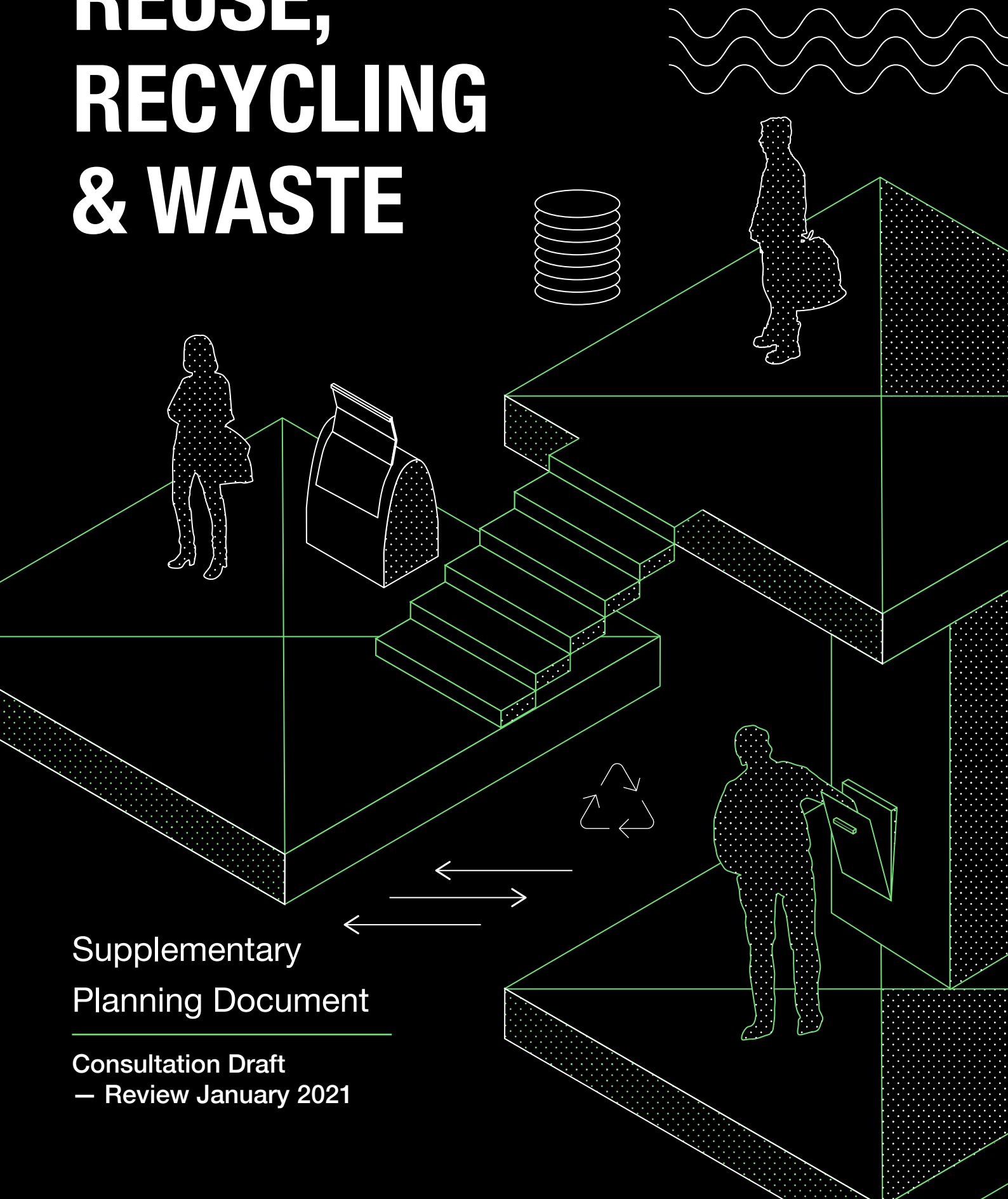


RRW



REUSE, RECYCLING & WASTE



Supplementary
Planning Document

Consultation Draft
— Review January 2021

HOW TO USE THIS DOCUMENT

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How to use this Reuse, Recycling, and Waste (RRW) Supplementary Planning Document (SPD)

This document is the London Borough of Tower Hamlets' Supplementary Planning Document (SPD) on 'Reuse, Recycling and Waste' (RRW). The SPD sets out information for developers on how waste management should be addressed in

proposals for new residential (including mixed use) development¹. The SPD has been produced to assist developers submit a planning application that meets the policy requirements of the council.

Part A: Context – Why is Waste Management Such an Important Issue?	Sets out Tower Hamlets' vision and Local Plan policy on waste management in new development and explains why Reuse, Recycling and Waste management is an essential consideration.
Part B: Reuse, Recycling and Waste requirements in Development	<p>The main guidance section that details the matters that need to be taken into consideration at each of the five stages of the waste management process and the requirements of the council:</p> <ol style="list-style-type: none"> 1. Occupier Separation 2. Deposit points for Reuse, Recycling and Waste 3. Collection from the development 4. Servicing of RRW System 5. End destination and on-going monitoring
Glossary	Explanation of technical terms, abbreviations and acronyms

¹. Residential use often forms part of a mixed use development and while the focus of this guidance is on waste arising from residential uses much of the guidance is relevant to commercial uses provided with residential development also see section A5.

Part C: Appendices	
Appendix 1: The Ten Steps to Occupation	Explains each step in the planning process and outlines the information associated with Reuse, Recycling and Waste Systems in new development.
Appendix 2: Expected RRW System checklist	Checklist of information needed to aid discussions at the Pre-application stage.
Appendix 3: RRW plan template	Template for use when preparing a Reuse, Recycling and Waste Plan
Appendix 4: Examples of RRW systems	Examples of how the RRW Plan for different RRW systems should be completed
Appendix 5: Overview of Related Policy, Legislation and Guidance	A summary of key policies which are used to determine whether the proposed arrangements for waste management in new development are likely to be acceptable.
Appendix 6: The London Borough of Tower Hamlets Waste Collection Service	Details of the waste collection service provided by the borough. Sets out the materials which will be collected and frequency of collection. N.B. This was correct at the time of publication but may alter.
Appendix 7: Residential waste generation rates	Waste storage volumes for different sizes and types of development based on the amount of waste likely to be produced by different types of development.
Appendix 8: Vehicle Access	Technical details and requirements related to access to developments by waste collection vehicles. Technical specification of vehicles used by LBTH to collect waste including information on turning circles.
Appendix 9: Additional Design Specifications for all systems	The appendix contains information on additional design considerations for new developments, including; noise, odour, vermin, H & S, security, lighting, visual amenity, mixed use developments and storage
Appendix 10: Annual Performance Report Template	A template that can be used to assist with the annual reporting of information relating to the management of waste within larger developments.

HOW TO USE THIS DOCUMENT

Ensuring that each of the **5 stages of waste management** (detailed in Part B) is addressed will enable you to design the most appropriate waste management system for your new development.

In order to gain planning approval you will need to follow the '10 steps to occupation'

as summarised below. At each step you will need to provide information to the council to ensure your planning application is complete.

For a waste management system to be effective it must be designed with the **'user journey'** in mind i.e. from the perspective of all those individuals that interact with the waste on its journey from production to collection:

- The occupants;
- building managers/caretakers; and,
- waste collection operatives.

Ten steps to occupation'

The table below outlines 10 steps which must be taken to ensure that the management of waste is properly addressed when new developments are proposed and ultimately developed, and the Council will require evidence of each step throughout the planning process. The table shows that consideration of waste management should start at the pre-application (design) stage (steps 1 to 4) and continue through the planning application (steps 5 & 6) and construction stages (steps 7 to 9) to the final, ongoing, occupation stage (step 10). This SPD has been written to assist developers with the provision of information at each step. While the SPD needs to be read as a whole, it is important that particular sections and appendices are referred to at each step and this is outlined in the table below. **Part B of this SPD and Appendix 1 explain more about the '10 steps to occupation' and the information requirements at each step.**

Pre-application	
Step 1: Identifying the appropriate Reuse, Recycling and Waste system	See section B.01 and RRW Decision Tree
Step 2: Preparing the Expected Reuse, Recycling and Waste Checklist	See Appendix 2
Step 3: First meeting with Planning, Public Realm ² and Highways officers. Commitment to signing a 'Statement of Intent' for achieving waste and recycling objectives during occupation/use of the development	See Appendices 2 and 4
Step 4: Correspondence and possible further meeting(s) and with Planning, Public Realm and Highways officers	See Appendix 2

REUSE, RECYCLING AND WASTE — SUPPLEMENTARY PLANNING DOCUMENT

Preparing and submitting a planning application	
Step 5: Preparing an RRW plan Completed Expected Reuse, Recycling & Waste Checklist Developer's signed 'Statement of Intent' for achieving reuse, recycling, and waste objectives. Full draft RRW plan including: <ul style="list-style-type: none"> a. Draft communications plan (residents and other users) b. Draft maintenance plan with handover plan for managing agents c. Operational delivery plan with handover plan for managing agents 	See Part B See Appendices 2 and 3
Step 6: Submitting the planning application with RRW Plan	See Part B
Construction and Pre-occupation	
Step 7: Compiling the final RRW plan	See Part B See Appendix 3
Step 8: Pre-occupation site visit	See Part B
Step 9: Public Realm/Highways approval	See Part B See Appendices 5, 6, 7 and 8
Occupation of the development	
Step 10: Monitoring prior to and during occupation For development greater than 50 units: Annual reporting against the Recycling and Waste Objectives i.e. outcomes from implementation of the R&W plan and any corrective actions may include results of occupier satisfaction surveys	See Part B See Appendix 10

2. The Public Realm team is responsible for the council's waste collection service.

Context — Why is waste management such an important issue?



Context

— Why is Waste Management such an important issue?

The Tower Hamlets Local Plan 2031 sets out how and where new development in Tower Hamlets should come forward. The overarching Vision of the Borough in its Local Plan includes the following:

“....High standards of environmental sustainability will result in improvements in air quality, carbon emissions, recycling and climate change mitigation. Innovative and smart technology will enhance the provision of services. This will ensure the ongoing social and environmental sustainability of greater levels and higher densities of development....”

The way in which waste is produced and managed will affect the chances of the Vision being realised. In the best-case scenario, waste is prevented from being produced in the first place and if this isn't possible then it is given a second life by being reused. If waste is managed poorly then it can blight an area by creating nuisance such as that caused by odour and litter. If it is managed well then it can be a source of 'raw' materials and energy. The 'waste hierarchy' sets out different ways of dealing with waste with the most preferred option at the top and the least preferred at the bottom (See Fig. 1).

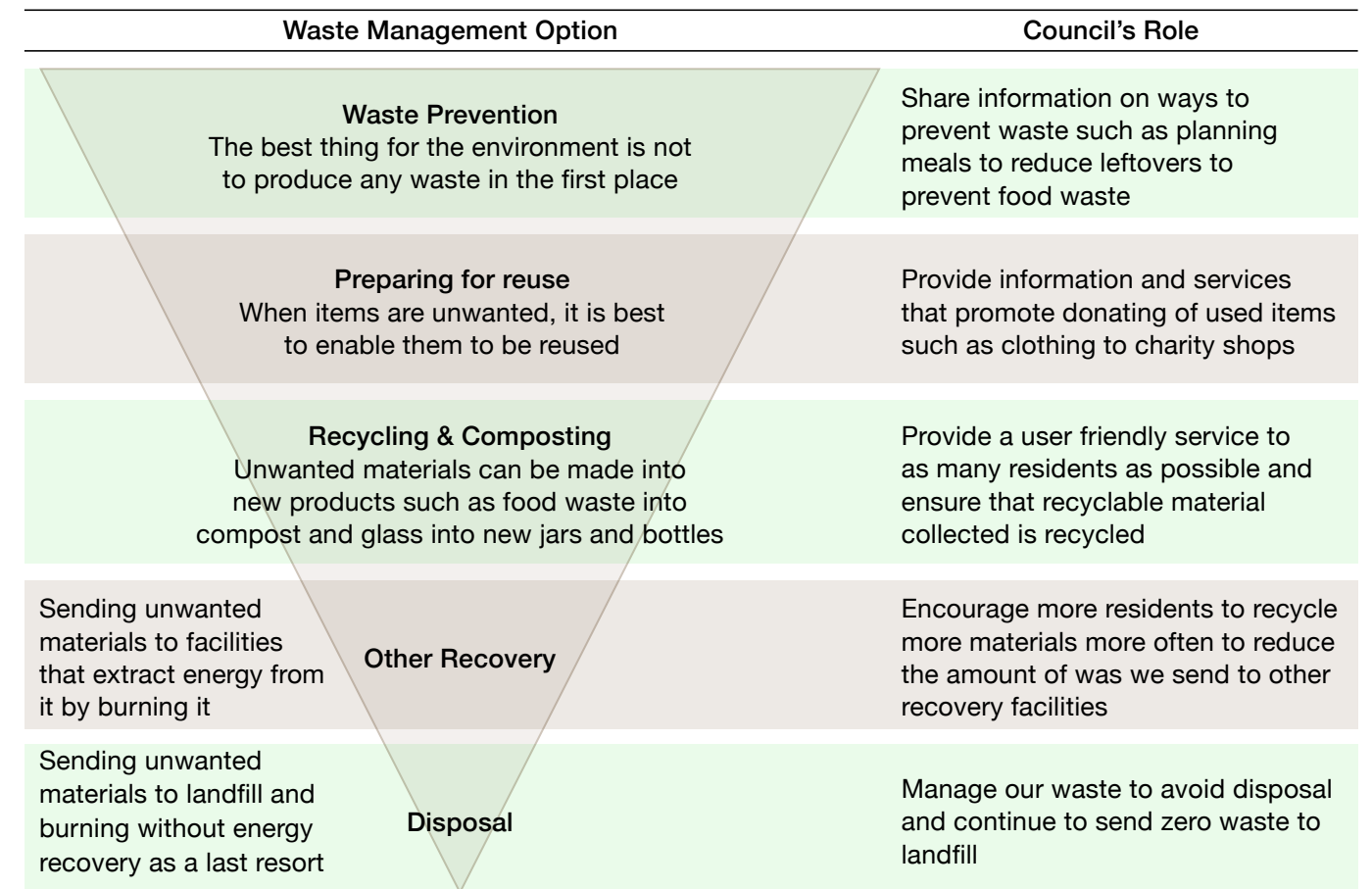


Fig. 1. The Tower Hamlets waste hierarchy³
 Credit: [London Borough of Tower Hamlets Waste Management Strategy](#)

Applying the waste hierarchy from the top down generally achieves the greatest cost and carbon savings. Reducing, reusing, and recycling waste and then generating energy from the waste remaining is a direct way to avoid greenhouse gas emissions that result from landfill. It also avoids indirect emissions that would otherwise have resulted from manufacturing using primary (virgin) materials or generating energy using fossil fuels (coal or gas).

The Tower Hamlets Local Plan includes a policy (DMW3 – set out below) that requires proposals for new development to take full account of how waste will be produced and collected.

3. <https://democracy.towerhamlets.gov.uk/mgConvert2PDF.aspx?ID=128934>

‘Policy D.MW3: Waste collection facilities in new development:

1. All new development must include sufficient accessible space to separate and store dry recyclables, organic waste and residual waste for collection, both within individual units and for the building as a whole.
2. New major residential developments must incorporate high quality on-site waste collection systems that do not include traditional methods of storage and collection and are compatible with our waste collection methods outlined in Appendix 4. In instances where this is not practicable, supporting evidence must be submitted with the application to demonstrate this.’

This Supplementary Planning Document details the information about waste management that must be included with planning applications for new residential development. The SPD complements the information provided in Appendix 4 of the Local Plan (as mentioned in the policy above) and, if this guidance is followed, it is more likely that proposals will meet the requirements of Policy D.MW3⁴.

Fundamentally Policy D.MW3 is concerned with ensuring that new residential development is developed in a way that ensures the following five objectives can be achieved:

1. Minimisation of transport movements associated with waste collection operations
2. Minimisation of the financial and operational burden of waste collection
3. Maximise efficient use of collection resources

4. Encourage residents to segregate, store and manage waste in a way that increases recycling and reduces contamination of recyclables collected,
5. Make a positive impact on the quality of the street scene.

The achievement of these objectives also helps ensure that new development is consistent with other policies of the Local Plan, such as those concerned with amenity, environment and servicing developments. Such policies are referred to in Appendix 5.

For major new residential development in particular, Policy DMW3 anticipates a step change in the way waste is managed – away from the use of bin stores and numerous eurobins to automated systems which ensure waste is collected efficiently and effectively and with minimal handling and adverse impacts.

4. It should be noted that this SPD is not concerned with the management of waste that arises during demolition and construction phases of new development which is addressed by Policies D.SG4, S.MW1 and the GLA Sustainable Design and Construction Supplementary Planning Guidance (GLA, 2014).

By meeting the five objectives, the benefits for the development will, amongst others, include:

1. Improved public realm with a standalone deposit location;
2. No dead space in frontages from bin stores;
3. No anti-social behaviour problems associated with bins stores;
4. Minimal collection day movement of bins;
5. Reduced HGV movement due to more efficient recycling and waste collection;
6. Higher rates of reuse and recycling as occupants will find it easier to do both.

A1. Tower Hamlets is a growing borough

Since 1986, the population in Tower Hamlets has more than doubled and between 2006 and 2016 the borough witnessed the fastest population growth of any local authority in England and Wales. The borough has the highest density of housing in London and over the next ten years the population is projected to increase from 317,200 in 2018 to 370,700 in 2028. According to the new London Plan (‘Intend to Publish’ draft), there needs to be nearly 35,000 more homes in Tower Hamlets by 2028/29 which is the highest target of all the London boroughs.

5. <https://talk.towerhamlets.gov.uk/highdensity>

In Tower Hamlets the challenges of growth are more complex because the borough has:

- One of the highest population densities and fastest growing populations in the country
- Increasing number of visitors and workers across the borough
- Over 80 per cent of residential properties in the form of flats
- One of the fastest growing night-time and weekend economies in London

Tower Hamlets still has high levels of deprivation and its ever-growing population is placing increasing pressure on local services, the use of land, the environment and other resources.

To assist developers making planning applications for medium and high rise development, the council has published a separate SPD concerned with ‘High Density Living’⁵. This SPD also includes information about waste management.

A2. The issue of waste management in Tower Hamlets

Under the Environmental Protection Act (1990), the London Borough of Tower Hamlets has a legal duty to collect waste from households. Over 8.8 million collections take place in Tower Hamlets every year⁶ and in 2017/18, the borough council collected 113,059 tonnes of household waste at a total cost of £27.2 million.

In 2018/19, 23.2% of household waste was recycled in Tower Hamlets which is low compared to other areas. By 2031, it is expected that household waste production will rise to 131,000 tonnes⁷. Fig 2 shows the percentage of recyclables in residual waste in Tower Hamlets.

The projected increase in Tower Hamlets' population along with new housing development will add pressure to the council's waste and recycling collection services at a time of shrinking budgets. If the increase in the number of collections grows in line with population growth there will be a number of challenges, both logistically and in terms of the carbon footprint.

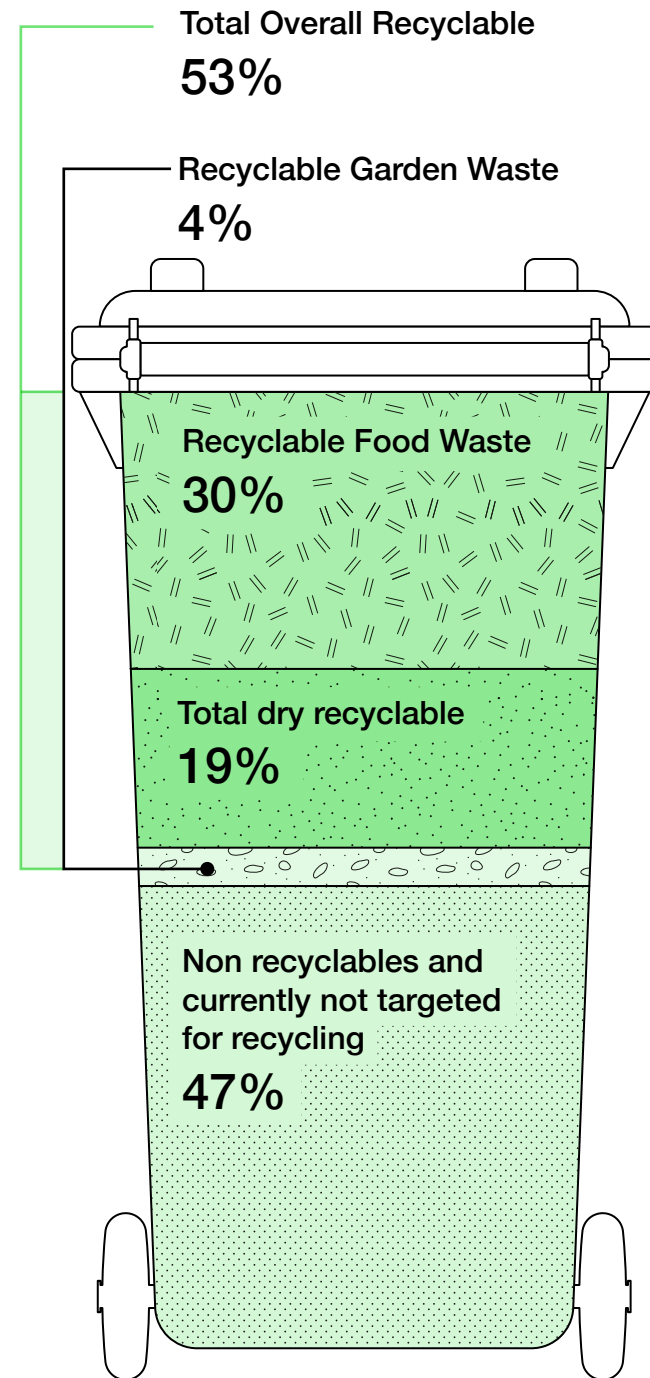


Fig. 2. 'Percentage of recyclables in residual waste'.

6. https://www.towerhamlets.gov.uk/Documents/Borough_statistics/Research-briefings/BP2018_11_Environment.pdf

7. London Borough of Tower Hamlets Waste Management Evidence Base Review 2017

On average, over a 50 year occupation, 1,000 flats will produce 30,000 tonnes of organic, plastic, cardboard, metals, bulky and miscellaneous materials, the majority of which has potential for reuse, recycling, composting and use as a fuel.

In its Waste Management Strategy 2018 to 2030, the council recognises how the pressures on public sector to improve efficiency and reduce expenditure mean that it will have to be “more efficient, innovative and committed than ever” but that the public will also have to play their part. Indeed, the management of waste is undertaken by a number of different individuals ('users') all of whom will have an impact on how well it is managed. These include residents, caretakers, buildings managers and waste collection operatives.

Fig. 2 shows that many materials included in the residual waste can be recycled or composted. To help move to a situation where more waste is managed sustainably, the London Borough of Tower Hamlets has set the following aims and targets⁸:

- Household waste recycling rate target of 35% by 2022;
- Zero waste growth per head by 2025;
- Exploring options to capture as much bulky waste material as possible for reuse;

8. Tower Hamlets Reduction and Recycling Plan. By 2020 all London boroughs were required by the Mayor of London to produce Reduction and Recycling Plans which included local reduction and recycling targets that contribute to the Mayor's London wide targets.

- Supporting a reduction in food waste and single use packaging;
- Increase participation and capture of food waste;
- Improve commercial waste services in ways which contribute to the 30% Local Authority Collected Waste (LACW) recycling rate by 2022; and,
- Recovery of more Waste Electrical and Electronic Equipment (WEEE) and textiles for reuse and recycling.

These targets will help Tower Hamlets contribute to the targets set out in the Mayor's London Environment Strategy:

- London will be a zero waste city
- By 2026 no biodegradable or recyclable waste will be sent to landfill
- By 2030 65% of London's municipal waste will be recycled including 50% of local authority collected waste.

Achieving higher rates of recycling is a particular challenge in Tower Hamlets because many new residential developments comprise apartments in buildings with multiple storeys. Such purpose-built tower blocks of flats have a physical layout that is challenging for storing, collecting and moving waste around the building.

For example, research carried out by Resource London⁹ and Tower Hamlets¹⁰ showed that when waste rooms were unpleasant, residents rushed to dispose of their waste so were less likely to do so correctly, reducing recycling rates and exacerbating mess and smell.

These challenges are compounded by specific societal factors which research by the Waste Resources and Action Programme (WRAP)¹¹ shows are associated with lower recycling rates. Such societal factors exist in dense urban environments, such as Tower Hamlets, and include the following:

- Transient populations;
- Language and cultural barriers;
- Higher levels of deprivation;
- Property tenure (more properties being rented than owned).

Ultimately, effective recycling is only achieved when occupants want to recycle (motivation), know how to recycle (knowledge) and find it easy to do so (ease).

The need to manage waste properly is recognised not only as a local issue but as a global one as well and tackling it has resulted in a significant body of policy, guidance and legislation – further information about this is included in **Appendix 5**.

A3. The waste collection service provided by the London Borough of Tower Hamlets

Section 46 of the Environmental Protection Act 1990 allows local authorities to specify how waste arising in residential development should be set out for collection. This means local authorities can specify the size and type of container to be used. It also allows local authorities to specify the service they will provide in terms of frequency of collection and separate collection of different recyclables.

It should also be noted that waste legislation requires the separate collections of paper, metal, plastic and glass where technically, economically, and environmentally practicable. Developers should ensure that this requirement can be met, where necessary. Traditionally, servicing of new developments has been included in councils’ overall kerbside collection and sorting contracts. To ensure that the council can give the taxpayer value for money, a Core Service Offering is used for all new developments such that any deviations from the “core service offering” may mean the council has to spend more time and money servicing the development which may result in extra charges being sought from the managing agent for “unexpected costs”.

9. **Making recycling work for people in flats**, Resource London, January 2020

10. **High Density Living Survey report**, February 2020

11. <https://www.wrap.org.uk/node/104773>

The LBTH Core Service Offering¹² for new developments

Weekly collection of three waste streams, Organic waste, Recycling and Residual waste, from Automated Waste Collection Systems (AWCS), Underground Recycling and Residual Waste System (URS), compaction system with gravity chutes or managed service and RRW stores. Kerbside collections have a fourth stream, garden waste collection. The council will collect bulky waste from residents who request a collection. If bulky waste is placed in communal areas without a collection having been booked by the resident, then this will become the responsibility of the building manager/caretaker.

Waste Electrical and Electronic Equipment are currently collected via the bulky collection service provided by LBTH. The council provides a household hazardous waste collection through the Corporation of London.

A4. Managing Cost

The following cost factors have been considered by the council in determining the expected reuse, recycling and waste systems, developers should use these factors when developing their RRW system:

- Potential savings from reduced collections by using compactors to compress waste into a smaller volume
- How the cost of automated waste collection systems compares with the costs of on-site manual handling
- Costs to taxpayers, building managers & developers from civil engineering works on a new development compared to a retrofit.
- Maintenance, cleaning and replacement of bins or machinery

Where developers are considering making their own arrangements for the collection, and off-site management of waste rather

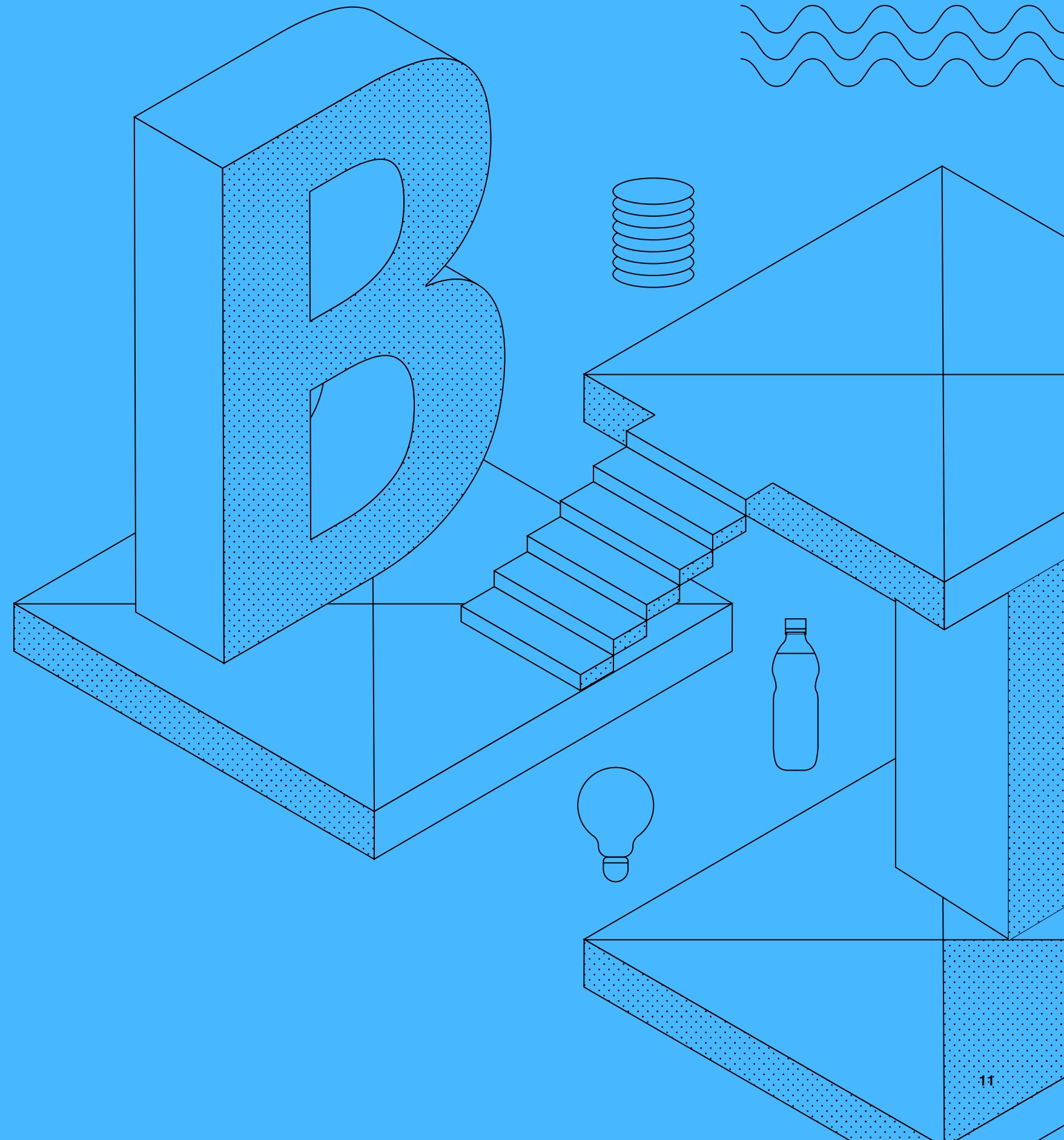
than relying on the council, this may be at their own expense and should be discussed with the council.

A5. Mixed Use Developments

In mixed use developments, segregation of residential and commercial waste is required to ensure it can be charged for separately. The cost of waste collection for householders is included in council tax, whereas businesses pay separately and may use commercial waste management companies. **For all mixed use developments, every commercial unit must have its own independent bin store areas or provide a system that allows for separate identification of both household and commercial quantities of organic, dry recycling and residual waste.** Detailed discussions with the council are needed during steps 2-4 to ensure the development can be serviced and value for money provided to the taxpayer. Further information on mixed use developments is in **Appendix 9**.

12. The up to date service offering can be found at: https://www.towerhamlets.gov.uk/ignl/environment_and_waste/recycling_and_waste/Recycling_and_waste.aspx

Reuse, Recycling & Waste requirements in development



PART B — REUSE, RECYCLING & WASTE REQUIREMENTS IN DEVELOPMENT

Part B provides detailed guidance that developers need to follow when making submissions to the planning authority. Part B sets out the systems and standards that the council expects developers to adopt when designing Reuse, Recycling and Waste (RRW) systems. For a planning application to be successful it is important that the RRW system proposed follows these systems and standards.

As outlined in the section “**How to use this document**”, there is a sequential process to providing information on reuse, recycling and waste management as part of a planning application and during the use phase of a new development. The sequential process involves ten steps – from making the initial choice of waste system to be installed through to implementation and monitoring once the development is built and occupied (the ‘10 steps to occupation’). It is important to refer to Appendix 1 which sets out the sequence and how information should be presented, including via the use of templates and checklists, to the council at each step.

An acceptable RRW plan will consider the user journey associated with the following **five stages of waste management[IB1]**:
 1. Occupier separation; 2. Deposit points for Reuse, Recycling & Waste; 3. Collection from the development; 4. Servicing of RRW system; 5. End destination and on going monitoring. Details of the matters to be considered at each of these stages are provided in this part of the document

Part B gives particular guidance to the developer on the information to be provided at the following steps:

Step 1

Choosing the Reuse, Recycling and Waste (RRW) system

Step 2

Preparing the Expected Reuse, Recycling and Waste Checklist

Steps 3 and 4

Pre-application meetings and correspondence with Planning, Public Realm and Highways officers

Steps 5 to 7

Preparing the Reuse, Recycling and Waste (RRW) plan for inclusion with the planning application.

At all times, when preparing documents for submission, the developer should comply with all relevant standards that are correct at the time of writing.

REUSE, RECYCLING AND WASTE — SUPPLEMENTARY PLANNING DOCUMENT

B0.1. Health and safety

All Reuse, Recycling and Waste systems and bin stores should have construction, security (including design guidance from the Metropolitan Police¹³), ventilation and cleansing provisions designed in accordance with the most recent British Standard or equivalent. Provisions to mitigate fire risk (e.g. sprinklers, fire extinguishers and smoke detection equipment) should be detailed. Poorly designed systems may pose health and safety risks to occupants, the general public, operatives and site management staff.

These aspects should be intrinsic in the design of the new development. It is therefore imperative that storage provision is well designed to meet the needs of residents and enables them to recycle easily.

Table 3: Health and Safety

(a)	Sufficient waste storage capacity – to prevent overloading, odour, and litter
(b)	Correct access and turning for collection vehicles – including to prevent reversing
(c)	Access and Collection points with correct overhead clearance and strength for collection vehicles
(d)	Bin stores designed to allow easy manoeuvring of bins within and to and from stores
(e)	Unobstructed pathway from store to vehicle – no kerbs or lips – 1:12 maximum gradient
(f)	Secure storage and collection of Food Waste
(g)	Secure storage and collection of Electrical Waste
(h)	Comprehensive Communications Plan with residents – including signage, and resident induction
(i)	Estate management with health and safety as a priority

13. <https://www.met.police.uk/cp/crime-prevention/business-robbery/protect-your-business/>

PART B — REUSE, RECYCLING & WASTE REQUIREMENTS IN DEVELOPMENT

B0.2. Determining the Reuse, Recycling and Waste management system for the development

The Council has established an expected Reuse Recycling and Waste system (RRWS) based upon number of units and height for new developments. All new developments are required to ensure the following five material streams will be stored and collected separately.

1. Materials for Reuse
2. Materials for recycling
3. Organic waste
4. Residual waste (the remaining material that cannot be reused, recycled or composted)
5. Bulky – e.g. Large items such as furniture and white goods

By answering ‘yes’ or ‘no’ to specific questions within the decision tree, the system for managing waste within the development that the council would expect to see proposed (the “Expected Reuse, Recycling and Waste System (ERRWS)”) can be identified. At this stage it will be important to estimate how much waste will be produced by the development – guidance on this matter is provided in Appendix 7.

In large developments, it may be more operationally efficient to provide a single AWCS that services both residential and commercial units, this is to be encouraged, as long as the commercial tonnages can be separately accounted for to enable charging. It is difficult to anticipate the volume of refuse and recycling produced at commercial premises, therefore, further guidance and recommendations can be found in Appendix 5 and “**BS5906:2005 Waste management in buildings – Code of Practice**” or the equivalent replacement document for waste management in buildings.

As per steps 2, 3 and 4 of ‘the ten steps to occupation’ methodology, architects and developers are actively encouraged to consult with the Council’s Public Realm Team at the earliest opportunity in the design process to ensure that proposals for waste storage and collection meet the minimum expected requirements as set out in each of the five stages in sections B 1-5.

To assist with the application of the decision tree, the information in the checklist set out in Appendix 2 should be completed by the developer and discussed with the council during pre-application discussions and correspondence (steps 3 and 4). Proposed Systems must integrate with the borough’s existing and known future waste collection infrastructure, strongly prioritising waste reduction, reuse and recycling. Once these steps have been completed, the developer can move to step 5; Preparing a Reuse, Recycling and Waste (RRW) Plan.

REUSE, RECYCLING AND WASTE — SUPPLEMENTARY PLANNING DOCUMENT

Reuse, Recycling and Waste Management Decision Tree

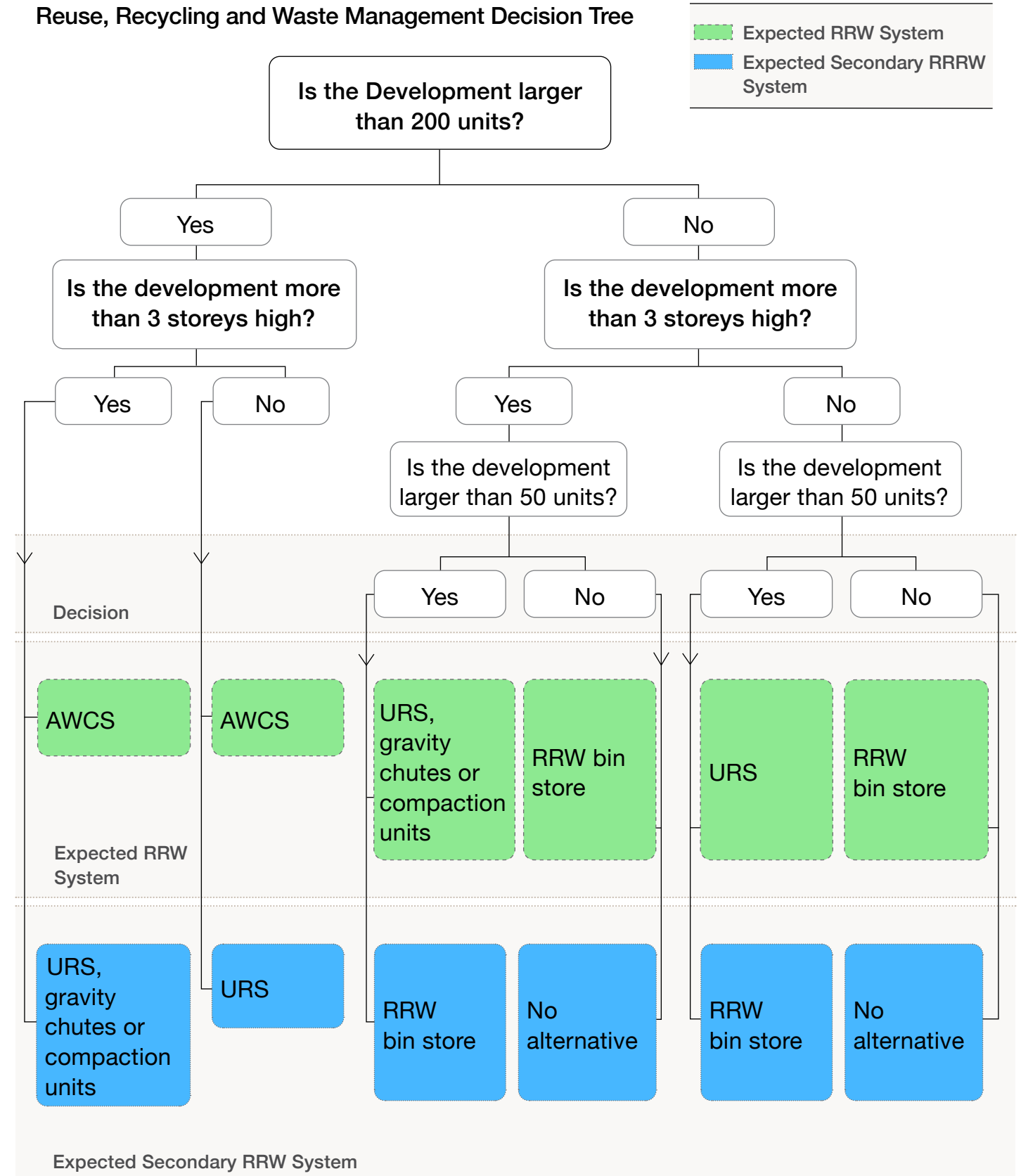


Fig. 3. The Reuse, Recycling and Waste Management Decision Tree.

B0.3. User Journey - The Five Stages of Waste Management

The production, storage and management of items for reuse, recycling and waste resulting from the day to day occupation of a development involves five management stages as set out in the diagram below (see Fig 4). These stages articulate the flow of materials from the point they become surplus to requirement or are discarded i.e. when they become waste.

The User Journey

Reuse, Recycling and Waste (RRW) management systems within buildings should be designed to enable a flow of material through and out of the building with as little friction as possible. Every action therefore needs to be considered; from source separation by the occupant, transportation of waste to a deposit point, the interactions building management staff (caretakers) may have with the waste, right through to its collection by the council's waste collection operatives, including how vehicles enter and leave the site.

Making the users' (occupant, building manager/caretakers or collection operatives) journey as efficient and easy as possible is essential to ensuring the RRW system will maximise reuse and recycling.

If a development is designed well, waste reduction, reuse and recycling is maximised, storage and on-site management facilities are easy to use, convenient in their location and appropriately integrated, ensuring high levels of each user satisfaction.

Poorly designed systems will be inefficient and require constant maintenance. To ensure systems are optimised for each user of the system applications should clearly set out the routes taken by the occupiers, building managers/caretakers and collection crews when moving waste around the development. How well each of the five stages of waste management has been considered will impact on the final outcomes in terms of levels of reuse and recycling achieved.

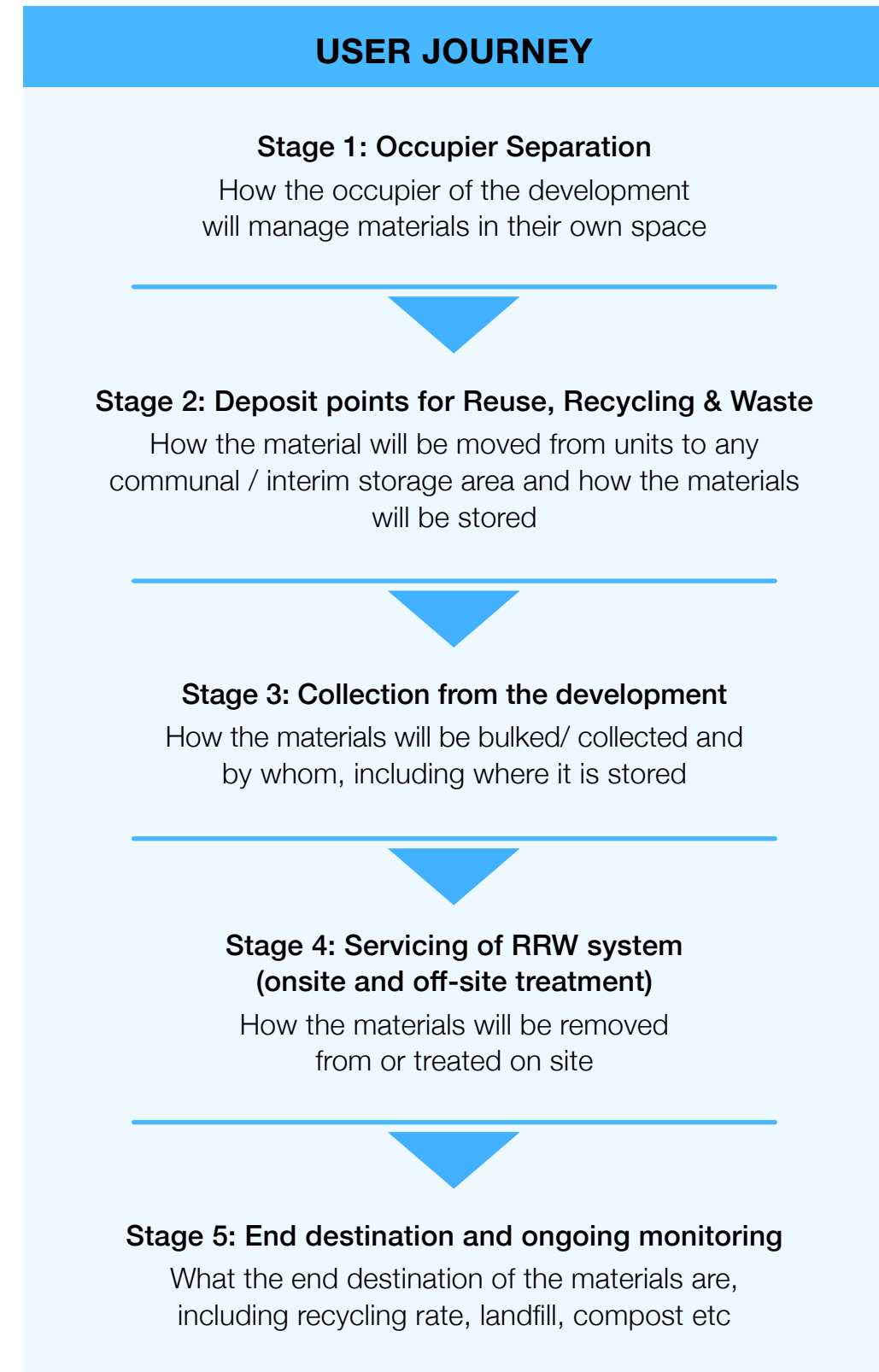


Fig. 4. User Journey: The Five Stages of Waste Management

B0.4. Preparing a Reuse, Recycling and Waste (RRW) Plan

The Reuse, Recycling and Waste (RRW) Plan should be written using the template in Appendix 3 (The Template RRW Plan) and submitted to the planning authority as part of the planning application. If the RRW plan is not complete at the time of submission, then the planning application will not be considered complete and may not be validated. Regardless of the size of the development, the RRW Plan should include detailed information of the proposed RRW system for each of the “5 stages of management”.

The RRW Plan should include details for how each of the following material streams are managed: Organics, Recyclables, Residual, Bulky and Reuse (e.g. items to be taken to and charity shops). **The complete RRW plan must include:**

- Drawings and diagrams illustrating how the system will work e.g. flows of waste through the development include collection vehicle routes
- A Communications Plan which details communications to help users reduce, reuse and recycle as much waste as possible e.g. signage to be used (see section B2.3).
- An Operations and Maintenance Plan. This Plan should show how the RRW system will be managed and its performance monitored against objectives in the ‘Statement of Intent’.

N.B. Where applicable, a monitoring report will need to be sent to the council on every anniversary of the commencement of occupation (See Appendix 10).

- A signed developer’s ‘Statement of Intent’ for achieving Reuse, Recycling, and Waste objectives

B0.5. The Expected Systems and Standards that should be included in the Reuse, Recycling and Waste plan using the Five Stages of Waste Management

The expected and minimum standards shown in the following sections B1, B2, B3, B4 and B5 should be included in the RRW Plan (the template to be used is contained within Appendix 3) for each of the five stages of management, along with a detailed description of elements that need to be detailed in the final RRW Plan to be submitted in the planning application. Proposals for systems that are not serviced by the council may be acceptable if it is to the benefit of all users of the development, and financing for any extra equipment required to service the development, including vehicles, has been agreed with the Public Realm team. Each Table in the following sections contain the Expected Systems and Standards relevant to that section.

B1. Stage 1: Occupier separation

The council's expected standards related to the separation of different material streams and systems are shown on the right.

It is good practice for the internal storage containers to be designed to enable carriage of different materials from the dwelling to the storage area or deposit point. Freehold/ leasehold and rental conditions should include clear obligations on the correct way to use waste management facilities, with guidance provided to each resident at occupation and on an ongoing basis.

Table 4: Separation of Material Streams

(a)	Food Waste (5ltr), Dry Recycling (40Ltr) and Residual Waste (40Ltr) – Every home to have integrated containers for the 3 streams
(b)	Residents no further than 30m from a deposit point or store
(c)	Deposit points, and access to them, to be well lit and ventilated at all times
(d)	Access to and correct use of deposit points addressed through clear signage and resident induction, detailed in the Communications Plan
(e)	Use of storage in home and deposit points to meet the needs of people with disabilities – in accordance with British Standard BS 8300 :2009
(f)	A dedicated bulky waste location to be provided within every development
(g)	A goods lift available for residents, for movement of bulky waste, for developments over 3 storeys

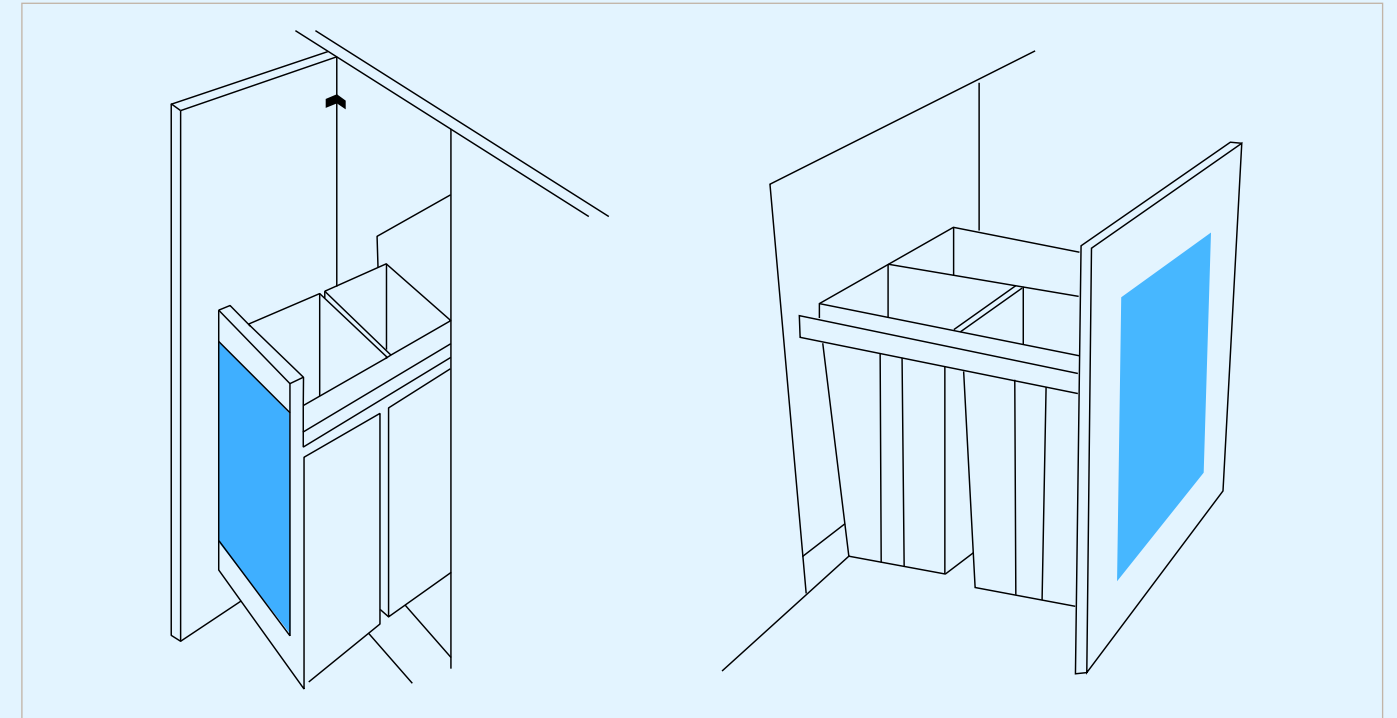


Fig. 5. In-dwelling storage arrangements.

When questioned 30% of residents reported they did not recycle, most often due to the lack of space in the home.

Good design and provision allows waste and recyclables to be easily separated, assisting residents in the correct disposal of each waste stream.

B1.1. Waste prevention – communicating with occupants

The Communications Plan within the RRW Plan should indicate resources and information that will be made available to help occupants reduce waste and reuse surplus goods. The making recycling work for people in flats research, published by Resource London in January 2020 should be referred to when writing the Communications Plan.

B2. Stage 2: Deposit points for Reuse, Recycling & Waste

Within the development (including mixed-use) sufficient storage capacity must be provided by the RRW systems to store all organic, DMR and residual waste from all units for a minimum of eight days-worth of waste as detailed in table 4.

The council's preferred solutions for the deposit of waste associated with different RRW systems is set out in table 5.

A description for each stream for the appropriate system should be included in the RRW Plan.

An explanation of the expected systems and standards related to deposit of waste and in unit storage are provided in this section.

Number of bedrooms	Storage capacity per week (litres)			
	Refuse	Dry recyclables	Without garden waste	With garden waste
1	70	60	23	100
2	120	90	23	100
3	165	120	23	200
4	215	150	23	200

Table 4. The Expected storage Capacity to be provided for new developments

Material Stream	Automated Waste Collection Systems (AWCS)	Underground Recycling and Residual Waste System (URS)	Gravity Chute system	Reuse Recycling and Waste (RRW) Store	Kerbside
Food and green waste	Deposit Portal located on every floor linked to a vacuum system that takes material to a central collection facility or dedicated composting solution	Ground floor Eurobins	Ground floor Eurobins	Ground floor Eurobins	Food caddy and green waste bag
Dry recycle	Deposit Portal located on every floor linked to a vacuum system that takes material to a central collection facility	Outside of the building an underground chamber (at least 5,000 litres) that allows access through a portal	Deposit Portal located on every floor linked to a gravity system that collects material in a compactor unit	Ground floor Eurobins	Provision for sacks to be stored securely outside the property
Residual Waste					
Reuse, Bulky, & WEEE	Dedicated room or area				Collection via council Bulky service
Charity	Dedicated room or area				Charity shops and collections
Compliance with BS5906 & BSEN 840	✓	✓	✓	✓	✓

Table 5. System requirements and material streams

B2.1. Location of deposit points for Reuse, Recycling and Waste

Identifying the best location for reuse, recycling and waste deposition areas can be difficult, there is a balance to be achieved between the following factors:

- convenience to residents and building managers;
- space;
- collection access;
- noise;
- security; and,
- architectural integration.

The RRW Plan should show how reuse, recycling and waste deposit points and storage areas have been designed to provide:

- easy access for residents and building managers;
- adequate room for waste to be deposited;
- manoeuvring of bins for collection;
- cleaning of the storage area, and
- maintenance and servicing requirements.



Fig. 6. Automated Waste Collection System intake hatches within the public realm.

B2.2. Future system flexibility

The greatest difficulty in calculating space allocation is predicting the collection services that will be provided in the future. Service requirements must be discussed with the council and flexibility allowed in the building design for future needs.

Table 6. Flexibility in building design

- (a) Sizing waste stores to allow for a potential increase in waste generation, and/or a change in council service provision per dwelling.
- (b) Keeping bin stores clear of fixed structures that would make it difficult to accommodate bins of different sizes.
- (c) Designing access paths and doorways greater than minimum width requirements, to allow for possible future changes in bin size.

B2.3. Signage

The ways in which occupants engage with and use the RRW system will have a significant impact on reuse and recycling performance and so this is a key design consideration. Particular attention should be given to this issue where communal facilities are provided as users may suffer less direct consequences and so take less ownership of the effective functioning of these facilities.

Table 7. Signage

- (a) All proposals to incorporate signage to (a) direct residents to recycle and waste locations, and (b) explain how to use the recycle and waste deposit locations (AWCS and URS modules, and bins).
- (b) All signage to follow the Resource London – Flats Recycling Toolkit, unless otherwise agreed
- (c) Signage to be used to distinguish clearly between locations for food waste, recycling, residual waste, and bulky items
- (d) Signage must be displayed with robust materials, directly on and alongside deposit modules and bins.

The RRW Plan should indicate how information packs will be given to new residents and portals/noticeboards provided that includes complete information on waste reduction, reuse, recycling and composting along with encouragement and instructions. The council's Public Realm Team will be able to assist in specifying the type of information to be provided. Additional guidance is available from Resource London.



Fig. 7. An example of LBTH signage. Image courtesy of London Borough of Tower Hamlets.

The average person spends a few seconds deciding in which bin to dispose of their waste. With good design, this information can be conveyed quickly via visual cues. Reading requires more time and, in multilingual settings, requires translation. Research has shown that visual cues and signage greatly reduce contamination and increase capture rates.

B2.4. Deposit of Organic waste

The deposit of organic waste management requires special attention. The putrescible nature of the waste means that it should be properly contained at all times, ventilated and stored in a suitable location so that any odour does not negatively impact the development. Food waste also lends itself to on site management by composting.

Table 8. Organic Waste Deposit	
(a)	A separate in-home receptacle shall be provided for food waste, with recycling and residual waste receptacles.
(b)	Separate communal bins (each bin no larger than 240l.) shall be provided for food waste.
(c)	Food waste macerators can be considered, subject to approval by Thames water
(d)	In principle, applicants that wish to include on-site in-vessel composting units, e.g. Rocket Composter, will be supported



Fig. 8. The Rocket Composter.

B2.5. Bulky waste

Illegal dumping of bulky waste is an issue that detracts significantly from the quality and appearance of a development. Interviews with residents have highlighted that bulky waste causes bins to fill up, resulting in mess and additional collection trips. Proper arrangements for the management of bulky waste must therefore be included in the RRW Plan

More of London's reusable items like furniture, fittings and electrical appliances need to be kept in use. Redistributing them to where they are needed can create local work, keep resource costs down and help reduce poverty.



Fig. 9. Poorly managed bulky waste storage. Image courtesy of Jim Stephenson.

Table 9. Bulky waste	
(a)	Developers should provide space for the storage of reusable and bulky recycling and waste, taking into account:
(b)	The number of blocks, size of homes and number of units.
(c)	Requirement for the flexibility of the storage capacity.
(d)	The frequency of collection.
(e)	The anticipated turnover of residents.
(f)	Accessibility for collection
(g)	All multi-storey residential developments must have a separate space for the short-term storage of bulky items of furniture and electrical items, at ground level.

B2.6. Reuse

All developments should promote reuse of end of life items. One way to achieve this is by establishing partnership arrangements with not-for-profit organisations to collect reusable materials, particularly bulky waste, such as furniture, and textiles.

Partnerships may create formal arrangements for collecting and distributing items and such proposals should be discussed directly with the Tower Hamlets Public Realm Team.

Table 10. Reuse
(a) Estate management shall be responsible for advising residents and assisting with reuse and collection.
(b) Initiatives to support reuse by residents include Community Fridges, and Peer to Peer sharing, including with physical and online noticeboards.
(c) The resident induction shall include information on local organisations and businesses that will accept bulky and other items for reuse

Residents should be provided with online or physical noticeboards to encourage the sharing and reuse of items that are often rarely used, such as cleaning appliances, tools and kitchenware as well as books and other such products. In mixed use developments it may be possible to

match businesses with local partners who are able to reuse waste, for example cafes may be matched with foodbanks, such as Fareshare, for food waste. For larger development it may be possible to design in facilities which enable reuse e.g. repair cafes, space for ‘give and take’ days, composting workshops and sharing initiatives (e.g. “Library of Things”). Such facilities should be included in the Communications Plan. Further details and examples of Reuse are included in Appendix 6.

B2.7. Waste Electrical and Electronic Equipment (WEEE) & Textiles

Developers should consider provision of WEEE and Textile collection points to increase reuse and recycling, reduce carbon emissions and help to avoid these items being inadvertently put in the residual or recycling collection. Large WEEE items are currently collected through the LBTH bulky waste collection service. Residents can also get rid of small appliances in the bulky waste service.

The Public Realm team will need to be consulted regarding proposals for separate provision for WEEE which would normally be incorporated in the recycling and waste room. If such facilities are not provided, information for residents on how to separately manage WEEE and Textiles should be included in the Communications Pack.

B2.8. Clinical waste and hazardous waste

There is no requirement for a dedicated space in developments for hazardous and clinical waste, but following consultation with the council team, RRW Plans should indicate how information will be provided to residents on how to dispose of such items.



Fig. 10. Examples of clinical waste collection containers.

B2.9. Construction and demolition waste

The RRW Plan should show how provision is to be made within the development to temporarily accommodate a skip if required by residents working with a contractor involved in significant refurbishment works.

B2.10. Deposit Return Schemes (DRS) and Recycling on the go

Government legislation requires DRS systems to be put in place from 2023, there is an opportunity to site these within the lobbies of large developments to aid recycling. As an example, in the London Borough of Hackney a DRS system has been incorporated into a housing estate in Hoxton to maximise recycling. The Public Realm team will need to be consulted regarding proposals for separate provision for DRS which would normally be incorporated in the recycling and waste room.

For larger developments where pathways and parks are introduced, provision should be made for ‘recycling on the go’ i.e. bins dedicated for the receipt of recyclables. Systems proposed could include AWCS, a series of URS containers or traditional bins. Discussions with the Public Realm team will be needed at the earliest possible opportunity to ensure servicing costs and contamination are minimised.

B3. Stage 3: Collection from the development

This section considers the collection stage i.e. how waste that has been deposited is transported to an area within a development from where it can be taken off site.

Traditional waste collections systems involving bin stores should not be proposed in new flatted developments above 50 units. Non-traditional systems require land to be set aside to store bulked waste materials, with the size and footprint of

the space varying from system to system. Systems must provide for a minimum weekly collection service and allow for separate collection of organic wastes and/or facilitate onsite composting. A summary of the systems the council expects to be used for different building typologies, based upon the number of units per development, is shown below:

Expected collection system			
Development type	Above 200 Units	200 -50 units	below 50 Units
1. Low-rise residential developments up to 3 storeys	AWCS	URS (flatted) or 4 stream Kerbside (houses)	RRW store 4 stream Kerbside (houses)
2. Medium- and high-rise residential developments above 3 storeys	AWCS	Compaction system with gravity chutes or managed service and RRW stores	URS or RRW store
3. Mixed-use medium- and high-rise buildings above 3 storeys	AWCS	Compaction system with gravity chutes or managed service and RRW stores	URS or RRW store

Table 11. Expected collection systems

When submitting the RRW plan, the developer must use diagrams and plans to demonstrate how the materials are collected on the site. The diagram below provides an example of how the route of materials from the storage units, described in stage 2, to a collection point should be illustrated.

A summary of the different collection systems and the expected standards and systems that need to be followed are shown below. The system proposed should be designed to make it easy to separate, store and move materials of the site, whilst, meeting the needs of its users, specifically, the occupant, the building manager/ caretaker and the collection operative.

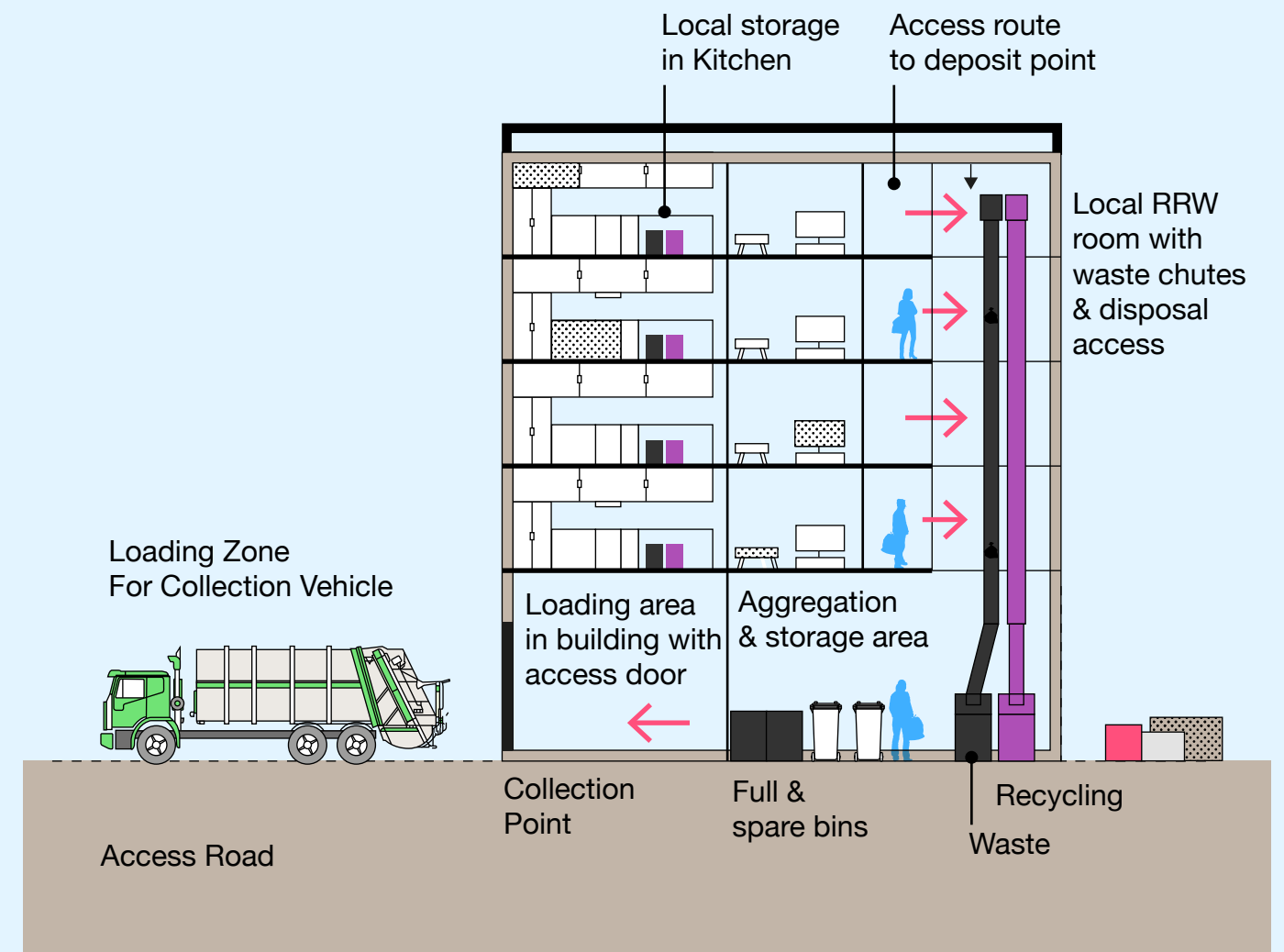


Fig. 11. Example waste systems and material flows.

B3.1. Automated Waste Collection Systems (AWCS)

Automated Waste Collection Systems (AWCS), which are also known as ‘vacuum systems’, involve waste being conveyed through a network of pipes, some of which will be underground, from residential blocks to a central bulking point or ‘terminal building’ where the materials are bulked up and compacted in containers.

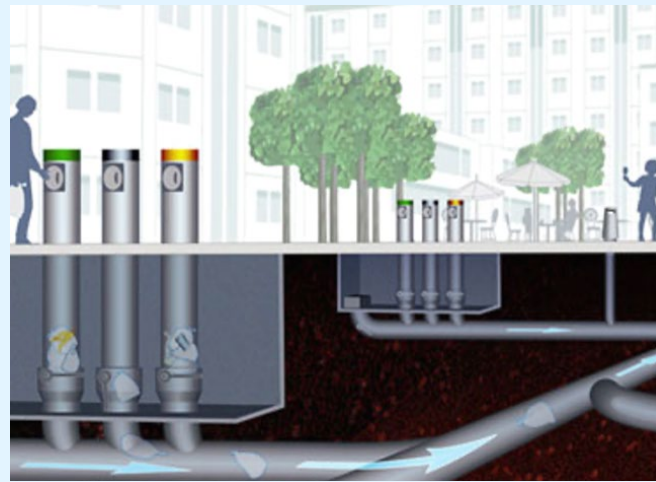


Fig. 12. Example diagram of the collection pipe system for an Automated Waste Collection System. Image courtesy of Envac.

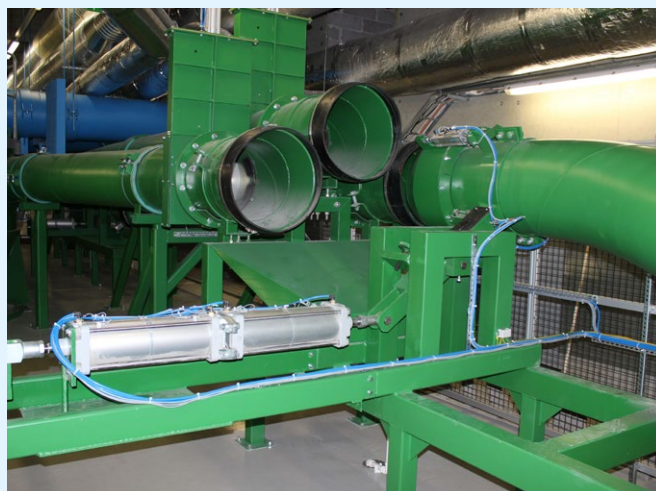


Fig. 13. Example diagram of the collection pipe system for an Automated Waste Collection System. Image courtesy of Envac.

Table 12. Automated Waste Collection Systems

<p>(a) Deposit points shall be sited in convenient locations, easily accessible to residents, as part of day to day activity on the way to and from the development.</p>
<p>(b) Deposit points at each location shall provide for food waste, recycling and residual waste.</p>
<p>(c) Signage to be applied to each deposit point inlet, consistent with the development signage strategy, following the Resource London Flats Recycling Toolkit</p>
<p>(d) Deposit point locations outdoors shall be determined taking into account other significant planning considerations, including landscaping and public realm.</p>
<p>(e) Residents shall not have to travel more than 30m to reach a deposit point.</p>
<p>(f) Capacity for the system shall be determined in accordance with capacity guidelines in Part B and Appendix 7 of this SPD.</p>
<p>(g) Deposit point locations outside shall not be serviced by collection vehicles from the public highway.</p>
<p>(h) The system shall be maintained in line with manufacturer’s requirements, including the cleaning of intake hatches on a weekly basis.</p>

Collected waste should be compacted at the collection station so that the footprint of the facility can be minimised, thus realising the full benefits of the system.

AWCS are capable of dealing with all three waste streams: residual; dry mixed recycling; and food waste. The system involves compaction which allows more waste to be stored and therefore reduces storage space requirements and vehicle movements. If AWCS are used, residents ‘post’ their waste into portals. The system is operated automatically through a system of sensors and valves that are linked to a central computer system. It is possible to integrate the vacuum system within buildings, so that residents can place waste materials into chutes on each floor of their block for ease of use/access. The flexibility of these systems is such that the inlets can be located inside or outside of the building to suit budget and design.

As servicing by waste collection vehicles is greatly reduced (as vehicles only need to collect waste from the central collection station), allowances for HGV clearances and turning circles associated with roads within the development, that are not on the route to the central collection station, can be minimised to ensure that public areas are more amenable to use by pedestrians and cyclists.



Fig. 14. An example of an AWCS portal area, demonstrating ease of access. Image courtesy of Envac.

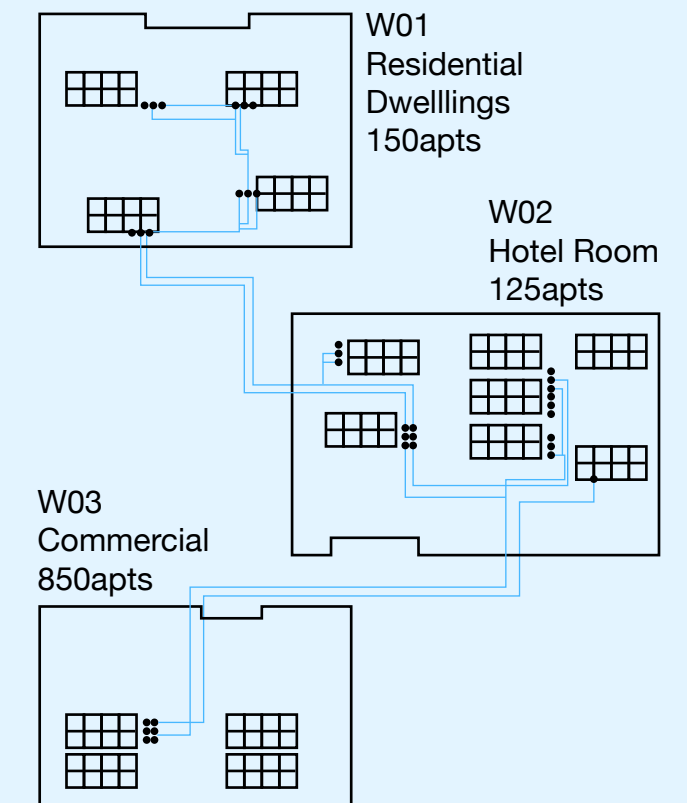


Fig. 15. An example of an Automated Waste Collection System network.

B3.2. Underground Recycling and Residual Waste Systems (URS)

Underground recycling and residual waste systems are already in use within the borough and have proven to be a good solution to high-density developments and offer an effective solution in developments of much lower densities.

The URS system involves a large steel container set into a concrete hole underground, above which is a set of inlets allowing residents to deposit bagged waste materials. The design of the inlets can be varied and should reflect the design of the development and/or public realm.

These systems are suitable for dry mixed recycling and residual waste. The container system allows more waste to be stored in the centralised underground containers than traditional bins/bags, and therefore reduces vehicle movements. In instances where there is more than one building proposed as part of the development, the underground container system eliminates the need for a residual collection from each building by allowing multiple buildings to all use the same portal. Where URS is proposed a separate organic waste deposit point should be provided.



Fig. 16. The inlets for a two stream URS.
Fig. 17. URS collection in Tower Hamlets.

Table 13. Underground Recycling and Residual Systems (URS)

- (a) Deposit points shall be sited in convenient locations, easily accessible to residents, as part of day to day activity on the way to and from the development.
- (b) Deposit points at each location shall provide for recycling and residual waste.
- (c) Food Waste shall be collected separately, in accordance with section B2.4 of this SPD.
- (d) Signage to be applied to each deposit point inlet, consistent with the development signage strategy, following the Resource London Flats Recycling Toolkit
- (e) Deposit point locations outdoors shall be determined taking into account other significant planning considerations, including landscaping and public realm.
- (f) Residents shall not have to travel more than 30m to reach a deposit point.

- (g) The storage capacity of the system shall be able to hold recycling and residual waste for the development, for a minimum of eight days. In accordance with capacity guidelines in Part B and Appendix 7 of this SPD.
- (h) Deposit point locations shall not be serviced by collection vehicles from the public highway.
- (i) The system shall be maintained in line with manufacturer's requirements, including the cleaning of intake hatches on a weekly basis.

There are two types of URS: 'Stillage', which is commonly used in the UK; and URS Vacuum. For URS Vacuum, containers remain below ground and servicing is via a vacuum suction vehicle. Should the URS Vacuum be proposed, a specialist vehicle may need to be provided by the developer and costs for servicing should be discussed with the council Public Realm team at the earliest opportunity.

Any URS cannot be serviced using the public highway or impacting public footpaths and they will therefore need to be located within the footprint of the development itself. The developer/property manager will be responsible for the maintenance of the systems, which should be detailed in the Operations and Maintenance Plan for the development.

B3.3. Gravity chutes

Gravity Chutes are only to be proposed in accordance with the decision tree, and therefore are generally only suitable for a building of less than 200 units, with more than three storeys and where AWCS is not feasible.

Residents are responsible for depositing residual/dry recycling/food waste into a chute system via a hopper in a hallway on the same level as their residence. Modern systems can be designed to support multi-waste stream segregation.

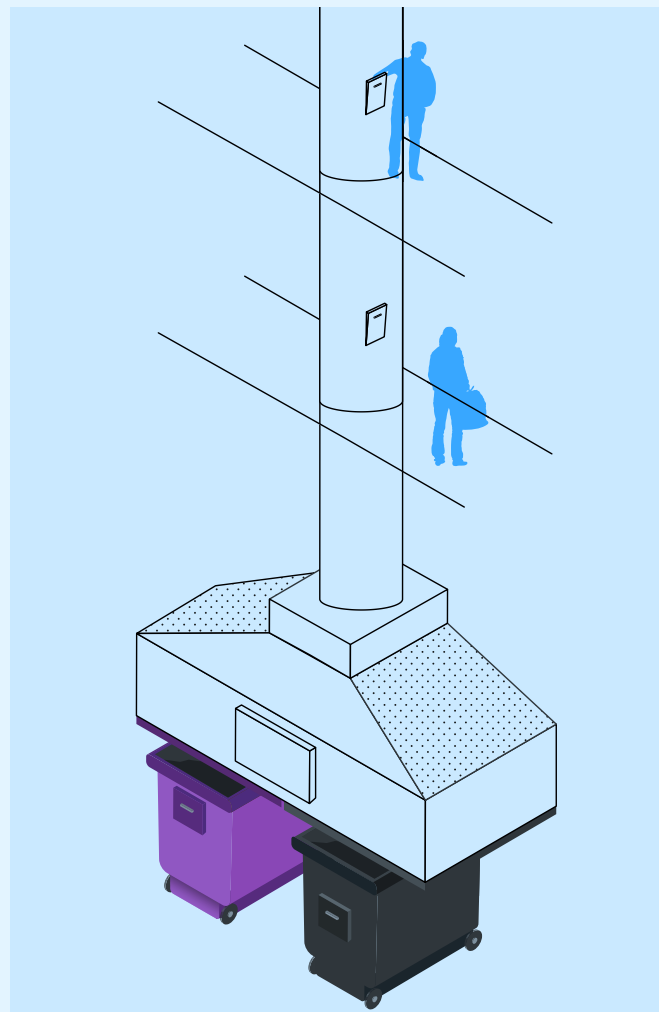


Fig. 18. A gravity chute system.

Table 14. Gravity Chutes	
(a)	A one chute system with separate storage at the base is the preferred approach. A separate chute may be used for food waste, to address contamination and odour.
(b)	There shall be provision for 3 streams – food waste, recycling and residual waste.
(c)	Residents shall not have to walk more than 30m to a chute deposit location
(d)	Signage to be applied to the chute deposit location, consistent with the development signage strategy. The signage shall explain how to deposit different streams, with simple text and images.
(e)	The management and maintenance process should have measures to minimise blockages. Smart systems to detect maintenance issues are encouraged. On-site estate management shall include staff with training to respond to chute blockages, as part of other maintenance duties.
(f)	Gravity Chutes should fall vertically where possible and avoid slopes or bends.
(g)	Gravity Chutes shall include ventilation systems for the chute and storage areas.
(h)	Gravity Chute design should comply with British Standard BS 1703 (Specification for Refuse Chutes and Hoppers) or any subsequent updated standards.

B3.4. Compactor site design considerations

Compactors used in residential developments only tend to be effective where there is a managed waste system with a building manager/caretaker. This is therefore the recommended approach. Where compactors are provided, for residual waste, if compactors are used for recycling, the compaction ratio should be less for recycling than residual.

Compactors require regular maintenance. In particular, systems fed from a chute are prone to blockages or failure of the ‘electronic eye’, which can result in waste overflowing or backing up the chute. The 2:1 compaction ratio will halve the requirement for waste storage bins. The lifting mechanism must be compatible with the vehicles used to collect the containers and to ensure this information should be sought from Public Realm Team.

When designing for portable skip compactors and static skip compactors, consideration needs to be given to:

Table 15. Compactor Systems	
(a)	Building superstructure design, including basement or ground floor heights to include need to accommodate Compactors – including collection vehicle access
(b)	For static compactors, guide rails should be fitted to allow the container to line up with the compactor, when being returned to the site.
(c)	For portable compactors, an appropriate heavy duty stop barrier should be fitted at the rear of the compactor site
(d)	A metal floor plate should be fitted where waste is being compacted, to protect the surface.

- I.** The health and safety of the operative and any member of the public
- II.** the access, including gradient, lintel height for access doors and clearances within the development for operating requirements for the collection vehicle including offloading and loading skips;
- III.** whether additional space is required to allow offloading of an empty skip and uplifting of a full one;
- IV.** ensuring that during loading/unloading the skip vehicle will not encroach on or block any public right of way, fire exits or other entrances/exits.

B3.5. Reuse, Recycling and Waste (RRW) Bin stores

The Council's Local Plan 2031 policy and this guidance requires major developments to include new modern waste technologies. For smaller schemes, Reuse, Recycling and Waste Bin stores will continue to play a role in meeting recycling and waste needs. The developments for which this is appropriate are set out in the Decision Tree of this SPD (section B.02).

Reuse, Recycling and Waste Bin stores offer an alternative RRW system for medium – and low-rise residential developments with less than 3 storeys and below referred system for below 50 units and an alternative for below 200 units.

If an RRW bin store is proposed, the space in the collection area must be sufficient to enable collection crews to return empty bins to a position that does not obstruct the manoeuvring of those containers that are yet to be emptied. A simple example of how this might be achieved is given in the diagram on the right (The dimensions, in metres and cubic metres, of the bins must be included with the application).

Table 16. Bin Stores	
(a)	Bin stores should be designed, in respect of access, layout and size, recognising they may be areas to be used safely and easily by residents, in addition to estate management and collection operatives.
(b)	Bin store size and layout must allow reorganisation of bins when some become full.
(c)	Bin store size and layout must allow removal and return of bins, one at a time
(d)	Bin store size and layout must allow storage of Eurobins, side-by-side, to allow access to the wide front edge, not storage end-to-end.
(e)	Signage in the bin store, including on and alongside bins, to follow the development signage strategy, following the Resource London Toolkit.
(f)	Openings on recycling bin lids should be large enough to accept plastic bags of recycling
(g)	External communal storage areas shall be enclosed securely, and with cover from weather.
(h)	Bin store doors onto a footway or public realm shall open inwards, to prevent obstruction or injury.
(i)	Bin stores shall comply with British Standard BS 5906-2005 – Waste Management in buildings

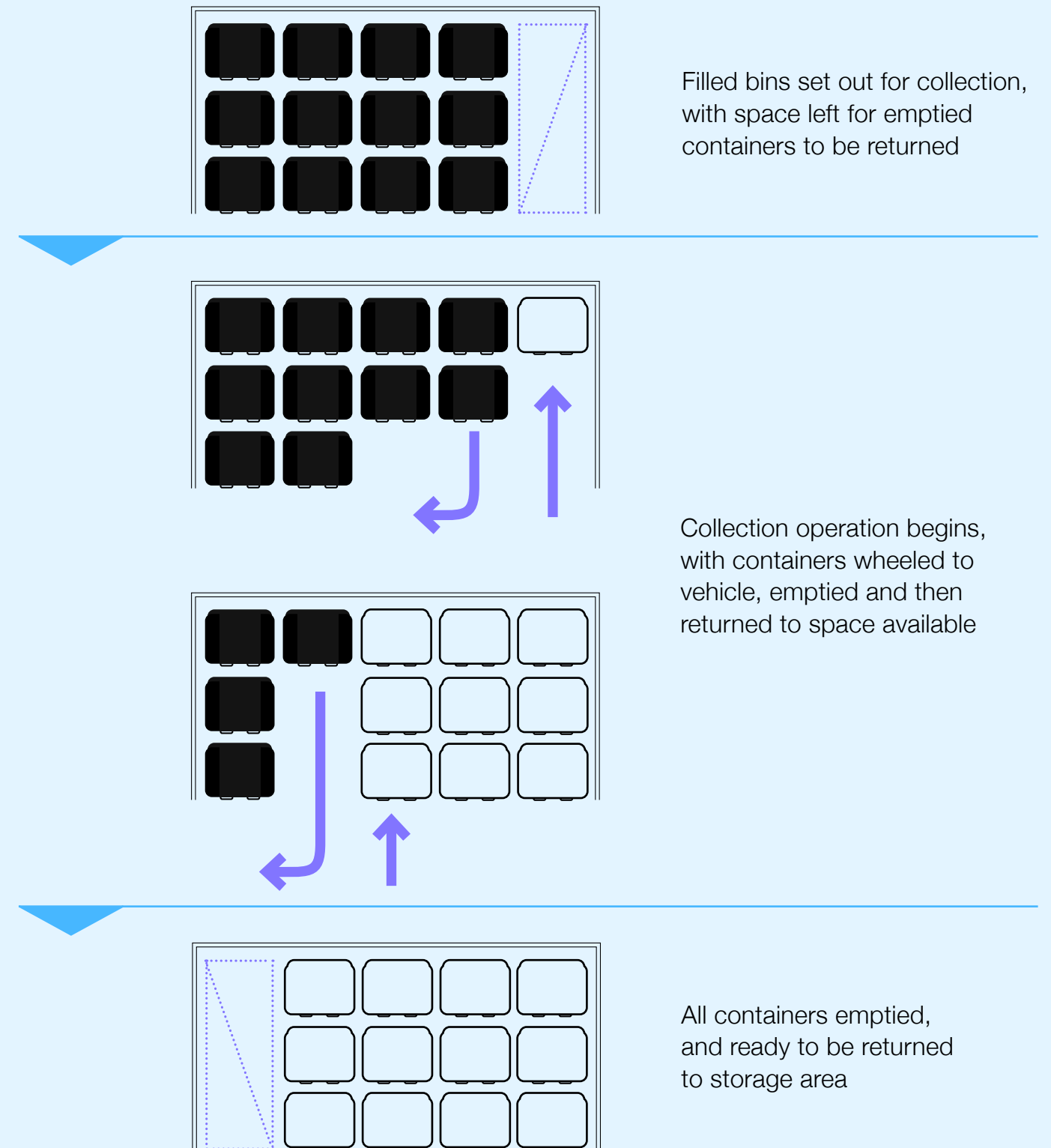


Fig. 19. Example of optimal bin store organisation.

B3.6. Kerbside schemes

Proposals involving detached, semi-detached and mid-terrace houses and other property without side or rear access must be designed in accordance with the systems and standards included in the table below.

Table 17. Kerbside Schemes	
(a)	Recycling and residual waste bags and containers shall be screened from the street, to ensure they do not visually intrude on the streetscene, and to prevent public use.
(b)	Dedicated external storage areas are the preferred approach, and shall be of durable materials and relate to the building design.
(c)	Dedicated external storage areas shall accommodate the three streams of waste – food waste, recycling, and residual waste.
(d)	Dedicated external storage shall be convenient for residents to access.
(e)	Collection operatives shall not be required to move bins more than 10m distance.
(f)	There must be at least a 150mm clearance between each bin and the enclosure must have a minimum height of 1200mm.
(g)	The installation of compost bins in all private gardens, as part of the development proposals, is supported.



Fig. 20. Example of kerbside waste storage in Tower Hamlets.

B3.7. Mixed Use developments

If the development includes retail, leisure, hotel or other non-household proposals, the expectation is that the system of collection should be the same as for the household waste, with the ability to determine what materials have come from households and what comes from non-household properties. This is an important requirement as a direct charge will be applied by the council for any collection of non-household waste based upon the quantity collected.

For all mixed use developments, consultation with the council in step 2 of the 10 steps is critical to determining the solution.

B3.8. Ongoing management of RRW systems

The RRW Plan should set out how the RRW system will be managed on an ongoing basis with clear allocation of responsibility. Ongoing management is required to:

- Ensure any impacts on amenity are minimised;
- maximise safety for residents, building managers/caretakers and collection crews;
- maximise resource recovery; and,
- enable efficient servicing of the development

The size of the development will influence the responsibility for ongoing management and maintenance of RRW systems. Building managers/caretakers who play an active role in maintaining RRW systems are recommended for all developments, particularly those with communal storage areas, and are essential for effective ongoing management in large-scale development.

Table 18. Facilities Management
(a) Waste system or bin cleaning areas shall be provided with everything necessary to carry out required tasks e.g. source of water. The areas themselves should be well designed and maintained.
(b) Where bins or loose waste need to be moved around the development, safe vertical transfer methods such as lifts, chutes and ramps shall be designed to facilitate the movement of the waste and should be large enough to accommodate containers (including a person where required).
(c) Collection operatives shall not be required to move bins more than 10m distance.
(d) Waste transfer routes shall be clear of steps, curbs and lips, and shall have a maximum gradient of 1:12.

The building manager/caretaker should be responsible for maintaining the waste services and responsibilities should include those set out in Table 19.

Table 19. Building manager/caretaker duties
(a) Informing residents and any commercial tenants about the RRW services provided (e.g. what materials can be recycled) and how to use them.
(b) Displaying and maintaining consistent signage on all waste deposit points, bins and in waste storage areas.
(c) Where required, transferring waste receptacles to the collection point/waste store.
(d) Overseeing bulky waste, WEEE, textile, clinical and hazardous waste storage and collections.
(e) Keeping clean and well maintained bins and bin areas
(f) Monitoring use of the waste system and reporting any problems to the building managers and council.
(g) Liaising with the waste collection contractor(s).

The cost of employing a building manager/caretaker should be factored into the ongoing management of the development. Conditions of a planning consent may require that a development's RRW system be maintained in accordance with the submitted and approved RRW Plan. If a building manager/caretaker is required, this should be detailed in the RRW Plan; employment of a building manager/caretaker will thus form part of the conditions of consent, which must be adhered to.

Ongoing management is required to monitor resident behaviour and identify requirements for further education, signage or adjustments. Any negative behaviour, such as dumping waste and recyclables on the floor rather than in bins, needs to be addressed quickly. A fast response is desirable to prevent spreading of negative behaviour.

If systems are convenient and safe, staff are more likely to use them.

B4. Stage 4: Servicing of collection system (onsite & off-site treatment)

A suitable single and accessible area should be identified in the RRW Plan from where containers, compaction units and large number of bins are to be collected. Developers must avoid submitting proposals that have limited direct access to the development, and/or specialised servicing requirements due to equipment used to provide the waste service. To mitigate these issues, the systems and standards set out below should be followed.

The fundamental approach for servicing and access in Tower Hamlets is that all servicing shall take place within the boundary of the site, and not from the public highway.

The strategy for achieving this will need to be demonstrated by applicants at the earliest pre-application stage. This is a key matter to ensure RRW access and servicing proposals are discussed and assessed alongside other aspects of a scheme being determined.

In exceptional circumstances, where it is considered wholly impractical for servicing to be achieved within the site, the applicants shall present a strategy, at the earliest pre-application stage of how impact on the highway, including the public footpath, shall

be limited. This approach applies to each of the collection systems, AWCS, URS, and Bin Collection. It should be noted that in respect of bin collection, bins shall not be left on the footway, including on collection day.

Developers should consider what alternatives are available for locating collection points, particularly for developments built on small blocks with steep gradients, to enable safe presentation and uplift of bins by the council. Dedicated bulky and charity waste collection procedures must also be clearly defined in the RRW Plan.

AWCS, URS and Compaction units will enable at least 5 times the amount of recycling or waste to be stored compared to a 1100ltr Eurobin system, cutting down on the number of times a collection vehicle has to enter the development.

B4.1. Vehicle access and minimising HGV movements

All servicing of waste systems should be designed to be undertaken in a safe and efficient manner, on site and with minimal vehicle movements on the public highway.

In accordance with the 10 Steps to Occupation, developers should consult the council before the design of roads and access points is finalised to ensure that servicing arrangements are in line with the council's highways and waste collection services.

Designing for waste collection vehicle access and movements on developments should take account of the following:

- Vehicular access and egress;
- Pedestrian and cyclist health and safety;
- Adequate design of water drainage systems;
- Lighting;
- Parking allocation and management; and,
- Tree and leaf-fall management.

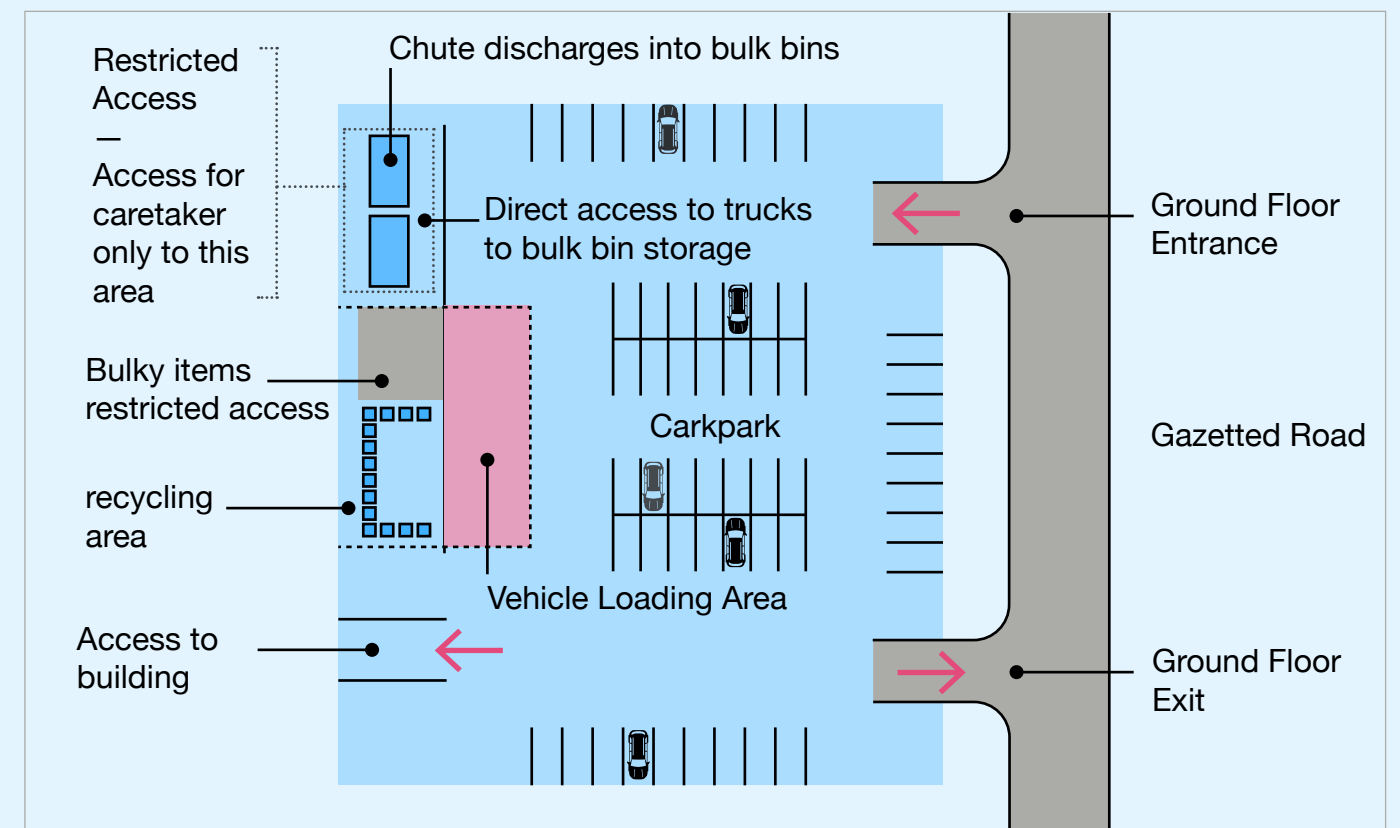


Fig. 21. RRW storage location guidance for onsite collection

B4.2. Road and collection point design

Developers should demonstrate that the collection vehicles (using the waste collection vehicle guidance in Appendix 7) can manoeuvre around and within the site (where applicable) without undue impact on pedestrian safety or traffic flow. Other private contractors collecting commercial waste may use larger vehicles and the need for them to access the development should be taken into account in the design. Proposals should ensure the following are complied with:

Table 20. Road Design and Access
(a) Proposals are required to demonstrate how vehicles will safely access from the public highway, arrive at collection points, and leave the site safely
(b) Access and Highways proposal are required to allow the collection vehicle to enter and exit the public highway in a forward gear, and perform all collection activities within the curtilage of the site
(c) Vehicle Tracking and turning circles are required to be robustly demonstrated, with the use of appropriate tracking diagrams

(d) Access and Highway proposals are required to demonstrate how they have responded to other significant planning constraints – landscaping, playspace, and public realm layout
(e) Access and Highway proposals are required to demonstrate how they respond to vehicle lift and compactor height, tree cover, and overhead structures or cables
(f) Reversing within a site will be in strictly exceptional circumstances, and subject to robust assessment. The maximum reversing distance is 20m. Reversing onto the public highway is prohibited in all circumstances.
(g) Proposed collection points must be a level surface, away from gradients and ramps
(h) Access roads, manhole covers, and gratings must be constructed to withstand a gross vehicle weight of 26 tonnes and axle loading of 11.5 tonnes

B4.3. Access

Developers should be aware that other private contractors undertaking collections of commercial waste from developments may use larger vehicles. Where compactors are planned at basement or ground level, it is preferred that provision for storage of organic waste/compostable materials is also made at the same level.

Whatever collection method is used, the developer must ensure there is sufficient space for the collection vehicle to drive to the collection point, empty the bin and safely leave the collection point. Wherever possible, collection vehicle movement should be in a forward direction through an entrance and exit route, with no need to reverse.

Consideration of the collection crew journey must take account of the following requirements:

Table 21. Crew Access – Bin Stores
(a) Collection operatives should not be required to move bins through more than 1 set of doors
(b) Electronic key fobs to be used for bin store access, one fob should access all stores in a development
(c) Collection operatives shall not be required to move bins more than 10m distance
(d) Bin store size and layout must allow removal and return of bins, one at a time
(e) Ground level from the bin store should be no more than 1:12 gradient, falling away from the bin store
(f) Paths to the collection point should be a minimum of 1.5m wide
(g) Where access is required across a highway or access road, dropped kerb crossovers must be provided
(h) Layout and access must be designed to ensure that during collection times, vehicles do not need to park on, or obstruct the public highway.

B5. Stage 5: End destination and on-going monitoring

Details of how waste will ultimately be managed should be provided. This information will confirm how waste arising in the development will be managed off site e.g. where the waste has been taken for recycling. The information to be provided is shown in Table 25, the level and accuracy of this information will vary according to the size of the development:

Facility materials delivered to	✓
Annual Tonnage of material	
Collected	✓
Reused	✓
Recycled and composted	✓
Recovered (via Energy from Waste)	✓
Landfill	✓
Carbon Dioxide equivalent emissions	✓

Table 22. Information Required Regarding End Destination

In most cases, the council will provide details on where waste will be managed, but in others the developer may be best placed to provide some of this information. **The following section details the information that will need to be provided during the operational lifetime of the development for developments of more than 50 units.**

B5.1. Annual Performance Monitoring

Each year the developer will be required to submit a report which sets out how the system has performed against the objectives set out in the Statement of Intent.

The format and source of data should be agreed with the Public Realm team of the council, but should include as a minimum:

- Performance against waste targets (e.g. quantity, levels of reuse and recycling)
- Observed issues or complaints received in the 12 months and how these were resolved
- Any engagement with community groups, charities and local campaigns
- Using the data collected the developer should undertake an assessment of Scope 3 carbon emissions from the RRW system (the Carbon Trust provide a calculator)¹³.

A template for the performance monitoring report is included in Appendix 10.

13. <https://www.carbontrust.com/resources/sme-carbon-footprint-calculator>

Glossary — Acronyms and terms

DMR

Dry Mixed Recyclables

GLA

Greater London Authority

HGV

Heavy Goods Vehicle

LACW

Local Authority Collected Waste

LBTH

London Borough of Tower Hamlets

tpa

Tonnes Per Annum

URS

Underground Recycling and Residual Waste Systems

WEEE

Waste Electrical and Electronic Equipment

Amenity

The quality of a local environment in relation to health and pleasantness.

Anaerobic digestion

The biological degradation of organic waste in the absence of oxygen, producing biogas (typical composition of 65 per cent methane and 35 per cent CO₂) and residue (digestate) suitable for use as a soil improver.

Better practice

Represents current practice and aims to produce outcomes consistent with the community's social, economic and environmental expectations. Continuous improvement is an important component of better practice.

Bring recycling

A recycling site that the recycler has to 'bring' their materials to the site.

Building Manager

A permanent member of staff who supervises the day to day running of a residential development. This includes maintenance and repair, waste, site staff management and health and safety.

Bulky waste

Waste such as old furniture, mattresses, white goods, or other household waste that is too large to fit into conventional waste collection services.

Bulky waste collection

Services and facilities to manage bulky household items that would not be collected in typical waste collection services. See bulky waste.

Carbon Footprint

The amount of greenhouse gases produced to, directly and indirectly, support a person's lifestyle and activities. Carbon footprints are usually measured in equivalent tons of CO₂, during the period of a year, and they can be associated with an individual, an organization, a product or an event, among others.

In the case of this document, the carbon footprint relates the amount of greenhouse gases produced via the production and management of waste associated with the occupation of a residential (including mixed use) development.

Clinical waste

Waste produced from healthcare and similar activities that may pose a risk of infection, for example, swabs, bandages, dressings, syringes etc. or may prove hazardous, for example medicines.

Collection point

The point from which residual waste and recyclables are collected and transferred from the storage receptacle to the collection vehicle.

Collection system

System for the collection of materials, including bin/container type and collection frequency.

Co-mingled

Materials that are collected together and are recycled following further sorting before they can be reprocessed.

Commercial waste

Waste arising from premises which are wholly or mainly for trade, business, sport, recreation or entertainment as defined in Schedule 4 of the Controlled Waste Regulations 1992.

Communal recycling collection services

Recycling collection services whereby communal recycling containers, typically 1100 litre bins, are provided for a number of properties to deposit their recyclable materials. Communal recycling collection services are generally provided to multi-occupancy properties on-site, where kerbside recycling collections services are not suitable or easily provided.

Compactor

Machinery designed to crush waste and reduce the amount of space taken within a waste receptacle.

Composting

The biological degradation of organic materials, such as green and kitchen waste, in the presence of oxygen producing gas and residue suitable for use as a soil improver.

Concierge or caretaker

A permanent member of staff who is front facing, dealing with resident queries. Tasks include handling requests from residents, post and deliveries, presenting properties to potential residents and handling marketing. Concierges typically occupy a front desk so also provide a level of security and assistance to visitors.

Contamination

Any unwanted materials found in the recycling stream. These are either non-recyclable material, non-target material or targeted materials contaminated with unwanted items, e.g. food-contaminated cardboard or plastic bottles containing liquids.

Deposit Return Schemes (DRS)

A recycling system in which consumers pay a small deposit for cans, plastic and glass bottles, which can be refunded upon return to a shop or other collection point.

Dry mixed recyclables/recycling (DMR)

Dry materials suitable for recycling including paper, card, glass, food and drink cans, plastic bottles, and mixed rigid plastics (tubs, pots and trays).

Dwelling

A self-contained unit of residential accommodation; also referred to as a 'residential unit' or 'unit'.

Energy from Waste (EfW)

The process of creating energy, in the form of electricity and/or heat, from incinerating waste.

Environmental Protection Act 1990 (EPA 90)

A regulatory regime that is designed to implement an approach to prevent harm to human health and the environment by ensuring an integrated (air, land and water) approach to environmental regulation and protection.

Eurobin

A wheeled metal waste container receptacle constructed in accordance with BS EN 840-2:2004 or an equivalent of capacity over four hundred litres and under thirteen hundred litres.

Fly tipping

The illegal deposit of waste on land.

Food waste

Food materials discarded from households or industry, including food processing waste, out-of-date or off-specification food, meat, fruit and vegetable scraps.

Gravity chutes

Common in high-rise buildings and used to collect all of the building's waste in one place. The bottom end of the chute is usually placed directly above a large waste container.

Greater London Authority

A top-tier administrative body covering the Greater London area. It is comprised of two parts: the London Assembly and the Mayor of London as defined under legislation. The London Assembly scrutinises the activities of the Mayor of London in the public interest.

Green waste/Garden waste

Organic waste derived from garden sources e.g. grass clippings, tree pruning's, leaves etc.

Hazardous Household Waste (HHW)

Waste that contains substances or has properties that might make it harmful to human health or the environment. Usually needs specialist disposal from a licenced hazardous waste carrier.

PART B — REUSE, RECYCLING & WASTE REQUIREMENTS IN DEVELOPMENT

High density

Residential or mixed-use development that exceeds 1,100 habitable rooms per hectare.

Home composting

Compost can be made at home using a traditional compost heap, a purpose designed container, or a wormery.

Household Reuse and Recycling Centres/ Household Waste and Recycling Centres (RRCs/HWRCs)

Sites operated by local authorities where residents and local businesses can take their waste for reuse, recycling and disposal.

Household Waste

Waste from household collection rounds, dry recyclables collected through banks or kerbside collections, bulky waste collections, hazardous household waste collection, green waste collections, and waste from services such as street sweeping, litter and civic amenity sites. The definition also covers waste from schools.

Incineration

The controlled burning of waste in the presence of sufficient air to achieve complete combustion. Energy is usually recovered in the form of electric power and/or heat.

Kerbside Collection

Any regular collection of recyclable material from premises, which can include collections from commercial or industrial premises as well as households. Excludes collection services delivered on demand.

Landfill

Areas of land in which waste is deposited. Landfill sites are often located in disused quarries or mines. In areas where there are limited, or no ready-made voids, the practice of landraising is sometimes carried out, where some or all of the waste is deposited above ground, and the landscape is contoured.

Litter

Usually small amounts of consumer waste left in an open or public place such as wrappers, cigarette butts and chewing gum.

London Environment Strategy

Seeks to deliver a zero carbon city by 2050, aiming towards zero waste, a zero emission transport system, and zero carbon buildings in London.

London Plan

The spatial development strategy for all of London, prepared by the Greater London Authority. In London, Local Plans must be in general conformity with the London Plan.

Materials recovery facility (MRF)

A centre for the receipt, sorting and transfer of materials recovered from the waste stream. At a MRF, materials are also sorted by type and treatment, which may include cleaning and compression.

Mixed use development

Development projects that comprise a mixture of land or building uses, or more than just a single use.

REUSE, RECYCLING AND WASTE — SUPPLEMENTARY PLANNING DOCUMENT

Municipal waste

All wastes under the control of local authorities or agents acting on their behalf, which means all household waste, municipal parks and garden wastes, and council office waste. It also includes any waste collected by local authorities from businesses. This waste is referred to as Local Authority Collected Waste (LACW).

Occupation

The point at which the development becomes inhabited by residents and/or businesses.

On-the-go recycling

A way for commuters, tourists and visitors to recycle as they move around the city by ensuring there are adequate numbers of easily accessible recycling bins placed across the city on the streets, in public buildings, key venues and at work.

Organic waste

Green waste (grass, plants, leaves etc.), food waste from households or industry including food processing waste, out-of-date or off specification food, meat, fruit and vegetable scraps.

Public Realm

The space between and surrounding buildings and open spaces that are accessible to the public and include streets, pedestrianised areas, squares and river frontages.

Recyclable waste

While this term strictly applies to all materials that may be recycled, in this document the term is generally used to refer to the recyclable components of waste collected separately for recycling (collection, sorting, reprocessing and manufacture into new products). Excludes organic waste.

Recycling

The reprocessing of waste, either into the same product or a different one. For the purposes of this document 'composting' is a 'subset' of 'recycling' i.e. 'composting' should be counted as 'recycling'.

Recycling and Waste System

The complete collection method for materials arising from the occupation of the development.

Residual waste

The portion of the waste stream collected by local authorities which is not re-used, recycled or composted and remains to be treated through the generation of energy and/or materials or through disposal to landfill.

Reuse

A process in which products and materials are used again for their initial purpose and do not go through a recycling or waste process.

Risk assessment

A systematic process for assessing and integrating professional judgments about probable adverse conditions and/or events.

Roll on roll off

Also called “Roro” is a large skip vehicle that uses rollers to roll on and off the containers rather than lifting them on and off.

RRW Plan

A document that addresses the management of waste and includes details of the type and quantity of materials (residual waste and recyclables) that are likely to be generated, how they will be stored and collected; and information about handling procedures.

Skip

A large container commonly used to hold loads of construction and demolition waste or other waste types.

Small and medium enterprise (SME)

A category of businesses that employs overall a total of no more than 250 people.

Stream

‘Stream or ‘waste stream’ relates to wastes that will be managed in a particular way. For example, the ‘recycling waste stream’ or ‘recycling stream’ is all the wastes that will be recycled.

Supplementary Planning Document

A document which helps explain how policies and proposals in the Local Plan will be applied and implemented.

Textiles

Fabric or cloth such as clothes, rags, dishcloths, etc.

The London Plan

The strategic plan for London, setting out an economic, environmental, transport and social framework for development. It is written by the Mayor of London and published by the Greater London Authority.

Traditional waste collection

Method by which waste is stored in bins which are regularly transported to the street or public realm to be emptied by a waste collection vehicle.

Typology

Grouping buildings based on their form. For example, a terrace, tower or perimeter block.

Underground Waste Collection

Underground waste tanks with smaller access points integrated into the public realm. These are emptied on a regular basis by specialised collection vehicles.

Unit

A ‘unit’ is an individual (i.e. self contained) dwelling, shop, office or other use. A ‘unit’ in which people live could be a house or a flat.

Vacuum system

An automated collection system that carries waste, deposited into intake hatches/ portholes, at speed to centralised storage areas or directly to a collection vehicle.

Waste

Any substance or object which the holder discards or intends or is required to discard.

Waste Electrical and Electronic Equipment (WEEE)

Electrical or electronic equipment with a power cord or battery (including batteries) at the end of its useful life and covers a range of electronic items including televisions, computers, mobile phones, kitchen appliances and white goods.

Waste hierarchy

A concept promoting waste avoidance ahead of recycling and disposal. Recognised as promoting management of waste in the order of preference: prevention, reduction, reuse, recycling, energy recovery and disposal.

Waste management

Any activity associated with the collection, treatment, energy recovery and final disposal of waste.

Waste prevention

The concept of, and strategies for, waste generation to be kept to a minimum level in order to reduce the requirement for waste collection, handling and disposal to landfill or incineration. Also referred to as waste minimisation.

Waste stream

A classification used to describe waste materials that are either of a particular type (e.g. ‘organics waste stream’) or produced by a particular source (e.g. ‘C&I waste stream’).

Zero waste

A visionary goal which seeks to prevent waste occurring, conserves resources and recovers all value from materials.

Appendices



Appendix 1: The 10 steps to occupation

These ten steps should be undertaken by the development team for any new development.

Phase 1: Pre-application

Pre-application advice is provided by the council’s planning, public realm and highways officers, which outlines how any planning application will be assessed, and matters to be addressed, to give the scheme the best chance of being granted a planning permission.

There are five steps for developers to complete as part of the Pre-application phase, before a full planning application can be submitted which includes adequate information concerning waste management demonstrating integration with the council’s waste collection service; each step has been designed to maximise the chance of a successful planning application.

Step 1: Choosing the Expected Recycling and Waste System Using the Decision Tree

Once you have determined the expected recycling and waste system for your proposed development, move on to Step 2.

Step 2: Preparing the Expected Reuse, Recycling and Waste System (ERRWS) Checklist

To enable the first meeting with the council’s Planning, public realm and highways officers to be productive, you will need to produce a draft ERRWS checklist; an example of the level of detail is shown in table A1.1 below.

Developer Reference		ABC development
Pre-Application decision tree ERRWS:		Automated Waste Collection Services (AWCS)
1. Occupier separation	Collection Channel:	Trio bin Kitchen separation
	Number of residential units:	250
	Number of commercial units:	50
2. Occupier deposit and storage	Deposition description:	Floor by floor Three stream (Recycling, organic and Residual) vacuum system with central reuse and bulky material room
3. Collection method	Collection frequency:	Instant
	Responsible party:	ABC Inc Facilities management Building manager/caretaker
	Method of bulking materials:	Vacuum system will bulk wet waste bags in an internal storage chamber
4. Removal/on-site treatment method	Responsible party:	ABC Inc Facilities management Building manager/caretaker
	Method of removing materials:	Material compacted in a compactor unit. Once full container is collected
	Frequency of removal of materials:	Daily
	Vehicle Equipment used for removal:	Hook Lift HGV
5. End destination	Vehicle and Access requirements:	Access to a dedicated underground storage and transfer room which will accept a skip vehicle
	Destination of material:	TBD with Local authority
	Material processed to waste hierarchy category:	Recycling
	End product:	Compost

Table A1.1. The Pre-application ERRWS checklist

**Step 3:
First Pre-application Meeting with
Planning, Public Realm and Highways
Officers**

The first meeting with the council’s Planning, Public Realm and Highways officers should be arranged early in the process to ensure that the ERRWS is discussed and it is established whether it is likely to be consistent with the council’s objectives for waste management in the development. this will be dependent on the scale of the development.

At this meeting the applicant should be fully prepared to describe their proposals and show plans, including:

- The use of the RRW decision tree
- An overview of the development, the ambition for achieving Reuse, Recycling and sustainable waste management
- The ERRWS plan

During the meeting, an applicant can:

- Ask for an assessment of whether the proposed recycling and waste system will be consistent with the policies in the Local Plan;
- Discuss site challenges which might mean the solution proposed deviates from the ERRWS shown by the decision tree; and,
- Ask about potential problems and whether the council might impose conditions to overcome them rather than refuse planning permission.

A major development will require significantly more detail to be submitted than a simple small development because the implications of an inadequate system being installed will be so much greater.

The applicant will be asked to prepare and sign a ‘Statement of Intent’ for achieving reuse, recycling and waste objectives. This is a new requirement that will be submitted as part of the planning application and is designed to ensure that the council understands how the proposed development will enable them to meet its waste management targets and those set by the Mayor of London.

Discussions will consider how vehicles will be used to collect waste, but it should be noted that the council’s expectation is that for major developments servicing will take place within the development and not involve use of public rights of way and the public highway.

**Step 4:
Subsequent Meeting(s) with Planning,
Public Realm and Highways Officers**

Following the first meeting with Planning, Public Realm and Highways officers, subsequent meeting(s) may be required to refine the five stages of the ERRWS.

In addition, the applicant will need to start developing the following which will be required at planning application stage:

- a. the Reuse Recycling and Waste Plan which will describe the ERRWS; the Reuse, Recycling and Waste Plan sets out the overarching approach to the management of waste within the development and provides details relating to all the five management stages. It therefore builds on the checklist already provided at the pre-application stage. The Reuse, Recycling and Waste Plan will include drawings, including schematics to demonstrate how occupiers, facility managers and local authorities will access the proposed ERRWS. This information can be in the form of architectural drawing(s) (see examples in Part B), or in the form of a BIM simulation.
- b. communications plan for residents; and,
The “Communications plan” will be developed by the applicant and should follow and reference the “Resource London Flats Recycling Kit”

- c. an operating and maintenance plan. The “Operations and Maintenance Plan” will be developed by the applicant and, if applicable, the facility management operators. Where a development is being proposed without a known facility management operator, the Operations and Maintenance Plan should be developed in partnership with an expert in facilities management. This should show how a performance report will be prepared for the council each year.

Following any subsequent meetings, the applicant will prepare and complete the above plans taking account of the discussions at these meetings.

**Phase 2:
Preparing and Submitting the
Planning Application**

Any planning application for new residential developments in the London Borough of Tower Hamlets requires the submission of a Reuse, Recycling and Waste (RRW) plan. Please refer to Part B of this SPD for detailed requirements

**Step 5:
Preparing a Reuse, Recycling and Waste (RRW) Plan**

The RRW Plan should be written using the template in Appendix 3 (RRW Plan) and with the information contained with Part B. The RRW plan should be developed to a level of detail that is appropriate for the size of the development. There will be two versions of the RRW plan, one for planning application submission and the second version will an updated RRW Plan to account for any minor changes in detail that occur during the construction process.

The RRW Plan should, regardless of the size of development, include information relating to each of the “5 stages of management”, as described in Part B.

When the RRW Plan is written it should contain details for each stream of materials e.g. Recycling, Food, Residual, Bulky, Reuse and Charity.

The complete RRW plan will also need to include:

- Drawings and diagrams illustrating how the system will work e.g. flows of waste through the development include collection vehicle flows
- A Communications Plan
- An Operations and Maintenance Plan. This should show how a report on the performance of the system is prepared each year for submission to the council.
- A signed ‘Statement of Intent’ for achieving Reuse, Recycling, and waste objectives

If the RRW plan is not complete at the time of submission, the planning application will not be eligible for consideration.

**Step 6:
Submitting the Planning Application**

Once the RRW Plan has been completed, it should be included as part of the full planning application documentation and will be considered alongside the other information required for determination of planning approval. Any planning application that does not include an RRW plan with sufficient detail will not be validated.

Should permission be granted, the developer should produce quarterly reports and possibly sites visits to the council to demonstrate that the RRW plan is being implemented. There may be conditions applied to the planning permission, which require additional details concerning waste management to be submitted prior to the occupation of the development.

**Phase 3:
Construction and Pre-Occupation**

Following the granting of planning permission, the developer will commence construction. It is recommended that continued dialogue with the public realm and highways team is undertaken to ensure proper implementation of the agreed RRW plan. At the end of the construction period, the planning team will seek approval from the public realm and highways team before the development can be approved for occupation.

**Step 7:
Compiling the Final RRW Plan**

During the construction process the RRW Plan should be updated to reflect any changes that have been agreed e.g. with public realm and highways officers. All changes or amendments should be included in the final suite of Reuse, Recycling and Waste documents, which have to be submitted prior to occupation. The documents should demonstrate compliance with any conditions and/or S106 agreement that has been agreed.

The final suite of Reuse, Recycling and Waste documents should contain:

- Final RRW Plan
- Final Communications Plan
- Final Operations and Maintenance Pla
- Handover Plan. This Plan should set out how the developer will ensure that

the occupants, including the managing agent, will have responsibility for ensuring that the operational aspects of the system are maintained such that the reuse, recycling and waste objectives will be achieved.

Once this suite of documents has been completed and submitted, a pre-occupation site visit may be required to ensure that the council can service the development upon occupation.

**Step 8:
Pre-occupation Site Visit**

The council will require, in most cases, a pre-occupation site visit to satisfy themselves that the reuse, recycling and waste system that has been incorporated into the development meets the specifications for the system set out in:

- Final RRW Plan
- Final Communications Plan
- Final Operations and Maintenance Plan

The site visit will include:

- A walk through of the development, showing how the 5 stages of management will operate including how the communications plan has been transposed into information (e.g. signage) to assist occupants.
- A meeting with the managing agent who will demonstrate how the systems they are responsible for will operate to allow the council to service the development in the manner proposed in the RRW Plan.

The site visit will identify any operational challenges and, if necessary, create a snagging list for completion before and after occupation. Progress against this snagging list may be checked at a subsequent site visit.

**Step 9:
Public Realm/Highways Approval**

Following the site visit(s) the council will prepare a report that either confirms that the development meets the expected Reuse, Recycling and Waste standards or sets out any outstanding snagging matters to be addressed once the development is occupied. Progress with any outstanding matters will be reported to the council during the first year of occupation, or within timescales that have been agreed.

**Phase 4:
Occupation of the Development**

As well as committing to the achievement of reuse, recycling, and waste objectives, the Statement of Intent commits the building manager to the production of an annual performance report. This report will be required for all new developments over 50 units, or the council confirms such a report is not required.

**Step 10:
Monitoring During Occupation**

For developments over 50 units, the council expects the performance of the RRW systems that have been put in place to be monitored against the developer's waste and recycling objectives on an annual basis. A report should be prepared which

identifies corrective actions (improvements) required to ensure achievement of objectives (including waste targets) set out in the Statement of Intent. The exact content of this annual report will vary dependent on the size and scale of the development but as a minimum, the report will be expected to include the following:

- Performance against waste targets (e.g. quantity, levels of reuse and recycling)
- The annual CO₂ (carbon) footprint of the RRW system
- Observed issues or complaints received in the 12 months and how these were resolved
- Any engagement with community groups, charities and local campaigns

In many cases the council may be able to provide the information on quantities and types of waste removed from the site required to monitor performance against waste targets.

If the development is above 200 units, it is suggested that every 5 years a "Behaviours, attitudes and awareness report" is compiled. This report should follow the structure of the **WRAP Recycling Tracking Survey 2019 Behaviours, attitudes and awareness around recycling**.

To help inform the annual performance report it is recommended that an occupier satisfaction survey is undertaken that considers the following topics:

- Communications
 - Recognition of recycling assets and campaigns
 - Recycling information
 - Sources of recycling knowledge
- Dry Recycling
 - Recycling behaviours
 - Social norms around recycling
 - Recycling motivation
 - Communal recycling schemes
- Food Waste Recycling
 - Food waste behaviour
 - Social norms around food waste recycling
 - Room for improvement among users
 - Attitudes to food waste recycling

It is recommended that an annual meeting is held between the council and the managing agent to discuss how the RRW objectives for the development are being met. The annual performance report should be discussed at this meeting.

Appendix 2: Expected Reuse, Recycling and Waste System checklist (to be submitted at pre application)

At the first pre-application meeting the developer should submit a description of the proposed Expected Reuse, Recycling

and Waste System (ERRWS) and include a completed version of the table below:

Developer Reference:		
Pre-Application decision tree ERRWS:		
1. Occupier separation	Collection Channel:	
	Number of units:	
2. Occupier deposit and storage	Deposition description:	
3. Collection method	Collection frequency:	
	Responsible party:	
	Method of bulking materials:	
4. Removal/on-site treatment method	Responsible party:	
	Method of removing materials:	
	Frequency of removal of materials:	
	Vehicle Equipment used for removal:	
	Vehicle and Access requirements:	
5. End destination	Destination of material:	
	Material processed to waste hierarchy category:	
	End product:	

Appendix 3: The Reuse and Recycling Waste (RRW) Plan Template (to be submitted at planning application)

This template is adapted from the LWARB/LEDNET Planning Advice for New Flatted Properties and should be completed and submitted as part of the planning application. Regardless of the size of development, information relating to each of the “5 stages of management” should be included, as described in Part B.

When the RRW Plan is written it should contain details for each stream of materials i.e. Recycling, Organic, Residual, Bulky, Reuse and Charity. The complete RRW plan will also need to include:

- Drawings and diagrams illustrating how the system will work e.g. flows of waste through the development include collection vehicle flows
- A Communications Plan
- An Operations and Maintenance Plan. This should show how the performance of the system will be monitored and maintained and a report on its performance be prepared each year for submission to the council.
- A signed ‘Statement of Intent’ for achieving Reuse, Recycling, and waste objectives

If the RRW plan is not complete at the time of submission, the planning application will not be eligible for consideration.

To complete the template, the developer should enter details of their proposal in the [square brackets]. If additional relevant information is available, please do submit it as this will help consideration for approval.

RRW Plan Overview**Development:****Name and address of specific site:****Project Director:****Subject Matter Expert:****Date of submission:**

Summary of development

[Company name/developer] propose to construct a development which manages the reuse, recycling and waste in the manner set out in Appendix [reference the completed Summary Reuse, Recycling and Waste Plan and insert it as an appendix]:

This outline operational RRW plan provides information on the amount of waste expected to be produced by the proposed [name of development] development located at [specific address]. The development will comprise [residential accommodation, (delete as appropriate: business accommodation, leisure uses, retail, bars and restaurants)]. The scheme proposes up to [total number of dwellings] residential units and its location is shown in Figure [insert a site plan].

Once the development is fully occupied and operational, it is estimated, in section [refer to section in this report] that [insert the calculated amount of waste produced] tonnes ([insert volume of waste] m³) of waste per year can be expected to be produced. This has been calculated as a worst case scenario, assuming that the residential units are fully occupied throughout the year.

In order to manage this waste effectively and sustainably and meet the high reuse and recycling aspirations of the development, all opportunities within [development name] will facilitate the separation at source of recyclables.

[type of solution] will be located in easy to reach areas and will contain sufficient space to allow the separate storage of [delete as appropriate food waste, dry recyclables (including paper, glass, metal, plastic and card) and residual waste]. (Include if relevant) [Similar practices will be employed within the commercial land uses.]

Following discussion and agreement with [Local authority officer name] of [local authority

and relevant team], recycling and waste will be [collected (describe method of collection) or treated on site (describe method of management)]. The Borough team will deliver waste to a [either off site or onsite location], located in [give location and name of end destinations] and be treated through [describe types of processing e.g. on site in-vessel composting, baling, compacting, CHP etc].

When all these arrangements are implemented, a recycling rate of up to [insert recycling rate percentage of development] % will be achieved for the residential units, meeting the [insert local authority and plan referring to e.g.: local plan/London Plan/local waste strategy [add in policy –targets] of [insert recycling rate percentage %].

The summary spreadsheet in Figure [insert a figure if deemed useful] shows how [developer/ managing agent name] wishes to manage waste and recycling for the operational lifetime of the [name of development] development. Figure [insert figure on next page if deemed useful] identifies the [insert how many stages of management you anticipate] stages of recycling and waste management development and will be applied to each category of materials [insert relevant materials e.g. wet, dry and residual].

The stages of recycling and waste management

Details to be provided for each stage.

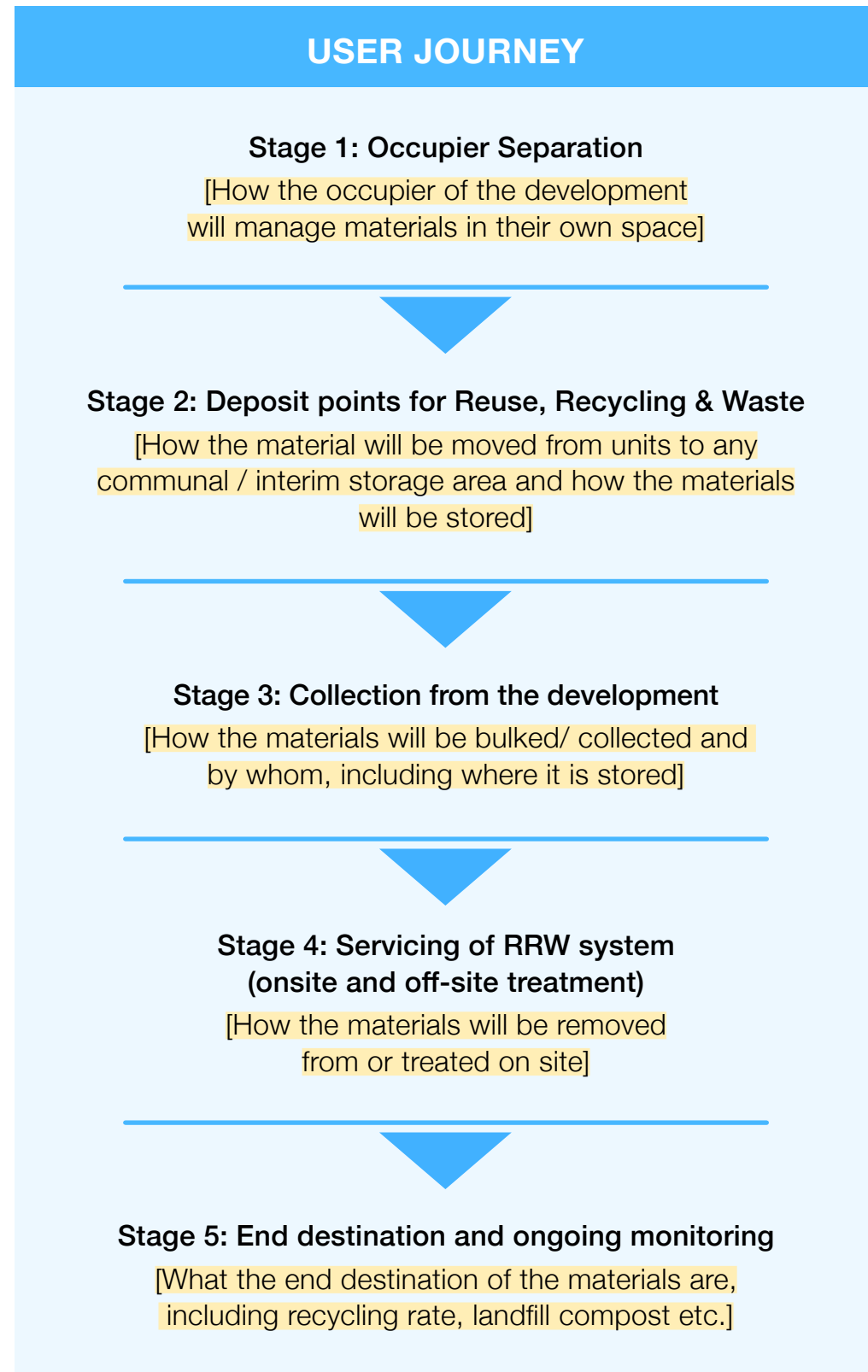


Fig. A3.1

Detailed strategy description

Materials targeted

Sub sections of management stage	
Material stream	
Detailed materials	

Stage 1: Occupier separation

Location for separation	
Collection Channel	
Estimated volume per unit per week	
Estimated weight per unit (kg) per week	
Number of units with this system	

Stage 2: Deposit points for Reuse, Recycling & Waste

Occupier materials deposit description	
Occupier materials deposit location	
User method of containment for deposit	
Receptacle for user to deposit material	
Access	
Method of separation	
Compliance with BS 5906: 2005 Waste Management in Buildings Code of Practice	

Stage 3: Collection/bulking method

Responsible party	
Collection frequency	
Method of bulking materials	
Storage area	
Compliance with BS 5906: 2005 Waste Management in Buildings Code of Practice	

Stage 4: Removal/on-site treatment method

Responsible party	
Method of removing materials	
Frequency of removal of materials	
Equipment used for removal	
Access requirements	
Has the relevant local authority team responsible for recycling & waste collection team and managing agent been consulted?	
Date of consultation	
Responsible party comments	

Stage 5: End destination

Destination of material	
Material processed to waste hierarchy category	
End product	
Is destination in accordance with Waste Regulation 20111 (amended 2012)	
Weight of materials sent to destination per annum (tonnes per annum)	
Anticipated recycling rate (%)	
Anticipated diversion from landfill rate (%)	

Summary Reuse, Recycling and Waste Plan

Stage of management	Sub sections of management stage (to be completed by architect/developer)	
Waste & recycling Materials	Material stream:	
	Detailed materials:	
1. Occupier separation	Location for separation:	
	Collection Channel:	
	Estimated volume per unit:	
	Estimated weight per unit (kg):	
	Number of units with this system:	
2. Occupier deposit and storage	Deposition description:	
	Deposition location:	
	User method of containment:	
	Receptacle for user to deposit material:	
	Access:	
	Method of separation:	
	Compliance with BS 5906: 2005 Waste Management in Buildings Code of Practice:	

3. Collection method	Collection frequency:	
	Responsible party:	
	Method of bulking materials:	
	Compliance with BS 5906: 2005 Waste Management in Buildings Code of Practice:	
4. Removal/ on-site treatment method	Responsible party:	
	Method of removing materials:	
	Frequency of removal of materials:	
	Equipment used for removal:	
	Access requirements:	
	Has local authority waste team been consulted:	
	Date of consultation:	
	Responsible party comments:	
5. End destination	Destination of material:	
	Material processed to waste hierarchy category:	
	End product:	
	Is destination in accordance with WR11 & 12 High Quality standard:	
	Weight of materials sent to destination per annum:	
	Anticipated recycling rate (%):	
	Anticipated diversion from landfill rate (%):	

A. Description of reuse, recycling and waste management collection system

[Provide a description of the proposed reuse, recycling and waste management collection system]

B. Summary project plan

[Provide a project plan]

C. Budget

[provide a budget plan]

D. Metrics and expectations

[Indicate the metrics to be used to monitor the development – use appendix 10]

E. Approval

Title	Name	Date 1	Date 2

Expected systems and standards Checklist

Only use the tables appropriate to your development and tick and complete a statement to demonstrate that each system and standard has been completed. Add a reference to the part of the documentation which provides the information required.

Table 3: Health and Safety	Included (Ref)
(a) Sufficient waste storage capacity – to prevent overloading, odour, and litter	
(b) Correct access and turning for collection vehicles – including to prevent reversing	
(c) Access and Collection points with correct overhead clearance and strength for collection vehicles	
(d) Bin stores designed to allow easy manoeuvring of bins within and to and from stores	
(e) Unobstructed pathway from store to vehicle – no kerbs or lips – 1:12 maximum gradient	
(f) Secure storage and collection of Food Waste	
(g) Secure storage and collection of Electrical Waste	
(h) Comprehensive Communications Plan with residents – including signage, and resident induction	
(i) Estate management with health and safety as a priority	

Table 6: Flexibility in building design	Included (Ref)
(j) Sizing waste stores to allow for a potential increase in waste generation, and/or a change in council service provision per dwelling.	
(k) Keeping bin stores clear of fixed structures that would make it difficult to accommodate bins of different sizes.	
(l) Designing access paths and doorways greater than minimum width requirements, to allow for possible future changes in bin size.	

Table 7: Signage	Included (Ref)
(a) All proposals to incorporate signage to (a) direct residents to recycle and waste locations, and (b) explain how to use the recycle and waste deposit locations (AWCS and URS modules, and bins).	
(b) All signage to follow the Resource London – Flats Recycling Toolkit, unless otherwise agreed	
(c) Signage to be used to distinguish clearly between locations for food waste, recycling, residual waste, and bulky items	
(d) Signage must be displayed with robust materials, directly on and alongside deposit modules and bins.	

Table 8: Organic Waste Deposit	Included (Ref)
(a) A separate in-home receptacle shall be provided for food waste, with recycling and residual waste receptacles.	
(b) A separate communal bin shall be provided for food waste – no larger than 240 litres	
(c) Food waste macerators can be considered, subject to approval by Thames water	
(d) In principle, applicants that wish to include on-site in-vessel composting units, e.g. Rocket Composter, will be supported	

Table 9: Bulky waste	Included (Ref)
(a) Developers should provide space for the storage of reusable and bulky recycling and waste, taking into account:	
(b) The number of blocks, size of homes and number of units.	
(c) Requirement for the flexibility of the storage capacity.	
(d) The frequency of collection.	
(e) The anticipated turnover of residents.	
(f) Accessibility for collection	
(g) All multi-storey residential developments must have a separate space for the short-term storage of bulky items of furniture and electrical items, at ground level.	

Table 10: Reuse	Included (Ref)
(a) Estate management shall be responsible for advising residents and assisting with reuse and collection.	
(b) Initiatives to support reuse by residents include Community Fridges, and Peer to Peer sharing, including with physical and online noticeboards.	
(c) The resident induction shall include information on local organisations and businesses that will accept bulky and other items for reuse	

Table 12: Automated Waste Collection Systems	Included (Ref)
(a) Deposit points shall be sited in convenient locations, easily accessible to residents, as part of day to day activity on the way to and from the development.	
(b) Deposit points at each location shall provide for food waste, recycling and residual waste.	
(c) Signage to be applied to each deposit point inlet, consistent with the development signage strategy, following the Resource London Flats Recycling Toolkit	
(d) Deposit point locations outdoors shall be determined taking into account other significant planning considerations, including landscaping and public realm.	
(e) Residents shall not have to travel more than 30m to reach a deposit point.	
(f) Capacity for the system shall be determined in accordance with capacity guidelines in Part B and Appendix 7 of this SPD.	
(g) Deposit point locations outside shall not be serviced by collection vehicles from the public highway.	
(h) The system shall be maintained in line with manufacturer's requirements, including the cleaning of intake hatches on a weekly basis.	

Table 13: Underground Recycling and Residual Systems (URS)	Included (Ref)
(a) Deposit points shall be sited in convenient locations, easily accessible to residents, as part of day to day activity on the way to and from the development.	
(b) Deposit points at each location shall provide for recycling and residual waste.	
(c) Food Waste shall be collected separately, in accordance with section B2.4 of this SPD.	
(d) Signage to be applied to each deposit point inlet, consistent with the development signage strategy, following the Resource London Flats Recycling Toolkit	
(e) Deposit point locations outdoors shall be determined taking into account other significant planning considerations, including landscaping and public realm.	
(f) Residents shall not have to travel more than 30m to reach a deposit point.	
(g) The storage capacity of the system shall be able to hold recycling and residual waste for the development, for a minimum of eight days. In accordance with capacity guidelines in Part B and Appendix 7 of this SPD.	
(h) Deposit point locations shall not be serviced by collection vehicles from the public highway.	
(i) The system shall be maintained in line with manufacturer's requirements, including the cleaning of intake hatches on a weekly basis.	

Table 16: Bin Stores	Included (Ref)
(a) Bin stores should be designed, in respect of access, layout and size, recognising they may be areas to be used safely and easily by residents, in addition to estate management and collection operatives.	
(b) Bin store size and layout must allow reorganisation of bins when some become full.	
(c) Bin store size and layout must allow removal and return of bins, one at a time	
(d) Bin store size and layout must allow storage of Eurobins, side-by-side, to allow access to the wide front edge, not storage end-to-end.	
(e) Signage in the bin store, including on and alongside bins, to follow the development signage strategy, following the Resource London Toolkit.	
(f) Openings on recycling bin lids should be large enough to accept plastic bags of recycling	
(g) External communal storage areas shall be enclosed securely, and with cover from weather.	
(h) Bin store doors onto a footway or public realm shall open inwards, to prevent obstruction or injury.	
(i) Bin stores shall comply with British Standard BS 5906-2005 – Waste Management in buildings	

Table 17: Kerbside Schemes	Included (Ref)
(a) Recycling and residual waste bags and containers shall be screened from the street, to ensure they do not visually intrude on the streetscene, and to prevent public use.	
(b) Dedicated external storage areas are the preferred approach, and shall be of durable materials and relate to the building design.	
(c) Dedicated external storage areas shall accommodate the three streams of waste – food waste, recycling, and residual waste.	
(d) Dedicated external storage shall be convenient for residents to access.	
(e) Collection operatives shall not be required to move bins more than 10m distance.	
(f) There must be at least a 150mm clearance between each bin and the enclosure must have a minimum height of 1200mm.	
(g) The installation of compost bins in all private gardens, as part of the development proposals, is supported.	

Table 18: Facilities Management	Included (Ref)
(a) Waste system or bin cleaning areas shall be provided with everything necessary to carry out required tasks e.g. source of water. The areas themselves should be well designed and maintained.	
(b) Where bins or loose waste need to be moved around the development, safe vertical transfer methods such as lifts, chutes and ramps shall be designed to facilitate the movement of the waste and should be large enough to accommodate containers (including a person where required).	
(c) Collection operatives shall not be required to move bins more than 10m distance.	
(d) Waste transfer routes shall be clear of steps, curbs and lips, and shall have a maximum gradient of 1:12.	

Table 19: Building manager/caretaker duties	Included (Ref)
(a) Informing residents and any commercial tenants about the RRW services provided (e.g. what materials can be recycled) and how to use them.	
(b) Displaying and maintaining consistent signage on all waste deposit points, bins and in waste storage areas.	
(c) Where required, transferring waste receptacles to the collection point/waste store.	
(d) Overseeing bulky waste, WEEE, textile, clinical and hazardous waste storage and collections.	
(e) Keeping clean and well maintained bins and bin areas	
(f) Monitoring use of the waste system and reporting any problems to the building managers and council.	
(g) Liaising with the waste collection contractor(s).	

Table 20: Road Design and Access	Included (Ref)
(a) Proposals are required to demonstrate how vehicles will safely access from the public highway, arrive at collection points, and leave the site safely	
(b) Access and Highways proposal are required to allow the collection vehicle to enter and exit the public highway in a forward gear, and perform all collection activities within the curtilage of the site	
(c) Vehicle Tracking and turning circles are required to be robustly demonstrated, with the use of appropriate tracking diagrams	
(d) Access and Highway proposals are required to demonstrate how they have responded to other significant planning constraints – landscaping, playspace, and public realm layout	
(e) Access and Highway proposals are required to demonstrate how they respond to vehicle lift and compactor height, tree cover, and overhead structures or cables	
(f) Reversing within a site will be in strictly exceptional circumstances, and subject to robust assessment. The maximum reversing distance is 20m. Reversing onto the public highway is prohibited in all circumstances.	
(g) Proposed collection points must be a level surface, away from gradients and ramps	
(h) Access roads, manhole covers, and gratings must be constructed to withstand a gross vehicle weight of 26 tonnes and axle loading of 11.5 tonnes	

Table 21: Crew Access – Bin Stores	Included (Ref)
(a) Collection operatives should not be required to move bins through more than 1 set of doors	
(b) Electronic key fobs to be used for bin store access, one fob should access all stores in a development	
(c) Collection operatives shall not be required to move bins more than 10m distance	
(d) Bin store size and layout must allow removal and return of bins, one at a time	
(e) Ground level from the bin store should be no more than 1:12 gradient, falling away from the bin store	
(f) Paths to the collection point should be a minimum of 1.5m wide	
(g) Where access is required across a highway or access road, dropped kerb crossovers must be provided	
(h) Layout and access must be designed to ensure that during collection times, vehicles do not need to park on, or obstruct the public highway.	

Appendix 4: Examples of information to be included in the RRW plan for each RRW system

The following are examples of completed summary Reuse, Recycling and Waste Plans setting out information relating to each of the expected RRW systems. Such a summary should be completed by

developers and submitted with the planning application. N.B. As shown in Appendix 2, these summaries should be submitted as part of the RRW plan, on their own they do not constitute the RRW plan.

Stage of management	Sub sections of management stage (to be amended by architect/developer)	Automated Waste Collection Services (AWCS)				
Materials	Material streams	Dry recycle	Organic waste	Residual	Bulky	Charity
	Detailed materials	Paper, card, plastic, glass, metals	cooked and uncooked food waste	Nappies, ceramics, dust and fines etc.	Large cardboard, furniture, white goods, WEEE, other items for reuse etc.	Textiles, clothing and shoes etc.
1. Occupier separation	Location for separation	Kitchen			Reuse and Bulky waste room	
	Collection Channel	Trio bin under sink			Dedicated bins and space for large items on ground floor	
	Receptacle size	40 litres	5 litres	40 litres	1100 euro bins and shelving	240 litre wheeled bins per charity
	Estimated weight per unit (kg) per year	300	150	300	100	10
2. Occupier deposit and storage	Number of units with this system	300	300	300	300	300
	Deposition description	Floor by floor vacuum system with deposit point located on every floor			Bulky waste room.	Charity bin
	Deposition location	Every floor			Ground floor	
	User method of containment	Sealed trio bin bag	sealed compostable paper trio bin bag	Sealed trio bin bag	Loose	
	Receptacle for user to deposit material	Portal			1100 euro bins and shelving	
	Access	Key fob			Security coded door	
	Storage Capacity	Minimum of 8 days				
	Method of separation	Occupier to deposit sealed bag into appropriate vacuum doorway			Occupier to deposit sealed bag into appropriate container	
	Compliance with BS 5906: 2005	Vacuum doorway / hatch situated in central lobby area no more than 30m from each unit			Access and Storage are compliant with BS 5906:2005	
	3. Collection method for onsite Bulking method	Collection frequency	Instant			Ad hoc on demand or through regular arrangement
Responsible party		Site Manager				
Method of bulking materials		Vacuum system will bulk waste bags in an internal storage chamber			Materials will already be in bulk containers	
Compliance with BS 5906: 2005		Yes, we are compliant with BS 5906: 2005 Waste Management in Buildings Code of Practice				
4. Removal/on-site treatment method	Responsible party	Site manager				
	Method of removing materials	Material compacted in a compactor unit. Once full container is collected			Council collection, partner reuse organisation	XX 3rd sector to remove
	Frequency of removal of materials	Daily			Ad hoc on demand or through regular arrangement	
	Vehicle Equipment used for removal	Hook Lift HGV			Council collection vehicle, partner reuse organisation vehicle or third party arranged collection (for peer-to-peer reuse)	Luton Van
	Vehicle and Access requirements	Lintel Height 4.0m, access road 4.5m wide, slope no more than 1 in 20				
	Has local authority been consulted?	Yes				
	Date of consultation	XXXX/XXXX				
	Responsible party comments	"We approve this system as it will integrate to our existing collections". XXX Public Realm Manager				
5. End destination	Destination of material	XX dedicated resource centre	XX dedicated resource centre	EW or landfill	Council reuse shop or disposal facility, partner organisation reuse service/shop, peer reuse	charity shops or landfill
	Material processed to waste hierarchy category	Recycling	composting	Recovery	Reuse, landfill or EW	reuse
	End product	paper, card, plastic, glass, metals	Compost	Energy	Reuse or energy	reuse
	Weight of materials to destination annum Tonnes	90	45	90	30	3
	Anticipated diversion from landfill rate (%)	95%	95%	0%	80%	80%
	Calculated recycling rate for development	60%				
	Annual Scope 3 C02 result kg c02/tonne	297kg				

Stage of management	Sub sections of management stage (to be amended by architect/developer)	Underground Recycling & Refuse System (URS)					
Materials	Material streams	Dry recycle	Organic waste	Residual	Bulky	Charity	
	Detailed materials	Paper, card, plastic, glass, metals	cooked and uncooked food waste	Nappies, ceramics, dust and fines etc.	Large cardboard, furniture, white goods, WEEE, other items for reuse etc.	Textiles, clothing and shoes etc.	
1. Occupier separation	Location for separation	Kitchen			Reuse and Bulky waste room		
	Collection Channel	Trio bin under sink			Dedicated bins and space for large items on ground		
	Receptacle size	40 litres	5 litres	40 litres	1100 euro bins and shelving	240 litre wheeled bins per charity	
	Estimated weight per unit (kg) per year	300	150	300	100	10	
	Number of units with this system	300	300	300	300	300	
	2. Occupier deposit and storage	Deposition description	Outside Portal located with 30m of main entrance	Bulky waste room.	Outside Portal located with 30m of main entrance	Bulky waste room.	Charity bin
Deposition location		front elevation	Ground Floor	front elevation	Ground floor		
User method of containment		Reusable bag with contents emptied into receptacle	sealed compostable paper trio bin bag or starch Liner	Sealed trio bin bag			Loose
Receptacle for user to deposit material		portal	Dedicated food bin (140ltr or 240 ltr)	portal	1100 euro bins and shelving		
Access		open access or fob	Security coded door	open access or fob	Security coded door		
Storage Capacity		Minimum of 8 days					
Method of separation		Occupier to deposit sealed bag into appropriate receptacle or container					
Compliance with BS 5906: 2005		The URS chambers will be sited outside no more than 30 meters from each unit. Waste deposited into chamber through the door to the hopper	The Organic containers will be sited outside no more than 30 meters from each unit.	The URS chambers will be sited outside no more than 30 meters from each unit. Waste deposited into chamber through the door to the hopper	The containers will be sited outside no more than 30 meters from each unit.		
3. Collection method for onsite Bulking method		Collection within the development	The responsible party will ensure that all containers are accessible and clean				
		Responsible party	Site Manager				
	Method of bulking materials	Materials will already be in bulk containers					
	Compliance with BS 5906: 2005	Yes, we are compliant with BS 5906: 2005 Waste Management in Buildings Code of Practice					
4. Removal/on-site treatment method	Responsible party	Site manager and Local Authority			Site manager and Third Sector Body		
	Method of removing materials	Material will be insitu within a URS, once 3/4 full the container will be scheduled for collection a Hiab Crane vehicle that is sited next to the URS	Council team will arrive in RCV, need access and collect full containers using the optimised user journey and replace containers with empty ones.	Material will be insitu within a URS, once 3/4 full the container will be scheduled for collection a Hook Lift vehicle that is sited next to the URS (but not on the highway)	Council collection, partner reuse organisation collection or third party arranged collection (for peer-to-peer reuse)	XX 3rd sector to remove	
	Frequency of removal of materials	Weekly or if using bin level telemetry, when 3/4 full	Weekly	Weekly or if using bin level telemetry, when 3/4 full	Ad hoc on demand or through regular arrangement		
	Vehicle Equipment used for removal	HIAB Crane HGV	RCV	HIAB Crane HGV	Council collection vehicle, partner reuse organisation vehicle or third party arranged collection (for peer-to-peer reuse)	Luton Van	
	Vehicle and Access requirements	Lintel Height 4.0m, access road 4.5m wide, slope no more than 1 in 20					
	Has local authority been consulted?	Yes					
	Date of consultation	XX/XX/XXXX					
	Responsible party comments	"We approve this system as it will integrate to our existing collections". XXX Public Realm Manager					
	5. End destination	Destination of material	XX dedicated resource centre	XX dedicated resource centre	EFW or landfill	Council reuse shop or disposal facility, partner organisation reuse service/shop, peer reuse	charity shops or landfill
		Material processed to waste hierarchy category	Recycling	composting	Recovery	Reuse, landfill or EFW	reuse
End product		paper, card, plastic, glass, metals	PAS 200 Compost	Energy	Reuse or energy	reuse	
Weight of materials to destination annum Tonnes		90	45	90	30	3	
Anticipated diversion from landfill rate (%)		95%	95%	0%	80%	80%	
Calculated recycling rate for development		60%					
Annual Scope 3 C02 result kg c02/tonne		297kg					

Stage of management	Sub sections of management stage (to be amended by architect/developer)	REUSE, RECYCLING AND WASTE STORE					
Materials	Material streams	Dry recycle	Organic waste	Residual	Bulky	Charity	
	Detailed materials	Paper, card, plastic, glass, metals	cooked and uncooked food waste	Nappies, ceramics, dust and fines etc.	Large cardboard, furniture, white goods, WEEE, other items for reuse etc.	Textiles, clothing and shoes etc.	
1. Occupier separation	Location for separation	Kitchen			Reuse and Bulky waste room		
	Collection Channel	Trio bin under sink			Dedicated bins and space for large items on ground		
	Receptacle size	40 litres	5 litres	40 litres	1100 euro bins and shelving	240 litre wheeled bins per charity	
	Estimated weight per unit (kg) per year	300	150	300	100	10	
	Number of units with this system	300	300	300	300	300	
	2. Occupier deposit and storage	Deposition description	3 Stream Reuse, Recycling and Waste Store				
Deposition location		ground floor					
User method of containment		Reusable bag with contents emptied into receptacle	sealed compostable paper trio bin bag	sealed trio bin bag	Loose		
Receptacle for user to deposit material		1280 ltr communal wheeled bin	Dedicated food bin (140ltr or 240 ltr)	1100 litre wheeled bin	1100 euro bins and shelving		
Access		Security Fob compliant with Met Police Requirements					
Storage Capacity		Minimum of 8 days					
Method of separation		Occupier to deposit sealed bag into appropriate container					
Compliance with BS 5906:		Bin situated in an area no more than 30m from each unit					
3. Collection method for onsite Bulking		Collection frequency	The responsible party will ensure that all containers are accessible and clean				
4. Removal/on-site treatment method		Responsible party	Site Manager			Materials will already be in bulk containers	
	Method of bulking materials	Materials will already be in bulk containers					
	Compliance with BS 5906:	Yes, we are compliant with BS 5906: 2005 Waste Management in Buildings Code of Practice					
	Responsible party	Site manager and Local Authority			Site manager and Third Sector Body		
	Method of removing materials	Council team will arrive in RCV, need access and collect full containers using the optimised user journey and replace containers with empty ones.	Council team will arrive in RCV, need access and collect full containers using the optimised user journey and replace containers with empty ones.	Council team will arrive in RCV, need access and collect full containers using the optimised user journey and replace containers with empty ones.	Council collection, partner reuse organisation collection or third party arranged collection (for peer-to-peer reuse)	XX 3rd sector to remove	
	Frequency of removal of materials	weekly			Ad hoc on demand or through regular arrangement	Monthly	
	Vehicle Equipment used for removal	26 tonne RCV	18 tonne RCV	26 tonne RCV	Council collection vehicle, partner reuse organisation vehicle or third party arranged collection (for peer-to-peer reuse)	Luton Van	
	Vehicle and Access requirements	Lintel Height 4.0m, access road 4.5m wide, slope no more than 1 in 20					
	Has local authority been consulted?	Yes					
	Date of consultation	XX/XX/XXXX					
Responsible party comments	"We approve this system as it will integrate to our existing collections". XXX Public Realm Manager						
5. End destination	Destination of material	XX dedicated resource centre	XX dedicated resource centre	EFW or landfill	Council reuse shop or disposal facility, partner organisation reuse service/shop, peer reuse	charity shops or landfill	
	Material processed to waste hierarchy category	Recycling	composting	Recovery	Reuse, landfill or EFW	reuse	
	End product	paper, card, plastic, glass, metals	PAS 200 Compost	Energy	Reuse or energy	reuse	
	Scope 3 C02 result	90	45	90	30	3	
	Weight of materials to destination annum	95%	95%	0%	80%	80%	
	Anticipated diversion from landfill rate (%)	60%					
Anticipated diversion from landfill rate (%)	297kg						

Stage of management	Sub sections of management stage (to be amended by architect/developer)	3 STREAM KERBSIDE				
Materials	Material streams	Dry recyclate	Organic waste	Residual	Bulky	Charity
	Detailed materials	Paper, card, plastic, glass, metals	cooked and uncooked food waste	Nappies, ceramics, dust and fines etc.	Large cardboard, furniture, white goods, WEEE, other items for reuse etc.	Textiles, clothing and shoes etc.
1. Occupier separation	Location for separation	Kitchen			Reuse and Bulky waste room	
	Collection Channel	Trio bin under sink			Dedicated bins and space for large items on ground floor	
	Receptacle size	40 litres	5 litres	40 litres	1100 euro bins and shelving	240 litre wheeled bins per charity
	Estimated weight per unit (kg) per year	300	150	300	100	10
	Number of units with this system	300	300	300	300	300
2. Occupier deposit and storage	Deposition description	240 Ltr Bin	Food waste caddy liner into 5l kerbside food waste caddy / green reusable bag	Black bags or black bags in wheeled bin	access to council bulky waste collection system	Charity bin
	Deposition location	Ground floor				
	User method of containment	Clear recycling sacks	Food waste caddy liners / green reusable bag	Sealed trio bin bag	n/a	n/a
	Receptacle for user to deposit material	Clear recycling sacks	5l food waste caddy / green reusable bag	Black bags or black bags in wheeled bin if available	n/a	n/a
	Access	covered and secure area			Kerbside	
	Storage Capacity	Minimum of 8 days				
	Method of separation	Occupier to use clear sacks or place loose into wheeled bin	Occupier to deposit sealed liners into caddy / green waste into green reusable bag	Occupier to deposit waste into black bags and into wheeled bin if available	n/a	n/a
Compliance with BS 5906: 2005	N/A					
3. Collection method for onsite Bulking method	Collection frequency					
	Responsible party	Not applicable as no on site manager is used				
	Method of bulking materials					
	Compliance with BS 5906: 2005					
4. Removal/on-site treatment method	Responsible party	Resident and Local authority			XX Local Authority	XX 3rd sector group
	Method of removing materials	XX local authority to collect			Council collection, reuse organisation collection or third party arranged collection (for peer-to-peer reuse)	XX 3rd sector to remove
	Frequency of removal of materials	weekly				Monthly
	Vehicle Equipment used for removal	26 tonne RCV	18 tonne RCV	26 tonne RCV	Council collection vehicle, reuse organisation vehicle or third party arranged collection (for peer-to-peer reuse)	Luton Van
	Vehicle and Access requirements	Kerbside access			n/a	n/a
	Has local authority been consulted?	Yes				
	Date of consultation	XX/XX/XXXX				
	Responsible party comments	"We approve this system as it will integrate to our existing collections". XXX Public Realm Manager				
5. End destination	Destination of material	XX dedicated resource centre	XX dedicated resource centre	EW or landfill	Council reuse shop or disposal facility, partner organisation reuse service/shop, peer reuse	charity shops or landfill
	Material processed to waste hierarchy category	Recycling	composting	Recovery	Reuse, landfill or EW	reuse
	End product	paper, card, plastic, glass, metals	Compost	Energy	Reuse or energy	reuse
	Scope 3 C02 result	90	45	90	30	3
	Weight of materials to destination annum	95%	95%	0%	80%	80%
	Anticipated recycling rate (%)	60%				
	Anticipated diversion from landfill rate (%)	297kg				

Appendix 5: Overview of Related Policy, Legislation and Guidance

A summary of related key policies, legislation and guidance which should be referred to when designing an RRW system is provided in this Appendix.

Local plan policies

The Local Plan for Tower Hamlets includes planning policies which set out how and where development can come forward in the Borough.

Policy S.MW1 Managing our waste

Sets out how and where new waste management facilities should be developed. The policy allows for small-scale integrated waste facilities (e.g. micro anaerobic digesters) within new developments where they are of a scale and nature that does not compromise adjacent existing and proposed land uses.

Policy D.MW3: Waste collection facilities in new development.

This policy is most relevant to this SPD as it is the key policy affecting how the suitability of waste management systems will be assessed. It requires new developments to be designed in a way that ensures integrated waste collection and bulking systems are included which contribute to the borough's ability to implement the waste hierarchy and increase recycling/composting rates.

Key requirements include:

- Adequate space to allow separation and storage of waste
- Designs for major new development must include high quality on-site waste collection systems of the type described in Appendix 5 and

This SPD compliments the information provided in Appendix 5 of the Local Plan and is specifically intended to help developers comply with this policy.

Policy D.TR4 Sustainable delivery and servicing

Expects that development generating significant vehicle movements (including waste collection) will avoid impact to the transport network and amenity demonstrated by the submission of servicing and delivery plans. Servicing will generally need to be provided within the site rather than on-street.

The Local Plan also includes development principles to be followed when development is proposed in certain locations of the Borough – one of the development principles is to support the provision of innovative waste management and recycling storage and collection systems.

London Plan policies

The new London Plan has set a target for London as a whole to exceed 65% in recycling/composting of municipal waste by 2030. Whilst London boroughs have not been set individual targets for recycling these waste streams, Tower Hamlets needs to work towards meeting the London-wide target.

A key overarching policy on waste management in the new London Plan is Policy SI7 **‘Reducing waste and supporting the circular economy’** which states:

A Waste reduction, increases in material re-use and recycling, and reductions in waste going for disposal will be achieved by the Mayor, waste planning authorities and industry working in collaboration to:

1. promote a more circular economy that improves resource efficiency and innovation to keep products and materials at their highest use for as long as possible
2. encourage waste minimisation and waste avoidance through the reuse of materials and using fewer resources in the production and distribution of products
3. ensure that there is zero biodegradable or recyclable waste to landfill by 2026

4. meet or exceed the recycling targets for each of the following waste streams and generating low-carbon energy in London from suitable remaining waste:
 5. a) municipal waste – 65 per cent by 2030
 6. b) construction, and demolition waste – 95 per cent by 2020
7. design developments with adequate and easily accessible storage space that supports the separate collection of dry recyclables (at least card, paper, mixed plastics, metals, glass) and food.

Certain larger developments are referred to the Mayor for consideration and such applications need to be accompanied by ‘Circular Economy Statements’. Amongst other things, it is expected that such statements should demonstrate how adequate and easily accessible storage space and collection systems to support recycling and re-use will be provided – it is envisaged a Reuse, Recycling and Waste Plan prepared in accordance with this SPD could contribute to a Circular Economy Statement. Draft guidance on the preparation of such statements is available [here](#).

The new London Plan also expects certain ‘qualitative design aspects’ to be addressed in housing developments and these include the following:

‘recycling and waste disposal, storage and any on site management facilities are convenient in their operation and location, appropriately integrated, and designed to work effectively for residents, management and collection services’ and ‘Shared and easily accessible storage space supporting separate collection of dry recyclables, food waste and other waste should be considered in the early design stages to help improve recycling rates, reduce smell, odour and vehicle movements, and improve street scene and community safety.’

This is enshrined in clause **G of Policy D4 (Housing quality and standards) which states:**

‘Housing should be designed with adequate and easily accessible storage space that supports the separate collection of dry recyclables (for at least card, paper, mixed plastics, metals, glass) food waste as well as residual waste.’

In addressing this matter, The London Plan recommends that developers consider the Waste Management Planning Advice for New Flatted Properties (London Waste and Recycling Board, 2014)¹⁵.

London Environment Strategy

The Mayor’s Environment Strategy was published in 2018 and sets out the Mayor’s approach to waste management in detail.

The strategy includes a number of proposals including 7.2.1.c which is specifically concerned with supporting efforts to increase recycling rates in flats and encourages borough waste authorities to apply the waste management planning advice for flats developed by LWARB in partnership with the London Environment Directors Network (LEDNET) during the planning application process.

The Environment Strategy recognises that The London Plan requires that all new developments referred to the Mayor include adequate recycling storage for at least the six main dry recyclable materials and food.

Legislation

The Waste (England and Wales) Regulations 2011 (as amended)

These regulations implement the revised EU Waste Framework Directive which set out the requirements for the collection, transport, recovery and disposal of waste. Producers and handlers of waste are required to apply the waste hierarchy as specified in the Waste Framework Directive unless it can be justified on environmental or technical grounds that this is not appropriate. Regulation 35 sets out the requirements for the transfer of waste and requires waste collection authorities and contractors to collect waste paper, metal,

15. <http://www.lwarb.gov.uk/what-we-do/resource-london/successes-to-date/efficiencies-programme-outputs/>

plastic and glass separately. The regulations also require the application of Best Available Techniques (BAT) for hazardous waste to avoid the mixing or diluting of hazardous waste.

Environmental Permitting (England and Wales) Regulations 2010 (as amended)
These regulations require waste management to be covered by an environmental permit or exemption. Standard permits can be issued for basic operations such as waste storage. Permits include conditions to ensure operations do not cause pollution of the environment or harm to human health.

Environmental Protection Act 1990 (EPA 1990) and The Duty of Care Code of Practice 2016

The EPA contains the Duty of Care Regulations which require those dealing with certain types of waste to take all reasonable steps to keep it safe. The Code of Practice provides guidance on how to meet the Duty of Care requirements.

Hazardous Waste (England and Wales) regulations 2005 (as amended)

These regulations apply the European Waste Catalogue (EWC) to classify waste as hazardous and place specific obligations on producers of such wastes.

Other Guidance inc. British Standards

A range of relevant guidance already exists, including:

British Standards:

- British Standard BS5906: 2005, Waste Management in Buildings Code of Practice
- British Standard BS1703: 2005, Refuse Chutes and Hoppers Specification

Other Guidance:

- High Density Living Supplementary Planning Document, LBTH, 2020
- Making recycling work for people in flats, Resource London, January 2020
- Waste Management Planning Advice for New Flatted Properties, LWARB 2014,
- BREEAM: Code for Sustainable Homes
- ADEPT 2010, Making Space for Waste
- WRAP 2009 – Recycling Collections for Flats

These documents provide additional information on the management of waste in buildings. They provide advice on how to implement the British Standard requirements for minimising health and safety risks associated with moving waste to interim storage points and to the allocated collection area. British Standard BS5906: 2005 details requirements for the location of waste storage within buildings, for the benefit of residents and waste collection crews. They also provide advice on communicating with residents, caretakers and housing associations as well as local authority waste collection teams.

Appendix 6: The London Borough of Tower Hamlets Waste Collection Service (updated 2020)

The London Borough of Tower Hamlets collects dry recycling and refuse from all properties in the borough, with additional collections of organic waste (food and/or green waste) from some types of property. For up to date information, the website is: https://www.towerhamlets.gov.uk/ignl/environment_and_waste/recycling_and_waste/waste_collections.aspx

All main routes in the borough have time-banded collections with recycling and residual waste collected at least once a day. All other residential properties receive weekly collections.

Collection services for houses or low rise properties (including houses converted into flats)

Weekly collection of food and green waste, dry recycling and residual waste.

Dry recycling

Card, paper, glass bottles and jars, food and drinks cans, food and drinks cartons, plastic bottles and plastic pots, tubs and trays.

- Collected in clear sacks which are delivered to households twice a year and made available for collection from dea Stores and libraries.

- Suitable properties with space can order a purple wheeled bin for the storage and collection of dry recycling, in which case clear sacks are not required and items can be placed into the bin loose.

Organic waste

Food waste and green waste.

- Biodegradable starch bin liners, a kitchen and collection caddy for the storage and collection of food waste and a green reusable bag for green waste are provided.
- Starch liners are delivered twice a year and made available for collection from Idea Stores and libraries.

Residual waste

Waste that cannot be reused, recycled or composted.

- Collected from black sacks which residents have to buy themselves. Residents can purchase their own wheeled bin.

Community composting for estates and blocks of flats to enable residents to compost food and garden are supported.

Collection services for flats

Weekly collection of dry recycling and residual waste.

A small number of estates and blocks of flats have a collection from the doorstep or kerbside, but most receive collections from communal containers or through integrated waste collection systems.

Dry recycling

Card, paper, glass bottles and jars, food and drinks cans, food and drinks cartons, plastic bottles and plastic pots, tubs and trays.

- Collected through integrated waste collection system or using clear sacks? in communal bins.
How are sacks made available to households?

Organic waste

- A food waste collection service is not currently offered to flats but will be expanded in the future to blocks of flats where practical and cost effective.
- Green garden waste for street level properties where appropriate (to be discussed with the Waste Team)

Residual waste

Waste that cannot be reused, recycled or composted.

- Collected from black sacks which residents have to buy themselves through integrated waste collection systems or communal containers.

Community composting for estates and blocks of flats to enable residents to compost food and garden are supported.

Collection services for flats above shops

Weekly collection of dry recycling and residual waste.

Dry recycling

Card, paper, glass bottles and jars, food and drinks cans, food and drinks cartons, plastic bottles and plastic pots, tubs and trays.

- Where properties do not have communal bins, dry recycling is collected in clear sacks from the kerbside.
- Sacks for the storage and collection of dry recycling are delivered to flats above shops twice a year and made available for collection from Idea Stores and libraries?

Organic waste

- A food waste collection service is not currently offered to flats but will be expanded in the future to blocks of flats where practical and cost effective.

Residual waste

Waste that cannot be reused, recycled or composted.

- Collected from black sacks which residents have to buy themselves. Residents can purchase their own wheeled bin where space is available to store it.

Reuse and Recycling Centre

There is one Reuse and Recycling Centre in the borough located at Yabsley Street on the Isle of Dogs for residents to take a wide range of materials for reuse and recycling. Further details can be found on the Tower Hamlets website.

https://www.towerhamlets.gov.uk/lgnl/environment_and_waste/recycling_and_waste/reuse_and_recycling_centre.aspx

Bulky waste

Preference is given to reuse of bulky waste through local reuse organisations, and peer-to-peer online platforms. The council also provides a limited free bulky waste collection to residents. Each household can have two free collections per year. Up to five items can be taken away per collection. Collections must be arranged by the resident with the council in advance.

Composting

Compost bins and wormeries are available through the council at discounted prices to enable and encourage home composting. https://www.towerhamlets.gov.uk/lgnl/environment_and_waste/recycling_and_waste/home_composting.aspx

Community composting for estates and blocks of flats to enable residents to compost food and garden are supported.

Textiles

Clothes, shoes and other textiles. There are small recycling centres and textile banks located throughout the borough.

WEEE

Waste Electrical and Electronic Equipment bins for small items are provided at Idea Stores and in libraries throughout the borough. WEEE can also be taken to the Reuse and Recycling Centre or collected as part of the bulky waste collection service.

Clinical waste

Any waste that poses a threat of infection to humans. The council provides free weekly collections of clinical waste to qualifying residents. These collections must be arranged in advance with the council and require a GP referral letter.

Hazardous waste

Hazardous waste is any waste that is dangerous to human health and the environment. Residents can arrange collections through a pan-London service managed by the Corporation of London.

Other activities

Other events and schemes are run in the borough to encourage waste minimisation, reuse and recycling, for example Swap Days, Love Food Hate Waste events, information stalls in the Idea Stores.

Collection services for businesses

Any waste that comes from any business activity is commercial waste. Businesses must either register with a waste carrier or use the council’s commercial residual waste and dry recycling service.

Commercial recycling offered by the council is collected at a lower cost (than residual waste) to act as an incentive to recycle. The council promotes the dry recycling collection service and is looking into the feasibility of offering a food waste collection.

Full details of all waste collection services offered throughout the borough can be viewed on the London Borough of Tower Hamlets waste collection webpage.

It is illegal for commercial waste to be placed in household sacks or bins. External storage areas for waste on mixed-use developments must be segregated, so that domestic and commercial waste bins are in separate secured areas. Access to the domestic bins should only be possible for residents of the development and site management. It is also good practice to secure the commercial bin storage area to prevent residents from misusing these for disposing of household waste.

Restaurants and food waste

Special consideration must be given to the location and nature of external storage areas. The volume of waste generated is generally high and has a high biodegradable content, therefore can potentially cause nuisance from odour, visual blight, and through attraction of vermin and scavengers. Since 1st January 2006 developments that generate food waste have had to comply with the requirements of the Animal By-Products Regulations 2005.

Freehold/leasehold and rental conditions that include clear obligations on commercial tenants to use waste management facilities in the correct way should be applied.

Reuse

The following highlight some of the options a developer might propose to support reuse:

Community fridges

Over the last few years community fridges have been used to allow communities to share unwanted food. A community fridge could be provided within the development and would support reuse and potentially reduce costs of waste management.



Fig. A5.1. Example of a community fridge
Image courtesy of Hubbub.

Sharing and peer-to-peer reuse

Residents should be provided with online or physical noticeboards to encourage the sharing and reuse of items that are often rarely used, such as cleaning appliances, tools and kitchenware as well as books and other such products.

Another option would be to set up a borrowing hub within the development or provide a facility that allows for repair of goods such as those set up by the ‘Men in Sheds’ and Library of Things Ltd is the first and, in 2020 was the only, operator of item lending libraries in the UK.



Fig. A5.2. Library of Things

Information to be provided to occupants:

The following information should be included in the information pack for residents and should be included in the Communications pack. Any updates on this information should be clarified with the council at the pre-application meeting.

For collection from the edge of the property boundary:

Residual waste, recycling and organic waste must be set out by 7am on the day of collection.

- Waste must be clearly visible to the collection crews from the road and must only be placed out on the scheduled collection day.
- All sacks should be securely tied up.
- If residents are using a wheeled bin, residual waste must be bagged before putting it into the container.
- The area around container and sacks must be clear on the day of collection so that they can be safely moved to the collection vehicle.
- Residual waste and recycling must be kept inside the property at all other times.

For collection from flats:

- Waste must be easily accessible by collection crews on the day of collection.
- Residual waste must be bagged before putting it into the container.
- The area around container and sacks must be clear on the day of collection so that they can be safely moved to the collection vehicle.

Collection of Bulky waste:

- Bulky waste must be neatly and safely stacked
- Set out by 7am on the collection date
- Visible and open access to the crew at ground floor level (i.e. not in a locked bin store or behind a gate that the crew have no access to)

For flats, all bulky waste items must be brought down to a suitable location on the ground floor for collection.

For kerbside properties, items should be placed within the boundary of the property at ground level.

Collection vehicles operated by the London Borough of Tower Hamlets

The following are examples of the information about vehicles that may be used to service developments and similar information should be included in the RRW plan.

The Council currently operates all of these vehicles, with the exception of the Hook Lift, which they will implement for a new development, should the development benefit from a system that can be serviced by one, for example AWCS. The cost for a new vehicle will be discussed in the stages 1-4 of the 10 steps to occupation.

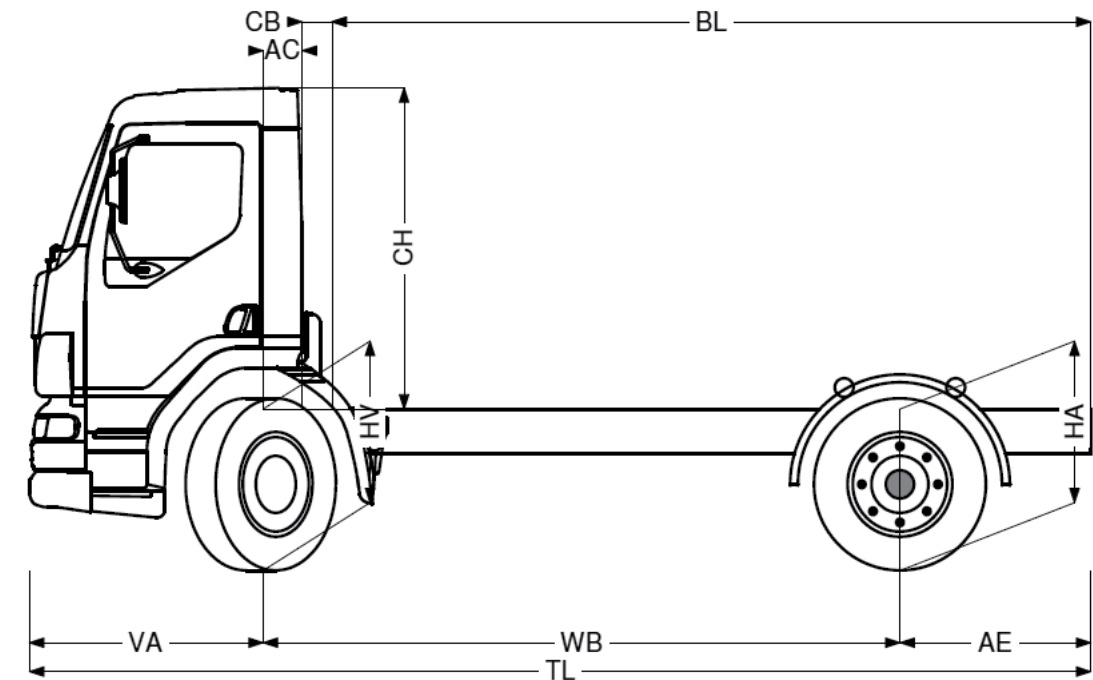


Fig. A5.3. Example skip collection vehicle - Based on DAF FA LF55 18t Tipper 4x2 rigid. Please note: actual vehicles used may differ depending on contractor and may be larger. Image courtesy of DAF.

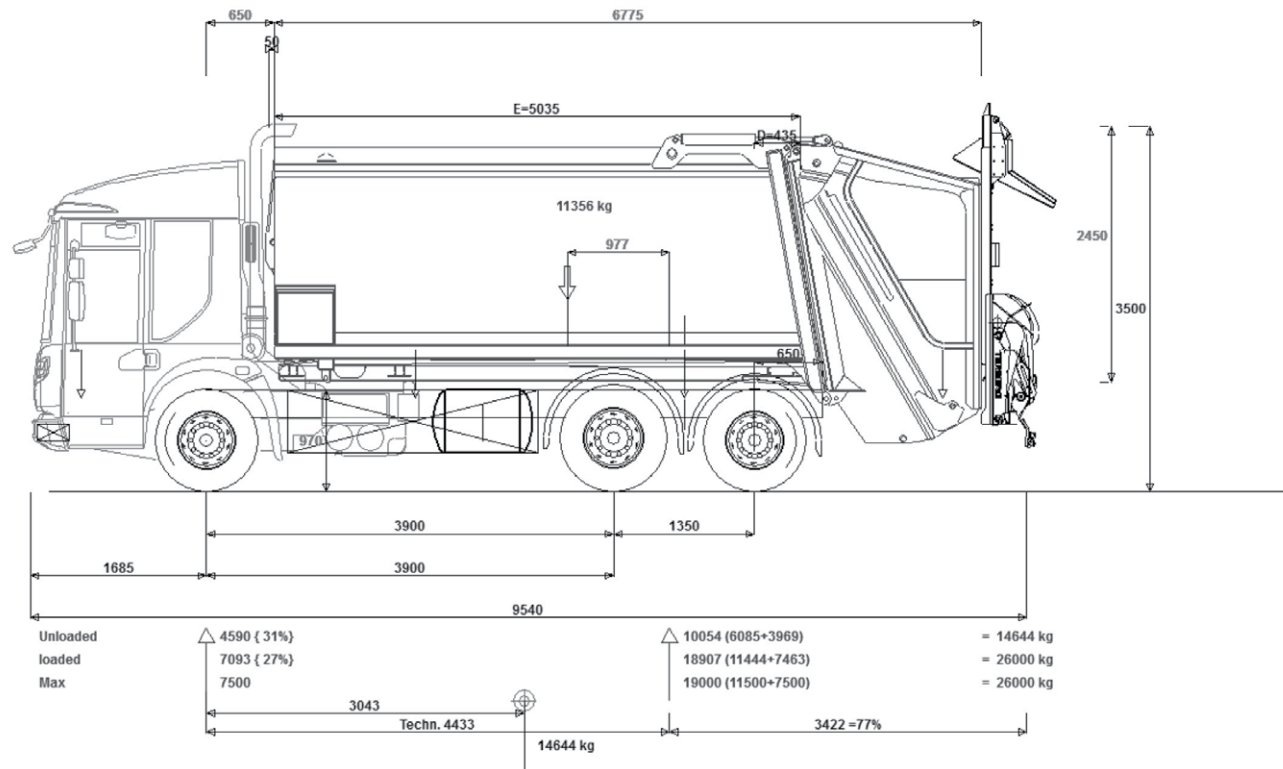


Fig. A5.4. Rear loading waste collection vehicle Elite 6 – 6x2RS Chassis with Olympus 19N + OmniTRADE Lifter. Image courtesy of Dennis Eagle

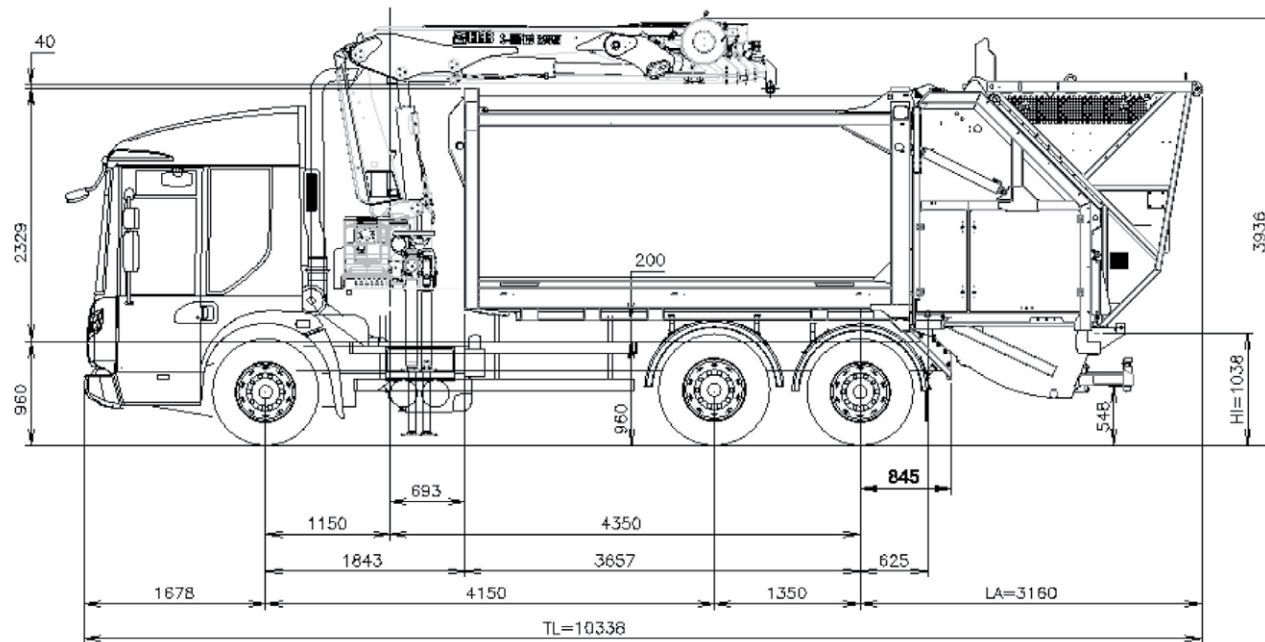


Fig. A5.5. URS Underground Refuse/Recycling Vehicles Dennis Eagle/GeesinkNorba GPM + Dennis Eagle Elite 6 -6x2RS narrow E6 wb 4150 Air suspension. Image courtesy of GeesinkNorba.

Appendix 7: Residential waste generation rates

Unless otherwise specifically stated, the council collects all waste and recycling streams described in appendix 6 on a weekly basis only. Therefore, provision needs to be made for at least 8 days' output for residual, recycling and organic waste to allow for one week's storage plus extra to cover service disruption from statutory holidays, adverse winter weather or other occurrences out of the council's control.

The option for multiple weekly collections is not provided under the residential household service offer unless the property falls within a specified area of the borough that receives multiple weekly collections as standard.

BS 5906:2005 states that to calculate the storage, containment and equipment requirements for effective waste management, the following should be considered:

- Need for a temporary designated collection point;
- volume and composition of waste;
- frequency of collection;
- degree of waste segregation required;
- degree of container separation required; and,
- type of on-site treatment proposed.

Table A6.1 below sets out typical weekly waste arisings and subsequent storage requirements for all types of commercial and industrial development.

Whilst these figures are examples and should not be taken as definitive, for mixed use developments this table should be used.

Building	Equation for weekly waste arisings litres	Typical example of the size of concern	Weekly waste arisings litres	80 l bin/bag/box equivalent	120 l bin equivalent	240 l bin equivalent	660 l bin equivalent	720 l bin equivalent	1 100 l bin equivalent	7.6 m ³ compactor equivalent (ratio 3:1)
Domestic	number of dwellings × {(volume arising per bedroom [70 l] × average number of bedrooms) + 30} ^a	number of dwellings = 1, average number of bedrooms = 3	240	3.0	2.0	1.0	0.36	0.33	0.22	0.01
Office	volume arising per employee [50 l] × number of employees	number of employees = 40	2 000	25.0	16.67	8.33	3.03	2.78	1.82	0.09
Shopping centre	volume arising per m ² of sales area [10 l] × square meterage	sales area = 25 000 m ²	250 000	3125.0	2083.3	1041.7	378.8	247.22	227.3	11.11
Fast food outlet	volume per sale [5 l] × number of sales	number of sales = 45 000	225 000	2812.5	1875.0	937.5	340.9	312.5	204.6	10.0
Department store	volume per m ² of sales area [10 l] × sales area	sales area = 3 700 m ²	37 000	462.5	308.3	154.2	56.1	51.4	33.6	1.64
Restaurant	volume per number of covers [75 l]	number of covers (i.e. dining space) = 8	600	7.5	5.0	2.5	0.91	0.83	0.55	0.03
4/5 star hotel	volume per bedroom [350 l] × number of bedrooms	number of bedrooms = 370	129 500	1618.8	1079.2	539.6	196.2	179.9	117.7	5.76
2/3 star hotel	volume per bedroom [250 l] × number of bedrooms	number of bedrooms = 100	25 000	312.5	208.3	104.2	37.9	34.7	22.7	1.11
1 star hotel/B&B	volume per bedroom [150 l] × number of bedrooms	number of bedrooms = 5	750	9.38	6.25	3.13	1.14	1.04	0.68	0.03
Supermarket (small)	volume per m ² of sales area [100 l] × sales area	sales area = 800 m ²	8 000	100.0	66.7	33.3	12.1	11.1	7.3	0.36
Supermarket (large)	volume per m ² of sales area [150 l] × sales area	sales area = 2 000 m ²	30 000	375.0	250.0	125.0	45.4	41.7	27.3	1.33
Industrial unit	volume per m ² of floor area [5 l] × floor area	floor area = 2 000 m ²	10 000	125.0	83.3	41.7	15.1	13.9	9.1	0.44
Entertainment complex/leisure centre	volume per m ² of floor area [100 l] × floor area	floor area = 3 500 m ²	17 500	218.8	145.8	72.9	26.5	24.3	15.9	0.78

^a Based on average household occupancy.

Table A6.1. Typical weekly waste arisings and subsequent storage requirements (BS 5906:2005)

Appendix 8: Vehicle access

Developers should ensure that roads have suitable foundations and surfaces to withstand the maximum payload of vehicles. Manhole covers and gratings etc located on the highway must also be strong enough to withstand this weight.

Vehicles should not be expected to reverse. If this is unavoidable, then the maximum reversing distance should be 20 metres. A safe stopping bay or equivalent should be provided with a sufficient turning area and manoeuvring space for the collection vehicle (which may be a six-wheeled HGV) as specified within the Freight Transport Association’s publication ‘Designing for Deliveries’ or the equivalent replacement document.

Developers should demonstrate with auto tracks that the collection vehicles (using our waste collection vehicle measurements) can manoeuvre around and within the site (where applicable) without undue impact on pedestrian safety or traffic flow. Developers should contact our team that manages waste for information on the vehicles currently in operation.

When submitting the RRW Plan, the information for your RRW system, including a swept path analysis of vehicles servicing the development (see examples below) should be submitted.

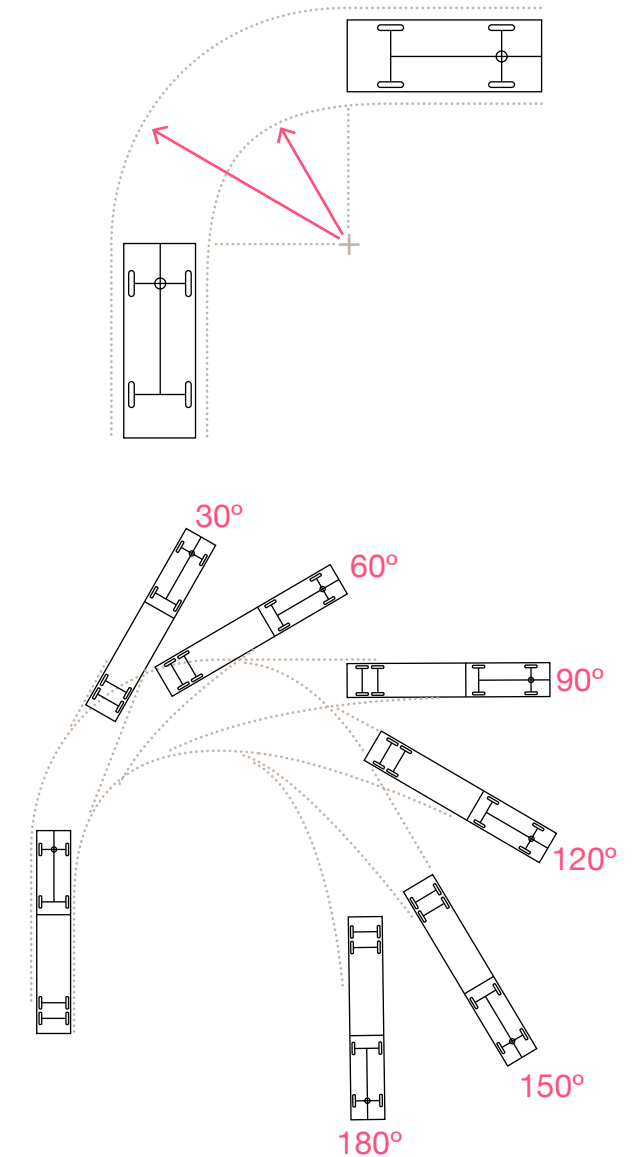


Fig. A7.1. and A7.2. Examples of an engineering swept path analysis diagrams that should be included in the RRW plan

Appendix 9: Additional Design Specifications for all systems

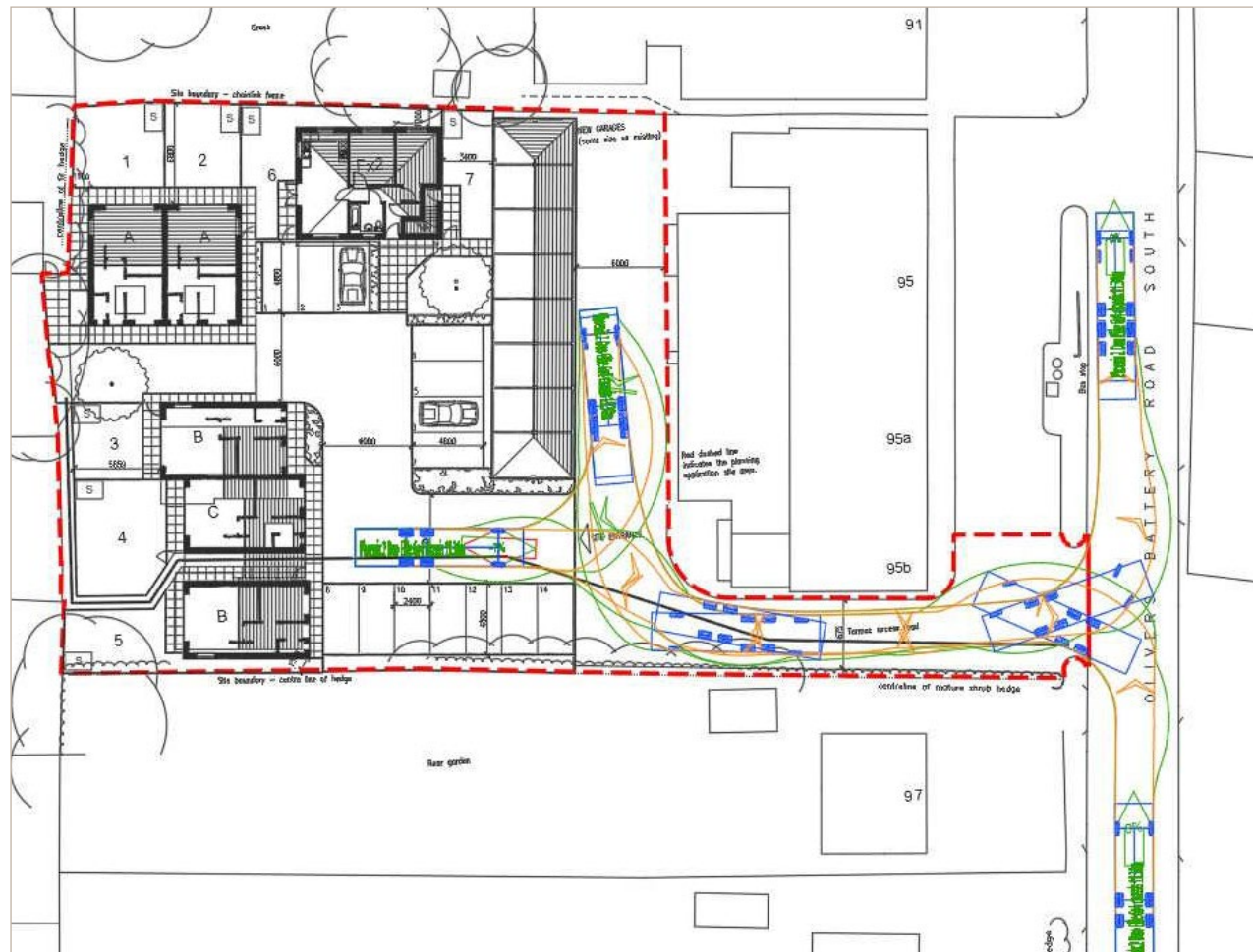


Fig A7.3. Examples of an engineering swept path analysis diagrams and information that should be included in the RRW plan (source <https://sweptpathanalysis.cad-precision.com/>)

Building design needs to incorporate sufficient space within the property boundary to store, in separate bins or containers, the volume of dry recycling, organic and residual waste (as well as bulky, WEEE, clinical, hazardous waste) likely to be generated at the development during the period between collections.

Applicants will need to forecast how much organic, recyclable and residual waste will be generated when the development is occupied and demonstrate that sufficient space has been allocated to the storage and/or bulking of this waste in both individual units and for the development as a whole.

‘Over the weekend, you find people leave their rubbish right outside the lift because the space, itself, is so full.’



Fig. A8.1. Inadequate waste storage.

Information to help assess the storage capacity and equipment requirements can be found in section B2. Weekly waste arisings may change according to seasonal variations, regular or periodic events (such as home moving, public holidays and family changes) or any other factor which may differentiate the development in question from the typical calculations. Such factors should be accounted for in calculated weekly waste arisings. It may be useful to produce a profile of estimated weekly waste arisings for the year, using realistic assumptions and/or collective knowledge or experience.

To calculate the storage, containment and equipment requirements for effective waste management, the following should be considered:

- Volume and composition of waste;
- frequency of collection;
- degree of waste segregation needed; and.
- degree of container separation required.



Fig. A8.2. Examples of good and poor practice waste storage. Image courtesy of London Borough of Tower Hamlets.

To minimise contamination at the point of deposit the following provisions should be made:

- Where communal waste stores are used, ensure that capacity is sufficient so that there is no need for residents to consider using an alternative bin for their waste;
- waste storage areas should be kept clean at all times to avoid contamination as a result of residents rushing to dispose of waste;
- minimise handling/transfer points as there is potential for contamination of streams at each handling;
- ensure that all signage clearly identifies residual, recycling and organic waste bins, deposit points and storage areas (please refer to section 1.7 for more information on signage);
- signs should also provide instruction on how to use the residual, recycling and organic waste facilities, including identifying what should and should not be placed in each bin; and,
- building managers/caretakers should closely monitor contamination and identify repeat offenders or the need for further education.



A8.1 Requirements for storage areas



Fig. A8.3. Poor practice waste storage. Image courtesy of London Borough of Tower Hamlets.

Consideration should be given to the potential adverse impact of storage areas on amenity at the earliest stage enabling any issues to be designed out. There are policies in the Local Plan concerning amenity that proposals will need to be consistent with.

A8.2 Noise

It is important to remember that waste is collected at least once per week and in some areas, daily. Noise can therefore be a significant concern for residents.

Better practice principles should be incorporated to reduce noise including:

- Locating deposit and collection points far enough away from residents as to reduce the impact of noise during bin use and waste collection.

- Eliminating the need for collection vehicles to reverse and therefore negating the need to use reversing alarms.
- If installed, chutes or vacuum systems should be well insulated to avoid noise disturbing neighbouring dwellings. The noise associated with waste falling out the bottom of the chute and with compactors can also be problematic and mitigation should be considered at the design stage.
- Selecting appropriate surfacing materials to assist in minimising noise for pathways and driveways that bins will need to be wheeled over.

A8.3 Odour

Waste storage areas should be well ventilated to minimise odour problems. For enclosed storage areas, the exit point for air flowing from interim storage and waste areas should not be close to dwellings.

Ventilation points should be protected against flies and vermin and close to ceilings and floors, but well away from windows of properties. The use of ventilation and air-conditioning in waste storage areas should not be connected to the same ventilation system supplying air to dwellings.

A8.4 Vermin

Waste not sealed in containers attracts vermin and is unhygienic. Residual and recycling storage and collection areas should be kept free of clutter and dumped rubbish at all times. Bins should not be

allowed to sit open for extended periods of time and as far as possible, vermin should be prevented from getting into these areas.

A8.5 Hygiene

Waste storage areas must be easy to clean, with access to water (a tap, soap, disinfectant and a hose) and correct drainage to the foul sewer. Bin wash areas should be designed in accordance with British Standard 5906:2005. Ideally, such areas should have covered floor junctions at walls helps with cleaning and avoids the build-up of dirt and spills.

To maintain hygiene:

- Waste storage areas should be monitored regularly, and any problems addressed quickly.
- Responsibility for keeping communal areas clean should be assigned to a cleaner or building manager/caretaker.
- Bins and bin lids, floors and walls of waste storage areas should be regularly washed.
- Where possible, water provision for cleaning areas should be made through rainwater harvesting systems to reduce freshwater consumption.

A8.6 Health and Safety

It is of paramount importance that health and safety, including fire risk, associated with RRW systems is fully considered at the very beginning of the design process.

The developer is responsible for ensuring that all legal requirements and best practice guidance have been taken into account in order to minimise any risks to the health and safety of the following:

- Residents using the system;
- Building managers/caretakers and cleaning staff who maintain the system;
- Collection crews providing the service; and
- Any other person engaged in or affected by the system.

Waste transfer, storage and collection solutions should be designed so that they minimise manual handling.

Irrespective of the size of the development, all services within must comply with Health and Safety requirements. A preliminary risk analysis should be completed during the design phase to identify potential risks to health and safety associated with the proposed services and design layout and a final risk assessment should be conducted to identify hazards and risks and any subsequent management and mitigation strategies. This should be included as part of the RRW Plan.

A8.7 Security, Pro- and Anti-social Behaviour

Poor location and poor design can lead to waste storage areas attracting anti-social behaviour or being perceived as unsafe.

- All waste storage areas including bulky waste storage and charity bins should be covered by any CCTV system which is installed in the development.
- Waste storage areas must be fitted with standard FB1 or FB2 Fire Brigade locks or incorporate door codes, to reduce the risk of antisocial behaviour and maintain security of the building. Any keys, fobs or codes must be shared with the council’s Waste Team and must not be changed without consulting them.
- Caged or screened bins should be locked if in a public accessed area and have a lid and wheel locking mechanism.
- Bin stores should be brightly lit, in over-looked positions close to areas of activity, to help avoid fly-tipping and anti-social behaviour.
- Combining sites with other communal facilities such as bike shelters should be considered, although the bin stores themselves require a dedicated access door.

A8.8 Visual Amenity and Sensitivity of Design

All waste management facilities (including storage areas) should be adequately screened, not readily visible from any public place and should blend in with the development. A poorly designed and poorly located waste storage area can detract from the overall development, encourage misuse of the facilities provided and affect reuse and recycling outcomes.

Policies within the Local Plan concerning impacts on visual amenity will need to be taken into account.

Where receptacles or bins are visible, designs should be sensitive to the rest of the development and will need to show how visual amenity has been taken into consideration.

A8.9 Lighting

Any waste storage area requiring a person to access it must be suitably lit. The lighting should be a sealed bulkhead fitting (housings rated to IP65 in BS EN 60529:1992).

Emergency lighting systems should be installed in bin stores and enclosed chambers.

A8.10 Fire Risk

Suitable precautions should be provided to mitigate the fire risk (e.g. sprinklers, fire extinguishers and smoke detection equipment). In accordance with BS 9999:2008 Code of practice for fire safety in the design, management and use of buildings including DDA compliance.

The Waste Team and the Fire Brigade should be consulted to provide advice regarding the size and location of waste storage areas to ensure arson risk is minimised. Consideration should also be taken to align with a development of fire strategy and plans and review emergency access and exit routes.

The development should be designed to ensure that household storage containers and sacks are not be left in entrances, atriums, gangways, shared communal areas or balconies.

A8.11 Offices

For office developments larger than 5,000m² compactors are recommended. For offices over 15,000m² a Eurobin compactor or rotary compactor would be suitable and offices larger than 20,000m² should use a rotary compactor or portable skip compactor.

A8.12 Light Industrial

For units of 1,500m² or more, or for small units where the gross combined floor space exceeds 1,500m² it is recommended to use a small sack compactor.

A8.13 Retail

For units of 2,000m² or more the most appropriate type of compactor would be the small sack compactor. This type of compactor may also be used for small units where the gross combined floor space exceeds 2,000m².

For major retail developments of over 5,000m² a Eurobin compactor or rotary compactor would be suitable. Those over 10,000m² should be provided with a rotary compactor or a portable skip compactor, and a larger static compactor should be considered for those over 15,000m².

A8.14 Restaurants/Fast Food Outlets

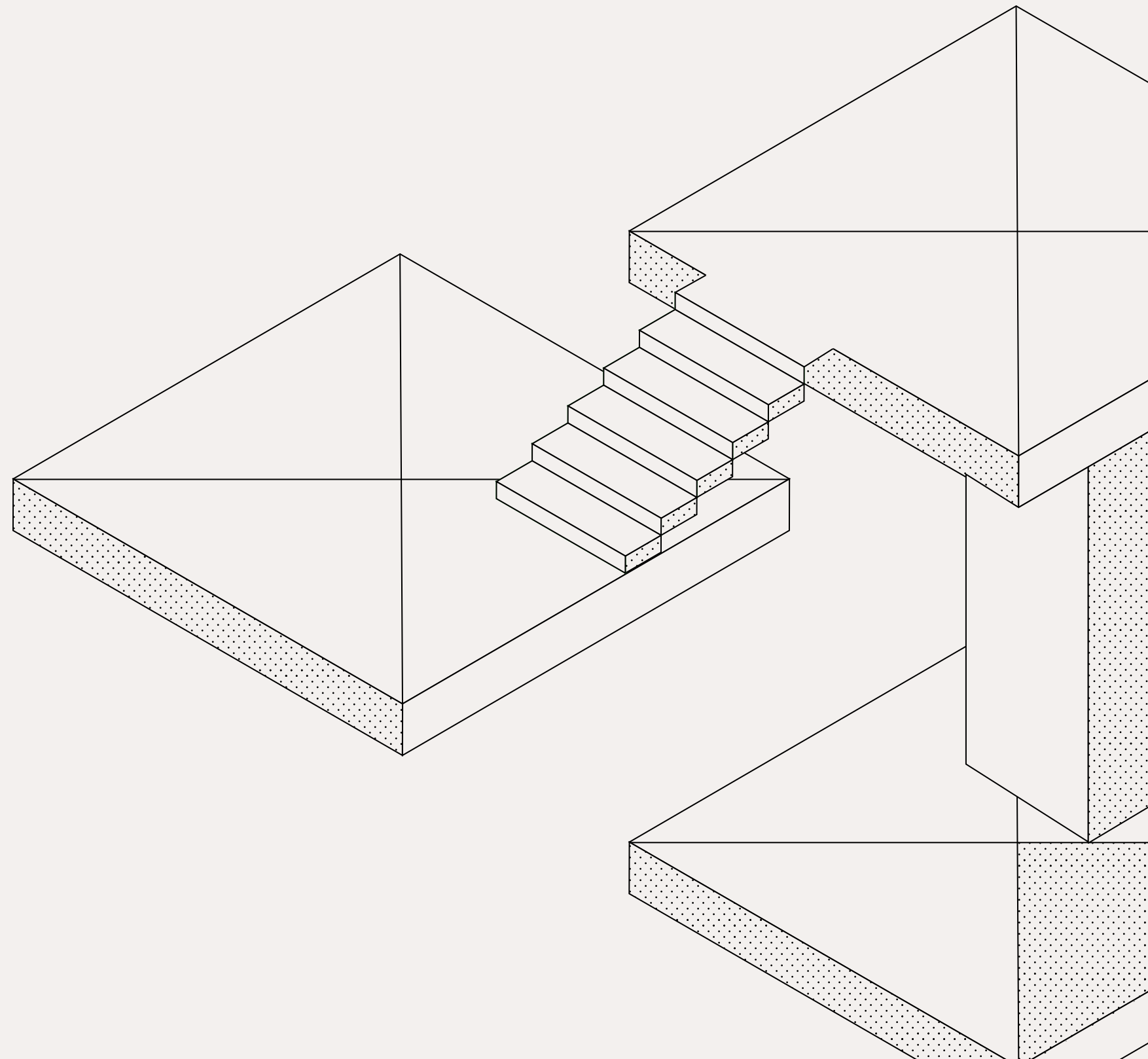
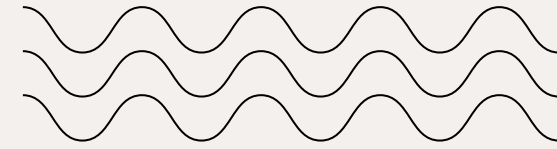
Compactors are mandatory for fast food outlets with an eat-in facility and are recommended for other restaurants. A small sack compactor, or the type using wheeled containers, would be suitable for most applications, although for restaurants with potentially high output the rotary compactor would be preferable.

A8.15 Hotels

The most appropriate type of compactor for hotels of up to 250 bedrooms would be the small bag compactor, or a compactor that is able to compress waste into Eurobin wheeled containers. For larger hotels, and particularly for those with banqueting 31 facilities, a rotary compactor, portable skip compactor or static compactor should be considered. A rotary compactor using heavy duty bags would be suitable for most large developments. However, the type using modified heavy duty Eurobins may not be suitable for some uses, particularly if heavy waste would be produced.

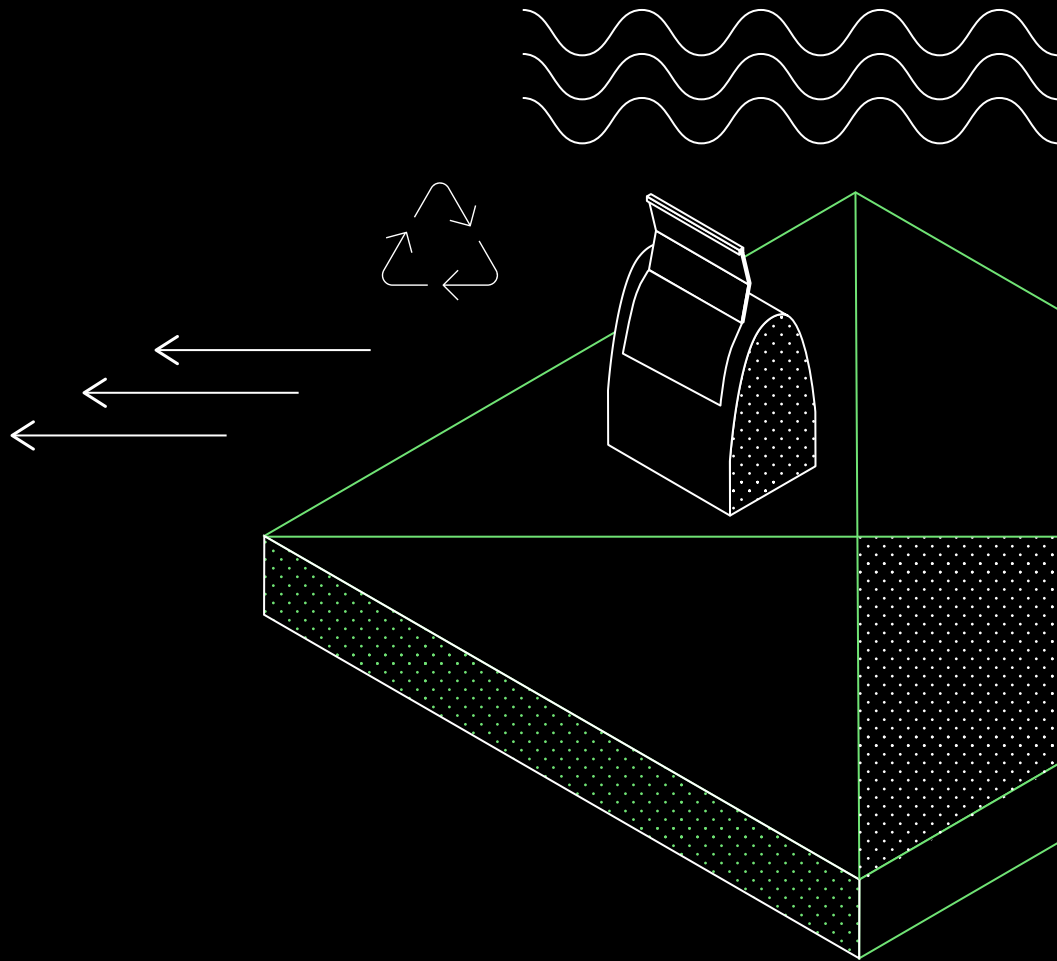
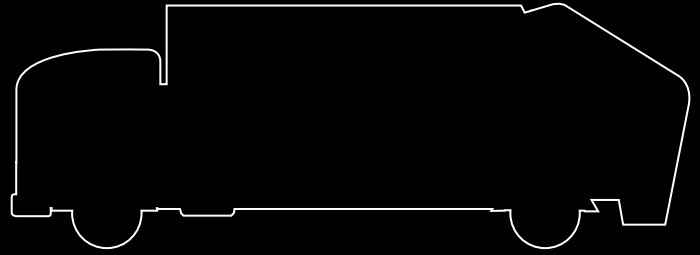
**Appendix 10:
Annual performance report template**

Indicator	Outcome	Comments
Quantity of waste produced from the development:		
Quantity produced in previous years:		
Trend in arisings (increasing/decreasing):		
Quantity of waste re-used:		
Quantity and % of waste removed for recycling:		
Quantity and % of organic waste removed for composting and/or anaerobic digestion:		
Quantity and % of waste removed for Other recovery e.g. Energy from waste:		
Quantity and % of waste removed for landfill:		
Quantity and % of waste managed on site (by management method) e.g. on-site composting:		
Specific RRW initiatives:		








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