

Watfore Ltd.

**Creamfields Residential  
Development**

**Operational Waste Management Plan**

252666-00-RPT-OWMP-SHD

Issue 2 | 16 February 2022

This report takes into account the particular instructions and requirements of our client.

It is not intended for and should not be relied upon by any third party and no responsibility is undertaken to any third party.

Job number 252666-00

**Ove Arup & Partners Ireland Ltd**

**Arup**  
50 Ringsend Road  
Dublin 4  
D04 T6X0  
Ireland  
[www.arup.com](http://www.arup.com)



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		Name	Simon Grennan	Janet Lynch	Stephen Ginn
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## Executive Summary

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This report is an Operational Waste Management Plan for a Strategic Housing Development (hereafter referred to as the ‘proposed development’) located at the former "CMP Dairies" site at Kinsale Road / Tramore Road, Cork.

Waste will be generated from both residential and commercial spaces in the proposed development during the operational phase. All waste will be stored and segregated into separate fractions to facilitate the collection of dry mixed recyclables, residual waste, organic waste and glass.

Waste handling areas have been identified for the storage of wheeled bins and other waste equipment at the ground level of the proposed development. Where required, the bins will be transported for collection to collection points located at ground level. Storage and collection of wastes will be undertaken on site in accordance with the Cork City Council (Segregation, Storage and Presentation of Household and Commercial Waste) Bye-Laws, 2019, the Cork City Development Plan 2015-2021 and the standard BS 5906:2005 Waste management in buildings — Code of Practice, as appropriate.

# 1 Introduction

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This report is an Operational Waste Management Plan for a Strategic Housing Development (hereafter referred to as the ‘proposed development’) located at the former "CMP Dairies" site at Kinsale Road / Tramore Road, Cork.

## 2 Proposed Development

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Watfore Ltd. intend to apply to An Bord Pleanála (the Board) for permission for a Strategic Housing Development with a total application site area of c. 3.39 ha, on lands located at the former "CMP Dairies" site at Kinsale Road / Tramore Road, Cork.

The proposed development will consist of a Strategic Housing Development of 609 no. dwellings (561 no. apartments (of which 257 no. are Build To Rent) and 48 no. townhouses) in 12 no. buildings of between 1-15 storeys in height over ground, to include a coffee kiosk; gym; café; retail use; creche and community hub; public square; car parking; cycle parking; and all associated site development, infrastructural, and landscaping works on the site of the former CMP Dairies site, Kinsale Road and Tramore Road, Cork.

The site plans for Level 0 and Level 1 of the proposed development are presented in **Appendix A**.

## 3 Planning and Policy

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### 3.1 Overview

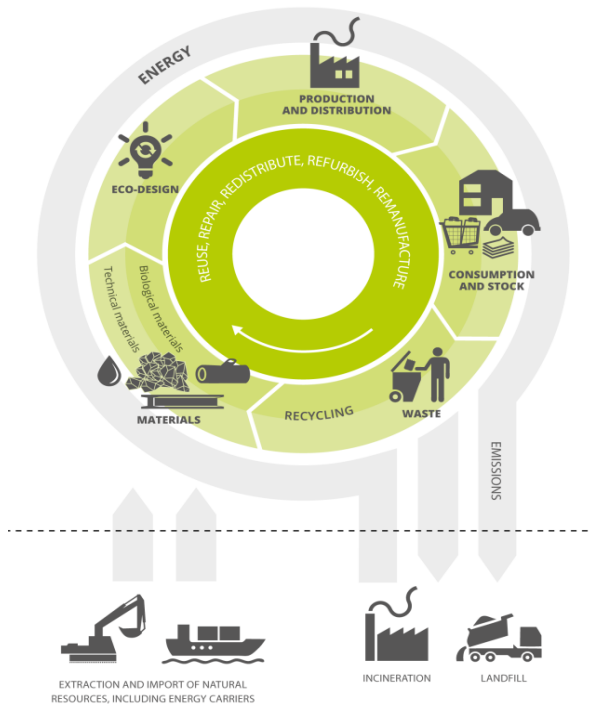
The principal objective of sustainable resource and waste management is to use resources more efficiently, where the value of products, material and resources is maintained in the economy for as long as possible such that the generation of waste is minimised. To achieve resource efficiency there is a need to move from a traditional linear economy to a circular economy (refer to **Figure 1**).

A Waste Action Plan for a Circular Economy – Ireland’s National Waste Policy 2020 – 2025 (Department of Communications, Climate Action and Environment (DCCA), 2020) notes that:

*“In a circular economy the value of products and materials is maintained for as long as possible; waste and resource use are minimised, and resources are kept within the economy when a product has reached the end of its life, to be used again and again to create further value.”*

The EU Circular Economy Action Plan (European Commission, 2020) notes that:

*“the EU needs to accelerate the transition towards a regenerative growth model that gives back to the planet more than it takes, advance towards keeping its resource consumption within planetary boundaries, and therefore strive to reduce its consumption footprint and double its circular material use rate in the coming decade.”*



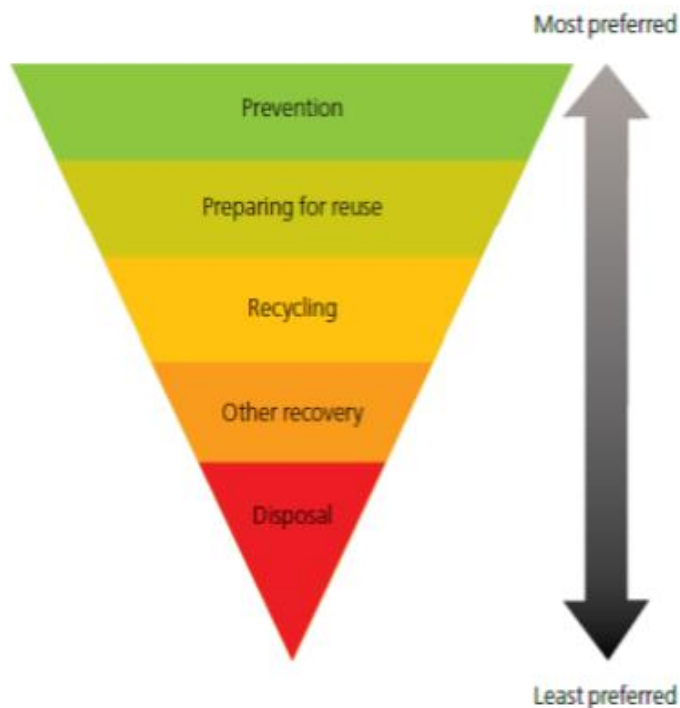
**Figure 1: A Simplified Model of the Circular Economy for Materials and Energy (European Environment Agency, 2016)**

Where residual waste is generated, it should be dealt with in a way that follows the waste hierarchy (refer to **Figure 2**) and set out in Directive 2008/98/EC of the European Parliament and of the Council of 19 November 2009 on waste and repealing certain Directives and Directive 2018/851 of the European Parliament and of the Council of 30 May 2018 amending Directive 2008/98/EC on waste.

The waste hierarchy supports the need to achieve efficient use of material resources, minimise the amount of waste produced (or otherwise increase its value as a resource) and reduce, as far as possible, the amount of waste that is disposed to landfill.

Key resource and waste management policy and planning documents were taken into account in preparing this Operational Waste Management Plan including the Southern Region Waste Management Plan 2015 - 2021 (Limerick City & County Council/Tipperary County Council, 2015) and the Cork City Council Development Plan 2015 – 2021 (Cork City Council, 2015). Provisions of these plans relevant to resource and waste management at the proposed development are described below.

An overview of additional relevant legislation, policy and best practice guidance related to waste management is presented in **Appendix B**.



**Figure 2: Waste Hierarchy**

## 3.2 Development Plan Policies

### 3.2.1 Southern Region Waste Management Plan 2015 - 2021

For the purposes of waste management planning, Ireland is now divided into three regions: Southern, Eastern-Midlands, Connacht-Ulster. The Southern Region includes Cork City Council. The Southern Region Waste Management Plan 2015 - 2021 (Limerick City & County Council/Tipperary County Council, 2015) was launched in 2015. The strategic approach of the plan places a stronger emphasis on preventing wastes and material reuse activities. Three strategic targets have been set in the plan which include:

- 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 in favour of higher value pre-treatment processes and indigenous recovery practices.

The plan looks to 2030 and includes a goal of reaching a recycling rate of 60%.

### 3.2.2 Cork City Development Plan 2015 - 2021

The Cork City Development Plan 2015-2021 (Cork City Council, 2015) sets out Cork City Council's policies and objectives for the development of the city over the Plan period.

The Council includes two waste management objectives as part of Chapter 12 Environmental Infrastructure and Management – relating to Bin Provision in the City Centre and a Litter Management Plan, respectively. It also identifies a strategic environmental infrastructure objective to follow a waste hierarchy that starts with prevention, preparing for re-use, recycling, other recovery (e.g. energy recovery) and finally disposal (including landfill).

Section 12.22 of the Development plan sets out the following guidelines related to design standards for proposed developments:

*“12.22 Design Standards*

*The incorporation of adequate waste storage facilities and management procedures in private developments is critical to ensure the effective separation of waste streams in a manner that maintains residential amenity.”*

A draft Plan was also recently published which sets out the priorities for the city for a 6-year period from 2022 to 2028 (Cork City Council, 2021). The draft Plan seeks to ensure that measures will be adopted to ensure sustainable waste management while it also aims to support provisional initiatives that will develop the circular economy through implementation of the Regional Waste Management Plan for the Southern Region 2015-2021 and its successor.

## 4 Receiving Environment

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### 4.1 Municipal Waste

Municipal waste is the waste type that will be most relevant to the operational phase of the proposed development. Municipal waste includes the following waste types:

- **Residual** (sometimes known as black bin) waste e.g. waste that cannot be recycled;
- **Recyclable** (sometimes known as green bin) waste e.g. plastic, paper and cardboard, metals;
- **Glass**;
- **Organic** (sometimes known as brown bin) waste e.g. food and garden waste;
- **Bulky waste** e.g. waste that cannot fit in a wheelie bin such as broken furniture, carpets, toys etc.; and

- **Waste Electrical and Electronic Equipment (WEEE).**

The most recent complete figures published by the EPA relating to municipal waste are for the year 2019 and note that 3,085,652 tonnes of municipal waste were generated in Ireland (EPA, 2021).

Of this 83% was recovered, which means the waste was recycled, incinerated for energy recovery or used to cover landfilled waste. 37% was recycled. ‘Recycled’ means the waste was broken down and used to make new items and includes the breakdown of food and garden waste to make compost. 15% of municipal waste was disposed of in 2019.

The figures in **Table 1** below were obtained from the most recent waste characterisation surveys conducted in Ireland undertaken in 2016 and published in 2018. They should be considered as a guide only as municipal waste can vary significantly from one location to another, depending on the nature of the development and the waste management practices employed on-site. The predominant waste streams in municipal waste include plastics, papers and organic waste, with these streams comprising 40% of total municipal waste composition.

**Table 1: Composition of Municipal Waste<sup>1</sup>**

Category	Composition
Plastics	17.2%
Papers	15.3%
Organic waste (non-garden)	12.5%
Cardboards	8.5%
Fines (<20mm)	8.6%
Organic waste (garden)	7.6%
Textiles excl. nappies	7.6%
Nappies	6.7%
Metals	4.2%
Unclassified Combustibles	4.3%
Glass	2.6%
Unclassified Incombustibles	1.7%
Haz Municipal Waste (excl. WEEE & Tubes)	0.9%
Composite beverage cartons	0.8%
Wood	0.8%
WEEE & Tubes	0.7%

<sup>1</sup> EPA (2018) Household Waste Characterisation Campaign - Final Report. [https://www.epa.ie/publications/monitoring--assessment/waste/national-waste-statistics/Household\\_Surveys\\_Final\\_Report1.pdf](https://www.epa.ie/publications/monitoring--assessment/waste/national-waste-statistics/Household_Surveys_Final_Report1.pdf) [Accessed: December 2021]

Category	Composition
<b>Total</b>	<b>100.0%</b>

## 5 Waste Generation

### 5.1 Residential

Residential waste generation from the proposed development has been estimated to enable the number of bins required for storage in basement to be calculated. This calculation was based on the schedule of accommodation for the scheme. To demonstrate how this was calculated an example calculation for Building B is set out in this section. Residential waste storage requirements for the development are presented in **Section 6.2**.

Building B contains 90 residential units.

Assumptions are as follows in this section:

- Building B contains a total of 90 no. apartments comprising:
  - 42 no. 1 bed apartments; and
  - 48 no. 2 bed apartments.
- Occupancy rates are assumed to be 2 persons per 1 bed apartment, 4 persons per 2 bed apartment, 5 persons per 3 bed apartment and 6 persons per 4 bed apartment.
- Household waste will be source separated into recyclables, residual, organic and glass waste.
- It is assumed that approximately 55% of waste generated will be dry mixed recyclables (which complies with the target of the Southern Region Waste Management Plan – refer to **Section 3.2.1**), 30% of waste generated will be residual waste, 10% of waste generated will be organic waste and 5% of waste generated will be glass waste. The waste management system will be flexible to allow for increases in the proportion of source segregated recyclables and reduction of residual wastes in the future. This includes the European Commission’s 70% target for re-use and recycling of waste by 2030.
- Twice weekly waste collection of residential waste is assumed for the purpose of these calculations.
- It is assumed that all waste will be delivered by householders to ground level communal waste stores.

- The EPA reported a household waste generation rate per capita of 330kg per annum for 2019<sup>2</sup>, the most recent year for which published data is available.

Specific assumptions, formula and calculations used are presented in **Table 2**.

**Table 2: Assumptions, Formulas and Calculations used – Building B (Residential)**

Assumptions	Formula	Calculation
1 bed: 2 person occupancy rate 2 bed: 4 person occupancy rate 3 bed: 5 person occupancy rate 4 bed: 6 person occupancy rate	No of People = No. of units * occupancy rate	1 Bed: 42 units * 2 people = 84 people. 2 Bed: 48 units * 4 people = 192 people. Total = 276 people
330kg per annum waste generation	Tonnes of waste = waste per annum * No. of people	0.33 tonnes/person/year * 276 people = 91.08 tonnes / year
Density of 0.21 tonnes/m <sup>3</sup>	Volume of waste = Tonnes / density	91.08 tonnes / 0.21 tonnes/m <sup>3</sup> = 433.71 m <sup>3</sup> per annum
1,100 litre (1.1m <sup>3</sup> ) wheeled bins will be used for communal waste collection of dry mixed recyclables and residual waste. 360 litre (0.36m <sup>3</sup> ) wheeled bins will be used for communal waste collection of organic waste. 240 litre (0.24m <sup>3</sup> ) wheeled bins will be used for communal waste collection of glass waste. Assume twice weekly waste collection.	Volume per 2 days / week = Total volume / 2 / 52	433.71 m <sup>3</sup> per annum / 2 / 52 weeks = 4.2 m <sup>3</sup> per week

Using the above method for each of the residential buildings (B, C, J, G, H, I, L, M, N, E and F), the number of bins required for household waste was calculated.

## 5.2 Commercial

While the proposed development is predominantly residential, there are some commercial activities included in the scheme, these are:

- Community Facilities;
- Creche;
- Gym;
- Coffee kiosk;
- Café; and
- Retail.

<sup>2</sup> <https://www.epa.ie/our-services/monitoring--assessment/waste/national-waste-statistics/household/> [Accessed: December 2021]



Commercial waste generation from the proposed development has been estimated to enable the number of bins required for storage to be calculated. This calculation was based on the schedule of accommodation for the scheme.

Assumptions are as follows in this section:

- Creche – assumed to be occupied on a 5 day/week basis;
- All other uses – assumed to be occupied on a 7 day/week basis;
- Creche – attendance assumption is 63 no. children/day; and
- 2 no. collections per week of commercial waste is assumed.

The waste generation rates and percentage distribution of waste which can be categorised as dry mixed recyclables, residual, organic and glass waste for each commercial source are presented in **Table 3**. These were used to determine the waste storage requirements. All percentage distributions are based on the results of the EPA Municipal Waste Characterisation Surveys 2008 (EPA, 2009).

Using the waste generation rates and percentage distributions of waste, the number of bins required for commercial waste was calculated.

**Table 3: Waste Generation Rates and Waste Splits – Commercial**

		Retail <sup>3</sup>	Creche <sup>4</sup>	Community Facilities <sup>5</sup>	Coffee Kiosk <sup>6</sup>	Café <sup>7</sup>	Gym <sup>8</sup>
<b>Generation rate</b>		100 litres/ 100m <sup>2</sup> /day	450 g/child/ day	27 litres/ 100m <sup>2</sup> /day	120 litres/ 100m <sup>2</sup> / day	180 litres/ 100m <sup>2</sup> / day	71 litres/ 100m <sup>2</sup> / day
<b>Waste Split <sup>9</sup></b>	<b>Residual</b>	10%	10%	10%	5%	5%	10%
	<b>Dry Mixed Recyclable</b>	60%	60%	60%	20%	20%	60%

<sup>3</sup> Based on Retail – Non-food shops >100m<sup>2</sup> - *Biffa/Forward Scotland/ICE/Enviro Centre (2005) Planning for Resource Sustainable Communities - Volume 1: Waste Infrastructure and Management.*

<sup>4</sup> Based on primary school waste generation rate, with adjustments made for toddlers and nappy generation – *WRAP (2008) The nature and scale of waste produced by schools in England.*

<sup>5</sup> Based on Office (average) - *Biffa/Forward Scotland/ICE/Enviro Centre (2005) Planning for Resource Sustainable Communities - Volume 1: Waste Infrastructure and Management.*

<sup>6</sup> Based on Retail – Food Shops (low) – Recyclables rate of 20% also included – *Biffa/Forward Scotland/ICE/Enviro Centre (2005) Planning for Resource Sustainable Communities - Volume 1: Waste Infrastructure and Management.*

<sup>7</sup> Based on Retail – Food Shops (average) – Recyclables rate of 20% also included – *Biffa/Forward Scotland/ICE/Enviro Centre (2005) Planning for Resource Sustainable Communities - Volume 1: Waste Infrastructure and Management.*

<sup>8</sup> Based on Leisure – *BS5906: 2005.*

<sup>9</sup> Based on Waste Compositions from *EPA (2009) Municipal Waste Characterisation Surveys 2008.*

		Retail <sup>3</sup>	Creche <sup>4</sup>	Community Facilities <sup>5</sup>	Coffee Kiosk <sup>6</sup>	Café <sup>7</sup>	Gym <sup>8</sup>
	Organic	25%	25%	25%	50%	50%	25%
	Glass	5%	5%	5%	25%	25%	5%

## 6 Waste Storage and Movement

### 6.1 Overview

This section presents information on the storage and movement of residential and commercial waste within the proposed development.

Refer to **Appendix C** for an outline of typical technical specifications in relation to sizes of the waste containers and waste equipment to be used for the proposed development.

A site plan for Level 0 which details the locations of the waste storage rooms in the development, along with the proposed marshalling areas at ground level is presented in **Appendix A**.

It is noted that a number of different tenants and businesses will use the waste management facilities on site. As a result, and in order to ensure the waste storage and collection facilities on site will be effectively used and managed, a facilities manager will be required to arrange both movement of waste and recyclables around the site and access to the waste management storage areas.

Storage and collection of recyclables and wastes will be undertaken on site in accordance with the Cork City Council (Segregation, Storage and Presentation of Household and Commercial Waste) Bye-Laws, 2019 (Cork City Council, 2019), the Cork City Development Plan 2015-2019 (Cork City Council, 2015) and the standard BS 5906:2005 Waste management in buildings — Code of practice (BSI, 2005), as appropriate.

The facilities management team will be responsible for the maintenance of the waste handling areas and will act as a single point of contact for the waste collection contractor.

BS 5906:2005 Waste management in buildings - Code of practice (BSI, 2005) notes that waste operatives should not be required to move 4 wheeled waste containers a distance of more than 10 metres. As a result, a tow tractor will be used for the transport of wheeled bins at ground level and in the proposed car park on site.

The waste storage rooms will be appropriately ventilated and sufficient drainage will be provided to enable a thorough wash down of all bins and the waste storage rooms themselves.

The waste storage rooms at ground level will have adequate provision to move waste to designated waste marshalling areas, if deemed necessary (refer to Section 7 for further details). Waste collection will take place from the waste storage rooms or from the designated marshalling areas.

## 6.2 Residential Waste

Residential waste will be source separated by householders into separate fractions to facilitate the collection of dry mixed recyclables, residual waste, organic waste and glass waste in line with the Cork City Council (Segregation, Storage and Presentation of Household and Commercial Waste) Bye-Laws, 2019 (Cork City Council, 2019).

As and when required, residents will make use of WEEE recycling facilities at the point of sale, while they will make use of nearby recycling parks for the recycling of bulky waste. LED light fittings will be used throughout the proposed development, negating the need for light bulb recycling facilities on site.

The various residential waste fractions will be delivered by householders to designated communal waste storage rooms located at ground level. It is proposed to have a total of six waste storage rooms to cater for residential waste from the proposed development. A site plan for Level 0 details the locations of these waste storage rooms – refer to **Appendix A**.

All rooms containing wheeled bins should have a head height of 2m or greater and be designed in accordance with BS5906:2005 Waste Management in Buildings - Code of Practice (BSI, 2005) particularly in relation to fire risk. It is recommended that a fire engineer review the waste storage room design.

It is proposed that dry mixed recyclable and residual waste will be stored in 1,100 litre bins, while organic waste will be stored in 360 litre bins and glass waste will be stored in 240 litre bins. Waste collectors operating in Cork City Council have confirmed that these are the appropriate bin sizes to use for the respective wastes.

The number of bins required per residential building per week (assuming twice weekly collections) to cater for the volume of residential waste estimated are presented in **Table 4**. The numbers have been calculated using the formulas assumptions and calculations previously noted in **Table 2**.

**Table 4: Residential Waste Storage, assuming twice weekly collection**

Waste Storage Room	Building	Dry Mixed Recyclable 1,100 litre bins	Residual Waste 1,100 litre bins	Organic Waste 360 litre bins	Glass Waste 240 litre bins
R01	B	3	2	2	1
R02	E	4	2	2	2
R03	C	3	2	2	2
	I	1	1	1	1
	N	1	1	1	1
R04	L	1	1	1	1
	M	1	1	1	1
R05	J	2	1	1	1
	G	1	1	1	1
	H	1	1	1	1
R06	F	4	2	2	2
<b>Total</b>		<b>22</b>	<b>15</b>	<b>15</b>	<b>14</b>

### 6.3 Commercial Waste

Commercial waste will be source separated by tenants into separate fractions to facilitate the collection of dry mixed recyclables, residual waste, organic waste and glass waste in line with the Cork City Council (Segregation, Storage and Presentation of Household and Commercial Waste) Bye-Laws, 2019 (Cork City Council, 2019).

As and when required, commercial tenants will make use of WEEE recycling facilities at the point of sale, while they will make use of nearby recycling parks for the recycling of bulky waste. LED light fittings will be used throughout the proposed development, negating the need for light bulb recycling facilities on site.

The various commercial waste fractions will be delivered by commercial tenants to designated communal waste storage rooms located at ground level. It is proposed to have one waste storage room to cater for commercial waste from the

proposed development. A site plan for Level 0 details the location of this waste storage room – refer to **Appendix A**.

All rooms containing wheeled bins should be designed in accordance with BS5906:2005 Waste Management in Buildings - Code of Practice (BSI, 2005), particularly in relation to fire risk. It is recommended that a fire engineer review the waste storage room design.

It is proposed that dry mixed recyclable and residual waste will be stored in 1,100 litre bins, while organic waste will be stored in 360 litre bins and glass waste will be stored in 240 litre bins. Waste collectors operating in Cork City Council have confirmed that these are the appropriate bin sizes to use for the respective wastes.

The number of bins required per commercial building per week (assuming twice weekly collections) to cater for the volume of commercial waste estimated are presented in **Table 5**.

**Table 5: Commercial Waste Storage, assuming twice weekly collection**

Waste Storage Room	Building	Dry Mixed Recyclable 1,100 litre bins	Residual Waste 1,100 litre bins	Organic Waste 360 litre bins	Glass Waste 240 litre bins
R06	E	1	1	1	1
	F	2	1	2	1
<b>Total</b>		<b>3</b>	<b>2</b>	<b>3</b>	<b>2</b>

## 7 Waste Collection

Residential and commercial waste will be collected on a twice weekly basis from the proposed development. Dry mixed recyclables, residual waste, organic waste and glass waste will be collected on different days. Marshalling areas capable of containing the largest waste stream i.e. dry mixed recyclables, will be located at ground level.

In the case of waste the storage rooms R02, R05 and R06, bins will be transported from these waste storage rooms to the designated marshalling areas for collection. A site plan for Level 0 details the location of these waste marshalling areas – refer to **Appendix A**. In the case of the waste storage rooms R01, R03 and R04, these rooms will double up as marshalling areas, with bins being collected directly from these waste storage rooms on collection days.

A facilities manager will be required to arrange movement of waste and recyclables around the site on collection days.

The marshalling areas will be located adjacent to waste collection vehicle set down areas so that the waste operatives will not be required to move 4 wheeled waste containers a distance of more than 10 metres. This is in line with guidance specified in BS 5906:2005 Waste management in buildings — Code of practice (BSI, 2005).

Vehicle swept path drawings have been prepared which illustrate the proposed movement of waste vehicles around the proposed development – refer to **Appendix D**.

Following appointment of a residential and commercial waste collector and prior to commencement, collection arrangements, including the proposed days of collection, will be notified to and agreed with the waste department of Cork City Council

## 8 References

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EPA, 2009. Municipal Waste Characterisation Surveys 2008.

Limerick City & County Council/Tipperary County Council, 2015. Southern Region Waste Management Plan 2015 – 2021.

WRAP, 2008. The nature and scale of waste produced by schools in England.

## **Appendix A**

### **Site Layout Plans**









Blue outline areas do not form part of SHD application 98 parking spaces provided for Primary Care Centre (57 undercroft, 41 on surface).

Car Parking hatched in red will not be provided as part of this SHD application, but area will be constructed to support Town Square above

Adjoining Property Kinsale Rd. Retail Park

Escape Steps to Level 1

Access arrangement to lift will be agreed with Fire Department as part of the Fire Safety Certificate Application

Undercroft Car-park 147 residential spaces; 62 on surface residential spaces 209 total

3m Public Footpath and 2m Cycle lane

Community Hub & Creche to Kinsale Rd.

Creche Set down

Site Notice

Proposed Site Entrance

Black Ash Park and Ride

Fire Tender Access Route

Own door townhouses at gnd. & 1st floor to Kinsale Rd.

Pedestrian and cyclist connection point

3m Public Footpath and 2m Cycle lane

Site Notice

Pedestrian and cyclist connection point

Adjoining Property

NOTE: FOR LANDSCAPE DETAILS PLEASE REFER TO LANDSCAPE MASTERPLAN BY CUNNANE STRATTON REYNOLDS  
NOTE: FOR ENGINEERING DETAILS PLEASE REFER TO ARUP CONSULTING ENGINEERS DRAWINGS

JOB  
Creamfields Residential Development  
Kinsale & Tramore Roads, Cork

CLIENT  
Watfore Limited

PLANNING  
Site Layout Plan\_Level 0

DATE	10.12.21	SCALE	1:500@A1
DRN	M.STAPLETON	REVISION	P01
CHECKED	REWORKS		
DWG NUMBER	P19-195C-RAU-00-XX-DR-A-20002		

reddy architecture+urbanism

Reddy Architecture + Urbanism  
Cork Office  
Douglas Business Centre, Campine Road, Douglas, Co. Cork

T: +353 (0)21 4362922  
W: www.reddyarchitecture.com  
E: cork@reddyarchitecture.com

ORIGINAL SHEET SIZE = A1

REV	DATE	BY	ISSUED FOR	NOTES
P01	2022.01.31	CH	ISSUED FOR PLANNING	
REV	DATE	BY	ISSUED FOR	NOTES





Blue outline areas;  
Primary Care, Pharmacy  
and parking do not form  
part of this application

Adjoining  
Property  
Musgrave  
Retail  
Partners

Adjoining  
Property  
Kinsale Rd.  
Retail Park

Escape Steps from  
Basement Car Park

3m Public Footpath  
and 2m Cycle lane

Site Notice

Mick Barry  
Road

Black Ash  
Park and  
Ride

Fire Tender Access Route

Pedestrian and cyclist  
connection point

3m Public Footpath  
and 2m Cycle lane

Site Notice

Pedestrian and cyclist  
connection point

Adjoining  
Property

NOTE: FOR LANDSCAPE DETAILS  
PLEASE REFER TO LANDSCAPE  
MASTERPLAN BY CUNNANE  
STRATTON REYNOLDS  
NOTE: FOR ENGINEERING DETAILS  
PLEASE REFER TO ARUP CONSULTING  
ENGINEERS DRAWINGS

JOB  
Creamfields Residential Development  
Kinsale & Tramore Roads, Cork

CLIENT  
Watfore Limited

PLANNING  
DRAWING  
Site Layout Plan\_Level 1

DATE	10.12.21	SCALE	1:500
DRN	M.STAPLETON	REVISION	P01
CHECKED	S.MEANEY		
DWG NUMBER	P19-195C-RAU-00-XX-DR-A-20003		

**reddy**architecture+urbanism

Reddy Architecture + Urbanism  
Cork Office  
Douglas Business Centre, Carlingford Road, Douglas, Co. Cork

T: +353 (0)21 4362922  
W: www.reddyarchitecture.com  
E: cork@reddyarchitecture.com

ORIGINAL SHEET SIZE = A1

REV	DATE	BY	ISSUED FOR	BR/NOTES
001	2022.07.31	CH	ISSUED FOR PLANNING	

NOTES



## **Appendix B**

**Waste Management Legislation,  
Policy and Best Practice  
Guidance – Review**

## LEGISLATION

### European Legislation

#### ***Directive 2008/98/EC of the European Parliament and of the Council of 19 November 2008 on waste and repealing certain Directives***

Directive 2008/98/EC, known as the “Waste Framework Directive” came into force on 12th December 2008. It provides for a general framework of waste management requirements and sets the basic waste management definitions for the EU.

The Directive lays down the five-step hierarchy of waste management options, with waste prevention as the preferred option, followed by re-use, recycling, recovery and safe disposal, in descending order. In addition, the Directive deals with the issue of ‘end of waste’ and clarifies the definitions of recovery, disposal and by-product. The directive states that, “*The recovery of waste and the use of recovered material as raw materials should be encouraged in order to conserve natural resources.*”

#### ***Directive (EU) 2018/851 of the European Parliament and of the Council of 30 May 2018 amending Directive 2008/98/EC on waste***

This Directive amends Directive 2008/98/EC. It provides a number of updated waste management definitions. The Directive allows Member States to use economic instruments including taxes and levies as an incentive for the application of the waste hierarchy. The Directive was transposed into Irish law in August 2020 by S.I. No. 322 of 2020.

The Directive sets targets for the preparing for re-use and the recycling of municipal waste as follows:

- By 2025, at a minimum 55% (by weight) will be prepared for re-use or recycling
- By 2030, at a minimum 60% (by weight) will be prepared for re-use or recycling
- By 2035, at a minimum 65% (by weight) will be prepared for re-use or recycling

With regard to construction and demolition waste, Member States must take measures to promote selective demolition in order to enable removal and safe handling of hazardous substances, facilitate re-use and high-quality recycling. The Directive obliges Member States to take measures to prevent waste generation including reduction of waste generation in processes related to construction and demolition, taking into account best available techniques.

#### ***Commission Decision of 18 December 2014, amending Decision 2000/532/EC on the list of waste pursuant to Directive 2008/98/EC of the European parliament and of the Council (2014/955/EEC) and Commission Regulation (EU) No 1357/2014 of 18 December 2014, replacing Annex III to Directive***

***2008/98/EC of the European Parliament and of the Council on waste and repealing certain Directives.***

This decision (referred to as ‘The List of Waste’ (LoW)) and this regulation consolidate the legislation relating to waste classification and allow the generators of waste to classify the waste as hazardous or non-hazardous and in the process assign the correct List of Waste entry. Each list of waste entry is a six digit code which is closely linked to the list of the main characteristics which render waste hazardous contained in Annex III to the Waste Framework Directive. It is noted that *Council Regulation (EU) 2017/997 of 8 June 2017 amending Annex III to Directive 2008/98/EC of the European parliament and of the Council as regards the hazardous property HP 14 ‘Ecotoxic’* provides additional criteria in relation to determining whether the ecotoxicity of wastes would result in a hazardous classification.

**National Legislation**

***Waste Management Acts, 1996 as amended and Regulations Made under the Acts***

The Waste Management Act, 1996 sets out the responsibilities and functions of various persons in relation to waste. The 1996 Act has been amended by a number of subsequent acts including the Waste Management (Amendment) Act 2001 and the Protection of the Environment Act 2003. The Act:

- Prohibits any person from holding, transporting, recovering or disposing of waste in a manner which causes or is likely to cause environmental pollution.
- Requires any person who carries on activities of an agricultural, commercial or industrial nature to take all such reasonable steps as are necessary to prevent or minimise the production of waste.
- Prohibits the transfer of waste to any person other than an authorised person (i.e. a holder of a waste collection permit or a local authority).
- Requires the Environmental Protection Agency (EPA) to make a national plan in relation to hazardous waste.
- Requires local authorities to make waste management plans in relation to non-hazardous waste.
- Imposes certain obligations on local authorities to ensure that a service is provided for collection of household waste and to provide facilities for the recovery and disposal of such waste.
- Enables the Minister for Environment, Climate and Communications to make regulations for various purposes to promote better waste management.
- Provides for substantial penalties for offences including fines, imprisonment and/or liability for clean-up measures.

***Waste Management (Collection Permit) Regulations, 2007, S.I. No 820 of 2007, as amended***

Waste collection permits are granted in accordance with the Waste Management (Collection Permit) Regulations, 2007 as amended. A waste collection permit is

required by anyone collecting waste on a commercial basis to ensure that the waste is gathered, sorted and transported correctly. All Waste Collection Permits are now issued by the National Waste Collection Permit Office (NWCPO).

***Waste Management (Shipments of Waste) Regulations 2007, S.I. No. 419 of 2007***

Where waste is exported from Ireland for recovery or disposal, the National Transfrontier Shipment (TFS) Office within Dublin City Council must be notified. Certain financial guarantees must be in place and a certificate issued by the National TFS Office prior to the waste movement taking place.

***European Communities (Waste Directive) Regulations 2011, S.I. No.0126 of 2011***

These regulations which were adopted in 2011 significantly changed the provisions of the Waste Management Acts, 1996 to 2008. The Regulations define “waste disposal” and “waste recovery” as well as setting out tests which must be complied with in order for material to be described as a “by-product” or achieve “end of waste” status.

The Regulations formally set out the following waste hierarchy which must be applied as a priority order in waste prevention and management legislation and policy:

- (a) prevention;
- (b) preparation for re-use;
- (c) recycling;
- (d) other recovery (including energy recovery); and
- (e) disposal

The Regulations require that all waste management plans and hazardous waste management plans in existence at the commencement of the Regulations to be evaluated by 31 December 2012 and where appropriate be revised to be brought into line with Directive 2006/12/EC on Waste.

The Regulations also require the Environment Agency to establish a waste prevention programme by December 2013.

***European Union (Waste Directive) Regulations 2020 S.I. No. 323/2020***

These regulations give effect to Directive 2018/851/EC of the European Parliament and of the Council of 30 May 2018 amending Directive 2008/98/EC on waste. Directive 2018/851/EC provides new definitions for a number of key terms including “waste” and “non-hazardous waste”, “bio-waste”, “waste management”, “waste prevention”, “backfilling” and “construction and demolition waste”.

The Regulations give partial effect to the following: Directive 2006/66/EC on batteries and accumulators and waste batteries and accumulators as amended by Directive (EU) 2018/849, Directive 2000/53/EC on end-of-life vehicles as amended by Directive (EU) 2018/849, Directive 2012/19/EU on waste electrical and electronic equipment as amended by Directive (EU) 2018/849, Directive (EU) 2018/852 amending Directive 94/62/EC on packaging and packaging waste and Directive (EU) 2018/850 amending Directive 1999/31/EC on the landfill of waste. The Regulations set out additional measures to protect the environment and human health by preventing or reducing the generation of waste, the adverse impacts of the generation and management of waste and by reducing overall impacts of resource use and improving the efficiency of such use, which are crucial for the transition to a circular economy and long-term competitiveness.

### **Bye-Laws**

#### ***Cork City Council (Segregation, Storage and Presentation of Household and Commercial Waste) Bye-Laws, 2019***

Cork City Council has put in place waste bye-laws to govern the storage, presentation and collection of household and commercial waste.

These bye-laws seek to ensure that waste within the functional area of Cork City Council is adequately managed so as to prevent and control environmental pollution.

The main provisions of the bye-laws are:

- To ensure all citizens dispose of their waste by using an authorised waste contractor or by taking it to an authorised waste facility or by sharing bins by written agreement;
- To maximise the use of wheeled bins and limit (by designation from Cork City Council) the areas where bags can be presented;
- To define how wheeled bins are to be presented;
- To ensure segregation of waste (food waste, recyclable waste and residual waste) at source;
- Where wheeled bins or branded bags, purchased from authorised waste collectors, are not used that documentation/receipts are kept to demonstrate appropriate collection and recovery or disposal of waste; and
- To restrict the storage of wheeled bins on public roads or footpaths.

### **POLICY**

#### **European Policy**

##### ***7th Environmental Action Programme, European Commission (2014)***

The 7th Environmental Action Programme came into force in January 2014 and will guide European environment policy until 2020. A key objective of the programme is to turn the Union into a resource-efficient, green and competitive low carbon economy. There is a special focus on turning waste into a resource,



with more prevention, re-use and recycling, and phasing out wasteful and damaging practices like landfilling. By 2020 the European Union and member states are to ensure that:

- The environment and human health are protected by preventing or reducing the adverse impacts of the generation and management of waste.
- Per capita waste generation and waste generation in absolute terms are reducing.
- Landfilling is phased out for recyclables and recoverable wastes and limiting energy recovery to non- recyclable materials.

The European Commission published a proposal for an 8th Environmental Action Programme on 14th October 2020. The proposal supports the environment and climate action objectives of the European Green Deal and will form the EU's basis for achieving the United Nation's 2030 Agenda and its Sustainable Development Goals. It is expected that the 8th Environmental Action Programme will be adopted in 2021 – however, a date is yet to be confirmed.

### ***European Commission Circular Economy Strategy (2015; 2018; 2020)***

In December 2015 the European Commission adopted an ambitious Circular Economy Package, which includes revised legislative proposals on waste to stimulate Europe's transition towards a circular economy.

The Circular Economy Package consists of an EU Action Plan for the Circular Economy that establishes a programme of action, with measures covering the whole cycle: from production and consumption to waste management and the market for secondary raw materials. The annex to the action plan sets out the timeline when the actions will be completed.

The proposed actions will contribute to "closing the loop" of product lifecycles through greater recycling and re-use and bring benefits for both the environment and the economy.

The revised legislative proposals on waste set clear targets for reduction of waste and establish an ambitious and credible long-term path for waste management and recycling. Key elements of the revised waste proposal include:

- An EU target for recycling 65% of municipal waste by 2030;
- An EU target for recycling 75% of packaging waste by 2030;
- A target to reduce landfill to maximum of 10% of all waste by 2030;
- A ban on landfilling of separately collected waste;
- Promotion of economic instruments to discourage landfilling;
- Simplified, improved definitions and harmonised calculation methods for recycling rates throughout the EU;
- Concrete measures to promote re-use and stimulate industrial symbiosis - turning one industry's by-product into another industry's raw material;

- Economic incentives for producers to put greener products on the market and support recovery and recycling schemes (e.g. for packaging, batteries, electric and electronic equipment, vehicles).

The Circular Economy Package was updated in 2018 to comprise a new set of measures including:

- A Europe-wide EU Strategy for Plastics in the Circular Economy;
- A Communication on options to address the interface between chemical, product and waste legislation;
- A Monitoring Framework on progress towards a circular economy at EU and national level; and
- A Report on Critical Raw Materials and the circular economy.

Key legislative measures adopted to date under the plan include:

- Directive (EU) 2018/851 amending Directive 2008/98/EC on waste;
- Directive (EU) 2018/850 amending Directive 1999/31/EC on the landfill of waste;
- Directive (EU) 2018/852 amending Directive 94/62/EC on packaging and packaging waste; and
- Directive (EU) 2018/849 amending Directive 2000/53/EC on end-of-life vehicles, Directive 2006/66/EC on batteries and accumulators and waste batteries and accumulators, and Directive 2012/19/EU on waste electrical and electronic equipment.

***European Commission, 2020. Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions – A new Circular Economy Action Plan For a cleaner and more competitive Europe. COM (2020).***

The European Commission has adopted a new Circular Economy Action Plan - which is one of the main blocks of the European Green Deal, Europe's new agenda for sustainable growth.

The new Action Plan announces initiatives along the entire life cycle of products, targeting for example their design, promoting circular economy processes, fostering sustainable consumption, and aiming to ensure that the resources used are kept in the EU economy for as long as possible.

The new Action Plan introduces legislative and non-legislative measures targeting areas where action at the EU level brings real added value.

The new Circular Economy Action Plan presents measures to:

- Make sustainable products the norm in the EU;
- Empower consumers and public buyers;
- Focus on the sectors that use most resources and where the potential for circularity is high such as: electronics and ICT; batteries and vehicles; packaging; plastics; textiles; construction and buildings; food; water and nutrients;

- Ensure less waste;
- Make circularity work for people, regions and cities; and
- Lead global efforts on circular economy.

### ***European Commission (2019) European Green Deal***

The European Green Deal, published by the European Commission in December 2019, provides an action plan to boost the efficient use of resources by moving to a clean, circular economy while cutting pollution and restoring biodiversity.

The plan outlines investments needed and financing tools available. It explains how to ensure a just and inclusive transition.

## **National Policy**

### ***Introduction***

The first national waste policy statement was published by the Department of Environment and Local Government in 1998. A number of statements have been published since, each of which builds on the objectives of the previous policy statements to improve how waste is managed in Ireland and move waste away from landfill and towards a more sustainable option. The statements published in the past include:

- Department of the Environment and Local Government (1998). ‘Waste Management - Changing Our Ways’ – A Policy Statement.
- Department of the Environment and Local Government (2002). Preventing and Recycling Waste – Delivering Change – A Policy Statement.
- Department of the Environment, Heritage and Local Government (2004). Waste Management - Taking Stock and Moving Forward.
- Department of the Environment, Heritage and Local Government (2006). National Strategy on Biodegradable Waste Management.
- Department of the Environment, Heritage and Local Government (2012). A Resource Opportunity- Waste Management Policy in Ireland.

More recent policy documents and reports are summarised below.

### ***EPA National Waste Statistics and Bulletins***

The EPA publishes national statistics and bulletins relating to waste generation, management and disposal in Ireland. The published data provide information on key statistics and trends in waste as well as information on Ireland’s progress in meeting EU waste collection, recovery and disposal targets. Key topics include municipal waste generation and management, packaging waste, waste electronic and electrical equipment, end of life vehicles, tyres, hazardous waste, construction and demolition waste and waste infrastructure. The data are available on the EPA website at <http://www.epa.ie/nationalwastestatistics/>.

### ***Environmental Protection Agency (2014). National Hazardous Waste Management Plan, 2014-2020***

The Third National Hazardous Waste Management Plan was published by the Environmental Protection Agency in 2014.

This Plan set out priority actions to be taken over the six-year life of the plan in relation to:

- Prevention of hazardous waste.
- Improved collection rates for certain categories of hazardous waste.
- Steps required to improve Ireland's self-sufficiency in hazardous waste management.
- Identification and management of certain legacy hazardous wastes such as historic unregulated waste disposal sites and contaminated soil.

The plan included eight key environmental objectives including:

1. To protect water quality (rivers, lakes, marine and groundwater) from hazardous waste;
2. To protect air quality from hazardous waste and/or reduce air pollution or limit to levels that do not damage the natural environment or human health;
3. To minimise greenhouse gas emissions associated with hazardous waste management (including transport);
4. To safeguard soil quality and quantity from hazardous waste and reduce soil contamination;
5. To maximise use of material assets including the built environment, energy and raw materials;
6. To minimise the export of hazardous waste for treatment and/or disposal and reduce emissions due to transportation;
7. To conserve and enhance biodiversity, including flora and fauna, and integrate biodiversity considerations into actions relating to or arising out of any of the recommendations in the National Hazardous Waste Management Plan; and
8. To protect human health from hazardous waste.

***EPA (2019) Waste Classification – List of Waste and Determining if Waste is hazardous or Non-Hazardous.***

Waste classification is based on:

- Commission Decision of 18 December 2014, amending Decision 2000/532/EC on the list of waste pursuant to Directive 2008/98/EC of the European parliament and of the Council (2014/955/EEC);
- Commission Regulation (EU) No 1357/2014 of 18 December 2014, replacing Annex III to Directive 2008/98/EC of the European Parliament and of the Council on waste and repealing certain Directives; and
- Council Regulation (EU) 2017/997 of 8 June 2017 amending Annex 111 to Directive 2008/98/EC of the European parliament and of the Council as regards the hazardous property HP 14 'Ecotoxic'.

This waste classification system applies across the EU and is the basis for all national and international waste reporting obligations. This document consolidates the Decision and Regulations and provides guidance on how to follow them.

There are two main elements:

- List of Waste (LoW) (Appendix 1)
- Determining if waste is hazardous or non-hazardous (Appendix 2).

***Department of Communications, Climate Action and Environment (DCCAE) (2020) A Waste Action Plan for a Circular Economy – Ireland’s National Waste Policy 2020-2025.***

The ‘Waste Action Plan for a Circular Economy’ is an action focused plan that reflects the 2020 Circular Economy Action Plan ‘For a cleaner and more competitive Europe’ from the European Commission (see above).

The Waste Action Plan for a Circular Economy fulfils the commitment in the Programme for Government (2020) to publish and start implementing a new National Waste Action Plan. This new national waste policy will inform and give direction to waste planning and management in Ireland over the coming years.

The previous national waste policy, A Resource Opportunity – Waste management policy in Ireland, drove delivery on national targets under EU legislation, but the Irish and international waste context has changed in the years since its launch. The need to embed climate action in all strands of public policy aligns with the goals of the European Green Deal.

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 and Citizen Engagement, Plastics and Packaging, Construction and Demolition, Textiles, Green Public Procurement and Waste Enforcement.

The overarching objectives of this action plan are to:

- Shift the focus away from waste disposal and treatment to ensure that materials and products remain in productive use for longer thereby preventing waste and supporting reuse through a policy framework that discourages the wasting of resources and rewards circularity;
- Make producers who manufacture and sell disposable goods for profit environmentally accountable for the products they place on the market;
- Ensure that measures support sustainable economic models (for example by supporting the use of recycled over virgin materials);
- Harness the reach and influence of all sectors including the voluntary sector, R&D, producers / manufacturers, regulatory bodies, civic society; and
- Support clear and robust institutional arrangements for the waste sector, including through a strengthened role for Local Authorities (LAs).

The plan identifies opportunities for the application of circular economy principles across a range of areas in Ireland including:

- Municipal waste;
- Consumer Protection;
- Food waste;
- Plastic and packaging waste;
- Construction and demolition waste;
- Textiles; and
- Procurement.

***Department of the Environment, Climate and Communications (2021) Climate Action Plan***

The Government published its Climate Action Plan in 2021. The Plan sets out the actions the Government intends to take to address climate breakdown across sectors such as electricity, transport, built environment, industry and agriculture.

The Plan provides that the Government will lead the transformation from waste management to circular economy practice through delivery of a new national policy. The implementation plan for actions by Government and other actors in relation to waste and the circular economy are as follows:

- Publish a Whole-of-Government Circular Economy Strategy and promote the Circular Economy;
- Enact the Circular Economy Bill 2021;
- Establish a Circular Economy Innovation Scheme;
- Strengthen the regulatory and enforcement frameworks for the waste collection and management system, to maximise circular economy principles;
- Reduce demand for virgin raw materials and support re-use, by keeping material out of waste streams through streamlined End-of-Waste and By-Product decision-making processes and national End-of-Waste decisions for specific Construction and Demolition waste streams;
- Reconfigure the current National Waste Prevention Programme as a Circular Economy Programme for Ireland to drive the transition for business, citizens and the public sector;
- Continue to drive the rollout of CirculEire, the national circular economy platform;
- The High Level National Bioeconomy Implementation Group will report to Government and develop a detailed Bioeconomy Action Plan in 2022;
- The Bioeconomy will be reflected across circular economy strategies and policies where relevant, and regulatory barriers will be examined;

- Funding mechanisms for bioeconomy innovation at demonstration level will be explored, aiming to achieve coherence across national funds;
- Opportunities to increase skills in the bioeconomy will be explored;
- Develop a policy statement on mineral exploration and mining that supports the sustainable supply of minerals required to transition to a climate neutral economy;
- Develop a Food Waste Prevention Roadmap that sets out a series of actions to deliver the reductions necessary to halve our food waste by 2030 and promote our transition to a circular economy;
- Enhance food waste segregation, collection and treatment (anaerobic digestion and composting);
- Develop and implement a new Regional Waste Management Plans that will guide our transition to a circular economy;
- Develop new and expanded environmental levies to encourage reduced resource consumption and incentivise higher levels of re-use and recycling; and
- Identify opportunities to strengthen the regulatory and enforcement frameworks and structures for the waste collection and management system, to maximise the collection of clean, segregated materials for reuse and/or recycling from all households and businesses, and to incentivise consumers to reduce, reuse and recycle.

### **Regional Policy**

#### ***The Southern Region Waste Management Plan 2015 - 2021***

For the purposes of waste management planning, Ireland is now divided into three regions: Southern, Eastern-Midlands, Connacht-Ulster. The Southern Region Includes Cork City Council.

The Southern Region Waste Management Plan 2015 - 2021 was launched in 2015. The strategic approach of the plan places a stronger emphasis on preventing wastes and material reuse activities. Three strategic targets have been set in the plan which include:

- 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 in favour of higher value pre-treatment processes and indigenous recovery practices.

The plan looks to 2030 and includes a goal of reaching a recycling rate of 60%.

#### ***Cork City Development Plan 2015-2021***

The Cork City Development Plan 2015-2021 sets out Cork City Council's policies and objectives for the development of the city over the Plan period.

The Council identifies a strategic environmental infrastructure objective to follow a waste hierarchy that starts with prevention, preparing for re-use, recycling, other recovery (e.g. energy recovery) and finally disposal (including landfill).

A draft Plan was also recently published which sets out the priorities for the city for a 6-year period from 2022 to 2028 (Cork City Council, 2021). The draft Plan seeks to ensure that measures will be adopted to ensure sustainable waste management while it also aims to support provisional initiatives that will develop the circular economy through implementation of the Regional Waste Management Plan for the Southern Region 2015-2021 and its successor.

***RPS (2020) Construction and Demolition Waste Soil and Stone Recovery / Disposal Capacity. Eastern Midlands Region / Connacht Ulster Region / Southern Region. Waste Management Plans 2015 – 2021.***

This report was undertaken on behalf of the Irish regional waste management offices to analyse the national waste capacity market for safe treatment of waste soils. A review was undertaken of soil waste generation and available capacity to accept soil waste in authorised facilities within the three waste regions.

The report identifies that the future authorised capacity available to recover soil and stones is an issue in each waste region in the context of likely strong construction activity. Possible options recommended include expanding capacities at existing sites and the use of Article 27 By-Product notifications.

## **GUIDANCE**

***Department of the Environment, Community and Local Government (2018) Sustainable Urban Housing: Design Standards for New Apartments***

These planning guidelines were published by the Department of Environment, Community and Local Government (DoECLG) in March 2018. They provide guidance on the storage and collection of waste materials in apartment schemes, while they also provide a number of general design considerations, which should be taken into account in the provision of refuse storage facilities.




***EPA (2008) Organic Waste Management in Apartments***



The Environmental Protection Agency published a desk study into best practice regarding organic waste management in apartments in 2008. Based on the research carried out for the study a number of conclusions were reached in relation to storage of organic waste from apartments. Conclusions were presented on topics including waste storage areas, access, health and safety, and collection frequency.



## Appendix C

### Wheeled Bins and Waste Equipment

Container/ Equipment Type	Length (mm)	Width (mm)	Height (mm)	Clearance Required	
1,100 litre bin (residual waste and dry mixed recyclables) (note 1)	1070	1370	1450	150mm	 <p>1100 Litre Wheeled Bin (<a href="http://www.ecostore.ie">www.ecostore.ie</a>)</p>
360 litre bin (organic waste) (note 2)	880	590	1100	150mm	 <p>360 litre wheeled bin (<a href="http://www.ecostore.ie">www.ecostore.ie</a>)</p>
240 litre bin (glass waste) (note 2)	740	590	1100	150mm	 <p>240 Litre Wheeled Bin (<a href="http://www.ecostore.ie">www.ecostore.ie</a>)</p>

Container/ Equipment Type	Length (mm)	Width (mm)	Height (mm)	Clearance Required		
Tow tractor indicative dimensions – 8,000 kg tow load capacity (required for parking. Wall mounted charger required for some models)	795	530			 <p data-bbox="1066 651 1317 724">Electric Towing Unit <a href="http://www.bradshawev.com">www.bradshawev.com</a></p>	 <p data-bbox="1368 660 1675 724">Stand on Tow Tractor <a href="http://www.toyotaforklifts.ie">http://www.toyotaforklifts.ie</a></p>

**Notes:**

1. These are wheeled bins with four wheels and should conform to CEN standard IS EN 840 (Parts 1-6). They have a fixed lid, which can be supplied with a lock if required.
2. These are plastic wheeled bins with two wheels which should conform to CEN standard IS EN 840 (Parts 1-6).

## Appendix D

### Vehicle Swept Path Drawing



