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The Aylesham Centre, Peckham

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Operational Waste and Recycling
Management Strategy
Aylesham Centre
Berkeley Homes (Capital) Plc

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1. Executive Summary

- i. Following the amendments made to the Proposed Development including but not limited to changes to the residential area schedules and commercial units, KaNect Limited ('KaNect') has been commissioned by Berkeley Homes (Capital) Plc ('Applicant') to prepare a revised Operational Waste and Recycling Management Strategy ('revised Strategy') in support of the proposed Aylesham Centre development ('Proposed Development') located in the administrative boundary of London Borough of Southwark (LBS). Specific comments raised by LBS on carry distances for residents from their units to the dedicated bin stores have been addressed as well as plans indicating proximity of refuse vehicle parking to the bin stores (please see paragraphs ix, x and xi).
- ii. The Applicant has submitted a full planning application for the
Demolition of existing buildings and phased redevelopment to provide a replacement supermarket and associated service yard and car parking (Use Class E(a)); flexible retail, leisure (including drinking establishment), and commercial accommodation (Use Class E/Sui Generis); dwellings (Use Class C3); landscaping; and associated works.
- iii. The principal aim of this revised Strategy is to demonstrate how sustainable methods for waste and recycling management have been considered for the operational phase of the Proposed Development. Furthermore, with regards to waste and recycling management within the Proposed Development, this revised Strategy has the following aims:
 - To contribute towards achieving current and long-term government, regional (Greater London Authority (GLA)), and LBS targets for waste minimisation, recycling and re-use;
 - To comply with all applicable legal requirements for handling operational waste;
 - To achieve high standards of waste management performance, through giving due consideration to the waste generated during operation of the Proposed Development; and
 - To provide a convenient, clean, and efficient waste management strategy that enhances the operation of the Proposed Development and promotes recycling.
- iv. It should be noted that this revised Strategy will take into consideration all the changes that are made to the Proposed Development including the quantum of the areas for the residential and commercial units.
- v. Once operational, the Proposed Development is anticipated to produce 230,387 Litres (L) of waste and recycling material from all land uses per week, equating to approximately 1,456 tonne per year (i.e., based on the following approximate densities: Mixed dry recyclables (MDR) – 84 kg/m³, Food – 695 kg/m³ and Residual waste – 81 kg/m³).
- vi. Once constructed the Proposed Development will comprise of 16 buildings including Building A, B, C, D, E, F, G, H, J1, J2, K, L, M, N, P and Q. The Proposed Development will provide 867 residential units (including 1bed, 2bed, 3 bed and 4bed apartments and maisonettes) spread over Buildings A, B, C, E, F, G, H, J1, J2, K, L, M, N, P and Q (Use Class C3). In addition to the residential units, the Proposed Development will also provide 6,172.4 m² (GIA) of waste generating (which excludes circulation areas or similar) flexible retail, leisure and commercial floor spaces (Use Class E/Sui Generis) spread over Buildings A, B, C, D, E, F, G, H, J1, J, L and N and 4,436 m² (GIA) replacement supermarket (excluding associated service yard and car park). With the exception of the replacement supermarket and workspace contained within Building D, the exact land uses of the remaining units are not known, therefore, for the purpose of estimating the waste and recycling arisings and the subsequent storage requirements, it is assumed that the spaces will include retail, restaurant, office, and gym.

- vii. To manage the waste and recycling material arising from the residential units of Buildings A, B and C; two bin stores have been provided on the Ground Floor level of Buildings B. These bin stores are located in such a manner that all residential units of Buildings A, B and C are within 30 m distance of these bin stores. This will allow the residents of these buildings to access these bin stores directly and deposit their waste and recycling material into the correct bins. These bin stores are designed to hold bins for Mixed Dry Recyclables (MDR), Food and Residual waste considering a weekly collection frequency. On the day of collection, the bins will be positioned by the building management team within 10 m distance of the Refuse Collection Vehicle (RCV) stopping point, which will allow the LBS collection operatives to wheel the bins scheduled to be collected to the RCV for emptying. Once the bins are emptied, the LBS collection operatives will return the empty bins back this location, from where the building management team will return these empty bins back to the bin store.
- viii. To manage the waste and recycling arising from the residential units of Buildings E, F, G, H, J1, J2, K, L, M, N, P and Q, separate bin stores have been provided on the Ground Floor of each building. Within Building K, two separate bin stores have been provided on the Ground Floor level. These bin stores have been located in a such a manner that majority of the residential units in each building are within 30 m distance of the bin store. Similar to the bin stores for Buildings A, B and C, the bin stores for E, F, G, H, J1, J2, K, L, M, N, P and Q are designed to hold bins for MDR, Food and Residual waste considering a weekly collection frequency.
- ix. It is to be noted that the majority of the residential units that are provided in these buildings are within 30 m distance of the allocated bin stores. However, 4 buildings in the scheme have been designed with a gallery deck access to improve the potential for cross ventilation and dual aspect. While this design is beneficial to the residents in terms of comfort and wellbeing, it does increase travel distances from front door to lobby (with the galleries being 20-30 m in length). This in turn has caused some residential units to marginally exceed the bin store distance, as outlined below:

Number of Units	Travel Distance to the Bin Store
81	Greater than 30m but less than 35m
28	Greater than 35m (with 4 units having a maximum distance of 53m)

- x. It should be noted that although these units are exceeding the 30 m distance mark, the travel distances on the ground floor from the lift to the refuse store have been reduced as far as is practically feasible, keeping in mind the natural route that residents would take on their way out of the building. The bin stores for the buildings will also be conveniently located directly outside the residential lobbies, ensuring it is as simple as possible for residents to dispose their waste. These arrangements were discussed and agreed with LBS via a Teams meeting dated 28 May 2024.
- xi. On the day of collection, the building management team will place the bins outside the bin stores enabling these to be within 10 m distance of the RCV stopping point, allowing the LBS collection operatives to wheel the bins scheduled to be collected to the RCV for emptying (Please see Appendix 1). Once emptied, the LBS collection operatives will return the empty bins back to designated location, from where the building management team will return the empty bins back to the bin store. It should be noted that building management team will be available during the collection process, allowing for an uninterrupted collection process.
- xii. In addition to the waste and recycling material arising from the residential units of the Proposed Development, space has also been provided within the buildings of the Proposed Development to hold bins for the waste and recycling material arising from the waste generating flexible retail, leisure, and commercial spaces of the Proposed Development.

- xiii. For the flexible retail, leisure and commercial spaces, assumed to be retail spaces that are located in Buildings A, B, C and F, a combined bin store has been provided on the Ground Floor level of Building B. On daily basis the commercial tenants cleaning team will transfer the waste and recycling material from the commercial spaces in Buildings A, B, C and E to the combined bin store in Building B. On the day of collection, the RCV will park within 10 m distance of this bin store, providing direct access to the collection operatives, and allowing the collection operatives to wheel the bins scheduled to be collected to the RCV for emptying. Once emptied, the collection operatives will return the empty bins back to the combined Block B commercial bin store.
- xiv. For the flexible retail, leisure and commercial spaces, assumed to be offices that are located in Buildings D, E, G and K, a combined bin store has been provided on the Ground Floor level of Building D. On daily basis the commercial tenants cleaning team will transfer the waste and recycling material from the commercial spaces in Buildings D, E, G and K to the combined bin store in Building D. On the day of collection, the RCV will park within 10 m distance of the bin store, allowing the collection operatives to wheel the bins scheduled to be collected to the RCV for emptying. Once emptied, the collection operatives will return the empty bins back to the combined Building D commercial bin store.
- xv. For the flexible retail, leisure and commercial space, assumed to be retail spaces located (excluding the assumed restaurant spaces and the assumed gym space) in Buildings G, H, J, K, L and N, a combined bin store is provided on the Ground Floor Level of Building K. On daily basis the commercial tenants cleaning team will transfer the waste and recycling material from the commercial spaces in Buildings G, H, J, K, L and N to the combined bin store in Building K. On the day of collection, the RCV will park within 10 m distance of the bin store, allowing the collection operatives to wheel the bins scheduled to be collected to the RCV for emptying. Once emptied, the collection operatives will return the empty bins back to the combined Block K commercial bin store.
- xvi. For the flexible retail, leisure and commercial, assumed to be gym that is located in Building K, will have space provided within the curtilage of the individual unit to hold bins for the waste and recycling material arising from this unit. On the day of collection, the commercial tenant's cleaning team will wheel the bins scheduled to be collected to the RCV stopping point, from where the collection operatives will empty these bins into the RCV. Once emptied, the commercial tenant's cleaning team will return the empty bins back to the space provided within the curtilage of this commercial unit to hold bins.
- xvii. For the flexible retail, leisure and commercial spaces, assumed to be restaurants that are located in Buildings E, F, G and H, separate bin stores have been provided for these restaurants, that are based on a daily collection frequency. These bin stores have been provided with an external entry, that will allow the collection operatives on the day of collection to directly access these bin stores and wheel the bin scheduled to be collected to the RCV (that will be parked within 10m distance of these bin stores) for emptying. Once emptied the collection operatives will return the empty bins back to these bin stores.
- xviii. As mentioned above, the exact land uses of the flexible retail, leisure and commercial spaces are unknown, however, for the purpose of estimating the waste and recycling arisings and the subsequent storage requirements, land uses have been assumed considering a worst-case scenario.
- xix. In addition, the residents using the residential amenity spaces such as parcel and post rooms will take their items to their individual residential units, thus any waste and recycling material arising from these items will be managed and stored by the residents in their individual residential units and the residential bin stores.

- xx. It is to be noted that all the flexible retail, leisure and commercial bin stores and spaces provided within the Proposed Development have been designed considering a daily collection frequency, and will provide space to hold bins for MDR, Food and Residual waste.
- xxi. The waste and recycling material arising from the supermarket (i.e., Morrisons) Waste will be collected from the store from within the service yard and vehicle movements will be controlled in a similar manner to that for delivery vehicles.
- xxii. Morrisons, who will be the operator of the replacement supermarket will retain their refuse within an area of the proposed warehouse or service yard. Morrisons will have two different types of bins (general waste and dry mixed recycling). A maximum of four 1,100 L bins will be required. Collections will take place regularly throughout the week by a 26-tonne refuse vehicle which empties bins via the rear of the vehicle and not over the front and into the top.
- xxiii. The number of waste collections will be reviewed on a regular basis depending on a number of factors such as how well the store trades and seasonality together with the progress to the target of zero waste, however, it is likely that there will be minimal waste collections (around 2 times per week) as the majority of waste is recycled and back hauled to depots which have centralised recycling collections using the delivery vehicles. The supermarket will itself be responsible for managing their waste and recycling materials within the curtilage of their space.
- xxiv. These provisions will result in waste produced during the operation of the Proposed Development being managed in accordance with the Waste (England and Wales) Regulations, 2011 (as amended). Additionally, all waste infrastructure introduced to the Proposed Development will comply with guidelines published by the LBS, British Standard (BS) 5906:2005 Waste Management in Buildings Code of Practice and Part H6 of the Building Regulations (2010).

2. Introduction

- 2.1 This Operational Waste and Recycling Management Strategy(hereafter referred to as the 'Revised Strategy') has been prepared by KaNect Limited ('KaNect') on behalf of Berkeley Homes (Capital) Plc (hereafter referred to as the 'Applicant') following the amendments made to the Proposed Development at Aylesham Centre (hereafter referred to as the 'Proposed Development') (LBS application ref.24/AP/2074) located within the administrative boundary of London Borough of Southwark (LBS).

Demolition of existing buildings and phased redevelopment to provide a replacement supermarket and associated service yard and car parking (Use Class E(a)); flexible retail, leisure (including drinking establishment), and commercial accommodation (Use Class E/Sui Generis); dwellings (Use Class C3); landscaping; and associated works.

- 2.2 It is also to be noted that the management of waste and recycling materials arising and its subsequent storage for the supermarket on-Site will not form part of this revised Strategy. It is understood that the supermarket will itself be responsible for managing their waste and recycling materials within the curtilage of their space.

Strategy Overview

- 2.3 Through the lens of the Circular Economy Model, the revised Strategy aims to promote a circular approach by exploring opportunities for reusing and recycling during the operation of the Proposed Development in accordance with the Waste Hierarchy.
- 2.4 Following on from the prevention and reduction of waste, this revised Strategy will encourage the separation and sorting of waste and recycling in-line with the Waste Hierarchy. Measures will be implemented to maximise the amount of material arising from the Proposed Development that is recycled/composed and minimise the amount of waste that is sent to landfill.
- 2.5 This revised Strategy provides a review of the requirements placed upon the Proposed Development under legislation and implemented policy at all levels of government (i.e., national (England), regional (GLA) and local (LBS)). Consideration has also been given to the requirements included in local standards, local planning policy and guidance documents to comply with relevant objectives and targets.
- 2.6 The method used to identify and estimate volumes of waste generated during operation of the Proposed Development is provided in the Section 6. Following this, the approach taken towards waste management within the Proposed Development is discussed. This includes a breakdown of the waste management process, including waste handling, storage area provision, and collection arrangements. All waste reduction measures are compliant with British Standards 5906:2005 (Ref. 1), the Waste (England and Wales) Regulations, 2012 (as amended) (Ref. 2) and Part H6 of the Building Regulations (2010) (incorporating all amendments) (Ref. 3) Document (hereafter referred to as 'Part H6').
- 2.7 This revised Strategy has been written by KaNect, using information provided by Berkeley Homes (Capital) Plc('Applicant'), Morrisons ('replacement supermarket Operator') and dRMM ('Architects').

3. Waste Hierarchy and Circular Economy

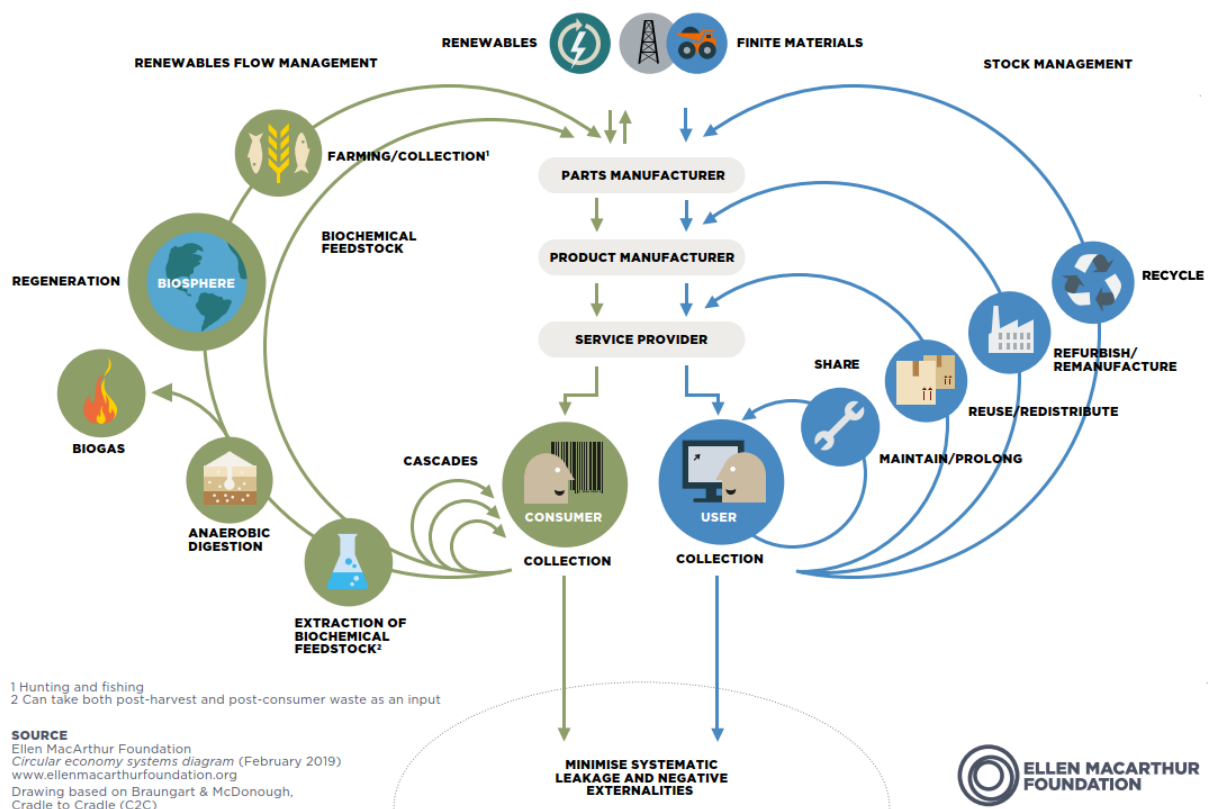
- 3.1 The Waste Hierarchy encourages the management and reduction of waste material. It is representative of a complex process influenced by the optimal management of any given product/waste material. A basic representation of the Waste Hierarchy is provided in Figure 1.

Figure 1 Waste Hierarchy

Prevention	1. Use less material in design and manufacture
Re-Use	2. Checking, cleaning, repairing, refurbishing
Recycling	3. Turning waste into a new substance or product
Other Recovery	4. E.g., Anaerobic digestion, incineration with energy recovery etc.
Disposal	5. Landfill and incineration without energy recovery

- 3.2 The prevention of waste sits at the top of the Waste Hierarchy. Prevention involves trying to reduce the amount of waste generated in the first place, for example by redesigning a product to use less, and fewer materials during manufacture.
- 3.3 The generation of waste in the UK has historically been linked with economic growth, as demonstrated by a marked decline in waste generation timed with the onset of the recession in 2008. The Circular Economy Model (see Figure 2) aims to decouple economic growth from resource consumption, by keeping resources in use for as long as possible and trying to regenerate them at the end of their life.

Figure 2 Circular Economy Model



- 3.4 It is likely that the future of waste prevention will look to adopt leasing/rental business models on a range of items (i.e., white goods, tools, phones, and clothes) which in doing so will promote an economy of repair and refurbishment. Reduction of waste will also occur by reducing the amount of packaging per item through innovation. Several initiatives will be explored to reduce waste arising from the Proposed Development including:
- Shared Community Fridges;
 - Tool Hire and Share; and
 - Collaboration with Charities for Food waste, Textile waste etc.
- 3.5 Reuse is the next tier of the Waste Hierarchy; it can involve the cleaning or repairing of products so they can be reused and redistributed as the same product. This helps to prevent products being disposed of once they become broken or dirty. Innovative exchange platforms to enable the reuse of materials include Globechain.
- 3.6 The third tier of the Waste Hierarchy and outermost loop of the Circular Economy Model is recycling – the act of turning waste materials into new products. Recycling benefits the environment as it reduces the consumption of raw materials and diverts waste materials from final disposal routes (i.e., landfill and incineration).
- 3.7 The fourth tier of the Waste Hierarchy is other recovery. This means that the waste material that cannot be recycled, it may be possible to recover energy in the form of ‘waste to energy’. This process can help to reduce carbon emissions.
- 3.8 Disposal is the final tier of the Waste Hierarchy. This would imply that the waste material collected are of no value (‘economic and environment’) and as a last resort are sent to the landfill (or incineration without energy recovery) for disposal. Due to the negative effects towards the environment (that may include impacts to air quality, climate change etc.), this is the least sustainable option.

4. Legislation and Waste Planning Policy

4.1 A summary list of the legislation relevant to the management of operational waste is provided in this section:

National Waste Legislation

- The Animal By-Products (England) Regulations 2009 (as amended) (Ref. 4),
- Clean Neighbourhoods and Environment Act 2005 (as amended) (Ref. 5),
- Control of Pollution Act (COPA) 1974 (as amended) (Ref. 6),
- The Controlled Waste (England and Wales) Regulations 2012 (as amended) (Ref. 7),
- The Environment Act 1995 (Ref. 8),
- Environmental Protection Act 1990 (EPA) (Ref. 9),
- The Landfill Tax Regulations 1996 (as amended) (Ref. 10),
- The List of Wastes (England) Regulations (as amended) (Ref. 11)
- The Pollution Prevention and Control (Fees) (Miscellaneous Amendments) Regulations 2017 (Ref. 12),
- The Producer Responsibility Obligations (Packaging Waste) Regulations 2007 (as amended) (Ref. 13),
- The Hazardous Waste Regulations 2005 (as amended) (Ref. 14),
- The Waste (England and Wales) Regulations, 2011 (as amended),
- The Waste Batteries and Accumulators Regulations 2009 (as amended) (Ref. 15), and
- The Waste Electrical and Electronic Equipment (WEEE) Regulations 2015 (Ref. 16).
- The Environmental Act 2021 (Ref. 17).

Regional and Local Waste and Planning Policy

4.2 The regional, and local waste and recycling management planning policies in Table 1 contain information applicable to the Proposed Development.

Table 1 Regional and Local Waste Planning Policy.

Waste Planning Policy Document	Date	Policy	Detail
National			
National Planning Policy for Waste (Ref. 18)	2014	Paragraph 8	- When determining planning applications for non-waste development, local planning authorities should, to the extent appropriate to their responsibilities, ensure that: - the likely impact of proposed, non-waste related development on existing waste management facilities, and on sites and areas allocated for waste management, is acceptable and does not prejudice the implementation of the waste hierarchy and/or the efficient operation of such facilities; and - new, non-waste development makes sufficient provision for waste management and promotes good design to secure the integration of waste management facilities with the rest of the development and, in less developed areas, with the local landscape. This includes providing adequate storage facilities at residential premises, for example by ensuring that there is sufficient and discrete provision for bins, to facilitate a high quality, comprehensive and frequent household collection service;
A Green Future: Our 25 Year Strategy to Improve the Environment (Ref. 19)	2018	Chapter 4: Increasing resource efficiency and reducing pollution and waste	- Make sure that resources are used more efficiently and kept in use for longer to minimise waste and reduce its environmental impacts by promoting reuse, remanufacturing, and recycling. - Work towards eliminating all avoidable waste by 2050 and all avoidable plastic waste by end of 2025.
Our Waste, Our Resources: A Strategy for England (Ref. 20)	2018	1.1.1 1.1.4 1.3.2 2.3.1 3.1.1	Extended Producer Responsibility - The Extended Producer Responsibility (EPR) is “a policy approach through which a producer’s responsibility for a product is extended to the post-use stage. This incentivises producers to design their products to make it easier for them to be reused, dismantled and/or recycled at end of life”, this also applies to certain materials within the construction and demolition section. Deposit Return Scheme - In a Deposit Return Scheme (DRS), a small deposit will be added to the price of a drink container brought to a store. Once the container has been used, the consumer will dispose of it in a reverse vending machine and the deposit will be returned to the consumer. Consistent Collections - Subject to consultation, legislation enforcing the government to “specify a core set of materials to be collected by all local authorities and waste operators” will be introduced. It is envisioned that specifying a consistent set of dry recyclable materials to be collected from all households and businesses will improve England’s recycling rate, (subject to consultation) it will include mandatory separate food waste collections. At the current time these policy instruments are out for consultation and (subject to proposals) will be rolled out from 2023.
Regional			
The London Plan (Ref. 21)	2021	The London Plan Policy SI 7 Reducing Waste and Supporting the Circular Economy	This policy states that waste reduction and reduction in the quantity of waste going for disposal from London can be achieved by promoting circular economy i.e. - By encouraging the reuse of material and by using fewer resources in the production and distribution of products, - By ensuring that zero biodegradable or recyclable waste is sent to landfill by 2026, - By meeting the set recycling targets (i.e., 65% for municipal waste by 2030), - By designing developments that would provide adequate, flexible, and easily accessible storage space to support collection of dry recyclables (at least card, paper, mixed plastics, metals, glass) and food.

London Environment Strategy (Ref. 22)	2018	Policy 7.2.2	Targets a 65% recycling rate for municipal waste (this is broken down into a 50% recycling target for household waste and a 75% target for business waste by 2030) and specifies that no biodegradable or recyclable waste will be sent to landfill by 2026.
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Local			
London Borough of Southwark – The Southwark Plan 2019- 2036 (Ref. 23)	2022	Policy P62 Reducing Waste	The Development must provide adequate recycling, composting and waste disposal, collection and storage facilities on site

5. Proposed Development

- 5.1 The Proposed Development once constructed will comprise of 16 buildings including Building A, B, C, D, E, F, G, H, J1, J2, K, L, M, N, P and Q. The Proposed Development will provide 867 residential units (including 1bed, 2bed, 3bed and 4bed apartments and maisonettes) spread over Buildings A, B, C, E, F, G, H, J1, J2, K, L, M, N, P and Q. In addition to the residential units, the Proposed Development will also provide 6,172.4 m² GIA of waste generating (which does not include spaces such as circulation areas etc, that do not generate any waste) flexible retail, leisure and commercial floor spaces (Use Class E/Sui Generis) spread over Buildings A, B, C, D, E, F, G, H, J1, J, L and N. At this stage, the exact land uses of these flexible retail, leisure and commercial units are not known, however, for the purpose of estimating the waste and recycling arisings and the subsequent storage requirements, it is assumed that the commercial spaces will include retail, restaurant, office, and gym.
- 5.2 Table 2 provides a breakdown of the residential units, whereas the commercial unit breakdown and the assumed uses are provided in Table 3.

Table 2 Residential Unit Breakdown.

Building	Type	Number of Units
A	1 Bed	6
	2 Beds	9
	3 Beds	4
Total A		19
B	1 Bed	2
	2 Beds	25
Total B		27
C	1 Bed	8
	2 Beds	5
	3 Beds	6
Total C		19
E	1 Bed	56
	2 Beds	18
	3 Beds	5
Total E		79
F	2 Beds	10
	3 Beds	10
Total F		20
G	1 Bed	34
	2 Beds	23
	3 Beds	14
Total G		71
H	2 Beds	35
	3 Beds	8
Total H		43
J1	1 Bed	44
	2 Beds	47
	3 Beds	17

Total J1		108
J2	1 Bed	8
	2 Beds	7
	3 Beds	6
Total J2		21
K	1 Bed	44
	2 Beds	23
	3 Beds	18
Total K		85
L	1 Bed	30
	2 Beds	46
	3 Beds	9
Total L		85
M	1 Bed	48
	2 Beds	61
	3 Beds	40
Total M		149
N	1 Bed	60
	2 Beds	1
	3 Beds	3
Total N		64
P	2 Beds	17
	3 Beds	16
	4 Beds	17
Total P		50
Q	1 Bed	3
	2 Beds	24
	3 Beds	0
Total Q		27
Overall Total		867

Table 3 Flexible Retail, Leisure and Commercial Spaces and their Assumed use.

Buildings	Assumed Use*	GIA (m ²) **
A + B + C + F	Retail	1,309.5
D	Office	2,359.7
E + G + K	Office	279.8
H + J1 + J2 + K + L + N	Retail	620.5
K	Gym	900.6
E	Restaurant	180.6
F	Restaurant	143.2
G	Restaurant	214.8
H	Restaurant	163.7
Total		6,172.4

*These uses have been assumed at this stage to estimate the quantities and subsequent storage requirements from the Proposed Development based on a worst-case scenario. These uses might be updated at a later stage.

** excludes circulation areas or similar

6. Method

Residential

- 6.1 LBS within their guidance document 'Waste management guidance notes for residential developments (Ref. 24) provides the method to estimate the waste and recycling material arising from the residential units. The method used is provided in Table 4.

Table 4 Method to estimate Weekly Waste and Recycling arisings from Residential Units.

Unit Type	Methodology	Split
1 Bed	100 Litres/Week (L/W).	MDR: Residual 50:75
2 Bed	170 L/W	MDR: Residual 50:75
3 Bed	240 L/W	MDR: Residual 50:75

- 6.2 Although LBS does not currently collect separate Food waste bins from the residential flats, however, to future proof the Proposed Development in line with the upcoming national and regional policies, space for Food waste bins have been provided based on **7 Litres per bedroom per week**.
- 6.3 Currently the Proposed Development will provide space to allow for the storage of 44% (including Food waste) of recyclables from the residential units. However, the Proposed Development is designed with flexibility that will allow for the storage and segregation of 65% of recyclables from residential units, considering that with the increase in recycling rates the storage required for Residual waste will reduce simultaneously.

Flexible Retail, Leisure and Commercial Spaces

- 6.4 LBS does not provide any guidance on estimating the waste and recycling material arising from the commercial spaces. Therefore, guidance provided within BS 5905:2005 has been used for most of the land uses. However, where there is no guidance provided in BS 5906:2005, a bespoke method prepared by KaNect using its experience of working on projects of similar scale and extent has been used. The method adopted is shown in Table 5.

Table 5 Method to estimate Weekly Waste and Recycling arisings from Flexible Retail, Leisure and Commercial Spaces and Residential Amenity Spaces.

Land Use	Methodology	Split Ratio
Retail	10L per m ² of Sales Floor Area (SFA). Where SFA = 2/3 of GIA(m ²)	Mixed Dry Recyclable (MDR): Residual 75: 25
Restaurant	75L per cover. Where 1 cover = 1/3 of GIA(m ²).	Mixed Dry Recyclable (MDR): Food: Residual 50: 30: 20
Office	50L per employee. Where 1 employee = 1/10 of GIA(m ²).	Mixed Dry Recyclable (MDR): Residual 75: 25
Gym	5L m ² of GIA (m ²).	Mixed Dry Recyclable (MDR): Residual 75: 25

- 6.5 The Proposed Development will provide space that will allow for the storage and segregation of 77% of the recyclables from the flexible retail, leisure and commercial spaces.

7. Management Strategy

Waste and Recycling Material Arisings

Residential

7.1 As mentioned in paragraph vii of the Executive Summary, two bin stores have been provided on the Ground Floor level of Building B, which will provide space to hold bins for the waste and recycling materials arising from the residential units of Buildings A, B and C.

7.2 Considering the above and based on the method provided in Table 4, the total weekly waste and recycling arisings from the residential units of the Proposed Development is provided in Table 6.

Table 6 Weekly Waste and Recycling Material Arising from Residential Units

Building	No. of Units	MDR (L/W)	Food (L/W)	Residual (L/W)	Total (L/W)
A	19	1,545	252	2,318	4,115
B	27	2,225	364	3,338	5,927
C	19	1,545	252	2,318	4,115
Total of A + B + C	65	5,315	868	7,974	14,157
E	79	4,930	749	7,395	13,074
F	20	2,050	350	3,075	5,475
G	71	5,335	854	8,003	14,192
H	43	3,935	658	5,903	10,496
J1	108	8,235	1,323	12,353	21,911
J2	21	1,715	280	2,573	4,568
K	85	6,315	1,008	9,473	16,796
L	85	6,490	1,043	9,735	17,268
M	149	12,385	2,030	18,578	32,993
N	64	3,445	497	5,168	9,110
P	50	6,000	1,050	9,000	16,050
Q	27	2,260	371	3,390	6,021
Total	867	68,410	11,081	102,620	182,111
% breakdown		38%	6%	56%	100%

7.3 The Proposed Development will provide storage space to accommodate approximately 44% (including Food) for recyclables, whereas 56% will be allocated for Residual waste from the residential units. At this stage, information on the end destination of Residual waste is unknown, however, it is envisioned that alternative approaches will be sought (including energy from waste etc) prior to disposal.

7.4 Table 7 provides the indicative percentages showing how waste and recycling materials will be managed from the residential units of the Proposed Development. Please note that these are indicative percentages, as these will be heavily reliant on the procedures and practices followed by LBS.

Table 7 Waste and Recycling Indicative Percentages - Residential Units

Waste and Recycling Indicative percentages	
Total Estimate (tonnes per annum)	1,144
Reuse Onsite	0%
Reuse Offsite	0%
Recycle Onsite	0%
Recycle Offsite	≥65%
Landfill Diversion (%)	≥95%
Other management (%)	0

Flexible retail, leisure and commercial spaces

- 7.5 As mentioned in paragraphs xiii - xvii of the Executive Summary, the flexible retail, leisure and commercial spaces assumed to be retail spaces located in Buildings A, B, C and F will share a combined bin store, located on the Ground Floor Level of Building B. The flexible retail, leisure and commercial spaces assumed to be offices spaces located in Buildings D, E, G and K will share a combined store, located on the Ground Floor of Building D. The flexible retail, leisure and commercial spaces assumed to be retail spaces located in Buildings H, J1, J2, K, L and N will share a combined bin store located on the Ground Floor of Building K. The flexible retail, leisure and commercial space assumed to be gym located in Building K, will be provided with within the curtilage of this commercial space to hold bins. flexible retail, leisure and commercial spaces assumed to be restaurants located in Buildings E, F, G and H will have separate bin stores located on the Ground Floor level of these Buildings.
- 7.6 Considering the above and the method provided in Table 5, the waste and recycling arisings from the flexible retail, leisure, and commercial spaces of the Proposed Development considering a daily collection frequency are provided in Table 8.

Table 8 Waste and Recycling Material Arising from Flexible Retail, Leisure and Commercial Spaces

Buildings	Assumed Land Use	MDR(L)	Food(L)	Residual(L)	Total(L)
A+B+C+F	Retail	935	-	312	1,247
D+E+G+K	Office	1,980	-	660	2,640
H+J1+J2+K+L+N	Retail	443	-	148	591
K	Gym	482	-	161	643
E	Restaurant	327	196	131	654
F	Restaurant	257	154	103	514
G	Restaurant	386	231	154	771
H	Restaurant	295	177	118	590
Total		5,105	758	1,787	7,650
% Breakdown		67%	10%	23%	100%

- 7.7 The Proposed Development will provide storage space to accommodate approximately 77% (including Food) for recyclables, whereas 23% will be allocated for Residual waste from the flexible retail, leisure and commercial spaces. At this stage, information on the end destination of Residual waste is unknown, however, it is envisioned that alternative approaches will be sought (including energy from waste etc) prior to disposal.

- 7.8 Table 9 provides the indicative percentages showing how waste and recycling materials will be managed from the commercial spaces of the Proposed Development. Please note that these are indicative percentages, as these will be heavily reliant on the procedures and practices that will be confirmed once the commercial collection contractor/s are commissioned.

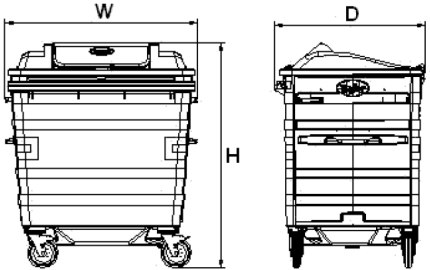
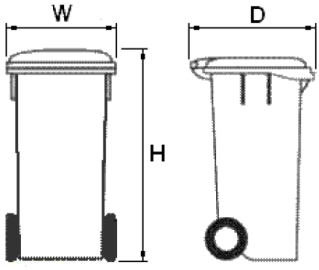
Table 9 Waste and Recycling Indicative Percentages - Flexible Retail, Leisure and Commercial Spaces

Waste and Recycling Indicative percentages	
Total Estimate (tonnes per annum)	364
Reuse Onsite	0%
Reuse Offsite	0%
Recycle Onsite	0%
Recycle Offsite	≥65%
Landfill Diversion (%)	≥95%
Other management (%)	0

Storage Containers

7.9 Table 10 provides the standard bin dimensions as mentioned in LBS guidance document.

Table 10 LBS Standard Bin Dimensions.

1,100 L (Euro)	
	Height (mm): 1,380*
	Width (mm): 1,270*
	Depth (mm): 1,000*
240 L	
	Height (mm): 1,065*
	Width (mm): 580*
	Depth (mm): 735*

Residential

- 1,100 L Bins for MDR and Residual waste; and
- 240 L for Food waste.

Flexible Retail, Leisure and Commercial

- 1,100 L Bins for MDR and Residual waste; and
- 240 L for Food waste.

Waste and Recycling Storage Requirements

Residential

- 7.10 As mentioned in paragraph vii of the Executive Summary, two bin stores have been provided on the Ground Floor level of Building B, which will provide space to hold bins for the waste and recycling materials arising from the residential units of Buildings A, B and C.
- 7.11 Considering the above and the weekly waste and recycling arisings from the residential units of Proposed Development, as shown in Table 6, the subsequent storage requirements are provided in Table 11

Table 11 Residential Bin Storage Requirements

Building	MDR	Food	Residual	Total
A + B + C	5 x 1,100 L	4 x 240 L	8 x 1,100 L	13 x 1,100 L 4 x 240 L
E	5 x 1,100 L	4 x 240 L	7 x 1,100 L	12 x 1,100 L 4 x 240 L
F	2 x 1,100 L	2 x 240 L	3 x 1,100 L	5 x 1,100 L 2 x 240 L
G	5 x 1,100 L	4 x 240 L	8 x 1,100 L	13 x 1,100 L 4 x 240 L
H	4 x 1,100 L	3 x 240 L	6 x 1,100 L	10 x 1,100 L 3 x 240 L
J1	8 x 1,100 L	6 x 240 L	12 x 1,100 L	20 x 1,100 L 6 x 240 L
J2	2 x 1,100 L	2 x 240 L	3 x 1,100 L	5 x 1,100 L 2 x 240 L
K	6 x 1,100 L	5 x 240 L	9 x 1,100 L	15 x 1,100 L 5 x 240 L
L	6 x 1,100 L	5 x 240 L	9 x 1,100 L	15 x 1,100 L 5 x 240 L
M	12 x 1,100 L	9 x 240 L	17 x 1,100 L	29 x 1,100 L 9 x 240 L
N	4 x 1,100 L	3 x 240 L	5 x 1,100 L	9 x 1,100 L 3 x 240 L
P	6 x 1,100 L	5 x 240 L	9 x 1,100 L	15 x 1,100 L 5 x 240 L
Q	3 x 1,100 L	2 x 240 L	4 x 1,100 L	7 x 1,100 L 2 x 240 L

Flexible Retail, Leisure and Commercial Spaces

- 7.12 Considering the waste and recycling arisings from the commercial spaces of each Building as shown in Table 8, the subsequent storage requirements based on a daily collection frequency are provided in Table 12.

Table 12 Flexible Retail, Leisure and Commercial Spaces Bin Storage Requirements

Buildings	MDR	Food	Residual	Total
A+B+C+F	1 x 1,100 L	1 x 240 L	1 x 1,100 L	2 x 1,100 L 1 x 240 L
D+E+G+K	2 x 1,100 L	1 x 240 L	1 x 1,100 L	3 x 1,100 L 1 x 240 L
H+J1+J2+K+L+N	1 x 1,100 L	1 x 240 L	1 x 1,100 L	2 x 1,100 L 1 x 240 L
K	1 x 1,100 L	-	1 x 1,100 L	2 x 1,100 L
E	1 x 1,100 L	1 x 240 L	1 x 1,100 L	2 x 1,100 L 1 x 240 L
F	1 x 1,100 L	1 x 240 L	1 x 1,100 L	2 x 1,100 L 1 x 240 L
G	1 x 1,100 L	1 x 240 L	1 x 1,100 L	2 x 1,100 L 1 x 240 L
H	1 x 1,100 L	1 x 240 L	1 x 1,100 L	2 x 1,100 L 1 x 240 L

Management

Residential

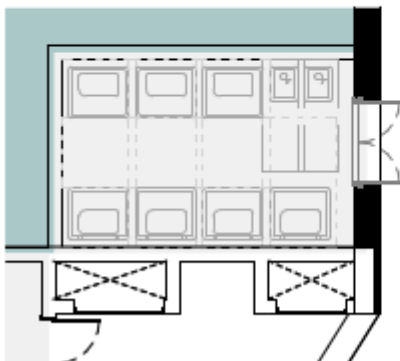
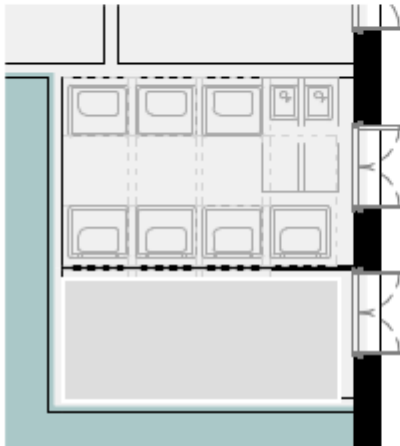
- 7.13 To manage the waste and recycling material arisings from the residential units of Buildings A, B and C; two bin stores have been provided on the Ground Floor level of Buildings B. These bin stores are located in such a manner that all residential units of Buildings A, B and C are within 30 m distance of these bin stores. This will allow the residents of these buildings to access these bin stores directly and deposit their waste and recycling material into the correct bins. These bin stores are designed to hold bins for Mixed Dry Recyclables (MDR), Food and Residual waste considering a weekly collection frequency. Please see Figure 3 for the location and layout of these bin stores.

Figure 3 Buildings A, B and C Residential Bin Stores

REFUSE STORE

Buildings A-B-C

BUILDINGS B-RESI	
1000L Refuse	14
240L Food	4

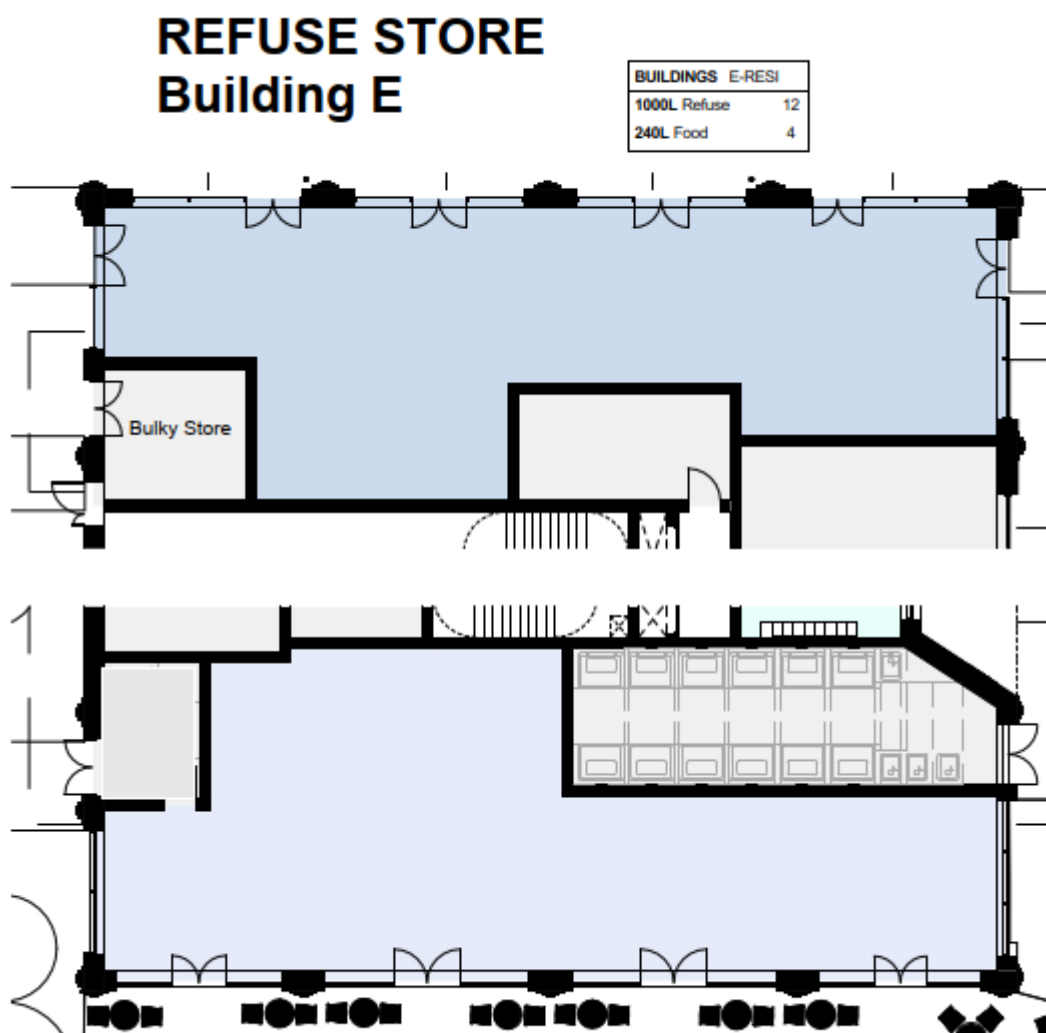


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- 7.14 On the day of collection, the building management team will move the bins outside the bin store so that these bins will be positioned within 10 m distance of the Refuse Collection Vehicle (RCV) stopping point, which will allow the LBS collection operatives to wheel the bins scheduled to be collected to the RCV for emptying. Once the bins are emptied, the LBS collection operatives will return the empty bins back to the designated location, from where this will be returned to the bin store by the building management team.

- 7.15 To manage the waste and recycling arising from Buildings E, F, G, H, J1, J2, K, L, M, N, P and Q, separate bin stores have been provided on the Ground Floor of each building. It is to be noted that for Building K, two separate bin stores have been provided on the Ground Floor level of Building K. These bin stores have been located in such a manner that majority of the residential units in each building are within 30 m distance of the bin store. Where due to the design of the Proposed Development including gallery deck access to improve cross ventilation and dual aspect, the bin stores that are not able to meet this distance, these bin stores are located keeping in mind the natural route the residents will take on their way of the building, so to minimise any inconvenience. Similar to the bin stores for Buildings A, B and C, the bin stores for E, F, G, H, J1, J2, K, L, M, N, P and Q are designed to hold bins for MDR, Food and Residual waste considering a weekly collection frequency. Please see Figure 4 - Figure 14 for the location of these bin stores.

Figure 4 Buildings E Residential Bin Store



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Figure 5 Building F Residential Bin Store

REFUSE STORE Building F

BUILDINGS F-RESI	
1000L Refuse	5
240L Food	2

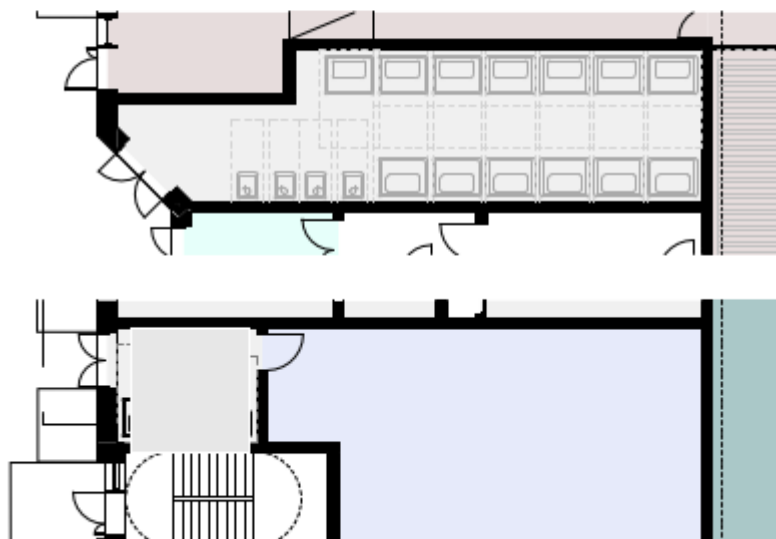


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Figure 6 Building G Residential Bin Store

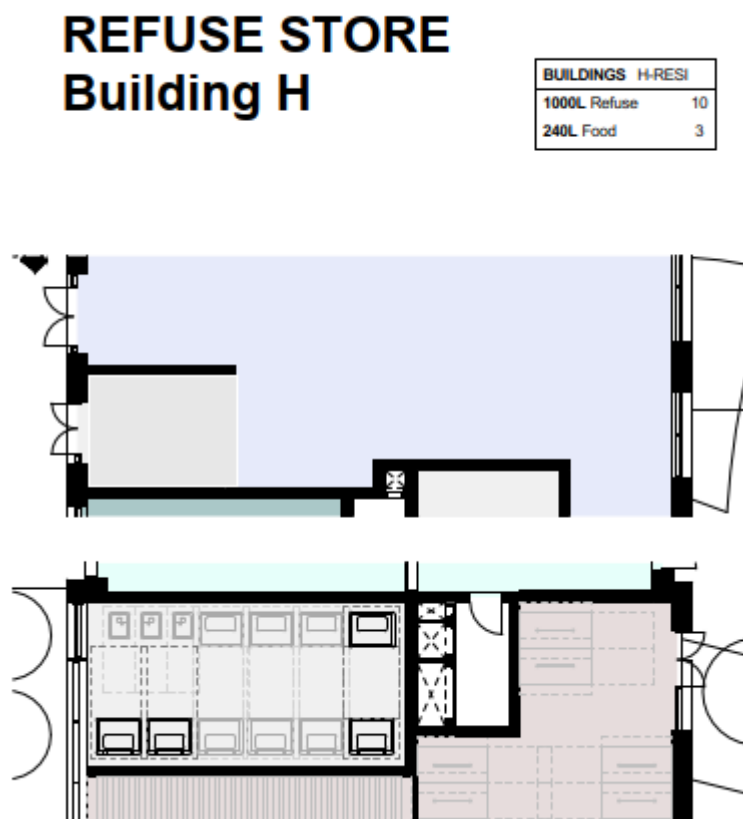
REFUSE STORE Building G

BUILDINGS G-RESI	
1000L Refuse	13
240L Food	4



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Figure 7 Building H Residential Bin Store



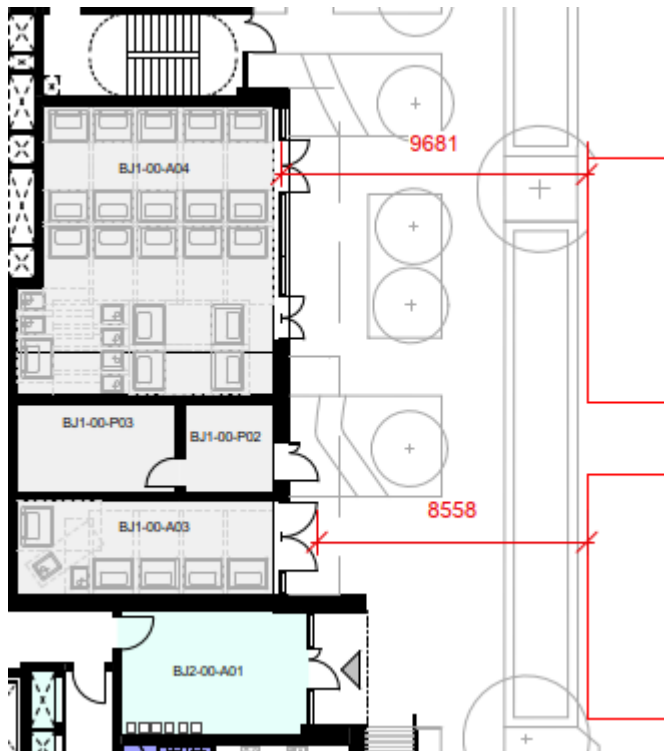
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Figure 8 Buildings J1 and J2 Residential Bin Store

REFUSE STORE

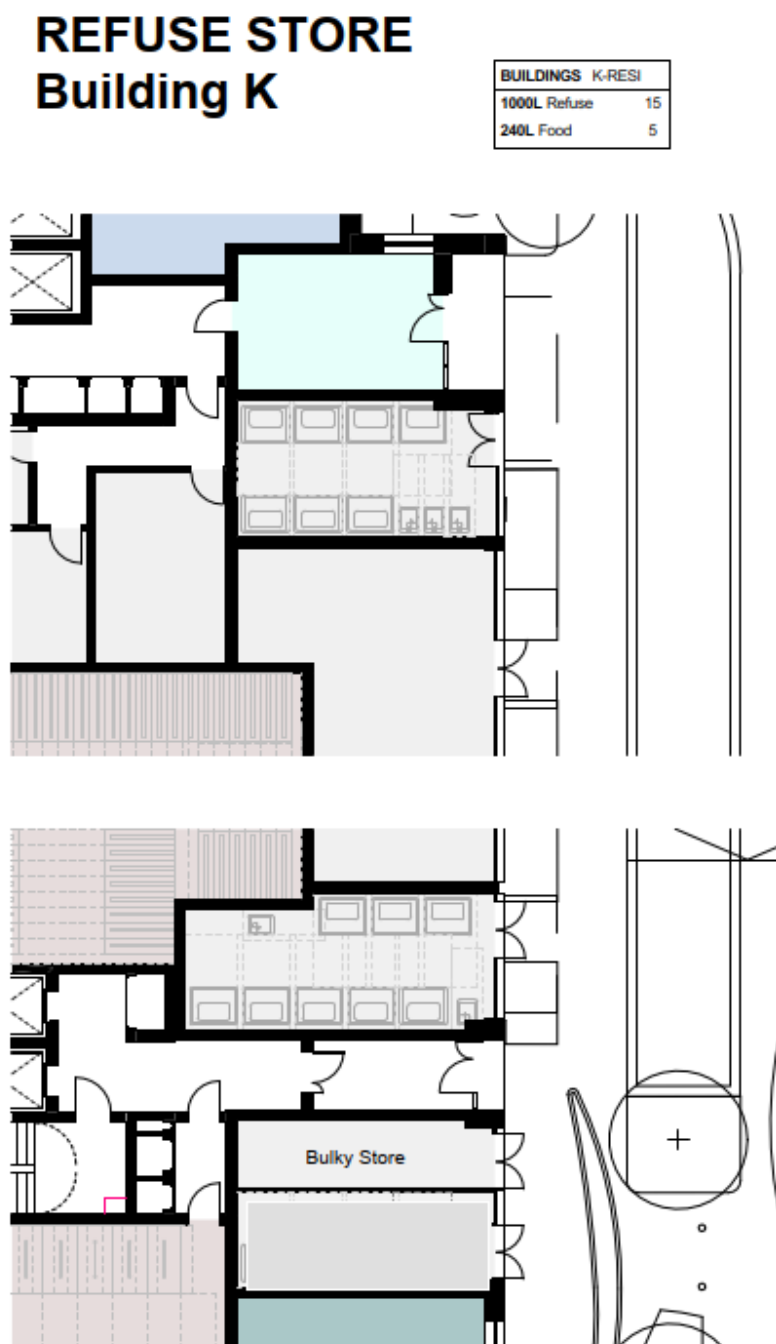
Building J

BUILDINGS J-RESI	
1000L Refuse	25
240L Food	8



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Figure 9 Building K Residential Bin Store

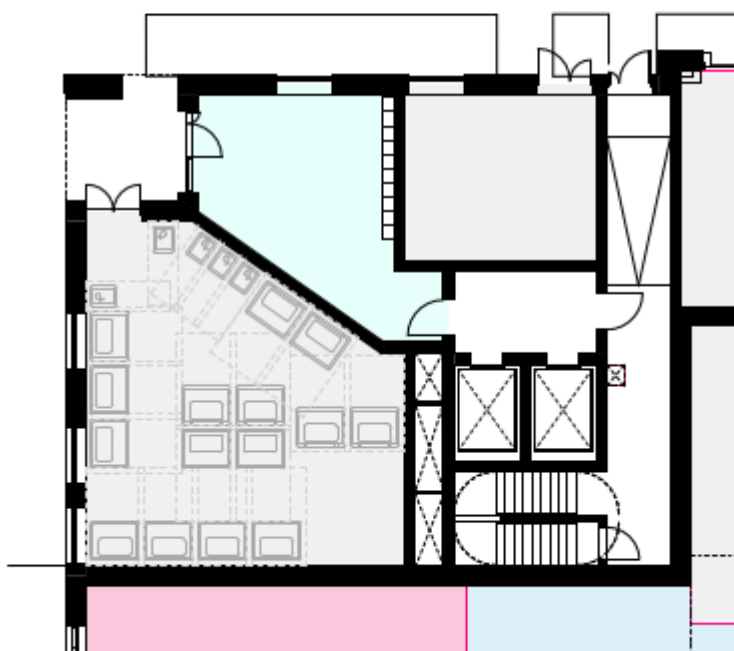


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Figure 10 Building L Residential Bin Store

REFUSE STORE Building L

BUILDINGS L-RESI	
1000L Refuse	15
240L Food	5

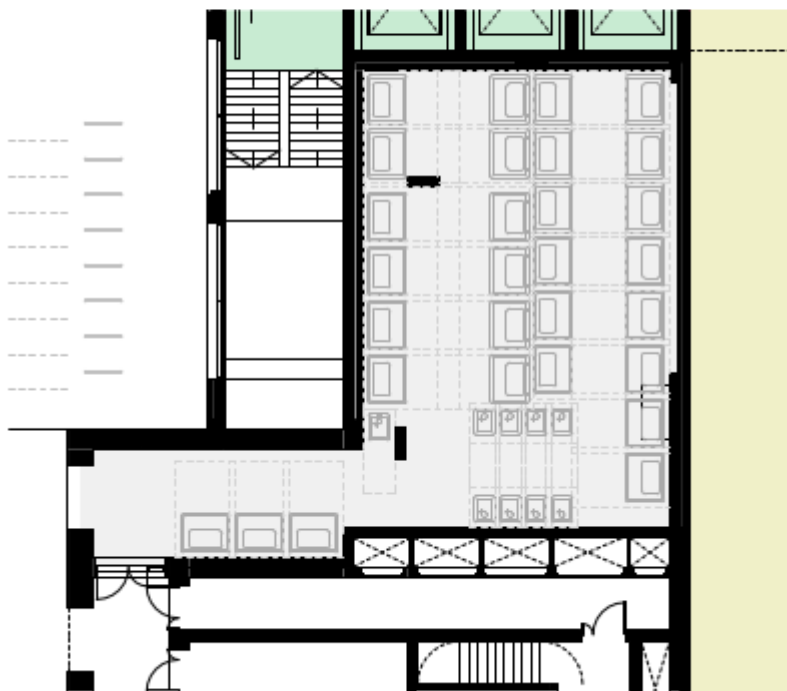


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Figure 11 Building M Residential Bin Store

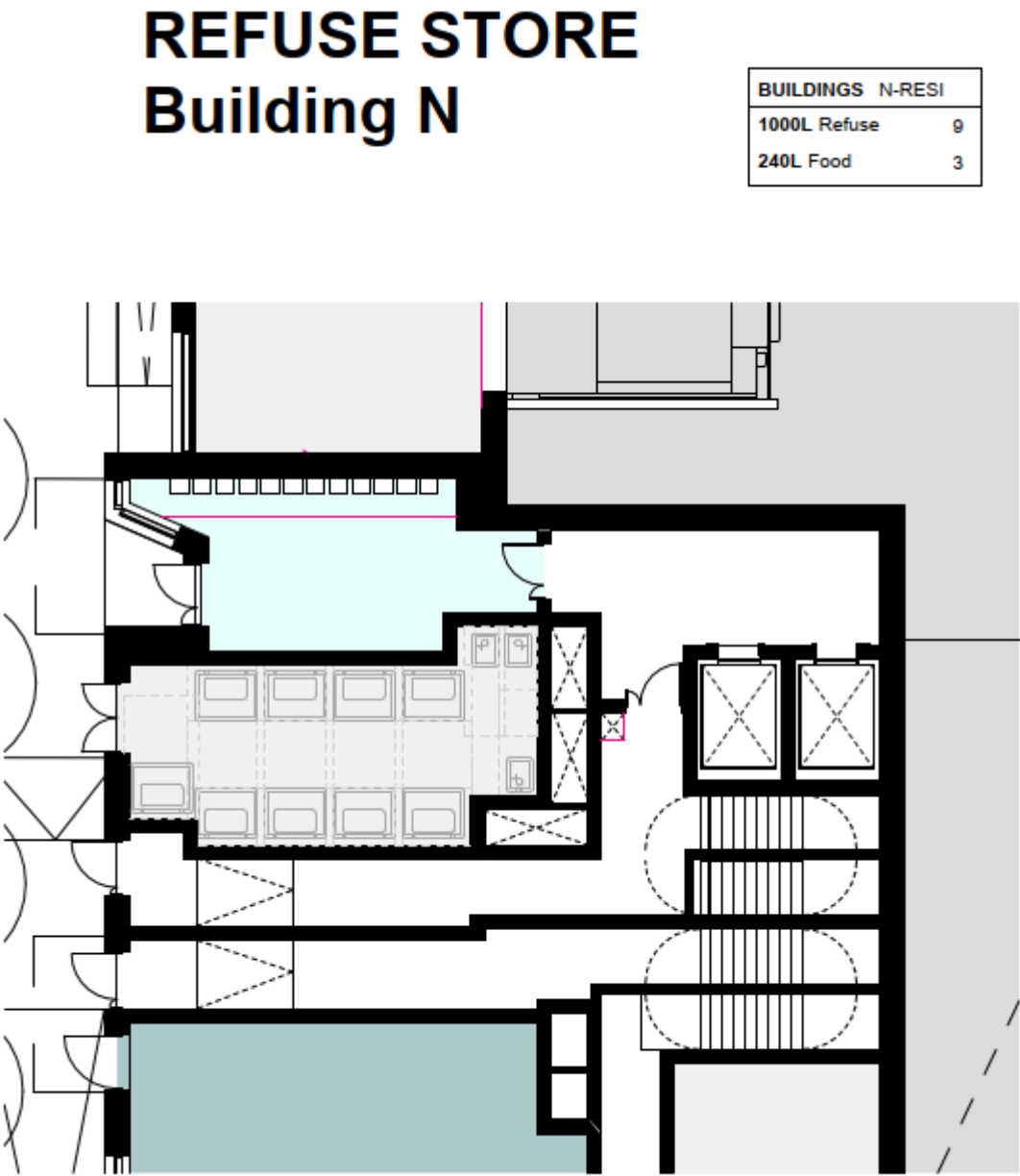
REFUSE STORE Building M

BUILDINGS	M-RESI
1000L Refuse	29
240L Food	9



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Figure 12 Building N Residential Bin Store



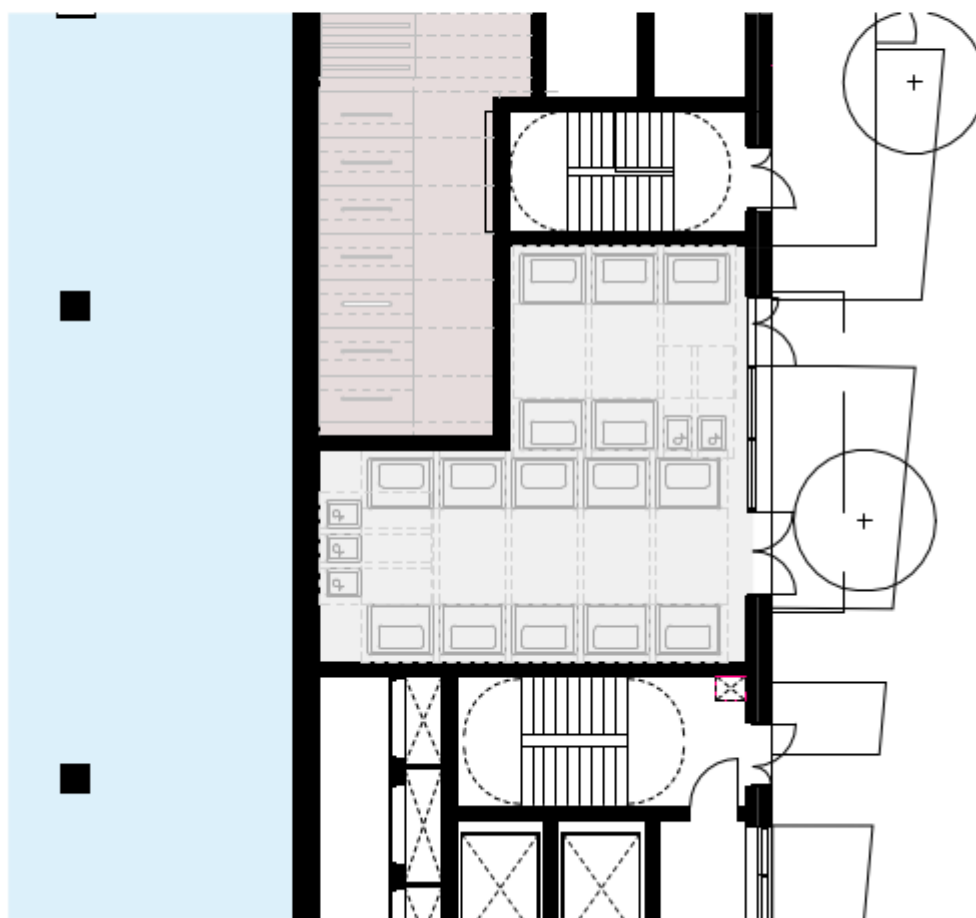
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Figure 13 Building P Residential Bin Store

REFUSE STORE

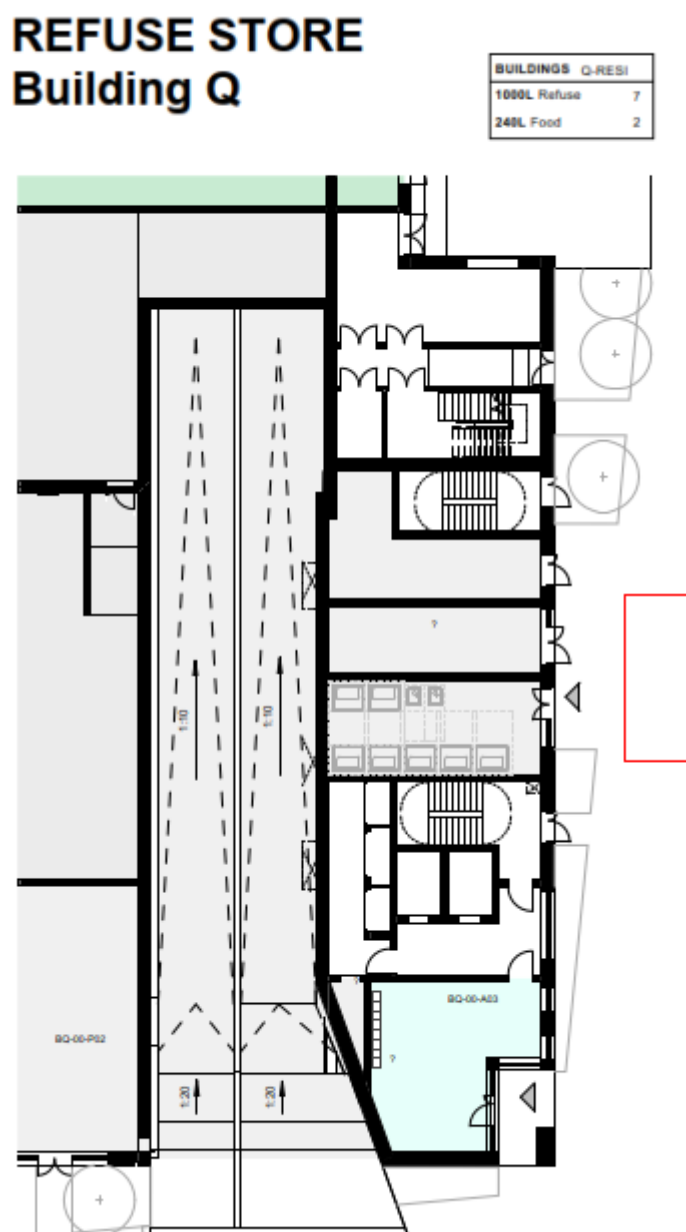
Building P

BUILDINGS P-RESI	
1000L Refuse	15
240L Food	5



This Figure is not drawn to scale.

Figure 14 Building Q Residential Bin Store



This Figure is not drawn to scale.

- 7.16 On the day of collection, the building management team will move the bins outside the bin store so that the bins will be positioned within 10 m distance of the RCV stopping point, allowing the LBS collection operatives to wheel the bins scheduled to be collected to the RCV for emptying (Please see Appendix 1). Once emptied, the LBS collection operatives will return the empty bins back to the designated locations, from where the building management team will return the bins to the bin store.
- 7.17 It should be noted that the building management team will be on-hand during the collection process, which will enable a more smooth and uninterrupted collection process.
- 7.18 Figure 15 - Figure 16 provides the RCV tracking.

Figure 15 RCV Tracking



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Figure 16 RCV Tracking

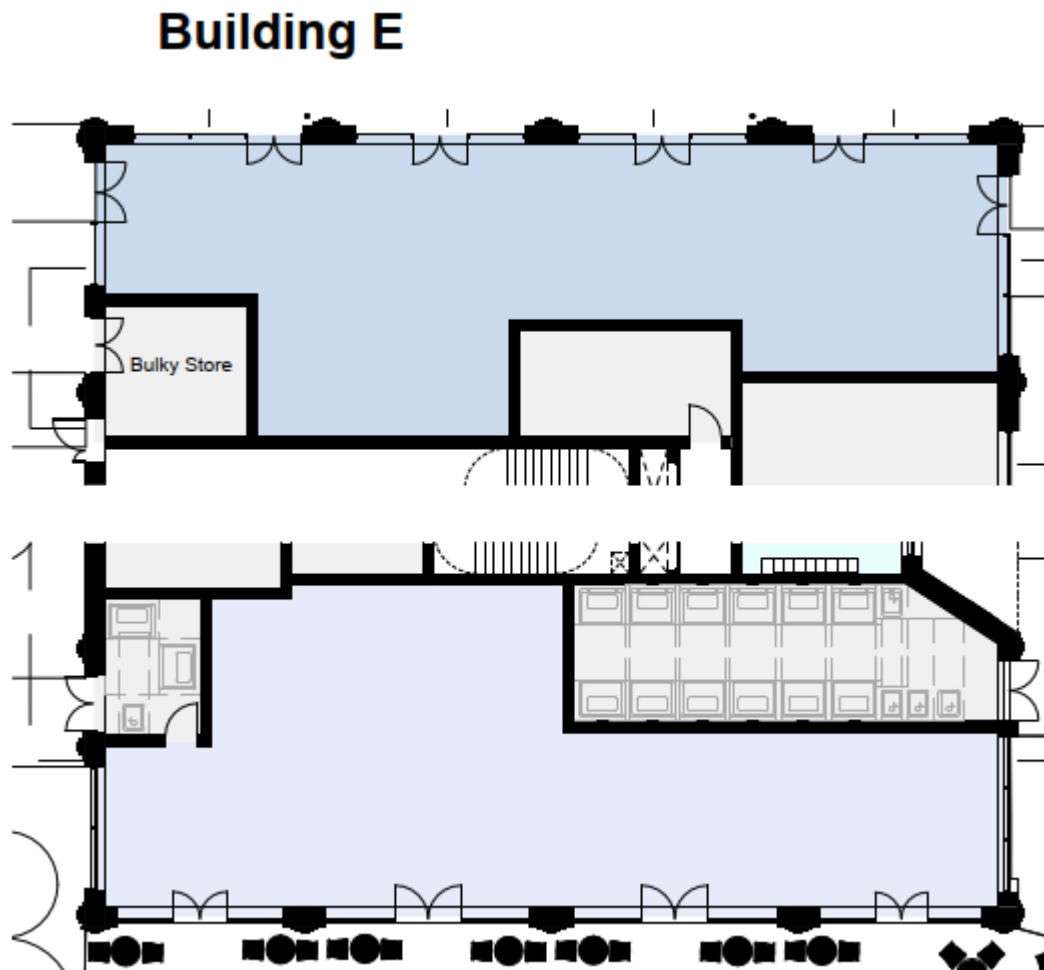


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Bulky Waste

7.19 Three separate bulky waste stores totalling up to 45.4 m² have been provided on the Ground Floor levels of Building E (15 m²), K (14.4 m²) and Q (16 m²). These bulky waste stores will be managed that is when the residents book their collection, they will inform the building management team, who will assist them in the transfer of their bulk waste items to the bulky waste store. On the day of collection, the building management team will place these items on the point of collection from where LBS collection operatives will collect these items. Please see Figure 17 - Figure 19 for the location of the bulky waste stores.

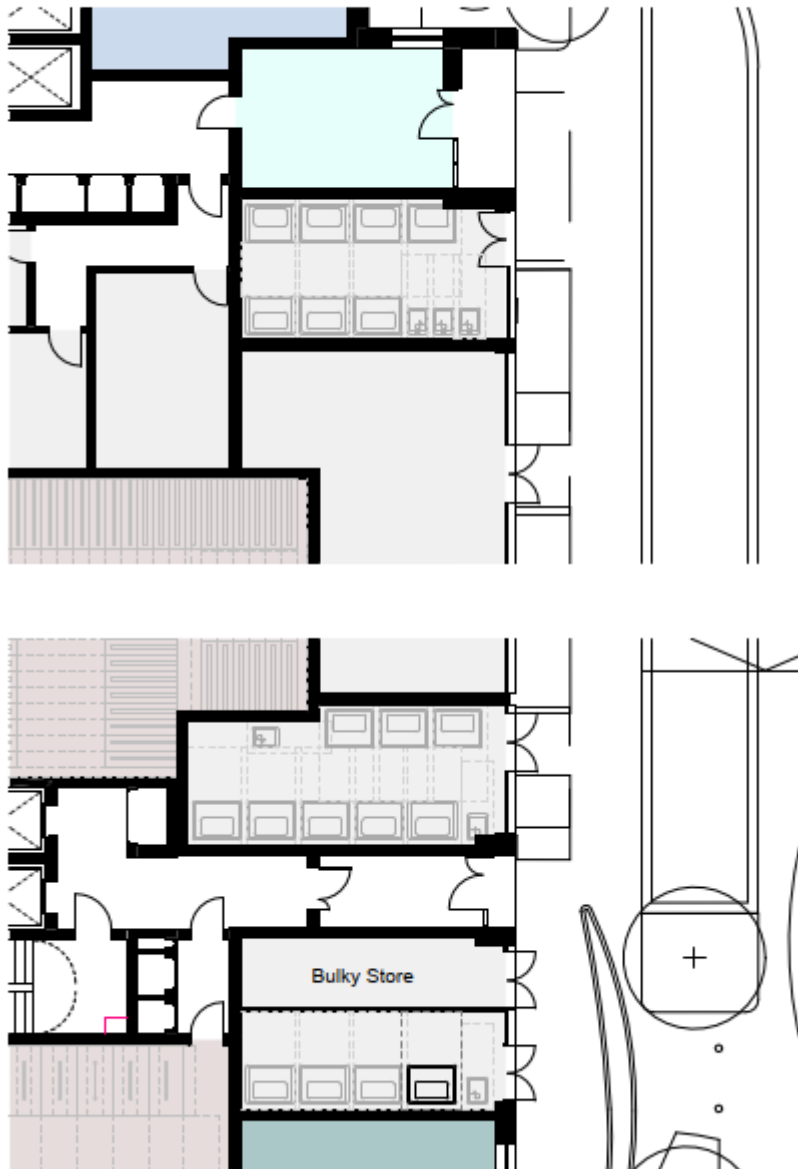
Figure 17 Building E Bulky Waste Store



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Figure 18 Building K Bulky Waste Store

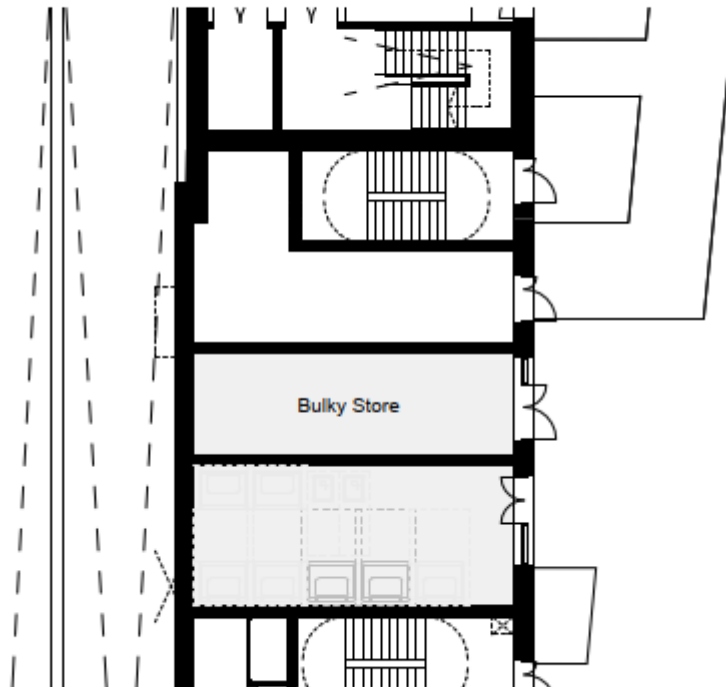
Building K



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Figure 19 Building Q Bulky Waste Store

Building Q



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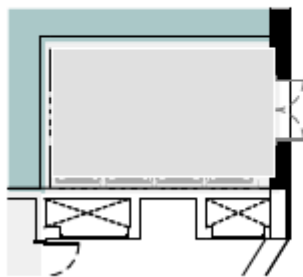
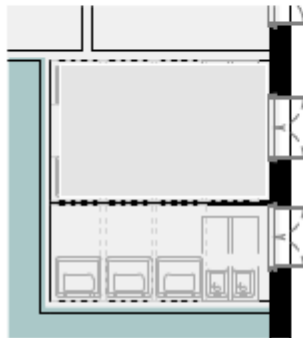
Flexible Retail, Leisure and Commercial Spaces

- 7.20 To manage the waste and recycling material arising from the flexible retail, leisure and commercial spaces of the Proposed Development, space has also been provided within the buildings of the Proposed Development to hold bins.
- 7.21 For the flexible retail, leisure and commercial spaces, assumed to be retail spaces that are located in Buildings A, B, C and F, a combined bin store has been provided on the Ground Floor level of Building B (Buildings A, B, C and F Retail Bin Store). This bin store has been designed considering a daily collection frequency. Please see Figure 20 for the location and layout of this bin store.

Figure 20 Buildings A, B, C and F Retail Bin Store

REFUSE STORE Buildings A-B-C

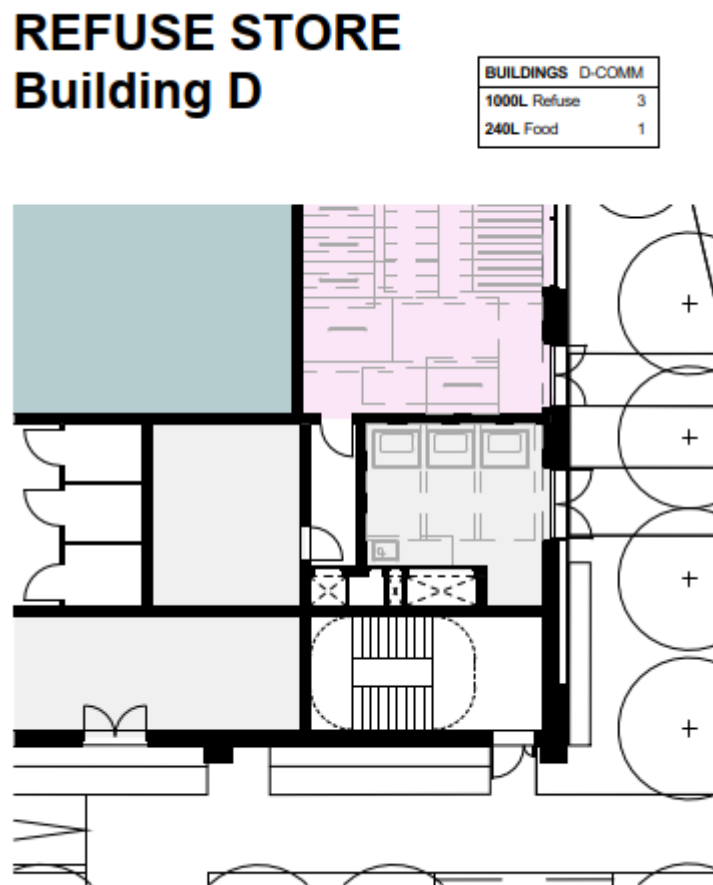
BUILDINGS B-COMM	
1000L Refuse	3
240L Food	2



This Figure is not drawn to scale. It can be noted that there is an overprovision of 1 x 1,100 L and 1 x 240 L bin in this bin store.

- 7.22 On daily basis the commercial tenants cleaning team will transfer the waste and recycling material from the flexible retail, leisure and commercial spaces in Buildings A, B, C and E to the Buildings A, B, C and F retail bin store. On the day of collection, the RCV will park within 10 m distance of the Buildings A, B, C and F retail bin store, providing direct access to the collection operatives, and allowing the collection operatives to wheel the bins scheduled to be collected to the RCV for emptying. Once emptied, the collection operatives will return the empty bins back to the combined Block B commercial bin store.
- 7.23 For the flexible retail, leisure and commercial spaces, assumed to be offices that are located in Buildings D, E, G and K, a combined bin store has been provided on the Ground Floor level of Building D (Buildings D, E, G and K Office Bin Store). This bin store has been designed considering a daily collection frequency. Please see Figure 21 for the location and layout of this bin store.

Figure 21 Buildings D, E, G and K Office Bin Store



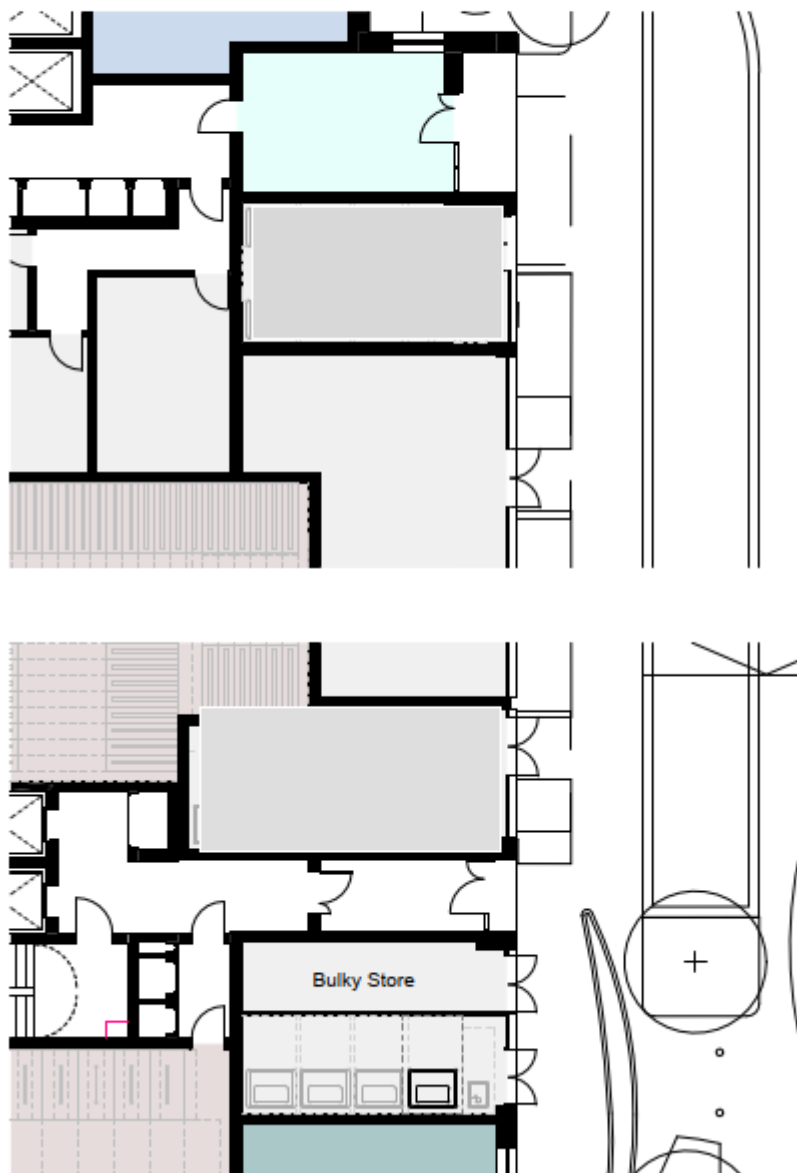
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- 7.24 On daily basis, the commercial tenants cleaning team will transfer the waste and recycling material from the individual flexible retail, leisure and commercial spaces in Buildings D, E, G and K to the Buildings D, E, G and K office bin store. On the day of collection, the RCV will park within 10 m distance of the Buildings D, E, G and K office bin store, providing direct access to the collection operatives, and allowing the collection operatives to wheel the bins scheduled to be collected to the RCV for emptying. Once emptied, the collection operatives will return the empty bins back to the Buildings D, E, G and K office bin store.
- 7.25 For the flexible retail, leisure and commercial spaces, assumed to be retail spaces (excluding the assumed restaurant spaces) in Buildings H, J, K, L and N, a combined bin store is provided on the Ground Floor Level of Building K (Buildings H, J, K, L and N Retail Bin Store). This bin store is designed based on a daily collection frequency. Please see Figure 22 for the location and layout of this bin store.

Figure 22 Buildings H, J, K, L and N Retail Bin Store

REFUSE STORE Building K

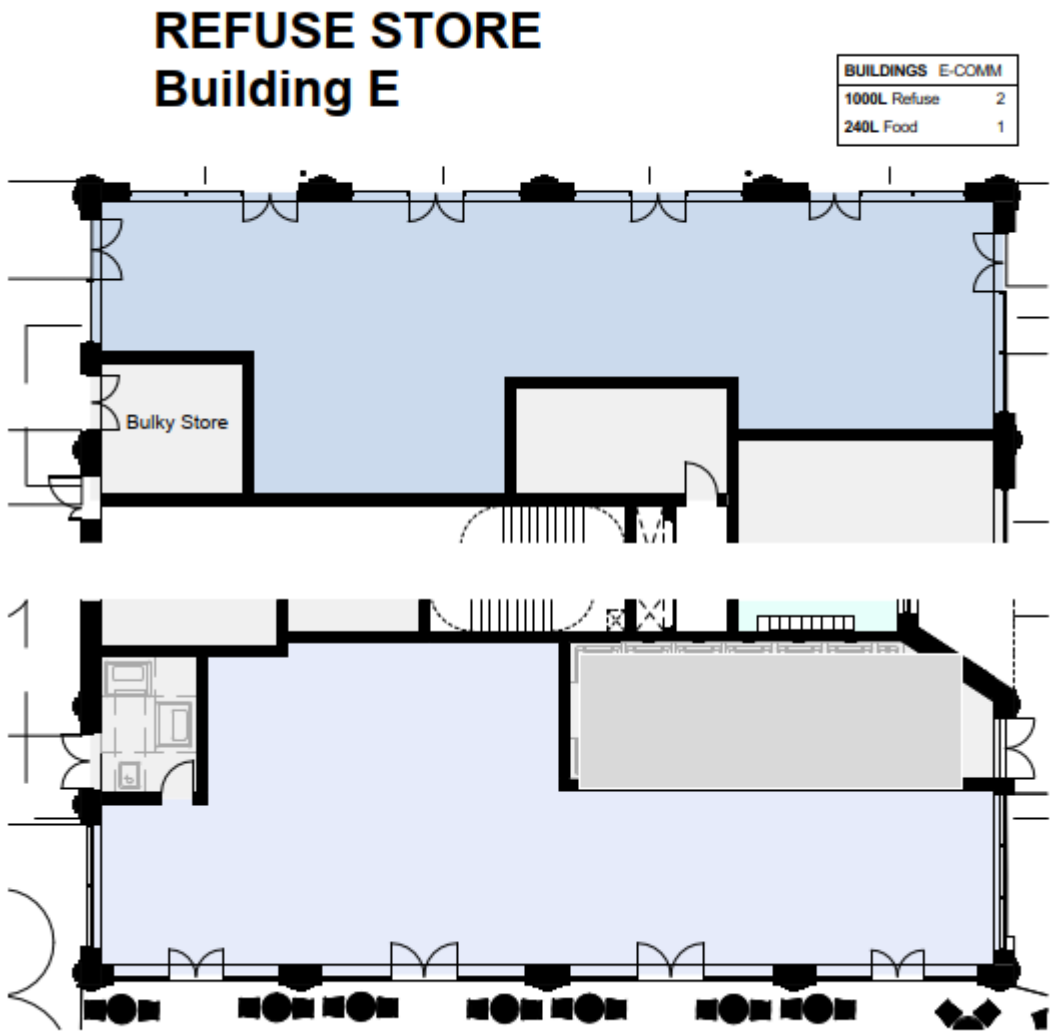
BUILDINGS	K-COMM
1000L Refuse	4
240L Food	1



This Figure is not drawn to scale.

- 7.26 On daily basis, the commercial tenants cleaning team will transfer the waste and recycling material from the flexible retail, leisure and commercial spaces in Buildings G, H, J, K, L and N to the Buildings G, H, J, K, L and N retail bin store in Building K. On the day of collection, the RCV will park within 10 m distance of the Buildings G, H, J, K, L and N retail bin store allowing the collection operatives to wheel the bins scheduled to be collected to the RCV for emptying. Once emptied, the collection operatives will return the empty bins back to the Buildings G, H, J, K, L and N retail bin store.
- 7.27 For the flexible retail, leisure and commercial spaces that are assumed to be restaurants located in Buildings E, F, G and H, separate bin stores have been provided for these restaurants, that are based on a daily collection frequency. The bin stores for restaurants in Buildings E, F, G and H have been provided with an external entry. Please see Figure 23 - Figure 26 for the location and layout of these bin stores.

Figure 23 Building E Restaurant Bin Store

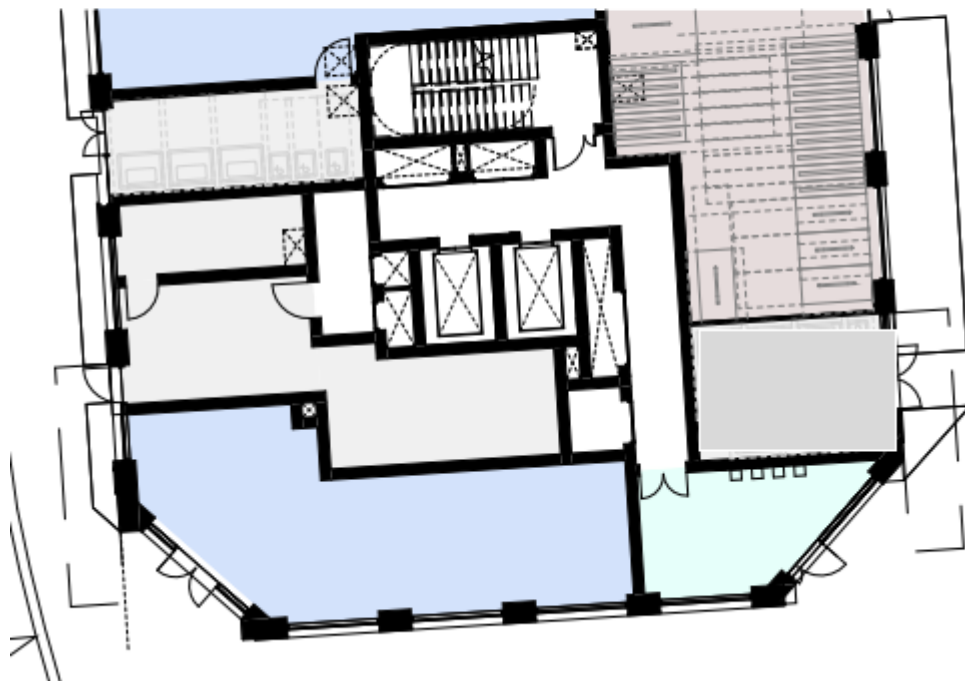


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Figure 24 Building F Restaurant Bin Store

REFUSE STORE Building F

BUILDINGS F-COMM	
1000L Refuse	3
240L Food	3

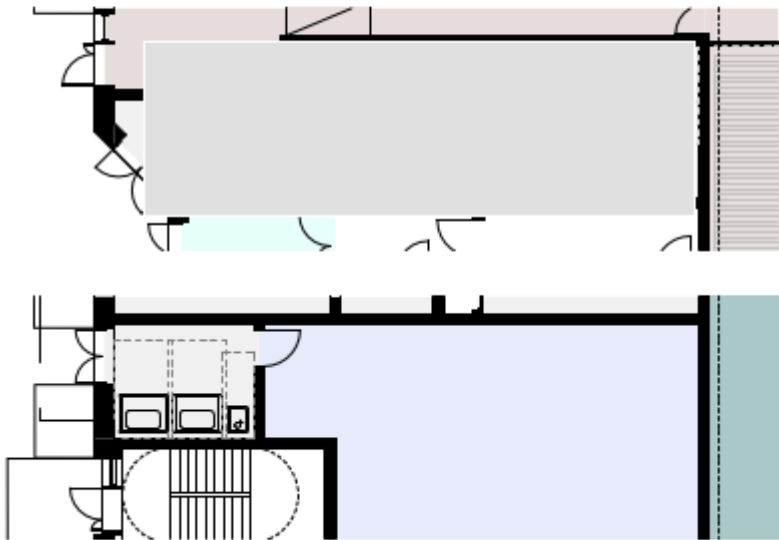


This Figure is not drawn to scale. It can be noted that there is an overprovision of 1 x 1,100 L and 2 x 240 L bin in Buildings F Restaurant bin store.

Figure 25 Building G Restaurant Bin Store

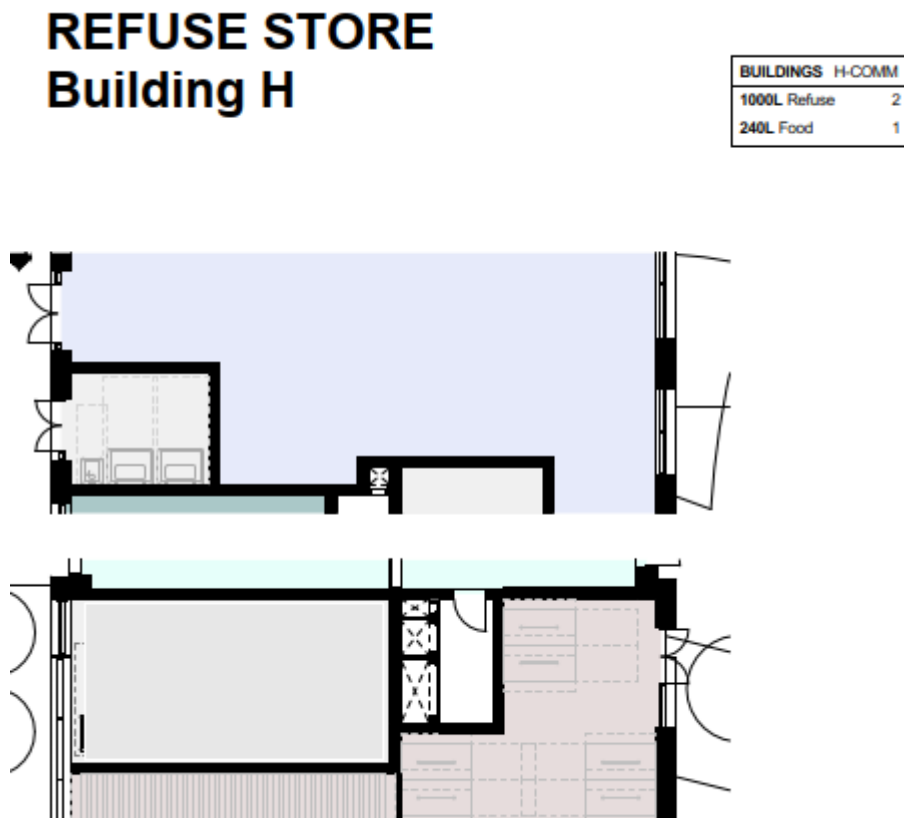
REFUSE STORE
Building G

BUILDINGS G-COMM	
1000L Refuse	2
240L Food	1



This Figure is not drawn to scale.

Figure 26 Building H Restaurant Bin Store



This Figure is not drawn to scale.

- 7.28 This external entry will allow the collection operatives on the day of collection to directly access these bin stores and wheel the bin scheduled to be collected to the RCV (that will be parked within 10 m distance of these bin stores) for emptying. Once emptied the collection operatives will return the empty bins back to these bin stores. Please see Figure 15 for the RCV tracking.
- 7.29 As mentioned above, the exact land uses of the flexible retail, leisure and commercial spaces are unknown, however, for the purpose of estimating the waste and recycling arisings and the subsequent storage requirements, land uses have been assumed considering a worst-case scenario.

Supermarket (Morrisons)

- 7.30 The waste and recycling material arising from the supermarket (i.e., Morrisons) waste will be collected from the store from within the service yard and vehicle movements will be controlled in a similar manner to that for delivery vehicles.
- 7.31 Morrisons will retain their refuse within an area of the warehouse or service yard. Morrisons will have two different types of bins (general waste and dry mixed recycling). A maximum of four 1,100 L bins will be required. Collections will take place regularly throughout the week by a 26-tonne refuse vehicle which empties bins via the rear of the vehicle and not over the front and into the top.

- 7.32 The number of waste collections will be reviewed on a regular basis depending on a number of factors such as how well the store trades and seasonality together with the progress to the target of zero waste, however, it is likely that there will be minimal waste collections (around 2 times per week) as the majority of waste is recycled and back hauled to depots which have centralised recycling collections using the delivery vehicles. The supermarket will itself be responsible for managing their waste and recycling materials within the curtilage of their space.

Unique Waste

- 7.33 There is likely to be a small component of the overall waste arisings from the Proposed Development that will comprise other waste streams, such as waste electrical and electronic equipment (WEEE), printer and toner cartridges and fluorescent light tubes. Building maintenance will also give rise to materials such as paints and waste lubricating oils that will require separate storage in dedicated sealed containers.
- 7.34 This type of waste is termed “unique” as it will not be produced on a regular basis and therefore its management will be on special arrangement with a registered waste handler for the specific waste that is produced. Hazardous waste is required to be kept separate from general and bulky waste. There is space for this within the residential and commercial bin stores for these types of waste. Separate arrangements will be made by the building management team for the safe disposal of these waste streams, as covered by the Hazardous Waste (Amendment) Regulations 2016 and WEEE Regulations 2015. All waste management will have to comply with Environmental Protection Act 1990 and The Waste (England and Wales) (Amendment) Regulations 2014.

Maintenance and Fit Out

- 7.35 Space will be provided on the site to hold skip to store any waste arising from maintenance and fit-out works. At this stage, the location of this area has not been decided, however, it is envisioned that a parking bay on the Ground Floor Level will be temporarily suspended to hold a skip.

Litter Bins

- 7.36 Litter bins and cigarette bins will be provided externally across the Proposed Development's site. Once these bins are full, this waste will be taken to the commercial bin store for storage and collection.

Landscaping Waste

- 7.37 Waste i.e., green waste arising from the clippings and other landscaping works will be collected by the landscaping contractor. In addition, it is envisioned that some of the green waste might be reused as a feed for the plants/trees across the site.

8. Monitoring and Reporting

- 8.1 The building management team will be responsible for monitoring the residential bin stores, whereas the commercial tenants will be responsible for monitoring the commercial bin stores. They will record the quantities of waste and recycling waste being generated from these bin stores, and address any issues related to overfill bins or contamination. This data would clarify the trends of generation rates and could potentially help developing strategies to optimise waste storage and collection.

9. Storage and Collection Design Considerations

- 9.1 In accordance with BS EN 840, as set out in BS 5906:2005, all waste containers within the Proposed Development will be stored under cover in a specially designed waste storage room, which will be built to the same general standard for commercial premises. The walls and roofs of this store will be formed of non-combustible, robust, secure and impervious material, and have a fire resistance of one hour when tested in accordance with BS 476-21 - Fire tests on building materials and structures: Part 21 (Ref. 26), whilst the door of the store will be made of steel, and will have a fire resistance of 30 minutes when tested in accordance with BS 476-22 - Fire tests on building materials and structure: Part 22 (Ref. 27).
- 9.2 Further to these requirements, the Proposed Development will also comply with the guidance set out in LBS, BS 5906:2005 and Part H6 as provided below:

Location

- Bin stores will be located at street level. Where this is not possible, a suitable ground floor collection area must be indicated.
- The siting of storage containers will allow movement of containers to the collection point without being taken through a building (unless it is a porch, garage, carport or other open covered space).
- Bin stores will not block any utility service points, obstruct sight lines for pedestrians, drivers and cyclists, and should be in a separate storage area from bicycles.
- Bins will be enclosed.
- Household and commercial waste and recycling containers will be in separate bin stores.
- The position and design of bin stores has considered the impact of noise and smell on the occupants of neighbouring properties, existing and proposed.

Convenience

- As agreed with the LBS, apart from a limited number of residential units, majority of the residents will not carry waste more than 30 metres from their individual units to the bin stores.
- Collection points will be at street level and within 10 m of the nearest stopping point for refuse collection vehicles.

Screening or Covering

- All bin stores are big enough to fit as many containers as are necessary to facilitate twice per week collection and are high enough for lids to open and close where lidded containers are installed. Internal housing layouts will allow all containers to be accessed by users.
- Bins will be fitted with close fitting lids to prevent vermin access.
- Bin stores will conform to BS 5906:2005.

Signage

- Bin stores are marked, and proper signs are provided.
- Building management team and commercial cleaning team will be made aware of the fire risk from waste and recycling storage. This will be done using signage and displaying the danger when waste and recycling materials are stored carelessly.
- All roads will be clearly marked and controlled to prevent unauthorised parking.

Accessibility

- Bin stores are located in a position that will provide easy and safe access for the residents, building management team and the cleaning team.
- Bin stores will provide clear turning circle with a minimum of 1,500 mm for wheelchair users, as specified in Part M of the Building Regulations (Ref. 25)

Access Paths

- All doors and pathways will be 200mm wider than any bins that are required to pass through or over them.
- The path between the bin stores and collection point will be free of steps and kerbs.
- Surfaces will be smooth and sound, concrete rather than flexible. Dropped kerbs will be installed as necessary.
- There will be no steps and projections at the entrance of a bin store.
- The bin store will be external to the building. This will ensure access to the main building will not be used through the bin store.
- The road will be wide enough for a vehicle with a maximum width of 2,500 mm to fit down.

Vehicle Access

- The maximum distance a collection vehicle is expected to reverse in order to turn at a turning head is 2 vehicle lengths (up to 15 m).
- The collection vehicles can both enter and exit a development (to leave or re-join a highway) using a forward gear.
- Road layout will allow for a turning circle of 20 m.
- The current key specifications for the largest vehicle in the council's refuse fleet for which sufficient clearance will be incorporated in building and road layout designs are included in Table 13.

Table 13 LBS RCV Specifications

Specification	Measurement
Length	10,700 mm
Width	2,550 mm
Maximum Height	4,300 mm
Maximum Weight	26 tonnes

- Loading bays will have headroom appropriate to the method of waste collection (minimum clear height of 4.5 m).

Material and Finishing

- The walls and roofs of the bin store will be formed of non-combustible robust and secure materials with a smooth finish suitable of washing down.
- The floor of the waste chamber will be no less than 100 mm thick.
- Bin stores will be of adequate height to allow the lids of containers to be fully opened; a minimum height of 2 m is required.
- Doors will be fitted with a hook back facility to prevent damage from bins colliding into doors upon entry or exit.
- Handles will be fitted on the outside of the door to facilitate opening.

Safety and Anti-Social Behaviour

- Doors or gates to any container housing will not open out over the public highway.
- Receptacles will remain closed at all times and all waste correctly deposited within them, rather than at their side, to prevent access by pests and vermin.
- Location has taken in regard to minimise environmental impacts and nuisance from anti-social behaviour.
- The bin store door will be capable of being opened from the inside as well as the outside for reasons of safety.
- Unsightly bins can damage the visual amenity and contribute to increased levels of anti-social nuisance such as odour and litter. Therefore, bins will be planned carefully and will not be stored in a publicly accessible area.

Locks

- Standard Fire Brigade (FB) locks will be used where required. Where access gates are installed FB1 or FB2 keys will be used. Where padlocks are installed, FB11 or FB14 will be used.

Fire Safety

- Stored waste and recycling material will be identified as a potential hazard in any fire risk assessment.
- Bin stores will be constructed within a fire compartment structure which is designed to contain a fire.
- Suitably sized manual fire extinguishers will be deployed.
- A dedicated automatic fire sprinkler or water mist system might be considered.
- The walls and roofs of the bin store will have a fire resistance of one hour when tested in accordance with BS 476-21. The door of the bin store will have a fire resistance of 30 minutes when tested in accordance with BS 476-22.

Ventilation and Lighting

- Bin stores will be lit to be safe for management team to use and service during darkness hours.
- Permanent ventilators will be provided giving a total ventilation area of not less than 0.2 m². Passive ventilators will be fly and vermin proof and located near to the ceiling and floor of the bin store as possible but away from windows and dwellings.
- Electrical lighting will consist of sealed bulkhead fittings with houses related to IP65 in BS EN 60529:1992 (Ref. 27) for the purpose of cleaning down with hoses and inevitable splashing.
- Luminaires will be low energy light fittings or low energy lamp bulbs, controlled by a proximity detection or time delay button to prevent lights being left on.

Maintenance

- Arrangements will be made for the cleaning of the bin store with water. A hose union tap should be provided in agreement with the local water authority and the Environment Agency.
- The floor of the bin store will have a suitable fall towards the drainage point. Gullies will be positioned not to be in the track of container wheels and will incorporate a trap which maintains a seal, even during prolonged periods of disuse.

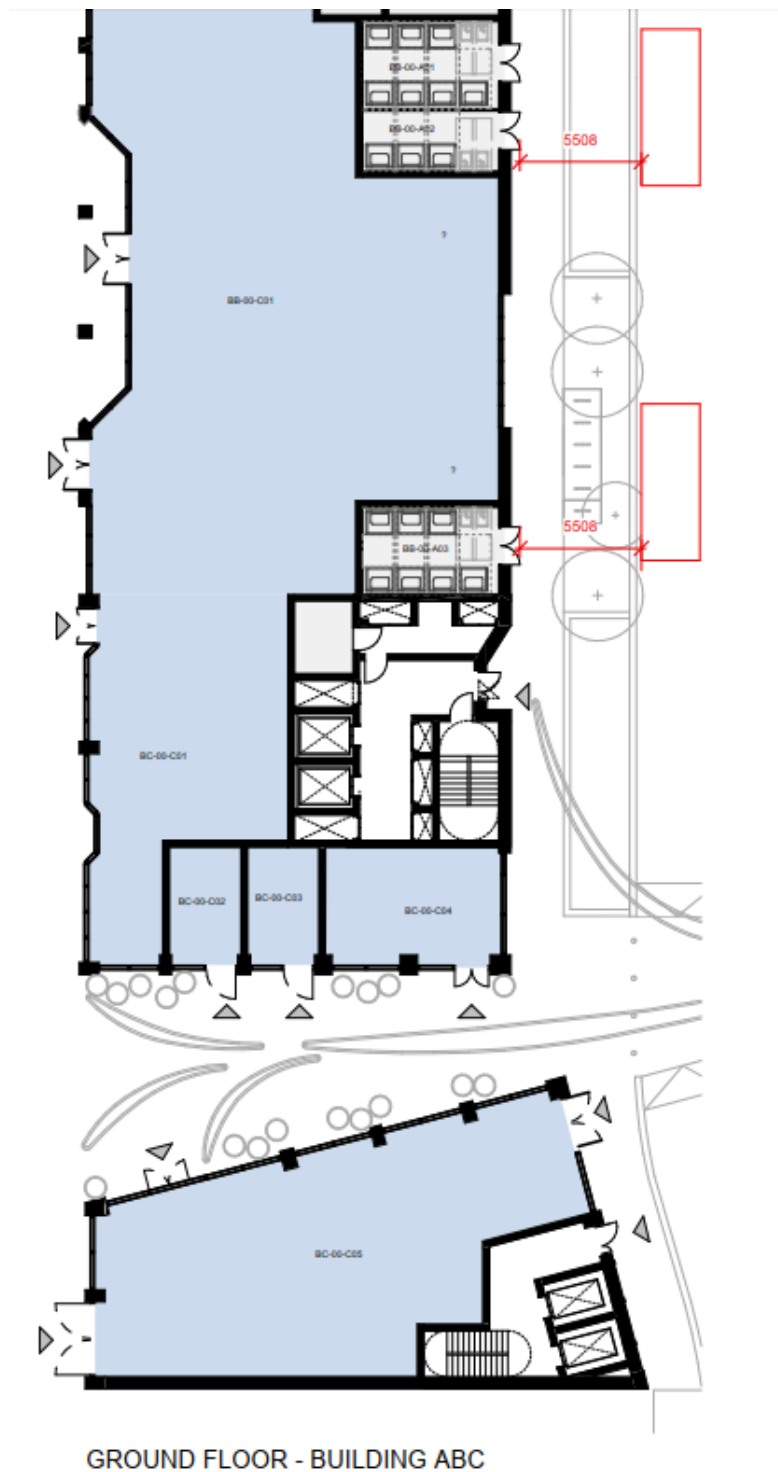
10. Conclusion

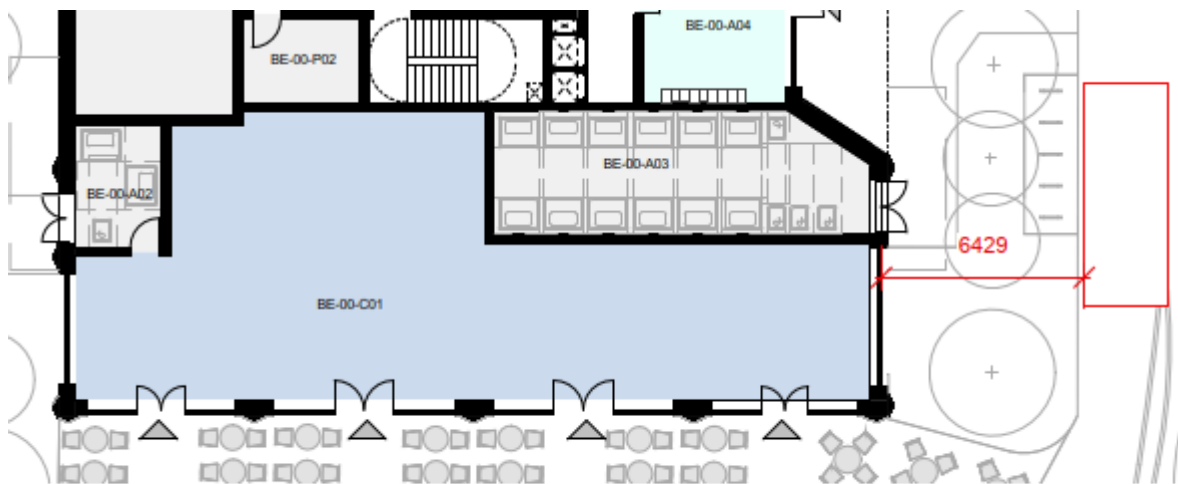
- 10.1 In keeping with national, district, regional (GLA) and local (LBS) policy, this revised Strategy demonstrates how the Proposed Development will promote sustainable management methods for waste and recycling material throughout the operational phases.
- 10.2 In following the Waste Hierarchy, the Proposed Development will promote resource efficiency to help reduce potential environmental impacts as a result. The Proposed Development includes sufficient space to enable best practice recycling methods and flexibility in the future. This revised Strategy shows how the Proposed Development has segregated and provided space for MDR and Residual streams alongside consideration given to Food waste, enabling futureproofing for mandatory food collections in-line with policies within: Our Waste, Our Resources: A Strategy for England.
- 10.3 In committing to best practice recycling via source segregation and in line with the national, regional and local policies, the Proposed Development demonstrates the ability to provide sufficient capacity to hold 65% of recycling waste for residential uses and 75% of recycling waste for commercial spaces.

11. References

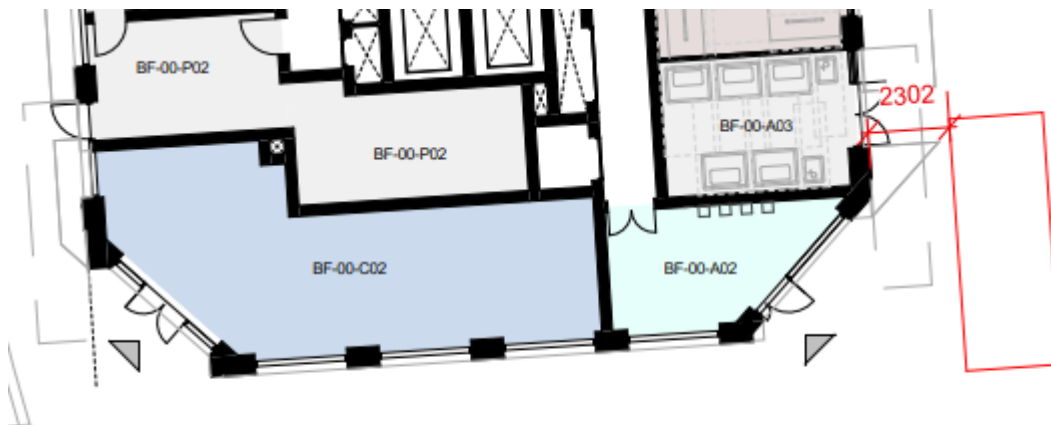
- Ref. 1 British Standards Institute (BSI), (2005); BS 5906:2005, Waste Management in Buildings – Code of Practice
- Ref. 2 Her Majesty Statutory Office (HMSO), (2011); The Waste (England and Wales) Regulations (as amended).
- Ref. 3 Department for Communities and Local Governments (DCLG), (2013); Building Regulations – Approved Document H: Drainage and Waste Disposal (Incorporating 2010, 2013, and 2015 amendments)
- Ref. 4 HMSO, (2011); The Animal By-Products (Enforcement) Regulations 2011.
- Ref. 5 HMSO, (2015); Clean Neighbourhoods and Environment Act 2015.
- Ref. 6 HMSO, (1989); Control of Pollution Act 1989.
- Ref. 7 HMSO, (2012); The Controlled Waste (England and Wales) Regulations 2012.
- Ref. 8 HMSO, (1995); Environment Act 1995 (as amended in 2022).
- Ref. 9 HMSO, (1990); Environmental Protection Act 1990.
- Ref. 10 HMSO, (1996); The Landfill Tax Regulations 1996.
- Ref. 11 HMSO, (2005); The List of Wastes (England) Regulations 2005.
- Ref. 12 HMSO, (2017); The Pollution Prevention and Control (Fees) (Miscellaneous Amendments) Regulations.
- Ref. 13 HMSO, (2007); The Producer Responsibility Obligations (Packaging Waste) Regulations 2007.
- Ref. 14 HMSO, (2005); The Hazardous Waste Regulations 2005 (as amended)
- Ref. 15 HMSO, (2009); The Waste Batteries and Accumulators Regulations 2009.
- Ref. 16 HMSO, (2013); The Waste Electrical and Electronic Equipment (WEEE) (as amended)
- Ref. 17 HMSO, (2022); The Environmental Act
- Ref. 18 DCLG, (2014); National Planning Policy for Waste
- Ref. 19 HMSO, (2018); A Green Future: Our 25 Year Plan to Improve the Environment.
- Ref. 20 HMSO, (2018); Our Waste, Our Resources: A Strategy for England.
- Ref. 21 GLA, (2021); Mayor of London, London Plan
- Ref. 22 GLA, (2018), London Environmental Strategy
- Ref. 23 London Borough of Southwark (LBS), (2022); The Southwark Plan 2019-2036
- Ref. 24 LBS, (2014); Waste management guidance notes for residential developments.
- Ref. 25 DCLG, (2015); Building Regulations – Approved Document M: Access to and use of buildings (Incorporating 2021 amendments)
- Ref. 26 BSI, (1987); BS 476-21, Fire tests on building materials and structures: Part 21.
- Ref. 27 BSI, (1987); BS 476-22, Fire tests on building materials and structures: Part 22.
- Ref. 28 BSI, (1992); BS EN 60529:1992, Specification for degrees of protection provided by enclosures (IP code).

Appendix 1. Vehicle Stopping Distances

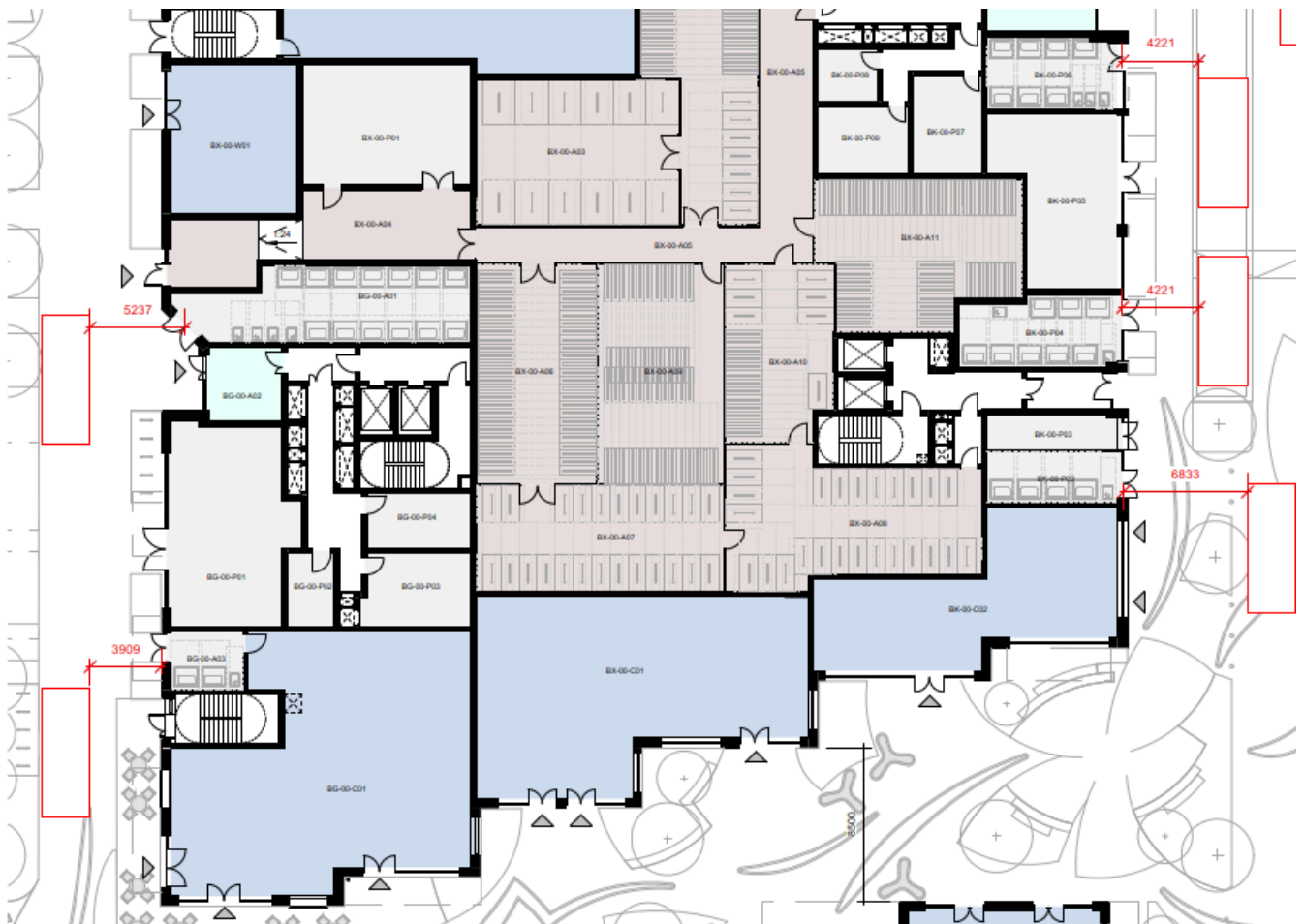




GROUND FLOOR - BUILDING E



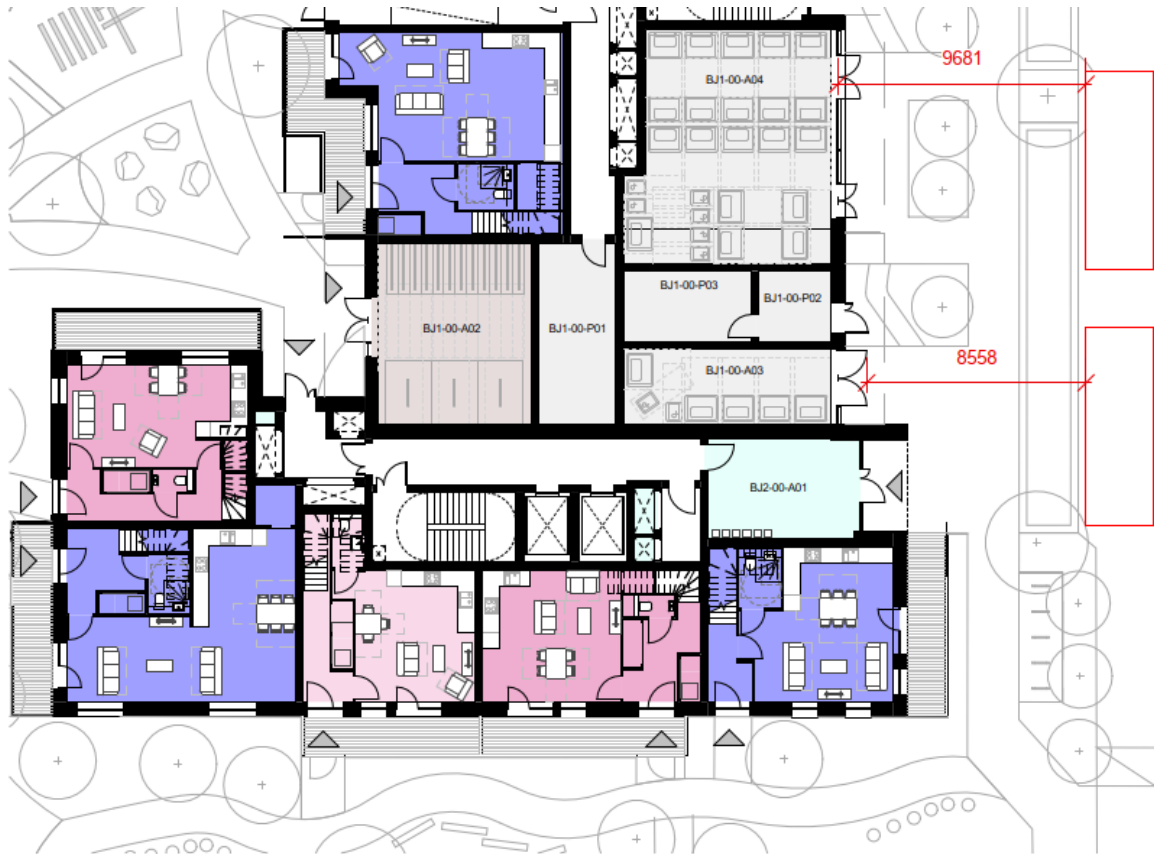
GROUND FLOOR - BUILDING F



1 GROUND FLOOR - BUILDING GK

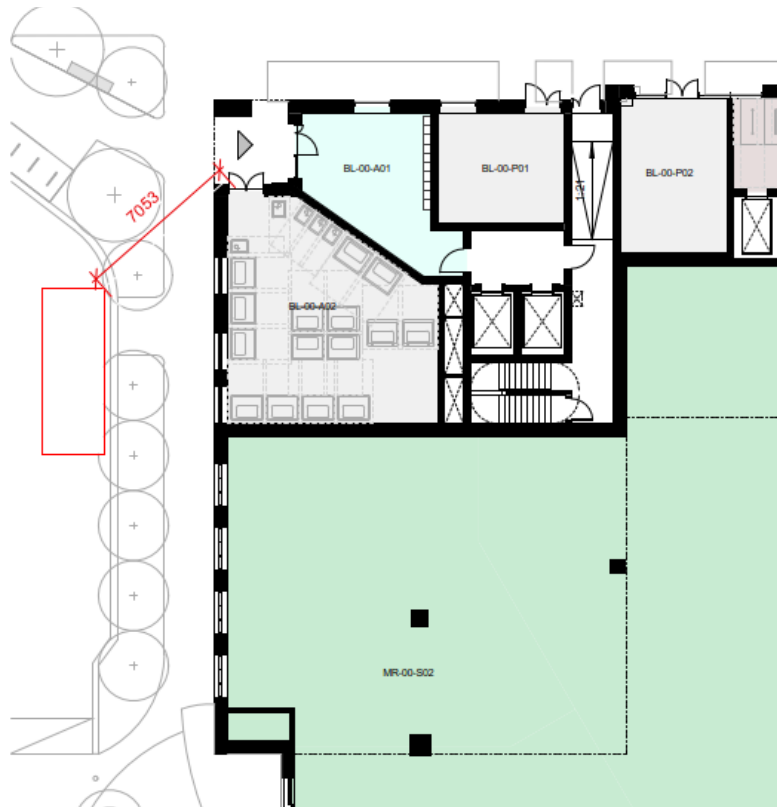


1 GROUND FLOOR - BUILDING H

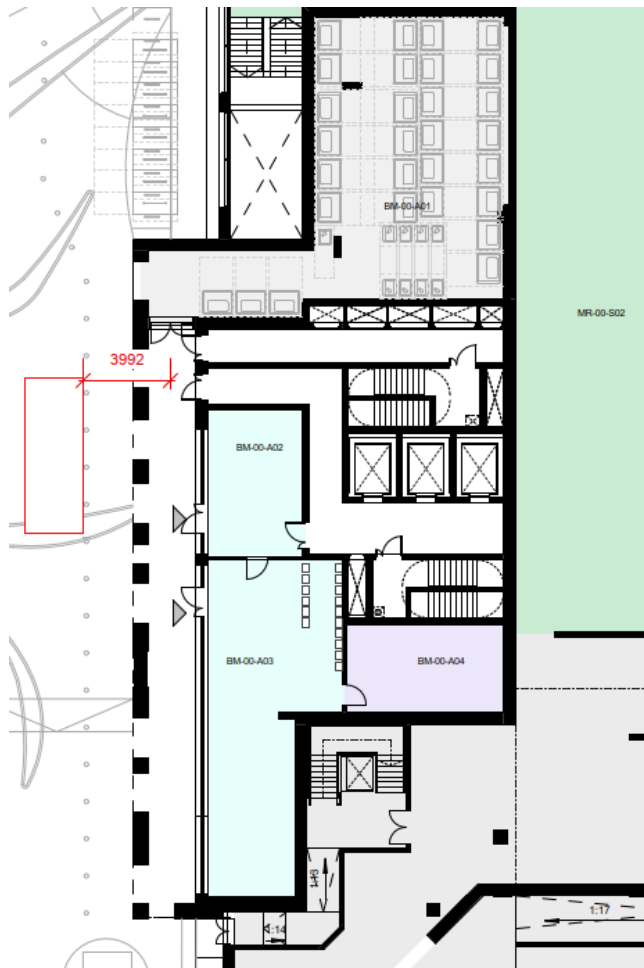


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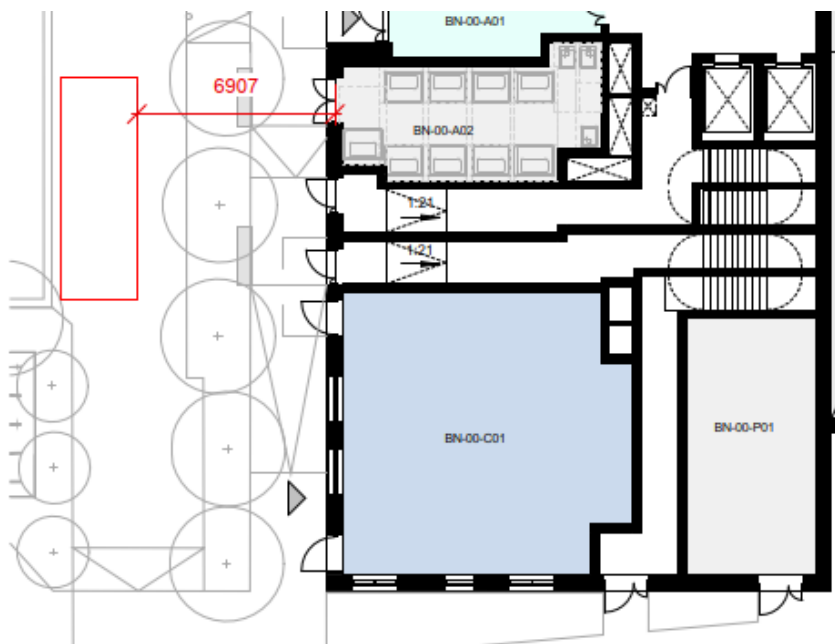
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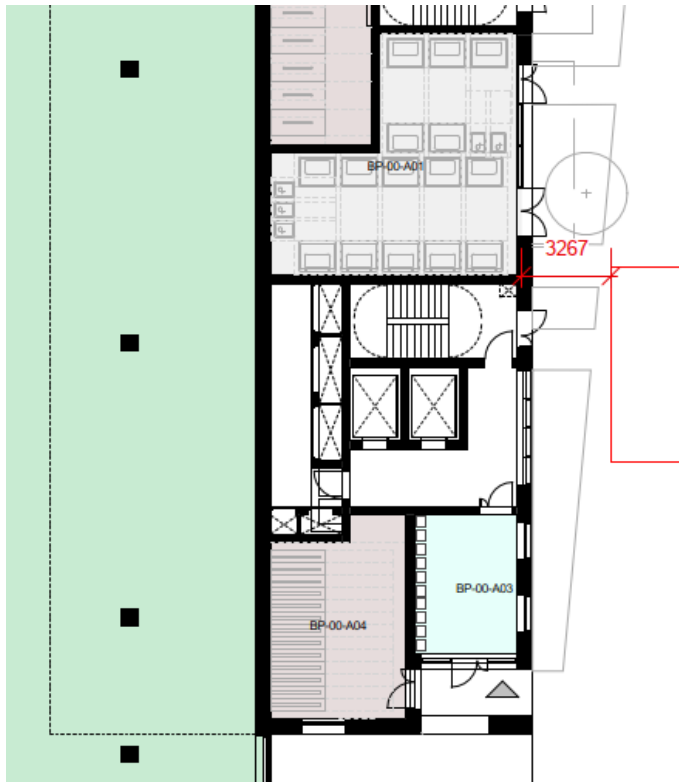
1 GROUND FLOOR - BUILDING L



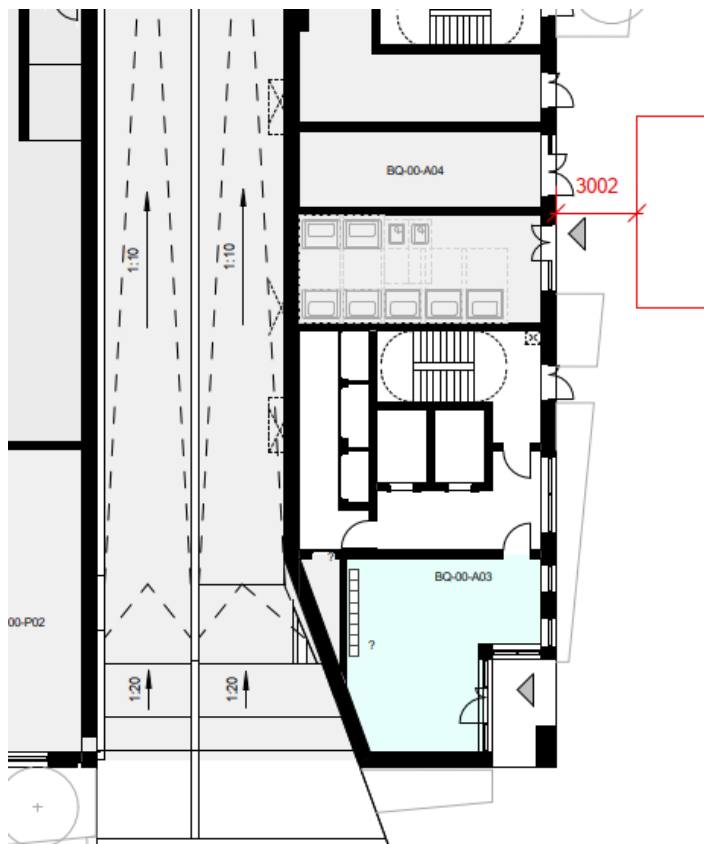
1 GROUND FLOOR - BUILDING M



1 GROUND FLOOR - BUILDING N



GROUND FLOOR - BUILDING P



GROUND FLOOR - BUILDING Q



