

OPERATIONAL WASTE MANAGEMENT PLAN FOR A PROPOSED STRATEGIC HOUSING DEVELOPMENT

AT

**CLONMINCH, TULLAMORE,
CO. OFFALY**

Report Prepared For

Steinfort Investments Fund

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1.0 INTRODUCTION

AWN Consulting Ltd. (AWN) has prepared this Operational Waste Management Plan (OWMP) on behalf of Steinfort Investments Fund. The proposed Strategic Housing Development (SHD) will consist of 349no. residential units consisting of detached, semi-detached and terraced housing (196no.), along with apartments (153no), a neighbourhood centre comprising two buildings, one which will include a medical centre, physiotherapy practice, gym and retail units and one which will include a business hub, and retail units. The development will also include for a standalone crèche building, designed to cater for c.100 children and a separate local shop in one of the apartment blocks i.e. Block F. The subject site has a gross area of 14.3 hectares and a residential net development area of 10 hectares with vehicular, pedestrian and cyclist access to the Clonminch Road (R443), Tullamore, Co. Offaly.

The proposed development will also include residential amenities, hard and soft landscaping, boundary treatments, public lighting, ESB substations, plant and switch rooms, and residential waste facilities, piped site wide services, and all ancillary works and services necessary to facilitate construction and operation. The development will be served by vehicular access from Clonminch Road on the western and eastern sides of the site.

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 ¹, *Protection of the Environment Act 2003* as amended ², *Litter Pollution Act 2003* as amended ³, the *'Eastern-Midlands Region (EMR) Waste Management Plan 2015 – 2021'* ⁴, The Offaly County Council (OCC) *County of Offaly (Segregation, Storage and Presentation 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 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'* 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 Irelands Development Sustainable – Review, Assessment and Future Action*'⁸. 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*'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.

The most recent policy document was published in July 2012 titled '*A Resource Opportunity*'¹⁰. The policy document stresses the environmental and economic benefits of better waste management, particularly in relation to waste prevention. The document sets out a number of actions, including the following:

- A move away from landfill and replacement through prevention, reuse, recycling and recovery.
- A Brown Bin roll-out diverting 'organic waste' towards more productive uses.
- Introducing a new regulatory regime for the existing side-by-side competition model within the household waste collection market.
- New Service Standards to ensure that consumers receive higher customer service standards from their operator.
- Placing responsibility on householders to prove they use an authorised waste collection service.
- The establishment of a team of Waste Enforcement Officers for cases relating to serious criminal activity will be prioritised.
- Reducing red tape for industry to identify and reduce any unnecessary administrative burdens on the waste management industry.
- A review of the producer responsibility model will be initiated to assess and evaluate the operation of the model in Ireland.
- Significant reduction of Waste Management Planning Regions from ten to three.

While *A Resource Opportunity* covers the period to 2020, it is subject to a mid-term review in 2016 to ensure that the measures are set out properly and to provide an opportunity for additional measures to be adopted in the event of inadequate performance. In early 2016, the Department of the Environment, Community and Local Government invited comments from interested parties on the discussion paper '*Exporting a Resource Opportunity*'. While the EPA have issued a response to the consultation, an updated policy document has not yet been published.

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 Offaly County Council (OCC).

The *EMR Waste Management Plan 2015 – 2021* is the regional waste management plan for the OCC area published in October 2018.

The regional plan sets out the following strategic targets for waste management in the region:

- A 1% reduction per annum in the quantity of household waste generated per capita over the period of the plan;
- Achieve 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 Leinster Region, charges are approximately €130 - €150 per tonne of waste which includes a €75 per tonne landfill levy specified in the *Waste Management (Landfill Levy) Regulations 2015*.

The *Offaly County Council Development Plan 2014 – 2020*¹² sets out a number of objectives for the Offaly area in line with the objectives of the waste management plan.

Waste objectives with a particular relevance to the proposed development are as follows:

Objectives:

- **EnvO-13:** It is an objective of the Council to implement the provisions of the Waste Management Hierarchy and the current Waste Management Plan for the Region. As a result, developments in the county will be expected to take account of the provisions of the Waste Management Plan for the relevant Region and observe those elements of it that relate to waste prevention and

minimisation, waste recycling facilities, and the capacity for source segregation;

- **EnvO-14:** It is an objective of the Council to use statutory powers to prohibit the illegal deposit and disposal of waste materials, refuse and litter, and to authorise and regulate, waste disposal within the county in an environmentally sustainable manner;
- **EnvO-15:** It is an objective of the Council that the environment shall be protected against harmful effects of inadequate waste management; and
- **EnvO-16:** It is an objective of the Council that the environment be protected against the harmful effects of litter.

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:
 - European Communities (Waste Directive) Regulations 2011 (S.I. No. 126 of 2011) as amended
 - 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
 - European Union (Household Food Waste and Bio-waste) Regulations 2015 (S.I. No. 430 of 2015)
 - Waste Management (Hazardous Waste) Regulations 1998 (S.I. No. 163 of 1998) 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)*
 - European Union (Properties of Waste Which Render it Hazardous) Regulations 2015 (S.I. No. 233 of 2015) 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 amended¹³

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, tenants 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 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 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 Offaly County Council Waste Bye-Laws

The OCC “*County of Offaly (Segregation, Storage and Presentation of Household and Commercial Waste) Bye-laws, 2018*” came into effect in October 2018. The Bye-Laws set a number of enforceable requirements on waste holders and collectors with regard to storage, separation, presentation and collection of waste within the OCC functional area. Key requirements under these Bye-laws are:

- Kerbside waste presented for collection shall not be presented for collection earlier than 18.00pm 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 within the 12-hour period following the designated collection time;
- Containers used for the presentation of kerbside waste shall be maintained in such condition and state of repair that the waste placed therein will not be a source of nuisance or litter.
- Neither recyclable household kerbside waste nor food waste arising from households shall be contaminated with any other type of waste before or after it has been segregated; and
- 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:
 - separate receptacles of adequate size and number are provided for the proper segregation, storage and collection of recyclable household kerbside waste and residual household kerbside waste;
 - additional receptacles are provided for the segregation, storage and collection of food waste where this practice is a requirement of the national legislation on food waste;

- the receptacles referred to in paragraphs (a) and (b) are located both within any individual apartment and at the place where waste is stored prior to its collection;
- 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,
- written information is provided to each tenant or other occupier about the arrangements for waste separation, segregation, storage and presentation prior to collection; and
- 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 Offaly County Council.
- The full text of the Waste Bye-Laws is available from the OCC website

2.4 Regional Waste Management Service Providers and Facilities

Various contractors offer waste collection services for the residential and commercial sectors in the Midlands 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 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 an OCC civic amenity c. 3km to the south of the development, which can be utilised by the residents of the development for certain household waste streams. This centre can accept batteries, metal cans, beverage cartons, paper and cardboard, clothes and footwear, WEEE, fluorescent tubes, glass bottles and jars, green waste, scrap metal, plastic bottles, print cartridges, used gas cylinders, waste oil and polystyrene. There is also a bring bank c. 1.5km to the north east at the Tullamore Retail Park where glass and cans can be deposited.

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

3.0 DESCRIPTION OF THE PROJECT

3.1 Location, Size and Scale of the Development

Steinfort Investments Fund intends to apply for planning permission for a Strategic Housing Development at a site of 14.3 ha, at Clonminch, Tullamore, Co. Offaly.

The proposed development will consist of 349no. residential units consisting of detached, semi-detached and terraced housing (196no.), along with apartments (153no), a neighbourhood centre comprising two buildings, one which will include a medical centre, physiotherapy practice, gym and retail units and one which will

include a business hub and retail units. There will also be a separate local shop included in one of the apartment blocks i.e. Block F. The development will also include for a standalone crèche building, designed to cater for c.100 children. Please see below for further details:

- Residential including:
 - Apartment Block A (13no. 2 bed units);
 - Apartment Block B (1no. 1 bed unit, 20no. 2 bed units and 3no. 3 bed units);
 - Apartment Block C (8no. 2 bed units);
 - Apartment Block D (10no. 1 bed units, 15no. 2 bed units, 3no. 3 bed units);
 - Apartment Block E (29no. 1 bed units, 18no. 2 bed units and 4no. 3 bed units);
 - Apartment Block F (2no. 2 bed units and 3no. 3 bed units);
 - Apartment Block G (1no. 1 bed unit and 23no. 2 bed units);
 - 4no. 2 bedroom detached houses and 1no. 3 bedroom detached house;
 - 3no. 3 bedroom semi-detached houses and 45no. 4 bedroom semi-detached houses, and
 - 5no. 4 bedroom terraced houses and 138no. 3 bedroom terraced houses.
- Neighbourhood Centre:
 - Neighbourhood Centre Building 1 comprising a business hub and retail units;
 - Neighbourhood Centre Building 2 comprising a medical centre, physiotherapist, gym and retail units;
- Local shop (Block F);
- Crèche (standalone building); and
- 695 No. car parking spaces:
 - 586no. residential car parking spaces;
 - 5no. local shop car parking spaces;
 - 21no. crèche car parking spaces;
 - 68no. Neighbourhood Centre car parking spaces;
 - 6no. visitor car parking spaces; and
 - 9no. Clonminch Square parking spaces.

While the proposed site layout plan allows for future connections to existing residential areas, no vehicular, pedestrian or cyclist connections are proposed as part of the planning application.

The proposed SHD is proposed to be developed in two phases with the cycle scheme on the Clonminch Road to be provided in Phase 1. The proposal includes public open space areas (16,207sq.m), communal open space (1,787sq.m) and private open space in the form of rear gardens for houses and terrace/balconies for apartments. Building heights proposed range from single to five storeys. The proposal includes for all car parking, roads, public lighting, ESB substations and Electric Vehicle charging points, undergrounding of services where required as well as all associated site development works.

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; and
- 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:

- Medical waste;
- Confidential paper;
- 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 commercial 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 European Waste Codes

In 1994, the *European Waste Catalogue* ¹⁴ and *Hazardous Waste List* ¹⁵ were published by the European Commission. In 2002, the EPA published a document titled the *European Waste Catalogue and Hazardous Waste List* ¹⁶, 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*' ¹⁷ 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.

Waste Material	LoW/EWC 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
Medical waste	18 01 01/03*/04/06*/07/18 08*/09

* Individual waste type may contain hazardous materials

Table 3.1 Typical Waste Types Generated and LoW Codes

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. The waste generation for the commercial units is based on waste generation rates per m² floor area for the proposed area uses.

The estimated waste generation for the development for the main waste types is presented in Tables 4.1, 4.2 and 4.3.

Waste type	Waste Volume (m ³ /week)						
	Residential						
	Block A	Block B	Block C	Block D	Block E	Block F	Block G
Organic Waste	0.22	0.40	0.13	0.43	0.72	0.09	0.40
DMR	1.54	2.86	0.95	3.03	5.11	0.64	2.82
Glass	0.04	0.08	0.03	0.08	0.14	0.02	0.08
MNR	0.81	1.51	0.50	1.59	2.69	0.34	1.48
Total	2.62	4.85	1.61	5.13	8.67	1.09	4.77

Table 4.1 Estimated residential waste generation from the apartment blocks for the proposed development for the main waste types

Waste type	Waste Volume (m ³ /week)		
	Residential		
	2 Bed House Individual	3 Bed House Individual	4 Bed House Individual
Organic Waste	0.02	0.02	0.02
DMR	0.12	0.14	0.18
Glass	0.00	0.01	0.00
MNR	0.06	0.07	0.09
Total	0.20	0.23	0.29

Table 4.2 Estimated residential waste generation from individual houses for the proposed development for the main waste types

Waste type	Waste Volume (m3/week)			
	Commercial			
	Neighbourhood Centre Building 1	Neighbourhood Centre Building 2	Local Shop	Creche
Organic Waste	0.35	0.14	0.02	0.06
DMR	6.93	2.74	0.37	2.37
Glass	0.19	0.06	0.01	0.01
MNR	2.89	1.27	0.15	1.29
Medical Waste	N/A	0.21	N/A	N/A
Confidential paper	N/A	0.46	N/A	N/A
Total	10.37	4.71	0.55	3.73

Table 4.3 Estimated commercial waste generation for the proposed development for the main waste type

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 OCC. In particular, consideration has been given to the following documents:

- BS 5906:2005 Waste Management in Buildings – Code of Practice,
- EMR Waste Management Plan 2015 – 2021;
- OCC 'County of Offaly (*Segregation, Storage and Presentation of Household and Commercial Waste*) Bye-laws, (2018)'; and
- DoEHLG, Sustainable Urban Housing: Design Standards for New Apartments, Guidelines for Planning Authorities (2018) ¹⁹.

Seven dedicated shared Waste Storage Areas (WSAs) have been allocated within the development design for the residential units in the apartment blocks. The residential WSAs are located on the ground floors of Blocks A, B & G in close proximity to the access cores, while the residential WSAs for Blocks D and E are on the basement floor. The residential WSAs for Blocks C & F will each be located external to the apartment blocks in communal open space areas. The local shop in Block F will also have its own individual internal WSA at ground floor level.

Residential houses with external access to the rear of their properties will store bins in their rear yards, while houses without external access to the rear of their property will have a WSA allocated at the front of their property which will be shielded from view of the road.

The two neighbourhood centres will have external WSAs on ground floor level. The medical centre and physiotherapy practice in Neighbourhood Centre 2 will have an additional small internal WSA for clinical waste. The creche unit will have its own individual external WSA on ground floor level.

The waste receptacles from the WSAs will be collected directly from the WSAs by facilities management or the waste contractor and taken to the curb for emptying and

then promptly returned to the WSAs. Waste receptacles in the individual house units will be taken to the curb by residents for collection.

Using the estimated waste generation volumes in Tables 4.1 and 4.2 the waste receptacle requirements for MNR, DMR, organic waste and glass have been established for the WSAs. These are presented in Table 5.1.

Area/Use	Bins Required				Medical Waste
	MNR*	DMR**	Organic	Glass	
Block A	1 x 1100L	1 x 1100L	1 x 240L	1 x 240L	-
Block B	1 x 1100L	3 x 1100L	2 x 240L	1 x 240L	-
Block C	1 x 1100L	1 x 1100L	1 x 240L	1 x 240L	-
Block D	1 x 1100L	3 x 1100L	2 x 240L	1 x 240L	-
Block E	2 x 1100L	5 x 1100L	3 x 240L	1 x 240L	-
Block F	1 x 1100L	1 x 1100L	1 x 240L	1 x 240L	
Block G	1 x 1100L	3 x 1100L	2 x 240L	1 x 240L	
House Units (Individual)	1 x 240L	1 x 240L	1 x 120L	Bottle Bank	-
Neighbourhood Centre Building 1	3 x 1100L	6 x 1100L	1 x 240L	1 x 240L	
Neighbourhood Centre Building 2	1 x 1100L	2 x 1100L	1 x 240L	1 x 240L	2 x 240L
Creche	1 x 1100L	2 x 1100L	1 x 240L	1 x 240L	
Local Shop (Block F)	1 x 240L	2 x 240L	1 x 240L	1 x 240L	

Note: * = 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.

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

It is anticipated that residents in house units with external access to the rear of the property will store waste in bins at the back of the house while houses without external access to the rear of their property will have a WSA allocated at the front of their property which will be shielded from view of the road. Residents will be required to place their segregated waste materials into these bins as necessary.

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 residential WSAs will be restricted to authorised residents, facilities management and waste contractors by means of a key or electronic fob access. Using the estimated figures in Table 4.1, DMR, MNR, organic waste and glass will be collected on a weekly basis.

Other waste materials such as textiles, batteries, printer toner/cartridges and WEEE may be generated infrequently by the residents. Residents in houses will be required to take their glass to the nearest bottle bank or civic centre. 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 Storage – Creche, Neighbourhood Centres and Local Shop

The tenants/staff of the creche, neighbourhood centres and local shop will be required to segregate waste within their own units into the following main waste types:

- DMR;
- MNR;

- Organic waste; and
- Glass.

The tenants will be required to allocate space within their back of house areas for the storage of the waste receptacles.

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

Small bins will be placed adjacent to any food preparation areas for temporary storage of waste generated during the day. Waste will then be transferred to the internal/external WSAs and placed into the segregated bins.

All bins/containers in the tenant's common areas as well as 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 wastes can be put in each.

It is anticipated that DMR, MNR, organic waste and glass will be collected on a weekly basis.

Other waste materials such as batteries, WEEE and printer toner/cartridges will be generated less frequently. The tenant 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.

5.3 Waste Storage – Medical Centre & Physiotherapy Practice

Waste will be generated from a wide variety of activities throughout the proposed medical centre and physiotherapy practice and each will have its own respective clinical waste WSA within their own unit. Healthcare risk wastes will typically be generated in the doctor surgeries, consulting rooms and treatment rooms. DMR and MNR waste will be generated throughout the building. Confidential and non-confidential paper waste will mainly be generated in offices and staff workstations.

Organic (food) waste will be generated from the micro kitchen areas, staff lunches and food brought into the building.

Appropriate colour coded, labelled and secured receptacles will be required for healthcare risk waste generated in the building as set out in the HSE, *Waste Management Awareness Handbook* (and illustrated in Figure 3.2). The required healthcare risk waste receptacles will be:

- Yellow bags (stored in rigid bins e.g. 60L pedal bin)
- Yellow rigid buckets with yellow lid

These waste receptacles will be stored in designated treatment rooms, doctor surgeries, consulting rooms and treatment rooms areas. Facilities or cleaning staff will transfer the risk waste bags/buckets on a regular basis to the dedicated clinical waste room on the ground floor level of the building which will contain 2No. 240 litre yellow clinical waste bins i.e. 1No. bin for waste bags and 1No. bin for waste buckets.

In addition, clinical waste bags and sharps buckets may be temporarily transferred to utility stores located across the unit during the day prior to transfer to the clinical waste room. Where required, these temporary storage locations should have 60/80 litre pedal bins for yellow risk waste bags and shelf storage for sharps buckets.

Facilities or cleaning staff will transfer this waste to the dedicated Clinical Waste Room on a daily basis.

Non-risk waste receptacles for DMR and MNR will be strategically positioned in the treatment rooms, consulting rooms and offices as necessary.

Where suitable, it is proposed that office and work station areas will utilise area waste stations (AWSs) for non-risk waste streams as opposed to using individual receptacles at desks. AWSs should be conveniently located within 10-15m of workstations, where possible, and would typically include:

- 1 no. 60/80 litre receptacle for dry mixed recyclables;
- 1 no. 60/80 litre receptacle for mixed non-recyclables; and
- 1 no. 60/80 litre receptacle for confidential paper.

In addition, smaller bins or caddies for organic and glass waste should be located in the micro kitchen areas. Containers for storage of waste electrical and electronic equipment (WEEE), waste batteries and light bulbs may also be provided in an internal non-risk waste storage area.

Facilities or cleaning staff will empty the internal waste bins on a regular basis and transfer the waste to the external WSA at ground level.

5.4 Waste Collection

There are numerous private contractors that provide waste collection services in the Offaly 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/permited/licensed facilities only.

All residential and commercial waste from WSAs, requiring collection by the appointed waste contractor will be collected from the WSA by the waste contractor or facilities management. Receptacles will be brought to the curb for collection as close as possible to the collection time. Residents in the house units will be responsible for taking their bins to the curb for collection.

The facility management or waste contractor and residents in the house units (depending on the agreement) 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.

5.5 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 and internal plants/flowers can be placed in the organic waste bins.

Batteries

A take-back service for waste batteries and accumulators (e.g. rechargeable batteries) is in place in order to comply with the 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 commercial tenants 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 commercial tenants 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 commercial units, where appropriate. The commercial tenants 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 commercial units that is classed as hazardous (if they arise) will be appropriately stored within the 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 centre.

Light Bulbs (Long Life, LED and Filament bulbs)

Waste light bulbs may be generated by lighting at the commercial tenants. It is anticipated that commercial tenants 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 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 commercial tenants 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.

Furniture (and other bulky wastes)

Furniture and other bulky waste items (such as carpet etc.) may occasionally be generated by the commercial tenants. The collection of bulky waste will be arranged as required by the tenant. If residents wish to dispose of furniture, this can be brought to a civic amenity centre.

Abandoned Bicycles

Bicycle parking areas are planned for the development. As happens in other developments, residents and tenants 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

5.6 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 WSAs;
- Provide suitable lighting – a minimum Lux rating of 220 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 company will be required to maintain the waste storage areas in good condition as required by the OCC 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 *EMR 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 *OCC 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 (S.I. No. 10 of 1996) as amended. Sub-ordinate and associated legislation includes:
 - European Communities (Waste Directive) Regulations 2011 (S.I. No. 126 of 2011) as amended
 - 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 (Planning) Regulations 1997 (S.I. No. 137 of 1997)
 - 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 2015 (S.I. No. 430 of 2015)
 - European Union (Household Food Waste and Bio-waste) Regulations 2015 (S.I. No. 191 of 2015)
 - Waste Management (Hazardous Waste) Regulations 1998 (S.I. No. 163 of 1998) as amended 2000 (S.I. No. 73 of 2000)
 - 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)*
 - European Union (Properties of Waste which Render it Hazardous) Regulations 2015 (S.I. No. 233 of 2015) as amended.
2. Environmental Protection Act 1992 (Act No. 7 of 1992) as amended;
3. Litter Pollution Act 1997 (Act No. 12 of 1997) as amended;
4. Eastern-Midlands Waste Region, *Eastern-Midlands Region (EMR) Waste Management Plan 2015 – 2021* (2015)
5. The Offaly County Council (OCC) *County of Offaly (Segregation, Storage and Presentation 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)
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9. DoEHLG, *Taking Stock and Moving Forward* (2004)
10. DoECLG, *A Resource Opportunity - Waste Management Policy in Ireland* (2012)
11. Environmental Protection Agency (EPA), *National Waste Database Reports 1998 – 2012*.
12. OCC, *Offaly County Council Development Plan 2014 – 2020* (2014)
13. Planning and Development Act 2000 (S.I. No. 30 of 2000) as amended 2010 (S.I. No. 30 of 2010) and 2015 (S.I. No. 310 of 2015).
14. European Waste Catalogue - Council Decision 94/3/EC (as per Council Directive 75/442/EC).
15. Hazardous Waste List - Council Decision 94/904/EC (as per Council Directive 91/689/EEC).
16. EPA, *European Waste Catalogue and Hazardous Waste List* (2002)

17. EPA, *Waste Classification – List of Waste & Determining if Waste is Hazardous or Non-Hazardous* (2015)
18. BS 5906:2005 Waste Management in Buildings – Code of Practice.
19. DoEHLG, *Sustainable Urban Housing: Design Standards for New Apartments, Guidelines for Planning Authorities* (2018).