



Operational Waste Management Plan

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CLIENT

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and Dún
Laoghaire-
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1. INTRODUCTION

AWN Consulting, a Trinity Consultants Team, has prepared this Operational Waste Management Plan (OWMP) on behalf of Dún Laoghaire Rathdown County Council (the Client) for the construction of a residential scheme comprising 359 no. residential units across two apartment blocks, along with associated public and communal open spaces, access roads, pedestrian and cycle infrastructure, parking, ESB substations, and all associated site development and landscaping works (the Proposed Development) on a c. 2.5-hectare site in Shanganagh, Shankill, Cork Little, Dublin (the site).

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 the current legal and industry standards including, the *Waste Management Act 1996 as amended* and associated Regulations¹, *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 the *Dún Laoghaire Rathdown County Council (Segregation, Storage and Presentation of Household and Commercial) Bye-Laws*⁵ (2019). In particular, this OWMP aims to provide a robust strategy for the storage, 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. 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 2002⁷. 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 Irelands 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 shifts policy from a focus on managing waste to a much greater emphasis 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. This was issued in December 2021. The Strategy states "It is anticipated that the Strategy will be updated in full every 18 months to 2 years". The latest version of the strategy, *Whole of Government Circular Economy Strategy 2026-2028: Accelerating Action* (2026)¹², was issued in February 2026 and has, as its primary objective, the acceleration of Ireland's circular material use rate by two percentage points per year.

The *Circular Economy and Miscellaneous Provisions Act 2022*¹³ 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.

The Department of Housing, Local Government and Heritage authored *Sustainable Residential Development and Compact Settlements - Guidelines for Planning Authorities* (2024)¹⁴ suggests the following thresholds at which the need for the supplemental information such as the OWMP should be considered.

- ▶ 30 or more residential units.

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*¹⁵ 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 *2025 National Circular Economy and Waste Statistics* web resource, which is the most recent study published, along with the national waste statistics web resource (2025) reported the following key statistics for 2023:

- ▶ *Ireland generated 3.13 million tonnes of municipal waste in 2023, relatively unchanged compared to the 3.19 million tonnes generated in 2022.*
- ▶ *Between 2016 and 2023, municipal waste increased from 2.7 million tonnes to 3.13 million tonnes.*
- ▶ *Some 1.3 million tonnes of municipal waste generated in Ireland was recycled in 2023, resulting in a recycling rate of 42%. This indicates that we face significant challenges to meet the upcoming EU recycling targets for 2025 to 2035.*
- ▶ *Of the municipal waste recycled in 2023, over 814,000 tonnes went for material recycling (approximately the same as 2022) and over 480,000 tonnes were treated by composting/anaerobic digestion (approximately the same as 2022 but up 37% on 2020).*
- ▶ *A rounded 1.3 million tonnes of Ireland's municipal waste went for incineration with energy recovery in 2023. This tonnage is 43% of municipal waste managed.*
- ▶ *Ireland's landfill rate for municipal waste managed was 14% in 2023. This is a 1% decrease from 2022's rate of 15%.*
- ▶ *There has been a steep decline in Ireland's landfill rate for municipal waste from over 80% in 2001. Ireland must reduce the share of municipal waste landfilled to 10% or less by 2035, which includes waste landfilled at each step along the waste treatment process in Ireland and abroad.*
- ▶ *An estimated 42% (1.2 million tonnes) of all municipal waste managed was exported abroad in 2023, an increase from the 39% in 2022. Of the waste exported, most went for recycling (49%) or energy recovery (36%) while 11% went for composting or anaerobic digestion.*

2.2 Regional Level

The Proposed Development is located in the Local Authority administrative area of Local Authority area of Dún Laoghaire Rathdown County Council (DLRCC).

The *Eastern Midlands Region (EMR) Waste Management Plan 2015 – 2021*¹⁶, which previously governed waste management policy in the DLRCC area, has been superseded as of March 2024 by the *NWMPCE 2024 – 2030*, the new national waste management Plan for Ireland.

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 Proposed Development:

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 2015¹⁷. *The Circular Economy (Waste Recovery Levy) Regulations 2024*¹⁸ will also add a levy of €10 per tonne to waste accepted for recovery.

The *Dún Laoghaire-Rathdown County Development Plan 2022 – 2028*¹⁹ sets out a number of policies for the Dún Laoghaire-Rathdown area in line with the objectives of the waste management plan.

Proposed waste policies with a particular relevance to the development are as follows:

Policy Objective EI11: Resource Management

It is a Policy Objective to implement the Eastern-Midlands Region Waste Management Plan 2015-2021 and subsequent plans, in supporting the transition from a waste management economy towards a circular economy, to enhance employment and increase the value recovery and recirculation of resources. Underpinning this objective is the requirement to conform to the European Union and National Waste Management Hierarchy of the most favoured options for waste as illustrated below subject to economic and technical feasibility and Environmental Assessment.

Policy Objective EI12: Waste Management Infrastructure, Prevention, Reduction, Reuse and Recycling

- ▶ *To support the principles of the circular economy, good waste management and the implementation of best international practice in relation to waste management in order for the County 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.*
- ▶ *To provide for civic amenity facilities and bring centres as part of an integrated waste collection system in accessible locations throughout the County and promote the importance of kerbside source segregated collection of household and commercial waste as the best method to ensure the quality of waste presented for recycling is preserved.*
- ▶ *To ensure any waste amenity facilities adhere to the Waste Regional Offices Waste Management Infrastructure siting guidelines.*

- ▶ *To develop a County wide network of multi material recycling centres, bring centres and a re-use centre and to require the provision of adequately-sized recycling facilities in new commercial and large-scale residential developments, where appropriate.*
- ▶ *To require the inclusion of such centres in all large retail developments to maximise access by the public. To ensure new developments are designed and constructed in line with the Council's Guidelines for Waste Storage Facilities.*

Policy Objective EI13: Hazardous Waste

It is a Policy Objective to adhere to the recommendations of the 'National Hazardous Waste Management Plan 2014-2020' and any subsequent plan, and to co-operate with other agencies, to plan, organise, authorise and supervise the disposal of hazardous waste streams, including hazardous waste identified during construction and demolition projects.

2.3 Legislative Requirements

The primary legislative instruments that govern waste management in Ireland and applicable to the Proposed Development 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 amended²⁰; and*
- ▶ *Circular Economy and Miscellaneous Provisions Act 2022.*

These Acts and subordinate Regulations transpose the 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 undertake on-site management of waste in accordance with all legal requirements and that the facilities management company 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 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 Dún Laoghaire-Rathdown County Council Waste Bye-Laws

The *DLRCC (Storage, Presentation and Segregation of Household and Commercial Waste) Bye-Laws* (2019) were brought into force on the 1st of February 2020. These *Bye-Laws* repealed the previous *DLRCC Waste Bye-laws*. The *Bye-Laws* set a number of enforceable requirements on waste holders with regard to storage, separation and presentation of waste within the DLRCC functional area. Key requirements under these *Bye-Laws* of relevance to the development include the following:

- ▶ *Kerbside waste presented for collection shall not be presented for collection earlier than 6.00 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 10:00am on the day following the designated waste collection day, unless an alternative arrangement has been approved in accordance with bye-law 4;*
- ▶ *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.*

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

A management company, or another person if there is no such company, who exercises control and supervision of residential and/or commercial activities in multi-unit developments, mixed-use developments, flats or apartment blocks, combined living/working spaces or other similar complexes shall ensure that:

- a. separate receptacles of adequate size and number are provided for the proper segregation, storage and collection of recyclable kerbside waste, residual kerbside waste and food waste,*
- b. the receptacles referred to in paragraph (a) are located both within any individual apartment and at the place where waste is stored prior to its collection,*
- c. 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 by any other person other than an authorised waste collector,*
- d. written information is provided to each tenant or other occupier about the arrangements for waste separation, segregation, storage and presentation prior to collection,*
- e. an authorised waste collector is engaged to 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 from either that person or from another authorised person employed by Dún Laoghaire-Rathdown County Council,*
- f. receptacles for kerbside waste are presented for collection on the designated waste collection day,*
- g. adequate access and egress onto and from the premises by waste collection vehicles is maintained*

The full text of the *Waste Bye-Laws* is available from the DLRCC website.

2.4 Local Authority Guidelines

DLRCC's Waste Management Division have issued *Guidance Notes for Waste Management Planning for Residential and Commercial Developments* (2022) ²¹ which provide good practice guidance for the storage and collection of waste for new build high density developments. The objective of this advice is to provide good practice guidance for the storage and collection of waste for new build high density developments to allow developers to demonstrate to local planning and waste management authorities that they have

considered how the design and operation of waste management services will enable the occupiers and managing agents of new developments to manage waste arising through the lifetime of the development.

The document is designed to assist developers in considering measures required to maximise the reuse, recycling and recovery of waste in the operational lifetime of the development and give specific reference to best practice and associated legislation including minimising the carbon footprint of occupiers and services provided.

The ultimate goal of the guidelines is that the implemented waste strategy will achieve a 70% reuse and recovery target in accordance with the European Commission's proposal to introduce 70% reuse and recycling targets for municipal waste by 2030 and while also providing sufficient flexibility to support future targets and legislative requirements.

Waste storage issues should be considered at the initial apartment design stage, taking full account of this guidance note, to ensure access for all (including people with disabilities) in a brightly lit, safe and well-signed area, spacious enough for easy manoeuvrability, good ventilation and ready access if required for the control of potential vermin.

Where storage is provided in a basement area, sufficient access and egress must be provided to enable receptacles to be moved easily from the storage area to an appropriate bin staging point within the curtilage of the development in accordance with the *Dún Laoghaire-Rathdown County Council (Segregation, Storage And Presentation Of Household And Commercial Waste) Bye-Laws 2019*, Section 9, or any revision thereof.

The guidance notes provide requirements for five main areas of operational waste management:

1. Common Waste Storage Area Design;
2. Requirements Within Residential units;
3. Initial Waste Management;
4. Waste Collection System; and
5. Requirements for Selection of Separate Staging Area for Bin Collection Where Required.

This OWMP has been prepared to demonstrate exactly that and aims to do that in a comprehensive manner.

The guidelines and form are available on the DLRCC website.

2.5 Regional Waste Management Service Providers and Facilities

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

Only three municipal solid waste landfills remain operational and are all 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 facility in Poolbeg in Dublin.

There is a bring bank approximately 1.4km northwest of the site at SuperValu car park, Shankill, Dublin, D18VK57 which accepts glass and cans. The closest recycling centre to the site is the Shanganagh Cemetery Car Park, Shankill, Dublin Leinster A98 FN40, c. 200m west of the site, which can take a wide range of household wastes (including glass bottles and jars, textiles, batteries, electronic and electrical waste, light bulbs, green garden waste, waste oil, kitchen appliances, aerosols, print cartridges, bulky items, wood, household hazardous waste).

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. DESCRIPTION OF THE PROPOSED DEVELOPMENT

3.1 Location, Size and Scale of the Development

The site is ca. 2.63-hectares at lands south of the Shanganagh cemetery and east of Woodbrook Dart Station, within the Woodbrook Local Area Plan (LAP) boundary, Shanganagh, Shankill, Cork Little, Dublin.

The Proposed Development will comprise of:

- ▶ 359 no. apartment units consisting of 2 blocks, as follows:
 - Block P: 154no units (consisting of 83no. 1-Bed, 18no. 2-Bed(3P), 46no. 2-Bed(4P), 4no. 3-Bed(4P) and 3no Duplexes (5P);
 - Block Q: 205no units (consisting of 77no. 1-Bed, 34no. 2-Bed(3P), 91no. 2-Bed(4P) and 3no. 3-Bed(5P) Duplexes);
- ▶ Communal space of 2540sqm;
- ▶ Ground level comprising:
 - ESB substation;
 - Car, bicycle and motorcycle parking;
 - Bin storage;
 - Bulk storage area;
 - Bus turning and taxi turning area;
 - Supporting mechanical, electrical and water infrastructure;
- ▶ Landscaping works including:
 - Tree protection, tree removal and tree planting;
 - Green roofs;
 - Boundary treatment;
 - Internal roads and footpaths;
 - Electrical services;
- ▶ All associated site development works including:
 - Provisions for water services;
 - Foul and surface water drainage and connections; and
 - Attenuation proposal.



Figure 3.1 Proposed Development Site Layout (Source: O'Mahony Pike Architecture, 2026, Drawing No: 1618G-OMP-00-SP-DR-A-1000)

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), metal cans, plastic bottles, aluminium cans, tins and Tetra Pak cartons;
- ▶ Organic waste – food waste and green waste generated from internal 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 less frequently / in smaller quantities which will need to be managed separately including:

- ▶ Drink Cans and Bottles (Deposit Return Scheme);
- ▶ Green / garden waste may be generated from 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;
- ▶ Waste cooking oil (if any generated by the residents);
- ▶ 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*²² and *Hazardous Waste List*²³ were published by the European Commission. In 2002, the EPA published a document titled the *European Waste Catalogue and Hazardous Waste List*²⁴, 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*'²⁵ 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, CORs, 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.

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. ESTIMATED WASTE ARISING

A waste generation model (WGM) developed by AWN has been used to predict waste types, weights and volumes expected to arise 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.

The estimated waste generation for the Proposed Development for the main waste types is presented in Tables 4.1 and 4.2.

Table 4.1 Estimated Waste Generation for Block P

Waste Type	Waste Volume (m³ / week)
Organic Waste	2.19
DMR	15.52
Glass	0.42
MNR	8.16
Total	26.29

Table 4.2 Estimated Waste Generation for Block Q

Waste Type	Waste Volume (m³ / week)
Organic Waste	3.06
DMR	21.72
Glass	0.59
MNR	11.42
Total	36.80

*BS5906:2005 Waste Management in Buildings – Code of Practice*²⁶ 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, as it is based on AWN's experience, it provides a more representative estimate of the likely waste arisings from the Proposed Development.

5. WASTE STORAGE AND COLLECTION

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

- ▶ *BS 5906:2005 Waste Management in Buildings – Code of Practice;*
- ▶ *DLRCC Guidance Notes for Waste Management Planning for Residential and Commercial Developments (2022);*
- ▶ *DLRCC, Dún Laoghaire Rathdown County Council Segregation, Storage and Presentation of Household and Commercial Waste) Bye-laws (2019);*
- ▶ *The NWMPCF (2024);* and
- ▶ *DoHLGH, Design Manual for Urban Roads and Streets (2019) ²⁷.*

Waste Storage Areas

Six (6 no.) designated Waste Storage Areas (WSAs) have been incorporated into the development design at ground floor level to serve the residents of the Proposed Development:

- ▶ 3 no. WSAs for Block P; and
- ▶ 3 no. WSAs for Block Q.

The locations of the WSAs are illustrated in Appendix A (Waste Storage Area Locations) of this OWMP.

Waste Storage Requirements

Using the estimated waste generation volumes in Tables 4.1 and 4.2, the waste receptacle requirements for MNR, DMR, glass and organic waste have been established for the WSAs. It is envisaged that all waste will be collected on a weekly basis. Estimated waste storage requirements for the operational phase of the Proposed Development are detailed in Table 5.1.

Table 5.1 Waste Storage Requirements for the Proposed Development

Area/Use	Bins Required			
	MNR ¹	DMR ²	Glass	Organic
Block P	7 x 1100L	14 x 1100L 1 x 240L	2 x 240L	9 x 240L
Block Q	11 x 1100L	20 x 1100L	3 x 240L	11 x 240L

Note: 1 = Mixed Non-Recyclables

2 = Dry Mixed Recyclables

The waste receptacle requirements have been calculated by distributing the total weekly waste generation estimate across the holding capacity of each receptable type.

Waste storage receptacles as per Table 5.1 (or similar appropriate approved containers) will be provided by the facilities management company in the WSAs.

The exact bin types may vary in size, design and colour dependent on the appointed waste contractor. However, examples of typical receptacles to be provided in the WSA 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 as the 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, MNR, glass and DMR waste will be provided in the shared WSAs prior to first occupation of the development, i.e., prior to the first residential unit being occupied.

This plan will be provided to each resident from first occupancy of the Proposed Development. 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

Residents will be required to segregate their waste into the following main waste streams:

- ▶ DMR;
- ▶ MNR;
- ▶ Organic (food) waste; and
- ▶ Glass.

Each residential unit will be provided with a three-bin system to facilitate waste segregation at source. An example of a potential three-bin storage system is shown in Figure 5.2.



Figure 5.2 Example Three Bin Storage System to be Provided Within 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 locations of the residential WSAs are illustrated in the drawings submitted with the planning application under separate cover.

All bins and containers within the WSAs will be clearly labelled and colour coded to prevent cross-contamination. Signage will be provided above or on the bins to indicate which waste types are accepted in each container.

Access to the shared WSAs will be restricted to authorised residents, facilities management and waste contractors via key or electronic fob access.

Other waste materials such as textiles, batteries, furniture, 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 5.3.

5.2 Waste Collection

There are numerous private contractors that provide waste collection services in the Dún Laoghaire Rathdown 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.

Suitable access and egress has 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.

Bins from the apartment block WSAs will be brought to staging areas by the facilities management or waste contractor depending on agreement, immediately prior to collection. From here, the bins will be emptied by the waste contractor. Bins will be returned to their respective WSAs immediately following collection. The staging area is such that it 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* (2019).

All waste receptacles should be clearly identified as required by waste legislation and the requirements of the DLRCC *Waste Bye-Laws*. 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 the time the waste vehicle is onsite. This will be determined during the process of appointment of a waste contractor.

5.3 Additional Waste Materials

In addition to the typical waste materials and production/manufacturing waste 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.

Deposit Return Scheme

Most drinks containers can be recycled via the deposit return scheme, such as bottles, cans and tins made from plastic, aluminium or steel. These items can be returned once they are between 150ml and 3 litres in size and have the Re-turn logo on them.

At the shops you can either return the containers:

- ▶ Using a Reverse Vending Machine (RVM); or
- ▶ Manually in the shop.

If a shop does not have a RVM but they sell containers with the Re-turn logo, the shop may allow you to manually return containers in store, unless they have a take back exemption.

Locations of RVM machines can be found via the Re-turn website (www.re-turn.ie)

Green Waste

Green/garden waste may be generated from external landscaping and internal plants/flowers. Green/garden waste generated from landscaping of external areas will be removed by the external landscape contractor. Green waste generated from internal plants/flowers can be placed in the organic waste bins in the WSAs.

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, pesticides, paints, 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 recycling centre.

Light Bulbs

Waste light bulbs will be generated by external electrical/maintenance contractors servicing the public areas of the Proposed Development. Where waste light bulbs are generated, it is anticipated that maintenance contractors will be responsible for the off-site removal and appropriate recovery/disposal of these wastes.

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

Textiles

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

Waste Cooking Oil

If the residents generated waste cooking oil, this can be brought to a civic amenity centre.

Furniture (and other bulky wastes)

Furniture and other bulky waste items (such as carpet etc.) may occasionally be generated by the residents. If residents wish to dispose of furniture, this can be brought a recycling centre.

Abandoned Bicycles

Bicycle parking areas are planned for the Proposed 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.

5.4 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 with a recommended 6-10 air changes per hour for a mechanical system for internal WSA;
- ▶ Provide suitable lighting – a minimum Lux rating of 400 is recommended;
- ▶ Be easily accessible for people with limited mobility;
- ▶ Be restricted to access by nominated personnel only;
- ▶ 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 appropriate signage placed above and on bins indicating correct use;
- ▶ Have access for potential control of vermin, if required; and
- ▶ Be fitted with CCTV for monitoring.

The facilities management company and residents will be required to maintain the waste receptacles and storage areas in good condition as required by the DLRCC Waste Bye-Laws.

5.5 Facilities Management Responsibilities

It will 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 in accordance with the DLRCC *the Guidance Notes for Waste Management in Residential and Commercial Developments*:

- ▶ 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 Proposed 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 Proposed 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.

5.6 Pest Management

A pest control operator will be appointed as required to manage pests onsite during the operational phase of the Proposed Development. All waste generated within the Proposed Development will be stored in closed waste receptacles both within the units and 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. SUMMARY AND CONCLUSION

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 Proposed 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 contributing to the targets set out in the *NWMPCE*.

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

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

7. REFERENCES

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APPENDIX A. WASTE STORAGE AREA LOCATIONS





APPENDIX B. ROAD SWEEP ANALYSIS

