



**Kategale Limited.**

# **CONSTRUCTION AND DEMOLITION WASTE MANAGEMENT PLAN**

Proposed Strategic Housing Development, Northwood  
Crescent, Santry Demesne, Dublin 9

603510-R01 (01)

**MARCH 2022**





## RSK GENERAL NOTES

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# 1 INTRODUCTION

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This Construction and Demolition Waste Management Plan (C&D WMP) has been prepared by RSK to provide an assessment of the impacts arising from the generation of waste materials during the demolition and construction phases of the proposed development. This document is to accompany the planning application for a proposed Strategic Housing Development located at Northwood Crescent, Santry Demesne, Dublin 9.

This document has been prepared as part of a planning application and is intended to set a clear path and philosophy for the future nominated Contractor in drawing up their final strategy for management of construction and demolition waste.

## 2 TRENDS IN WASTE MANAGEMENT

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### 2.1 National Level

It is only in recent years that comprehensive reports regarding the quantities of commercial and residential waste produced in Ireland have been compiled. The EPA (Environmental Protection Agency) produced reports that detail estimates for waste generation and the level of recycling, recovery and disposal of this material. In 2017, the EPA estimated that 8 per cent of construction & demolition waste were finally produced (recovered or disposed). Soil & stones accounted for 80 per cent of the total quantity. Mineral waste (concrete, bricks, gypsum) accounted for 12 per cent of the total quantity.

The EPA has also noted that the increase in construction has seen a significant increase in the quantity of contaminated soil. The *“Hazardous Waste Statistics for Ireland Report”* issued by the EPA in 2017 notes that Ireland exported 314,529 tonnes of its hazardous waste for treatment abroad. Of this, contaminated soils, mainly from the construction industry, accounted for 101,440 tonnes of Irelands hazardous waste exports.

Prior to the *Waste Management Act* of 1996, the legislative framework for waste management in Ireland ensured that waste was collected and disposed of to landfill. Most landfills were unlined quarries or tip heads of various types, with little environmental control and little control on expansion to accept increasing waste production.

The Government issued a Policy Statement in September 1998 called *‘Changing Our Ways’*, which identified objectives for the prevention, minimisation, reuse, recycling, recovery and disposal of waste in Ireland. A heavy emphasis was placed on reducing our reliance on landfill and finding alternative methods of managing waste.

It highlighted the mandatory obligations under the *Waste Management Act* 1996 to increase the cost of disposing of waste to landfill, in the absence of voluntary industry-led initiatives. Specifically, *‘Changing Our Ways’* required a diversion of 50% of overall household waste (based on 1998 levels) from landfill, a minimum 65% reduction in biodegradable wastes consigned to landfill and the recycling of at least 35% of municipal waste, all by 2013.

A further policy document *“Preventing and Recycling Waste - Delivering Change”* was published in 2002. This document proposed a number of programmes to increase recycling of waste and to divert waste from landfill and also made clear that waste minimisation at source should be a priority, that is waste production should be reduced at source where possible.

This view was also supported by a review of sustainable development policy in Ireland and achievements to date, which was conducted in 2002 in preparation for the World Summit in Johannesburg and was titled *“Making Irelands Development Sustainable - Review, Assessment and Future Action”*. This document also stressed the need to break the link between economic growth and waste generation, again through waste minimisation and reuse of discarded material.

In order to establish the progress of the Government policy document – *“Changing Our Ways”*, a review document was published in April 2004, titled *‘Taking Stock and Moving Forward’*. 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 can be undertaken to further support progress towards the objectives outlined in the policy document.

## 2.2 Regional Level

The proposed development is located in the Local Authority of Fingal County Council (DCC). The *Eastern Midlands Region Waste Management Plan 2015 - 2021* provides a framework for the prevention and management of waste in a sustainable manner in 12 local authority areas including Fingal County Council. The plan has yet to be updated for 2022 and beyond.

The three key objectives of the *Eastern-Midlands Region Waste Management Plan* are:

- Prevent waste: a reduction of one per cent per annum in the amount of household waste generated over the period of the plan.
- More recycling: increase the recycle rate of domestic and commercial waste from 40 to 50 per cent by 2020.
- Further reduce landfill: eliminate all unprocessed waste going to landfill from 2016 onwards

Future targets set in the Plan for 2030 include:

- Preparing for reuse and recycling of 60-70% of municipal waste by the end of 2030;
- Reduce and where possible, eliminate the landfilling of all major waste streams including municipal, industrial and construction & demolition wastes in favour of the recovery of residual wastes.

The Regional Plan sets out the strategic targets for waste management in the region and sets a specific target for C&D waste of “70% preparing for reuse, recycling and other recovery of construction and demolition waste” (excluding natural soils and stones and hazardous wastes) to be achieved by 2020.

The National Waste Statistics update published by the EPA in December 2017 identifies that Ireland’s current progress against this C&D waste target is at 85% and our progress against ‘Preparing for reuse and recycling of 50% by weight of household derived paper, metal, plastic & glass (includes metal and plastic estimates from household WEEE)’ is at 45%. Both of these targets are required to be met by 12 December 2020 in accordance with the requirements of the Waste Framework Directive.

Recent guidance in A Waste Action Plan for a Circular Economy ‘Ireland’s National Waste Policy 2020-2025’ states that the current national challenge regarding C&D waste is as follows;

- Promote waste prevention in the first instance;
- Follow best available techniques;
- Expand the range and use of recycled products;
- Create a market demand for recycled products and segregating more material on-site to allow for recycling; and
- Meet the target (from The Regional Plan) of preparing for reuse, recycling and other material recovery (incl. beneficial backfilling operations using waste as a substitute) of 70% by weight of C&D non-hazardous waste (excluding natural soils & stone).

SI017 is particularly applicable policy for this strategic housing development: To promote the re-use of building materials, recycling of demolition material and the use of materials from renewable sources in all developments in excess of 10 housing units and commercial developments in excess of 1,000m<sup>2</sup>. It is also recommended that a materials and management plan is produced, showing the type of materials and quantity of re-used / recycled material to be used in the development.

## 2.3 Legislative Requirement

The primary legislative instruments that govern waste management (both non-hazardous and hazardous) in Ireland and applicable to the project are:

- *Waste Management Act 1996* (No. 10 of 1996) as amended 2001 (No. 36 of 2001), 2003 (No 27 of 2003) and 2011 (No. 20 of 2011). Sub-ordinate legislation includes:
  - *European Communities (Waste Directive) Regulations 2011* (SI 126 of 2011) as amended 2011 (S.I. No. 323 of 2011) and 2016 (S.I 315 of 2016)
  - *Waste Management (Collection Permit) Regulations* (S.I No. 820 of 2007) as amended 2008 (S.I No 87 of 2008), 2015 (S.I. No. 197 of 2015) and 2016 (S.I. No. 24 and 346 of 2016)
  - *Waste Management (Facility Permit and Registration) Regulations 2007*, (S.I No. 821 of 2007) as amended 2008 (S.I No. 86 of 2008) as amended 2014 (S.I No. 320 and No. 546 of 2014) and as amended 2015 (S.I. No. 198 of 2015)
  - *Waste Management (Licensing) Regulations 2004* (S.I. No. 395 of 2004) as amended 2010 (S.I. No. 350 of 2010)
  - *Waste Management (Packaging) Regulations 2014* (S.I. 282 of 2014) as amended 2015 (S.I No 542 of 2015)
  - *Waste Management (Planning) Regulations 1997* (S.I. No. 137 of 1997)
  - *Waste Management (Landfill Levy) Regulations 2015* (S.I. No. 189 of 2015)
  - *European Union (Waste Electrical and Electronic Equipment) Regulations 2014* (S.I. No. 149 of 2014)
  - *European Union (Batteries and Accumulators) Regulations 2014* (S.I. No. 283 of 2014) as amended 2014 (S.I. No. 349 of 2014) and 2015 (S.I. No. 347 of 2015)
  - *Waste Management (Food Waste) Regulations 2009* (S.I. 508 of 2009), as amended 2015 (S.I. 190 of 2015) and European Union (Household Food Waste and Bio-waste) Regulation 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 by *European Communities (shipments of Hazardous Waste exclusively within Ireland) Regulations 2011* (S.I No. 324 of 2011)
  - *Waste Management (Movement of Hazardous Waste) Regulations, 1998* (S.I. No. 147 of 1998)
  - *European Communities (Transfrontier Shipment of Waste) Regulations 1994* (S.I. No. 221 of 1994)
  - *European Union (Properties of Waste which Render it Hazardous) Regulations 2015* (S.I. No. 233 of 2015)
- *Planning and Development Act 2000* as amended (S.I. No. 30 of 2010) as amended (S.I. No. 310 of 2015)
- *Protection of Environment Act 1992* (S.I. No. 413 of 2003) as amended.
- *Litter Pollution Act 1997* (S.I. No. 12 of 1997) as amended by *Protection of the Environment (amendment) Act 2003*.

## 3 DESCRIPTION OF THE PROPOSED SITE

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### 3.1 Location, Size and Scale of the Development

The proposed development is located on a site at Northwood Crescent, Santry Demesne, Dublin 9. The site is located in Northwood, Santry, in the Fingal County Council area. The surrounding areas include Gulliver's Retail Park to the north, Ben Dunne fitness centre and Santry Park to the east, Northwood Business Campus to the south, and undeveloped lands to the west.

Kategale Limited intend to apply to An Bord Pleanála for permission for a Strategic Housing Development with a total application site area of c. 1.3 ha, on a site located at Northwood Crescent, Santry Demesne, Dublin 9. The site is bounded by Northwood Crescent to the south and south-west; The Crescent Building to the north-west; Northwood Avenue to the north; and Northwood Road to the east. The development, with a total gross floor area of c. 27,904 sqm, will consist of the construction of 268 no. Build-to-Rent apartment units arranged over 2 no. blocks ranging in height from 5 to 11 storeys (Block A will comprise 54 no. 1-bedroom units and 44 no. 2-bedroom units; Block B will comprise 70 no. 1-bedroom units and 100 no. 2-bedroom units); Residential amenity facilities including a reception, post room and building management office; lounge areas, shared workspace, multimedia/games room, meeting rooms and a single storey residents' gym at podium level (145 sqm); ancillary uses comprising a generator room; utilities room; bin stores; water tank rooms; sprinkler tank room; bicycle stores; storage rooms and plant rooms; the provision of all private and communal open space, including balconies/terraces to be provided for each apartment; and communal open space areas including a first-floor central podium garden connecting Blocks A and B and 2 no. rooftop terraces and a single storey 295 sqm creche with dedicated outdoor play area.

The development will also comprise the construction of a 3-storey office building with a total gross floor area of c.2,868 sqm, including ancillary uses comprising a reception/security area, staff amenities, bike stores, waste room and a plant room. The development will also include the provision of hard and soft landscaping, public realm improvements and amenity areas including public open space, a children's play area and a community outdoor dining area; the provision of internal roads and pathways; 142 no. undercroft car parking spaces at ground floor level, 8 no. crèche set down spaces, and 662 no. bicycle parking spaces at ground floor level and surface level. The development will also include all associated ancillary development including 2 no. ESB switch rooms and 2 no. ESB substations; ground works and foul drainage; stormwater drainage; attenuation tank and related SUDS measures, water supply; service ducting and cabling; electric vehicle charging points; public lighting; boundary treatments; and all ancillary site development and excavation works above and below ground. Vehicular access is proposed via a new entrance on Northwood Road; Vehicular set down area for crèche with access/egress is located on Northwood Crescent. The provision of 2 no. pedestrian crossings on Northwood Crescent and Northwood Road.

### 3.2 Details of the Non-Hazardous Wastes to be produced

No significant demolition is proposed at the site. There are areas of existing low level walls will be removed by the on-site contractor. Areas of road surfacing, asphalt/bitumen and associated sub-bases (hardstanding surfaces) will require removal by the on-site contractor. Any non-hazardous waste generated shall be reused at the site where possible.

Any vegetation clearance required will generate significant quantities of green waste. This waste shall be reused where possible. Examples include the creation of habitats for wildlife and the chipping of any vegetation to create mulch. Such examples of reuse may require the registration of an appropriate waste exemption. If reuse is not possible, then any green waste should be handled and transported from site by an appropriately registered contractor.

There will be soil and stone excavated to facilitate the construction of buildings on the site. All suitable non-hazardous excavated material will be reused on site where possible, i.e. to level out ground in specified areas. Any excavated waste that cannot be reused will be handled and transported from site by an appropriately registered contractor.

A wide variety of non-hazardous waste will be generated during the construction phase. Typical waste types are listed within Table 3.1 below.

### 3.3 Details of the Hazardous Wastes to be produced

#### *Contaminated Soil*

Environmental soil analysis will or have been carried out prior to construction on a number of soil samples in accordance with the requirements for acceptance of waste at landfills (Council Decision 2003/33/EC Waste Acceptance Criteria). This legislation sets limit values on landfills for acceptance of waste material based on properties of the waste including potential pollutant concentrations and leachability.

#### *Fuel/Oil*

Any on-site storage of fuel/oil, all storage tanks and all draw-off points will be bunded (or stored in double-skinned tanks) and located in a dedicated, secure area of the site. Provided that these requirements are adhered to, and site crew are trained in the appropriate refuelling techniques, it is not expected that there will be any fuel/oil wastage at the site.

#### *Invasive Species*

Should the presence of any invasive non-native plants be identified prior to any required vegetation removal, then a biosecurity expert should be engaged to develop an appropriate management plan. This management plan should include how the removal of any identified invasive non-native plants will be undertaken in accordance with the latest guidance to prevent further growth or spread both within and beyond the site.

#### *Other known Hazardous Substances*

Paints, glues, adhesives and other known hazardous substances will be stored in designated areas. They will generally be present in small volumes only and associated waste volumes generated will be kept to a minimum.

### 3.4 Main C&D Waste Categories

The main non-hazardous and hazardous waste streams that could be generated by the construction and demolition activities at a typical site are shown in Table 3.1. The List of Waste (LoW) code (also referred to as the European Waste Code or EWC) for each waste stream is also shown.

**Table 3.1: Typical waste types generated and EWCs**

Waste Material	EWC Code
Concrete, bricks, tiles, ceramic	17 01 01, 17 01 02, 17 01 03, 17 01 06* & 17 01 07
Wood, glass and plastic	17 02 01-04
Bituminous mixtures, coal tar and tarred products	17 03 01-03
Metals (including their alloys)	17 04 01-07 & 09-10
Soil and stones	17 05 03-04
Gypsum-based construction material	17 08 02
Mixed C&D waste	17 09 04
Electrical and electronic components	20 01 35-36
Batteries and accumulators	20 01 33-34
Liquid fuels	13 07 01-03
Paints	08 01 12
Chemicals (solvents, pesticides, paints, adhesives, detergents etc.)	20 01 13, 19, 27-30
Insulation materials	17 06 04
<b>* Indicates a hazardous substance</b>	

## 4 WASTE MANAGEMENT

### 4.1 Waste from Site Preparation

Demolition works at the site can be classed as minimal, as the site is currently undeveloped. There is, however, an area of hardstanding that will require removal, and this is expected to produce a quantity of soil, stones and asphalt (bituminous material). Given the nature of the material to be removed, there is the potential for contaminants.

The estimated quantity of waste generated due to site clearance and preparation of foundations etc. are as follows:

- Topsoil/vegetation/Carparking material strip – c. 2,850m<sup>3</sup>
- Made ground/subsoil – c. 4,150m<sup>3</sup>

It is therefore expected that around 7,000 m<sup>3</sup> of material will require excavation for site clearance and for foundations and services. Any suitable excavated material will be temporarily stockpiled for reuse in landscaping, where possible.

It is also anticipated that there will be no cut and fill on site.

Prior to the transfer of soil and stone material from the site to a specific waste permitted site, the available data should be submitted to the permit holder to confirm the suitability of the material for the transfer to a waste facility.

In the event that there are any contaminated materials found in the area of hardstanding, these will be removed and disposed of, at an approved facility, in an environmentally sustainable and responsible manner.

### 4.2 Construction Waste Generation

Table 4.1 shows the breakdown of waste types that are expected to be produced on the site. This is based on data from the EPA National Waste Reports.

**Table 4.1: Waste materials expected to be generated on site**

Waste Types	%
Mixed C&D Waste	33
Timber	28
Plasterboard	10
Metals	8
Concrete	6
Other	15
<b>Total</b>	<b>100</b>

During construction activities, waste will be produced from surplus materials such as broken or off-cuts of timber, plasterboard, concrete tiles, glass etc. some packing waste is also expected to

be produced. Surplus soil / gravel is expected to be produced due to cut / fill activities. This is anticipated to consist of surplus of materials arising from cut-offs of concrete blocks, bricks, tiles, timber joists, steel reinforcement etc.

Waste from packaging and oversupply of materials is also expected.

The quantities of waste generated during the construction phase can be estimated using information provided regarding the number and area of the residential units, creche and retail unit. This information can then be used in conjunction with BRE Benchmark Data (which is recognised within the construction industry). This BRE Benchmark Data details the generation of waste (tonnes/100m<sup>2</sup>) for different types of development. This data was then used to estimate the waste arising during the construction phase of the development.

The proposed development will consist of 2no. apartment blocks with 268 residential dwellings, a crèche, office space, a gym and tenant amenity spaces and public open spaces.

The calculated estimated waste arising from the construction of the development is provided in Table 4.2.

**Table 4.2: Forecast Construction Waste Arisings**

Building Use	Average waste (tonnes/100m <sup>2</sup> )	Development size (m <sup>2</sup> )	Forecast waste arising (tonnes)
Residential	16.8	22,726	3,818
Creche	23.3	295	69
Commercial Office	23.8	2,868	683
Residential Amenity	22.4	800	179
Other (excluding car parking)	22.4	1,215	272
<b>Total</b>	<b>86.3</b>	<b>30,233</b>	<b>5,021</b>

The estimation shows that up to 5,021 tonnes of waste may arise from construction works associated with the project, based on the maximum quantum of development and the construction BRE Waste Benchmark data.

The estimated figures of waste arising are based on BRE Waste Benchmark data construction operations in the UK and the estimated amounts can be reduced through good on-site waste management practices as detailed in the following section.

### 4.3 Proposed Waste Management Options

Waste is to be segregated on site where practical. Where the on-site segregation of certain waste types is not practical, off-site segregation will be carried out. The site waste storage area will have skips and recycling receptacles for all recyclable wastes. Collections for these will be as usage required. The appointed waste contractor will collect and transfer the wastes as receptacles are filled. There are numerous waste contractors in the Dublin Region that provide this service.

All waste arising's will be handled by an approved waste contractor holding a current waste collection permit. All waste arising's requiring disposal off-site will be reused, recycled, recovered or disposed of at a facility holding the appropriate registration, permit or licence, as required. Written records will be maintained by the contractor(s) detailing the waste arising throughout the C&D phases, the classification of each waste type, waste collection permits for all waste contractors who collect waste from the site and COR/permit or licence for the receiving waste facility for all waste removed and disposed off-site.

The above information will be retained for a minimum of 3 years and will be made available for review by the regulating authorities should they request it.

Dedicated bunded storage containers will be provided for hazardous wastes which may arise such as batteries, paints, oils, chemicals etc., if required.

**Soil:** The Waste Management Hierarchy states that the preferred option for waste management is prevention and minimisation of waste, followed by preparing for reuse and recycling/recovery, energy recovery (i.e. incineration) and, least favoured of all, disposal. The excavations are required to facilitate construction works so the preferred option of prevention and minimisation is not an option. Therefore, excavated soil will be reused where possible.

It is anticipated that there will be an excess of soil that cannot be reused on site and which will be removed off-site. When this material is removed off-site it could be reused as a by-product (and not as a waste), if this is done, it will be done in accordance with Article 27 of the *European Communities (Waste Directive) Regulations 2011*. Article 27 requires that certain conditions are met and that by-product decisions are made to the EPA via their online notification form.

If the material is deemed to be a waste, soil disposal will be carried out by contractors licensed under the Waste Management Act 1996, the Waste Management (Permit) Regulations of 1998 and the Waste Management (Collection Permit) Regulations of 2001. All soil will be classified in accordance with Council Decision 2003/33/EC and disposed of in accordance with its hazard category in fully EPA/local authority licensed disposal facilities.

**Bedrock:** It is not anticipated that bedrock will be encountered during excavation works.

**Concrete Block, Bricks, Tiles, Hard Plastic, Glass, Plasterboard and Ceramics:**

If undamaged and in a suitable condition for reuse, these materials will be cleaned and segregated for recycling and stored in suitably covered skips for collection by licensed contractor. Damaged/unsuitable materials may be further processed offsite for use as a recycled aggregate at a permitted/licensed site.

**Metal:** Metals will be segregated into mixed ferrous, aluminium cladding, high grade stainless steel, low grade stainless steel etc., where practical and stored in skips. Metal is highly recyclable and there are numerous companies that will accept these materials.

**Timber:** Any uncontaminated timber, i.e. free from paints, preservatives, glues etc., will be segregated for recycling and stored in suitable covered skip for collection by licensed contractor. Contaminated wood will be stored in a separate skip.

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

Any WEEE will be stored in dedicated covered cages/receptacles/pallets pending collection for recycling.

**Other Recyclables:** Other recyclables including, but not limited to, soft plastics, cardboard, and packaging will be segregated for recycling and stored in suitably covered skips for collection by licensed contractor.

**Non-Recyclables:** C&D waste which is not suitable for reuse or recovery, such as polystyrene, some plastics and some cardboards, will be placed in separate skips or other receptacles. At regular intervals and prior to removal from site, the non-recyclable waste skip/receptacle will be examined by a member of the site staff to ensure that there are no recyclable wastes.

**Hazardous Waste:** On-site storage of any hazardous wastes produced (i.e. contaminated soil if encountered and/or waste fuels) will be kept to a minimum, with removal off-site organised on a regular basis. Storage of all hazardous wastes on-site will be undertaken so as to minimise exposure to on-site personnel and the public and to also minimise potential for environmental impacts. Hazardous wastes will be recovered, wherever possible, and failing this, disposed of appropriately.

It should be noted that until a construction contractor is appointed it is not possible to provide information on the specific destinations of each waste stream. Prior to commencement of development and removal of any waste offsite, details of the proposed destination of each waste stream will be provided to DCC by the project team.

## 4.4 Tracking and Documentation Method for Off-Site Waste

All waste will be weighed (on-site or at receiving facility) and documented prior to leaving site. Records will be kept at the site and at the relevant waste facility. Movement of waste will be in accordance with relevant guidelines.



Construction and Demolition municipal waste will be separated and stored wherever possible and monitored / inspected by the site foreperson at regular intervals and prior to removal to ensure that site protocol for recycling is being adhered to.

## **5 ROLES / TRAINING FOR WASTE MANAGEMENT AND SITE CREW**

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### **5.1 Waste Manager**

A dedicated waste manager will be appointed to ensure commitment efficiency and site protocols upheld during construction stage. The role of the waste manager will be to record, oversee and manage everyday handling of waste on the site.

Their training will be in setup and maintaining record keeping systems and how to produce an audit to ensure waste management targets are being met. They shall also be trained in the best methods for segregation and storage of recyclables. They will also be familiar with the suitability of material reuse and know how to implement the C&D WMP.

### **5.2 Site Crew**

This will be the responsibility of the competent waste manager/representative and a training programme will be organised, incorporated into typical onsite inductions to give an awareness of waste segregation on the site. This will outline how best to manage waste produced on site to ensure it is being handled in compliance with the WMP, relevant legislation and in manner that prevents any impact to human health or the environment.

Toolbox talks with site staff and contractors that remind staff of their waste responsibilities should be regular. This may be incorporated with other site training needs such as general site induction, health and safety awareness and manual handling.

## 6 RECORD KEEPING

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Records will be kept for all waste material which leaves the site, either for reuse on another site, recycling or disposal. A recording system will be put in place to record the construction waste arising's on site. A copy of the Waste Collection Permits, CORs, Waste Facility Permits and Waste Licences will be maintained on site at all times.

The waste manager or delegate will record the following;

- Waste taken for reuse off-site;
- Waste taken for recycling;
- Waste taken for disposal; and
- Reclaimed waste materials brought on-site for reuse.

For any movement of waste, a docket and chain of custody shall be signed and recorded by waste manager, detailing type and weight of material and source or destination. This will be readily comparable with all delivery records to site, so a waste generation percentage for each material can be determined.

## **7 OUTLINE OF WASTE AUDIT PROCEDURE**

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It is recommended that the appointed Waste Manager should be responsible for conducting waste audits of the site during the construction / demolition phase.

The audit should consist of a review of all records for waste generation on site and the transportation of waste on and off site.

All waste movements should be recorded, and the details of these transfers should be compared with the established recovery / reuse / recycling targets for the site.

In the event of waste that is unaccounted for and / or targets for the site are not being met, the Waste Manager shall undertake a detailed review of how waste is managed on site to identify the cause. The Waste Manager will then be responsible for implementing any required appropriate actions to resolve any identified issues.

Upon completion of the C&D phase of the works, a final report will be prepared which details how waste was managed over the course of the project and that summarises the overall performance of the site against the established targets.

## **8 CONSULTATION WITH RELEVANT BODIES**

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### **8.1 Local Authority**

Once a construction contractor has been appointed and prior to removal of any waste materials offsite, details of the proposed destination of each waste stream will be provided to Fingal County Council upon request.

Fingal County Council will also be consulted, as required, throughout the excavation and construction phases in order to ensure that all available waste reduction, reuse and recycling opportunities are identified and utilised and that compliant waste management practices are carried out.

### **8.2 Recycling/Salvage Companies**

Companies that specialise in C&D waste management will be contacted to determine their suitability for engagement. Where a waste contractor is engaged, each company will be audited in order to ensure that relevant and up-to-date waste collection permits and facility COR/permits/licences are held.

In addition, information regarding individual construction materials will be obtained, including the feasibility of recycling each material, the costs of recycling/reclamation and the means by which the wastes will be collected and transported off-site, and the recycling/reclamation process each material will undergo off site.

## 9 CONCLUSION

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Waste generated on site will be managed in an appropriate manner and in a sustainable way. The principles of the waste hierarchy will be complied with to ensure the environmental risks are minimised and the policies of Fingal County Council are adhered to.

### 9.1 Waste from Site Preparation

A significant quantity of the potential waste generated on site can be reduced by specifying the reuse of certain materials generated during excavation works.

It is currently estimated that the quantity of excavated material due to site clearance and preparation of foundations will be around 7,000 m<sup>3</sup>. Any suitable excavated material will be temporarily stockpiled for reuse in landscaping, where possible. These figures will be refined as the development progresses.

It is also anticipated that there will be no cut and fill on site.

Where excavated waste may not be immediately suitable for reuse, any treatment to make this waste suitable for reuse will be undertaken through an appropriately permitted/licensed mobile plant waste processing facility that complies with the relevant legislation.

In the event that there are any contaminated materials found in the area of hardstanding, these will be removed and disposed of, at an approved facility, in an environmentally sustainable and responsible manner.

### 9.2 Waste from the Construction Phase

It is recommended that the Principal Contractor with responsibility for the overall scheme register with the "Considerate Contractors Scheme".

A more detailed Waste Management Plan will be produced prior to development taking place that provides further details around how waste will be managed on site. Waste Management Plans demonstrate appropriate waste management controls during the different construction phases of the proposed development.

Good practice measures in relation to on-site storage and security of raw materials and waste should be implemented, specifically for the segregation of waste to aid recycling, and for waste and materials to be safely and securely stored on site.

It is estimated that approximately 5,021 tonnes (excluding excavation waste) of waste will be generated from the construction of 2no. apartment blocks with 268 residential dwellings, a crèche, office space, a gym and tenant amenity spaces and public open spaces.

Appropriate targets should be set in relation to the minimisation and recycling of any construction waste materials to be agreed between the developer and principal contractor with agreed methodologies for waste quantification and monitoring.

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