O2 Masterplan Site, Finchley Road

Waste Management Plan

Version 3, February 2023

Prepared for LS (Finchley Road) Limited by

Ove Arup & Partners Ltd

Landsec

LS (Finchley Road) Limited

O2 Masterplan Site, Finchley Road, Camden

Waste Management Plan

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1 Introduction

This Waste Management Plan (WMP) has been prepared by Ove Arup & Partners Ltd. ('Arup') on behalf of Landsec ('the Applicant') to support a hybrid planning application for the demolition and redevelopment of land encompassing the O2 Centre and associated car park, Homebase store, car showrooms and a Builder's Merchant (The "Application").

Full details and scope of the Applications is described in the accompanying Planning Statement prepared by Gerald Eve LLP.

This document supersedes Issue 2 of the WMP, dated 14/09/22. Updates include:

- Revised waste routes because of modified vertical circulation;
- Revised waste handling strategy for specific townhouses; and
- Revised residential waste room sizes and indicative bin layouts.

1.1 Development Proposals

The proposals involve the redevelopment of the entire Site to provide new residential dwellings and commercial floorspace. The Proposed Development will consist of 10 Plots and will provide:

- Up to 170,180sqm GIA of residential floorspace (Use Class C3), envisaged to provide around 1,800 residential units.
- Up to 16,682sqm GIA of commercial floorspace (Use Classes E(a,b,c,d,e,f,g) and F2, and Sui Generis use), excluding the service yard.

The proposals by land use class are summarised in Table 1.

Table 1: Development Proposals - Site-Wide

Land Use (Use Class)	Detailed Plots Total	Maximum Outline Plots Total	Maximum Site-Wide Total
Residential (C3)	56,401sqm GIA, including an allowance for car parking (608 dwellings)	115,000sqm GIA, including an allowance for car parking and basements	**171,746sqm GIA**, including residential parking in podiums (envisaged to provide around 1,800 residential units)
Retail (E(a))	1,308sqm GIA	5,460sqm GIA	**6,761sqm GIA**
Food & drink (E(b))	97sqm GIA	1,000sqm GIA	**1,092sqm GIA**
Financial & professional services (E(c))	158sqm GIA	500sqm GIA	**661sqm GIA**
Indoor sport & recreation (E(d))	-	1,200sqm GIA	**1,200sqm GIA**
Medical services (E(e))	-	1,200sqm GIA	**1,200sqm GIA**

Non-residential creche day centre or nursey (E(f))	-	300sqm GIA	**300sqm GIA**
Office & workspace (E(g))	-	800sqm GIA	**800sqm GIA**
Cinema (Sui Generis)	-	3,050sqm GIA	**3,050sqm GIA**
Community Use (F2)	268sqm GIA	-	**268sqm GIA**
Drinking establishment (Sui Generis)	-	900sqm GIA	**900sqm GIA**
Service Yard		3,000sqm GIA	**3,000sqm GIA**

The proposals for the Detailed Plots are summarised in Table 2.

Table 2: Development Proposals – Detailed Plots

Land Use (Use Class)	**N3(E)**	**N4**	**N5**	**Total**
Residential (C3) including an allowance for car parking	5,439sqm GIA	23,677sqm GIA	27,285sqm GIA	**56,746sqm GIA**
Community (F2)	-	268sqm GIA	-	**268sqm GIA**
Retail (E(a))	145sqm GIA	91sqm GIA	1,072sqm GIA	**1,308sqm GIA**
Food & drink (E(b))	97sqm GIA	-	-	**97sqm GIA**
Financial & professional services (E(c))	-	158sqm GIA	-	**158sqm GIA**

1.2 Residential unit schedule

The current residential unit schedule for the site is summarised in Table 3.

Table 3: Residential unit schedule

Type	**Plot / Core**	**S**	**1B**	**2B/3P**	**2B/4P**	**3B**	**TOTAL**
Detailed	N3-E	16	18	24	10	0	68
	N4-A	0	34	8	29	12	83
	N4-B	0	31	0	16	0	47
	N4-C	0	13	13	21	19	66
	N4-D	0	1	1	1	35	38
	N5-A	21	34	42	0	6	103
	N5-B	17	0	17	14	3	51
	N5-C	15	36	4	36	6	97
	N5-D	2	29	8	15	1	55
	All plots (detailed)	61	206	118	141	82	**608**

1.3 Reference publications

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

National policy documents:

- Revised National Planning Policy Framework, 2021;
- 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:

- The London Plan, 2021;
- The Freight and Servicing Action Plan, 2019; and
- The London Environmental Strategy, 2018.

Key local policy:

- Camden Local Plan, 2017;
- Camden Planning Guidance: Design, March 2019;
- Camden Planning Guidance: Transport, January 2021;
- Camden's website, commercial and residential recycling and rubbish; and
- Camden's Environmental Services guidance for recycling and waste, 2018.

The London Borough of Camden waste officers have also provided guidance

1.4 Report structure

This report is divided into the following sections:

Section Two – sets of the objectives and principles of the WMP;

Section Three – sets out the commercial waste management strategy;

Section Four – sets out the residential waste management strategy;

Section Five – sets out the general public waste management strategy;

Section Six – presents initiatives to encourage environmental thinking to reuse, recycle and reduce waste;

Section Seven – sets outs example equipment specifications;

Section Eight – sets outs waste room design guidelines taken from the 5906:2005 - 'Storage and on-site treatment of solid waste from buildings.'; and

Section Nine – sets out a process for conducting an annual review of the WMP.

2 Waste Management Plan

2.1 Waste Management Plan objectives

This WMP sets out to meet the following objectives:

- To identify the likely nature, expected volume and collection frequency of waste generated by the Proposed Development;
- To demonstrate that waste can be removed in a safe and efficient manner; and
- To provide design guidance for waste storage and refuse collection vehicles.

2.2 Waste Management Plan principles

The following principles have been considered in the development of the WMP:

- Waste will be segregated onsite, separating food and comingling cardboard, paper, plastics, metals and glass into mixed dry recyclables (MDR);
- Further segregation may be completed for commercial areas based on the practices of the tenants and the nominated commercial waste contractor;
- Limit the impact of bin access on the facades and maximise active frontage;
- Commercial and residential waste should be stored separately;
- Commercial waste will be stored in the following containers: 1,280 litre bins for residual waste; 1,280 litre bins for MDR; and 240 litre bins for food waste;
- Commercial waste collections will be undertaken by a nominated waste contractor;
- Commercial waste will be collected daily and waste storage space will be provided for two days' worth of commercial waste;
- Residents should not be required to walk more than 30m (horizontal distance) between their residence and the waste room, where possible;
- Residential waste will be stored in the following containers: 1,280 litre bins for residual waste; 1,280 litre bins for MDR; and 240 litre bins for food waste.
- Residential waste will be collected weekly by Camden-Veolia;
- The residential waste collector should not be required to pull full containers more than 10m to the refuse collection vehicle (20m round trip), where possible;
- Where the residential waste room is more than 10m, the onsite Facilities Management (FM) team will manage the waste transfer, rotating any full and empty containers between the interim waste rooms and the secondary waste rooms; and
- 7.5m² of bulky waste storage should be provided for each residential block.

3 Commercial waste

3.1 Commercial waste assumptions

The commercial waste generation and storage requirements have been calculated in accordance with the British Standard for Waste Management in Buildings - Code of practice (BS5906:2005). This assessment has been based on the following key assumptions:

- Commercial and residential waste should be stored separately;
- Net Internal Area is assumed to be 85% of Gross Internal Area;
- 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 contractor;
- Non-food retail generates 10 litres of waste per week per 1 m² of NIA;
- Food retail generates 75 litres of waste per week per cover (British Standard), 1 cover equates to 1.5 m^2 NIA; and
- 75% business recycling rate target (London Environment Strategy).

3.2 Commercial waste generation

The waste generation forecasts and shown in Table 4:

Table 4: Commercial waste generation forecast – Site-Wide

Type	Plot / Core	Two Day Commercial waste generation (m^3)		
		Residual	MDR	Food
Detailed	N3 - E	0.61	0.52	0.24
	N4	0.20	0.95	0.02
	N5	0.40	2.74	0.17
	All detailed plots	**1.20**	**4.22**	**0.43**
Outline	***All outline plots***	**9.49**	**24.31**	**2.61**
Total site		**10.69**	**28.53**	**3.04**

3.3 Commercial waste storage strategy

Commercial tenants will have space within their unit to temporarily store waste accumulated during the working day. These will be identified as part of fit-out.

Tenants will be responsible for transferring this waste to their designated commercial waste storage room and placing it in the appropriate container. They will be permitted to transport waste throughout the day.

A decentralised commercial waste strategy, with local commercial waste storage rooms for individual plots / groups of plots was selected as the preferred solution

to minimise waste conveyance distances and minimise transfer across the public realm. The use of a single, sitewide commercial waste storage room was considered, however this has not been selected as the strategy due to the phasing of the site. The commercial waste storage strategy will be reviewed again during detailed design and updates managed through condition discharge.

Providing compaction equipment in the commercial waste rooms which serve N3-E, N4 and N5 was considered, however the volumes of commercial waste generated are considered insufficient to warrant their provision in these plots.

The on-site team will be responsible for communicating with commercial tenants on the requirements for transferring waste and recycling, including the requirements for bulky and non-standard waste. The commercial waste room and individual zones within the room shall be clearly always labelled.

Commercial tenants must be aware of and follow their responsibilities under the waste duty of care: Code of Practice (2016)[1]. This will be managed in detail thorough condition discharge.

3.3.1 N3-E

N3-E contains two retail units. Tenants will remove bagged waste from their unit and transport it to the designated commercial waste store.

3.3.2 N4

N4 contains three commercial areas: one retail unit; one community space; and one shared workspace. Tenants from the commercial units will remove bagged waste from their unit and transport it to the designated commercial waste store.

3.3.3 N5

N5 contains five retail units. Tenants will remove bagged waste from their unit and transport it to the designated commercial waste store.

3.4 Commercial waste storage requirements

The waste storage requirements for the detailed plots are shown in Table 5:

Table 5: Commercial waste storage requirements - Detailed Plots

Type	Plot	Days of waste held	Number of bins required		
			Residual	MDR	Food
Detailed	N3-E	2 days	1	1	1
	N4	2 days	1	1	1
	N5	2 days	1	3	1

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

3.5 Commercial waste collection

A single, shared commercial refuse collection contractor will be used to collect waste from all commercial waste stores in N3-E, N4 and N5.

Commercial waste will be collected from Blackburn Road. For further information related to the areas available for refuse collection vehicles, see Section 3.8 Delivery and Servicing of the Transport Assessment (TA), on the use and location of loading bays.

The commercial refuse contractor will be responsible for transporting bins from the commercial waste rooms to the vehicle location on Blackburn Road. The floor surface will be suitable to drag bins across. There will be a smooth transfer for the presentation, tipping, and the bins will be removed immediately and transferred back to the storage rooms.

Commercial collections are usually out of hours, typically between 05:00 and 07:00 and after closing, typically between 19:00 and 22:00. In the event of a missed commercial waste collection, full waste bins will be returned to the waste room. Storage has been provided to accommodate two days' waste generation in the commercial waste rooms, therefore, missing a single waste collection will not have a detrimental impact on waste storage.

Issues associated with fly tipping will be minimised as members of the public will not have general access to the waste bins.

Waste will be collected and taken to the North London Waste facility, where it will be recycled. Waste that cannot be recycled is turned into energy through an Energy from Waste system. None of LBC's waste is sent to landfill.

3.6 Commercial waste disposal (specialist waste)

3.6.1.1 Waste Electrical and Electronic Equipment (WEEE)

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

3.6.1.2 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.

3.6.1.3 Hazardous waste

A specific request should be sent to the on-site team for the collection of hazardous waste. Upon collection, the marshals will take it to the commercial waste room prior to collection by a waste contractor. This waste will then be stored in the same area of the waste room as the WEEE 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 on-site team will be required to register the site for a Hazardous Waste Licence to permit this waste to be collected safely and reprocessed.

3.6.1.4 Oil

Waste oils will have contracts with a waste oil removal provider and will not be dispensed in the drains. Waste oils will be stored within the units and not in the communal waste rooms.

3.6.1.5 Construction and demolition materials

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

3.6.1.6 Batteries

Batteries will be collected in pots (separate for lithium and alkaline types) located within the retail units, which will be periodically collected by the on-site team for storage in the commercial waste room 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 on-site team will ensure this is completed, though staff disposing of the batteries will be expected to complete this where possible.

3.6.1.7 Fluorescent tubes and light bulbs

A specific request should be sent to the on-site team for the collection of fluorescent tubes and light bulb waste. Upon collection, the on-site team will take it to the waste room prior to collection by a waste contractor. This waste will then be stored in the same area of the waste room as the WEEE 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 on-site team will be required to register the Site for a Hazardous Waste Licence to permit this waste to be collected safely and reprocessed.

3.6.1.8 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.

4 Residential waste

4.1 Residential waste assumptions

Residential waste generation and storage requirements have been calculated in accordance with LBC's Environment Service technical guidance for recycling and waste. Waste is calculated weekly using the following:

- *Number of units* x 120 litre residual waste;
- *Number of units* x 140 litre MDR; and
- *Number of units* x 23 litre food waste. The amount of food waste collected is then deducted from the residual waste storage*

*As per clause 5.41 in LBC's guidance, the total food waste as a percentage of the households participating can eventually be deducted from the residual waste total volume to reduce the total number of residual waste bins.

Refer to the O2 Finchley Road Circular Economy Statement for information on municipal waste recycling targets and commitments.

4.2 Residential waste generation

The estimated waste generation is shown in Table 6.

Table 6: Residential waste generation forecast – Site-Wide

Type	Plot / Core	Weekly residential waste generation (m^3)		
		Residual	MDR	Food
Detailed	N3 - E	6.6	9.5	1.6
	N4 - A	8.1	11.6	1.9
	N4 - B	4.6	6.6	1.1
	N4 -C	6.4	9.2	1.5
	N4 - D	3.7	5.3	0.9
	N5 - A	10.0	14.4	2.4
	N5 - B	4.9	7.1	1.2
	N5 - C	9.4	13.6	2.2
	N5 - D	5.3	7.7	1.3
	All detailed plots	**59.0**	**85.1**	**14.0**

Table 6: Residential waste generation forecast – Site-Wide (continued)

Type	Plot / Core	Weekly residential waste generation (m^3)		
Outline	N1 - A	5.4	7.8	1.3
	N1 - B	4.5	6.4	1.1
	N1 - C	9.6	13.9	2.3
	N2 - A	12.1	17.5	2.9
	N2 - B	11.8	17.1	2.8
	S1 - A	2.6	3.8	0.6
	S1 - B	2.3	3.4	0.6
	S1 - C	2.3	3.4	0.6
	S1 - D	3.0	4.3	0.7
	N3 - A	8.7	12.6	2.1
	N3 - B	5.2	7.6	1.2
	N3 - C	7.5	10.8	1.8
	N3 - D	4.5	6.4	1.1
	N6	6.8	9.8	1.6
	N7 - A	7.0	10.1	1.7
	N7 - B	4.7	6.7	1.1
	N7 – C	5.2	7.6	1.2
	N7 - D	5.2	7.6	1.2
	S8 - A	4.9	7.1	1.2
	S8 - B	1.7	2.5	0.4
	All outline plots	**115.2**	**166.3**	**27.3**
Total site		**174.2**	**251.4**	**41.3**

4.3 Residential waste storage strategy

To date, detailed evaluations have been done on residential waste storage in blocks N3-E, N4 and N5 of the O2 Finchley Road development. A similar strategy will be employed in the remaining blocks. The detail of this will be managed through condition discharge.

Residential waste rooms have been positioned to both minimise conveyance distances for tenants and also minimise conveyance distances for Camden-Veolia, where possible. Residents are required to access the residential waste rooms externally (from outside), since HSE requirements prohibit the addition of internal doors from an escape corridor (e.g. into the residential waste room).

The residential waste storage strategy will be reviewed again during detailed design and updates managed through condition discharge.

Compaction of residential waste was previously considered and subsequently discounted based on engagement with LBC about Camden-Veolia practices.

4.3.1 N3-E

Each home in N3-E will have internal storage inside their unit to enable waste to be segregated into residual, MDR and food waste. Residents in N3-E will take waste directly from the waste storage in their home to their waste room (see Figure 1 - Figure 2). This waste room has been sized to hold 7 days' waste. There is a bulky waste room located within the residential waste room.

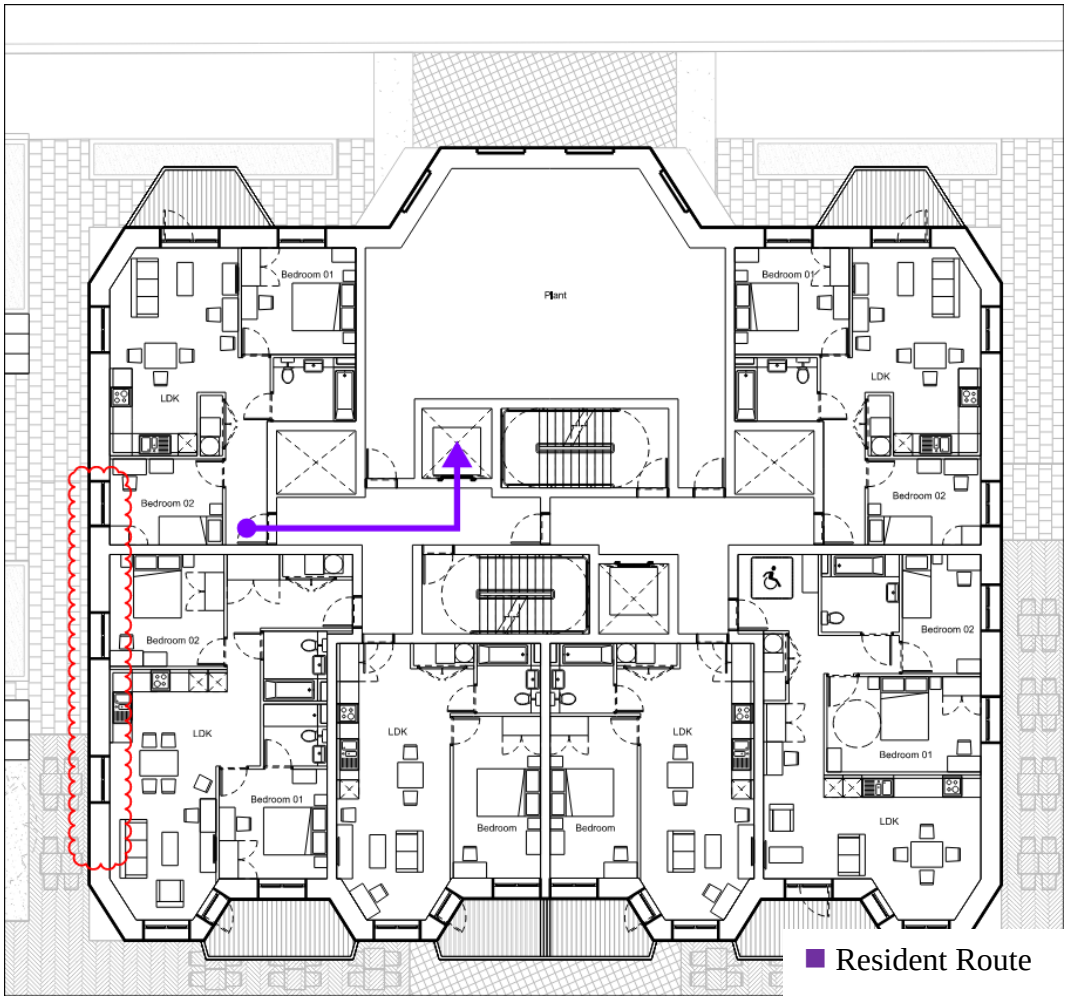


Figure 1: Longest residential waste conveyance route N3-E (typical upper floor)

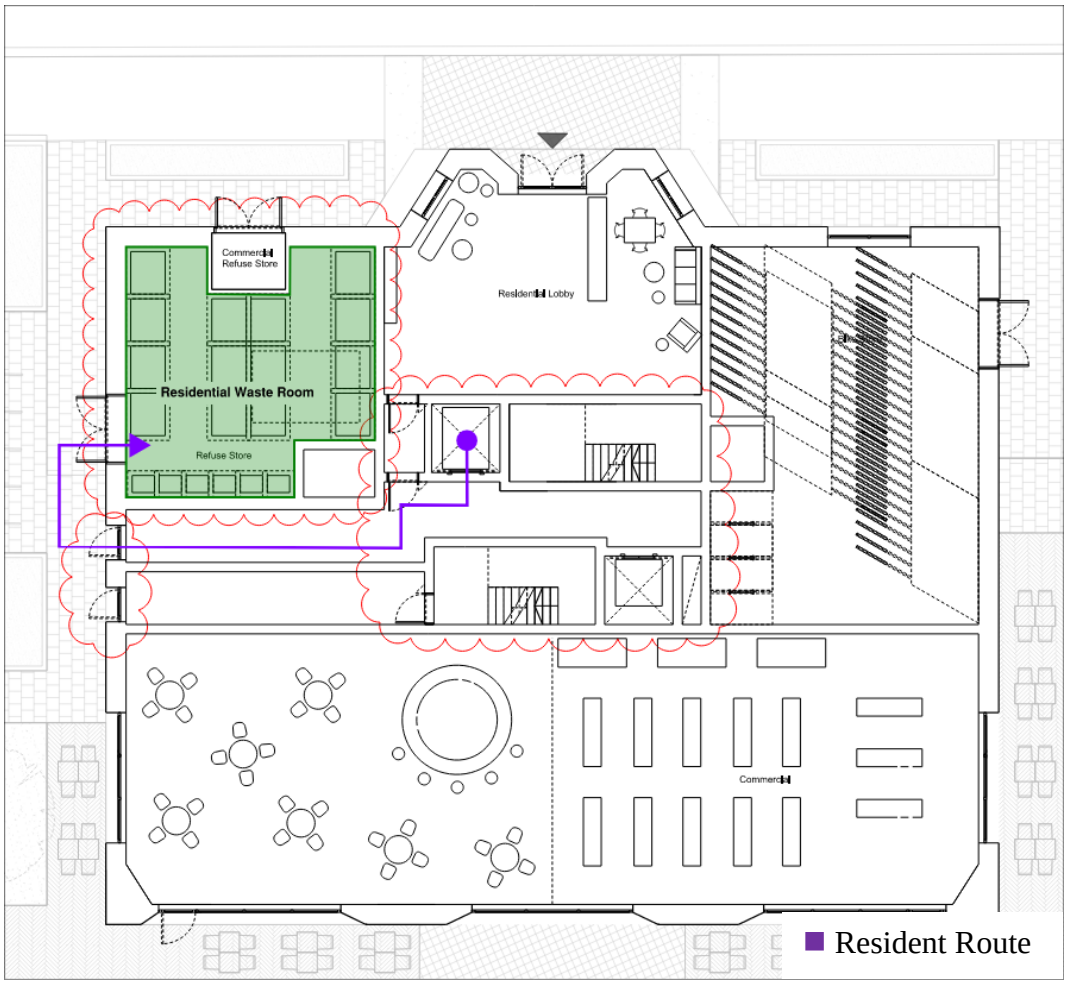


Figure 2: Residential waste conveyance route N3-E (ground floor)

4.3.2 N4

Each home in N4 will have internal storage inside their unit to enable waste to be segregated into residual, MDR and food waste.

4.3.2.1 N4-A

Residents in N4-A will take waste directly from the waste storage in their home to their waste room in their core (see Figure 3 - Figure 4). These waste rooms have been sized to hold 7 days' waste.

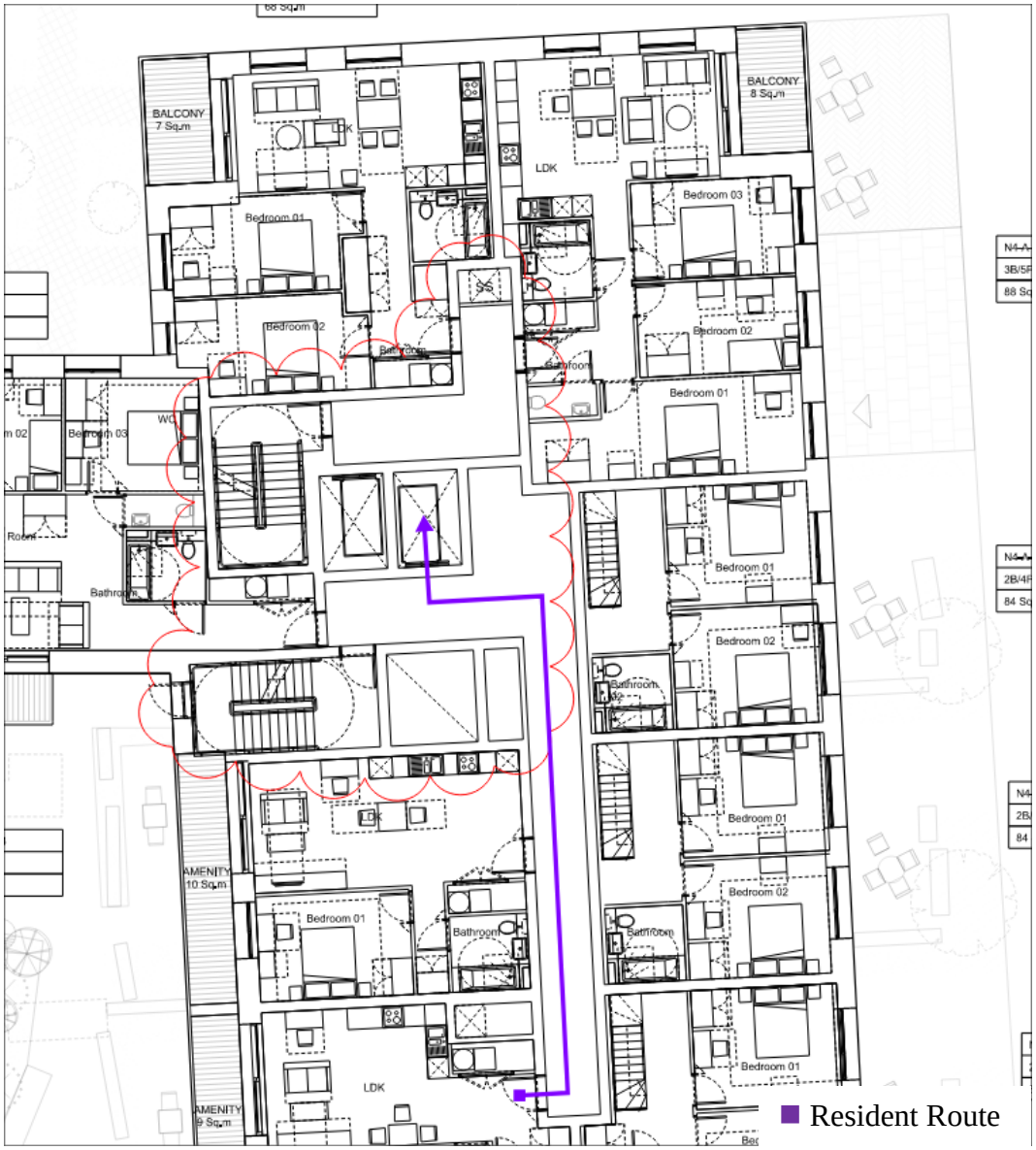


Figure 3: Longest residential waste conveyance route N4-A (typical upper floor)

Figure 4: Residential waste conveyance route N4-A (ground floor)

4.3.2.2 N4-B

Residents in N4-B will take waste directly from the waste storage in their home to the interim waste room in their core (see Figure 5 and Figure 6). This waste room has been sized to hold 3 days' waste. The onsite FM team will regularly (maximum of every three days) move waste from the N4-B interim waste room and handle it to a secondary waste room in N4-B which has been sized to hold 7 days' waste (see Figure 6). Empty bins will then be returned by FM from the secondary waste room to interim waste room.

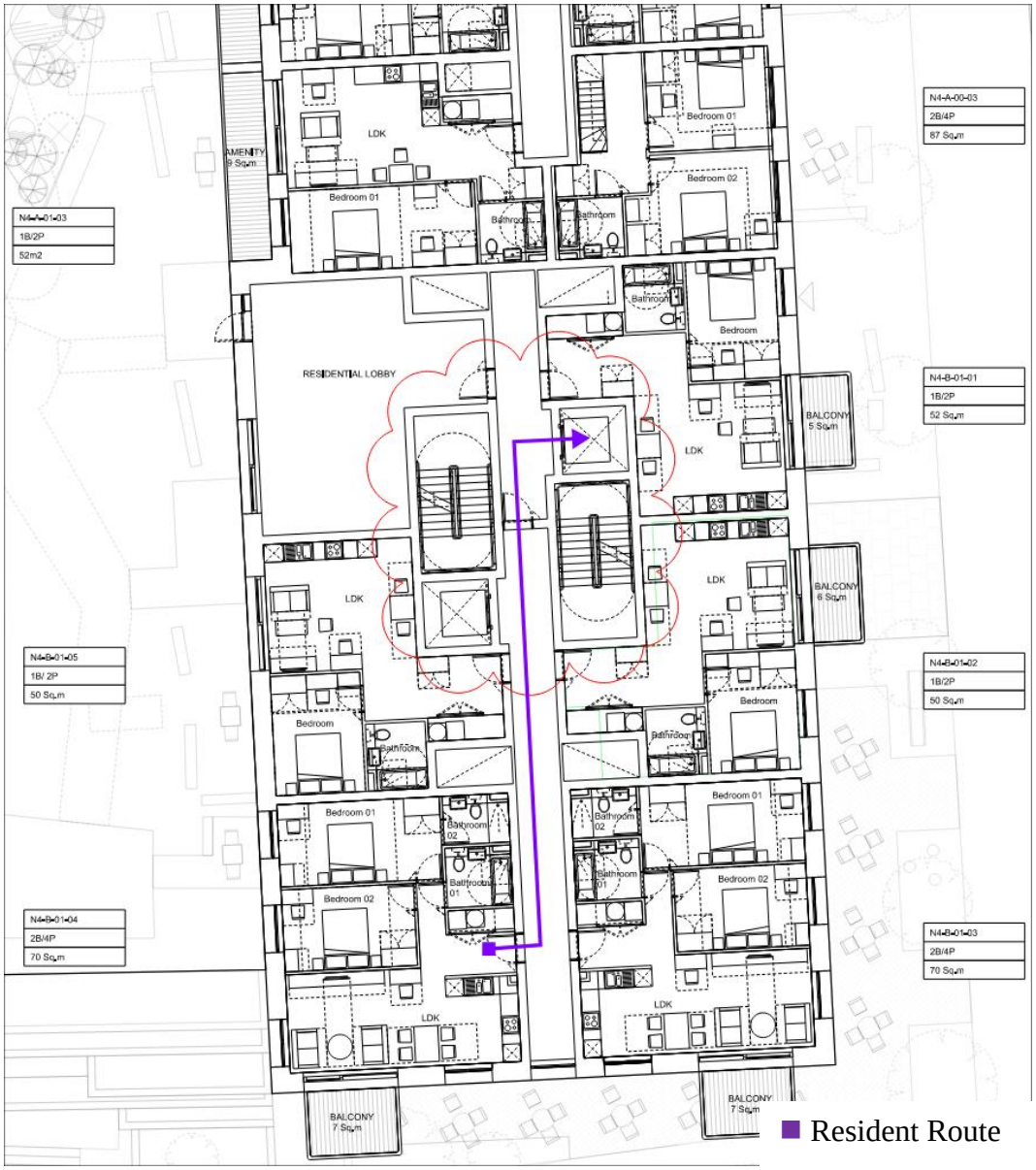


Figure 5: Longest residential waste conveyance route N4-B (typical upper floor)

The bulky waste store for all cores in N4 is located in N4-B (see Figure 6). Residents from all cores will take bulky waste directly to the bulky waste store.

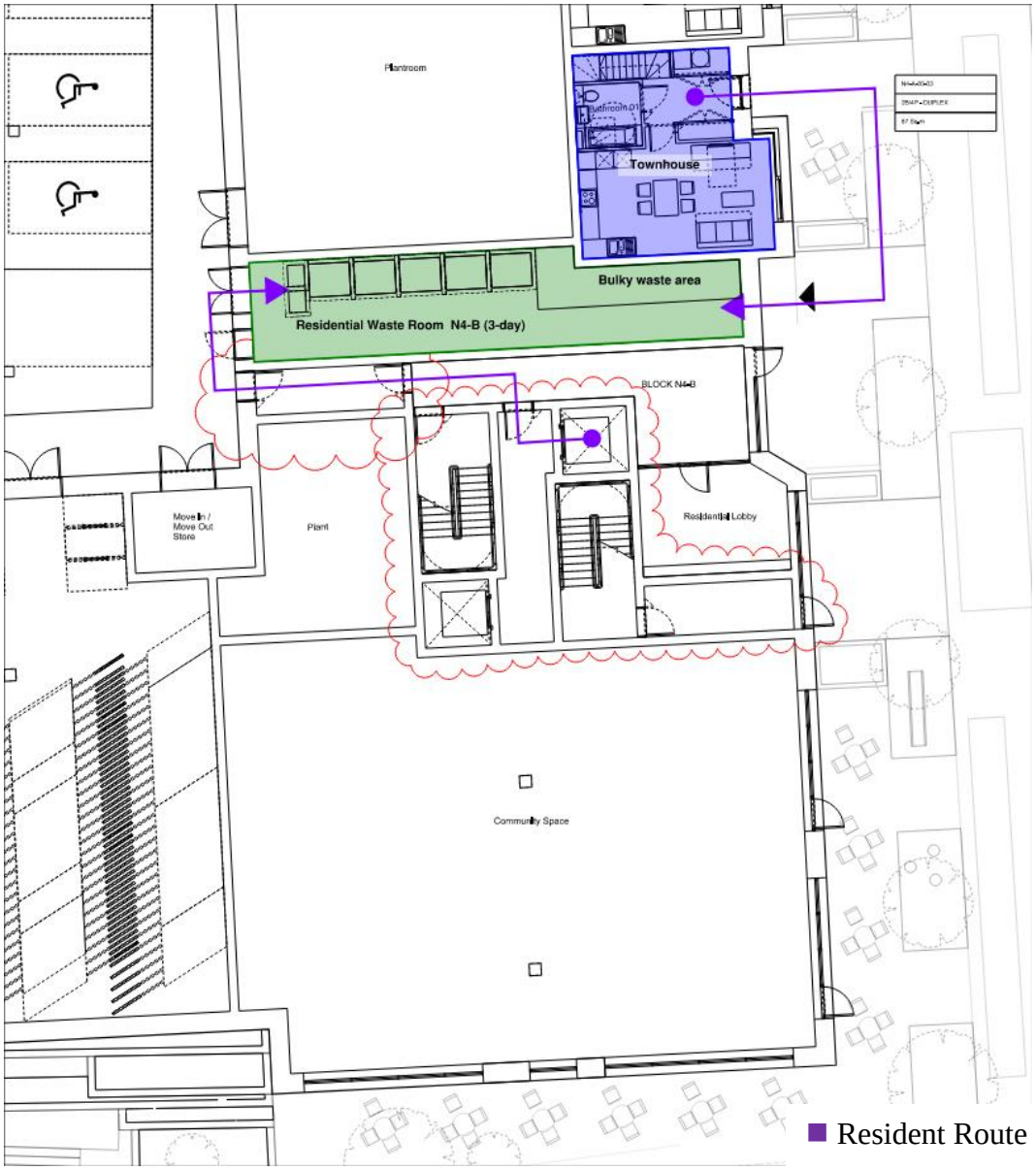


Figure 6: Residential waste conveyance route N4-B (ground floor)

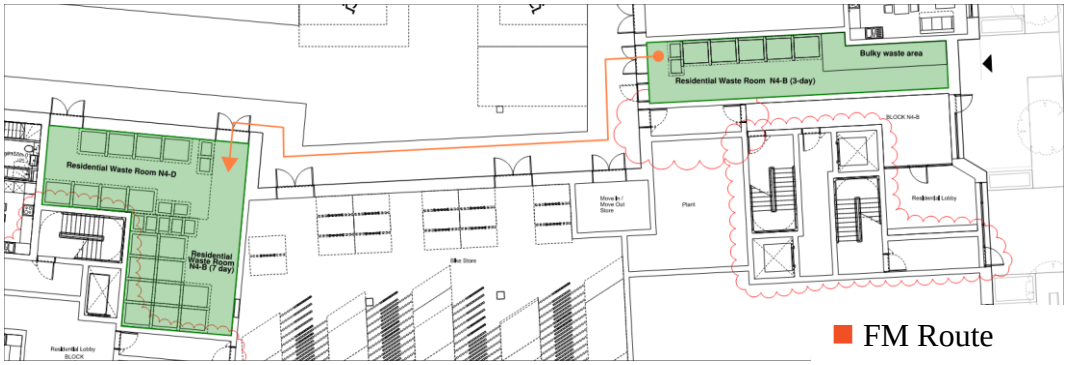


Figure 7: FM Waste conveyance route from N4-B to N4-D (ground floor)

4.3.2.3 N4-C

Residents in N4-C will take waste directly from the waste storage in their home to their waste room in their core (see Figure 8 - Figure 9). The waste room has been sized to hold 7 days' waste.

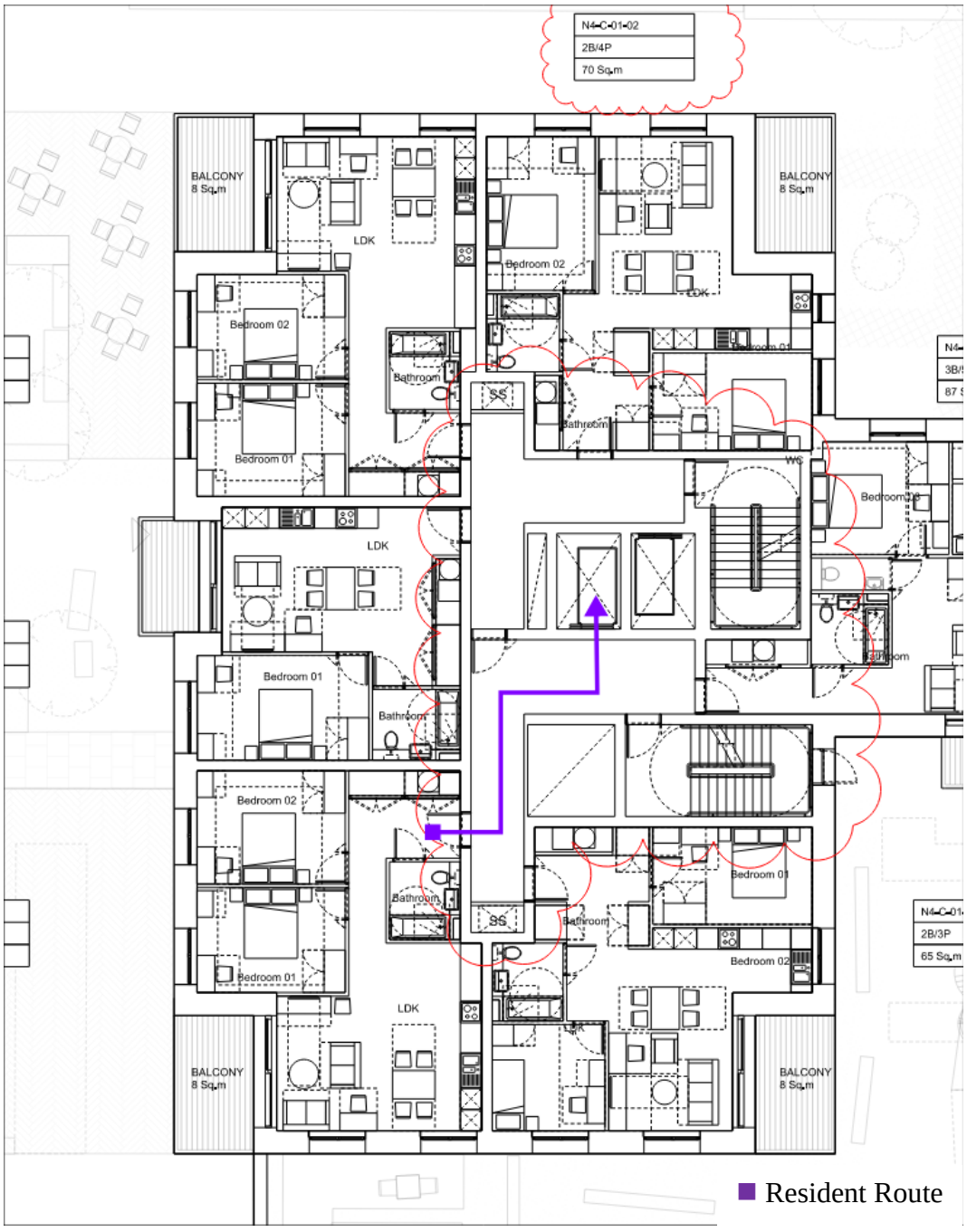


Figure 8: Longest residential waste conveyance route N4-C (typical upper floor)

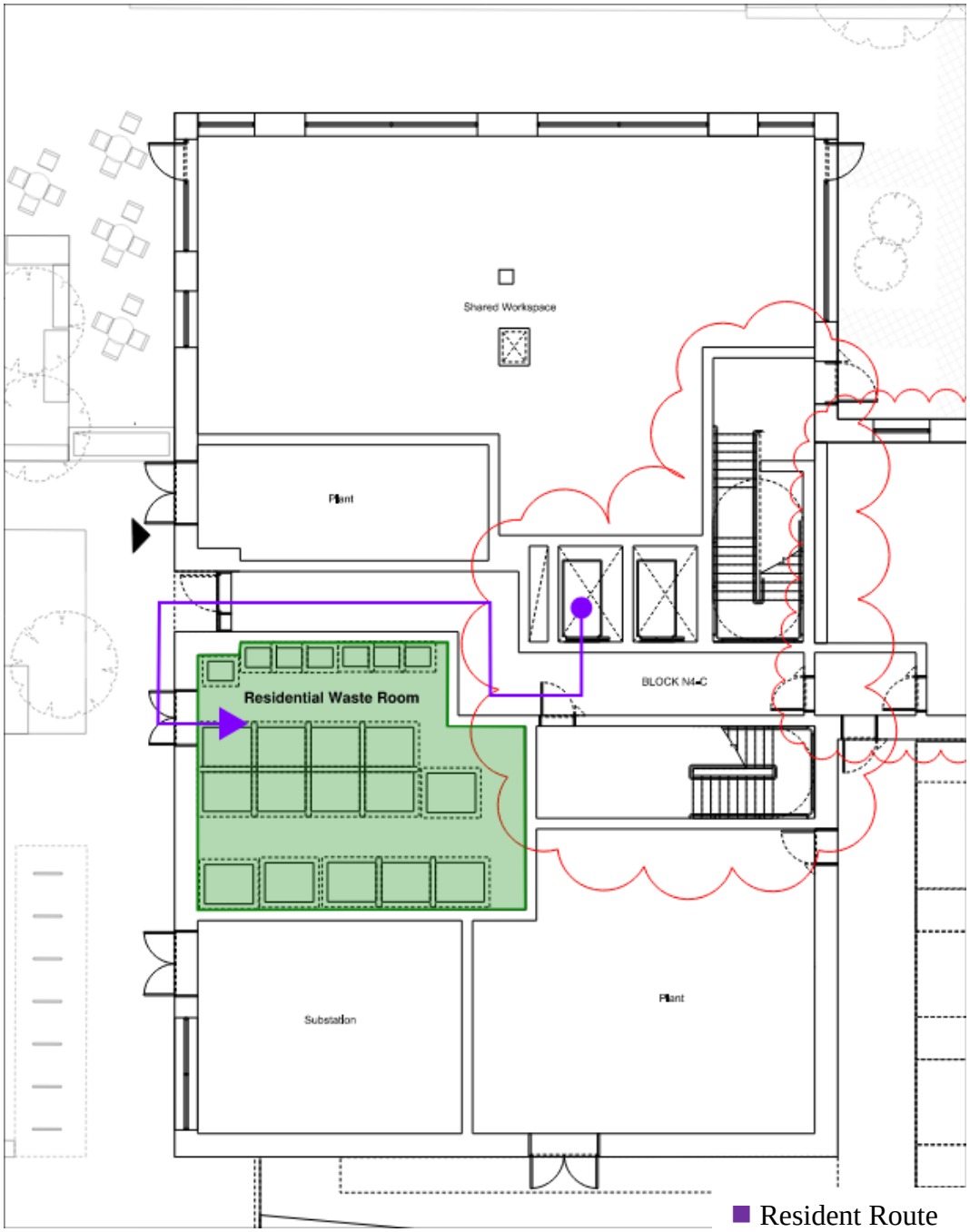


Figure 9: Residential waste conveyance route N4-C (ground floor)

4.3.2.4 N4-D

Residents in N4-D will take waste directly from the waste storage in their home to their waste room in their core (see Figure 10 - Figure 11). The waste room has been sized to hold 7 days' waste. Residents of the three southern townhouses will have a dedicated waste area at the entrance to their unit to ensure compliance with maximum distance criteria included in LBC's technical guidance. The onsite FM team will regularly move waste to the residential waste room in N4-D (see Figure 11).

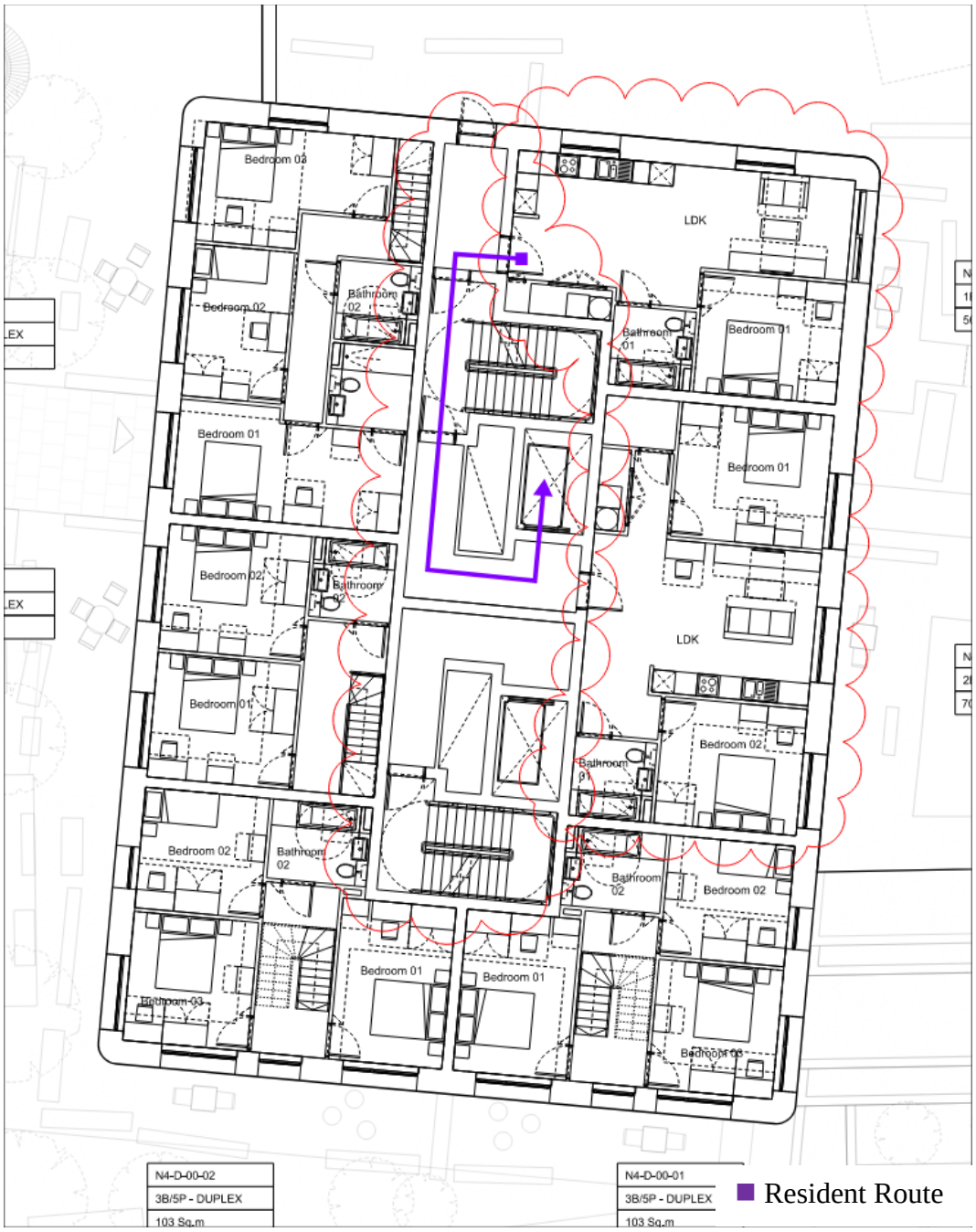


Figure 10: Longest residential waste conveyance route N4-D (typical upper floor)

Figure 11: Residential waste conveyance route N4-D (ground floor)

4.3.3 N5

Each home in N5 will have internal storage inside their unit to enable waste to be segregated into residual, MDR and food waste.

4.3.3.1 N5-A

Residents in N5-A will take waste directly from the waste storage in their home to their waste room in their core (see Figure 12 - Figure 13) which has been sized to hold 7 days' waste.

The bulky waste store for all cores in N5 is located in N5-A (see Figure 13). Residents from all cores will take bulky waste directly to the bulky waste store.

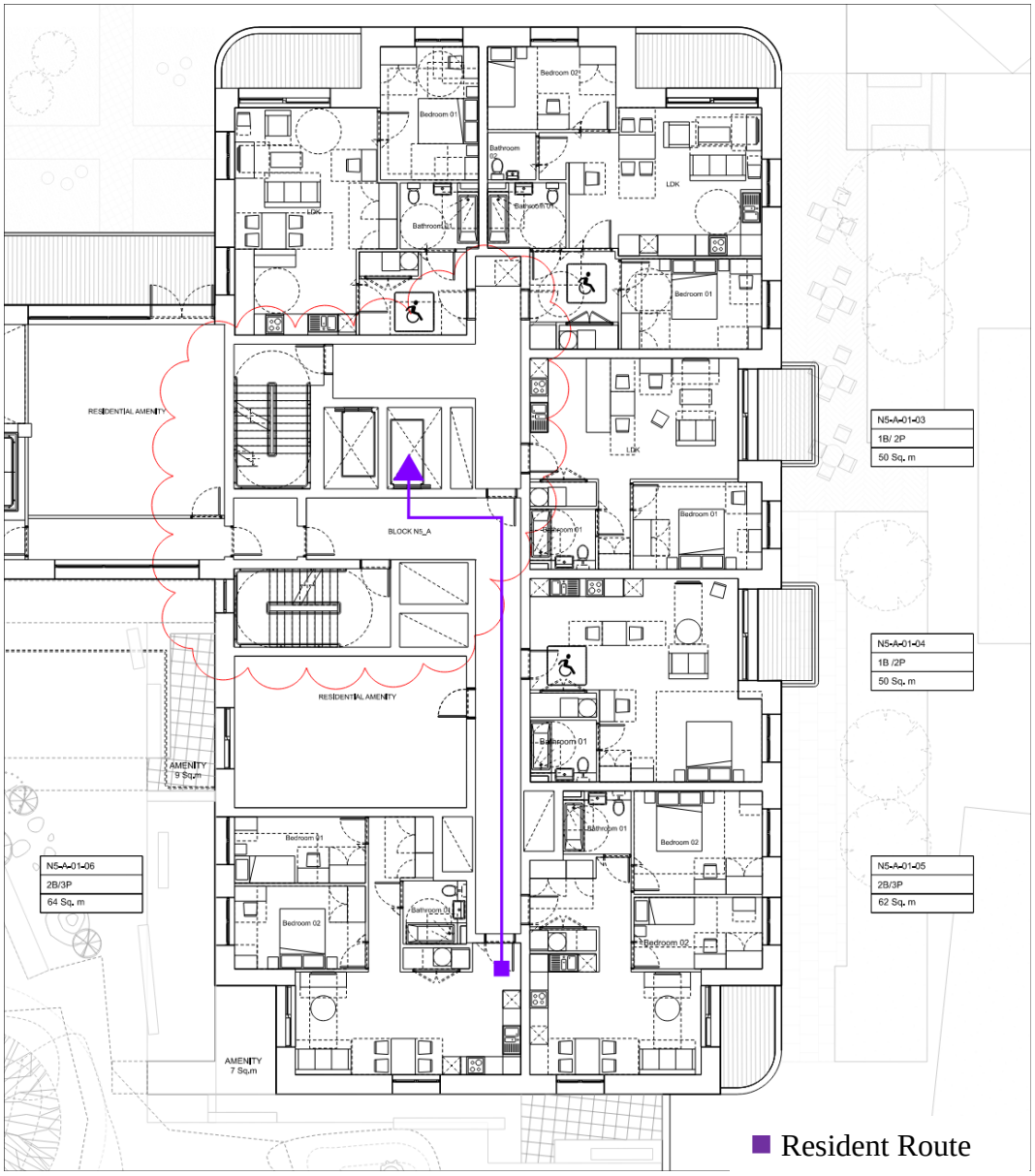


Figure 12: Longest residential waste conveyance route N5-A (typical upper floor)

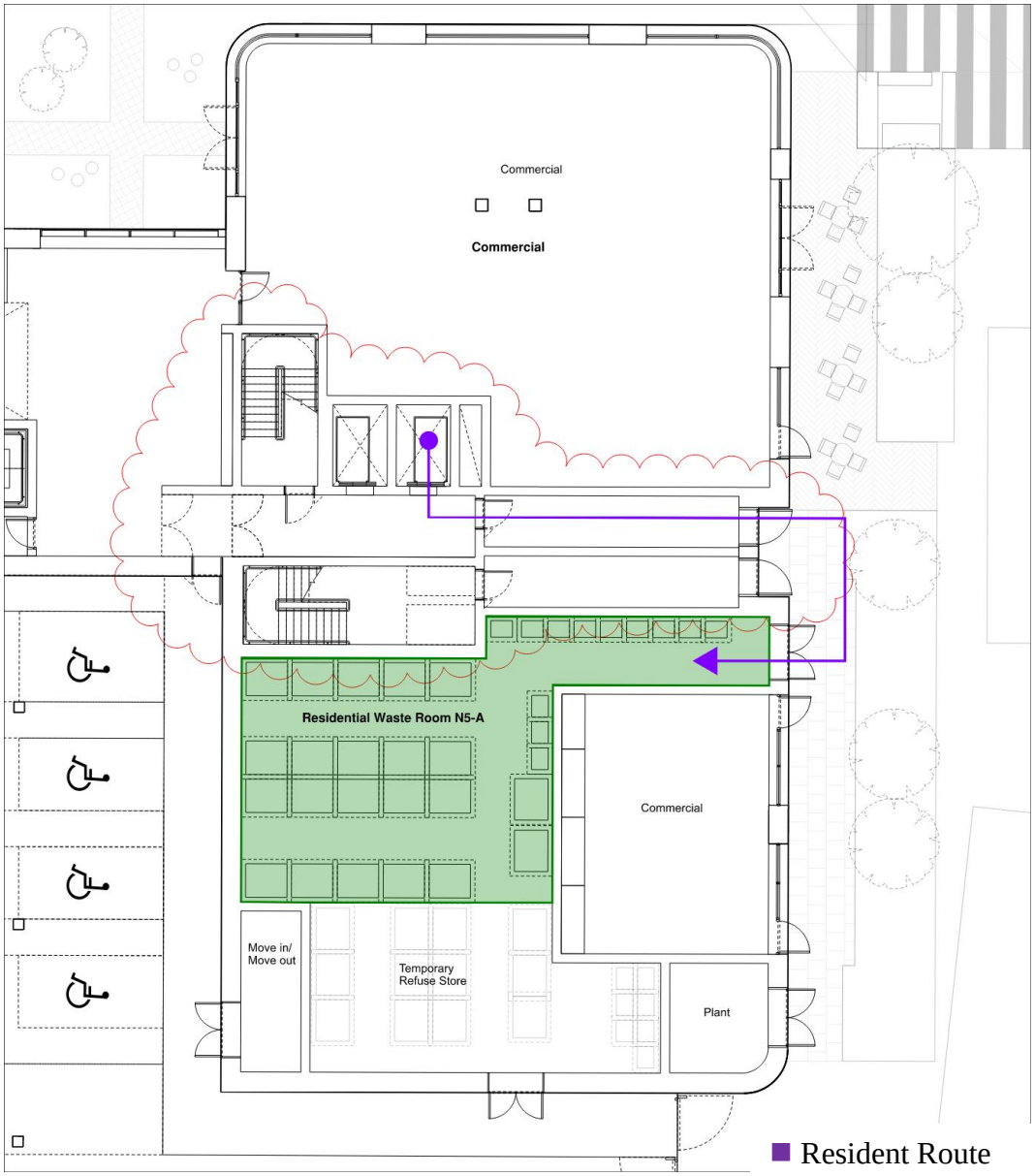


Figure 13: Residential waste conveyance route N5-A (ground floor)

4.3.3.2 N5-B

Residents in N5-B will take waste directly to their waste room (see Figure 14 - Figure 15). Which has been sized to hold 7 days' waste. Residents of the two southern townhouses will have a dedicated waste area at the entrance to their unit to ensure compliance with maximum distance criteria included in LBC's technical guidance. The onsite FM team will regularly move waste to the residential waste room in N5-B (see Figure 15).

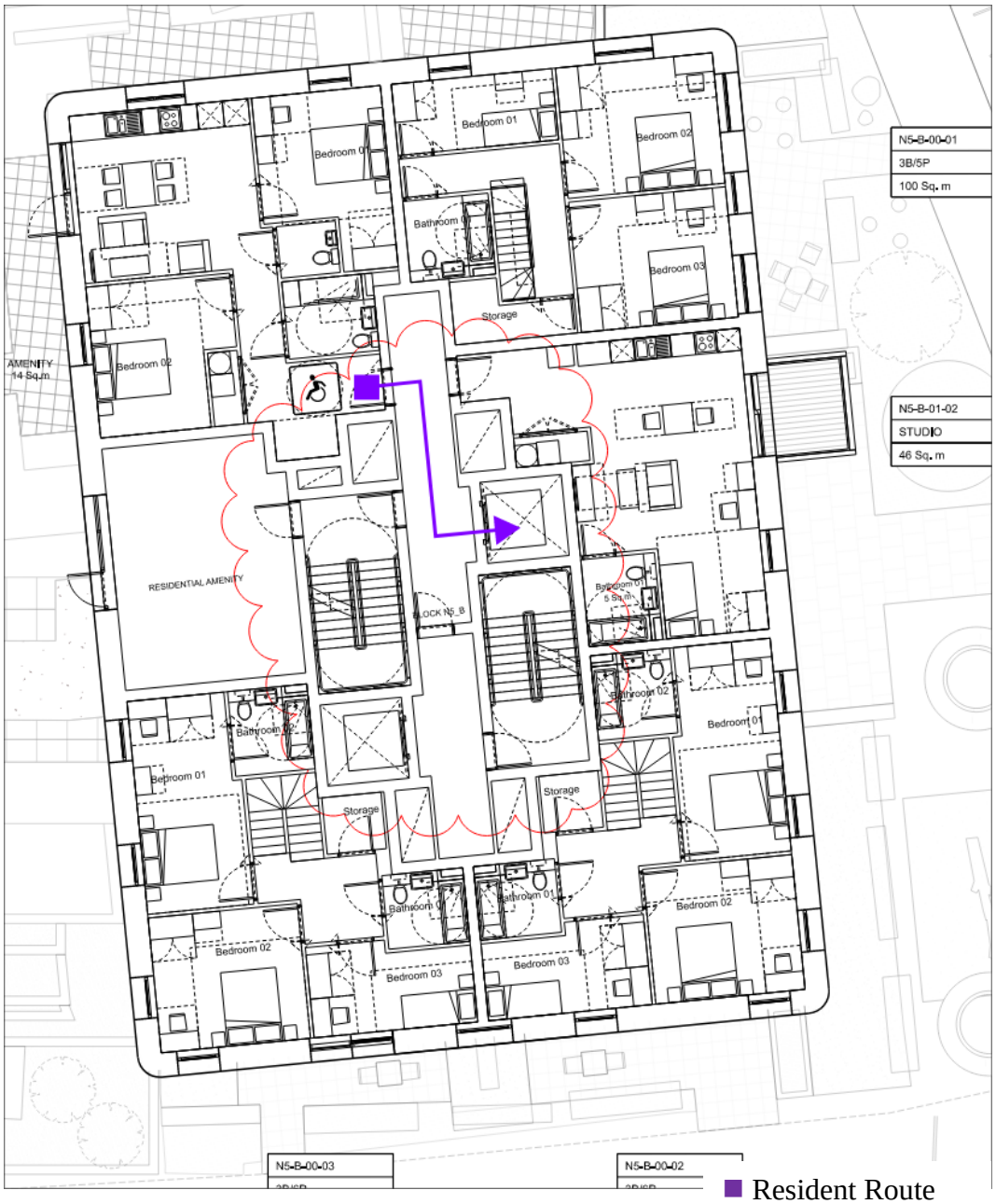


Figure 14: Longest residential waste conveyance route N5-B (typical upper floor)

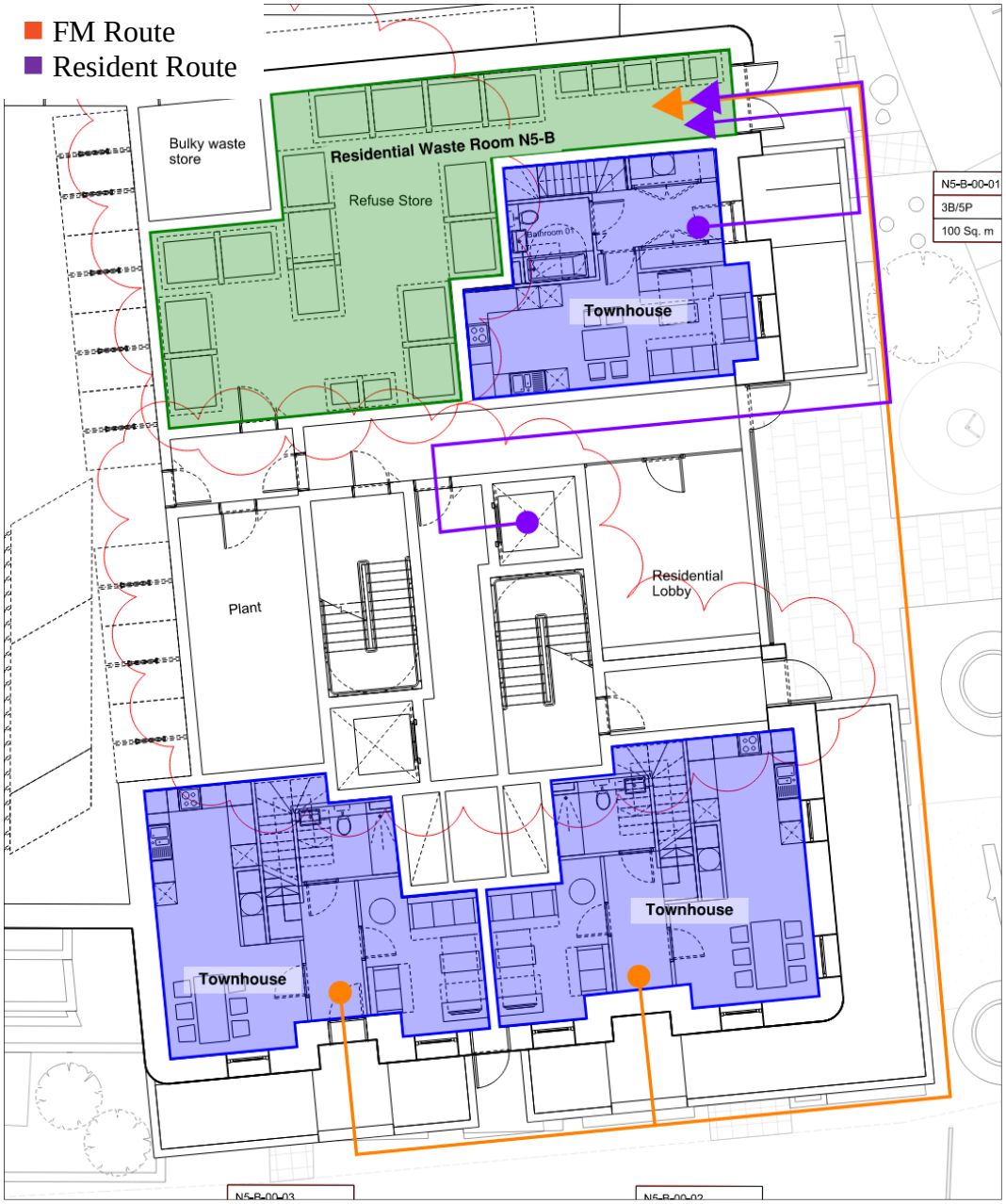


Figure 15: Residential waste conveyance route N5-B (ground floor)

4.3.3.3 N5-C

Residents in N5-C will take waste directly to their waste room (see Figure 16 - Figure 17). Which has been sized to hold 7 days' waste.

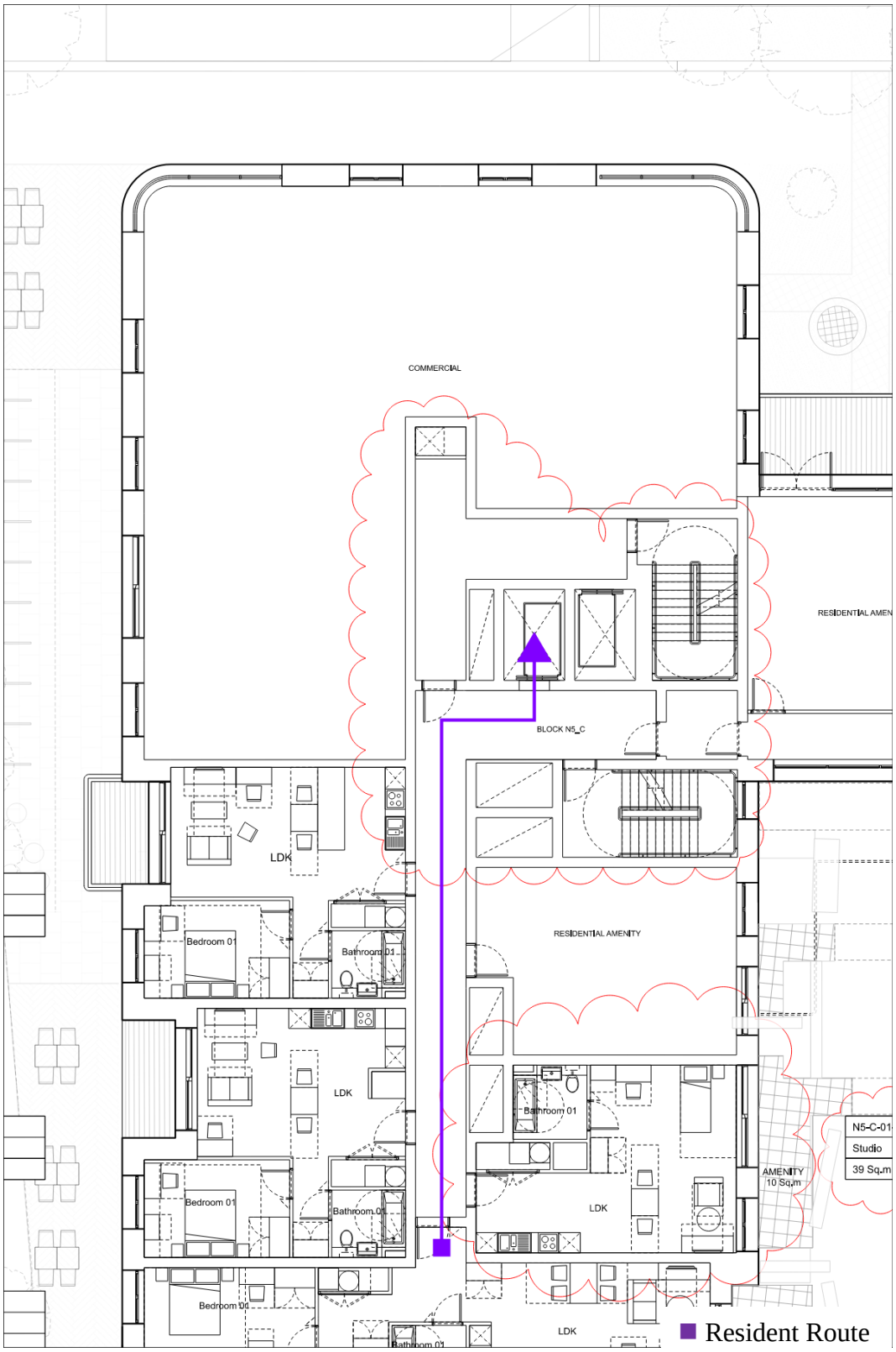


Figure 16: Longest residential waste conveyance route N5-C (typical upper floor)

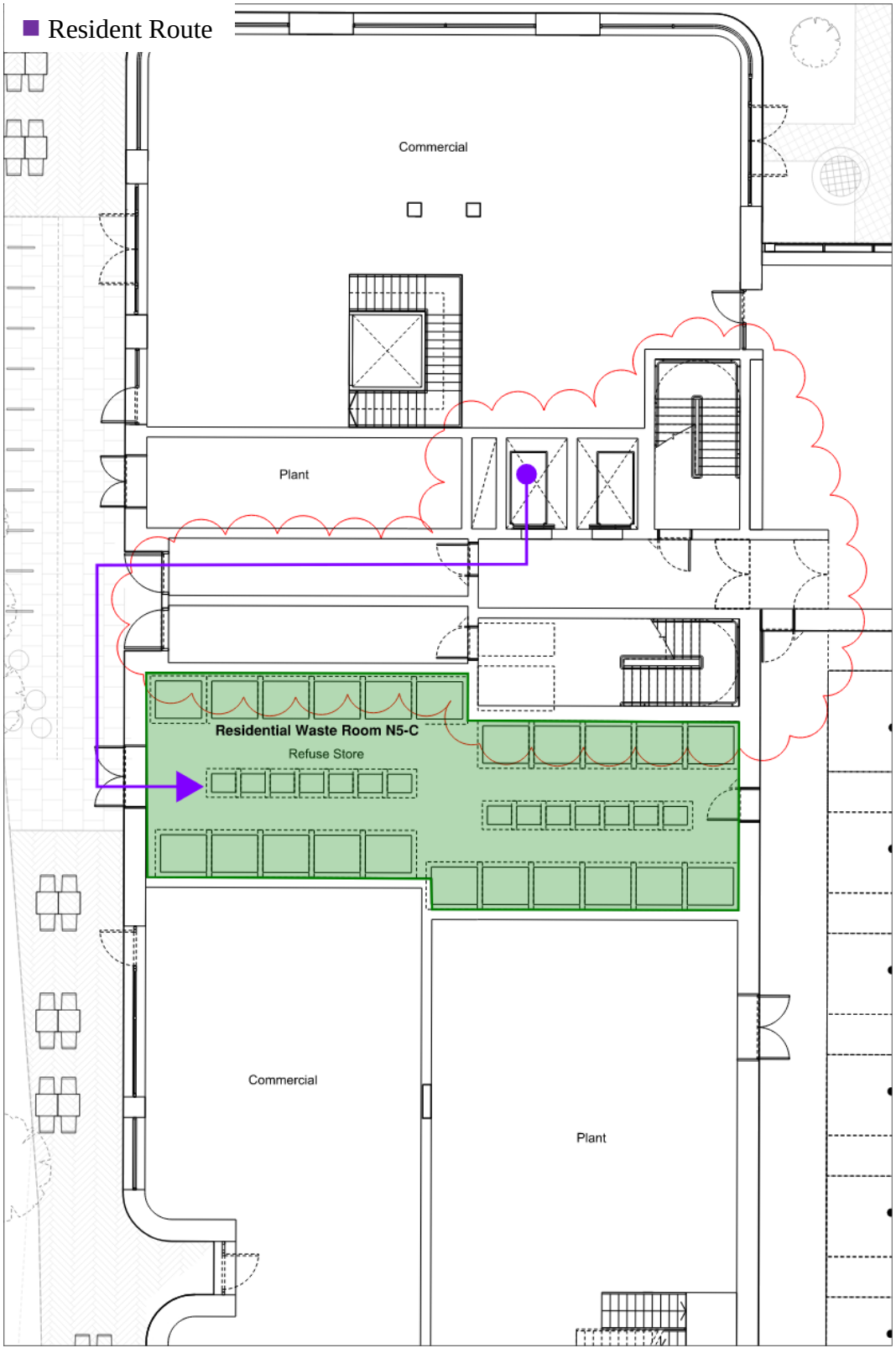


Figure 17: Residential waste conveyance routes N5-C (ground floor)

4.3.3.4 N5-D

Residents in N5-D will take waste directly to their waste room (see Figure 18 - Figure 19). Which has been sized to hold 7 days' waste. The onsite FM team will regularly move waste to the residential waste room in N5-A (see Figure 20).

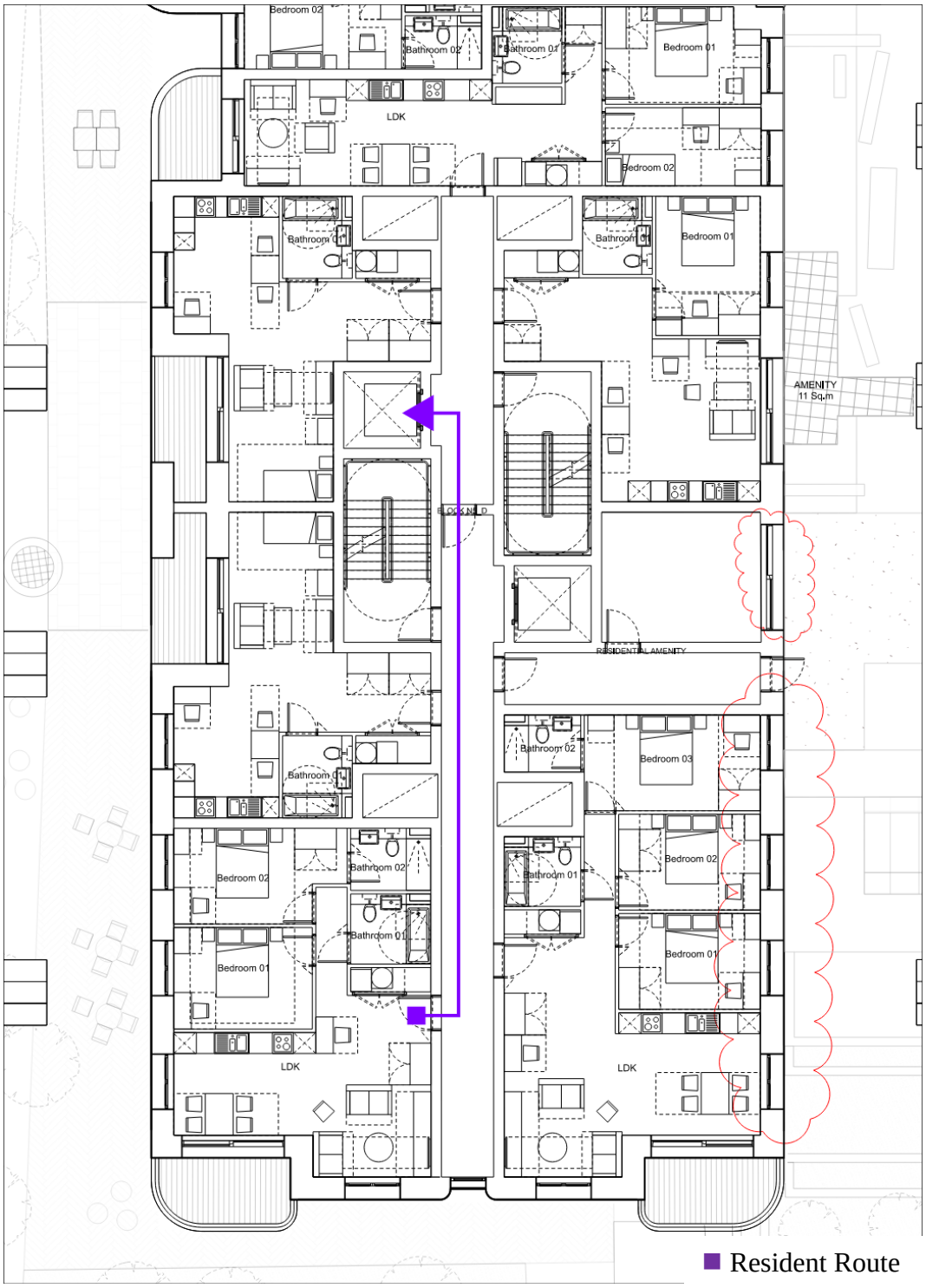


Figure 18: Longest residential waste conveyance route N5-D (typical upper floor)

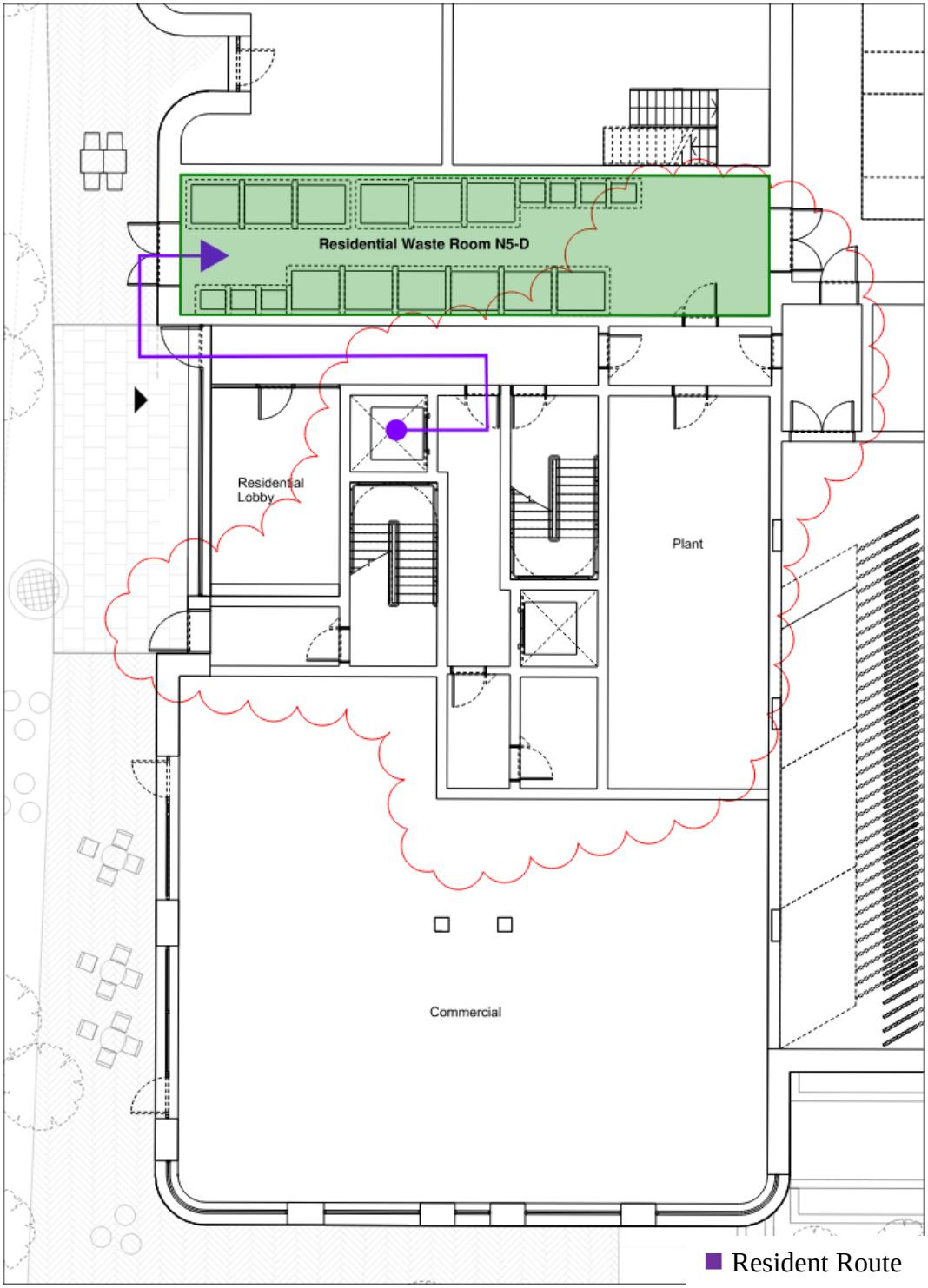


Figure 19: Residential waste conveyance route N5-D (ground floor)

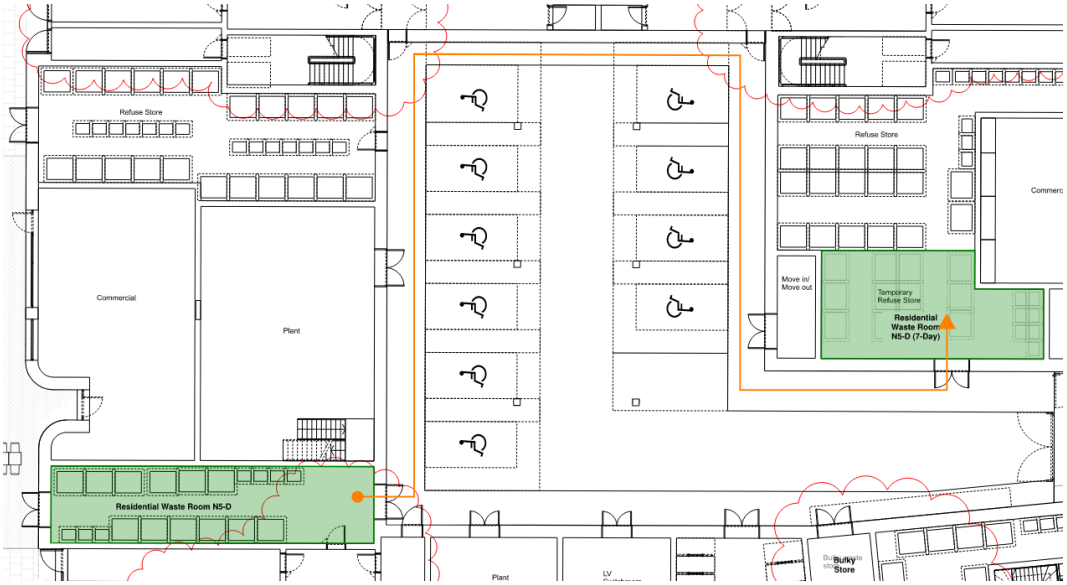


Figure 20: FM waste conveyance route from N5-D to N5-A (ground floor)

4.4 Residential waste storage requirements

Residential waste storage has been calculated with reference to LBC's Environment Service technical guidance for recycling and waste.

- Waste will be stored in the following containers:
  - 1,280 litre bins for residual waste;
  - 1,280 litre bins for MDR; and
  - 240 litre bins for food waste.
- Commercial and residential waste should be stored separately;
- Residents should not be required to walk more than 30m (horizontal distance) between their residence and the waste room, where possible;
- 7.5m² of bulky waste storage should be provided for each block;
- Residential waste will be collected weekly by Camden-Veolia;
- The residential waste collector should not be required to pull full containers more than 10m to the refuse collection vehicle (20m round trip), where possible;
- Residential waste will not be compacted as Camden-Veolia do not collect compacted general waste unless there is a commercial payment.

Table 7: Residential waste storage requirements - Detailed Plots

Type	Residential waste room location	Days of waste held	Number of bins required		
			Residual	MDR	Food
Detailed	N3-E	7 days of N3-E	6	8	7
	N4-A	7 days of N4-A	7	10	8
	N4-B	3 days of N4-B	2	3	2
	N4-C	7 days of N4-C	6	8	7
	N4-D	7 days of N4-D and 7 days of N4-B	7	10	9
	N5-A	7 days of N5-A and 7 days of N5-D	8	12	10
	N5-B	7 days of N5-B	4	6	5
	N5-C	7 days of N5-C	8	11	10
	N5-D	3 days of N5-D	2	3	3

The design now includes residential waste rooms in each core which have been sized to accommodate the required number of bins. Dedicated waste storage (outside of each townhouse) will be shown on plans at a later date as part of a future condition submission.

The MDR bins have been sized to hold all recyclable waste, including plastic bottles and aluminium cans, and therefore dedicated space has not currently been allocated for Deposit Return Scheme (DRS) reverse vending machines, to avoid duplicate storage provision and due to the options available in the market at this time. However given the low spatial requirements of such equipment, there is flexibility to add them at a later date, and consideration may be given in the future to incorporating them.

4.5 Residential waste collection

Waste is collected directly from the 7-day residential waste rooms by Camden-Veolia (see Figure 21 - Figure 23).

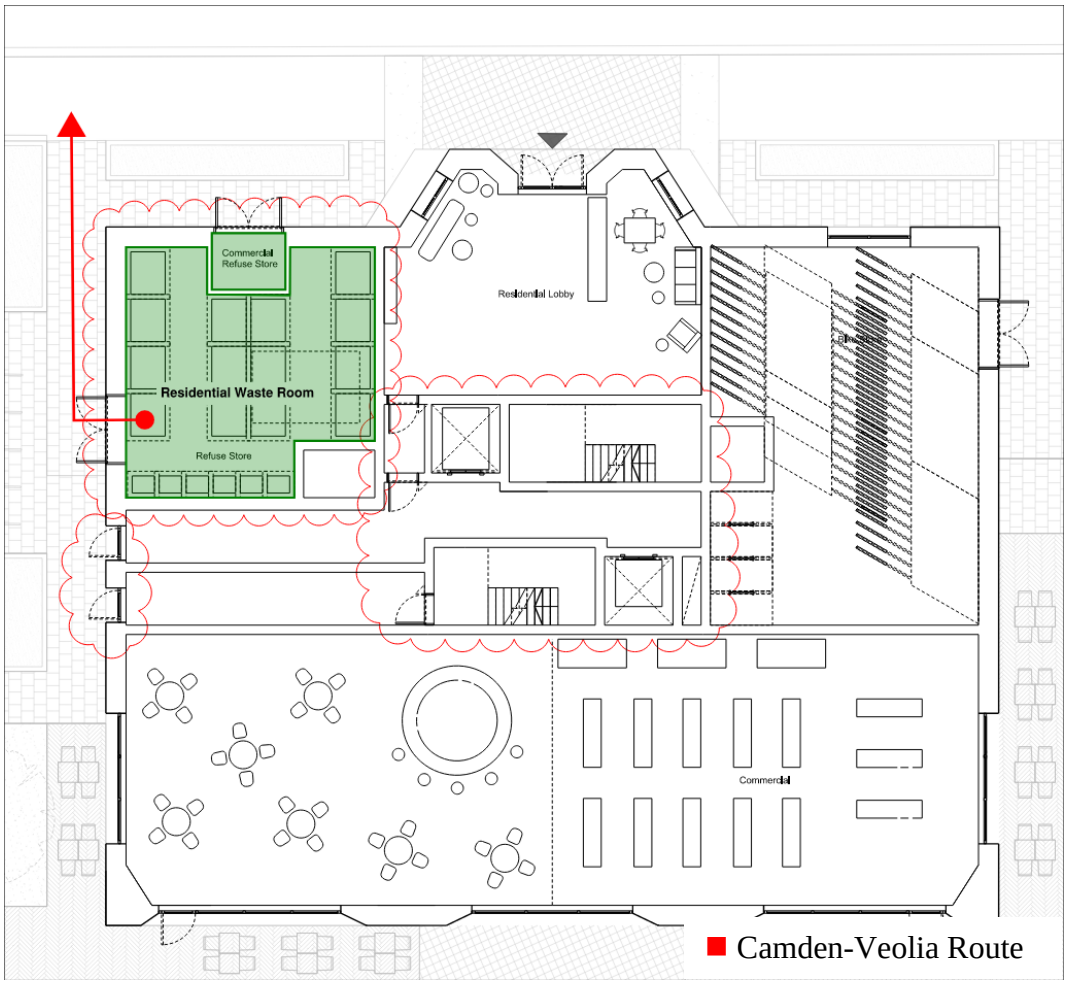


Figure 21: Residential waste contractor conveyance routes in N3-E

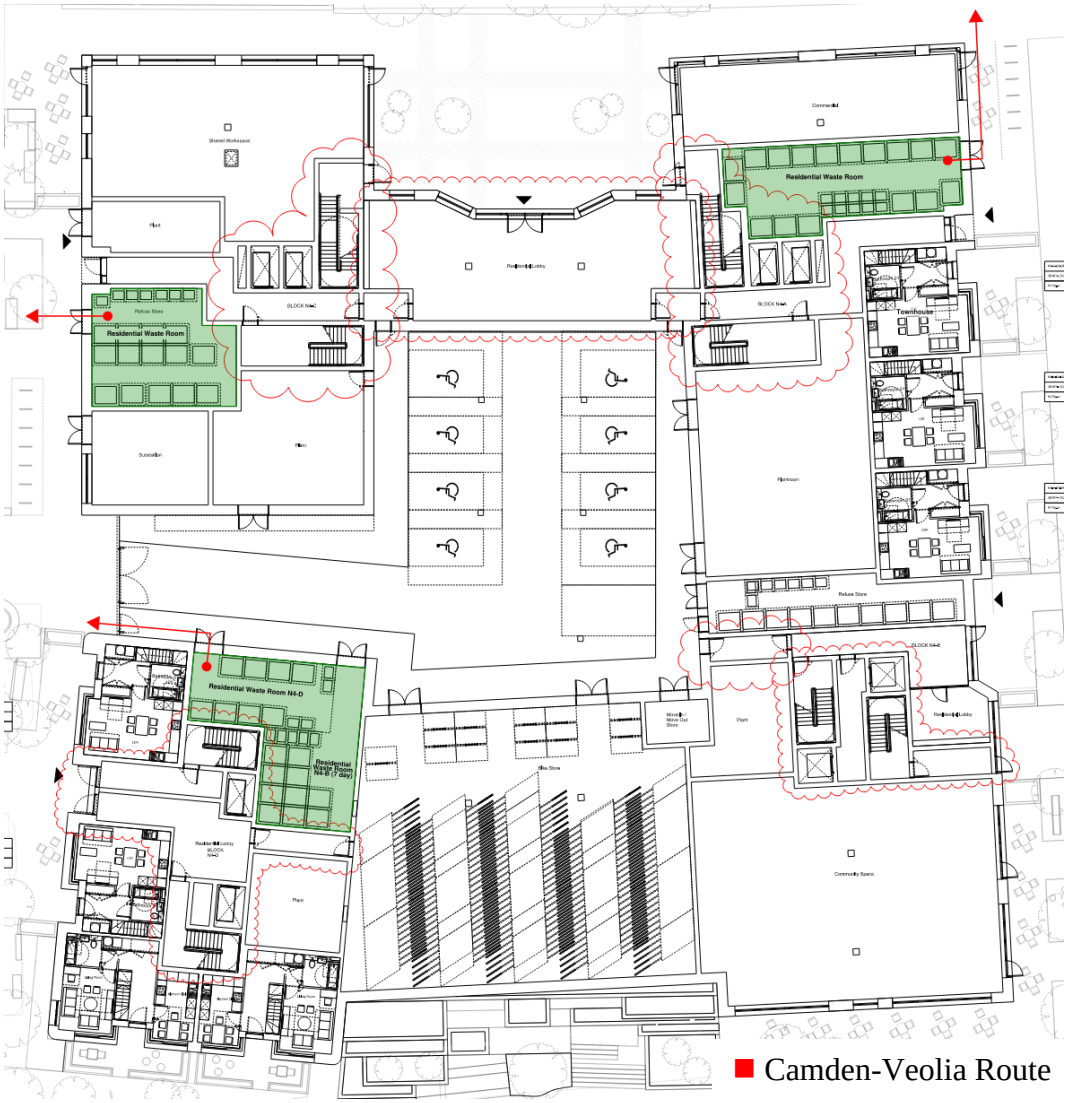


Figure 22: Residential waste contractor conveyance routes in N4

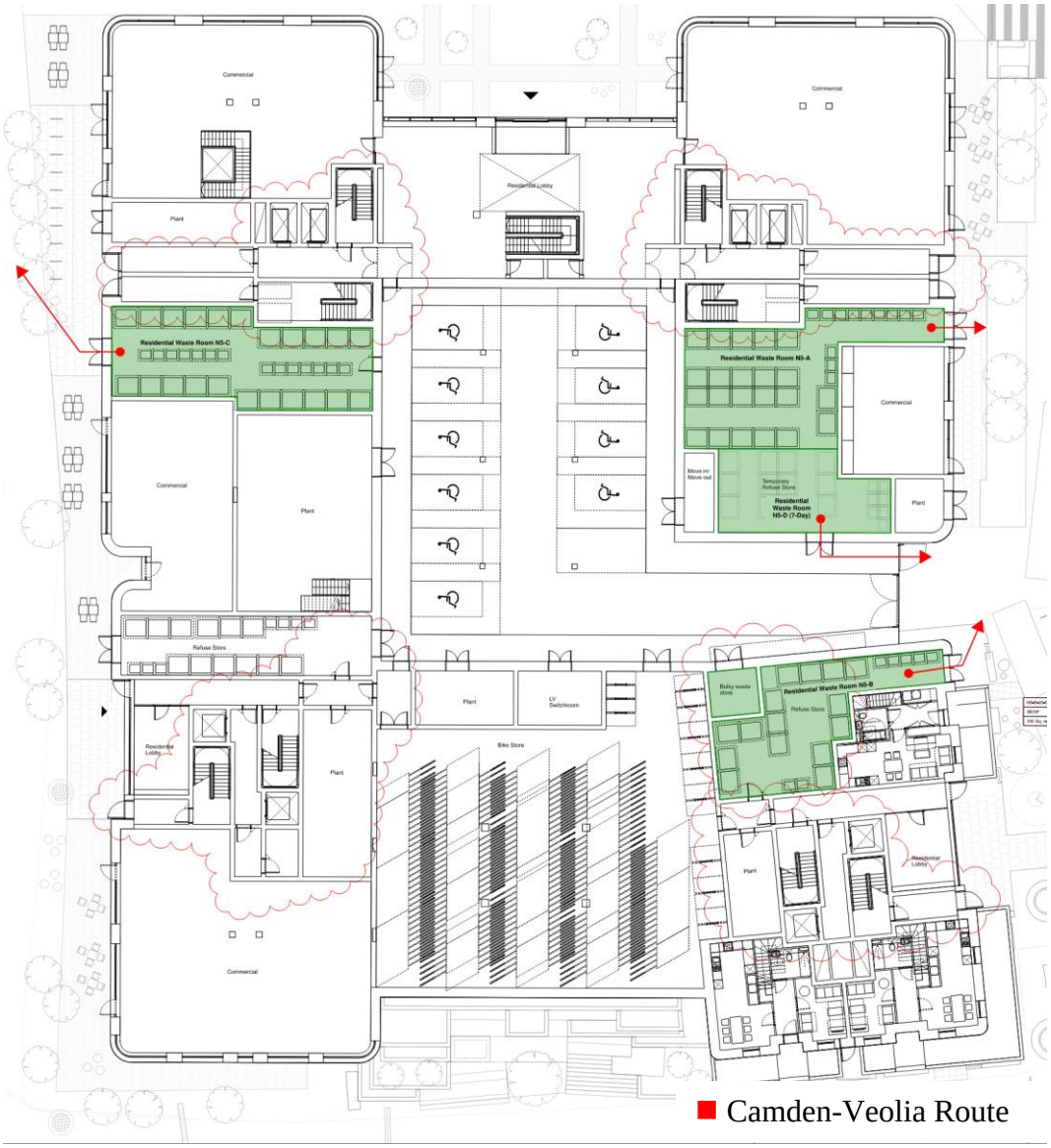


Figure 23: Residential waste contractor conveyance routes in N5

5 General public waste

Waste will be collected from any general public bins by the on-site team.

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

5.1 Litter picking

Litter picking will be conducted by the on-site team throughout the day to allow for both a safe and clean environment, as part of Landsec's good estate management policies.

5.2 External/surrounding areas

The cleaning of external areas will follow the programme set out in Table 8.

Table 8: Cleaning schedule

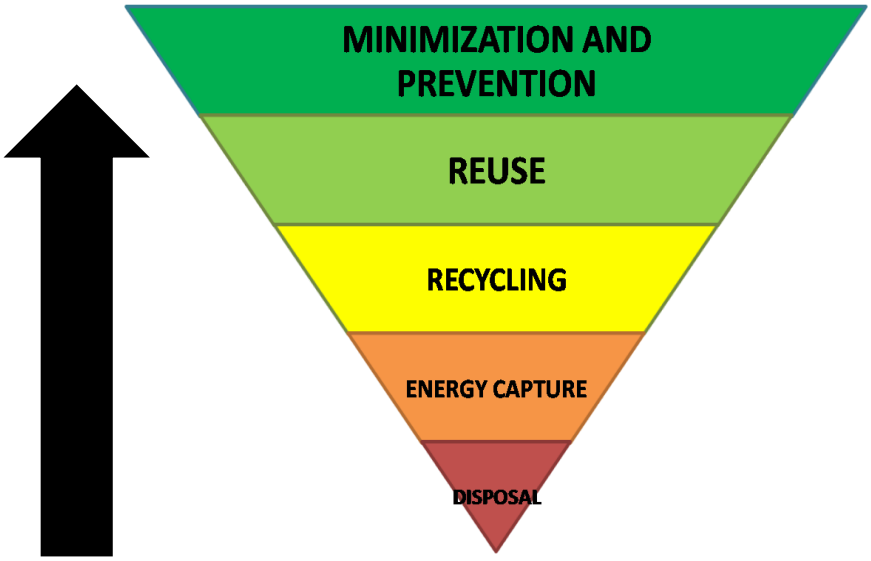
Action	Frequency
Clear debris, litter from entrances and public areas	Daily
Empty waste bins	Daily
Clear leaves from all entrances and fire exits	Weekly
Clean and wash down external signs	Weekly

6 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 24.

Figure 24: 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.

6.1 Packaging

The on-site 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 programs;
- Cooperating with vendor to standardize packaging;
- Encouraging and adopting returnable packaging methods;
- Endorsement of the use of packaging take back schemes;
- Minimising material uses and time to unpack;
- Using a recyclable pallet system; and
- Saving energy in warehouses throughout the supply chain.

6.2 Supply chain

The building management 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.

6.3 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.

7 Example equipment specification

Table 9: 1,280 Litre Eurobin specification

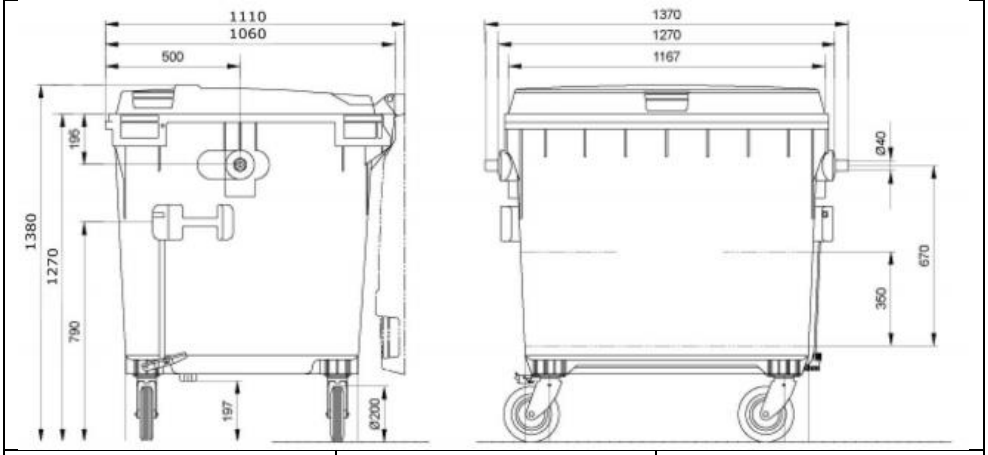
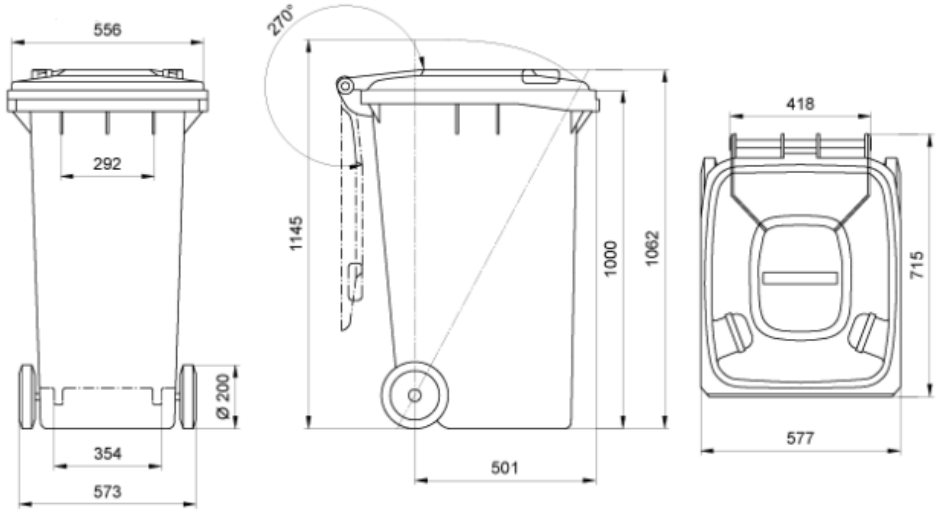
1,280 Litre Eurobin		
		
Length: 1.37m	Width: 1.11m	Height: 1.38m

Table 10: 240 Litre Eurobin specification

240 Litre Wheelie Bin		
		
Length: 0.72m	Width: 0.55m	Height: 1.15m

8 Waste room design guidelines

The following guidelines and recommendations for designing waste storage rooms have been taken from the British Standard BS 5906:2005 - 'Storage and on-site treatment of solid waste from buildings.' The main requirements are summarised below:

- Main storage chambers should be located at vehicle access level where possible;
- Waste rooms should be located away from the main entrance to the building;
- There should be no steps and projections at the entrance of the waste room;
- Any route where wheeled bins are to be pushed should have a gradient less than 1:12, and include no steps or kerbs;
- The ground between the storage location for bulk bins and the loading position should be level, smooth, hard surfaced and without any kerbs (or may have a maximum gradient of 1:12 if the grounds slopes downwards towards the RCV);
- Access roads for RCVs should have a minimum clear width of 3.5m; the gradient should not exceed 1:12;
- Waste collection vehicles will not be required to reverse more than 12m;
- Waste contractors should not be required to carry bags or move bins to a RCV more than 20m (round trip);
- The waste collector should not be required to man-handle full Eurobins further than 10m to a RCV. Bulk bin storage areas should be within 10 metres of a vehicle access and provide unhindered access to each individual bin;
- Residents should not be required to travel more than 30m to dispose of their waste (not including vertical travel);
- Waste rooms should have proper ventilation and wash down facilities (water pipe and drainage);
- The walls and roofs of the waste room should be formed of non-combustible and impervious material and have a fire resistance and with a smooth finish suitable for washing down;
- Where a shelter is constructed it should be open to the air, or ventilated. It should be of sufficient height to permit the container lid to be opened (minimum height 2m);
- A minimum clear space of 150mm should be allowed between containers and adjacent walls; and
- The floor should not be less than 100 mm thick and formed of hard impervious material with a smooth finish, and there should not be steps and projections at the entrance.

The following are additional waste room design best practice recommendations:

- Access to the central waste room shall be through self-closing double doors with a minimum clear width of 1.5m. The access door shall be capable of being opened from the inside as well as the outside. The doorframes should be rebated into the reveals of the opening, and the doors should be hung in such a way that their hinges are not subject to damage by leverage if the door swings wide;
- In areas where 1,280 litre Eurobins are required, any walkways within waste rooms should have a width of 1.5m. The walkway must be designed to enable access to all containers;
- Electrical lighting provided shall be of a sealed bulkhead type fitting which is able to withstand the inevitable splashing resulting from regular cleaning of the central waste room; and
- Rooms shall be mechanically ventilated to external air, with permanent ventilation providing an extraction rate of at least 5 l/s/m². Ventilation shall be fly and vermin resistant and the extract shall be located away from doors or windows to prevent odour and hygiene issues.
- Each bulky area should be approximately 7.5m^2 in floor area to normal storey height and fitted with double doors giving a clear opening of 1,830mm and a height of 1,830mm. Vehicle access must be provided directly to the storage compartment. The room should also have an internal light. Indoor bulky storage should meet the requirements.

9 Waste management plan review

The success of the strategy as detailed above will be closely monitored by Landsec's Estate Management, building manager and the facilities 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.

A review will be provided to Camden 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.