Delivery & Service Management Plan

Prepared by Arup

Submitted on behalf of Lab Selkirk House Ltd

Selkirk House, 166 High Holborn and 1 Museum Street, 10-12 Museum Street, 35-41 New Oxford Street and 16A-18 West Central Street, London, WC1A 1JR

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Rev 01

Contents

Tables

Figures

1 Introduction

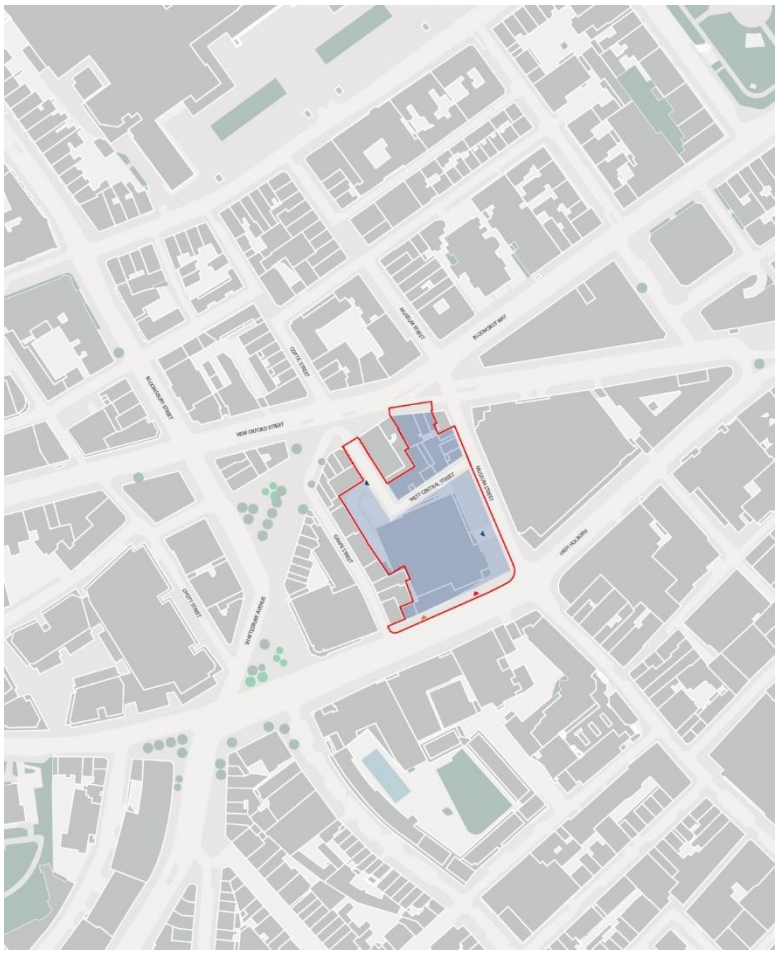
1.1 Background

This Delivery and Service Management Plan (DSMP) has been prepared by Ove Arup & Partners Ltd. ('Arup') in support of the detailed planning application being submitted by Lab Selkirk House Ltd. ('the Applicant') to the London Borough of Camden (the Council) for the redevelopment of the land at Selkirk House, 1 Museum Street, 10-12 Museum Street, 35-41 New Oxford Street and 16A-18 West Central Street, London, WC1A 1JR ('the site').

The proposed development provides the opportunity to regenerate this strategically important site through the demolition and refurbishment of the existing poor-quality buildings and replacement with a highly sustainable mixed-use development. The proposed development will deliver all the key master planning requirements and uses specified by the Local Plan (2017), the Holborn Vision and Urban Strategy (2019), and the Draft Site Allocations Plan (2020), providing the opportunity to deliver a wide range of planning and public benefits. The site is located within the Holborn and Covent Garden Ward of the London Borough of Camden ('the Council'). The site comprises a number of individual different buildings within the red line area, which includes Selkirk House (1 Museum Street), 10-12 Museum Street, 35-41 New Oxford Street and 16A-18 West Central Street.

The site is bounded by High Holborn to the south, Museum Street to the east and New Oxford Street to the north, with the rear of the properties fronting Grape Street forming the western boundary. West Central Street dissects the site and separates out Selkirk House from the New Oxford Street and West Central Street block (known as the West Central Street component of the site). Figure 1 shows the site location.

Figure 1 Site plan

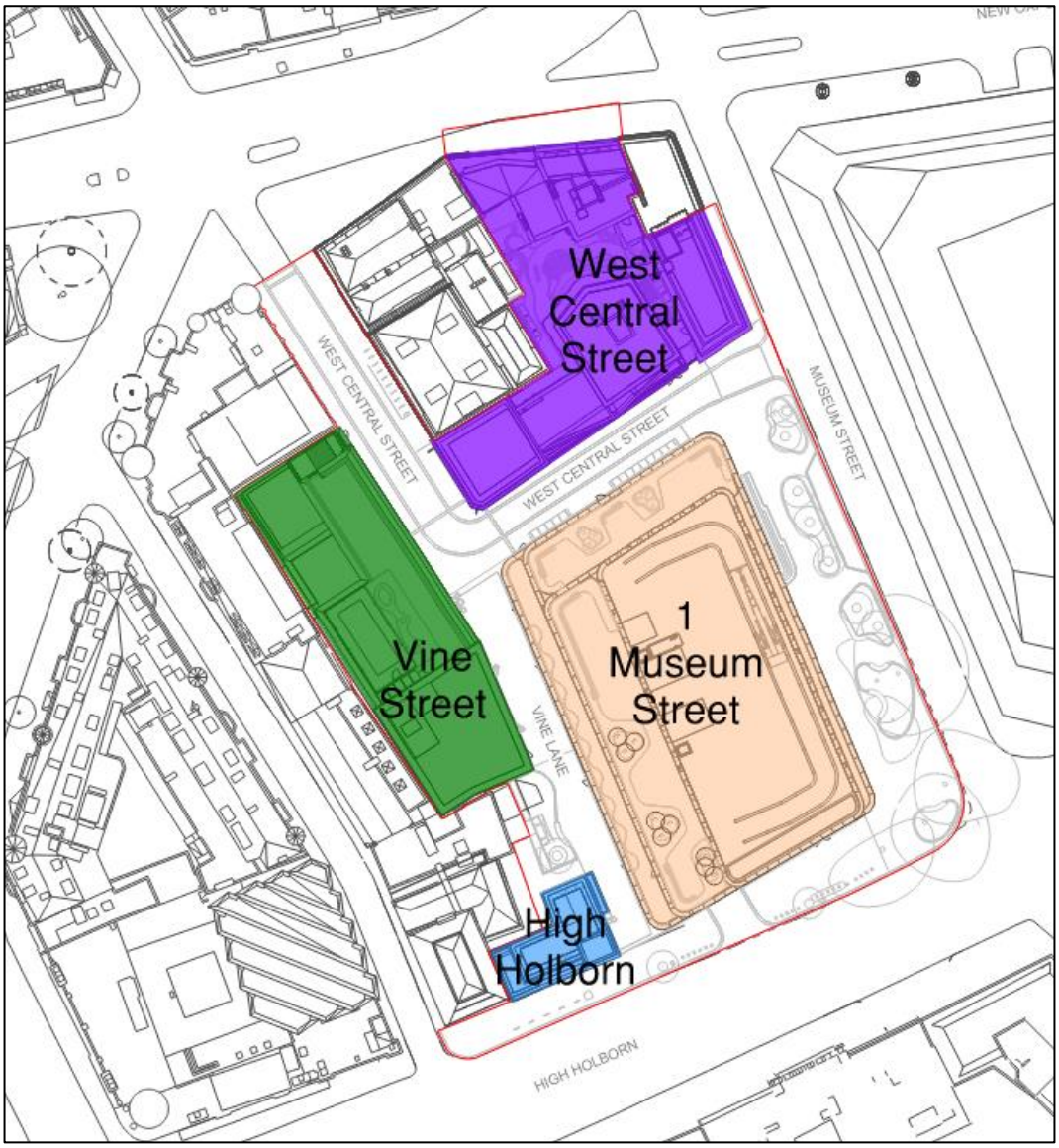


The proposed development falls comprises the following:

- Museum Street - a single new building rising to 19 storeys, providing office (Class E(g)(i)) accommodation on upper levels and a range of flexible town centre uses (Class E) at ground level.
- High Holborn - a single new building rising to six storeys, providing residential (Class C3) accommodation on upper levels and a flexible town centre use (Class E) at ground level.
- Vine Lane - a single new building rising to 5 storeys, providing office (Class E(g)(i)) accommodation with a flexible town centre use (Class E) at ground level. The office (Class E(g)(i)) floorspace within this building will be operated by LABS as a co-working offer.
- West Central Street - a series of new and refurbished buildings rising to 6 storeys, providing residential accommodation on upper levels (Class C3) and flexible town centre uses (Class E) at ground level.

These are shown in Figure 2.

Figure 2 Proposed development references



In summary, the proposed development is seeking detailed planning permission for:

- 22,650sqm (GIA) of office floorspace falling within Class E(g)(i). This will be provided within the Museum Street buildings.
- 1,547 sqm (GIA) of flexible town centre floorspace at ground floor level falling within Class E. This will be provided within the Museum Street, Vine Lane, High Holborn, and West Central Street buildings. The planning application specifies the range of uses within Class E that each of these units is seeking permission for.
- 4,502 sqm (GIA) of residential floorspace falling within Class C3. This will be provided within the Vine Lane, West Central Street and High Holborn buildings. All of the affordable housing component is provided with the West Central Street buildings.

- Two basements which will be used for cycle parking, servicing areas, plant, storage, and other ancillary uses.
- The creation of new public pedestrian route through the site known as 'Vine Lane', which will link High Holborn with West Central Street.

1.2 Area schedule

Table 1 shows the area schedule for the development; balcony and terrace areas are excluded.

Table 1 Area schedule

Building	Use Class	GIA (m^2)	NIA (m^2)	Units
Museum Street	Office E(g)i	22,650	15,707	-
	Retail (Non-Food)	317	289	-
	Retail (Food)	317	289	-
	Subtotal	**23,284**	**16,285**	**-**
Vine Lane	Market residential (C3)	1,579	1,078	19
	Retail (Non-Food)	160	152	-
	Retail (Food)	160	152	-
	Subtotal	**1,899**	**1,382**	**19**
High Holborn	Retail (Non-Food)	12	11	-
	Retail (Food)	12	11	-
	Residential (Private)	426	290	4
	Subtotal	**450**	**312**	**4**
West Central Street	Retail (Non-Food)	286	254	-
	Retail (Food)	286	254	-
	Residential	2,497	1,639	25
	Subtotal	**3,069**	**2,147**	**25**
Total		**28,702**	**20,126**	**48**

1.3 Reference publications

The following planning policy and best practice guidance documents have been considered when developing this DSMP:

National policy documents:

- National Planning Policy Framework, 2021;
- Designing for Deliveries, Freight Transport Association, 2016;
- The Waste (England and Wales) Regulations, 2011;
- DEFRA Government Review of Waste Policy in England, 2011; and
- BS5906 Waste Management in Buildings – Code of Practice, 2005.

Regional policy documents:

- Publication London Plan, 2021
- The Freight and Servicing Action Plan, 2019;
- The Mayor's Transport Strategy, 2018;
- Delivering a road freight legacy, 2013;
- Fleet Operator Recognition Scheme (FORS); and
- Transport for London (TfL) guidance for DSMPs.

Key local policy:

- Camden Planning Guidance – Design January 2021; and
- Camden's Environment Service technical guidance for recycling and waste.

1.4 DSMP objectives

This DSMP sets out to meet the following objectives:

- To identify the expected number of delivery and servicing trips associated with the proposed development;
- To demonstrate that goods and services can be delivered, and waste removed, in a safe and efficient manner;
- To identify ways to reduce delivery numbers, employ out of hours deliveries and consolidate goods wherever possible;
- To ensure delivery activities do not hinder the flow of traffic on the public highway or obstruct pedestrian routes;
- To minimise vehicles waiting or parking at loading areas so that there is a continuous availability for approaching vehicles;
- To provide design guidance for accommodating service and delivery vehicles; and
- To provide design guidance for waste storage and refuse collection vehicles.

On-going monitoring and review of the DSMP will be required to ensure that the listed objectives of this DSMP are achieved (further details in Section 6). If necessary, the DSMP will be reviewed and adapted to reflect continuous improvement of the delivery and servicing process.

1.5 Report structure

This report is divided into the following sections:

Section Two – sets out initiatives to reduce delivery vehicles and emissions through smart procurement and vehicle reduction measures;

Section Three – sets out the type, number and nature of daily delivery vehicles;

Section Four – sets out the delivery and servicing strategy for the movement of goods within the development;

Section Five – sets out the waste management strategy; and

Section Six – sets out a process for conducting an annual review of the DSMP.

2 Procurement and sustainability

2.1 The Mayor's Transport Strategy

The Mayor's Transport Strategy (MTS) sets out the Mayor's transport strategy for London up to 2031 and the issues of freight and servicing are considered throughout.

The MTS highlights the importance of the London Freight Plan, DSMPs, Construction Logistics Plans (CLPs) and Fleet Operator Recognition Scheme (FORS) to encourage improved efficiency and provide a framework for incentivization and regulation.

Proposal 99 states that the "the Mayor, through TfL and working with the London Boroughs, road freight operators and other stakeholders will:

- Adopt planning conditions that specify Delivery and Servicing Plans for major developments;
- Aim for 50% of HGVs and vans servicing London to be member of the FORS;
- Encourage, and where appropriate specify, improved freight movement efficiency through, for example greater consolidation, more off-peak freight movement and greater use of rail-based transport; and
- Support the freight industry and land requirements for locally focused consolidation and/or break-bulk facilities and access to waterways and railways."

Proposal 117 acknowledges the incorporation of DSMPs, CLPs and the FORS scheme:

"The Mayor, through TfL and working with the London boroughs, and other stakeholders in the public and private sectors, will improve the efficiency and effectiveness of freight operations through the promotion of delivery and servicing plans, construction logistics plans, the FORS and other efficiency measures across London."

The MTS sets out the importance of the London freight information portal which "will help London's public authorities (the GLA and boroughs, for example) and freight operators exchange information about:

- Improving operational efficiency;
- Encouraging better driver behavior, the use of alternative fuels and the uptake of low carbon vehicles;
- Reducing freight administration costs; and
- Enhancing freight journey planning.

2.2 Overview

The objective of the servicing strategy outlined below is to employ several initiatives that have reduced the number of weekly delivery and servicing trips in similar developments around London thereby achieving:

- Fewer commercial vehicle visits during the working day;
- Improved safety for pedestrians and cyclists through reducing vehicle movements;
- Improved air quality through reduced vehicle emissions; and
- Reduced noise from commercial vehicles.

All tenants within the development will be required to implement the following measures to reduce vehicle trips and the impact of servicing on the local environment:

- Use a booking-in service to control the flow of vehicles and for loading bay management;
- Consider the re-timing of deliveries;
- Provide a list of preferred suppliers and ensure that tenants only order through them to allow collective procurement;
- Provide a consolidated waste collection service; and
- Provide information to deliverers i.e. a delivery point assessment.

Additional measures that would reduce the number of daily deliveries include:

- Deploy stock optimisation techniques, such as the bunching of orders so that they arrive at the same time every week;
- For office staff, companies should consider promoting the collection of personal deliveries on the way home from work, as opposed to having packages delivered to the development;
- Consider the use of a consolidation centre to allow multiple deliveries to be consolidated onto fewer vehicles; and
- Consider the introduction of a nominated carrier scheme (a scheme whereby a single delivery company is selected by the purchaser to deliver all their goods from all their suppliers).

2.3 Delivery booking system

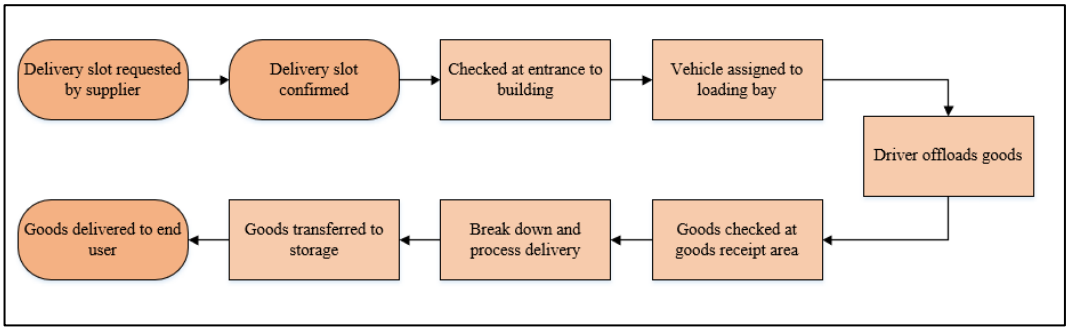
Commercial deliveries to the internal loading bays will be managed by the facilities management (FM) team using a delivery management system. All delivery and servicing vehicles are registered on the system before they can enter the building. This will ensure all servicing vehicles are scheduled and prioritised accordingly. A booking system allows the FM team to actively manage the arrivals to the site during the day and will have the following benefits:

- Online appointment scheduling for carriers and suppliers to book loading bay;

- Appointments over the web, and monitor the status in real time;
- The ability for the site FM team to accept requests, prioritise shipments and refuse requests;
- Automated appointment scheduling with unload service time calculations taking into consideration trailer type, loading bay restrictions, special equipment, and product handling unit types;
- Appointment audit trail and reporting;
- Historical data analysis and compliance tracking;
- Improved visibility to the inbound supply chain by tying purchase orders to inventory and shipment data; and
- Improved resource planning and task allocation for the site FM team.

When a vehicle arrives, the FM team will inspect the booking form or delivery note. The goods will be unloaded by the driver and inspected by the FM team before onward distribution to, or collection from, the commercial or office tenants. This process flow is summarised in Figure 3.

Figure 3 Goods in process flow



2.4 Delivery point assessment (DPA)

To assist deliveries to the development, suppliers and their logistics providers will be given a DPA. This document provides drivers with clear instructions on where and how to access the development to avoid causing disruption to other road users and pedestrians. The content of these guidance notes will include the following:

- Provide the contact details for the FM team /security;
- Outline of the correct route to the delivery premises;
- Provision of a detailed parking map of the area, including restrictions;
- Risk rating for manoeuvring;
- Risk rating for loading;
- Advice to the driver about special instructions (e.g. vehicle lift access and protocols: and
- Health and safety risks to their employees and third parties.

2.5 Vehicle reduction measures

The development will also introduce policy-led interventions to avoid unnecessary vehicle movements.

2.5.1 Waste collection consolidation

To consolidate waste collections into as few vehicles as possible, commercial tenants will be required to use waste contractors appointed by the site FM team for the collection of refuse, recycling and food waste streams.

2.5.2 Personal delivery deduction

At present, in London, it is estimated that almost 40% of all deliveries made to the workplace are personal[1]. This is having a significant impact on congestion, safety for vulnerable road users and air quality. Two ways this could be addressed by tenants would be to either ban or discourage employees receiving their online purchases at work. Firstly, a ban on employees receiving deliveries will significantly reduce the vehicles visiting the area and ease the pressure on post rooms and loading bays. However, based on our experience in this field some organisations are opposed to enforcing a total ban on their employees.

An alternative option is to discourage employees and promote alternative ways to receive their online purchases. The building owner and tenants could choose to promote a click and collect scheme for their tenants (i.e. Amazon Lockers, Doddle, collect +, Hub Box, Parcelly). This will allow employees to divert their personal deliveries to a specialised click and collect location.

2.5.3 Collective procurement

Tenants within the development should have access to a preferred supplier scheme supervised by the FM team. Tenants will be encouraged to engage in collective procurement for consumables such as office supplies, milk, flowers, catering and bread. Tenants will agree to purchase goods and services from a small, carefully selected choice of suppliers. Each tenant will have an account with the supplier, but their orders will be combined so that deliveries will arrive together, on a single vehicle.

The development benefits from reducing the number of supplier vehicles on the street. Tenants benefit from volume discounts and reduced delivery costs. It has been shown that collective procurement by individual groups or businesses within a building, such as TfL's Palestra operating centre, reduced stationery deliveries from twice daily to only three deliveries a week.

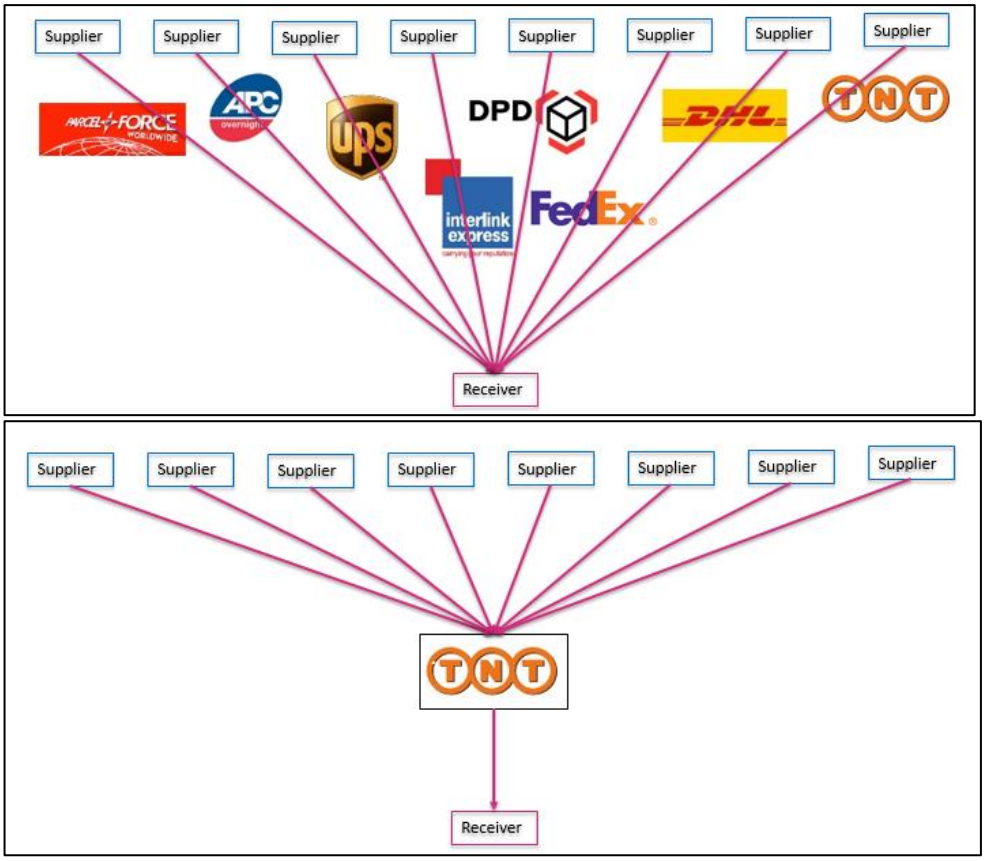
Tenants will be encouraged to order goods and materials to fully utilise their storage capability. This will result in less frequent deliveries throughout the week.

[1] This figure is based on a large-scale survey of 1,200 offices conducted by TfL in 2016

2.5.4 Nominated carrier scheme (NCS)

A nominated carrier scheme (NCS) would involve tenants agreeing to the use of a single company for the delivery of certain types of goods. This is predominantly focussed on the collective procurement of non-perishable goods such as stationery. Additionally, nominating a shared courier, to be used by all tenants, is also a positive measure and would reduce the number of courier trips to the building each day. A visual representation is shown in Figure 4.

Figure 4 Nominated carrier scheme



2.6 Accredited operator schemes

Tenants should strive to work with suppliers that are aiming to raise the level of quality within fleet operations, and to demonstrate best practice in safety, efficiency, and environmental protection.

2.6.1 Fleet Operators Recognition Scheme (FORS)

FORS is a unique, industry-led, free membership (bronze, silver, gold) scheme to help van and lorry operators in the Capital become safer, more efficient and more environmentally friendly.

For bronze level membership a number of requirements under the following headings need to be met:

- Drivers and vehicle management;

- Vehicle maintenance and fleet management;
- Transport operations; and
- Assessing the performance of company policies.

For silver and gold level, members need to provide data to enable benchmarked values to be produced per million kilometres for each type of vehicle for:

- Fuel use;
- CO2 and emissions;
- Vehicle incidents; and
- Penalty Charge Notices and fines.

2.6.2 Safe urban driving (SUD)

SUD is essential training for all commercial drivers operating heavy goods vehicles (HGVs) regularly in the urban environment and where there are high volumes of vulnerable road users, such as cyclists and pedestrians.

The course is aligned to meet the requirements of:

- Work Related Road Risk (WRRR)
- Fleet Operator Recognition Scheme (FORS)
- Construction Logistics and Cyclist Safety (CLOCS).

2.7 Alternative fuelled vehicles

Logistics providers and courier companies are increasingly using electric vehicles and cycles for making last mile deliveries. For example, Clipper Logistics, UPS and Gnewt provide electric powered goods vehicles, courier vans and electric powered cycles.

In terms of measures which could be implemented by management to encourage the use of alternatively fuelled vehicles, the following would be considered as part of the retail and procurement strategy:

- Choosing retail partners that operate a supply chain including alternatively fuelled delivery vehicles;
- Choosing a courier company for outgoing mail that use alternatively fuelled vehicles;
- Using the procurement system within the development to encourage purchasing managers to buy from suppliers actively using alternatively fuelled vehicles in their supply chain; and
- Using the vehicle management system to offer optimum delivery (i.e. early morning) slots to retail operators with alternatively fuelled vehicles.

3 Delivery and Servicing Vehicles

3.1 Overview

This section presents the information for delivery and servicing as follows:

- The size of delivery vehicles expected to make deliveries to the development;
- The number and frequency of delivery vehicles; and
- The nature of expected deliveries.

The information is provided for each individual block.

3.2 Assumptions

In order to undertake this assessment Arup has made the following assumptions:

- Flexible Ground Floor Uses (E excluding part E(g) use) and Flexible Ground Floor Uses (unrestricted Use Class E) are assumed to be retail space; and
- Retail space is assumed to be 50% food retail and 50% non-food retail.

3.3 Vehicle generation

The estimated daily delivery and servicing trips to the site were calculated using an Arup in-house vehicle generation tool developed to utilise Arup research. The generation tool applies a delivery and servicing vehicle trip rate for each of the proposed building uses to the relevant gross internal area (GIA) for that building. The trip rates, which are expressed as vehicles per 100m^2 per day, have been derived from survey data at office, retail, residential and other facilities around London, as well as relevant design guidelines and local authority regulations. The surveys recorded vehicle arrival and departure times, vehicle type and size of goods vehicle use to make the delivery.

The generation rates used to determine the daily number of delivery trips are shown below:

- 0.52 vehicles/100m^2/day for non-food retail tenants;
- 1.80 vehicles/100m^2/day for food retail (restaurants/cafes);
- 0.20 vehicles/100m²/day for office uses; and
- 0.07 vehicles/100m²/day for residential deliveries.

3.4 Size of servicing vehicles

As a mixed-use development within London, the majority of the servicing trips to the site will be made by 6 metre long transit vans, with the remainder of the deliveries by 8 metre long and 10 metre long vehicles. The development has some restrictions on vehicle sizes in some areas, this is explained further in 4.3.2 and 5.2.4.1.

There will also be cycle courier deliveries throughout the day. Table 2 shows the likely service vehicle type including typical turnaround times.

Table 2 Size of servicing vehicles

Vehicle Type	Vehicle	Characteristics	Turnaround Time (minutes)
LGV – Light Goods Vehicle		3.5 Tonne, vehicle length 6m	15
MGV – Medium Goods Vehicle		7.5 Tonne, vehicle length 8m	25
HGV – Heavy Goods Vehicle		17 Tonne, vehicle length 10m	30
Refuse Collection Vehicle		Vehicle length up to 10m	15-20

3.5 Servicing trips

The anticipated number of delivery and servicing trips for the development is shown in Table 3.

In order to undertake this assessment Arup has assumed that the Flexible Ground Floor Uses (E excluding part E(g) use) and Flexible Ground Floor Uses (unrestricted Use Class E) are 50% food retail and 50% non-food retail.

Table 3 Estimated deliveries and servicing trips

Building	Use Class	GIA (m^2)	Average Daily Trip Rate per 100 m^2 GIA	Number of Daily Deliveries	Peak Hour
Museum Street	Office E(g)i	22,650	0.18	41	5
	Retail (Non-Food)	317	0.52	2	
	Retail (Food)	317	1.80	6	
	Subtotal	**23,284**	**-**	**49**	
Vine Lane	Market residential (C3)	1,579	0.2	2	1
	Retail (Non-Food)	160	0.52	1	
	Retail (Food)	160	1.8	3	
	Subtotal	**1,899**	**-**	**6**	
High Holborn	Retail (Non-Food)	12	0.52	1	1
	Retail (Food)	12	1.8	1	
	Residential (Private)	426	0.07	1	
	Subtotal	**450**	**-**	**3**	
West Central Street	Retail (Non-Food)	286	0.52	2	1
	Retail (Food)	286	1.8	6	
	Residential	2,497	0.07	2	
	Subtotal	**3,069**	**-**	**10**	
Total		**28,702**	**-**	**68**	**8**

3.6 Typical deliveries

Some example of typical deliveries, identified through survey data, are shown in Table 4.

Table 4 Typical deliveries

Non-Food Retail	Food Retail	Office	Residential	Leisure

Furniture	Furniture	Furniture	Furniture	Furniture
Stock	Fresh food	Stationary	Takeaways	Light foods
Promotional material	Frozen food	Cleaning products	Mail	Event material

These goods and materials are normally delivered in the following ways:

- Linen is wrapped in plastic and comes in bags, trolleys or roll containers;
- Frozen food deliveries are generally palletized, whereas fresh food is delivered in plastic/wooden crates; and
- Canned goods are often delivered on a pallet.

Palletized goods and heavy or large crates are handled using a hand pallet truck. Roll cages are pushed. Examples of the types of containers which are used for general goods deliveries are shown in Table 5.

Table 5 Typical goods containers

Roll Container	**Pallet**	**Plastic or Wooden Crate**
		
Overall width: 7800mm Overall length: 6800mm Overall height: 1340mm Capacity: 600kg	Width: 1200mm Length: 800mm Height: 166mm Capacity: 1000kg	Overall width: 1000mm Overall length: 1200mm Overall height: 400mm

4 Internal distribution

4.1 Overview

Deliveries for the different parts of the development will use a series of loading areas around the development including:

- A basement service yard that can accommodate two vehicles up to 8m in length, accessed from High Holborn;
- An existing (and retained) on-street loading bay located on Museum Street; and
- A proposed loading bay in Grape Street (provided as part of the West End Project).

From these locations, deliveries will be transferred directly to the end user in a safe manner using the appropriate manual handling equipment using external walkways, service corridors and goods lifts to reach the final delivery point.

The on-street loading bays will be used primarily for residential and retail deliveries to High Holborn and West Central Street blocks and the Museum Street and Vine Street retail and office deliveries will be managed through the internal basement loading bay.

4.2 On-street loading bays

The on-street loading locations at ground floor are shown in Figure 5.

Figure 5 Ground floor loading bays

4.2.1 Delivery process

Deliveries utilising the on-street loading bays will serve the demises as shown in Figure 6 and Figure 7.

Figure 6 West Central Street and High Holborn ground floor goods distribution routes from on-street loading locations

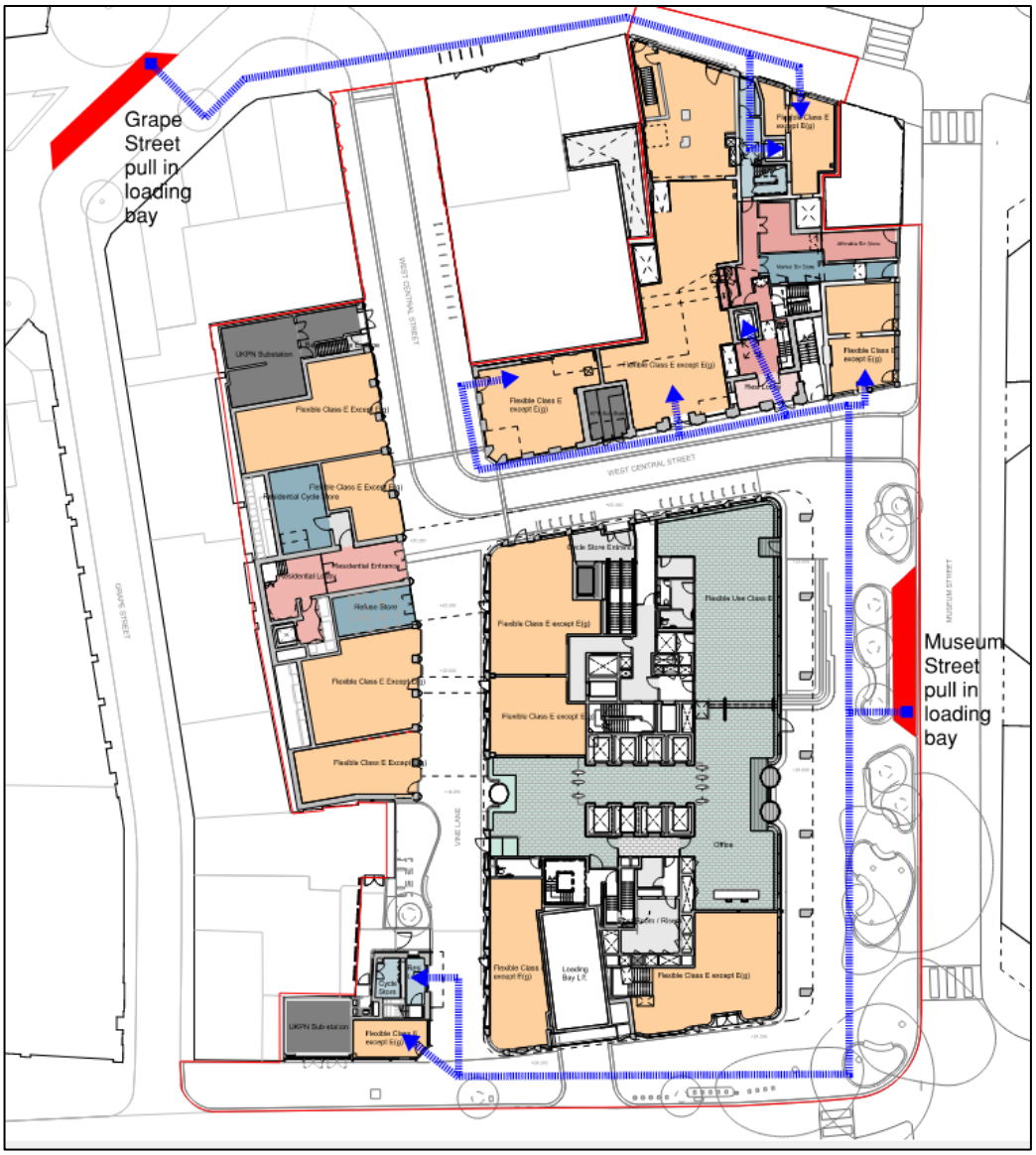


Figure 7 West Central Street & High Holborn upper floor goods distribution routes from on-street loading locations

*Minor amendments have been made to the plan above, Figure 7, which do not impact the movement of goods/waste

A total of 13 daily deliveries are expected to be made using the on-street loading bays. The delivery procedures will be as follows:

High Holborn

There will be three deliveries made to the retail unit on the ground floor or residential units on the upper floors each day. These deliveries will be made from the Museum Street pull-in or the surrounding area.

West Central Street

There will be 10 deliveries made to the retail units at ground floor level and the residential tenants on the upper floors each day. These deliveries will utilise the Museum Street pull-in loading bay. The retail units and residential units with entrances onto New Oxford Street will be serviced from the Grape Street pull-in loading bay.

4.2.2 On-Street Loading Bay Management

Due to the low number of deliveries utilising the on-street loading areas, there will not be a booking system in place for these deliveries. The following measures will be considered to minimise the impact of the use of on-street unloading and pull-in loading bays:

- A designated traffic marshal will ensure vehicles do not occupy the loading bay longer than required to unload and transport goods to minimise dwell times. LBC consent will be sought to change the permitted loading restrictions such that a single vehicle is allowed a maximum of twenty minutes;
- Vehicles that exceed a permitted dwell time of 20 minutes will be issued a penalty notice;
- The marshals will ensure vehicles arriving when the loading bays are occupied are moved on and told when to return; and
- The marshals will instruct drivers to switch off their engines whilst stationary, preventing engine-idling during delivery and servicing activity. This will minimise noise and the impact of vehicle exhaust emissions on air quality.

4.3 Internal loading bays

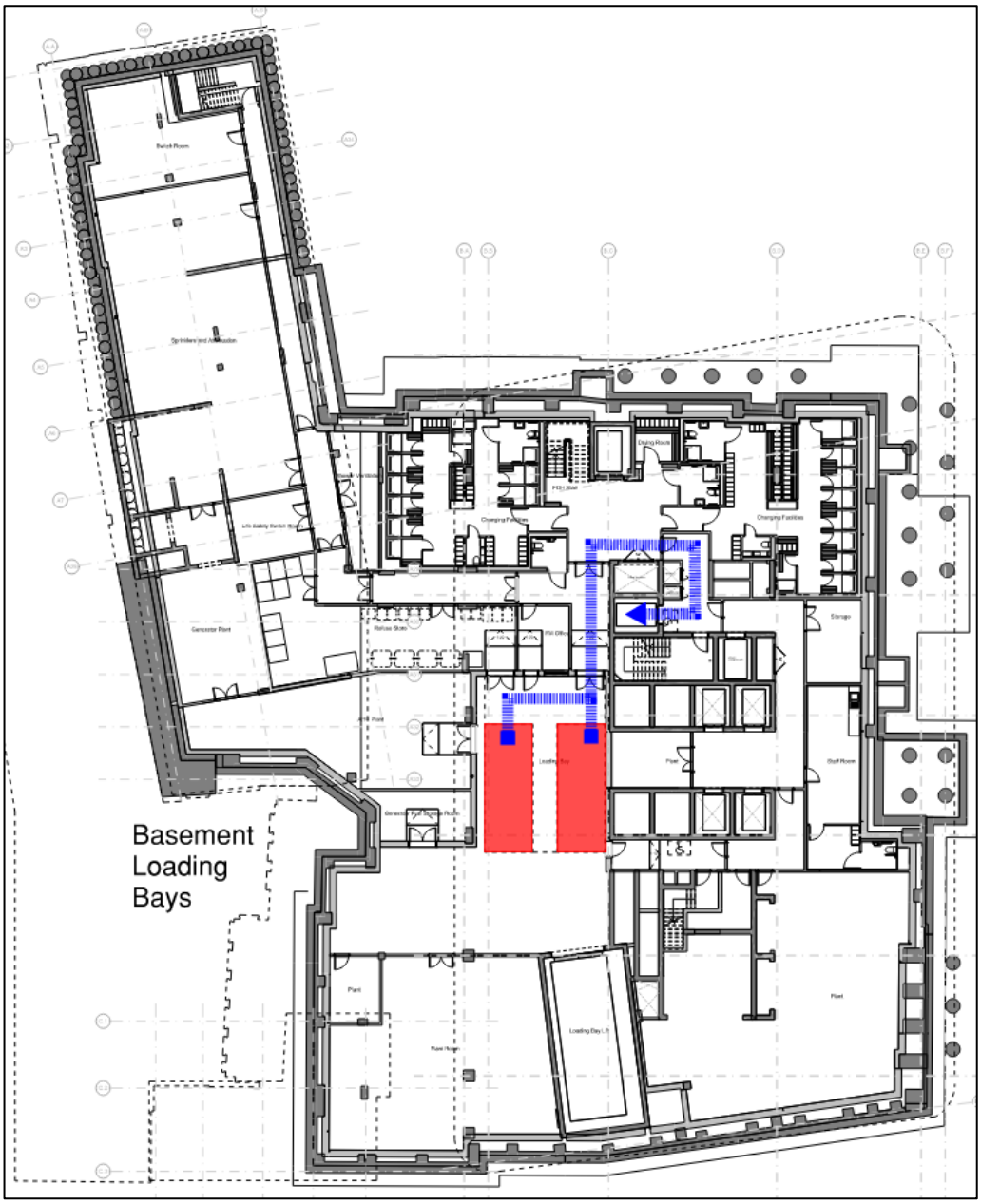
In accordance with the council's policy (*Local Plan* Policy T4 - developments over 2,500sqm are expected to accommodate goods vehicles on-site) a dedicated service yard containing two loading bays is proposed to be located at basement level and accessed from a vehicle lift accessed from High Holborn.

This service yard will serve the retail and office tenants in the 1 Museum Street block and the retail and office tenants in the Vine Street block. These tenants will generate 53 daily deliveries. The service yard will be open from 7am-7pm each day.

The service yard will be accessed by a vehicle lift accessed from High Holborn and the yard will contain two loading bays, each sized to accommodate an 8-metre-long vehicle. The access route and layout of the service yard are shown in Figure 8 and Figure 9.

Figure 8 1 Museum, Street & Vine Street ground floor access to basement service yard

Figure 9 1 Museum, Street & Vine Street basement service yard



4.3.1 Facilities management (FM) team

In terms of the day-to-day management of incoming goods to the internal service yard, it is proposed that the site FM team be responsible for the following:

- Communication and liaison with each tenant;
- Assisting with the receipt, sorting and moving of goods through the building to their destination;
- Monitoring misuse, unsafe or illegal use of the loading areas by the suppliers and taking action if necessary;
- Using the information provided by the booking-in system, collating delivery information into an overall delivery profile; and
- Reducing or consolidating the number of suppliers by identifying opportunities to share the same supplier base among the different tenants of the development.

4.3.2 Pre-delivery process

The Museum Street and Vine Street tenants will use a pre-booked delivery system. This will ensure an even arrival profile of service vehicles to optimise the use of the loading facilities.

When booking a delivery slot, the logistics provider will be allocated a slot for their delivery to be completed. Slots will be timed according to the size of the vehicle, with 6-metre-long vehicles (4.5T transit and box vans) being allocated 15 minutes and 8-metre-long vehicles (7.5T box vans) being allocated 20 minutes. If a driver misses their slot, they will be instructed to leave the area and re-book an alternative delivery slot.

As the service yard and vehicle lift can only accommodate vehicles up to 8 metres long and 4.2m in height, this will need to be clearly communicated to all tenants before they book in any deliveries to ensure that their suppliers can use the correct vehicle size to make the delivery.

It is anticipated that not every delivery can be booked in advance. Deliveries arriving without a booking-in slot will be processed at the discretion of the site FM team.

There will be a procedure for periodic reviews between the site FM team and the tenants to ensure the system utilised is operating to the benefit of all concerned. It will also be able to respond to any unexpected issues that may arise that are beyond the control of the team.

4.3.3 Access/egress process

To ensure safe and efficient operation within the service yard and on High Holborn, the following management procedures are proposed:

- Vehicles using the basement service yard will be required to book a timed slot and provide details of the delivery vehicle to ensure it can be accommodated on site;
- On receipt of the time slot, drivers will be provided with instructions including a dedicated mobile number for the lift operative;
- Drivers will approach the development from the west along High Holborn;
- When they are within approximately two minutes travel time of the development, the driver will call the lift operative (from a handsfree device) to prime the lift ready for entry;
- The lift operative will look out for the approaching vehicle and will ensure the lift is ready for vehicle entry;
- Prior to turning into the lift car, the vehicle driver will indicate and reduce speed - the lift operative will look out for pedestrians that are unaware about the approaching vehicle as it approaches the site;
- The operative will assist the driver to enter the lift, seeking to ensure this is undertaken smoothly in a forward gear;
- Once the vehicle is in the lift, the operative will activate the doors to close and send the lift to the basement;
- Once activities are completed the lift operative will oversee the departure of the vehicle from site. The vehicle will turn out of the lift and continue westbound along High Holborn. The lift operative will manage the interface between the vehicle and unaware pedestrians; and
- Any vehicles making deliveries to the site from other locations near the development will be asked to move on.

In the event of the lift breaking down, it is proposed that deliveries would temporarily take place from the existing Museum Street loading bay and from West Central Street. Maintenance and repair arrangements will be made with the lift manufacturer. It is acknowledged that the operator is willing to enter into a S106 agreement with LBC to ensure that repairs are undertaken within a time-limited arrangement.

4.3.4 Delivery process

Once vehicles have parked in the loading bay they will offload the goods and the driver will transfer the items to the end destination using the goods lift. This is shown in Figure 10, Figure 11, Figure 12 and Figure 13. The driver will then return to their vehicle and egress the site as described above.

Figure 10 1 Museum, Street & Vine Street basement goods distribution routes

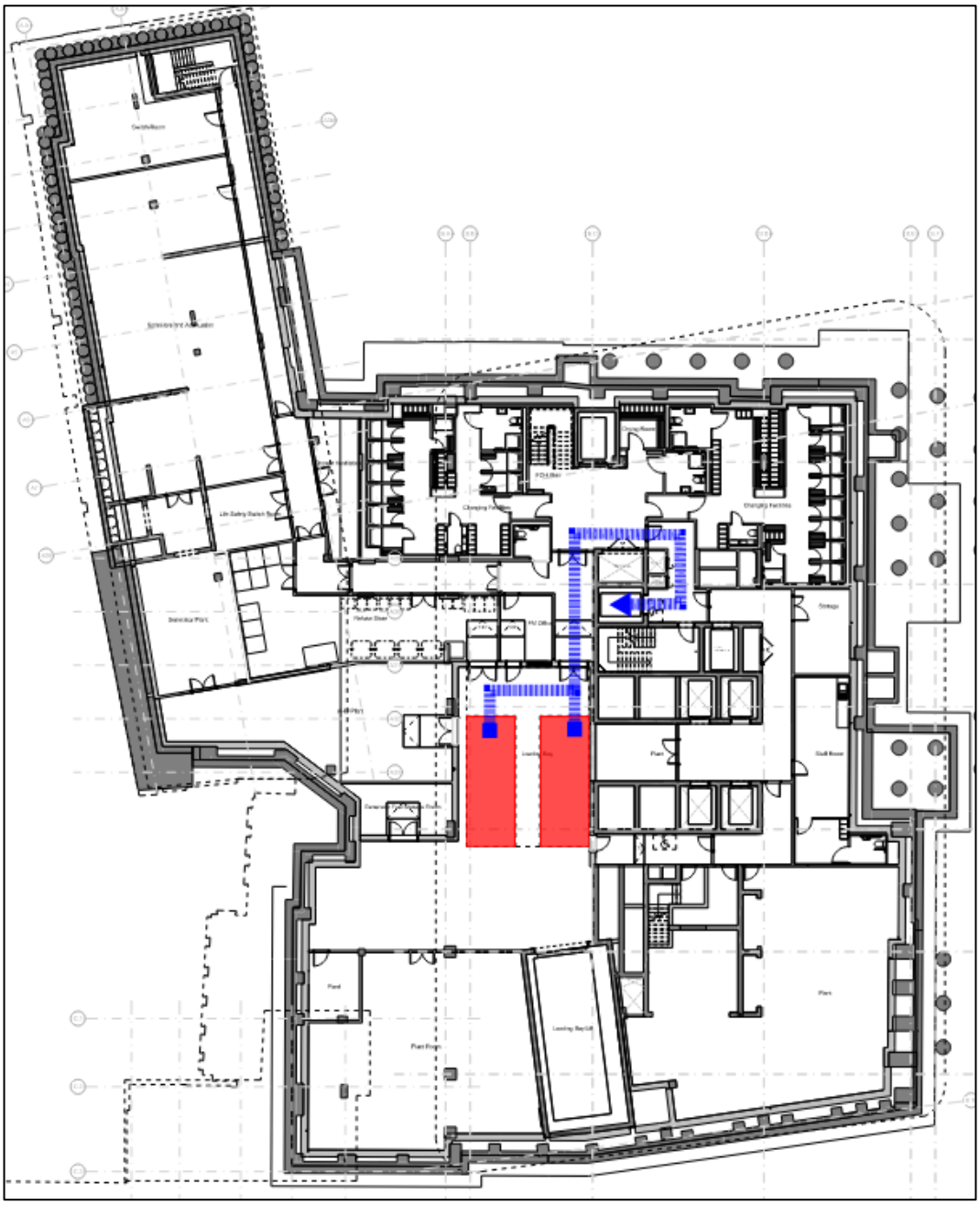


Figure 11 1 Museum, Street and Vine Street ground floor goods distribution routes

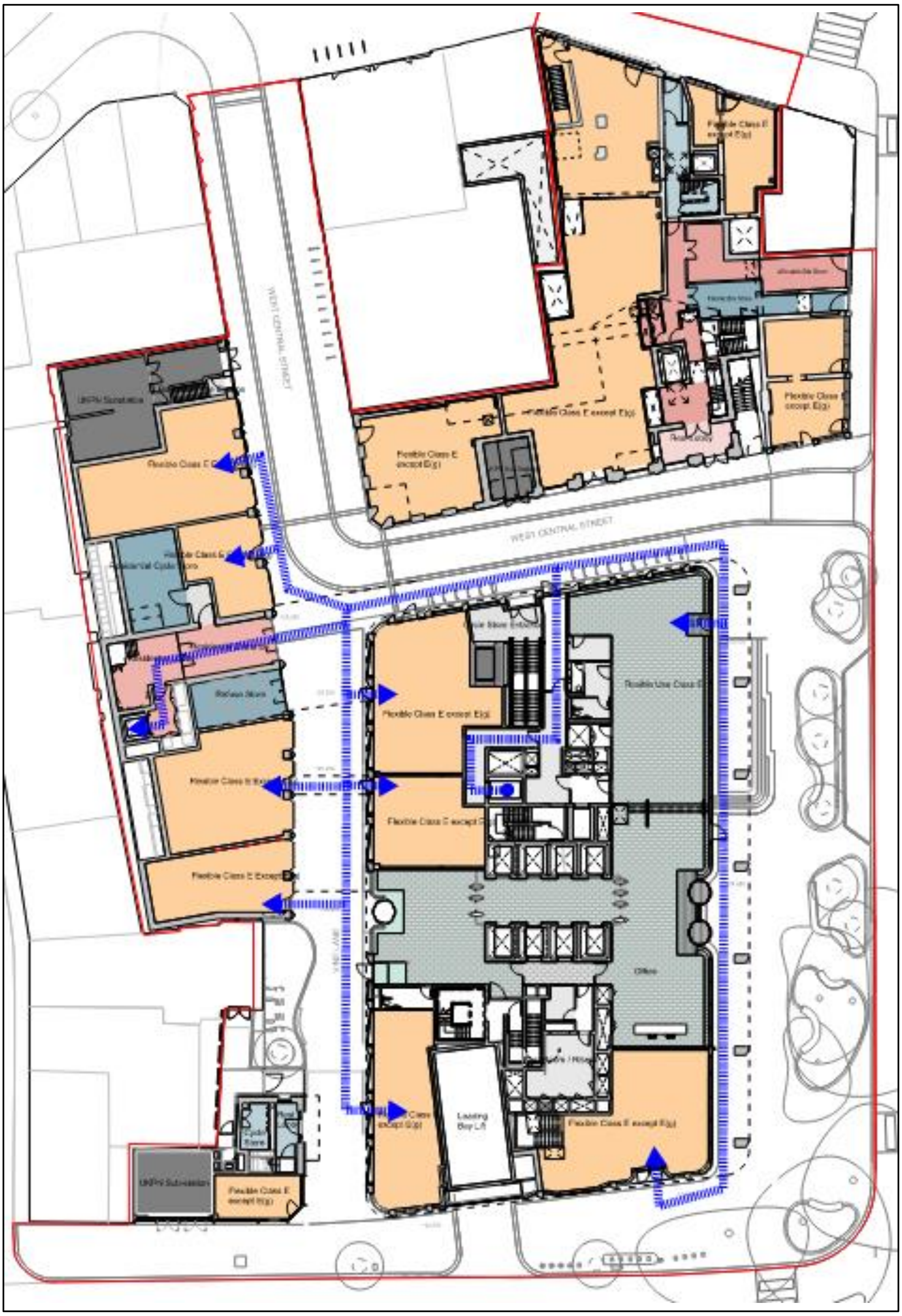


Figure 12 1 Museum Street upper floor goods distribution routes

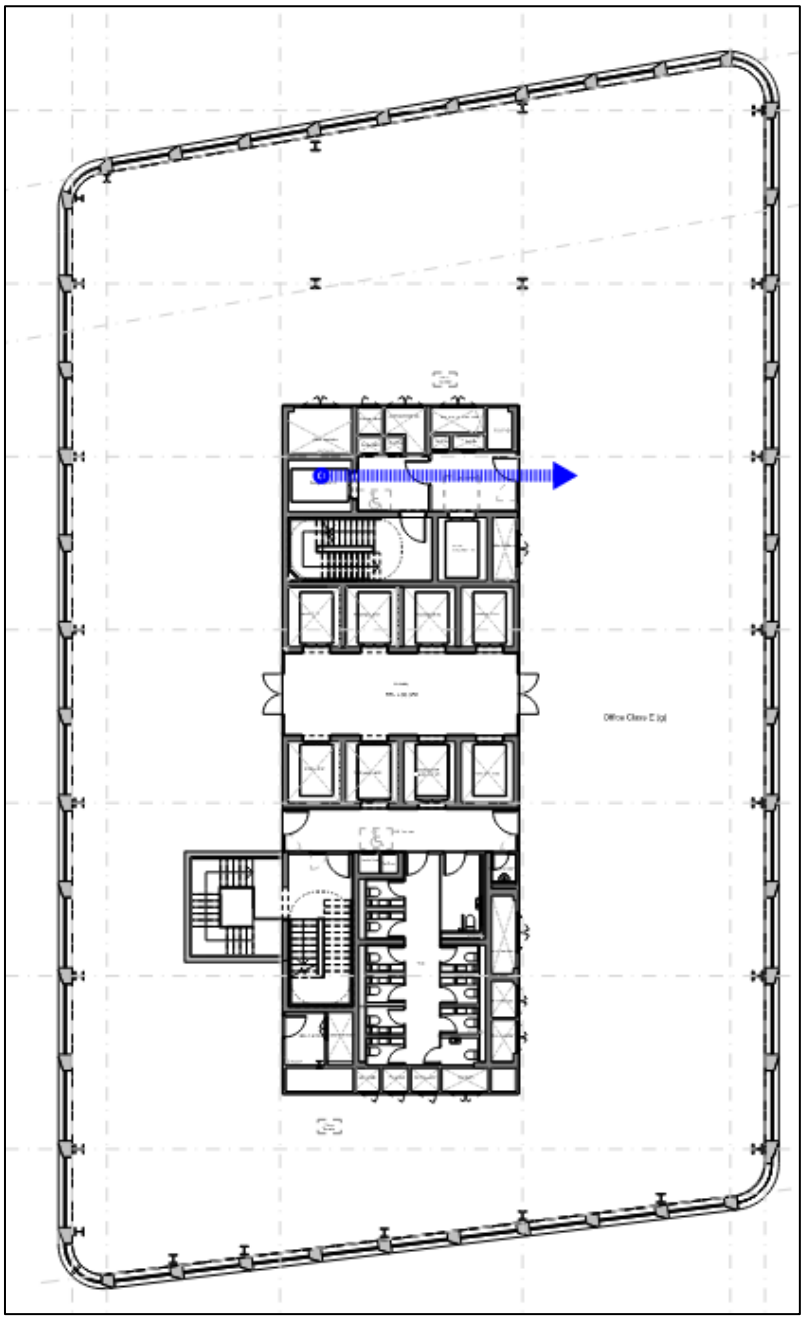


Figure 13 Vine Street goods distribution routes

4.3.5 Service yard management

It is proposed that the loading bay and access is managed by a minimum of two site operatives: a dockmaster located in the basement and an operative located at street level.

Accommodation for the street level operative with facilities to implement the management protocol will be provided within the development.

During the operational day it is proposed that the lift doors remain open to enable vehicle access; these will be monitored by the street level site operative. When not in use (overnight) a fanfold or shutter door is proposed to be installed to protect the lift.

4.4 Swept path analysis

Swept path analysis demonstrating the access strategy for the basement service yard is shown in Figure 14 and Figure 15.

Figure 14 1 Museum Street service yard access

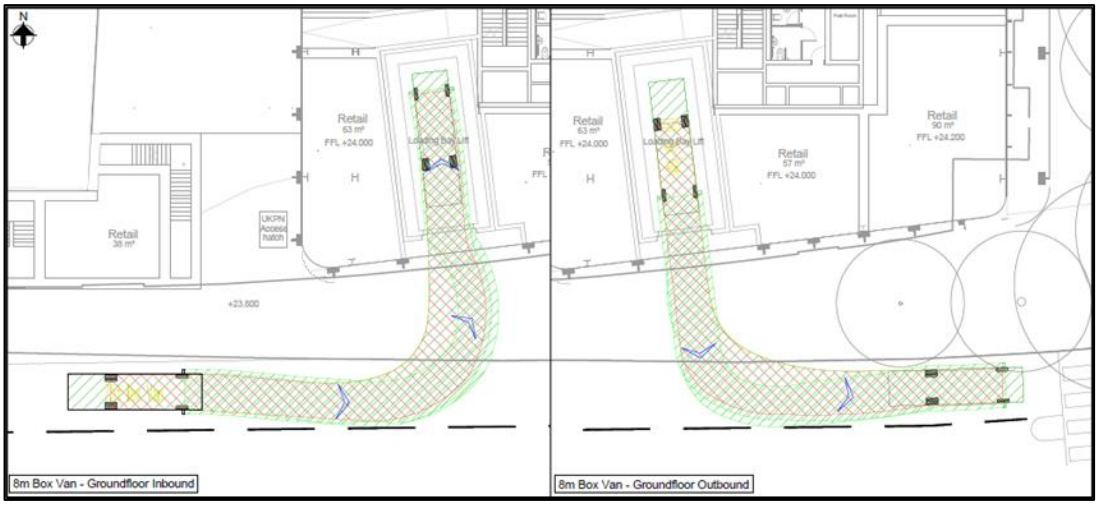
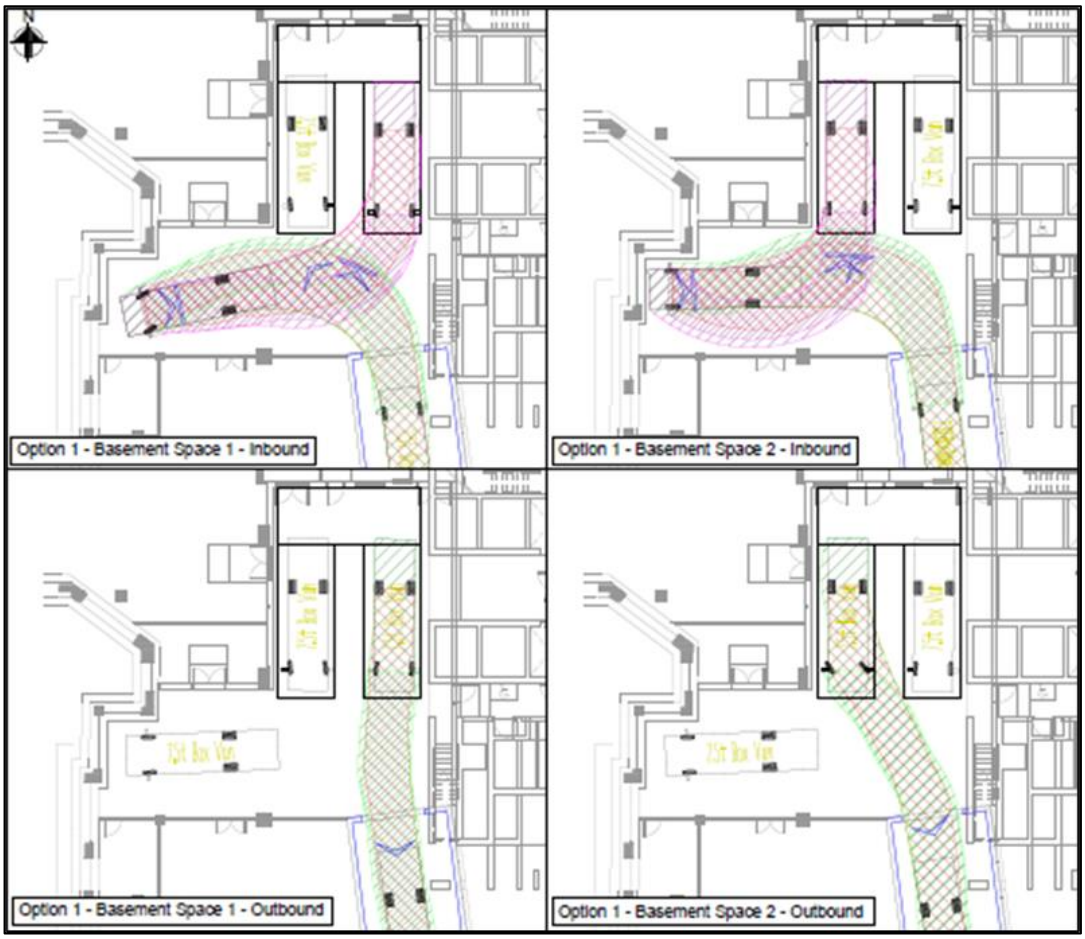


Figure 15 Basement lift access and loading bay access



5 Waste storage and servicing

5.1 Overview

This document sets out the Waste Management Plan (WMP) for the development. A final WMP shall be developed as a standalone document and agreed six weeks prior to the commencement of Facilities Management (FM) at the site. It is noted that the information provided in this WMP is based on currently known information.

5.2 Commercial waste

5.2.1 Assumptions

This assessment has been based on several key assumptions:

- Waste from the commercial uses in West Central Street block will be stored within and collected directly from the retail units;
- Waste from the commercial unit in the High Holborn block will be stored within and collected directly from the retail unit;
- Waste from the commercial units (offices and retail) in the Museum Street and Vine Street blocks will be stored in and collected from a central commercial waste store;
- One employee per 8m^2 NIA of office floor space (80% occupancy), with one employee working five days a week, generating 50 litres of waste;
- Commercial waste rooms have been sized for two days of waste storage – collections to be undertaken daily;
- Commercial waste collections will be undertaken by a nominated waste contractor using a waste collection vehicle up to 8 metres in length;
- The following splits have been applied:
- Retail (A1): 12 % residual and 88% recyclable (27% paper, 40% cardboard, 13% plastic, 0% aluminium, 3% glass and 5% organic);
- Retail (A3): 60% residual and 40% recyclable (5% cardboard, 3% plastic, 3% aluminium, 5% glass and 24% organic); and
- Office (B1): 20% residual and 80% recyclable (65% paper, 7% cardboard, 6% plastic and 2% aluminium).
- Cardboard, paper and plastics will be processed using a baler producing 300kg bales. One 300kg bale can be stored on a 1,000mm x 1,200mm pallet;
- Pre-baled cardboard will be stored in 660 litre eurobins;
- Glass waste and aluminium will be stored in 360 litre eurobins; and
- Food waste will be stored in 240 litre eurobins.

5.2.2 Waste generation

Guidance in the following documents has been applied when defining the WMP:

- Camden Planning Guidance - Design, January 2021
- Camden's Environment Service technical guidance for recycling and waste; and
- BS 5906:2005 Waste management in buildings – a code of practice.

5.2.3 1 Museum Street & Vine Street blocks

5.2.3.1 Waste generation

Based on the area schedule in Table 1, the estimated two-day waste generation for the commercial users at the Museum Street & Vine Street blocks is 46.90m³ as shown in Table 6.Table 6 Two-day commercial Museum Street & Vine Street waste generation

Museum Street & Vine Street Commercial Two-Day Waste Generation (m³)				
Waste Stream	**50% Class E (Non-Food Retail)**	**50% Class E (Food Retail)**	**Class E(g)(i) (Office/Business)**	**Total (m³)**
Residual	0.21	3.52	7.85	11.59
Paper	0.48	0.00	25.52	26.00
Cardboard	0.70	0.29	2.75	3.75
Plastic	0.23	0.18	2.36	2.76
Aluminium	0.00	0.18	0.79	0.96
Glass	0.05	0.29	0.00	0.35
Food Waste	0.09	1.41	0.00	1.50
Total	**1.76**	**5.87**	**39.27**	**46.90**

5.2.3.2 Waste Storage

The 1 Museum Street & Vine Street blocks require a waste store containing the equipment shown in Table 7.

Table 7 Commercial Museum, Street and Vine Street waste storage equipment

Museum Street & Vine Street Commercial Waste Storage Equipment			
Waste Type	**Compacted Waste (m³)**	**Waste Container**	**Number Required**
-	-	Baler/Compactor	1
-	-	Wheelie Bin Compactor	1
Residual	4.33	1,100 Litre Bin	4
Paper	16.33	300kg Bale	5
Cardboard	1.07	300kg Bale	2

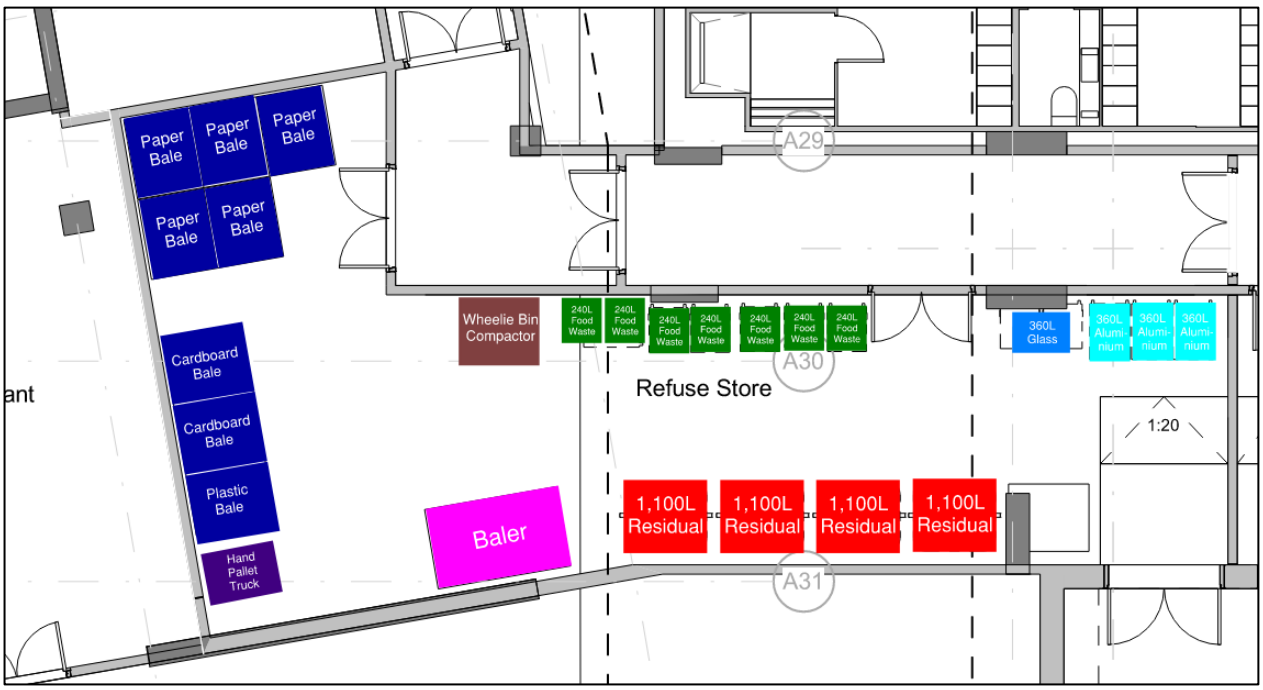
Plastic	1.10	300kg Bale	1
Aluminium	1.14	360 litre Bin	3
Glass	0.28	360 litre Bin	1
Food Waste	1.23	240 litre Bin	7
Total	**25.5**	**-**	**25**

A waste store sized at 77m^2 has been provided to hold the following:

- 1 No. Twin cardboard baler;
- 1 No. Wheelie Bin compactor;
- 1 No. Hand pallet truck;
- 4 No. 1,100 litre Eurobins for residual waste;
- 5 No. 300kg bale for paper waste
- 2 No. 300kg bale for cardboard waste
- 1 No. 300kg bale for plastic waste
- 3 No. 360 litre Eurobins for aluminium;
- 1 No. 360 litre Eurobins for glass; and
- 7 No. 240 litre Eurobins for organic (food) waste.

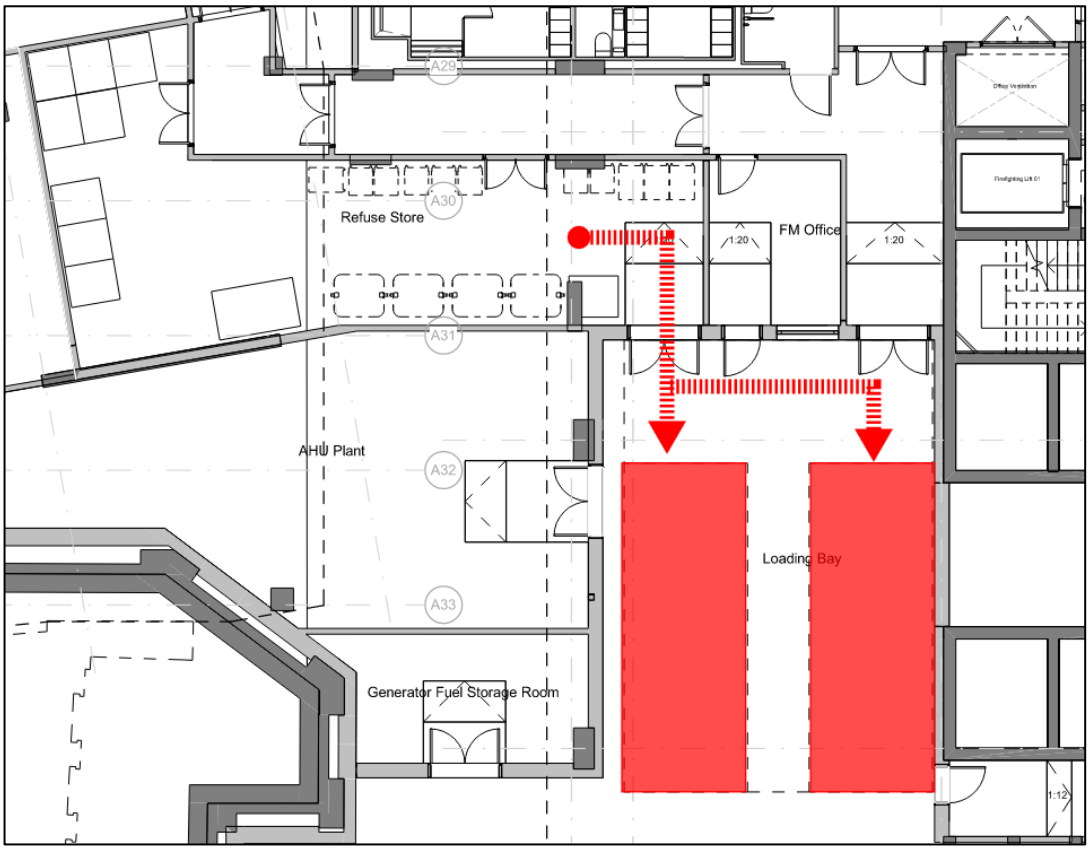
The waste store layout is shown in Figure 16.

Figure 16 Museum, Street and Vine Street waste store layout



When the waste collection vehicle arrives, the bins or pallets can be moved directly from the store to the collection vehicle as shown in Figure 17.

Figure 17 Museum, Street and Vine Street waste collection procedure



5.2.3.3 Internal waste disposal

General waste

Non-recoverable waste streams will be colour coded and clearly labelled to help waste producers and the FM team responsible for transferring the waste to the waste room to ensure that they place waste in the correct storage units.

Dry recyclables

Dry recyclables will be segregated from other waste in both office and retail areas. Bins and bags will be colour coded and clearly labelled to help waste producers and the FM team responsible for transferring the waste to the waste room to ensure all recyclable waste is placed in the correct waste storage units.

Waste electrical and electronic equipment (WEEE)

WEEE and other specialist waste are to be stored, alongside bulky waste, in an allocated area within the waste room.

Confidential paper waste

Confidential waste must be collected in secure bins located around the buildings. To be fully compliant with the Data Protection Act, a written contract with a certified confidential waste company is required. This waste stream will be collected in situ by a specialist contractor and shredded and disposed of off-site.

Hazardous waste

A specific request should be sent to the FM team for the collection of hazardous waste. Upon collection, the marshals will take it to the general waste store prior to collection by a waste contractor. This waste will then be stored in the same area of the waste room as the WEE and bulky waste.

Waste streams such as florescent tubes, batteries, asbestos and chemicals will be required to be collected by a licensed specialist contractor as they are designated as hazardous waste. The FM team will be required to register the site for a Hazardous Waste Licence to permit this waste to be collected safely and reprocessed.

Construction and demolition materials

Construction and demolition waste is excluded and managed under the Demolition and Construction Management Plans (CMP) or by the contractors.

Oil

Waste oils will have contracts with a waste oil removal provider and will not be dispensed in the drains.

Batteries

Batteries will be collected in pots (separate for lithium and alkaline types) located by the photocopiers, which will be periodically collected by the FM team for storage in the general waste store prior to collection by a waste contractor.

The terminals of lithium batteries will require covering with an insulating, non-conductive material e.g. using electrical tape, to prevent the risk of fire. The FM team will ensure this is completed, though staff disposing of the batteries will be expected to complete this where possible.

Photocopier cartridges

Photocopier and printer cartridges will be collected in boxes located by the photocopiers, which will be periodically collected by the FM team for storage prior to collection by a waste contractor.

Fluorescent tubes and light bulbs

A specific request should be sent to the FM team for the collection of fluorescent tubes and light bulb waste. Upon collection, the FM team will take it to the general waste store prior to collection by a waste contractor. This waste will then be stored in the same area of the waste room as the WEE and bulky waste.

Waste streams such as florescent tubes and batteries will be required to be collected by a licensed specialist contractor as they are designated as hazardous waste. The FM team will be required to register the site for a Hazardous Waste Licence to permit this waste to be collected safely and reprocessed.

Landscape maintenance waste

Any maintenance on lawns, hedges, trees and flower beds within the site boundaries will be carried out specialist contractors who will be responsible for disposing of the waste as part of the contract.

5.2.3.4 Internal waste transfer

The FM team will be responsible for communicating with commercial tenants on the requirements for transferring waste and recycling to the storage facility, including the requirements for bulky and non-standard waste. The waste store and individual zones within the store shall be clearly labelled at all times.

The office and retail areas will be provided with waste and recycling stations on each floor for segregating waste. Commercial tenants must be aware of and follow their responsibilities under the waste duty of care: Code of Practice (2016)[2] . The FM team will empty the bins on each floor and transfer waste to the waste store in trolleys or roll cages via the goods lift.

[2] https://www.gov.uk/government/publications/waste-duty-of-care-code-of-practice/waste-duty-of-care-code-of-practice

The FM team will be responsible for the collection of all residual, recyclable and specialist waste streams from the development.

5.2.4 West Central Street

5.2.4.1 Waste generation and storage

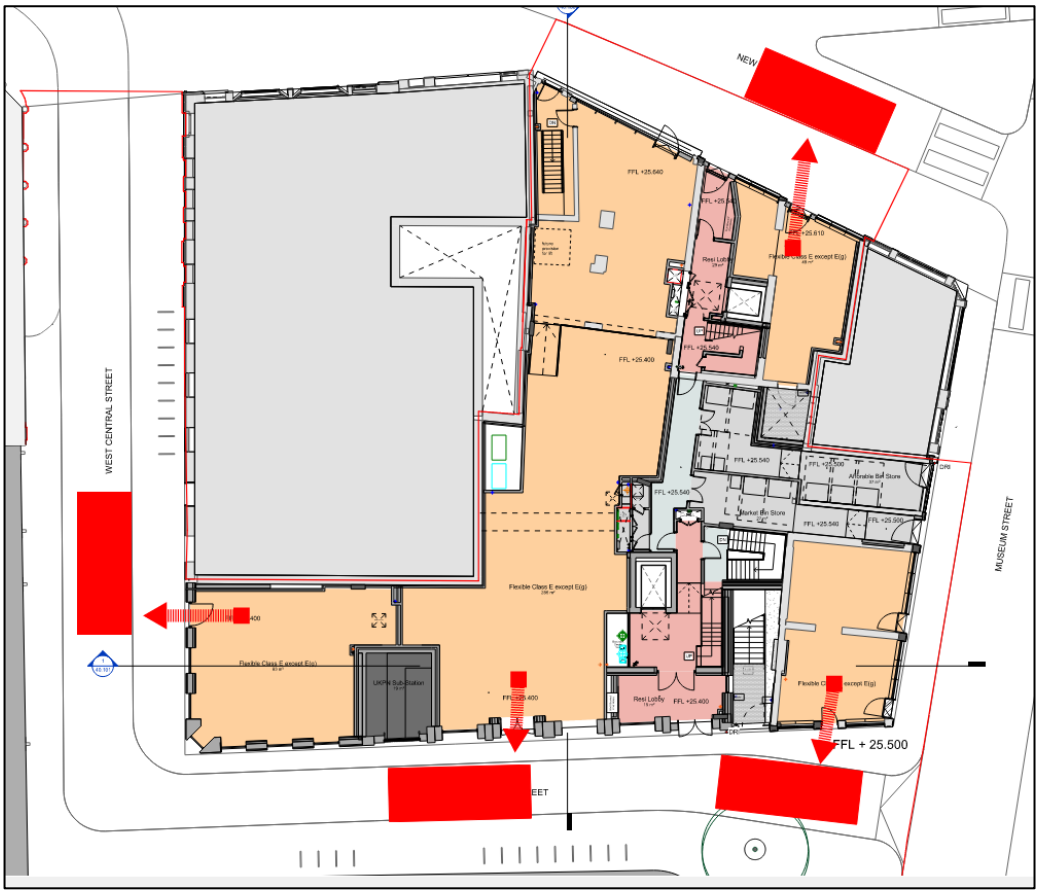
Based on the area schedule in Table 1, the estimated two-day waste generation for the commercial tenants in the West Central Street block is 3.74m³ as shown in Table 8.

Table 8 Two-day West Central Street commercial waste generation

Commercial West Central Street Two-Day Waste Generation (m³)			
Waste Stream	**50% Class E (Non-Food Retail)**	**50% Class E (Food Retail)**	**Total (m³)**
Residual	0.10	1.73	1.83
Mixed Dry Recycling (Paper, Card, Plastic, Aluminium)	0.69	0.32	0.23
Glass	0.03	0.14	0.17
Food Waste	0.04	0.69	0.73
Total	**0.86**	**2.88**	**3.74**

This waste will be stored within the units and taken in bins or bags to the kerb outside once a day immediately prior to collection. This procedure and potential vehicle stopping locations on the highway are shown in Figure 18. Due to the narrowness of West Central Street, an 8-metre-long waste collection vehicle will be used for these collections.

Figure 18 West Central Street commercial waste collection procedure



5.2.5 High Holborn block

5.2.5.1 Waste generation and storage

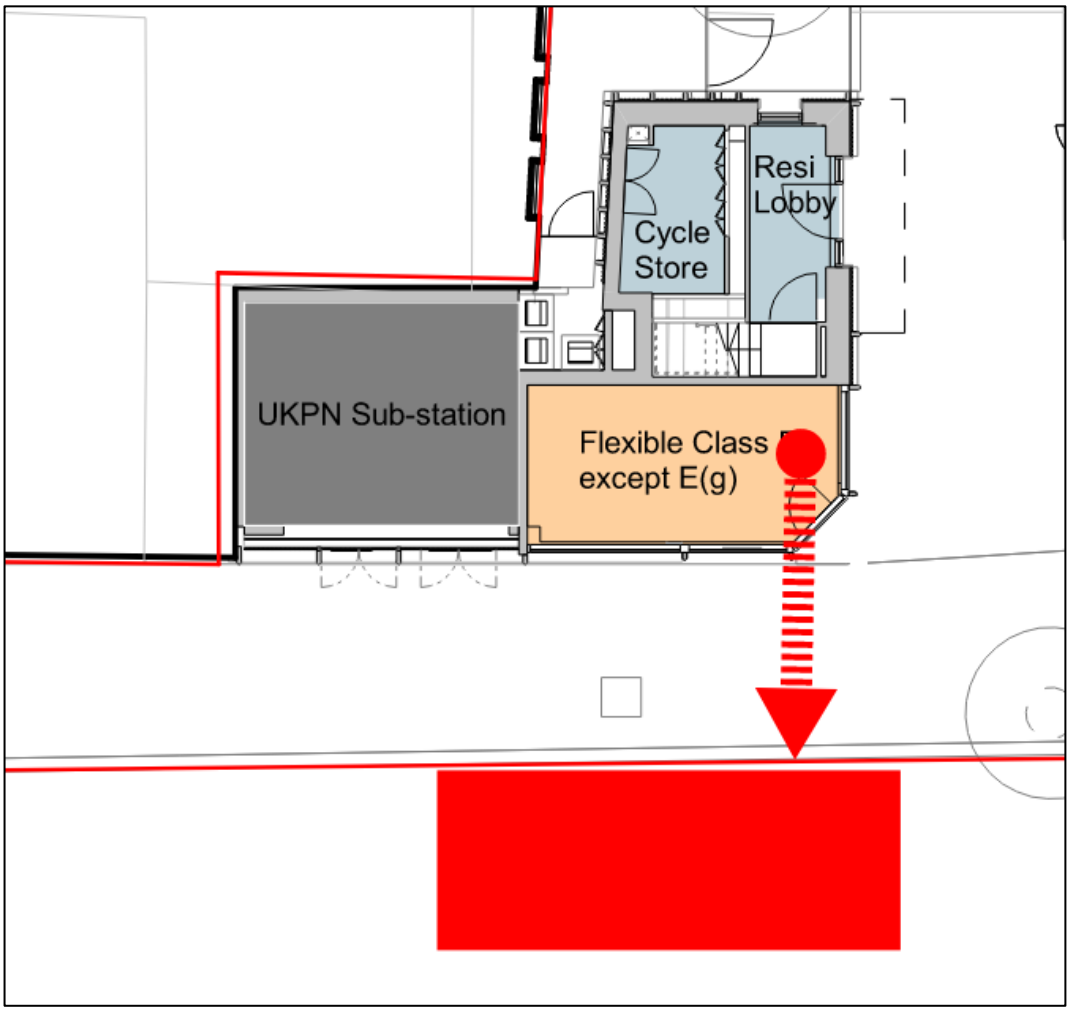
Based on the area schedule in Table 1, the estimated two-day waste generation for the commercial tenant in the High Holborn block is 0.17m³ as shown in Table 9

Table 9 Two-day High Holborn commercial waste generation

Commercial High Holborn Two-Day Waste Generation (m³)			
Waste Stream	**50% Class E (Non-Food Retail)**	**50% Class E (Food Retail)**	**Total (m³)**
Residual	0.00	0.08	0.08
Mixed Dry Recycling (Paper, Card, Plastic, Aluminium)	0.04	0.01	0.05
Glass	0.00	0.01	0.01
Food Waste	0.00	0.03	0.03
Total	**0.04**	**0.13**	**0.17**

This waste will be stored within the unit and taken in bins or bags to the kerb outside once a day immediately prior to collection. This procedure and the potential vehicle stopping location on the highway is shown in Figure 18.

Figure 19 High Holborn commercial waste collection procedure



5.3 Residential waste

5.3.1 Overview

The weekly waste generation and storage requirement for 48 residential units has been calculated by dividing the units as follows:

- High Holborn – 4 private units
- West Central Street – 25 units (7 private units and 18 affordable units)
- Vine Lane – 19 private units

The waste generation and storage requirements have been calculated in accordance with the council's technical guidance as follows:

- Recycling – 140 litres of storage space per dwelling;

- Refuse – 120 litres of storage space per dwelling; and
- Food Waste – 23 litres of storage per dwelling.

The High Holborn block has a communal collection from a centralised waste store and the West Central Street block will have communal collections from two bin stores provided (one for the private tenants and one for the affordable and shared ownership tenants). Vine Lane will have council operatives collect the bins directly from the respective store and transfer them to the collection vehicle.

5.3.2 High Holborn waste generation and storage

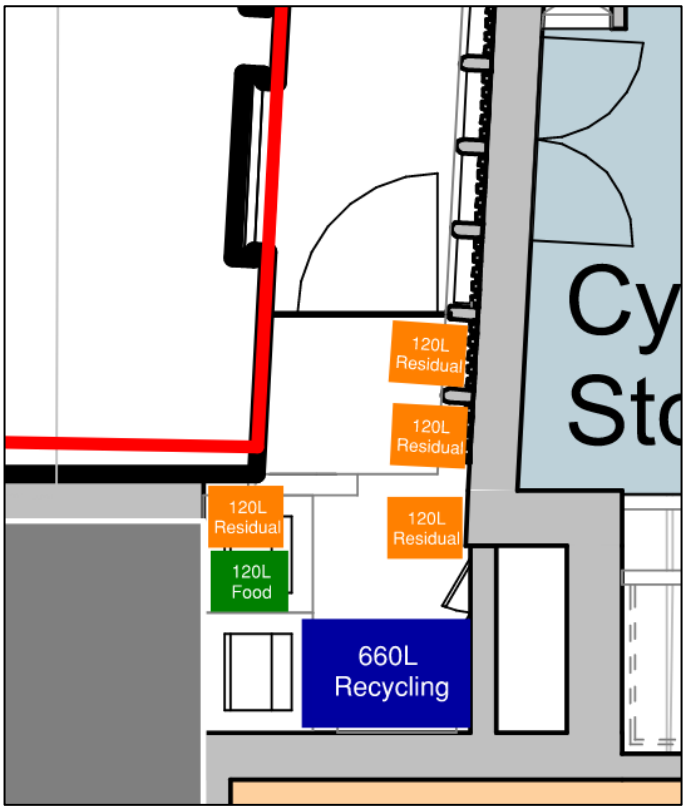
The amount of waste generated and number of estimated bins for the High Holborn market units is shown in Table 10.

Table 10 High Holborn market units waste storage requirements

High Holborn Market Units Waste Storage Requirements			
Waste Type	**Waste (m^3)**	**Waste Storage (rounded)**	
		Container	**Number**
Recycling	560	120 litre Eurobins	3
Refuse	480	660 litre Eurobins	1
Food waste	92	120 litre Eurobins	1
Total	**1132**	**-**	**5**

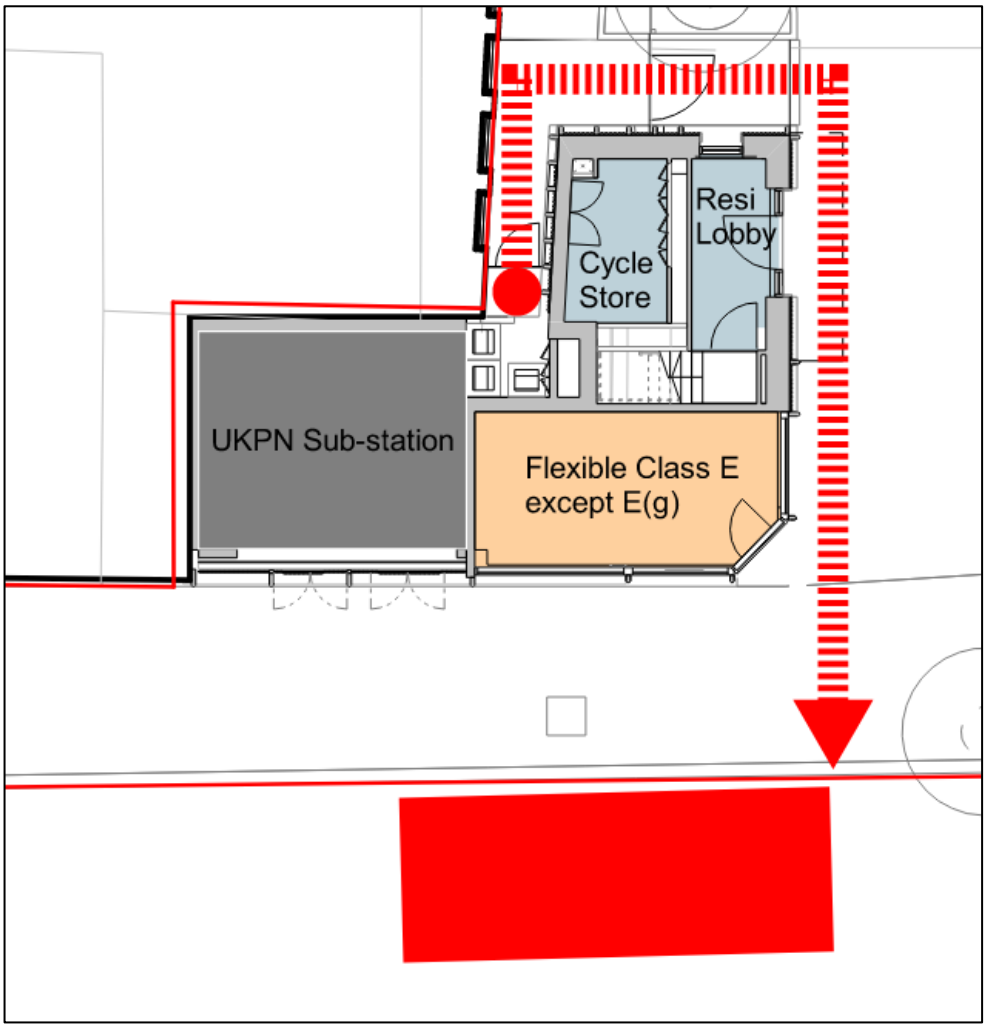
The waste will be placed by residents into either the bins in the waste store, or the bin immediately outside the waste store. This layout is shown in Figure 20.

Figure 20 High Holborn block residential waste storage



Council operatives will collect the bins directly from the store and transfer them to the collection vehicle which will stop on the highway to carry out this collection. This process is shown in Figure 21.

Figure 21 High Holborn residential waste collection



5.3.3 West Central Street waste generation and storage

5.3.3.1 West Central Street market units

The amount of waste generated and number of estimated bins for the West Central Street market units is shown in Table 11.

Table 11 West Central Street market units waste storage requirements

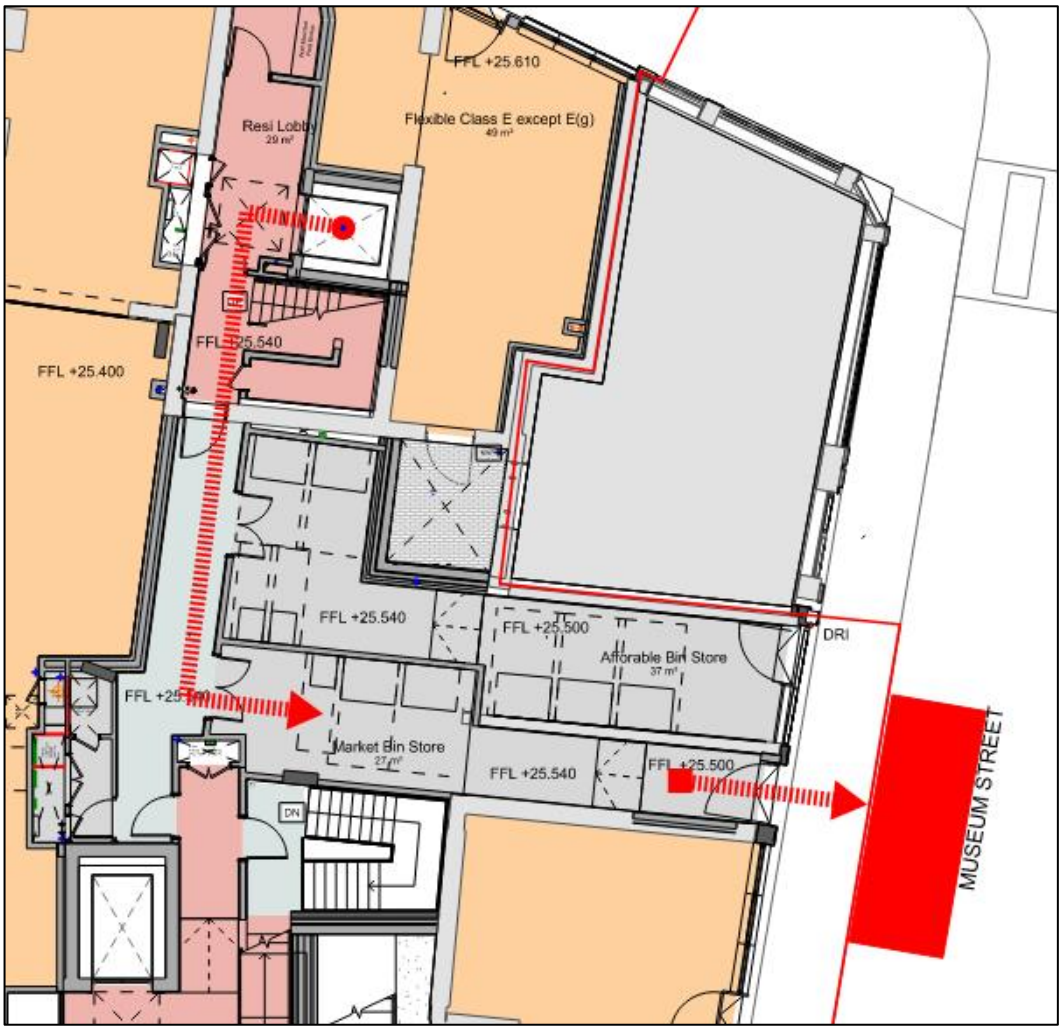
West Central Street Market Units Waste Storage Requirements				
Waste Type	**Waste (m^3)**	**Waste Storage (rounded)**		
		Container	**1,100 litres**	**240 litres**
Recycling	980	1,100 litre Eurobins	1	-
Refuse	840	1,100 litre Eurobins	1	-
Food waste	161	240 litre Eurobins	-	1
Total	**1981**	**-**	**2**	**1**

The layout of the market residential waste store is shown in Figure 22.

Figure 22 West Central Street market units residential waste store

Waste will be brought to the bin store by residents using their lift. Council operatives will collect the bins directly from the store and transfer them to the collection vehicle. This process is shown in Figure 23.

Figure 23 West Central Street residential market units waste collection



5.3.3.2 West Central Street Affordable

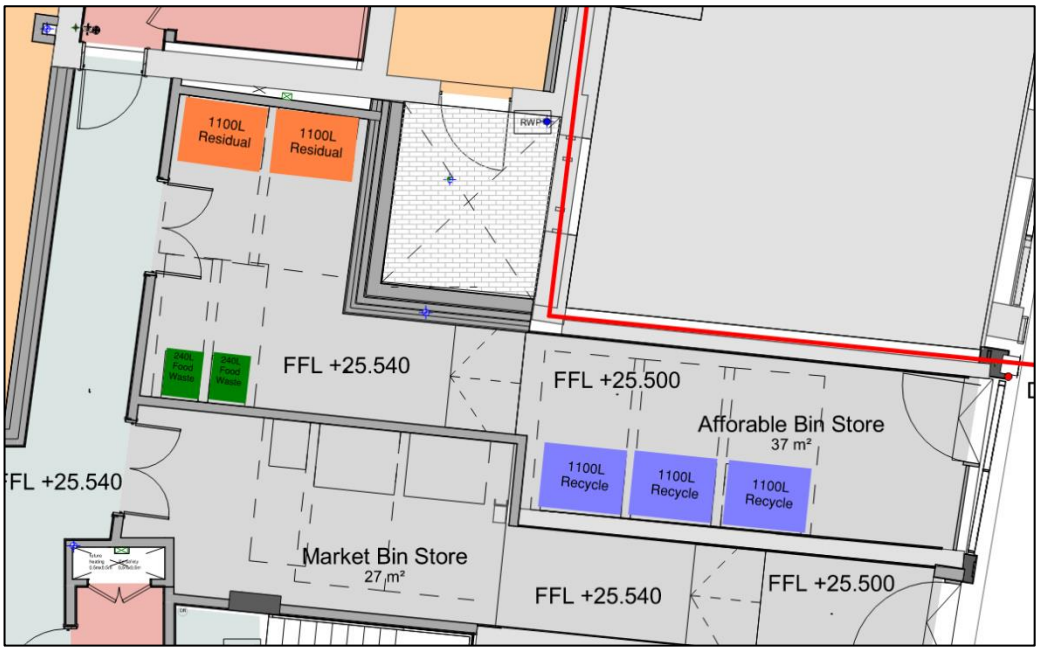
The amount of waste generated and number of estimated bins for the West Central Street affordable residential units is shown in Table 12.

Table 12 West Central Street affordable residential waste storage requirements

West Central Street Affordable Residential Waste Storage Requirements				
Waste Type	**Waste (m^3)**	**Waste Storage (rounded)**		
		Container	**1,100 litres**	**240 litres**
Recycling	2,520	1,100 litre Eurobins	3	-
Refuse	2,160	1,100 litre Eurobins	2	-
Food waste	414	240 litre wheelie bins	-	2
Total	**5,094**	**-**	**5**	**2**

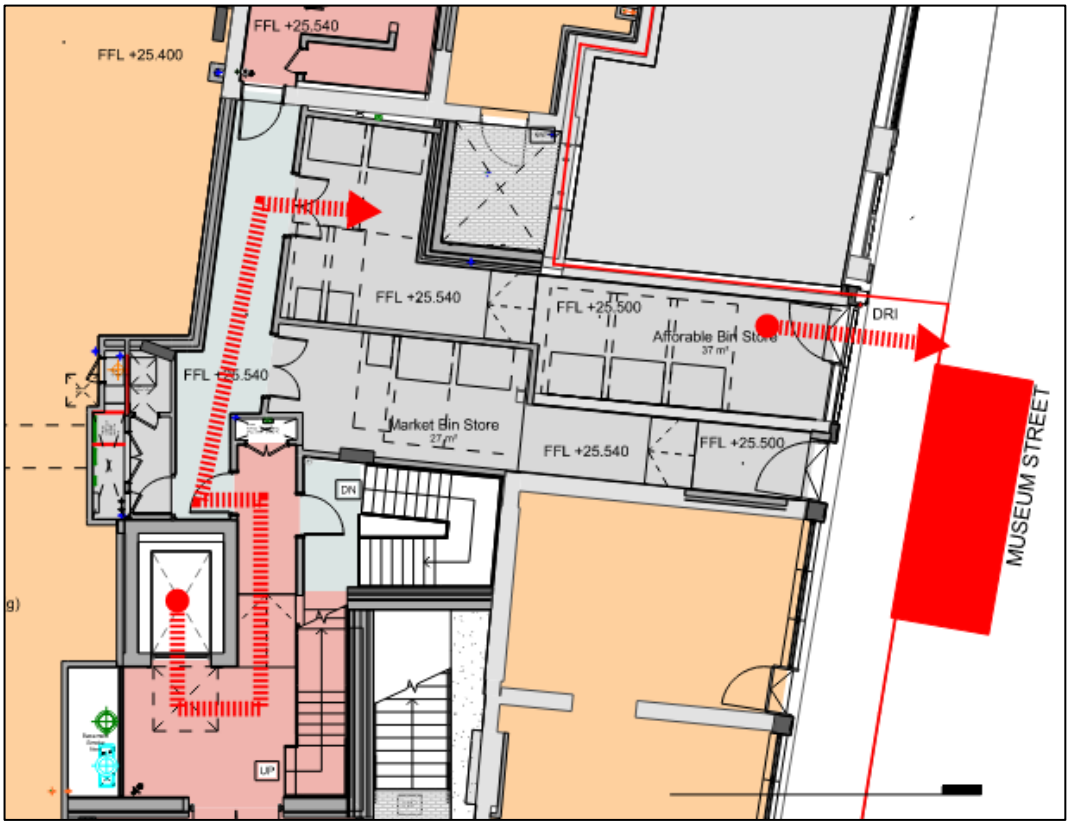
The layout of the affordable residential waste store is shown in Figure 24.

Figure 24 West Central Street affordable units residential waste store



Waste will be brought to the bin store by residents using their lift. Council operatives will collect the bins directly from the store and transfer them to the collection vehicle. This process is shown in Figure 25.

Figure 25 West Central Street residential affordable units waste collection



5.3.4 Vine lane waste generation and storage

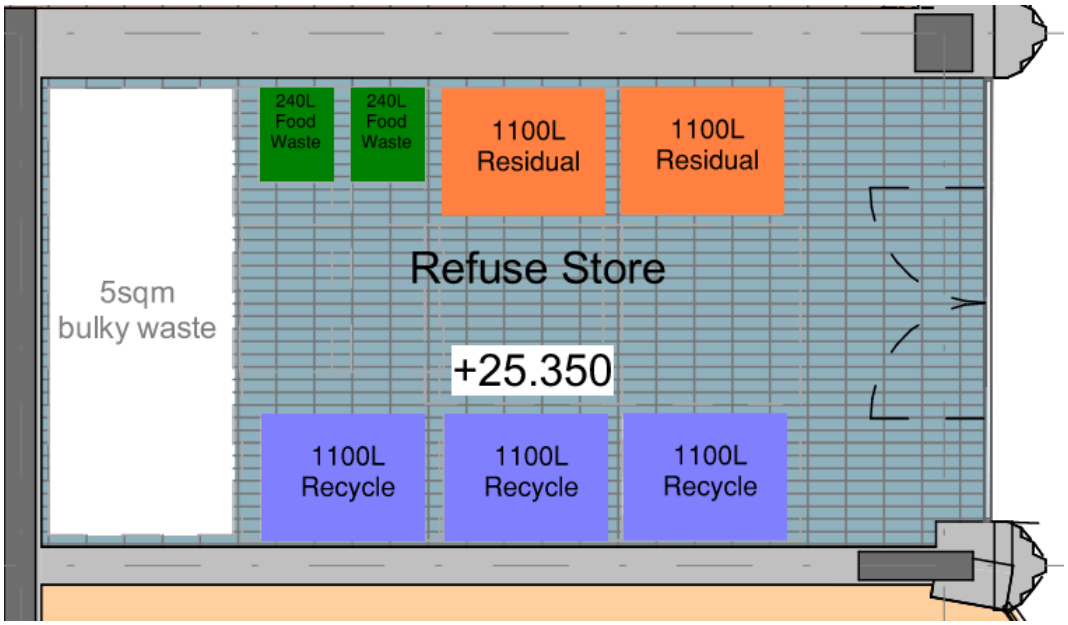
The amount of waste generated and number of estimated bins for the Vine Lane residential units is shown in Table 13.

Table 13 Vine Lane residential waste storage requirements

Vine Lane Residential Waste Storage Requirements				
Waste Type	**Waste (m³)**	**Waste Storage (rounded)**		
		Container	**1,100 litres**	**240 litres**
Recycling	2,660	1,100 litre Eurobins	3	-
Refuse	2,280	1,100 litre Eurobins	2	-
Food waste	437	240 litre wheelie bins	-	2
Total	**5,377**	-	**5**	**2**

The layout of the Vine Lane residential waste store is shown in Figure 26

Figure 26 Vine Lane residential bin store



Waste will be brought to the bin store by residents using their lift. Council operatives will collect the bins directly from the store and transfer them to the collection vehicle. This process is shown in Figure 27

Figure 27 Vine Lane residential waste collection

5.3.5 Residential waste storage

Refuse and recycling

A bin storage area is identified within the kitchen of each residential unit for internal temporary storage of refuse and recycling.

Bulky / non-standard waste items

Due to the constrained nature of the site it is not possible to provide a residential bulky waste store for residents.

The majority of larger or non-standard household waste items such as bulky waste, builders waste, chemicals (i.e. paints) should be taken by the resident to the Reuse and Recycling Centre located at Regis Road, Kentish Town NW5 3EW (refer to https://www.camden.gov.uk/reuse-and-recycling-centre) or other appropriate location.

Typically, suppliers will remove old items when delivering new goods. Other large or bulky items not suitable for car travel will be temporarily stored in the waste room to be collected by the council at the request of the residents. Information on booking bulky waste collection is available at the following website: https://www.camden.gov.uk/bulky-waste-collection.

No bulky items shall be presented or stored outside the demise of the site unless being immediately collected. Furthermore, residents shall report any observance of fly-tipping activity within the immediate area of the site to the appropriate authority (refer to https://www.camden.gov.uk/fly-tipping-street-obstructions).

5.4 Litter management

5.4.1 General public waste

Waste will be collected from any general public bins provided within the site by the FM team.

Public areas such as seating, stairways and pathways will be monitored throughout the day and cleaned by the FM team.

5.4.2 Litter picking

Litter picking will be conducted by the FM team throughout the day to allow for both a safe and clean environment.

5.4.3 External/surrounding areas

The cleaning of external areas will follow the programme set out in Table 14.

Table 14 Cleaning schedule

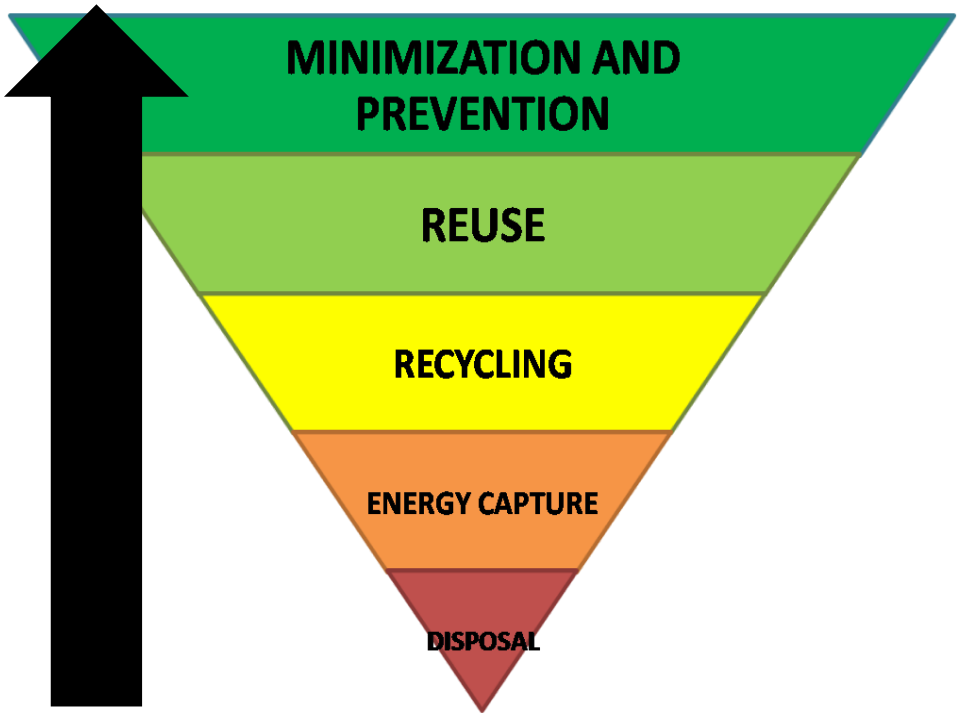
Action	Frequency
Clear debris, litter from entrances and public areas	Daily
Empty waste bins	Daily
Clear leaves from all entrances and fire exits	Weekly
Clean and wash down external signs	Weekly

5.5 Waste reduction interventions

This section presents initiatives to encourage environmental thinking to reuse, recycle and reduce waste through the building's supply chain.

When considering waste reduction methods, the waste hierarchy pyramid provides a useful guide to the order in which waste reduction measures should be considered, from most effective to the least effective as shown in Figure 28.

Figure 28 Waste hierarchy



Preventing the generation of waste is considered the most effective way of improving recycling rates, followed by reuse of materials and then moving into recycling, recover and, eventually, disposal in landfill.

5.5.1 Packaging

The FM team should endeavour to collaborate with suppliers that display green initiatives when packing items including:

- Downsizing packaging;

- Using “green” packaging materials;
- Promoting recycling and reuse programmes;
- Cooperating with vendor to standardize packaging;
- Encouraging and adopting returnable packaging methods;
- Minimising material uses and time to unpack;
- Using a recyclable pallet system; and
- Saving energy in warehouses throughout the supply chain.

5.5.2 Supply chain

The FM team should provide a purchasing strategy that encourages green logistics, including:

- Using alternative fuelled vehicles;
- Grouping orders together, rather than in smaller batches;
- Collaborating with other tenants to consolidate loads; and
- Optimising reverse logistics to collect used products and packaging from customers for recycling, returning packaging and products to suppliers for reuse, and requiring suppliers to collect their packaging materials.

5.5.3 Behaviour change

People often attach a low priority to pro-environmental behaviour. To encourage such behaviour and drive environmental performance, the tenant should address both the physical and the psychological environment. The goal should be to create an environment that guides decision making, and helps people act out those decisions. Some examples on how this could be achieved are as follows:

- Collect data to understand users’ experience of waste infrastructure and its effect on their behaviour;
- Reduce the amount of packaging, and increase the percentage of recyclable packaging;
- Redesign signage to make bins for different streams distinct;
- Update labelling to be uniform;
- Locate bins for different streams where they are most needed (e.g. on walking routes); and
- Remove bins not consistent with design.

5.6 Example equipment specification

The equipment shown here is proposed to be used across the development in the commercial and waste stores.

5.6.1 Wheelie bin compactor

Example: Pakawaste LF1100 Wheelie Bin Compactor

Length: 1.15m

Width: 1.16m

Height: 2.12m

5.6.2 Twin baler

Example: Pakawaste VB200D Twin Chamber Baler

Length: 3.26m

Width: 1.27m

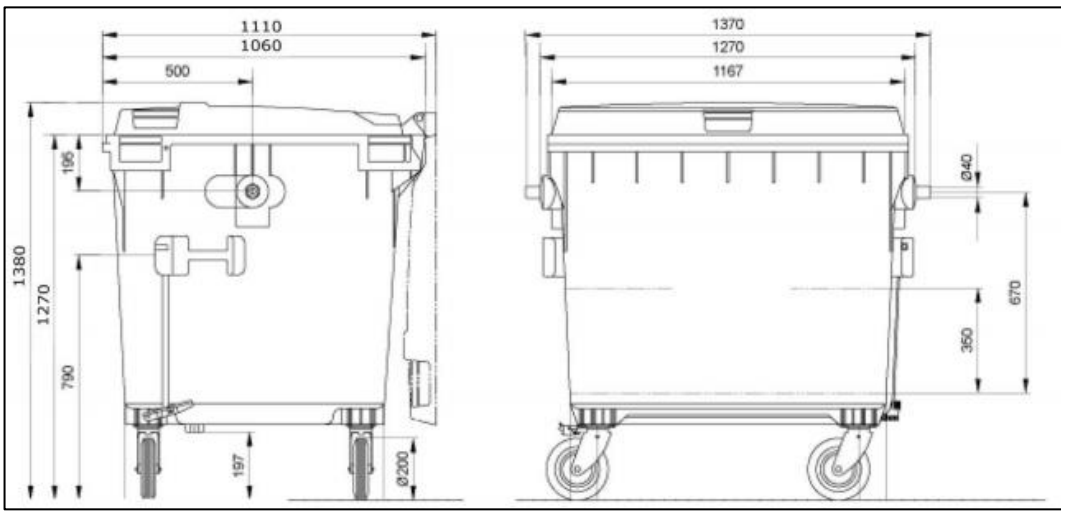
Height: 2.51m

5.6.3 1,100 litre Eurobin

Length: 1.10m

Width: 1.37m

Height: 1.38m

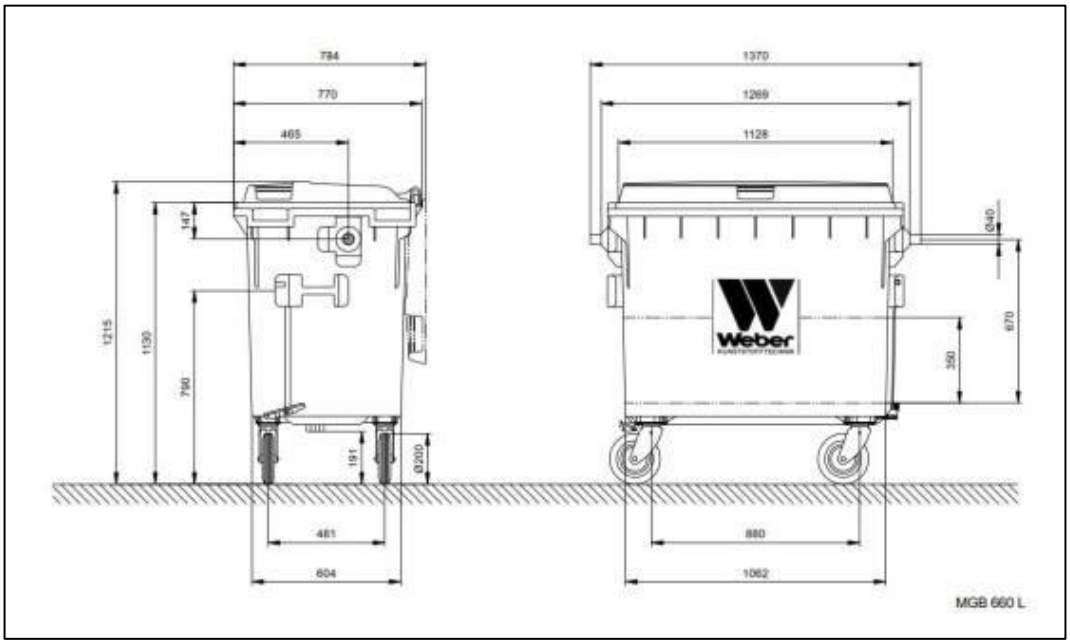


5.6.4 660 litre wheelie bin

Length: 0.78m

Width: 1.26m

Height: 1.20m

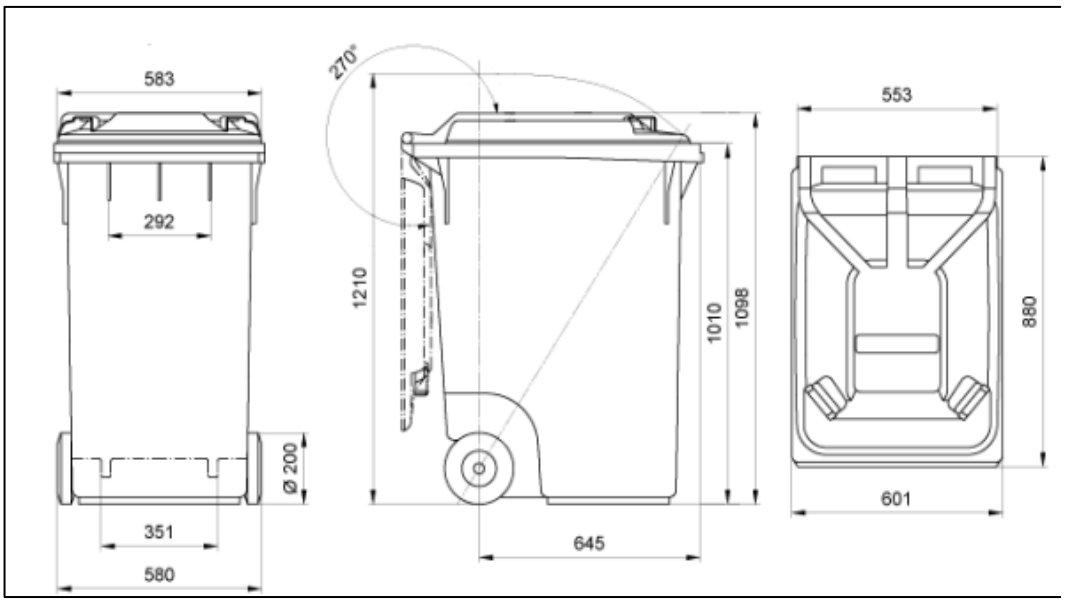


5.6.5 360 litre wheelie bin

Length: 0.88m

Width: 0.55m

Height: 1.21m

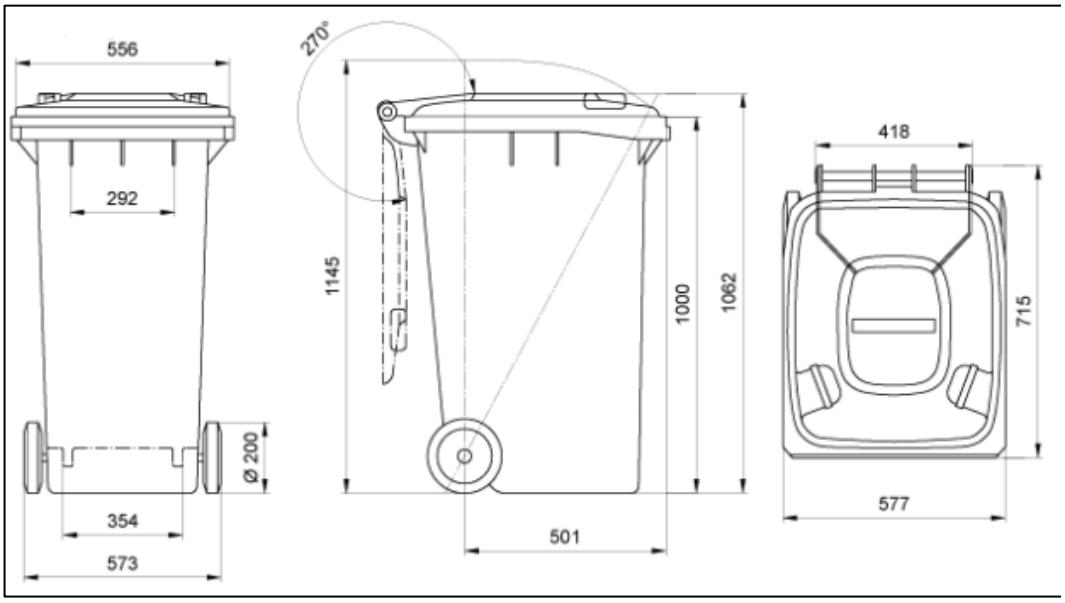


5.6.6 240 litre wheelie bin

Length: 0.72m

Width: 0.58m

Height: 1.15m

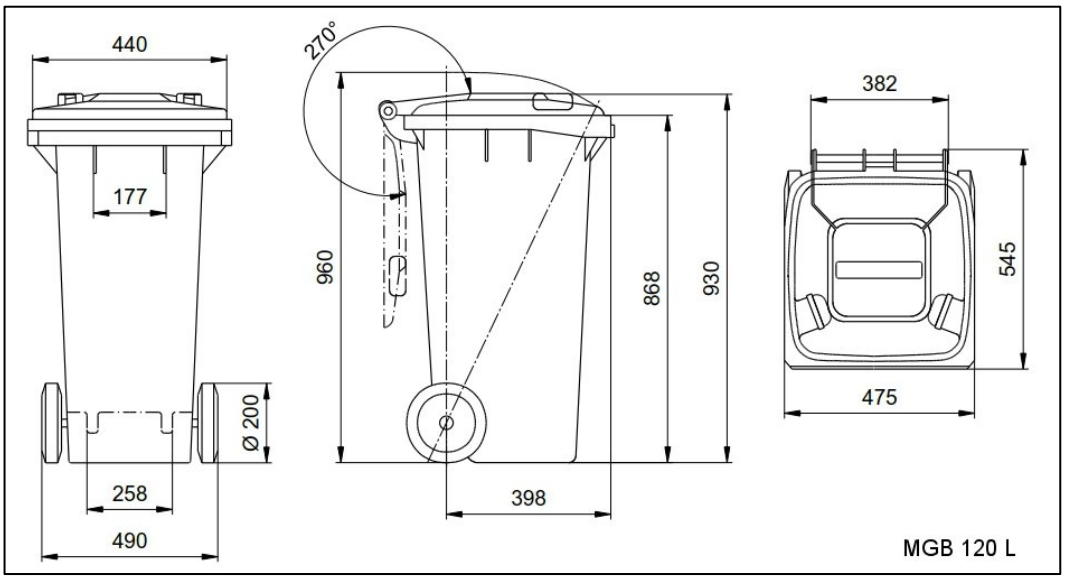


5.6.7 120 litre wheelie bin

Length: 0.55m

Width: 0.48m

Height: 0.93m



5.7 Waste management plan review

The success of the strategy as detailed above will be closely monitored by the building manager and the FM team.

Feedback will be provided as a minimum on a monthly basis and as and when required where immediate action is required and dealt with in accordance to this strategy.

The strategy will be updated and amended as appropriate to ensure the development is within the perimeters of what is deemed necessary to maintain a clean and safe environment all year round.

An annual review will be provided to the council at their written request to confirm the success of the strategy and any amendments that may have been required to the original document based on lessons learned. Any changes or deviations to the agreed WMP will be made by submission of a change request to planning at LBC. Amendments will be shown in an appendix to the WMP, under version control.

6 DSMP review process

This DSMP is intended to be updated frequently, as described in section 6.2. The following sub-sections set out how the document will be reviewed and maintained.

6.1 Delivery monitoring

The FM team will be responsible for keeping a record of servicing activity, monitoring the effectiveness of the scheduling strategy and making amendments to the plan. Key data to be captured are as follows:

- Date and the delivery slot(s) booked;
- Vehicle types and type and volume of carried goods;
- Arrival and departure times; and
- Company and driver contact details.

An initial survey of servicing activity will be undertaken within 12 months of occupation.

6.2 DSMP updates

The on-site FM team will use information and feedback from tenants, suppliers and residents to conduct an annual review of this DSMP. This review will assess the efficiency of the DSMP to meet the objectives of minimising the environmental impact on the surrounding area and providing servicing arrangements for the building which meet road management and safety requirements.

The FM team (on behalf of the building owner) will conduct the first review within 12 months after occupation and reviews will be conducted as necessary thereafter on an annual basis. Where necessary, changes to the DSMP will be made to reflect the findings of any review. A daily record of the service traffic movements will be conducted during a typical week to obtain the details. The information on delivery and service traffic that will be sought will include type of suppliers (to seek opportunities for consolidating regular visits), patterns of arrivals and departures (to avoid peak periods) and types of vehicles used by the suppliers (for any assessment of vehicle-related emissions).

The Owner shall notify LBC of any change the occupancy of the Development that may have a material change to the approved DSMP as soon as is reasonably practicable and in any event one month prior to the commencement of such occupancy.

Any amendments that the Owner may wish to make to the DSMP shall be submitted to the council for approval and no amendments shall come into force until they have been approved.