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LRD at Old Fort Road, Ballincollig, Cork

Operational Waste Management Plan

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3866-JODA-02-XX-RP-C-0005

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DOCUMENT VERIFICATION					
Project Title		**Old Fort Road**			
Document Title		**Operational Waste Management Plan**			
File Ref		**3866-JODA-02-XX-RP-C-0005**			
Suitability		**U1**	Description	**Planning**	
Revision	Date	Comments		Author	Checker
N01	**12/06/2026**	**Issued For Planning**		**JR**	**TON**

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1.0 Introduction

1.1 Scope of the Report

This Operational Waste Management Plan (OWMP) has been prepared in support of a planning application for a residential development at Old Fort Road, Ballincollig, Cork. The development includes the construction of 3 residential blocks consisting of 157 apartments, creche, leisure and amenity areas and associated ancillary development.

Once operational the development will give rise to a variety of different waste streams which will require proper management in accordance with the legislation and appropriate guidelines. This Preliminary OWMP is to ensure that wastes generated within the development in its operational phase post-construction will be managed and disposed of in a way that ensures maximum levels of waste recycling and reuse and to minimise the levels of waste diverted to landfill.

This OWMP also offers guidance to ensure that waste storage and movement within the development will occur in a manner which complies with relevant legislation and has a minimal impact on the occupants of the development and nearby existing commercial and residential areas.

2.0 Planning Context, National Standards, Bye-Laws

2.1 Cork City Council Development Plan

The current Cork City Development Plan is effective until 2028. The following extracts from Volume 1 of the Development Plan – *Placemeking and Managing Development* -state how planning applications for proposed developments will be considered by Cork City Council in the context of waste management, as follows:

Objective 5.13 – Waste Management – Construction and Operation of Development

All development proposals should minimise waste and maximise the recycling and re-use opportunities during the construction and operation phases.

Objective 11.3 – Housing Quality Standards

e. Waste: Housing should be designed with adequate and easily accessible storage space that supports the separate collection of dry recyclables, food waste and residual waste

Refuse Storage - 11.270

Adequate bin storage provision shall be made for the storage, segregation, and recycling of waste in residential developments. In the case of communal refuse storage provision, the collection point for refuse should be accessible both to the external collector and to the resident and be secured against illegal dumping by non-residents. These shall be well screened from public view and adequately ventilated.

2.2 Cork City Council Bye-Laws

The Cork City Council Segregation, Storage and Presentation of Household and Commercial Waste Bye-laws, 2019, came into effect on the 1st May 2019. These Bye-Laws set a number of enforceable requirements on waste holders with regard to storage, presentation and segregation of waste within the Council functional area. Key requirements under these Bye-Laws of relevance to the proposed development include the following:

4. Location for Waste Container storage:

Waste containers shall be stored within the curtilage of the premises where the waste is produced and they shall not be stored on a roadway, footway, footpath or any other public place unless expressly authorised, in writing,

by an authorised person, save when the waste containers are being presented for collection, in accordance with clause 6 of these bye-laws.

8. Segregation of Household Waste and Contamination Prevention:

a) A holder of household kerbside waste shall separate at source food waste, recyclable household waste and residual household waste and each fraction shall be stored in a separate waste container.

(b) Food waste and recyclable household waste shall not be contaminated with other waste before or after it has been segregated.

10. Provisions affecting Multi-user Buildings, Apartment Blocks, etc:

In multi-unit developments, mixed-use developments, flats or apartment blocks, combined living/working spaces or other similar complexes the management company, if one exists, or the owner, if solely owned or the individual owners of the apartments shall ensure that:

(a) separate receptacles of adequate size and number are provided for the proper segregation, storage and collection of recyclable household kerbside waste and residual household kerbside waste

(b) additional receptacles are provided for the segregation, storage and collection of food waste where this practice is a requirement of the national legislation on food waste,

(c) the receptacles referred to in paragraphs (a) and (b) are located both within individual apartments and at the place where waste is stored prior to its collection,

(d) any place where waste is to be stored prior to collection is secure, accessible at all times by tenants and other occupiers and is not accessible to any other person other than an authorised waste collector,

(e) written information is provided to each tenant or other occupier about the arrangements for waste separation, segregation, storage and presentation prior to collection,

(f) an authorised waste collector is engaged to regularly service the receptacles referred to in this section of these bye-laws, with documentary evidence, such as receipts, statements or other proof of payment, demonstrating the existence of this engagement being retained for a period of no less than two years. Such evidence shall be presented to an authorised person within a time specified in a written request.

(g) Appropriate waste containers for kerbside waste are presented for collection on the designated waste collection day,

(h) adequate access and egress to and from the premises by waste collection vehicles is maintained

2.3 Sustainable Urban Housing: Design Standards for New Apartments

The Department of Housing, Planning and Local Government publication "*Sustainable Urban Housing: Design* Standards for New Apartments - Guidelines for Planning Authorities" (December 2022) include provision to be made for the storage and collection of waste materials in apartment schemes.

Refuse facilities should be accessible to each apartment stair/lift-core and designed with regard to the projected level of waste generation and types and quantities of receptacles required.

Within apartments, there should be adequate provision for the temporary storage of segregated materials prior to deposition in communal waste storage and in-sink macerators are discouraged as they place a burden on drainage systems.

The guidelines set out the following general design considerations which should be taken into account in the provision of refuse storage facilities:

- Sufficient communal storage area to satisfy the three-bin system for the collection of mixed dry recyclables, organic waste and residual waste;
- In larger apartment schemes, consideration should also be given to the provision of separate collection facilities for other recyclables such as glass and plastics;
- Waste storage areas must be adequately ventilated so as to minimise odours and potential nuisance from vermin/flies and taking account the avoidance of nuisance for habitable rooms nearby;
- Provision in the layout for sufficient access for waste collectors, proximity of, or ease of access to, waste storage areas from individual apartments, including access by disabled people;
- Waste storage areas should not present any safety risks to users and should be well-lit;
- Waste storage areas should not be on the public street, and should not be visible to or accessible by the general public. Appropriate visual screening should be provided, particularly in the vicinity of apartment buildings;
- Waste storage areas in basement car parks should be avoided where possible, but where provided, must ensure adequate manoeuvring space for collection vehicles
- The capacity for washing down waste storage areas, with wastewater discharging to the sewer

3.0 Development Overview

3.1 Site Location

The site is located in Ballincollig Town Centre, centred at grid reference E:559257m, N:571069m ITM as outlined in red on Figure 3-1 below

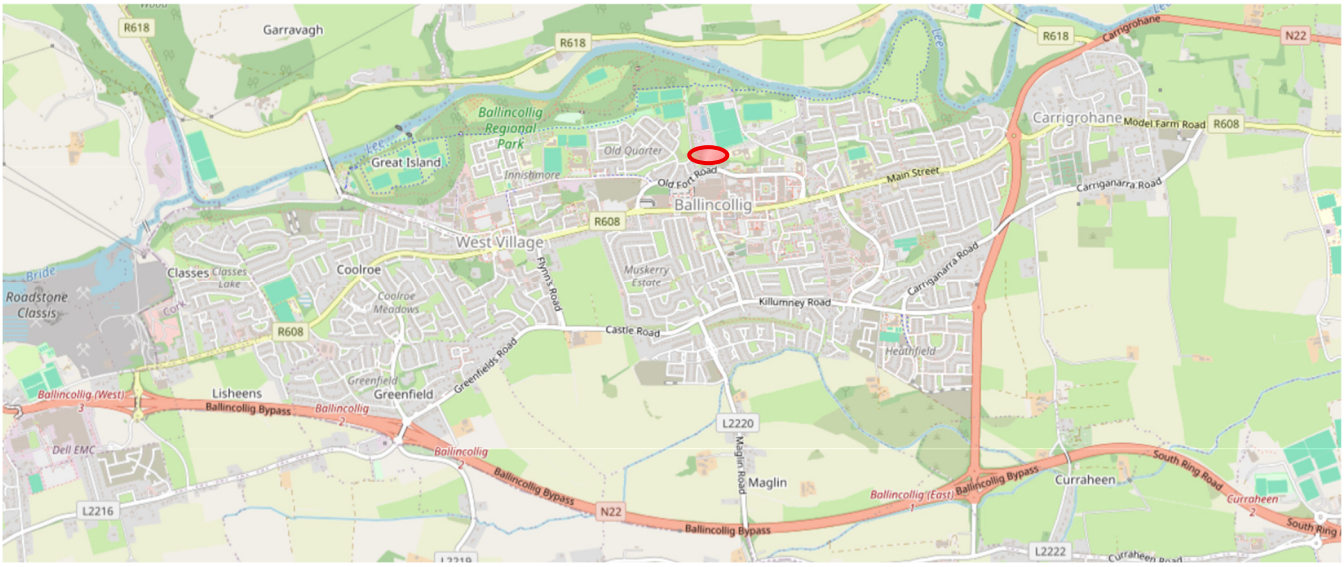


Figure 3-1: Site Location (Source map: Openstreetmap.org)

Ballincollig GAA and Ballincollig wastewater treatment plant are located directly north of the site. Ballincollig Community Nursing Unit and the Old Quarter Pharmacy is located directly east of the site. Ballincollig Town Centre is located south of the site.

The site is currently greenfield in nature with soil fill for the majority of the site. The high point of the site is to the south of (+25mOD) falling to the north at a low point of (+17mOD).

The site entrance is onto Old Fort Road which leads to Ballincollig Main Street (R608) and connects to the Ballincollig Bypass (N22) and South Ring Road (N40).

3.2 Proposed Development

The proposed development consists of 3 apartment blocks making up 157 units, a creche along with associated ancillary development including roads, lighting, drainage, electrical substations, bicycle and car parking and bin storage facilities. Figure 3-2 below shows the proposed development site.

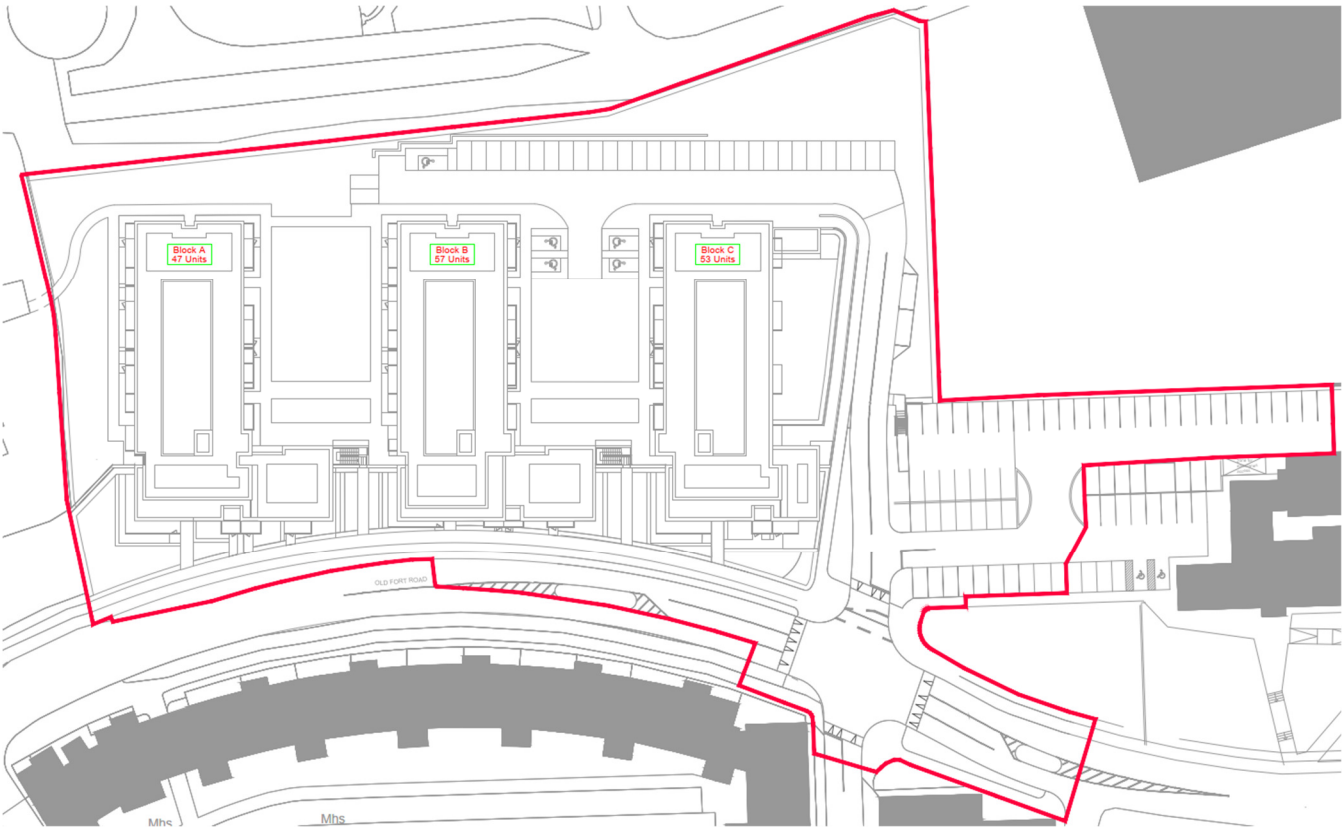


Figure 3-2 Proposed development

4.0 Operational Waste Management

4.1 Waste Types

The waste materials types expected to be generated during the operational phase of the development are typical municipal waste arisings as listed in the table below with a EWC (European Waste Code) in accordance with the EPA document '*Waste Classification – List of Waste & Determining if Waste is Hazardous or Non-Hazardous', as follows:*

LoW Code	Description	Hazard Level	
		Non-Hazardous	Hazardous
20 01 01	Paper and Cardboard	◆	
20 01 02	Glass	◆	
20 01 08	Biodegradable Kitchen Waste	◆	
20 01 11	Textiles	◆	
20 01 13	Solvents		◆
20 01 19	Pesticides		◆
20 01 25	Oils and Fats	◆	
20 01 27	Printer Toner/Cartridges (Hazardous)		◆
20 01 28	Printer Toner/Cartridges Non-Hazardous	◆	
20 01 29	Detergents (Hazardous)		◆
20 01 30	Detergents	◆	
20 01 33/34	Batteries and Accumulators		◆
20 01 35/36	WEEEs		◆
20 01 39	Plastics	◆	
20 01 40	Metals	◆	
20 02 01	Green Waste	◆	
20 03 01	Mixed Non-Recyclable Waste	◆	
20 03 07	Bulky Waste	◆	

Table 4-1 EPA – Waste Classification

The majority of the generated waste can be categorised under the following four main types of segregated waste:

- Mixed Dry Recyclables (DryR)-is defined as a collection of solid waste materials that can be stored and collected in one bin or in separate bins to increase recycling value. These materials include cardboard, paper, newspaper, plastic film, plastic, bottles, steel and aluminium cans.
- Organic Waste - organic waste is defined as waste that is organic in nature and comprises mainly of food, be it cooked or uncooked, from kitchens and other catering establishments and is generally classified as putrescible.
- Mixed Non Recyclables (NonR) – this is the residual waste that is the remaining waste material after separate diversion of waste components though reduction, reuse, recycling and food waste collections.
- Glass

In addition to the above categories small quantities of the following wastes will also be generated at a lower frequency:

- Waste electrical and electronic equipment (WEEE) such as TVs, mobile phones, printers, bulbs, batteries etc,
- Green Waste – organic materials generated from gardens and landscaping;
- Chemicals - paints, adhesives, detergents, etc;
- Lighting – including light bulbs;
- Metal – fixtures and fittings;
- Furniture and Textiles;
- Bulky white goods (WEEE) – fridges, freezers, washing machines etc

4.2 Waste arisings volumes

The following tables summarise the estimated overall municipal waste arisings in the development when in full occupation and for collection frequencies typical for the various building types and occupancies:

Domestic Waste Arisings				(Ref BS5906:2006)		
Project Ref:				Old Fort Road		
Waste arisings per bedroom per week (l)				70		
Waste arisings per unit per week (l)				30		
Building Ref.	**Building Type**	**No. of units**	**No of beds per unit**	**Total no. of beds**	**No of bin lifts per fortnight**	**Waste storage volume per fortnight**
		(no)	**(no)**		**(no)**	**(litres)**
A	Apartment	47	1.511	71	2	5000
B	Apartment	57	1.509	86	2	6050
C	Apartment	53	1.509	80	2	5630
Total		**157**		**237**		**16680**

Table 4-2 Residential apartments – waste arisings

Childcare Facility Waste Arisings						
Project Ref:			Old Fort Road			
Building Ref.	**Building type**	**Persons**	**Weekly waste arisings per person**	**Total weekly waste arisings**	**No of bin lifts per fortnight**	**Waste storage volume**
		(no)	**(l)**	**(l)**	**(no)**	**(litres)**
Creche	Creche	36	20	720	2	720
Total		**36**		**720**		**720**

Table 4-3 Creche & Childcare Units – waste arisings

4.2 Waste Storage Requirements

The municipal waste quantites as estimated in Setion 4.1 above will typically be stored in segregated 4-bin systems for collection and disposal by suitably licenced by licensed contractors, under the following categories:

- Dry Mixed Recyclables (DMR) – tyically newspapers, magazines, cardboard, plastic packaging, metal cans, plastic bottles, aluminium cans, tins and milk/juice cartons;
- Mixed Non-Recyclable (MNR) (general waste);
- Organic waste – food waste and green waste generated from plants and flowers;
- Glass.

Batteries/electrical items/other household items are typically brought by householders to dedicated centres and retailers (WEEE) for recycling on an as-required basis.

Typical waste storage bin types and sizes for municipal collection services are as follows:

140l – A two-wheeled bin suitable for general waste, recycling, glass and compostable waste;

240l – A two-wheeled bin suitable for general waste, recycling, glass and compostable waste;

360l – A two-wheeled bin for general waste and mixed recycling;

600l – A four-wheeled bin for general waste and mixed recycling;

1100l – A four-wheeled bin for general waste and mixed recycling.



Figure 4-1 Typical wheelie bins for segregated domestic waste storage and collection (sourge:Countryclean)

Based on typical splits of municipal waste into the four major categories as described above, storage volumes and typical bin requirements for the waste volumes and collection frequency as described in the section above are shown in the following tables:

Domestic waste mix and storage requirements									
Project Ref:						Old Fort Road			
Building Ref.	**Building Type**	**DMR waste volume storage (litres)**	**MNR waste volume storage (litres)**	**Organic waste volume storage (litres)**	**Glass waste volume storage (litres)**	**DMR waste bin sizing x no. (litres)**	**MNR waste bin sizing x no. (litres)**	**Organic waste bin sizing x no. (litres)**	**Glass waste bin sizing x no. (litres)**
		percent. 55%	percent. 33%	percent. 8%	percent. 4%				
A	Apartment	2750	1650	400	200	1100x2+660x 1	1100x1+660x 1	660	240
B	Apartment	3328	1997	484	242	1100 x 3	1100 x 2	660	240
C	Apartment	3097	1858	450	225	1100 x 3	1100 x 2	660	240
** Individual house holder may liaise with waste operator regarding appropriate bin size*									
*** Bin size also suitable for fortnight collections*									

Table 4-4 Apartment bin storage requirements

Childcare facility waste mix and storage requirements									
Project Ref:						Old Fort Road			
Building Ref.	**Building type**	**DMR waste volume per lift (litres)**	**MNR waste volume per lift (litres)**	**Organic waste volume per lift (litres)**	**Glass waste volume per lift (litres)**	**DMR waste bin sizing x no. (litres)**	**MNR waste bin sizing x no. (litres)**	**Organic waste bin sizing x no. (litres)**	**Glass waste bin sizing x no. (litres)**
		percent. 50%	percent. 45%	percent. 4%	percent. 1%				
Creche	Creche	360	324	29	7	660	660	120	120

Table 4-5 Creche premises bin storage requirements

4.3 Facilities for waste storage prior to collection

The proposed mix of bin types generally is in accordance with current best practice (4-bin system) in municipal waste management in the locality and aligns with Cork City Council Bye-law and Irelands National Waste Policy 2020 – 2025 goal of 60% recycling of Mixed Solid Waste (MSW) by 2030 and other requirements such as the Landfill Directive.

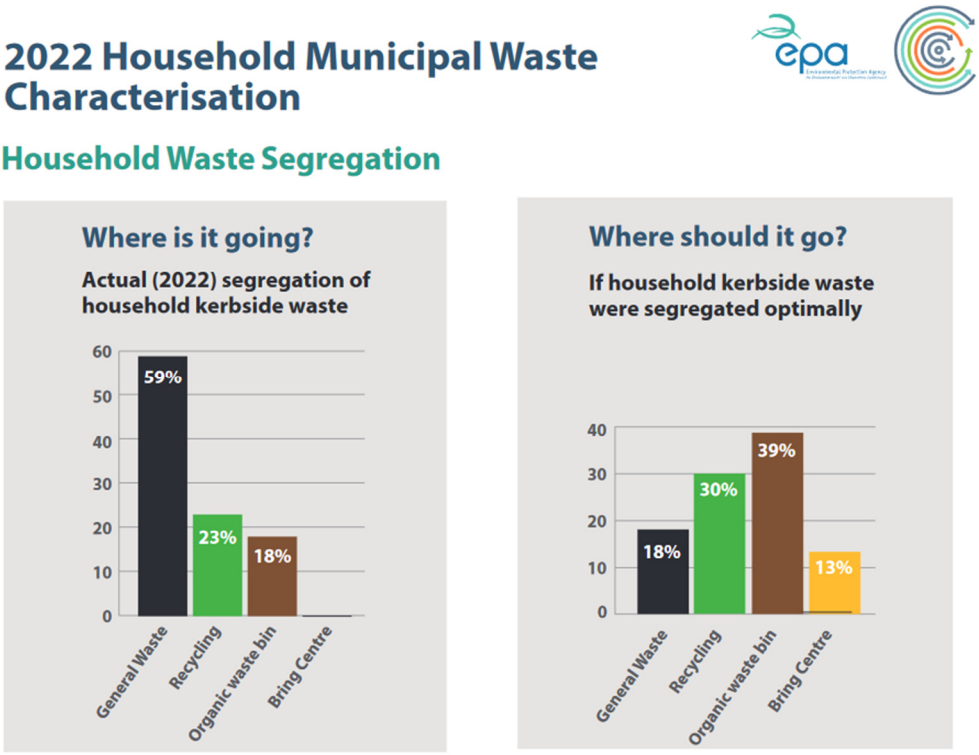


Figure 4-2 Household waste segregation 2022 measured versus optimal target (Source: EPA.ie)

4.3.1 Apartment - arrangements for segregation, storage and collection

Apartment residents will be required to segregate waste in accordance with the 4-bin system as described above.

Each unit will include adequate provision for initial segregation of waste and temporary storage of segregated materials prior to deposition in communal Waste Storage Areas (WSA). Kitchen units will include for provision of three-compartment bins for waste segregation at source. In-sink macerators will not be provided.

Other waste materials such as waste electrical and electronic equipment, chemicals, lighting, furniture and textiles may be generated infrequently by the residents and the residents will be required to organise for the removal of the items for recycling or disposal at a suitable public facility.

Two communal Waste Storage Areas (WSA's) will be provided for the three apartment blocks to collectively provide the necessary bin storage for the buildings, both located externally between the apartment blocks and easily accessible by waste collection vehicles.

The Facilities Management company in charge of each building will be responsible for ensuring that all waste generated by residents is managed to ensure correct storage prior to collection by an appropriately permitted waste collection company on the agreed collection schedule. All residential units shall be provided with an information brochure outlining the waste management strategy for the development which will show as a minimum the methods of waste segregation, waste storage within the accommodation units, recycling initiatives that shall apply to the development and any other waste related matters concerning occupants of the residential units.

4.3.2 Childcare (Creche) facility – arrangements for segregation, storage and collection

The creche operator will be required to segregate their waste into the four main waste categories as described in Section 4.2 above – i.e. suitable for a segregated 4-bin system.

The WSA for use of the creche operator will be located between apartment blocks B & C. The creche operator will be responsible for ensuring that all waste generated is managed to ensure correct storage prior to collection.

Other waste materials such as textiles, batteries, cooking oil, printer toner / cartridges, bulky items, light bulbs and WEEE will be generated less frequently. The creche operator will be responsible for managing appropriate storage these waste types temporarily either within the WSA or within the creche unit as appropriate and for appropriate disposal. Alternatively, the Building Management company may arrange collection, depending on the agreement. Further details regarding additional waste types are described in Section 4.5 below.

4.4 Waste Storage Areas (WSA) and waste collection

Waste Storage Areas (WSA) will typically include the following features:

- Accessibility by persons of limited mobility;
- Adequate floor area for the required number and type of bins;
- A non-slip floor surface;
- Visual screening;
- Roofing where the WSA is overlooked, with a finish as agreed in advance with the Planning Authority;
- Naturally ventilated or provided with forced ventilation to reduce the potential for generation of odours with a recommended 6-10 air changes per hour for a mechanical system, suitably ducted to avoid odour nuisance in nearby habitable rooms;
- Suitable lighting, typically with a minimum Lux rating of 220 or greater as appropriate;
- Access restricted to nominated personnel only by means of suitable access control;
- Water supply for disinfection and washing of bins;
- Power supply for power washers;
- A floor outlet connection to the waste water drainage system;
- CCTV for monitoring

The building management company, tenants and residents will be required to maintain the WSA and bins in good condition.

The WSA's for the apartments will be located externally and will have open and direct access by refuse collection vehicles.

Where a WSA is not directly accessible for collection by a refuse vechicle, arrangements for collection shall be as follows:

- Personnel nominated by the responsible agent shall transfer the bins to the designated temporary staging/collection points immediately prior to collection, using a trolley/tug vehicle as required;
- There will be suitable access and egress between the WSA and the staging area;
- The staging area shall be located such that pedestrians are not obstructed;
- Bins will be removed from the staging area promptly following emptying to the refuse vehicle;

4.6 Additional Waste Materials

In addition to the typical waste materials that are generated on a daily basis, there will be some additional waste types generated from time to time that will need to be managed separately. A non-exhaustive list is presented below.

Green Waste

Green waste may be generated from gardens, external landscaping and internal plants / flowers. Green waste generated from landscaping of external areas will be removed by external landscape contractors. Green waste generated from residential gardens and internal plants/flowers can be placed in the organic waste bins.

Batteries

A take-back service for waste batteries and accumulators (e.g. rechargeable batteries) is in place in order to comply with the S.I. No. 283/2014 - European Union (Batteries and Accumulators) Regulations 2014, as amended. In accordance with these regulations, consumers are able to bring their waste batteries to their local civic amenity centre or can return them free of charge to retailers which supply the equivalent type of battery, regardless of whether or not the batteries were purchased at the retail outlet and regardless of whether or not the person depositing the waste battery purchases any product or products from the retail outlet.

Waste Electrical and Electronic Equipment (WEEE)

The WEEE Directive (Directive 2002/96/EC) and associated Waste Management (WEEE) Regulations have been enacted to ensure a high level of recycling of electronic and electrical equipment. In accordance with the regulations, consumers can bring their waste electrical and electronic equipment to their local recycling centre. In addition, consumers can bring back WEEE within 15 days to retailers when they purchase new equipment on a like for like basis. Retailers are also obliged to collect WEEE within 15 days of delivery of a new item, provided the item is disconnected from all mains, does not pose a health and safety risk and is readily available for collection.

Printer Cartridge / Toners

Waste printer cartridge / toners generated by residents can usually be returned to the supplier free of charge or can be brought to a civic amenity centre.

Chemicals

Chemicals (such as solvents, paints, adhesives, resins, detergents, etc) are largely generated from building maintenance works. Such works are usually completed by external contractors who are responsible for the off-site removal and appropriate recovery / recycling / disposal of any waste materials generated.

Any waste cleaning products or waste packaging from cleaning products that are classed as hazardous (if they arise) generated by the residents should be brought to a civic amenity centre.

Light Bulbs

Light bulbs generated by residents should be taken to the nearest civic amenity centre for appropriate storage and recovery / disposal.

Textiles

Where possible, waste textiles should be recycled or donated to a charity organisation for reuse. Residential tenants will be responsible for disposing of waste textiles appropriately.

Waste Cooking Oil

Waste cooking oil generated by residents should not be poured down sinks due to the risk of blockage. Small amounts of fats, oils and grease can be disposed of in the organic recycling bin when removed from packaging and placed in cardboard egg boxes. Kitchen roll soiled with fats, oils and grease can also be placed in the organic bin.

Furniture & Other Bulky Waste Items

Furniture and other bulky waste items (such as carpet, etc.) may occasionally be generated by the commercial tenant. The collection of bulky waste will be arranged, as required by the tenant. Residents may dispose of furniture at a civic amenity centre.

Abandoned Bicycles

Bicycle parking areas are planned for the development. As happens in other developments, residents sometimes abandon faulty or unused bicycles, and it can be difficult to determine their ownership. Abandoned bicycles may be donated by the building management company to a suitable charity or otherwise arrange collection by a licensed waste contractor.

4.7 Civic Amenity Sites

The closest Civic Amenity & Recycling site to the development is at the South City Link Road opposite the Black Ash Park & Ride.

The following materials may be disposed for a fee of €3 per car load:

- Aluminium Drink Cans*
- Glass Bottles*
- Clean Plastic Bottles*
- HDPE (shampoo Bottles)*
- Tetrapaks*
- Food Cans*
- Cardboard (Boxes should be flattened)
- Food Waste
- Clothes
- Newspapers and Magazines
- Scrap Metal
- Waste Engine Oil (max. 5 litres per vehicle)
- Aerosols

Waste Electrical and Electronic Equipment (WEEE) is accepted free of charge at this facility including the following:

- Batteries and Fluorescent Tubes are accepted free of charge, including all light bulbs and car batteries;
- Mobile phones and chargers will be accepted as Electrical Waste (WEEE);
- Satellite Dishes can also be disposed of as Electrical Waste (WEEE)

Gas bottles and waste cooking oil cannot be recycled at this facility.

5.0 Conclusions

This Operation Waste Management Plan follows the relevant legal requirements, waste policies and best practice guidelines and ensures a high level of recycling, reuse and recovery at the development and ensures that waste management is carried out in accordance with the requirements of the Cork City Development Plan 2022 – 2028, Cork City Council Bye-laws and Ireland's National Waste Policy.

Implementation of this OWMP will ensure a high level of recycling, reuse and recovery at the development. All recyclable materials will be segregated at source to reduce waste contractor costs and ensure maximum diversion of materials from landfill, thus contributing to the targets set out in National s

The waste storage and collection strategy outlined in this plan accompanying the planning permission application for the development will provide adequate storage capacity for the estimated quantity of segregated waste. Designated areas for waste storage will provide sufficient room for the required receptacles in accordance with the details outlined in this Plan.

The layout of the proposed development facilitates access for refuse vehicle collection of waste throughout the site.