

**OPERATIONAL WASTE
MANAGEMENT PLAN FOR A
PROPOSED STUDENT
ACCOMMODATION
ON PRUSSIA STREET, CO.
DUBLIN.**

Report Prepared For

Lyonshall Ltd.

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Our Reference

LB/237501.0547WMR01

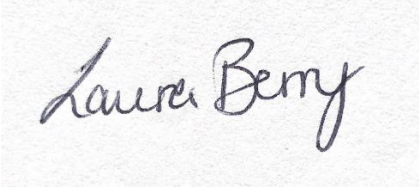

Date of Issue

12 March 2024

Document History

| Document Reference | | Original Issue Date | |
|---------------------|---------------|---------------------|-------------------|
| LB/237501.0547WMR01 | | 12 March 2024 | |
| Revision Level | Revision Date | Description | Sections Affected |
| | | | |
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Record of Approval

| Details | Written by | Approved by |
|-----------|--|---|
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| Date | 12 March 2024 | 12 March 2024 |

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1.0 INTRODUCTION

AWN Consulting Ltd. (AWN) has prepared this Operational Waste Management Plan (OWMP) on behalf of Lyonshall Ltd. The proposed development will consist of the demolition of structures on the site, and the construction of a large-scale residential development consisting of a Student Accommodation scheme in 2 no. apartment blocks ranging in height from 3 to 5 storeys in height, a terrace of 6 no. studio units and all ancillary development works on a site located on Prussia St., Co. Dublin.

This OWMP has been prepared to ensure that the management of waste during the operational phase of the proposed development is undertaken in accordance with current legal and industry standards including, the *Waste Management Act 1996* as amended and associated Regulations ¹, *Environmental Protection Agency Act 1992* as amended ², *Litter Pollution Act 1997* as amended ³, the *National Waste Management Plan for a Circular Economy 2024-2030 (NWMPCE) (2024)* ⁴ and Dublin City Council (DCC) 'Dublin City Council (Storage, Presentation and Segregation of Household and Commercial Waste) Bye-Laws' 2018 ⁵. In particular, this OWMP aims to provide a robust strategy for storing, handling, collection and transport of the wastes generated at site.

This OWMP aims to ensure maximum recycling, reuse and recovery of waste with diversion from landfill, wherever possible. The OWMP also seeks to provide guidance on the appropriate collection and transport of waste to prevent issues associated with litter or more serious environmental pollution (e.g., contamination of soil or water resources). The plan estimates the type and quantity of waste to be generated from the proposed development during the operational phase and provides a strategy for managing the different waste streams.

At present, there are no specific national guidelines in Ireland for the preparation of OWMPs. Therefore, in preparing this document, consideration has been given to the requirements of national and regional waste policy, legislation and other guidelines.

2.0 OVERVIEW OF WASTE MANAGEMENT IN IRELAND

2.1 National Level

The Irish Government issued a policy statement in September 1998 entitled '*Changing Our Ways*' ⁶, which identified objectives for the prevention, minimisation, reuse, recycling, recovery and disposal of waste in Ireland. A heavy emphasis was placed on reducing reliance on landfill and finding alternative methods for managing waste. Amongst other things, *Changing Our Ways* stated a target of at least 35% recycling of municipal (i.e. household, commercial and non-process industrial) waste.

A further policy document, '*Preventing and Recycling Waste – Delivering Change*' was published in 2002 ⁷. This document proposed a number of programmes to increase recycling of waste and allow diversion from landfill. The need for waste minimisation at source was considered a priority.

This view was also supported by a review of sustainable development policy in Ireland and achievements to date, which was conducted in 2002, entitled '*Making Ireland's Development Sustainable – Review, Assessment and Future Action*' ⁸. This document also stressed the need to decouple economic growth and waste generation, again through waste minimisation and reuse of discarded material.

In order to establish the progress of the Government policy document *Changing Our Ways*, a review document was published in April 2004 entitled '*Taking Stock and Moving Forward*' ⁹. Covering the period 1998 – 2003, the aim of this document was to assess progress to date with regard to waste management in Ireland, to consider

developments since the policy framework and the local authority waste management plans were put in place, and to identify measures that could be undertaken to further support progress towards the objectives outlined in *Changing Our Ways*.

In particular, *Taking Stock and Moving Forward* noted a significant increase in the amount of waste being brought to local authority landfills. The report noted that one of the significant challenges in the coming years was the extension of the dry recyclable collection services.

In September 2020, the Irish Government published a new policy document outlining a new action plan for Ireland to cover the period of 2020-2025. This plan 'A Waste Action Plan for a Circular Economy'¹⁰ (WAPCE), was prepared in response to the 'European Green Deal' which sets a roadmap for a transition to a new economy, where climate and environmental challenges are turned into opportunities, replacing the previous national waste management plan "A Resource Opportunity" (2012).

The WAPCE sets the direction for waste planning and management in Ireland up to 2025. This reorientates policy from a focus on managing waste to a much greater focus on creating circular patterns of production and consumption. Other policy statements of a number of public bodies already acknowledge the circular economy as a national policy priority.

The policy document contains over 200 measures across various waste areas including circular economy, municipal waste, consumer protection and citizen engagement, plastics and packaging, construction and demolition, textiles, green public procurement and waste enforcement.

One of the first actions to be taken was the development of the Whole of Government Circular Economy Strategy 2022-2023 'Living More, Using Less' (2021)¹¹ to set a course for Ireland to transition across all sectors and at all levels of Government toward circularity and was issued in December 2021. It is anticipated that the Strategy will be updated in full every 18 months to 2 years.

The Circular Economy and Miscellaneous Provisions Act 2022¹² was signed into law in July 2022. The Act underpins Ireland's shift from a "take-make-waste" linear model to a more sustainable pattern of production and consumption, that retains the value of resources in our economy for as long as possible and that will to significantly reduce our greenhouse gas emissions. The Act defines Circular Economy for the first time in Irish law, incentivises the use of recycled and reusable alternatives to wasteful, single-use disposable packaging, introduces a mandatory segregation and incentivised charging regime for commercial waste, streamlines the national processes for End-of-Waste and By-Products decisions, tackling the delays which can be encountered by industry, and supporting the availability of recycled secondary raw materials in the Irish market, and tackles illegal fly-tipping and littering.

Since 1998, the Environmental Protection Agency (EPA) has produced periodic 'National Waste (Database) Reports' which as of 2023 have been renamed *Circular Economy and Waste Statistics Highlight Reports*¹³ detailing, among other things, estimates for household and commercial (municipal) waste generation in Ireland and the level of recycling, recovery and disposal of these materials. The 2021 National Circular Economy and Waste Statistics web resource, which is the most recent study published, along with the national waste statistics web resource (November 2023) reported the following key statistics for 2020:

- **Generated** – Ireland produced 3,170,000 t of municipal waste in 2021. This is a 1% decrease since 2020. This means that the average person living in Ireland generated 630 kg of municipal waste in 2021.

- **Managed** – Waste collected and treated by the waste industry. In 2020, a total of 3,137,000 t of municipal waste was managed and treated.
- **Unmanaged** – An estimated 33,000 tonnes of this was unmanaged waste i.e., not disposed of in the correct manner in 2021.
- **Recovered** – The amount of waste recycled, used as a fuel in incinerators, or used to cover landfilled waste. In Ireland 42% of Municipal waste was treated by energy recovery through incineration in 2021.
- **Recycled** – Just over 1.3 million tonnes of municipal waste generated in Ireland was recycled in 2021, resulting in a recycling rate of 41 per cent. The recycling rate remains unchanged from 2020 and indicates that we face significant challenges to meet the upcoming EU recycling targets of 55% by 2025 and 65% by 2035.
- **Disposed** – The proportion of municipal waste sent to landfill also remains unchanged at 16% the same as 2020.
- **Reuse** – 54,800 tonnes of second-hand products we estimated by the EPA to have been reused in Ireland in 2021. The average annual Reuse rate per person in Ireland is 10.6 kg per person.

2.2 Regional Level

The proposed development is located in the Local Authority area of Dublin City Council (DCC). The EMR Waste Management Plan 2015 – 2021 has been superseded as of March 2024 by the NWMPCE 2024 - 2030.

The NWMPCE does not dissolve the three regional waste areas. The NWCPCE sets the ambition of the plan to have a 0% total waste growth per person over the life of the Plan with an emphasis on non-household wastes including waste from commercial activities and the construction and demolition sector.

This Plan seeks to influence sustainable consumption and prevent the generation of waste, improve the capture of materials to optimise circularity and enable compliance with policy and legislation.

The national plan sets out the following strategic targets for waste management in the country that are relevant to the development:

Proposed National Targets

1A. (Residual Municipal Waste) 6% Reduction in Residual Municipal Waste per person by 2030

2A. (Contamination of Materials) 90% of Material in Compliance in the Dry Recycling Bin

2B. (Material Compliance Residual) 10% per annum increase in Material Compliance in the residual bin. (90% by the end of 2030)

3A. (Reuse of Materials) 20kg Per person / year – Reuse of materials like cloths or furniture to prevent waste.

Municipal landfill charges in Ireland are based on the weight of waste disposed. In the Leinster Region, charges are approximately €140-160 per tonne of waste, which includes a €85 per tonne landfill levy introduced under the Waste Management (Landfill Levy) (Amendment) Regulations 2015.

The Dublin City Development Plan 2022 – 2028¹⁴ sets out a number of policies and objectives for Dublin City in line with the objectives of the National climate action policy and emphasises the need to take action to address climate action across all sectors of society and the economy. In the waste sector, policy on climate action is focused on a

shift towards a 'circular economy' encompassing three core principles: designing out waste and pollution; keeping products and material in use; and regenerating natural systems. Further policies and objectives can be found within the draft development plan.

Policies:

- CA7 F: *minimising the generation of site and construction waste and maximising reuse or recycling.*
- CA22: *The Circular economy: To support the shift towards the circular economy approach as set out in 'a Waste Action Plan for a Circular Economy 2020 to 2025, Ireland's National Waste Policy, or as updated.*
- CA23: *To have regard to existing Best Practice Guidance on Waste Management Plans for Construction and Demolition Projects as well as any future updates to these guidelines in order to ensure the consistent application of planning requirements.*
- SI27: *Sustainable Waste Management: To support the principles of the circular economy, good waste management and the implementation of best practice in relation to waste management in order for Dublin City and the Region to become self-sufficient in terms of resource and waste management and to provide a waste management infrastructure that supports this objective.*
- SI29: *Segregated Storage and Collection of Waste Streams: To require new commercial and residential developments, to include adequate and easily accessible storage space that supports the separate collection of as many waste and recycling streams as possible, but at a minimum general domestic waste, dry recyclables and food waste as appropriate.*
- SI30: *To require that the storage and collection of mixed dry recyclables, organic and residual waste materials within proposed apartment schemes have regard to the Sustainable Urban Housing: Design Standards for New Apartments Guidelines for Planning Authorities 2018 (or and any future updated versions of these guidelines produced during the lifetime of this plan).*

Objectives:

- SIO14 *Local Recycling Infrastructure: To provide for a citywide network of municipal civic amenity facilities/ multi-material public recycling and reuse facilities in accessible locations throughout the city in line with the objectives of the circular economy and 15-minute city.*
- SIO16 *Eastern-Midlands Region Waste Management Plan: To support the implementation of the Eastern-Midlands Regional Waste Management Plan 2015–2021 and any subsequent plans in order to facilitate the transition from a waste management economy towards a circular economy.*

2.3 Legislative Requirements

The primary legislative instruments that govern waste management in Ireland and applicable to the project are:

- Waste Management Act 1996 as amended.
- Environmental Protection Agency Act 1992 as amended;
- Litter Pollution Act 1997 as amended;
- Planning and Development Act 2000 as amended; and ¹⁵
- Circular Economy and Miscellaneous Provisions Act 2022.

These Acts and subordinate Regulations enable the transposition of relevant European Union Policy and Directives into Irish law.

One of the guiding principles of European waste legislation, which has in turn been incorporated into the *Waste Management Act 1996* as amended and subsequent Irish legislation, is the principle of “*Duty of Care*”. This implies that the waste producer is responsible for waste from the time it is generated through until its legal disposal (including its method of disposal.) As it is not practical in most cases for the waste producer to physically transfer all waste from where it is produced to the final disposal area, waste contractors will be employed to physically transport waste to the final waste disposal site.

It is therefore imperative that the residents, café tenants and the proposed facilities management company undertake on-site management of waste in accordance with all legal requirements and employ suitably permitted/licenced contractors to undertake off-site management of their waste in accordance with all legal requirements. This includes the requirement that a waste contractor handle, transport and reuse/recover/recycle/dispose of waste in a manner that ensures that no adverse environmental impacts occur as a result of any of these activities.

A collection permit to transport waste must be held by each waste contractor which is issued by the National Waste Collection Permit Office (NWCPO). Waste receiving facilities must also be appropriately permitted or licensed. Operators of such facilities cannot receive any waste, unless in possession of a Certificate of Registration (COR) or waste permit granted by the relevant Local Authority under the *Waste Management (Facility Permit & Registration) Regulations 2007* as amended or a waste or IE (Industrial Emissions) licence granted by the EPA. The COR / permit / licence held will specify the type and quantity of waste able to be received, stored, sorted, recycled, recovered and/or disposed of at the specified site.

2.3.1 Dublin City Council Waste Management Bye-Laws

The DCC “Dublin City Council (Storage, Presentation and Segregation of Household and Commercial Waste) Bye-Laws (2018)” were brought into force in May 2019. These bye-laws repeal the previous Bye-Laws for the Storage, Presentation and Collection of Household and Commercial Waste. The bye-laws set a number of enforceable requirements on waste holders with regard to storage, separation and presentation of waste within the DCC administrative area. Key requirements under these bye-laws of relevance to the operational phase of the proposed development include the following:

- Kerbside waste presented for collection shall not be presented for collection earlier than 5.00 pm on the day immediately preceding the designated waste collection day;
- All containers used for the presentation of kerbside waste and any uncollected waste shall be removed from any roadway, footway, footpath or any other public place no later than 10:00 am on the day following the designated waste collection day, unless an alternative arrangement has been approved in accordance with bye-law 2.3;
- Documentation, including receipts, is obtained and retained for a period of no less than one year to provide proof that any waste removed from the premises has been managed in a manner that conforms to these bye-laws, to the Waste Management Act and, where such legislation is applicable to that person, to the European Union (Household Food Waste and Bio-Waste) Regulations 2015; and
- Adequate access and egress onto and from the premises by waste collection vehicles is maintained.

The full text of the bye-laws is available from the DCC website.

2.4 Regional Waste Management Service Providers and Facilities

Various contractors offer waste collection services for the residential sector in the DCC region. Details of waste collection permits (granted, pending and withdrawn) for the region are available from the NWCPO.

As outlined in the regional waste management plan, there is a decreasing number of landfills available in the region. Only three municipal solid waste landfills remain operational, and all are operated by the private sector. There are a number of other licensed and permitted facilities in operation in the region including waste transfer stations, hazardous waste facilities and integrated waste management facilities. There are two existing thermal treatment facilities, one in Duleek, Co. Meath and a second in Poolbeg in Dublin.

The Grangegorman Bring Centre on Grangegorman Upper, D07 HN80, located c. 1.4km east from the proposed development site, which can be used by the residents of the proposed development for other household waste streams. This centre accepts plastic, filament bulbs (Non-WEEE bulbs), Waste mineral oil, edible oil and fats, light bulbs, electrical items, batteries, Tetra Pak, glass, soft plastic, paper, and rigid plastic. A bring bank can be found c. 300m north to the north of the site, located Park Shopping Centre, 7 Prussia St., Stoneybatter, Dublin 7. Clear, green and brown glass, and aluminium cans can be disposed of here.

A copy of all CORs and waste permits issued by the Local Authorities are available from the NWCPO website and all waste licenses issued are available from the EPA.

3.0 DESCRIPTION OF THE PROJECT

3.1 Location, Size and Scale of the Development

The proposed development will consist of the demolition of the structures on the site, and the construction of a large-scale residential development consisting of a Student Accommodation scheme with 373 no. student bedspaces, a café, and all other ancillary site development works. The proposed development consists of 2 no. apartment blocks ranging in height from 3 to 5 storeys in height and a terrace of 6 no. studio units and all ancillary development works on a site on Prussia St., Co. Dublin.

3.2 Typical Waste Categories

The typical non-hazardous and hazardous wastes that will be generated at the proposed development will include the following:

- Dry Mixed Recyclables (DMR) – includes wastepaper (including newspapers, magazines, brochures, catalogues, leaflets), cardboard and plastic packaging, metal cans, plastic bottles, aluminium cans, tins and Tetra Pak cartons;
- Organic waste – food waste and green waste generated from plants/flowers;
- Glass; and
- Mixed Non-Recyclable (MNR)/General Waste.

In addition to the typical waste materials that will be generated at the proposed development on a daily basis, there will be some additional waste types generated in small quantities which will need to be managed separately including:

- Green/garden waste may be generated from internal plants and external landscaping;
- Batteries (both hazardous and non-hazardous);

- Waste electrical and electronic equipment (WEEE) (both hazardous and non-hazardous);
- Printer cartridges/toners;
- Chemicals (paints, adhesives, resins, detergents, etc.) ;
- Light bulbs ;
- Textiles (rags);
- Waste cooking oil (if any generated by the residents and café tenants);
- Furniture (and from time to time other bulky wastes); and
- Abandoned bicycles.

Wastes should be segregated into the above waste types to ensure compliance with waste legislation and guidance while maximising the re-use, recycling and recovery of waste with diversion from landfill wherever possible.

3.3 List of Waste Codes

In 1994, the *European Waste Catalogue* ¹⁶ and *Hazardous Waste List* ¹⁷ were published by the European Commission. In 2002, the EPA published a document titled the *European Waste Catalogue and Hazardous Waste List* ¹⁸, which was a condensed version of the original two documents and their subsequent amendments. This document has recently been replaced by the EPA 'Waste Classification – List of Waste & Determining if Waste is Hazardous or Non-Hazardous' ¹⁹ (2018). This waste classification system applies across the EU and is the basis for all national and international waste reporting, such as those associated with waste collection permits, COR's, permits and licences and EPA National Waste Database.

Under the classification system, different types of wastes are fully defined by a code. The List of Waste (LoW) code for typical waste materials expected to be generated during the operation of the proposed development are provided in Table 3.1 below.

Table 3.1 Typical Waste Types Generated and LoW Codes

| Waste Material | LoW Code |
|---|----------------------------|
| Paper and Cardboard | 20 01 01 |
| Plastics | 20 01 39 |
| Metals | 20 01 40 |
| Mixed Non-Recyclable Waste | 20 03 01 |
| Glass | 20 01 02 |
| Biodegradable Kitchen Waste | 20 01 08 |
| Oils and Fats | 20 01 25 |
| Textiles | 20 01 11 |
| Batteries and Accumulators * | 20 01 33* - 34 |
| Printer Toner/Cartridges* | 20 01 27* - 28 |
| Green Waste | 20 02 01 |
| WEEE * | 20 01 35*-36 |
| Chemicals (solvents, pesticides, paints & adhesives, detergents, etc) * | 20 01 13*/19*/27*/28/29*30 |
| Fluorescent tubes and other mercury containing waste* | 20 01 21* |
| Bulky Wastes | 20 03 07 |

* Individual waste type may contain hazardous materials

4.0 ESTIMATED WASTE ARISING

A waste generation model (WGM) developed by AWN, has been used to predict waste types, weights and volumes arising from operations within the proposed development.

The WGM incorporates building area and use and combines these with other data including Irish and US EPA waste generation rates.

The estimated quantum/volume of waste that will be generated from the residential units has been determined based on the predicted occupancy of the units and includes any amenity areas within the figures. While the floor area usage (m²) has been used to estimate the waste arising from the café unit.

The estimated waste generation for the development for the main waste types are presented in Table 4.1 - 4.2.

Table 4.1 Estimated waste generation for the proposed residential units for the main waste types.

| Waste Type | m ³ per week |
|---------------|-------------------------|
| | Residential (Combined) |
| Organic Waste | 2.03 |
| DMR | 6.95 |
| Glass | 0.79 |
| MNR | 4.04 |
| Total | 13.81 |

Table 4.2 Estimated waste generation for the proposed café unit for the main waste types

| Waste Type | m ³ per week |
|---------------|-------------------------|
| | Café Unit |
| Organic Waste | 0.05 |
| DMR | 0.13 |
| Glass | >0.01 |
| MNR | 0.17 |
| Total | 0.35 |

BS5906:2005 Waste Management in Buildings – Code of Practice ²⁰ has been considered in the calculations of waste estimates. AWN's modelling methodology is based on recently published data and data from numerous other similar developments in Ireland and is based on AWN's experience, it provides a more representative estimate of the likely waste arisings from the proposed development.

5.0 WASTE STORAGE AND COLLECTION

This section provides information on how waste generated within the development will be stored and collected. This has been prepared with due consideration of the development layout as well as best practice standards, local and national waste management requirements, including those of DCC. In particular, consideration has been given to the following documents:

- BS 5906:2005 Waste Management in Buildings – Code of Practice;
- The NWMPCE 2024-2030 (2024);
- *Dublin City Development Plan 2022– 2028* (2021);
- DCC Dublin City Council (Storage, Presentation and Segregation of Household and Commercial Waste) Byelaws (2018); and
- DoHLGH, Sustainable Urban Housing: Design Standards for New Apartments, Guidelines for Planning Authorities (2023) ²¹

Waste Storage Areas

Locations of the Waste Storage Areas (WSAs) can be viewed on the drawings submitted with the planning application under separate cover and in Appendix A of this report.

Residential Block 1 & Block 2 WSA

One (1 no.) Waste Storage Area (WSA) has been allocated in the design of this development. This WSA is for residential use and is located internally at ground floor level, in close proximity to cores.

Café WSA

One (1 no.) Waste Storage Area (WSA) has been allocated in the design of this development and is located within the café unit.

Waste Storage Requirements

Using the estimated waste generation volumes in Table 4.1 and 4.2, the waste receptacle requirements for MNR, DMR, organic waste and glass have been established for the residential WSA. These are presented in Table 5.1. The WSA has been appropriately sized to accommodate the twice weekly requirements for mixed-dry recyclable and mixed-non recyclable waste receptacles, along with the weekly requirements for the organic and glass waste receptacles.

Table 5.1 Waste storage requirements for the proposed development

| Area/Use | Bins Required | | | |
|--------------------------|---------------|------------|----------|----------|
| | MNR* | DMR** | Organic | Glass |
| Residential WSA (Shared) | 4 x 1100L | 6 x 1100 L | 8 x 240L | 3 x 240L |
| Café WSA | 1 x 240L | 1 x 240L | 1 x 120L | 1 x 120L |

Note: * = Mixed Non-Recyclables

** = Dry Mixed Recyclables

The waste receptacle requirements have been established from distribution of the total weekly and twice weekly waste generation estimate into the holding capacity of each receptacle type.

Waste storage receptacles as per Table 5.1 above (or similar appropriate approved containers) will be provided by the facility management company in the residential WSA. The café tenant will have to provide their own waste storage receptacles in the café WSA.

As outlined in the current Dublin City Development Plan, it is preferable to use 1,100L wheelie bins for waste storage, where practical. However, in the case of organic and glass waste, it is considered more suitable to use smaller waste receptacles due to the weight of bins when filled with organic and glass waste. The use of 240 L bins, as recommended in Table 5.1, will reduce the manual handling impacts on the facilities management personnel, café staff and waste contractor employees.

The types of bins used will vary in size, design and colour dependent on the appointed waste contractor. However, examples of typical receptacles to be provided in the WSAs are shown in Figure 5.1. All waste receptacles used will comply with the SIST

EN 840-1:2020 and SIST EN 840-2:2020 standards for performance requirements of mobile waste containers, where appropriate.



Figure 5.1 Typical waste receptacles of varying size (240L and 1100L)

Receptacles for organic, mixed dry recyclable, glass and mixed non-recyclable waste will be provided in the WSAs prior to first occupation of the development i.e. prior to the first residential or café unit being occupied. Waste receptacles for the café WSA will be provided by the café unit tenants. Waste receptacles for the residential WSA will be provided by the facilities management company. Facilities management will rotate / manage the waste receptacles in the residential WSA as required.

This Plan will be provided to each resident and café unit tenant from first occupation of the development i.e. once the first residential or café unit is occupied. This Plan will be supplemented, as required, by the facilities management company with any new information on waste segregation, storage, reuse and recycling initiatives that are subsequently introduced.

5.1 Waste Storage – Residential Units

Residents will be required to segregate their waste into the following main waste categories within their own units:

- Organic waste;
- DMR;
- Glass; and
- MNR

Provision will be made in all residential units to accommodate 3 no. bin types to facilitate waste segregation at source. An example of a potential 3 bin storage system is provided in figure 5.2 below.



Figure 5.2 Example three bin storage system to be provided within the unit design.

Residents will be required to take their segregated waste materials to their designated WSA and deposit their segregated waste into the appropriate bins. The location of the residential WSA is illustrated in the drawings in Appendix A of this report.

Each bin / container in the residential WSA will be clearly labelled and colour coded to avoid cross contamination of the different waste streams. Signage will be posted above or on the bins to show exactly which waste types can be placed in each bin.

Access to the residential WSA will be restricted to authorised residents, facilities management, and waste contractors by means of a key or electronic fob access.

Other waste materials such as textiles, batteries, printer toner/cartridges and WEEE may be generated infrequently by the residents. Residents will be required to identify suitable temporary storage areas for these waste items within their own units and dispose of them appropriately. Further details on additional waste types can be found in Section 5.4.

5.2 Waste Storage – Café Unit

The café tenants will be required to segregate waste within their own units into the following main waste types:

- Organic Waste;
- DMR;
- Glass; and
- MNR.

The café tenants will be required to take their segregated waste materials to their designated WSA and deposit their segregated waste into the appropriate bins. The location of the café WSA are illustrated in the drawings submitted with the planning application under separate cover.

Suppliers for the café should be requested by the café tenants to make deliveries in reusable containers, minimize packaging or remove any packaging after delivery, where possible, to reduce waste generated by the proposed development.

If any kitchens are allocated in unit area, this will contribute a significant portion of the volume of waste generated on a daily basis, and as such it is important that adequate provision is made for the storage and transfer of waste from these areas to the WSA.

If kitchens are required, it is anticipated that waste will be generated in kitchens throughout the day, primarily at the following locations:

- Food Storage Areas (i.e. cold stores, dry store, freezer stores and stores for decanting of deliveries);
- Meat Preparation Area;
- Vegetable Preparation Area;
- Cooking Area;
- Dish-wash and Glass-wash Area; and
- Bar Area.

Small bins will be placed adjacent to each of these areas for temporary storage of waste generated during the day. Waste will then be transferred from each of these areas to the appropriate waste store within their unit.

All bins / containers in the café tenants' areas as well as in the café WSA will be clearly labelled and colour coded to avoid cross contamination of the different waste streams.

Signage will be posted above or on the bins to show exactly which wastes can be put in each.

Other waste materials such as textiles, batteries, lightbulbs, WEEE, cooking oil and printer toner / cartridges will be generated less frequently. The café tenants will be required to store these waste types within their own unit and arrange collection with an appropriately licensed waste contractor. Facilities management may arrange collection, depending on the agreement. Further details on additional waste types can be found in Section 5.4.

5.3 Waste Collection

There are numerous private contractors that provide waste collection services in the DCC area. All waste contractors servicing the proposed development must hold a valid waste collection permit for the specific waste types collected. All waste collected must be transported to registered/permitted/licensed facilities only.

All waste receptacles should be clearly identified as required by waste legislation and the requirements of the DCC *Waste Bye-Laws*. Bins from the proposed development will be brought to the staging point by the waste contractor or facilities management prior to collection, depending on the agreement. Bins will be returned to the respective residential and café WSAs immediately following collection. The staging points are such that they will not obstruct traffic or pedestrians (allowing a footway path of at least 1.8m, the space needed for two wheelchairs to pass each other) as is recommended in the Design Manual for Urban Roads and Streets (2022) ²².

Suitable access and egress have been provided to enable the bins to be moved easily from the temporary staging area to the waste collection vehicles on the appropriate days. Waste will be collected at agreed days and times by the nominated waste contractors. Waste will be presented for collection in a manner that will not endanger health, create a risk to traffic, harm the environment or create a nuisance through odours or litter.

It is recommended that bin collection times/days are staggered to reduce the number of bins required to be emptied at once and reduce the time the waste vehicle is required to be on site. This will be determined during the process of appointment of a waste contractor. Appendix B of this report contains a vehicle tracking exercise showing the movements of the waste collection vehicle.

5.4 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/garden waste

Green/garden 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 gardens 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 / recycling 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.

The café tenant cannot use the civic amenity centre. They must segregate their waste batteries and either avail of the take-back service provided by retailers or arrange for recycling / recovery of their waste batteries by a suitably permitted / licenced contractor. Facilities management may arrange collection, depending on the agreement.

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 civic amenity / 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.

As noted above, the café tenant cannot use the civic amenity centre. They must segregate their WEEE and either avail of the take-back / collection service provided by retailers or arrange for recycling / recovery of their WEEE by a suitably permitted / licenced contractor. Facilities management may arrange collection, depending on the agreement.

Printer Cartridge/Toners

It is recommended that a printer cartridge / toner bin is provided in the café unit, where appropriate. The café tenant will be required to store this waste within their unit and arrange for return to retailers or collection by an authorised waste contractor, as required.

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 / recycling centre.

Chemicals (solvents, pesticides, paints, adhesives, resins, detergents, etc)

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 generated in the café unit that is classed as hazardous (if they arise) will be appropriately stored within the café tenants' own space. Facilities management may arrange collection, depending on the agreement.

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 / recycling centre.

Light Bulbs

Waste light bulbs (fluorescent, incandescent and LED) may be generated by lighting at the café units. It is anticipated that café tenant will be responsible for the off-site removal and appropriate recovery / disposal of these wastes. Facilities management may arrange collection, depending on the agreement.

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

Textiles

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

Waste Cooking Oil

If the café tenant uses cooking oil, waste cooking oil will need to be stored within the unit on a bunded area or spill pallet and regular collections by a dedicated waste contractor will need to be organised as required. Under sink grease traps will be installed in any cooking space.

If the residents generate waste cooking oil, this can be brought to a civic amenity / recycling centre or placed in the organic bin.

Furniture (and other bulky wastes)

Furniture and other bulky waste items (such as carpet, etc.) may occasionally be generated by the café tenant. The collection of bulky waste will be arranged, as required by the tenant. If residents wish to dispose of furniture, this can be brought 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 should be donated to charity if they arise or Facilities management will may arrange collection by a licensed waste contractor.

5.5 Waste Storage Area Design

The WSAs should be designed and fitted-out to meet the requirements of relevant design Standards, including:

- Be fitted with a non-slip floor surface;
- Provide ventilation to reduce the potential for generation of odours;
- Provide suitable lighting – a minimum Lux rating of 400 is recommended;
- Appropriate sensor controlled lighting;
- Be easily accessible for people with limited mobility;
- Be restricted to access by nominated personnel only;
- Have appropriate graphical and written signage placed above and on bins indicating correct use;
- Be supplied with hot or cold water for disinfection and washing of bins;
- Be fitted with suitable power supply for power washers;
- Have a sloped floor to a central foul drain for bins washing run-off;
- Have access for potential control of vermin, if required;
- Robust design of doors to bin area incorporating steel sheet covering where appropriate; and,
- Be fitted with CCTV for monitoring.

The café tenant and the selected facilities management company will be required to maintain the waste storage areas in good condition as required by the DCC Waste Bye-Laws.

5.6 Facility Management Responsibilities

It shall be the responsibility of the Facilities Management Company to ensure that all domestic waste generated by residents is managed to ensure correct storage prior to collection by an appropriately permitted waste management company. Facilities Management will provide the following items:

- Provision of a Waste Management Plan document, prepared by the Facilities Management Company to all residential units, which shall clearly state the methods of source waste segregation, storage, reuse and recycling initiatives that shall apply to the management of the development;
- Provision and maintenance of appropriate graphical signage to inform residents of their obligation to reduce waste, segregate waste and in the correct bin;
- Preparation of an annual waste management report for all residential units;
- Designation of access routes to common waste storage areas to ensure safe access from the apartment units by mobility impaired persons;
- Provision of an appropriately qualified and experienced staff member, who will be responsible for all aspects of waste management at the development;
- Daily inspection of waste storage areas and signing of a daily check list, which shall be displayed within the area; and
- Maintenance of a weekly register, detailing the quantities and breakdown of wastes collected from the development and provision of supporting documentation by the waste collector to allow tracking of waste recycling rates.

5.7 Pest Management

A pest control operator will be appointed as required to manage pests onsite during the operational phase of this development. All waste generated within the development will be stored in closed waste receptacles both within units and within the WSAs. Any waste receptacles will be carefully managed to prevent leaks, odours and pest problems.

All WSAs will have access for potential control of vermin, if required, be supplied with hot or cold water, drainage point and will be regularly inspected by facilities management to deter pests.

6.0 CONCLUSIONS

In summary, this OWMP presents a waste strategy that addresses all legal requirements, waste policies and best practice guidelines and demonstrates that the required storage areas have been incorporated into the design of the development.

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 achieving the targets set out in *the NWMPCE (2024)*.

Adherence to this plan will also ensure that waste management at the development is carried out in accordance with the requirements of the *DCC Waste Bye-Laws*.

The waste strategy presented in this document will provide sufficient storage capacity for the estimated quantity of segregated waste. The designated area for waste storage will provide sufficient room for the required receptacles in accordance with the details of this strategy.

7.0 REFERENCES

1. Waste Management Act 1996 as amended.
2. Environmental Protection Agency Act 1992 (Act No. 7 of 1992) as amended;
3. Litter Pollution Act 1997 (Act No. 12 of 1997) as amended;
4. Regional Waste Management Planning Offices, "The National Waste Management Plan for a Circular Economy 2024-2030" (2024)
5. DCC Dublin City Council (Storage, Presentation and Segregation of Household and Commercial Waste) Bye-Laws (2018)
6. Department of Environment and Local Government (DoELG) *Waste Management – Changing Our Ways, A Policy Statement* (1998)
7. Department of Environment, Heritage and Local Government (DoEHLG) *Preventing and Recycling Waste - Delivering Change* (2002)
8. DoELG, Making Ireland's Development Sustainable – Review, Assessment and Future Action (World Summit on Sustainable Development) (2002)
9. DoEHLG, Taking Stock and Moving Forward (2004)
10. Department of Communications, Climate Action and Environment (DCCA), Waste Action Plan for the Circular Economy - Ireland's National Waste Policy 2020-2025 (Sept 2020).
11. DCCA, Whole of Government Circular Economy Strategy 2022-2023 'Living More, Using Less' (2021).
12. Circular Economy and Miscellaneous Provisions Act (2022);
13. Environmental Protection Agency (EPA), National Waste Database Reports 1998 – 2020 and the Circular Economy and National Waste Database Report 2021
14. DCC, Dublin City Council Development Plan 2022– 2028 (2022).
15. Planning and Development Act 2000 (S.I. No. 30 of 2000) as amended (as per Council Directive 75/442/EC).
16. European Waste Catalogue - Council Decision 94/3/EC (as per Council Directive 75/442/EC).
17. Hazardous Waste List - Council Decision 94/904/EC (as per Council Directive 91/689/EEC).
18. EPA, European Waste Catalogue and Hazardous Waste List (2002)
19. EPA, Waste Classification – List of Waste & Determining if Waste is Hazardous or Non-Hazardous (2018).
20. BS 5906:2005 Waste Management in Buildings – Code of Practice.
21. DoHLGH, Sustainable Urban Housing: Design Standards for New Apartments, Guidelines for Planning Authorities (2023).
22. Department of Transport, Tourism and Sport and Department of Housing, Planning and Local Government, *Design Manual for Urban Roads and Streets* (2019).

APPENDIX B – REFUSE VEHICLE TRACKING

