OPERATIONAL WASTE MANAGEMENT PLAN FOR A PROPOSED STRATEGIC HOUSING DEVELOPMENT AT

DUCKSPPOOL, DUNGARVAN, CO. WATERFORD

Report Prepared For

Mr. Michael Ryan

Report Prepared By

David Doran, Environmental Consultant

Our Reference

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Date of Issue

30 June 2021
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<td>Environmental Consultant</td>
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1.0 INTRODUCTION

AWN Consulting Ltd. (AWN) has prepared this Operational Waste Management Plan (OWMP) on behalf of Mr. Michael Ryan. The Proposed Development is a Strategic Housing Development (SHD) comprising 218 no. residential units, crèche, community car park and open spaces at Duckspool, Dungarvan, Co. Waterford.

This OWMP has been prepared to ensure that the management of waste during the operational phase of the proposed residential development is undertaken in accordance with the current legal and industry standards including, the Waste Management Act 1996 – 2011 as amended and associated Regulations, Protection of the Environment Act 2003 as amended, Litter Pollution Act 2003 as amended, the ‘Southern Region (SR) Waste Management Plan 2015 – 2021’, Waterford City & County Council (WCCC) ‘Waterford City & County Council (Storage, Presentation and Segregation of Household and Commercial Waste) Bye-Laws’ (2018). 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 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 Government issued a policy statement in September 1998 titled as ‘Changing Our Ways’ 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. 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’. This document also stressed the need to break the link between 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’. 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 government released a new national policy document outlining a new action plan for Ireland and its waste to cover the period of 2020-2025. This plan ‘*A Waste Action Plan for a Circular Economy*’ 10 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)*”.

It aims to fulfil the commitment in the Programme for Government to publish and start implementing a new National Waste Action Plan. It is intended that this new national waste policy will inform and give direction to waste planning and management in Ireland over the coming years. It will be followed later this year by an All of Government Circular Economy Strategy. The policy document shifts focus away from waste disposal and moves it back up the production chain. To support the policy, regulation is already being used (Circular Economy Legislative Package) or in the pipeline (Single Use Plastics Directive). The policy document contains over 200 measures across various waste areas including Circular Economy, Municipal Waste, Consumer Protection & Citizen Engagement, Plastics and Packaging, Construction and Demolition, Textiles, Green Public Procurement and Waste Enforcement.

One of the first actions to be taken is the development of a high-level, whole of Government Circular Economy Strategy to set a course for Ireland to transition across all sectors and at all levels of Government toward circularity. This strategy was issued for public consultation in April 2021.

Since 1998, the Environmental Protection Agency (EPA) has produced periodic ‘*National Waste (Database) Reports*’ 11 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 2018 National Waste Statistics, which is the most recent study published, along with national waste statistics web resource (August 2020) reported the following key statistics for 2018:

- **Generated** – Ireland produced 2,912,353 t of municipal waste in 2018, this is almost a five percent increase since 2017. This means that each person living in Ireland generated 600kg of municipal waste in 2018;
- **Managed** – Waste collected and treated by the waste industry. In 2018, a total of 2,865,207 t of municipal waste was managed and treated;
- **Unmanaged** – Waste that is not collected or brought to a waste facility and is therefore likely to cause pollution in the environment because it is burned, buried or dumped. The EPA estimates that 47,546 t was unmanaged in 2018;
- **Recovered** – the amount of waste recycled, used as a fuel in incinerators, or used to cover landfilled waste. In 2018, around 85% of municipal waste was recovered, this is an increase from 77% in 2017;
- **Recycled** – the waste broken down and used to make new items. Recycling also includes the breakdown of food and garden waste to make compost. The recycling rate in 2018 was 38%, which is down from 41% in 2017; and
• Disposed – Less than a quarter (15%) of municipal waste was landfilled in 2018, this is a decrease from 23% in 2017.

2.2 Regional Level

The proposed development is located in the Local Authority area of Waterford City and County Council (WCCC).


The regional plan sets out the following strategic targets for waste management in the region that are relevant to the proposed development:

• To have achieved a recycling rate of 50% of managed municipal waste by 2020; and
• Reduce to 0% the direct disposal of unprocessed residual municipal waste to landfill (from 2016 onwards) in favour of higher value pre-treatment processes and indigenous recovery practices.

Municipal landfill charges in Ireland are based on the weight of waste disposed. In the Munster Region, charges are approximately €130-150 per tonne of waste which includes a €75 per tonne landfill levy introduced under the Waste Management (Landfill Levy) (Amendment) Regulations 2015.

Waterford City Development Plan 2013 – 2019 \(^2\) (to be superseded by the Waterford City and County Development Plan 2022-2028, which is currently being written and is in pre-draft stage at the time of writing this report (May 2021)) sets out a number of policies and objectives for Waterford City in line with the objectives of the regional waste management plan. The plan identifies the development of recycling in order to minimise the use of landfill as the main objective of the City and County Council. Waste policies and objectives with a particular relevance to the proposed development area

Policies:

• It is the policy of the City Council to implement the Joint Regional Waste Management Plan policies and objectives for the region. (POL 11.10.1).
• It is the policy of the City Council to fully participate in the evaluation and potential review of the Joint Waste Management Plans in the region. (POL 11.10.2).
• It is the policy of the City council to enforce waste and litter legislation in the city and to impose fines and prosecute those who do not comply with the law in this regard. (POL 11.10.3).

Objectives:

• To continue and expand environmental awareness initiatives designed to create increased public awareness of waste prevention, minimisation and reuse. (OBJ 11.10.1).
• To identify and promote further waste prevention and recovery/reycling initiatives. (OBJ 11.10.2).

To consider, when undertaking development or when authorising or permitting development, the provision of a waste minimisation, prevention and reuse programmes and facilities including: - - the provision of recycling facilities within developments. - the imposition of conditions requiring the implementation of waste
management programmes, including schemes for the management of construction and demolition waste, on development sites. (OBJ 11.10.4).

The *Dungarvan Town Development Plan 2012-2018* \(^{13}\) sets out a number of policies for the Dungarvan area related to waste management, which were in line with the *Joint Waste Management Plan for the South East 2006-2011*, the regional waste management plan at the time.

**Policies**

- **INF 14:** To implement the ‘Polluter Pays’ principle with regard to the collection, treatment and disposal of waste.
- **INF15:** To implement the plans, policies and objectives as set out in the Joint Waste Management Plan for the South East Region 2006, the National Waste Prevention Programme 2009-2012 and the EPA’s National Hazardous Waste Management Plan at the Local Authority level.
- **INF16:** The Council will facilitate the provision of civic amenity and bring sites in the town in co-operation with local communities as resources allow.

### 2.3 Legislative Requirements

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

- Waste Management Act 1996 (No. 10 of 1996) as amended. Sub-ordinate and associated legislation includes:
  - Waste Management (Collection Permit) Regulations 2007 (S.I. No. 820 of 2007) as amended
  - Waste Management (Facility Permit and Registration) Regulation 2007 (S.I No. 821 of 2007) as amended
  - Waste Management (Licensing) Regulations 2000 (S.I No. 185 of 2000) as amended
  - European Union (Packaging) Regulations 2014 (S.I. No. 282 of 2014) as amended
  - Waste Management (Planning) Regulations 1997 (S.I. No. 137 of 1997) as amended
  - Waste Management (Landfill Levy) Regulations 2015 (S.I. No. 189 of 2015)
  - European Communities (Waste Electrical and Electronic Equipment) Regulations 2014 (S.I. No. 149 of 2014)
  - Waste Management (Batteries and Accumulators) Regulations 2014 (S.I. No. 283 of 2014) as amended
  - Waste Management (Food Waste) Regulations 2009 (S.I. No. 508 of 2009) as amended
  - Waste Management (Shipments of Waste) Regulations 2007 (S.I. No. 419 of 2007) as amended
• Environmental Protection Act 1992 (S.I. No. 7 of 1992) as amended;
• Litter Pollution Act 1997 (Act No. 12 of 1997) as amended and
• Planning and Development Act 2000 (S.I. No. 30 of 2000) as amended

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 - 2011 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, creche staff and the 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 contacter 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 IED (Industrial Emissions Directive) 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 Waterford City and County Council Waste Bye-Laws

The WCCC “Waterford City and County Council (Segregation, Storage and Presentation of Household and Commercial Waste) Bye-Laws (2018)” came into use on the 1st December 2018. These Bye-laws repeal the previous Waterford City Council (Storage, Presentation and Segregation for the purposes of and in the course of the Collection of Household and Waste) Bye-Laws 2008. The Bye-Laws set a number of enforceable requirements on waste holders with regard to storage, separation and presentation of waste within the WCCC functional area. Key requirements under these Bye-Laws of relevance to the proposed 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 9:00am 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.

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

2.4 Regional Waste Management Service Providers and Facilities

Various contractors offer waste collection services for the residential and commercial sectors in the WCCC region. Details of waste collection permits (granted, pending and withdrawn) for the region are available from the NWCPD.

As outlined in the regional waste management plan, there is a decreasing number of landfills available in the region. At the time of research for the regional waste report, there was only one active landfill in the region at Powerstown in Co. Carlow. There were two other landfills in the region with capacity for landfilling waste at the time of research, but neither were carrying out landfilling activity. Both sites, however, operate as recycling facilities.

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 currently no thermal treatment facilities located in the Southern Region, however there are two existing thermal treatment facilities in the Eastern Midlands Region, one in Duleek, Co. Meath and a second facility in Poolbeg in Dublin.

There is a WCCC Civic Amenity site at Ballynamuck, Dungarvan, located c.4.4 km to the west of the development, which can be utilised by the residents of the development for certain household waste streams. This centre can accept mattresses, mixed dry recyclables, filament bulbs (non-WEEE bulbs), oil filters, waste mineral oil, varnish, paints, furniture, light bulbs, electrical items, batteries and general waste. A bring bank is also located 2.5km north-east of the site.

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

3.0 DESCRIPTION OF THE PROJECT

3.1 Location, Size and Scale of the Development

The development will consist of: 218 no. residential units (8 no. 1-bed, 36 no. 2-bed, 161 no. 3-bed and 13 no. 4-bed) ranging in height from 2 no. to 4 no. storeys, comprising 42 no. duplex units (8 no. 1-bed, 32 no. 2-bed and 2 no. 3-bed) and 176 no. terraced, semi-detached and detached houses (4 no. 2-bed, 159 no. 3-bed and 13 no. 4-bed (with the option for up to 121 no. of the 3-bed houses to have attics converted, thereby creating 4-bed houses)), with private open space as rear gardens, balconies and terraces; crèche (342.34 sq. m GFA); 466 no. car parking spaces at surface level (430 no. within the residential area for residents and visitors and 36 no. in the crèche and community car park), which include 24 no. mobility impaired spaces; 48 no. cycle parking spaces at surface level in 3 no. locations; bin stores (73 no. for houses and duplexes and 1 no. for the crèche); open space areas (28,570 sq. m total), which include footpaths and cycle paths, children’s play areas, planting and the incorporation of existing hedgerows and open space; new entrances along the northern frontage, including (1) main multi-modal entrance and junction works to the residential area, (2) one-way multi-modal entrance system (separate access and
egress) and junction works to the crèche and community car park and (3) 2 no. pedestrian and cycle entrances; pedestrian and cycle connection to be facilitated via bridge to the south-west into Tournore Court; and all ancillary site services and works to facilitate the development, including adjustments to site levels, boundary treatments, water services and public lighting.

The site of 8.6288 ha is located at Duckspool, Dungarvan, which is bound as follows: to the north by the L3168 road (which links the R675 to the east with the N25 as it enters Dungarvan to the west), across which are the Cluain Garbhán housing estate, Scoil Gharbháin (primary level Gaelscoil) and St. Augustine’s College (secondary level school); to the east and south-east by an undeveloped field; and to the south and west by existing residential areas (Sallybrook and Tournore housing estates).

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 waste paper (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 internal plants/flowers;
- Glass;
- Mixed Non-Recyclable (MNR)/General Waste.

In addition to the typical waste materials that will be generated at the 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 or 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.)
- Lightbulbs;
- Textiles (rags);
- Waste cooking oil (if any generated by the residents or creche staff);
- 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 European Waste Codes

In 1994, the European Waste Catalogue and Hazardous Waste List were published by the European Commission. In 2002, the EPA published a document titled the European Waste Catalogue and Hazardous Waste List15, 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’ which became valid from the 1st June 2015. 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 (also referred to as European Waste Code or EWC) for typical waste materials expected to be generated during the operation of the proposed development are provided in Table 3.1 below.

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

* Individual waste type may contain hazardous materials

Table 3.1  Typical Waste Types Generated and LoW Codes

4.0 ESTIMATED WASTE ARISINGS

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 volume of waste that will be generated from the residential units has been determined based on the predicted occupancy of the units. The estimated volume of waste from the creche is based on waste generation rates per m² floor area for the proposed area use.

The estimated waste generation for the development for the main waste types is presented in Table 4.1 and 4.2.

<table>
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<tr>
<th>Waste type</th>
<th>Waste Volume (m³/week)</th>
<th>1-bed duplex (individual)</th>
<th>2-bed duplex/house (individual)</th>
<th>3-bed duplex/house (individual)</th>
<th>4-bed house (individual)</th>
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Table 4.1  Estimated waste generation for the proposed development for the main waste types
### Table 4.2 Estimated waste generation for the proposed development for the main waste types

<table>
<thead>
<tr>
<th>Waste type</th>
<th>Block 29 Residential</th>
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</tr>
<tr>
<td>MNR</td>
<td>0.68</td>
<td>0.54</td>
<td>0.55</td>
</tr>
<tr>
<td>Total</td>
<td>2.04</td>
<td>1.64</td>
<td>1.59</td>
</tr>
</tbody>
</table>

The BS5906:2005 Waste Management in Buildings – Code of Practice was considered in the estimations of the waste arising. The predicted total waste generated from the residential units based on the Code of Practice is c. 49.59 m³ per week for the residential units. Whereas the AWN waste generation model estimates c. 51.43 m³ per week from the residential units. AWN’s modelling methodology is based on data from recent published data and data from numerous other similar developments in Ireland and based on AWN’s experience it is a more representative estimate of the likely waste arisings from the development.

### 5.0 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 WCCC. In particular, consideration has been given to the following documents:

- BS 5906:2005 Waste Management in Buildings – Code of Practice,
- WCCC Waterford City and County Council (Segregation, Storage and Presentation of Household and Commercial Waste) Bye-Laws (2018); and

2 no. shared Waste Storage Areas (WSAs) have been allocated within the development design for the residential units in Block 29 and Block 30. The WSAs are located at ground level and are external to their respective blocks. The location of WSAs can viewed on the drawings submitted with planning.

The waste receptacles from the shared WSAs will be brought by facilities management to a dedicated staging area / collected by the waste contractor and brought to the waste collection vehicle for emptying (depending on the agreement).

Following emptying by the waste contractor, waste receptacles will be promptly removed from the curtilage and returned to the WSAs by facilities management/the waste contactor. See section 5.3 for more details on waste collection.

**Block 29 Residential**

The WSA for Block 29 is located at ground level adjacent to the north-west corner of the block.

**Block 30 Residential**

The WSA for Block 30 is located at ground level adjacent to the north-east corner of the block.
Individual Units
Individual units with external access to their backyard will be required to store their bins there. Units without access to their backyard have been designated WSAs to store their bins.

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 developments WSAs. These are presented in Table 5.1.

<table>
<thead>
<tr>
<th>Area/Use</th>
<th>Bins Required</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>MNR*</td>
</tr>
<tr>
<td>Block 29 Residential</td>
<td>1 x 1100L</td>
</tr>
<tr>
<td>Block 30 Residential</td>
<td>1 x 1100L</td>
</tr>
<tr>
<td>Individual (Residential)</td>
<td>1 x 240L</td>
</tr>
<tr>
<td>Creche</td>
<td>1 x 1100L</td>
</tr>
</tbody>
</table>

* = Mixed Non-Recyclables
** = Dry Mixed Recyclables

Table 5.1 Waste storage requirements for the proposed development

The waste receptacle requirements have been established from distribution of the total 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 facilities management company in the residential and commercial WSAs.

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 IS EN 840 2012 standard for performance requirements of mobile waste containers, where appropriate.

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

5.1 Waste Storage – Residential Units

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

- DMR;
- MNR;
- Organic waste; and
- Glass.
Space will be provided in the residential units to accommodate 3 no. bins to facilitate waste segregation at source.

Residents will be required to take their segregated waste materials to their designated residential WSAs and dispose of their segregated waste into the appropriate bins. Locations of all WSAs can be found on the plans submitted with the application.

Each bin/container in the WSAs 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 shared residential WSAs will be restricted to authorised residents, facilities management and the waste contractor by means of a key or electronic fob access.

Using the estimated figures in Table 4.1 and 4.2, DMR, MNR, organic waste and glass will be collected on a weekly basis.

Other waste materials such as textiles, batteries, printer toner/cartridges, cooking oil, textiles, lightbulbs, furniture / bulk items 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 – Creche

Tenants will be required to segregate their waste into the following waste categories within their own unit:

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

The creche is located at the north-east corner of the site. The creche will have its own dedicated WSA located externally at the south-east corner of the creche.

The creche staff will be required to store waste temporarily within the creche and will then transport it on a daily basis or as required to the WSA.

Each bin/container in the 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 WSA will be restricted to authorised staff, facilities management and the waste contractor by means of a key or electronic fob access.

Based on the recommended bin requirements in Table 5.1, DMR, MNR and organic bins will be collected on a weekly basis and the glass bin will be collected fortnightly or as required.

Other waste materials such as textiles, batteries, printer toner/cartridges, cooking oil, textiles, lightbulbs, furniture / bulk items and WEEE may be generated infrequently by the creche. Creche staff will be required to identify suitable temporary storage areas for these waste items within the creche and dispose of them appropriately. 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 Waterford 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 residents with individual WSAs will be required to bring their waste receptacles to the kerb for collection by the waste contractor.

All waste requiring collection from a shared WSA will be brought by facilities management or the waste contractor (depending on the agreement) and taken to designated staging areas/collection points.

The facilities management or waste contractor will ensure that empty bins are promptly returned to the WSAs after collection/emptying.

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.

5.4 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 waste
Green waste may be generated from 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 Waste Management 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.

The creche 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 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.

As noted above, the creche 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 creche, where appropriate. The creche 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 centre.

Chemicals (solvents, paints, adhesives, resins, detergents etc)
Chemicals (such as solvents, 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 generated in the creche that is classed as hazardous (if they arise) will be appropriately stored within the unit. 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 centre.

Light Bulbs (Fluorescent Tubes, Long Life, LED and Lila ment bulbs)
Waste light bulbs may be generated by lighting in the creche. It is anticipated that creche staff will be responsible for the off-site removal and appropriate recovery/disposal of these wastes. Facilities management may arrange collection depending on the agreement.

Waste light bulbs may be generated from building maintenance works. Such works are usually completed by external contractors or facilities management who are responsible for the off-site removal and appropriate recovery/recycling/disposal of any waste materials generated.

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

Textiles
Where possible, waste textiles should be recycled or donated to a charity organisation for reuse.

Waste Cooking Oil
If the creche staff use 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.

If the residents generate waste cooking oil, this can be brought to a civic amenity centre or placed in the organic waste bin.
Furniture (and other bulky wastes)
Furniture and other bulky waste items (such as carpet etc.) may occasionally be generated by the residents and creche. If residents wish to dispose of furniture, this can be brought to a civic amenity centre. If the creche require collection of bulky waste, it will be arranged as required by the creche staff.

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.

Covid-19 Waste
Any waste generated by residents / staff of the development that have tested positive for Covid-19 should be managed in accordance with the current Covid-19 HSE Guidelines at the time that that waste arises. At the time this report was prepared, the HSE Guidelines require the following procedure for any waste from a person that tests positive for Covid-19:

• Put all waste (gloves, tissues, wipes, masks) from that person in a bin bag and tie when almost full;
• Put this bin bag into a second bin bag and tie a knot;
• Store this bag safely for 3 days, then put the bag into the non-recyclable waste/general waste wheelie bin for collection/emptying.

Please note that this guidance is likely to be updated by the time the development is open and occupied and the relevant guidance at the time will need to be reviewed.

5.5 Waste Storage Area Design
The shared 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 220 is recommended;
• Appropriate sensor controlled lighting;
• 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 graphical and written signage placed above and on bins indicating correct use;
• 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 facilities company will be required to maintain the waste storage areas in good condition as required by the WCCC Waste Bye-Laws.
6.0 CONCLUSIONS

In summary, this OWMP presents a waste strategy that complies with 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 SR Waste Management Plan 2015 – 2021.

Adherence to this plan will also ensure that waste management at the development is carried out in accordance with the requirements of the WCCC 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

   - Waste Management (Collection Permit) Regulations 2007 (S.I. No. 820 of 2007) as amended
   - Waste Management (Facility Permit and Registration) Regulations 2007 (S.I No. 821 of 2007) as amended
   - Waste Management (Licensing) Regulations 2000 (S.I No. 185 of 2000) as amended
   - European Union (Packaging) Regulations 2014 (S.I. No. 282 of 2014)
   - Waste Management (Landfill Levy) Regulations 2015 (S.I. No. 189 of 2015)
   - European Communities (Waste Electrical and Electronic Equipment) Regulations 2014 (S.I. No. 149 of 2014)
   - Waste Management (Batteries and Accumulators) Regulations 2014 (S.I. No. 283 of 2014) as amended
   - Waste Management (Shipments of Waste) Regulations 2007 (S.I. No. 419 of 2007) as amended
   - European Communities (Transfrontier Shipment of Waste) Regulations 1994 (SI 121 of 1994)

2. Environmental Protection Act 1992 (Act No. 7 of 1992) as amended;
3. Litter Pollution Act 1997 (Act No. 12 of 1997) as amended;