



# Proposed Residential Development

Capdoo & Abbeylands  
Clane  
Co. Kildare

# Operational Waste Management Plan

**October 2019**

## Control Sheet

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## **1.0 Introduction**

This outline proposed Operational Waste Management Plan (OWMP) was prepared by Redkite Environmental Ltd. on behalf of Westar Investments Ltd. as part of a planning application for a proposed residential and associated creche development at Capdoo & Abbeylands, Clane, Co. Kildare.

### **1.1 Plan Objectives**

The main objective of this OWMP is to ensure that waste arising from the proposed development is managed in accordance with current policy, legal requirements, industry standards and guidance.

This OWMP aims to ensure maximum recycling, reuse and recovery of waste with diversion from landfill, wherever possible as per the government's policy on the circular waste economy and in line with the requirements of the waste hierarchy.

The OWMP also estimates the type and quantity of waste to be generated from the proposed development during the operational phase and provides a proposal for managing the different waste streams.

## **2.0 Methodology**

There is no specific guidance for the preparation of OWMPs. The requirements of legislation as detailed in Section 3.0 have guided the preparation of this plan.

BS 5906:2005 Waste Management in Buildings – Code of Practice was also used as guidance.

## **3.0 Waste Management Policy and Legislative Overview**

### **3.1 National Context**

According to the EPA's website, Ireland's waste management practices, infrastructure and regulation have matured significantly over the last 20 years. This change has been driven by EU and national legislation, national policy and economic initiatives.

The most recent Government policy document, entitled '*A Resource Opportunity - Waste Management Policy in Ireland*' published by the the Department of Environment, Heritage and Local Government (DoEHLG) in 2012, focusses on waste as a resource and the virtual elimination of landfilling.

In this regard, the EPA website under Current Trends – Waste notes:

*“More residual waste is now used as a fuel (energy recovery) than disposed to landfill. Five landfills are accepting municipal waste for disposal and two municipal waste incinerators are accepting municipal waste for energy recovery in Ireland. Segregation and separate collection of food waste from households has been legislated for since 2013 and municipal waste recycling at composting and anaerobic digestion facilities has increased as a result. Ireland is reliant on export markets for the treatment of residual and recyclable and hazardous wastes. “*

Specifically, with regard to municipal waste the following is noted:

*“Municipal waste in Ireland is made up of household waste as well as commercial and other waste that, because of its nature or composition, is similar to household waste. Municipal waste generation is a good indicator of the consumption behaviours within society. The amount of municipal waste generated in Ireland in 2016 was estimated at 2.8 million tonnes (Mt) a 6 per cent increase compared to 2014. Municipal waste recovery (recycled, used as a fuel in incinerators or used to cover landfilled waste and energy recovery) decreased from 79 per cent to 74 per cent between 2014 and 2016. The municipal waste recycling rate was 41 per cent in 2016 and has not changed significantly between 2012 and 2016. There are more challenging future recycling rates under the Waste Framework Directive, so Ireland will need initiatives and policies to improve municipal waste recycling rates.”*

With regard to biodegradable (food and garden) waste, there have been improvements. In 2016, approximately 353,000 tonnes of biodegradable waste were accepted at composting and anaerobic digestion plants for treatment. According to the EPA website:

*“The Food Waste Regulations, which require the segregation and separation collection of commercial and household food waste are resulting in increasing amounts of organic waste being available for recycling and are an example of regulation driving better outcomes for the environment.”*

### **3.2 Regional and County Context**

The proposed development is located in the Local Authority area of Kildare County Council (KCC).

The *Eastern-Midlands Region Waste Management Plan 2015 – 2021* is the over-arching regional waste management plan for the KCC area.

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

- 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 introduced under the *Waste Management (Landfill Levy) (Amendment) Regulations 2013*.

Section 7.6 of the *Kildare County Development Plan 2017 – 2023* sets out a number of policies for County Kildare in line with, and to reflect, the objectives of the regional waste management plan.

Waste policies and objectives with relevance to the proposed development operational phase include:

*WM1 To implement European Union, National and Regional waste related environmental policy, legislation, guidance and codes of practice to improve management of material resources and wastes.*

*WM3 To support the implementation of the Eastern Midlands Regional Waste Management Plan 2015 – 2021 by adhering to overarching performance targets, policies and policy action.*

*WM7 To secure appropriate provision for the sustainable management of waste within developments, including the provision of facilities for the storage, separation and collection of waste.*

*WM10 To encourage waste prevention, minimisation, re-use, recycling and recovery as methods of managing waste. Where waste management is not being carried out properly, the Waste Management Act as amended will be used as a means of ensuring specific national policies and regulations are being adhered to.*

*WM15 Support and facilitate the separation of waste at source into organic and non organic streams or other waste management systems that divert waste from landfill and maximise the potential for each waste type to be re-used and recycled or composted and divert organic waste from landfill in accordance with the 'National Strategy on Biodegradable Waste 2006 and the Eastern-Midlands Region Waste Management Plan, 2015 – 2020.*

The strategy to conform to EU, national and regional policy is also reflected in the Clane Local Area Plan (LAP) 2017 – 2023.

### 3.3 Legislation

The primary legislative instruments, including Acts and Regulations, that govern waste management in Ireland and are applicable to the project include:

- Waste Management Act 1996 (S.I. No. 10/1996) and 2001 Amendment Act (S.I. No. 36/2001);
- European Communities (Waste Directive) Regulations 2011 (S.I. No.126/2011) and Amendment Regulations (S.I. No. 323/2011);
- Waste Management (Collection Permit) Regulations (S.I. No. 820/2007) as amended in 2008, 2015 and 2016;
- Waste Management (Facility Permit and Registration) Regulations 2007, (S.I. No. 821 of 2007) as amended in 2008, 2014, 2015 and 2019;
- Waste Management (Licensing) Regulations 2004 (S.I. No. 395/2004) as amended in 2010;
- Waste Management (Packaging) Regulations 2014 (S.I. No. 282/2014);
- Waste Management (Prohibition of Waste Disposal by Burning), Regulations, 2009 (S.I. No. 286/2009);
- Waste Management (Landfill Levy) Regulations 2012 - 2019 (S.I. Nos. 221/2012, 194/2013, 189/2015 and 182/2019);
- European Union (Waste Electrical and Electronic Equipment) Regulations 2014 (S.I. No. 149/2014) and 2019 Amendment Regulations;
- European Union (Batteries and Accumulators) Regulations 2014 (S.I. No. 283 of 2014) as amended by (S.I. No. 349/2014);
- Waste Management (Food Waste) Regulations 2009 (S.I. No. 508/2009), as amended in 2015;
- European Union (Household Food Waste and Bio-waste) Regulation 2015 (S.I. No. 191/2015);
- Waste Management (Hazardous Waste) Regulations, 1998 (S.I. No. 163/1998) as amended in 2000 and part revoked by S.I. No. 324/2011;
- Waste Management (Shipments of Waste) Regulations, 2007 (S.I. No. 419/ 2007) as amended by S.I. 324/2011);
- Waste Management (Registration of Brokers and Dealers) Regulations, 2008 (S.I. No. 113/2008);
- Environmental Protection Act 1992 (S.I. No. 7/1992) as amended by the Protection of the Environment Act, 2003;
- Litter Pollution Act 1997 (S.I. No. 12 /1997) and 2009 Amendment;
- Litter Pollution Regulations, 1999 (S.I. No. 359 /1999);
- Planning and Development Act 2000 (S.I. No. 30/2000) as amended in 2010 and 2018.

Under the legislation, there is a responsibility for future homeowners/occupiers and the Management Company to ensure that waste is properly, managed, handled and disposed of. Specifically, all waste collectors must be permitted and all waste must be recycled/recovered at authorised facilities.

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.

### **3.3.1 Kildare County Council Waste Bye-Laws**

Kildare County Council (Segregation, Storage and Presentation of Household and Commercial Waste) Bye-laws, 2018 came into effect on 1<sup>st</sup> March 2019. These bye-laws deal with both commercial and household waste.

The bye-laws set out a number of requirements with regard to the following:

1. Obligation to participate in a waste collection service;
2. Maintenance and management of waste containers;
3. Location for container storage;
4. Use of waste containers on collection day;
5. Collection times and container removal;
6. Prohibited waste types;
7. Segregation of household waste and contamination prevention;
8. Additional provisions for householders not availing of a kerbside collection service;
9. Provisions affecting multi-user buildings and apartment blocks etc;
10. Interference with orderly waste collection;
11. Additional provisions for commercial waste, and,
12. Enforcement provisions/ fixed payment notices.

The above requirements will be addressed in this OWMP.

### **3.4 Regional Waste Management Service Providers & Facilities**

Various contractors offer waste collection services for the residential and commercial sectors in County Kildare. Details of waste collection permits (granted, pending and withdrawn) for the county are available from the NWCPO.

There are a decreasing number of landfills operating in Ireland in accordance with the key policy objective to reduce disposal of waste at landfills. There are a number of licensed and permitted facilities in operation serving County Kildare and the eastern/midlands region in general 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.

In Clane, there are civic amenities located at Clane GAA and adjacent to the Westgrove Hotel. These provide for recycling of glass, tin cans and clothing.

Further afield, there are two recycling centres located at Silliot Hill, just located outside Kilcullen and Gallows Hill, Athy, Co. Kildare. The Silliot Hill facility is a custom-built centre where householders can bring a wide range of materials for recycling or disposal where necessary.

## 4.0 Proposed Development Description

The applicant seeks grant of planning permission for a residential scheme comprising 305 dwelling units as follows:

**Table 1: Schedule of Accommodation**

Description	Quantity	Mix (%)
1 bed apartment	1	0.33
2 bed apartment	103	33.77
3 bed apartment	1	0.33
1 bed maisonette	12	3.93
2 bed maisonette	8	2.62
2 bed duplex/apartment	34	11.15
3 bed duplex/apartment	34	11.15
2 bed mid terrace	20	6.56
3 bed end of terrace	14	4.59
3 bed house	34	11.15
4 bed house	44	14.43
<b>Total</b>	<b>305</b>	<b>100</b>

The development also includes a single-storey crèche facility (340m<sup>2</sup>) (Part of the ground floor of Apartment Block D); associated car parking; surface water attenuation, foul drainage and water supply infrastructure, site entrances, landscaping and all other associated site development works.

The proposed development site is located approximately 660m east of Clane Main Street. This Greenfield site is bounded to the north and north-west by agricultural lands, to the east by the River Liffey, and to the west and south by existing residential developments (Abbey Park/ Alexandra Walk / Brooklands). The total area of the proposed development site is approximately 10.32 hectares.

The total internal gross floor area is 33, 647.0m<sup>2</sup>.

#### **4.1 Details of Waste Likely to be Generated**

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

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

The above wastes will 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.

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 likely to be generated in small quantities by residents including:

- Batteries (both hazardous and non-hazardous);
- Waste electrical and electronic equipment (WEEE) (both hazardous and non-hazardous);
- Printer cartridges/toners;
- Chemicals (paints, adhesives, resins, detergents, etc.);
- Light bulbs (Fluorescent Tubes, and LED bulbs etc.);
- Textiles;
- Waste cooking oil (if any generated by the residents or commercial tenants);
- Furniture (and from time to time other bulky wastes including white goods).

#### **4.2 List of Waste Codes**

The EPA published the '*Waste Classification – List of Waste & Determining if Waste is Hazardous or Non-Hazardous*' in 2015. This waste classification system applies across the EU and provides codes called the List of Waste (LoW) codes for typical waste materials arising from different activities/sectors. The wastes likely to be generated by the proposed development and their associated codes are provided in Table 2 overleaf.

**Table 2: List of Wastes Likely to be Generated**

Waste Material	LoW Code
Paper and Cardboard	20 01 01
Plastics	20 01 39
Metals	20 01 40
Mixed Non-Recyclable Waste	20 03 01
Glass	20 01 02
Biodegradable Kitchen Waste	20 01 08
Oils and Fats	20 01 25
Textiles	20 01 11
Batteries and Accumulators*	20 01 33* - 34
Printer Toner/Cartridges*	20 01 27* - 28
Green Waste	20 02 01
WEEE*	20 01 35*-36
Chemicals (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

\*Denotes hazardous

## 5.0 Estimated Waste Generation

The EPA website reports on waste statistics for Ireland. The latest figures indicate that the total amount of household waste generated per person annually is 312kg (based on the year 2016). The latest figures reveal that approximately 26% of all municipal waste (includes commercial and household) is disposed of to landfill or burned in incinerators without energy recovery while the remaining 74% is recovered (includes for recycled materials and biodegradable organic waste).

BS 5906:2005 Waste Management in Buildings – Code of Practice has been considered in the estimation of waste generated by the proposed development. The total weekly waste arisings from the overall proposed development is estimated at approx. 64.74m<sup>3</sup> per week.

**Table 3: Weekly Waste Generation**

Waste Type	m <sup>3</sup> /week				
	1-bed	2-bed	3-bed	4-bed	Creche
Organic waste	0.1	2.24	1.59	1.09	0.032
DMR	0.76	16.27	11.55	7.91	1.24
MNR	0.39	8.42	5.98	4.09	0.55
Glass	0.05	1.12	0.80	0.55	0.006
<b>Total</b>	<b>1.3</b>	<b>28.05</b>	<b>19.92</b>	<b>13.64</b>	<b>1.83</b>

## 6.0 Waste Storage & 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 KCC. 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;
- KCC Development Plan 2017 – 2023;
- KCC, Bye-Laws for the Storage, Presentation and Collection of Household and Commercial Waste (2018), and,
- Department of Housing, Planning and Local Government (DoHPLG), Sustainable Urban Housing: Design Standards for New Apartments, Guidelines for Planning Authorities (2018).

All residents and the creche operators will be required to source segregate waste into DMR, MNR, glass and organic waste.

Accordingly, the following will be provided in terms of bin storage based on the weekly waste arisings:

Bin storage to all houses and maisonettes will be provided in private back gardens. Each house and maisonette will be provided with minimum storage space for 240lt x 3 separate bins for DMR, organic and MNR waste although occupiers of smaller units may prefer to use smaller bin sizes. Normally the waste collectors operating in the area will provide appropriate waste bins.

Duplex blocks A, B, E, G, H, I, J & K will be provided with individual waste storage areas (WSA) in external enclosures. The enclosures will be designed to accommodate separate individual 1,100 lt wheelie bins for DMR and MNR waste. A smaller 240 lt bin will be provided for organic waste for each block.

Each apartment block C, D, F and L will be provided with a dedicated communal Waste Storage Area (WSA). These shared WSAs are located on the ground level of each block. Bin store capacity is 14,300 lt in each block. A three bin system will be implemented using 1,100lt bins for DMR and MNR. Smaller 240lt bins will be used for organic waste due to the heavier weight and for ease of manual handling by facilities management and waste contractor personnel.

The bin requirements for the larger Blocks F and L, each of which comprises 40 units, has been estimated based on the weekly waste arisings and likely split into separate fractions as follows:

- 5 x 1,100 lt for DMR;
- 3 x 1,100 lt for MNR, and,
- 3 x 240 lt for organic waste.

There is adequate space for 2 x 240lt bins for glass waste also in the each apartment block WSA, however the collection of glass waste will be subject to agreement with the waste contractor. There are 2 civic amenities with glass recycling in close proximity to the proposed development.

Bin store capacity for all apartment blocks will exceed the estimated weekly collection requirements, even taking into account any waste generation spikes which may occur. If more frequent collections are required, the waste management company can arrange additional collections as required.

The creche located in Block D will have its own dedicated WSA within the WSA for Block D comprising 2 x 1,100 lt and 1 x 240lt bins.

Within individual apartments, there will be adequate provision for the temporary storage of segregated materials prior to deposition in the communal WSAs.

All WSA bins will be clearly labelled and colour coded to avoid cross contamination of the different waste streams. Typically, the following colour codes will be used:



All waste receptacles used will comply with the IS EN 840 2012 standard for performance requirements of mobile waste containers, where appropriate.

The WSAs will meet the following requirements:

- 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 residents, (operators in the case of the creche) facilities management and waste contractors only. Key or electronic fob access will be implemented.
- Be supplied with hot or cold water for washing of bins;
- Be fitted with suitable power supply for a power washer, if required;
- Have a sloped floor to a central foul drain for bin wash water run-off;
- Have appropriate signage placed above and on bins indicating correct use; and
- Have measures for potential control of vermin, if required.

The Facility Management Company, will be required to maintain the bins and their WSAs in good condition. All residents will be made aware of the waste segregation requirements and waste storage arrangements.

All residents will be required to segregate waste glass within their units and bring it for recycling at civic amenity centres unless otherwise agreed with the appointed waste contractor.

## **6.2 Waste Collection**

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

Waste collection is expected to occur on a weekly basis. Placing and removal of bins following emptying will comply with KCC bye-laws.

## **6.3 Other Waste Types Generated**

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 as discussed below.

### **Green waste**

Green waste may be generated from gardening including grass mowing by individual house owners and by landscaping of shared external amenity. Green waste generated from landscaping of external areas will be removed by external landscape contractors. Green waste generated from gardens can be placed in the organic waste bins.

## **Batteries**

In accordance with KCC waste bye-laws it will be prohibited for residents to place batteries in the waste bins provided on site. 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.

## **Waste Electrical and Electronic Equipment (WEEE)**

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

## **Printer Cartridge/Toners**

Waste printer cartridge/toners generated by residents can be returned to the supplier free of charge or can be brought to the Silliot Hill dedicated facility.

## **Chemicals (paints, adhesives, detergents etc)**

Chemicals (such as 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. Where residents undertake their own maintenance/redecorating, then KCC should be contacted regarding disposal. **Paint Reuse** initiatives are often set up in local authority areas.

## **Light Bulbs (including Fluorescent Tubes and Long Life, LED etc.)**

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

## **Textiles**

Where possible, waste textiles should be recycled or donated to a charity organisation for reuse. There are two local civic amenities in Clane where waste clothing can be recycled.

## **Waste Cooking Oil**

If the residents generate waste cooking oil, this can be brought to the Silliot Hill dedicated facility.

## **Furniture (and other bulky wastes)**

Furniture and other bulky waste items (such as washing machines etc.) may occasionally be generated by residents. If residents wish to dispose of furniture or bulky white goods then these can be brought to the Silliot Hill dedicated facility.

## **7.0 Conclusions**

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

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