located in each waste room.

- General Waste
- Mixed Recycling
- Recycling (Paper/Cardboard)
- Organics
- Extended waste streams

All waste handling and transfers will be undertaken in accordance with building management's defined cleaning procedures. Access to the waste room by approved persons only.

Waste transfer paths are to be exclusively within the site title boundary and do not require cleaners/building management to exit title to perform operations.

Transport distances, from nearest elevator connection are described in *Table 3-5* below, see Appendix A.

Table 3-5: Waste Transfer Distances

Waste Room	Use	Transfer Distance
T1 – P1	Office, Retail	44m
T2 - Resi	Residential	14m
T2 - Hotel	Hotel	42m
P2	Office, Retail	42m
P3	Hospitality (Food and Beverage)	60m

3.3.3 REQUIREMENTS FOR WASTE COLLECTION AND STORAGE

Based on the Waste generation projections and diversion targets established in this Plan, it is recommended that the following equipment (waste bins) be provided for ongoing storage and collection of waste generated by the development. As not all commercial waste service providers identified in section 1.3 offer separate glass collections, glass has been included within commingled recycling.

It is expected that all bins will be supplied as part of the waste collection contract.

Table 3-6: Waste Collection Equipment Required

Waste Room	Waste Stream	Equipment	Collection frequency	Estimated volume per week	Weekly Bin Capacity
T1 - P1	General waste	5x 1100L	3	14,952L *	16,500L
	Commingled Recycling	4x 1100L	3	13,359L	13,200L

	Cardboard	3x Bales	3	3,947L**	5,040L
	Organics	5x 240L	3	3,188L	3,600L
	Bulky Waste	3m ²	On demand	N/A	N/A
T2 - Resi	General waste	3x 1100L	3	6,942L*	9,900L
	Mixed Recycling	4x 1100L	3	15,820L	13,200L
	Paper/Cardboard	1x 1100L	3	Incl. in above	3,300L
	Organics	3 x 240L	3	1,937L	2,160L
	Bulky Waste	2m ²	On demand	N/A	N/A
T2 - Hotel	General waste	3x 1100L	2	6,000L	6,600L
	Mixed Recycling	2x 1100L	2	4,000L	4,400L
	Paper/Cardboard	2x 110L	2	3,000L	4,400L
	Organics	3 x 240L	2	1,000L	1,440L
	Bulky Waste	4m ²	On demand	N/A	N/A
P2	General waste	2x 1100L	3	3,879L	6,600L
	Mixed Recycling	1x 1100L	3	1,750L	3,300L
	Paper/Cardboard	2x 660L	3	2,512L	3,960L
	Organics	1 x 240L	2	381L	480L
	Bulky Waste	2m ²	On demand	N/A	N/A
P3	General waste	4x 1100L	2	8,301L	8,800L
	Mixed Recycling	1x 1100L	3	2,248L	3,300L
	Paper/Cardboard	2x 1100L	2	4,669L	4,400L
	Organics	3x 240L	3	2,075L	2,160L
	Bulky Waste	3m ²	On demand	N/A	N/A

*Waste Volumes are compacted at 2:1 ratio

**Carboard Bales have 560L capacity and are compacted at 5:1 ratio – 2,800L per Bale

3.3.4 WASTE STORAGE AREAS

Waste will be stored and collected from the dedicated waste rooms located in Basement Level (B01). Each Waste room is provided with an at grade transfer to the loading dock and nominated waste storage area. Allowance has also been made for collection by vehicles not equipped with a tail lift or bin lifting apparatus, with dedicated bin lifters to service the two central loading bays (raised dock).

Table 3-7 through Table 3-11 describes the spatial requirements and cumulative areas provided for all waste containers across the development site. Please refer to scaled waste room drawing shown in Figure 3-2 below. A detailed version is also attached in Appendix A.

Table 3-7: T1-P1 Waste Storage Area

Location	Item	Minimum Area Required	Area provided
T1 – P1 Waste Room #1	General Waste bins (5x 1100L)	6.65 m ²	41 m ²
	Commingle Recycling bins (4x 1100L)	5.32 m ²	
	Paper and Cardboard baler	1.21 m ²	
	In-bin Press (compactor)	2.42 m ²	
	Organics (Food waste) bins (5x 240L)	2.15 m ²	
T1 – P1 Waste Room #2	Extended waste streams (as required)	3.0 m ²	13 m ²
	Carboard bales	2.1 m ²	
	Pallet Jack	1.0 m ²	
Total		23.85 m ²	54 m ²

Table 3-8: T2 – Resi Waste Storage Area

Location	Item	Minimum Area Required	Area provided
T2 – Resi Waste Room	General Waste bins (3x 1100L)	3.99 m ²	53 m ²
	Commingle Recycling bin (4x 1100L)	5.32 m ²	
	Paper and Cardboard bin (1x 1100L)	1.33 m ²	
	Organics (Food waste) bins (3x 240L)	1.29 m ²	
	Bin Changeover - 3 x 1100L	9.11 m ²	
	Bin Changeover - 3 x 1100L	9.11 m ²	
	Extended waste streams (as required)	1.0 m ²	
Total		32.15 m ²	53 m ²

Table 3-9: T2 - Hotel Waste Storage Area

Location	Item	Minimum Area Required	Area provided
T2 – Hotel Waste Room	General Waste bins (3x 1100L)	3.99 m ²	50 m ²
	Commingle Recycling bins (2x 1100L)	2.66 m ²	
	Paper and Cardboard bins (2x 1100L)	2.66 m ²	
	Organics (Food waste) bins (3x 240L)	1.29 m ²	
	Extended waste streams (as required)	4.0 m ²	
Total		14.60 m ²	50 m ²

Table 3-10: P2 Waste Storage Area

Location	Item	Minimum Area Required	Area provided
P2 Waste Room	General Waste bins (2x 1100L)	2.66 m ²	24 m ²
	Commingle Recycling bin (1x 1100L)	1.33 m ²	
	Paper and Cardboard bins (2x 660L)	1.96 m ²	
	Organics (Food waste) bin (1x 240L)	0.43 m ²	
	Extended waste streams (as required)	2.0 m ²	
Total		8.38 m ²	24 m ²

Table 3-11: P3 Waste Storage Area

Location	Item	Minimum Area Required	Area provided
P3 Waste Room	General Waste bins (4x 1100L)	5.32 m ²	38 m ²
	Commingle Recycling bin (1x 1100L)	1.33 m ²	
	Paper and Cardboard bins (2x 1100L)	2.66 m ²	
	Organics (Food waste) bins (3x 240L)	1.29 m ²	
	Extended waste streams (as required)	3.0 m ²	
Total		13.60 m ²	38 m ²

Downtown West - OWMP
Waste Room_RevG 10/10/2025

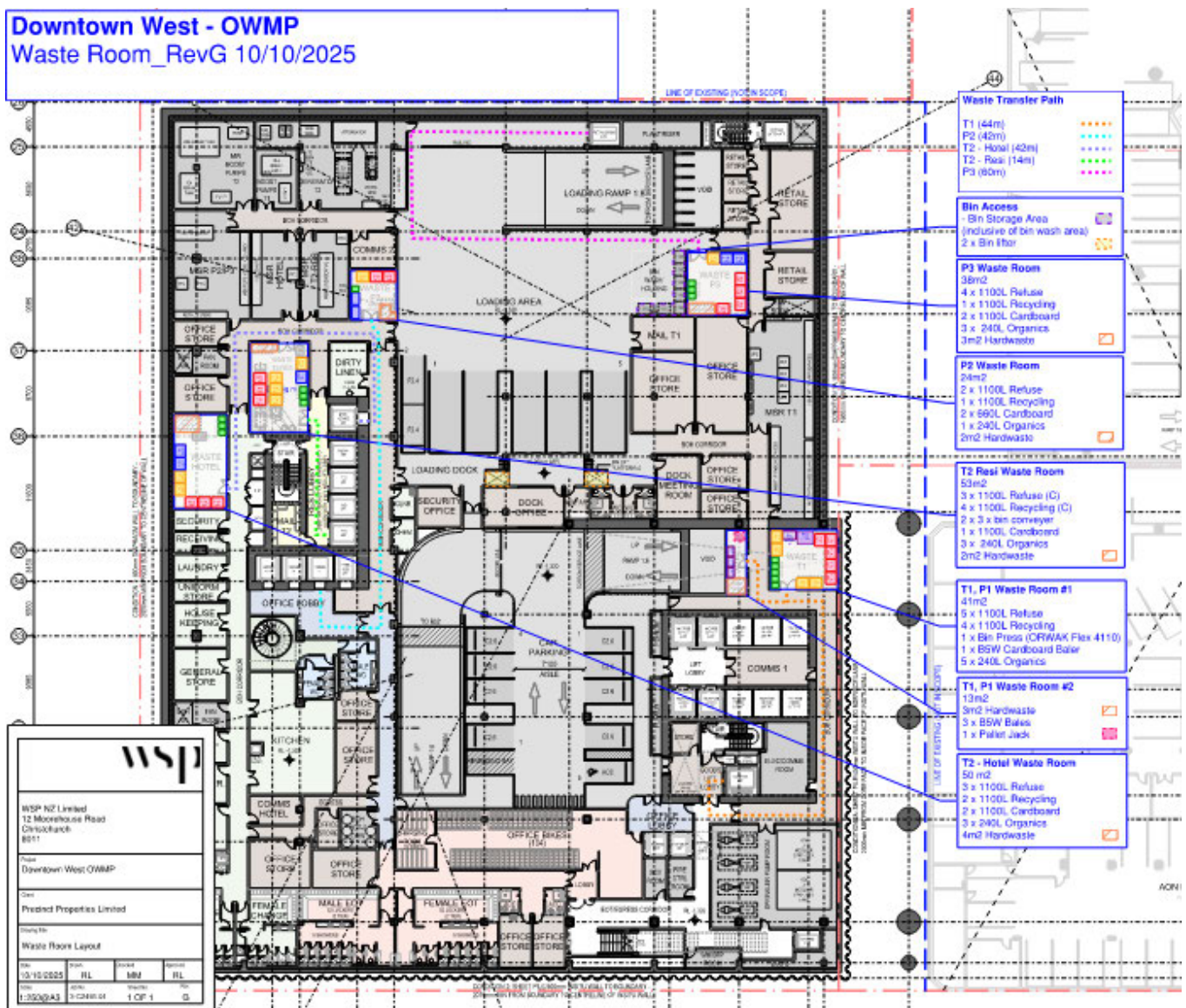


Figure 3-2: Scaled waste room sketch

3.4 WASTE COLLECTION METHODOLOGY

It is envisaged that waste will be collected by a single commercial services provider (per waste stream), with Table 3-12 to be updated once the relevant service contracts for the site are procured.

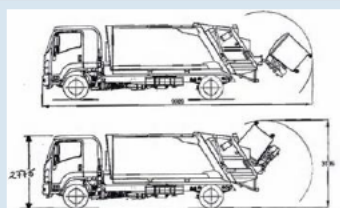
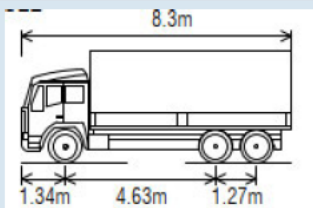
In general, it is expected that site will be serviced 2-3 days per week for each waste stream, providing significant additional capacity should further collections be required. In total twelve truck movements per week are required to service the core waste streams across the proposed development.

Table 3-12: Waste Collection Summary

Waste Stream	Collection frequency (per week)					Vehicle type	Collection Operator
	T1-P1	T2 -Resi	T2-Hotel	P2	P3		
General Waste	3	3	2	3	2	Rear Load	TBC
Mixed Recycling	3	3	2	3	3	Rear Load	TBC
Food Organics	3	3	2	3	2	Rear Load	TBC
Paper/Cardboard	N/A	3	2	2	3	Rear Load	TBC
Baled Cardboard	3	N/A	N/A	N/A	N/A	Box Body	TBC
Extended waste streams	As required					Box Body	TBC
Total truck movements	12						

Table 3-13 outlines the maximum collection vehicle dimensions planned for the site, noting the design includes collection of mobile waste containers at grade with two raised loading docks should a box body truck without a tail lift be supplied.

Table 3-13: Maximum Collection Vehicle Specification

Vehicle Type	Rear Load Collection Vehicle	Box Body with Tail Lift
Length overall	8.1m	8.3m
Wheelbase	4.75m	4.63m
Driving width	2.5m	2.5m
Turning Circle (Wall to Wall)	18.6m	17.5m
Travel height	2.8m	3.7m
Operational height	3.15m	3.7m
Operational Length	9.95m	9.8m
Example		

Source: Wellington City Council, MUD waste storage calculator (Accessed 5 October 2023), Auckland Transport, Vehicle Tracking Envelope (August, 2021).

Collections will be undertaken directly from the property loading dock, via the dedicated ramp accessible from the shared service lane via Customs Street West (See Appendix A).

Waste equipment will not be stored outside the title boundary or presented to the kerb for collection at any time. It should be noted that the waste contractor will be responsible for transferring waste containers from the waste rooms to the loading dock and returning empty containers (provision has been made within the loading dock level for the temporary storage of containers and bin washing facilities).

Building management will ensure sufficient access is provided for collection vehicle operators during collection times. Typically, operators are provided with keypad/swipe card access to service doors as required.

3.5 BEST PRACTICE GUIDANCE FOR BUILDING USERS

As outlined in proceeding sections, the building should be provided with a system that ensures ease of waste separation and transfer to dedicated waste rooms, thereby enabling maximum diversion from landfill. Individual tenants should also be provided with systems and guidance to strive for best practice outcomes.

3.5.1 WASTE SYSTEMS GUIDANCE (TENANT GUIDES)

The overall success of the building waste system is directly related to the quality of the communication with the building users and operators of the system.

It is recommended that standardised guidance documents are created that cater to the following building users:

- Residents
- Cleaners (Office and Hotel tenancies)
- Hospitality tenants
- Retail tenants

The process guidance should be simple and consider the following key points for each type of occupier / operator:

- Waste storage and separation (temporary waste holding areas and bin systems)
- Waste transfer (how to get waste to the correct destination in the waste room)
- Signage (what goes where) for both waste rooms and individual tenancies.
- Additional information – Bulky Waste process, bin cleaning, bin liner ordering (if applicable for organics), waste minimisation strategies (See Section 3.5.3 below), supplier or management contact details for ad hoc collections.

3.5.2 WASTE MINIMISATION TARGETS

Baseline waste diversion rates are based on Sustainability Victoria data assuming a two-bin system (general waste and commingled recycling). The addition of source separated organics and cardboard waste streams increases the potential diversion rates as outlined in *Table 3-14* below:

Table 3-14: Waste Diversion Rates

Target	Office	Residential Accom	Hotel	Hospitality	Retail
Baseline Landfill Diversion by volume	50%	52%	50%	40%	50%
Target Landfill Diversion by volume	55%	56%	57%	52%	50%

In accordance with Precinct Properties Portfolio Waste Management Strategy (2024), a 10% waste reduction target has also been applied to this development.

To achieve higher diversion rates, Section 3.5.3 describes a set of recommended waste minimisation initiatives and Section 3.6 describes key performance measurement procedures. Waste reduction and minimisation will be achieved through the combination of adequate separation systems, pro-active system monitoring and a commitment to operational waste minimisation initiatives including ongoing communication with the building occupants.

Based on the calculated waste volumes within the development, a 10% reduction decreases the total waste generated from 137,641L per week to 123,877L per week. *Table 3-15* shows the impact of a 10% reduction in overall waste generated to the general waste stream with a four-bin system in place.

Table 3-15: Waste Reduction Targets

Use	General Waste (L/week)	Diversion (L/week)	General Waste (L/week) 10% reduction	Diversion (L/week) 10% reduction
Office	71,382	39,261	64,244	35,335
Accommodation	31,640	17,757	28,476	15,981
Hotel	14,000	8,000	12,600	7,200
Hospitality	17,293	8,992	2,993	1,498
Retail	3,326	1,664	15,564	8,093
Total	137,641	75,674	123,877	68,107

3.5.3 WASTE MINIMISATION STRATEGIES

To achieve the waste minimisation targets, set out above, the following waste minimisation initiatives are recommended. These actions along with future resource recovery activities to be implemented across the proposed development.

Proposed initiatives include:

- Reduce sources of operational waste, suggested initiatives include:
 - Minimise single-use plastics promoting reusables such as coffee cups and bowls.
 - Provide water refill stations.
 - Promote repair activities within the development (examples include providing a shared access sewing machine, repair station and or tool library)
 - Coordinating with suppliers to create a take-back or reduction policy for packaging, e.g. for consumables such as toilet paper and bathroom products.
 - Shared bathrooms to be equipped with refillable soap dispensers and electrical hand driers.

- Enable source separation of core waste streams and additional waste streams through easily accessible internal receptacles, smart waste management strategies, clear labelling and practical occupant/tenant guides (refer section 3.5.1).

In addition, promoting available product stewardship schemes and 'products as a service' - where producers have a responsibility for a product at end of life (e.g. printer cartridges), can help minimise waste (where reduction not possible). The overall success of the building waste system is directly related to the quality of the communication with the building occupiers and operators of the system.

3.5.4 BIN COLOUR AND SIGNAGE

Typically, waste sorting bins in individual tenancies will be supplied by the tenant. It is important to guide each tenant towards a standardised system that aligns with the waste collection methodology for the building. In *Colours of Rubbish and Recycling Bins Guideline* produced by WasteMINZ (2015) and the *New Zealand Recycling Symbols* (WasteMINZ, 2016) the following bin colours and signage are recommended.

Additional resources are also available from Māori training and education organization Para Kore, including bilingual Te Reo Māori English signage, see www.parakore.maori.nz/resources.

As it is expected that collection bins for the building will be owned and supplied by the collection contractor, the final configuration of bin signage and colour may vary, noting alignment with the following colours and signage are recommendations only and are not mandatory.



Figure 3-3: NZ Recycling Symbols

Table 3-16: Recommended Sorting Bin Colours/ Labels

Material type	Colour	Te Reo Maori label
Rubbish	Red	Para
Commingled Recycling	Yellow	Hangarura
Organics	Lime Green	Pararopi
Paper / Cardboard	Grey	Pepa / Kari Maro
Metal/E-Waste/Appliances*	Black	Kene / Konganuku / Para Tahiko / Purere Kainga
Plastics / Polystyrene*	Orange	Kirihou

3.6 MONITORING AND PERFORMANCE

Monitoring the efficiency of operations and ongoing performance will add value to future contractual arrangements and support broader reporting (e.g. lifecycle impacts) of the proposed development.

Operational data, including monthly waste volumes should be supplied by the collection contractor as part of its reporting. With analysis to inform any changes to servicing and or education required.

It is recommended that data be recorded across the core waste streams being serviced:

- General waste (general waste)
- Mixed Recycling
- Paper/Cardboard
- Glass (color sorted)
- Food Organics

The following performance metrics are recommended to be present in each report:

- Total waste volumes per week, measured by litres of waste, per stream, per 100m² floor space.
- Percentage recovery rate relative to total landfill volume (Diversion Rate).

Waste collectors should also make note of any contamination in the recycling streams and provide feedback to Building Management to address such issues where appropriate.

It will be the responsibility of Building Management to analyse the metrics to provide required actions going forward regarding either increasing or maintaining performance.

3.6.1 OWMP REVIEW

Building Management will be responsible for the delivery and review of this Operational Waste Management Plan on an annual basis in accordance with best practice waste management.

The review process should include (but not limited to) the following:

- Address any feedback or issues that have been raised in regards to waste management within the previous reporting period.
- A summary of waste volumes generated and comparison to landfill diversion targets.
- Identify areas for potential improvement in regards to waste management systems and increased recycling rates.
- Revise and set landfill diversion and minimization targets based on past performance and current best practice for upcoming reporting periods.

4 ADDITIONAL INFORMATION

4.1 STANDARDS & COMPLIANCE

The NZ Building Code G15/AS1 requires buildings to be equipped with and provides access to suitable storage areas for the temporary holding of waste, prior to disposal.

In addition, for building fitted with Waste Chutes the NZ Building Code specifies minimum dimensions, maximum opening and controls, provisions for water supply (every second floor) – for cleaning.

In addition, the Auckland Residential Design Element (D7) is a non-statutory design guide that supports developers meet the requirements of relevant local planning and bylaw controls. Including the Auckland Waste Management and Minimisation Bylaw (2019) and Auckland Unitary Plan (2016), which specify requirements for the development of a suitable service plan (Multi-Unit Development Waste Management Plan).

4.1.1 VENTILATION

Ventilation will be provided in accordance with NZ Building Code G4 (Ventilation)

4.1.2 WASHING AND VERMIN PROTECTION

The waste room will be fitted with suitable cladding and drainage to allow washdown of collection containers within the bin store as required. See Appendix A for marked location of waste room and waste holding area inclusive of bin wash facilities (including tap and floor drain).

4.1.3 NOISE REDUCTION

All waste areas shall adhere to local territorial authority rules and guidelines with operational hours and collection times assigned to minimise acoustic impact on surrounding premises.

All waste areas shall meet Auckland Council's General Noise Standards (2013) acoustic requirements as appropriate with operational hours and collection times assigned to minimise acoustic impact on surrounding premises.

5 REFERENCES

New Zealand Waste Strategy (2025)	https://environment.govt.nz/what-government-is-doing/areas-of-work/waste/aotearoa-new-zealand-waste-strategy/
Te Rautaki Para (2023)	https://environment.govt.nz/publications/te-rautaki-para-waste-strategy/
New Zealand Building Code (G: Services and Facilities)	https://www.building.govt.nz/building-code-compliance/g-services-and-facilities
Auckland Design Guide (R7 – Design for Waste)	https://www.aucklanddesignmanual.co.nz/media/qlnkw5he/design_element_r7_design_for_waste.pdf
Auckland Waste Management and Minimisation Bylaw (2019)	https://www.aucklandcouncil.govt.nz/plans-projects-policies-reports-bylaws/bylaws/docssolidwastebylawoperationalcontrols/waste-management-minimisation-bylaw-2019.pdf
Auckland multi-unit development waste space calculator v3r2 beta (Accessed Jan 2025)	https://www.aucklandcouncil.govt.nz/UnitaryPlanDocuments/multi-unit-development-waste-space-calculator-v3r2-beta.xlsx

6 LIMITATIONS

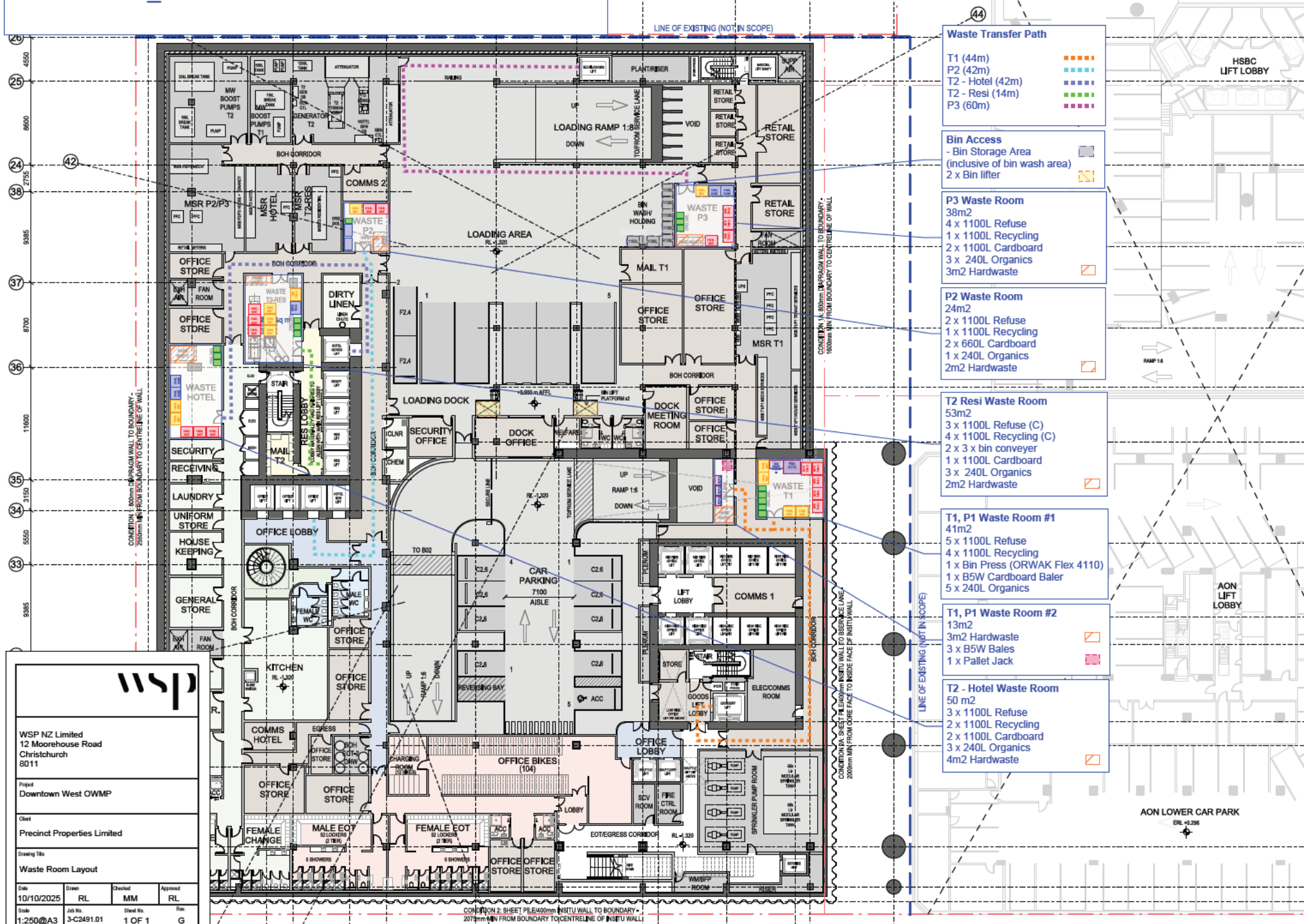
This report ('Report') has been prepared by WSP exclusively for Precinct Properties Limited ('Client') in relation to the development of an Operational Waste Management Plan ('Purpose') and in accordance with Short form Agreement with the Client and Variation (PCN01) dated 18/09/2025. The findings in this Report are based on and are subject to the assumptions specified in the Report, our Project Change Notice (PCN01), and Offer of Services dated 17/07/2025. WSP accepts no liability whatsoever for any reliance on or use of this Report, in whole or in part, for any use or purpose other than the Purpose or any use or reliance on the Report by any third party.

In preparing this Report, WSP has relied upon data, surveys, analyses, designs, plans and other information ('Client Data') provided by or on behalf of the Client. Except as otherwise stated in this Report, WSP has not verified the accuracy or completeness of the Client Data. To the extent that the statements, opinions, facts, information, conclusions and/or recommendations in this Report are based in whole or part on the Client Data, those conclusions are contingent upon the accuracy and completeness of the Client Data. WSP will not be liable for any incorrect conclusions or findings in the Report should any Client Data be incorrect or have been concealed, withheld, misrepresented or otherwise not fully disclosed to WSP.

APPENDIX A

ARCHITECTURAL DRAWINGS

Downtown West - OWMP
Waste Room RevG 10/10/2025



APPENDIX B

TEMPORARY HOLDING BIN DETAIL

Waste Stream	Bin/Lid Colour	Bin size and Type	Typical Bin Dimensions (mm)	Example
General waste	Red	60 Litre Method Bin	Width: 350 Length: 350 Height: 755	
Mixed Recycling	Yellow	60 Litre Method Bin	Width: 350 Length: 350 Height: 755	
Paper	Grey	60 Litre Method Bin	Width: 350 Length: 350 Height: 755	
Food Organics (LARGE OFFICE LUNCHROOM)	Green	60 Litre Method Bin	Width: 350 Length: 350 Height: 755	
Food Organics (SMALL OFFICE KITCHENETTE)	N/A	7 Litre Plastic Caddy	Width: 250 Length: 230 Height: 250	
Food Organics (CAFÉ)	N/A	20 Litre Plastic Bucket	Diameter: 300 Height: 405	

APPENDIX C

COLLECTION BIN DETAIL

Waste Stream	Bin/Lid Colour	Bin size (L)	Typical Bin Dimensions (mm)	Example
General waste	Red	660	Width: 1240 Length: 1070 Height: 1330	
	Red	660	Width: 1260 Length: 780 Height: 1330	
Mixed Recycling	Yellow	660	Width: 1260 Length: 780 Height: 1330	
Paper/Cardboard	Grey	660	Width: 1260 Length: 780 Height: 1330	
Food Organics	Lime Green	240	Width: 585 Length: 660 Height: 990	



3 October 2025

The New Zealand Green Building Council
PO Box 5286
Victoria St West
Auckland 1010

To Whom It May Concern,

Green Star Credit 8A: Qualification as a Waste Auditor

I, Rowan Latham, was the appointed waste management lead with respect to the development of the waste management strategy and preparation of the Waste Management Plan for the subject development. The Waste Management Plan has been prepared in accordance with Green Star Credit 8A.

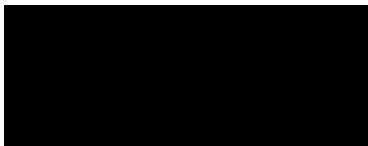
I meet the following definition for a “Qualified Waste Auditor” as defined by the standard: “waste auditor or waste specialist, working for a consultant, building owner or contractor, possessing a minimum of three years’ experience developing OWMPs”. I hold experience within the building industry, including:

- 3+ Years of developing OWMPs – Waste Consultant (WSP)

My current position is Principal Waste Consultant. My CV is attached for further evidence of my experience.

I trust the above suitably provides evidence of my qualification as a Qualified Waste Auditor.

Yours sincerely



Rowan Latham
Principal Waste Consultant



ROWAN LATHAM

Principal Waste Consultant



PROFILE

Rowan is a Principal Waste Consultant with WSP in New Zealand, with over 17 years Local Government and waste sector experience across multiple jurisdictions. He has an in depth understanding of the waste and recycling industry, including a specialist interest in the management of hazardous substances, disaster and emergency management, operations and infrastructure, emerging technologies, resource efficiency and Circular Economy initiatives.

Rowan is well versed in the Australian and New Zealand waste and resource recovery sector with key skills in waste policy, strategy, systems design and stakeholder engagement. He holds a Bachelor of Science degree in Geography and Economics and is a certified Better Business Case practitioner.

3 years with WSP

17 years of experience

LOCATION

Christchurch, New Zealand

TECHNICAL SKILLS

Policy and Strategic advice

Service Delivery and Operations

Procurement and Contracts

Project Management

Hazardous Substances

Landfill Aftercare

Behavioural Change

Stakeholder Engagement

*Emergency Management and
Disaster Waste*

RELEVANT TRAINING

Better Business Cases

Practitioner - APMG

International (2018)

PROFESSIONAL ASSOCIATIONS

WasteMINZ (Waste Management Institute of New Zealand)

PROJECT EXPERIENCE

Operational Waste Management Planning and Strategy (Various)

Rowan has delivered a number of Operational Waste Management Plans for WSP's commercial clients, including a number of mixed-use developments, schools and commercial premises, whether as part of the conceptual or more detailed design stages or to achieve Greenstar accreditation, WSP assist our clients with the strategic waste planning, system design and equipment sizing to achieve client outcomes for waste management and minimisation.

Waste Management Planning deliverables include:

- OWMP: Hera House – Auckland NZ
- OWMP: Mt Maunganui College – Mt Maunganui NZ
- OWMP: One Queen Street – Auckland NZ
- OWMP and Site Strategy: Commercial Bay – Auckland NZ
- OWMP: 61 Molesworth Street – Wellington NZ
- OWMP: NZ Cyclotron – Auckland NZ
- OWMP: Te Aka Library – Napier NZ
- OWMP LCAP2 – Napier NZ
- OWMP: Freberg House – Wellington NZ
- OWMP: One Grey Street – Wellington NZ
- OWMP: Carlaw Park Student Accommodation – Auckland NZ

Air New Zealand – Construction Waste Management Plan

Rowan has overseen the delivery of a detailed Construction Waste Management Plan (CWMP) for the Auckland Engineering and Maintenance Base – Hangar 3. This CWMP aimed to reduce waste produced and recover as much value as possible through application of appropriate waste systems and established offtakes for output materials, with a focus on the delineation and recovery of recoverable materials and management of contaminated materials.



ROWAN LATHAM

Principal Waste Consultant

Paul Smith Earthmoving – Demolition Waste Management Plan Template

Rowan has lead the delivery of a template demolition waste management plan for this South Island demolition contractor, providing a process for resource recovery, diversion and safe demolition/disposal, to support the client meet its sustainability targets and meet environmental accreditation measures.

Wairoa District Council – Waste Minimisation Advisory Services

Rowan has been engaged to support Wairoa District Council in its strategic planning for ongoing waste services, including development of a waste minimisation initiatives report, a business case on future disposal options, developing a proposed kerbside services model, cyclone recovery support and drafting council's next Waste Management and Minimisation Plan.

Waka Kotahi – Resource Efficiency Guidelines

Rowan has been the Project Manager and delivery lead for WSPs sustainability contract, providing the New Zealand Transport Agency with decarbonisation and resource efficiency advice, including the development of guidelines to support the Resource Efficiency Policy (Resource efficiency guideline for infrastructure delivery and maintenance, 2023),.

Transfer Station Design (Various)

Rowan has delivered and has a number of active transfer station design projects for WSP's Council clients, including:

- Waikato District Council have engaged WSP to develop a concept design for its planned North Waikato Resource Recovery Centre.
- Waitomo District Council – WSP have been engaged to develop a conceptual design for enhancements to it's Te Kuiti Transfer Station and support with it's WMF application for funding.
- Waimakariri District Council – WSP have developed a Transfer Station design and Options Assessment for planned redevelopment of the Southbrook Resource Recovery Park.
- Wairoa District Council – WSP have supported Council with a successful WMF application and Concept Design for an upgraded Resource Recovery Facility at it's Fraser Street Site.
- Clutha District Council – WSP have supported the Clutha District Council evaluate Landfill operations and future resource recovery development opportunities.

PROFESSIONAL HISTORY

WSP, Principal Waste Consultant	July 2022 - present
Christchurch City Council, Contract and Projects Lead	2019 - 2022
Environment Canterbury, Senior Science Advisor (Hazardous Substances and Waste)	2015 - 2019
Moonee Valley City Council, Waste Projects Officer	2013 - 2015
West Australian Local Government Association, Program Coordinator	2011 - 2012
London Borough of Islington, Senior Green Team Officer	2008 - 2009
London Borough of Islington, Business Waste Minimisation Officer	2007 - 2008