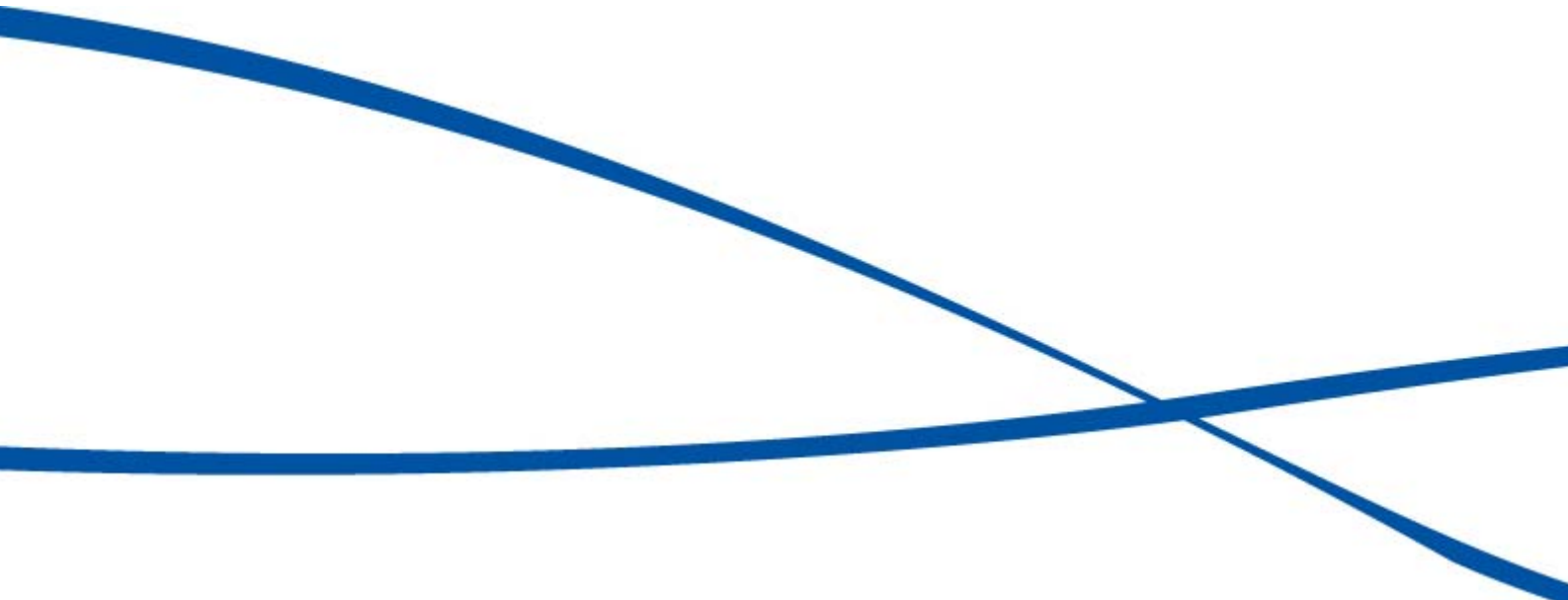


Manchester Quays Ltd

**BONDED WAREHOUSE
ST JOHNS, MANCHESTER**



WASTE & SERVICING STRATEGY

VN50433

**April 2018
(updated July 2020)**

REPORT CONTROL

Document: Waste & Servicing Strategy

Project: Bonded Warehouse, St John's, Manchester

Client: Manchester Quays Limited

Job Number: VN50433

File Origin: N:\Vectos Job Data\2016\2015\VN50433 Bonded Warehouse\Docs\Reports\Updated W&S Report April 2018\Waste & Servicing Report

Document Checking:

Primary Author	Elliot Read	Initialled:	ER
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Contributor	Elliot Read	Initialled:	ER
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Review By	Gareth Davis	Initialled:	GD
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Issue	Date	Status	Checked for Issue
3	02.06.15	V4	GD
4	09.06.15	V5	GD
5	15.06.15	V6	GD
7	03.10.17	V7	GD
8	11.04.17	V7	GD

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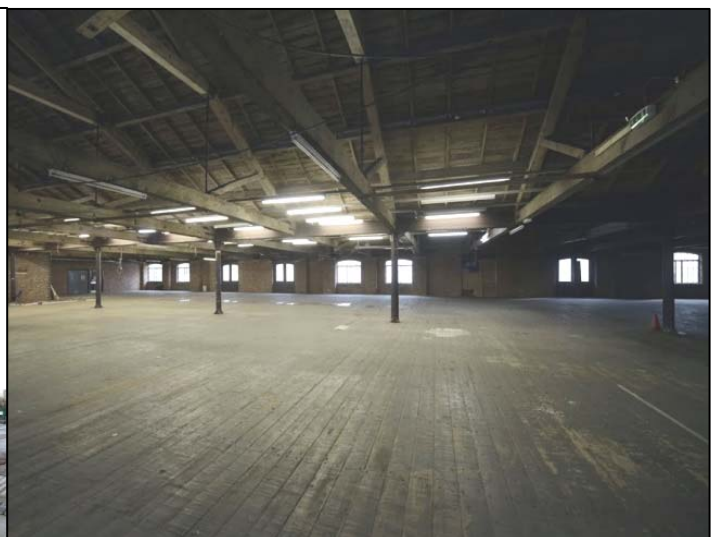
1 INTRODUCTION

1.1 Introduction

- 1.1.1 Manchester Quays Limited has commissioned Vectos North to prepare a Waste & Servicing Strategy for the Bonded Warehouse. This report has been updated July 2020 to reflect the current status of the development.
- 1.1.2 The Bonded Warehouse is a historic building that forms part of the former Granada ITV estate. That 13.5-acre estate is being regenerated as the St Johns Quarter, a new distinctive mixed-use scheme bringing together cultural and enterprise land uses. The Bonded Warehouse is located to the south of the main Granada Studios site and its existing uses and access is described more fully in the next section.
- 1.1.3 The six-storey Bonded Warehouse was constructed in 1867, originally as a terminal for goods transported by train to and from Manchester. A railway line entered the building at Level 03 to allow goods to be securely stored at the upper levels.
- 1.1.4 The building has been refurbished, predominately to commercial offices along with some ancillary retail including coffee counters and a gin bar.



Bonded Warehouse North Elevation



Pre Strip-out Internal layout

1.2 Planning History

1.2.1 In October 2015, the scheme was granted planning permission for a comprehensive refurbishment.

The scheme included:

- The demolition of outbuildings, and external fire escape;
- The conversion and refurbishment of Level 01, Level 02 and Level 03 for the following uses; retail, bar and offices;
- Alterations to the building to facilitate new entrances
- Refurbishment of the fourth, fifth and sixth floors for continued office use;
- Façade lighting, landscaping, cycle parking and associated works.
- This development took place during the period of November 2017 - July 2019

1.3 Project Summary

1.3.1 In 2019/20, L2, L3 and L6 were instructed. This approach is to retain as much of the building fabric as possible, making only upgrades necessary for the Warehouse to function as a modern office, compliant with current Building regulations and DDA requirements. The proposals include:

- Retaining and refurbishing the office uses at Level 02, 03, 06 with refurbishments to WCs;
- A co-working and ancillary café bar on 02 & 03;
- A single occupier has taken the entire Level 06 which is used as offices.
- The provision of new mechanical and electrical services throughout L02, 03 and 06

1.4 Change of Use

1.4.1 The previous 2018 application obtained the following change of uses as outlined below:

Level 02: B1 → A1/A3/B2/A4/D2

Level 03: B1 → B1/A1/A3

Level 06: B1 → No change

The proposals will now **retain B1 use (now E) on floors 2, 3 & 6**, with ancillary cafe/ bar to Levels 2 & 3 only.

1.5

Development Proposals

1.5.1

The proposals for the Bonded Warehouse are to re-use the building to create a mixed-use development with the following land uses presented in **Table 1.1**:

	Floorspace (NIA m ²)		
	Workspace (E)	Ancillary Cafe Use	Light Industry/Bar (B2/Sui Generis/E)
Level 01	658	0	605
Level 02	700	80	0
Level 03	1166	78	0
Level 04	1228	0	0
Level 05	1265	0	0
Level 06	1330	0	0
Total	6348	158	605

Table 1.1: Bonded Warehouse Area Schedule

1.5.2 The primary access for the commercial space is via the south east corner of the building accessed from Lower Byrom Street at the former railway viaduct level. The loading bay and refuse access is from the eastern elevation of the building.

1.5.3 This report re-forecasts the number of likely deliveries needed to serve the site and the arrangements for deliveries and sets out the policy context for waste management. It goes on to predict the various waste streams generated by occupiers of the development, the refuse storage provision and sets out the strategy for minimising waste generation and the collection of waste.

1.5.4 The **servicing strategy** sets out the movement of vehicles to and from the building and includes:

- Calculation of deliveries to the Bonded Warehouse; and
- Service Strategy for goods to be delivered to the occupiers.

1.5.5 The **waste strategy** sets out the means of recycling the material generated and sets out the:

- Estimated waste generation;
- Proposed waste management strategy; and
- Proposed waste storage facilities.

1.5.6 As the application for the Bonded Warehouse is in advance of the application for the wider St Johns site care has been taken to ensure that servicing of this building is consistent with that for the wider development.

1.6 Report Structure

1.6.1 Following this introductory chapter, this Waste & Servicing strategy considers the following:

- Chapter Two discusses the existing nature of the site;
- Chapter Three outlines the development proposals;
- Chapter Four presents the servicing strategy including the forecast of vehicle arrivals;
- Chapter Five considers the context of waste policy
- Chapter Six forecasts the waste streams, recycling and waste collection procedures;
- Chapter Seven outlines the bin storage provision and waste management; and
- Chapter Six presents a summary and conclusions to this report.

2 EXISTING CONDITIONS

2.1 Introduction

2.1.1 The Bonded Warehouse is located on the former Granada Studios site. The site location is provided within the submission and shown graphically on **Figure 2.1**.

2.1.2 The Bonded Warehouse was originally constructed in 1869 with access to the railway at level one and operated as a goods warehouse. In 1982 Granada Studios converted the building for use as television studios, rehearsal space, offices and other ancillary uses. There are premises adjacent to the Bonded Warehouse with future development including the Stables, a single storey annexe to the west elevation.



Figure 2.1: Bonded Warehouse Location

2.2 Planning Context

2.2.1 The Bonded Warehouse currently benefits from planning permission for office and studio uses. A gated service route is accessible to the Bonded Warehouse from Lower Byrom Street which runs to the south of the former Coronation Street lot.

2.3 Access

- 2.3.1 There is currently a gated service access that runs from Lower Byrom Street between the Museum of Science and Industry Building (MoSI) and the adjacent Coronation Street set along the former railway lines that provides access through to the Bonded Warehouse.
- 2.3.2 The northern façade of the building faces onto an access road called Grape Street which is currently closed due to construction at the adjacent site. There are 5 sets of double height doors that offer access to the lower ground 'arches' level and the upper ground level. The third floor of the building is at the level of the former railway tracks lying to the south of the building. At the western elevation there are other access doors to the lower ground (Level 1) and also a staircase access to levels 2 and 3.

3 DEVELOPMENT PROPOSALS

3.1 Introduction

- 3.1.1 The development of the Bonded Warehouse consists of a mix of office and retail space (B2, E and Sui Generis), which will be situated on the lower three floors, and E accommodation located on the upper three floors.
- 3.1.2 Although the majority of floorspace in the development will be allocated for E use, ancillary retail use comprises a coffee shop/restaurant. Light industry, bar and leisure use will comprise of a yoga gym, gin emporium, educational experience space, craft business space and brewing facility.
- 3.1.3 The proposed development's overall gross external area will be 12,851m².
- 3.1.4 The general layout of the building are provided within the wider submission.

3.2 External Access

- 3.2.1 There are different access levels to the Bonded Warehouse. The main customer access is from Lower Byrom Street between the Museum of Science and Industry Building (MoSI) and the adjacent Coronation Street set. This is the principal access into the building through 5 sets of double height doors that offer access to the lower ground 'arches' level and the upper ground level and the lower ground level can be accessed internally but also via a door at the western façade. Level three provides the main office access located at the south east corner of the building at the level of the former railway tracks lying to the south of the building.
- 3.2.2 Service and refuse access is at Level 02 from the eastern elevation of the building where the refuse store and loading lobby are located. Service vehicles would access this location by reversing in from Grape Street.

4 SERVICING STRATEGY

4.1 Introduction

- 4.1.1 The main service area for the Bonded Warehouse is on the eastern elevation of the building at Level 2. Vehicles accessing this location would do so by stopping on Lower Byrom Street with waste then being wheeled in containers to a marked area situated on the building's eastern elevation, as shown in **Figure 4.1**.
- 4.1.2 As part of the St Johns access strategy, Grape Street would link Lower Byrom Street with Water Street although access would be controlled by automatic bollards with number plate recognition for regular vehicles. Delivery vehicles for Bonded Warehouse would be permitted to pass through.
- 4.1.3 Grape Street is currently closed due to construction work on an adjacent site.
- 4.1.4 Light goods deliveries may also walk goods in through the customer entrances off Lower Byrom Street or the workspace entrance at the south east elevation. The workspace entrance can be accessed by vehicles from Lower Byrom Street via an upgraded access route. Having accessed the building, delivery drivers would be able to take the goods via a goods lift to the relevant floors.

4.2 Typical Deliveries

4.2.1 The typical deliveries for the Bonded Warehouse are as follows:

- Office: stationary, furnishing, consumables, sanitation, IT equipment, post and courier deliveries;
- Food & Beverage: food, drink, catering supplies, sanitation, consumables.

4.3 Proposed Goods Receipt Strategy

4.3.1 The proposed goods receipt strategy is described below:

- Deliverers/ drivers will be directed to the main service yard on level 2 to the east of the building where there will be a CCTV/ intercom system linked to reception if unmanned. Light goods deliveries may be carried in directly to the occupier via the customer or workspace entrances by agreement;
- Deliverers/ drivers will be responsible for taking goods directly to the tenants;
- Deliverers/ drivers will be given free access to the service corridors and goods lifts to take the goods to the various tenants; and
- Deliverers/Drivers will generally have their own material-handling equipment.

4.4 Delivery Forecasts

4.4.1 The estimated vehicle generation has been based upon information available from published guidelines as well as other surveyed information from similar land uses.

4.5 Office Accommodation

4.5.1 Offices are typically forecast to generate 0.2 vehicles per 100sqm (per day) of gross office area (excluding couriers).

4.5.2 This rate takes into account the high volume of consumables (i.e. paper supply and stationary) and a mixture of medium to low volume deliveries in larger vehicles. Courier deliveries will also be made by vans, cars and motorbikes to the drop off zone. Courier deliveries typically account for an additional 28% in terms of vehicle numbers over and above the visits by larger vehicles.

4.6 Mixed Use to Level 1

4.6.1 The mixed uses on the Level One have a variety of uses (E and Sui Generis). Typically for E units we expect service deliveries at a maximum rate of 0.85 goods vehicles per 100 sqm. The bar expects fewer deliveries at around 0.5 deliveries per 100 sqm. It is expected that there would be some coordination of deliveries between the units which would ease the delivery demands.

4.6.2 The forecast number of delivery vehicles expected over the day by the type of use is given in **Table 4.1**.

Service Vehicles	Vehicles per day	Peak Hour	Access
Offices	10	1	Via Southern Service Access Route
Office Couriers	3		Via Southern Service Access Route
E, B2, Sui Generis	10	3	Via Southern Service Access Route
Sui Generis	1	0	Via Southern Service Access Route

Table 4.1: Daily and Peak Hour Deliveries by Land Use Category

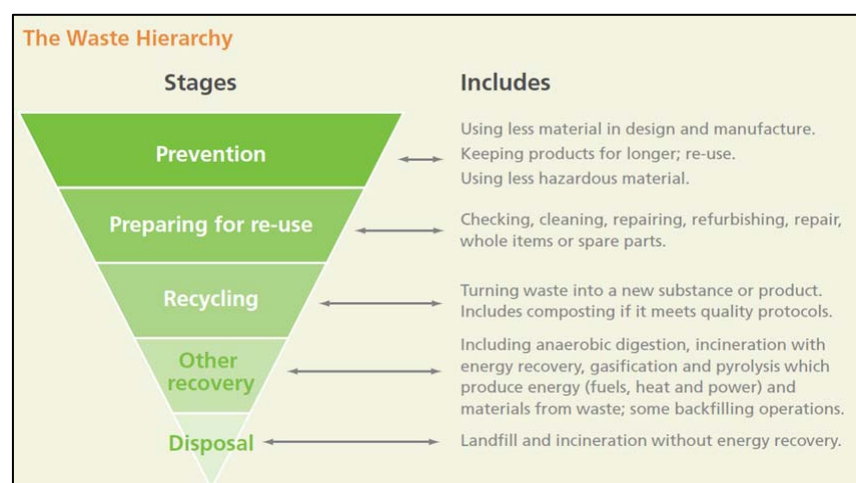
4.6.3 It can be seen from **Table 4.1** that both the office and the mixed uses on Level 1 would generate 10 deliveries per day respectively. It is also noted that the office units would generate 3 courier deliveries per day. We expect that 1 delivery will occur in the peak hour for the office units and 1 delivery will occur in the peak hour for the mixed use floor.

- 4.6.4 The co-working floorspace is likely to generate 1 delivery, with no deliveries occurring in the peak hour.
- 4.6.5 We expect that the office deliveries may expect one large HGV in excess of 7.5 tonnes per day and up to 3 large vehicles servicing the retail units.
- 4.6.6 This volume of delivery activity is likely to be spread over the day. The peak hour might see 4 vehicles serving the building with perhaps only one of those by a large vehicle. This level of activity is not considered to cause any problems over delay for servicing vehicles and there should not be a need to control delivery times.

5 WASTE POLICY CONTEXT

5.1 Introduction

- 5.1.1 The development falls within the City of Manchester and MCC have published guidance on the design and management of buildings to produce waste management strategies that maximise the amount of waste that is recycled.
- 5.1.2 To achieve high recycling rates, it states that all refuse should be separated at source and stored off the highway in purpose built refuse stores minimising the distance to collection thus reducing the opportunity for spillage.
- 5.1.3 In accordance with Section 34 of the Environmental Protection Act 1990, the managers of the serviced apartments and the retail & commercial units has a legal 'Duty of Care' to ensure that waste is securely stored and disposed of legally. The most convenient way to achieve this is by using a registered waste carrier.
- 5.1.4 The Waste (England and Wales) (amendment) Regulations 2012 has introduced changes and updates that affect both waste producers and waste management companies alike. These include the need to separate waste paper, metal, plastic and glass in different waste streams.
- 5.1.5 Another change will be the obligatory use of SIC codes in all documentation relating to waste management services and a compulsory commitment from waste producers to adhere to the waste hierarchy as described below.



- 5.1.6 To demonstrate compliance with regulations, a Waste Transfer Note is required when that waste is collected by the waste carrier. This may be provided electronically. Many carriers are also able to provide environmental reports to inform on the waste management performance.
- 5.1.7 There may be food waste generated by the retail unit which needs to be covered by the Animal By-Products (Enforcement) (England) Regulations 2011. If that is the case and the volumes of waste are greater than 20kg then such waste needs to be stored in a labelled container and collected by a licensed carrier and records kept.
- 5.1.8 Interventions are needed in all stages of the process to minimise waste going to landfill. The minimisation of waste and recycling interventions by occupiers and the management company can help meet the city councils and government's aspirations.
- 5.1.9 All new developments must meet the requirements of Part H6 of the Building Regulations 2000 (solid waste storage) which states:
- Adequate means of storing solid waste shall be provided;
 - Adequate means of access should be provided for people in the building to the place of storage, and, from the place of storage to a collection point agreed by the waste collection authority.

5.2 Waste Streams

5.2.1 To help recycling each occupier will be expected to separate the waste into the following waste streams although this may be refined even further depending on the nature of the business.

Pulpable recycling (Paper/Cardboard/Tetrapak etc)



Mixed Recycling (Glass/Cans/Plastics)



Food Waste



General Refuse (for Landfill)

All refuse not specified above

6 WASTE FORECASTS

6.1 Introduction

- 6.1.1 The document now sets out the forecast waste the development proposals are expected to generate by using regulations and guidance for waste management from British Standards and Manchester City Council's guidance.
- 6.1.2 This chapter will present the waste assumptions for the various land uses proposed and will calculate the various waste streams generated including that allocated for recycling. The amount of waste that is expected to be generated will be applied in context with the predicted frequency of collection enabling the number of bins to be stored within the development to be established.
- 6.1.3 The Bonded Warehouse will comprise of floorspace allocated as E, B2, and Sui Generis use.
- 6.1.4 Manchester City Council's waste generation calculations and storage requirements such land uses are now described. Guidance is presented in Appendix C of Manchester City Councils GD04 guidance. GD04 guidance sets out the calculations and storage capacities for office, retail, restaurant and hotel land uses. The waste calculations and storage requirements for land uses relevant to the proposed development are now discussed.
- 6.1.5 Manchester City Council published guidance on waste storage and collection (GD04) V3 in July 2016. The advice provided in that document has been incorporated into this waste and servicing strategy with consideration also give to the waste and recycling forecasts in BS5906:2005 and WRAP studies.
- 6.1.6 The waste pro-forma that provides a summary of the Waste Management Strategy is given in **Appendix A** of this report. A more complete description of the waste generated by the different users on each descriptive.

6.2 Workspace Waste Forecast

- 6.2.1 Floorspace allocated for workspace equates to 6,348m². The waste forecast rate in GD04 for office use in litres per week is set out in GD04. The weekly workspace waste equates to 2,600 litres per 1,000m².
- 6.2.2 By applying MCC's GD04 guidance to the floor area allocated as workspace, the expected waste generation equates to 16505 litres per week.
- 6.2.3 All tenants will be encouraged to separate their waste at source. To facilitate good recycling behaviour, each office floor will be provided with adequate paper bins or containers for paper disposal together with general waste bins. Kitchenettes will have at least 3 bins or containers to store plastics, aluminium and general waste.
- 6.2.4 Office cleaners will typically empty the bins on each floor outside working hours (between 6-9pm). This waste will be taken to the bin store and emptied into the appropriate wheeled containers.

6.3 Ancillary Cafe to Level 2 & 3 - Waste Forecast

- 6.3.1 This land use is likely to be allocated as a coffee shop and bar and cart/seating area. In order to assess a worst case scenario all floor area allocated for this use has been assessed as a restaurant estimated to accommodate approximately 50 covers on level 02 and 37 covers on level 03.
- 6.3.2 The waste forecasts for restaurants can be derived from MCC guidance GD04 which states that a restaurant would generate 1,500 litres of waste per 20 dining spaces.
- 6.3.3 By applying this to a total of 87 covers, this equates to a weekly waste generation of 6,525 litres.
- 6.3.4 Each occupier would be encouraged to recycle with at least four waste streams. Where large volumes of food or glass waste is generated they will be put in 240 litre bins to assist movement.

6.4 Mixed Use - Level 1 (B2/A4/D2) Waste Forecast

- 6.4.1 This area includes a mix of light workshops and a bar including educational experience. This activity may also include a Yoga Studio or music producers or occupiers who make goods for sale. This activity is indicated on levels 01 and 02. The waste generation from such units can be quite variable depending on the occupier and intensity of use.

6.4.2 Again, in order to provide a robust assessment, a general retail weekly waste assumption of 10 litres per 1m² is considered reasonable.

6.4.3 Based on the assumptions applied for B2/A4 use, the total waste generated for a floor area of 605m² therefore equates to 6,050 Litres per week.

6.5 Recycling of Waste

6.5.1 The recycling rates of the waste streams generated by the various land uses associated with the Bonded Warehouse are now described.

6.6 Recycling of Workspace

6.6.1 The recycling proportions for the waste streams generated by Workspace land use are presented in **Table 6.1**. These recycling proportions have been derived from WRAP (Waste and Resources Action Programme) studies for office uses.

Waste Stream	%	Weekly Waste in Litres
Paper/Card	50%	8,253
Comingled (Plastic, Metal, Glass)	8%	1,320
Organic Food Waste	12%	1,981
General	30%	4,951
Total	100%	16,505

Table 6.1: Workspace Recycling Proportions

6.7 Recycling of A3 Waste

6.7.1 The waste proportions for recycling from restaurants and bars surveyed by WRAP and are presented in **Table 6.2**. Applying the waste forecast for A3 floorspace to the percentages we can derive the following volumes of waste by type.

Waste Stream	%	Weekly Waste in Litres
Paper/Card	24%	1,566
Comingled (Plastic, Metal)	4%	261
Glass (Bar Waste)	16%	1,044
Organic Food Waste	44%	2,871
General	12%	783
Total	100%	6,525

Table 6.2: A3 Led Waste Recycling Proportions

6.8 Recycling of B2/A4/D1

6.8.1 The recycling proportions for the waste streams generated by B2/A4/D1 are estimated and are presented in **Table 6.3**.

Waste Stream	%	Weekly Waste in Litres
Paper/Card	25%	1,513
Comingled (Plastic, Metal)	25%	1,513
Glass (Bar Waste)	25%	1,513
Organic Food Waste	10%	604
General	15%	907
Total	100%	6,050

Table 6.3: B2/A4 Led Waste Recycling Proportions

6.9 Total Bonded Warehouse

6.9.1 Using the waste forecast given above to the total percentages the following volumes of waste by type can be derived, as shown in **Table 6.4**.

Waste Stream	%	Weekly Waste in Litres
Paper/Card	35%	11,332
Comingled (Plastic, Metal, Glass)	7%	3,094
Glass	13%	2,557
Organic Food Waste	25%	5,456
General	19%	6,641
Total	100%	29,080

Table 6.4: Bonded Warehouse Total Waste Streams

6.10 Total Bin Storage

6.10.1 The bin storage is based on the volume of waste, the collection frequency and the size of the bins. Due to the weight, the Bar Glass Waste and Food Waste is to be stored in 240 litre bins due to the weight. The rest of the bins can be stored in 1100 litre Eurobins. The Comingled Waste may also include some glass from the units that are not A3 or A4 units. **Table 6.5** shows the number of bin lifts required per week, the collection frequency expected for each waste stream and then the cafe storage requirement. In summary there is a need to store 8x 1100 litre Eurobins and 10x 240 litre wheeled bins.

Waste Stream	Bin Lifts Per Week	Collection Freq.	Storage Req.
Paper/Card	11x Eurobins	x5 per week	3x Eurobins
Comingled (Plastic, Metal, Glass)	3x Eurobins	x1 per week	3x Eurobins
Glass (Bar Waste)	11x 240ltr bins	x5 per week	3x 240ltr bins
Organic Food Waste	22x 240ltr bins	x5 per week	5x 240ltr bins
General	7x Eurobins	x3 per week	2x Eurobins
Total	21x Eurobins & 33x 240litre bins	-	8x Eurobins & 8x 240litre bins

Table 6.5: Bonded Warehouse Bin Storage Requirement

6.10.2 This storage requirement can be reduced further to minimise the number of collections. Some of these are described next.

6.11 Waste Minimisation

6.11.1 It is expected that the occupier of the Bonded Warehouse would be a signatory to the HaFSA and seek to employ best practice in minimising waste.

http://www.wrap.org.uk/sites/files/wrap/HaFSA_signatory_pack_SEPT_2014.pdf.

6.11.2 Of the 920,000 tonnes of food waste thrown away each year three quarters could have been eaten. In addition 56% of packaging and other 'non-food' waste that is thrown away could have been readily recycled.

6.11.3 The WRAP targets for recycling are to achieve a minimum of 70% recycling rates for the hospitality sector and with good practice employed it is expected that recycling rates of 70% can be achieved at the Bonded Warehouse and in fact it is hoped that this could be exceeded.

6.11.4 Even with best practice the remaining organic waste will still represent a significant proportion of waste which could give rise to environmental issues. Therefore, the developer will advise the occupier to use a dewatering system within the kitchen which can reduce food waste volume by 80% thereby reducing the number of collections and critically it also removes the adverse smells and environmental issues associated food waste. An example of such a system is given below which occupies the space of a sink unit in a kitchen and complies with the existing (and likely future) regulations for waste disposal.



Figure 4.1 Example Food Waste Station Unit

7 BINS STORES AND WASTE MANAGEMENT

7.1.1 The location of the bin storage area is on level 02 of the Bonded Warehouse. The bin storage areas include space to manoeuvre and have doors that are designed to be wider than the 1.3m minimum. The bins store would have CCTV and would have access controls to avoid abuse. The floor and walls must be constructed and finished in materials that are impervious and easily kept clean.

7.1.2 The proposed Bin Store location is shown in **Figure 7.1** below:

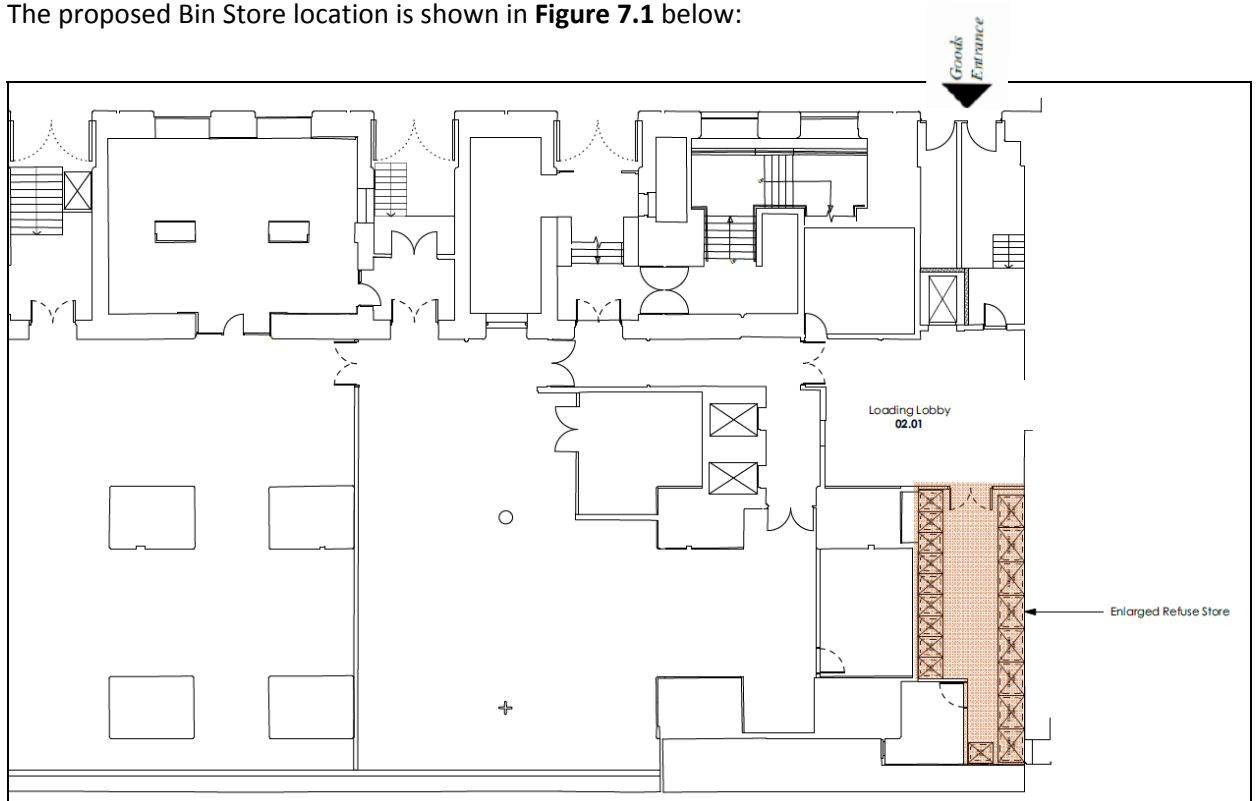


Figure 7.1: Bin Store Location (Level 02)

7.1.3 As can be seen from **Figure 7.1**, the bin store offers space for 8x 1100 litre Eurobins and 10x 240 litre bins.

7.1.4 Based on Table 6.5 the bin allocation is shown in **Figure 7.2**.

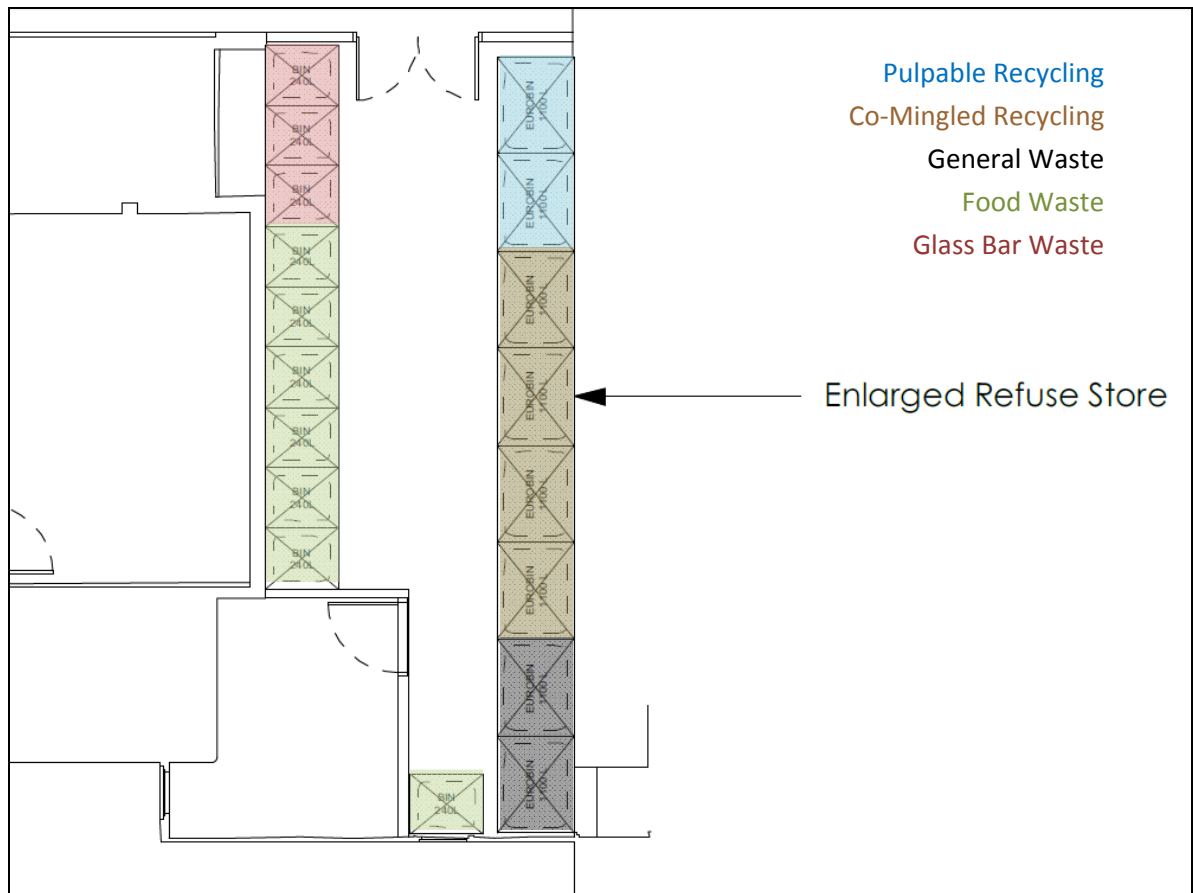
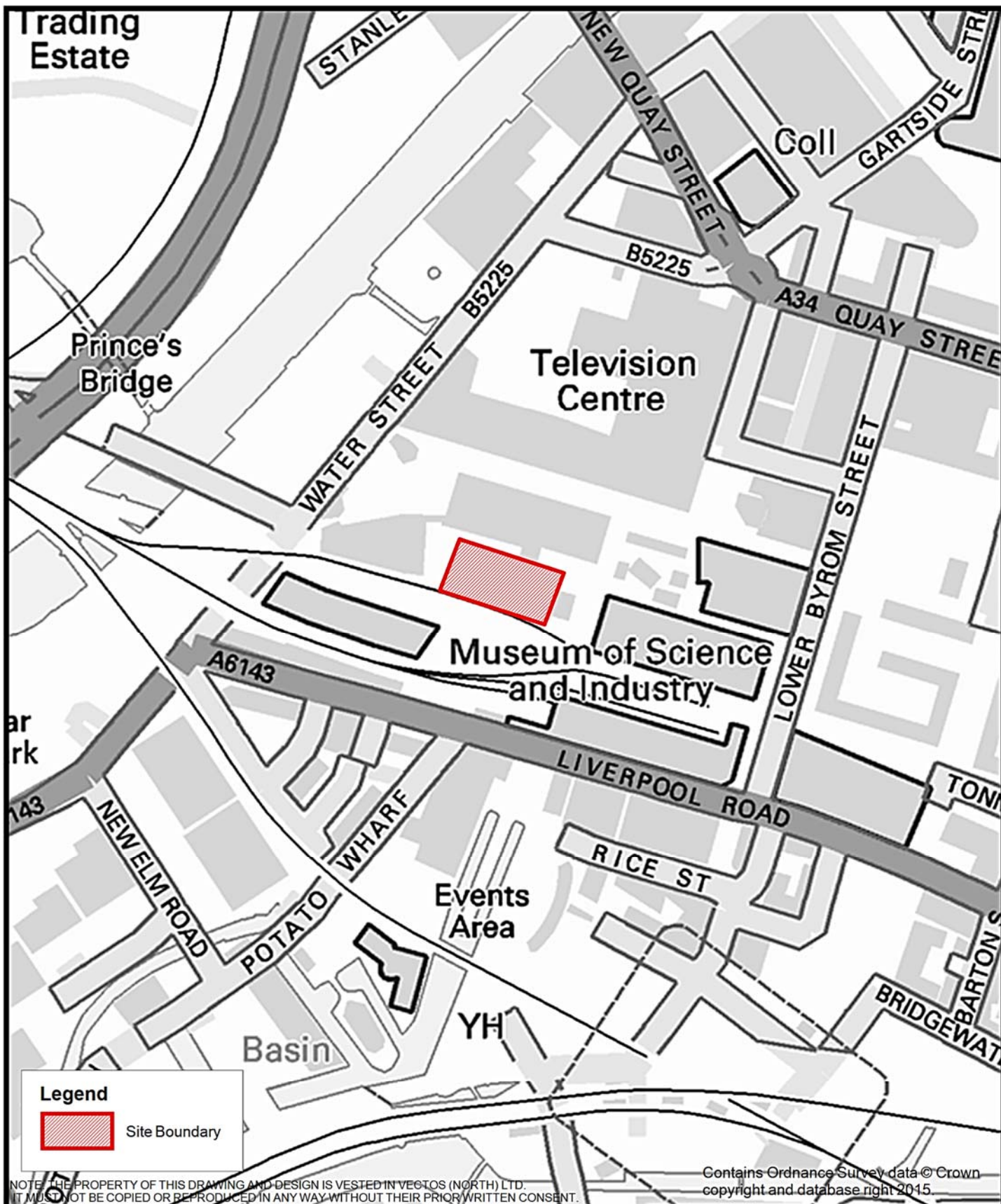


Figure 7.2: Bin Allocations by Waste Stream

8 CONCLUSIONS

- 8.1.1 This document sets out the Waste Management and Servicing strategy for the Bonded Warehouse development. It has calculated the service vehicle generation for the various uses within the building and goods receipt strategy.
- 8.1.2 The document also calculates the likely waste generation for each of the buildings, the recycling strategy and the storage requirements for bins. It describes how these will be collected and the movements of vehicles to access those.
- 8.1.3 It is concluded that the forecast deliveries, waste management and refuse collection proposed is appropriate for this scale of development and that servicing and waste collection can be undertaken in an efficient manner.

DRAWINGS



CLIENT:
Manchester Quays Ltd

DRAWING TITLE:
Site Location

PROJECT TITLE:
Bonded Warehouse

DRAWN: HF	CHECKED: JL	DATE 29.05.15	SCALE: N.T.S
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Oxford Place, 61 Oxford Street, Manchester M1 6EQ
t:0161 22801008 e:manchester@vectos.co.uk

DRAWING NO: VN50433-G100	REVISION: .
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APPENDICES



APPENDIX A – WASTE PROFORMA

Manchester Quays Ltd

**BONDED WAREHOUSE
ST JOHNS, MANCHESTER**

**Waste Proforma
Addendum Report**

April 2018

REPORT CONTROL

Document: Waste Proforma

Project: Bonded Warehouse

Client: Manchester Quays Ltd

Job Number: VN50433

File Origin: N:\Vectos Job Data\2015\VN50433 Bonded Warehouse\Docs\Reports\Updated Waste & Servicing Strategy - Aug 2017

Document Checking:

Primary Author	Elliot Read	Initialled:	ER
Contributor	Elliot Read	Initialled:	ER
Review By	Gareth Davis	Initialled:	GD

Issue	Date	Status	Checked for Issue
1	03.10.17	V1	GD
2	05.10.17	V2	GD
3	11.04.18	V3	GD

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1 BONDDED WAREHOUSE WASTE PRO FORMA

1.1 Introduction

1.1.1 This Waste Proforma has been prepared by Vectos on behalf of Manchester Quays Ltd in support of a new distinctive mixed-use scheme bringing together cultural and enterprise land uses.

1.1.2 The Bonded Warehouse is a historic building that forms part of the former Granada ITV estate and is located to the south of the main Granada Studios site.

1.2 Uses at Bonded Warehouse

1.2.1 The redevelopment of the Bonded Warehouse consists of a mix of office and retail space (E, B2, and Sui Generis), which will be situated on the lower three floors, and E accommodation located only on the upper three floors.



MANCHESTER CITY COUNCIL

Planning Application – Waste Management Strategy

Planning Application Number: TBC

Date Submitted: TBC

Estimated volumes and types of waste produced by the development

Low Rise Domestic N/A

Waste Types	Capacity Required (litres)	Number of Bins required	To be provided ?
General refuse	240	1 x 240 litre bin	☐
Pulpable Recycling	140 / 240	1 x 140 litre bin 1 x 240 litre bin	☐ ☐
Mixed Recycling	140 / 240	1 x 140 litre bin 1 x 240 litre bin	☐ ☐
Garden Waste	240	1 x 240 litre bin	☐
Food Waste	23	1 x 23 litre caddy	☐

High Rise Apartment Developments N/A

N = Number of Apartments

Waste Types	(V) Volume of Waste Generated	Capacity Required (litres)	Number of Bins required	Number of Bins proposed by applicant
General refuse	$V = N \times 110$	$V =$	$V / 1100 =$	N/A
Pulpable Recycling	$V = N \times 55$	$V =$	$V / 1100 =$	N/A
Mixed Recycling	$V = N \times 55$	$V =$	$V / 1100 =$	N/A
Food Waste	$V = N \times 5$	$V =$	$V / 240 =$	N/A

Commercial Developments

Please state number and capacities of bins you propose, showing calculations where appropriate. Please ensure collection frequencies are included.

The Floor Areas and land uses for the Bonded Warehouse are shown below:

	Floorspace (NIA m ²)		
	Workspace (E)	Ancillary Café	Light Industry/Bar (B2/Sui Generis)
Level 01	658	0	606
Level 02	700	80	0
Level 03	1166	78	0
Level 04	1228	0	0
Level 05	1265	0	0
Level 06	1330	0	0
Total	6348	158	605

Bonded Warehouse Bin Storage:

8x 1,100 litre Eurobins

8x 240 litre bins

Estimated frequency of collection per week:

Pulpable Paper/Card = 5 collections per week

Co-mingled Plastic/Metal/Glass = 1 collections per week

Glass Bar Waste = 5 collections per week

Organic Food Waste = 5 collections per week

General Waste = 3 Collections per week

Waste Assumptions and Calculations

ASSUMPTIONS

As stated within the Waste and Servicing Strategy document, E and Sui Generis (formerly A1/A3/A4/D2) land uses have been assessed as part of worst case waste generation assumptions, for example E (formerly A1/A3) floor area has been assessed as 100% E (formerly A3) use.

E Workspace

The weekly requirement for workspace land use in litres set out in GD04 is 2,600 per 1,000m². 50% of all waste generated by the workspace element of the development should be retained for recycling.

E restaurant

The weekly requirement for E restaurant land use in litres is based on the number of dining spaces that are proposed within the development. The GD04 guidance for E restaurant use is 1,500 litres per 20 Dining Spaces per week.

B2/ Sui Generis (formerly A4)/ E (formerly D2)

This use is allocated on levels 01 and 02. B2/Sui generis waste can be quite variable depending on the occupier and intensity of use. We have therefore applied the following waste assumption: Weekly Waste in Litres = 10 per 1m².

Calculations

E Workspace 6348 m²

Using GD04 we forecast workspace at 2,600 litres per week per 1,000m²:
Applying this to the above floor area gives **16,505** litres per week.

E Retail/ restaurant 158m² 87 covers

For robustness we have assumed that this land use is a restaurant. GD04 guidance for the E restaurant use of 1,500 litres per 20 dining spaces has been used. Applying this equates to:

6,525 litres per week.

B2/ Sui Generis (formerly A4)/ E (formerly D2) 605m²

As B2/sui Generis use can be variable depending on the end occupier, for robustness 10 litres per 1m² has been applied to the above floor area. This equates to **6,050** litres per week.

Recycling of Waste

The waste streams allocated for recycling for each land use in the Bonded Warehouse are now below:

Recycling of Workspace Waste (litres per week)

Pulpable Paper/Card (50%) = 8253
 Comingled (Plastic, Metal, Glass) (8%) = 1320
 Organic Food Waste (12%) = 1981
 General (30%) = 4951

Recycling of A3 Waste

Pulpable Paper/Card (24%) = 1566
 Comingled (4%) = 261
 Glass (16%) = 1044
 Organic (44%) = 2871
 General (12%) = 783

Recycling of B2/A4 Waste

Pulpable Paper/Card (25%) = 1513
 Comingled (25%) = 1513
 Glass (25%) = 1513
 Organic (10%) = 604
 General (15%) = 907

Total Waste Streams for Bonded Warehouse

Pulpable Paper/Card = 11332
 Comingled = 3094
 Glass = 2557
 Organic = 5456
 General = 6641
 Total 29080

Has / will a contract be obtained with a licenced waste carrier?	Y
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Mixed Use Developments

Are the stores for residential and commercial separate from each other?	N/A
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Internal Stores

Please provide details of internal stores / segregation of waste and recycling.

Through the Building Handbook, occupiers will be directed to separate waste at source. The internal layouts will only be determined at fit out stage. However we can state the following:

Workspace

Each office floor will be provided with adequate number of 60 litre paper / card bins and co-mingled bins. To encourage recycling there will be no general refuse bins at each work station only in central areas and kitchenettes (60 litres). Kitchenettes will also have 60 litre bins for co-mingled waste and general waste and food caddys for organic waste.

A3

The A3 unit will have most bins located in the kitchen/back of house areas.

These will include 240 litre wheeled bins for food and glass waste.

Pulpable and Comingled waste will be in 60 litre bins and carried in sacks to the refuse store. Occupier may also have other waste streams such as cooking oil collections.

B2/A4

Glass waste from the bar would be stored in 240 litre bins.

Pulpable and Comingled waste will be in 60 litre bins and carried in sacks to the refuse store.

Food Waste collected in waste caddys or in 240litre wheeled bins depending on the nature of occupier

General refuse bins would be in 60 litre bins and carried in sacks to the refuse store

Storage Areas for Waste Containers

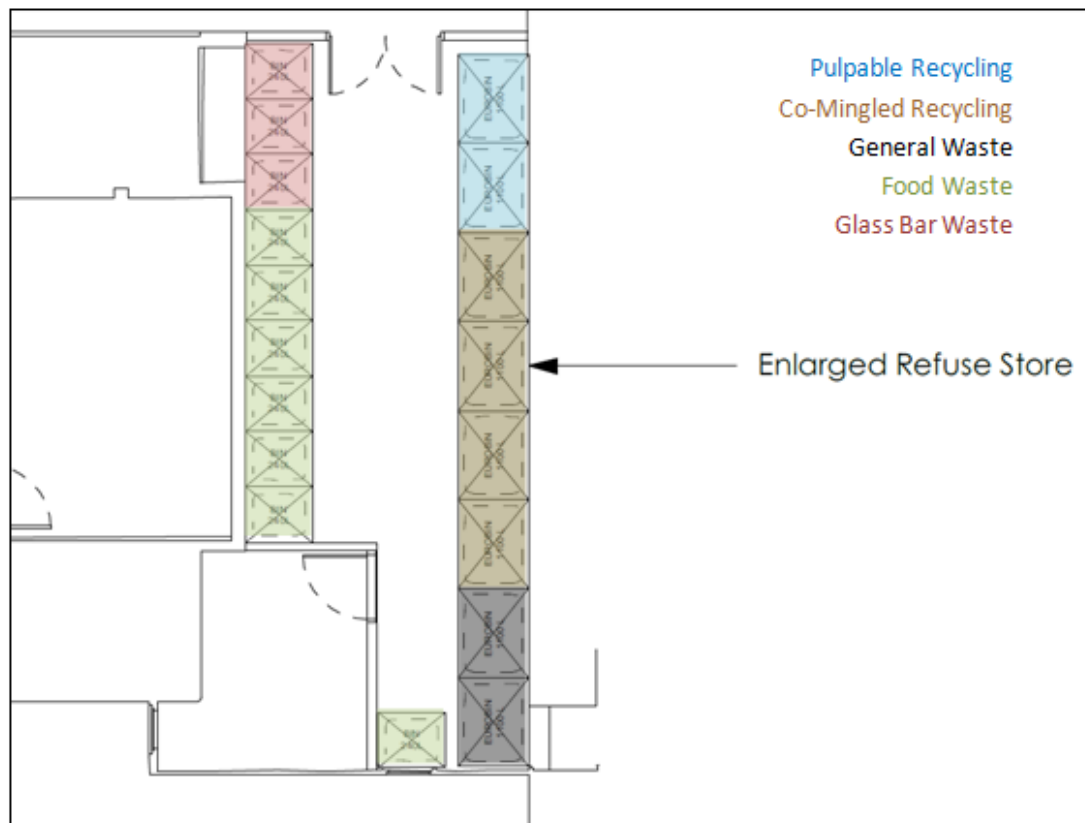
Please provide details of container stores, attaching plans if appropriate.

The location of the refuse store for the Bonded Warehouse is shown on the plan contained within the submission.

The main service area for the Bonded Warehouse is on Grape Street of the building at Level 2. Vehicles accessing this location would do so by stopping on Grape Street with waste then being wheeled in containers via the goods lift towards the eastern elevation. The lift will assist waste containers to and from the refuse store.

This refuse store provides space for 8 Eurobins and 8 x 240 litre wheeled bins.

The allocation of bins in the refuse store is shown below.



Are all bins in the store accessible?	Y
Are recycling facilities as easy to access as general refuse?	Y
Has consideration been given to ventilation and hygiene?	Y

Please provide details of who will be responsible for placing the bins at the collection point and returning them to the store / property promptly e.g. resident / management company.

For the Offices or co-workspace cleaners would be expected to take waste to the refuse store at the end of each day.

The individual occupiers of the Level 1 mixed uses will be expected to the waste from their own unit to the refuse store.

Overall waste management would be undertaken by the on-site Facilities Management team who would ensure the areas are kept clean and would call the refuse collection companies when required.

Please ensure that you have attached:

Detailed plans of waste stores	Y
Location plans showing stores	Y
Location plans showing the proposed collection point, Y and the route the collection vehicle will take, N	

Please ensure that you have completed this form in accordance with our Guidance document: GD04 Waste Storage and Collection Guidance for New Developments