

OCSC

O'CONNOR · SUTTON · CRONIN

MULTIDISCIPLINARY CONSULTING ENGINEERS

Z040: BLACKGLEN ROAD LRD

RESOURCE & WASTE MANAGEMENT PLAN

For
Zolbury Ltd

17 December 2024

NOTICE

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TABLE OF CONTENTS

1 INTRODUCTION 1
1.1 PROJECT CONTRACTUAL BASIS & PARTIES INVOLVED 1
1.2 PROJECT OBJECTIVES 1
1.3 METHODOLOGY AND APPROACH 2
1.4 LIMITATIONS 2
1.5 POLICIES AND GUIDANCE – A HISTORY 3
2 CHARACTERISTICS OF THE DEVELOPMENT 12
2.1 STUDY AREA 12
2.2 DEVELOPMENT DESCRIPTION 13
2.3 DEVELOPMENT OVERVIEW 14
3 ROLES AND RESPONSIBILITIES 16
3.1 CLIENT 16
3.2 DESIGN TEAM 16
3.3 LOCAL AUTHORITY 17
3.4 CONTRACTOR 17
4 DESIGN APPROACH 18
4.1 DESIGN WORKSHOPS 18
4.2 REUSE AND RECYCLING 18
4.3 GREEN PROCUREMENT 18
4.4 OFF-SITE CONSTRUCTION 18
4.5 MATERIALS OPTIMISATION 19
4.6 FLEXIBILITY AND DECONSTRUCTION 19
5 WASTE ARISINGS 20
5.1 CONSTRUCTION AND DEMOLITION MATERIAL 20
5.2 WASTE CATEGORIZATION 20
5.3 THE PREDICTED QUANTITY OF MATERIAL GENERATED 24
5.4 COST OF RESOURCE MANAGEMENT 24
5.5 RESOURCE MANAGEMENT ROUTES 24
5.6 THE MANAGEMENT OF THE MAIN WASTE STREAMS 25
6 SITE MANAGEMENT 28
6.1 MANAGEMENT & CONTROL SYSTEMS 28
6.2 TRAINING PROVISIONS FOR WASTE MANAGER AND SITE CREW 28
6.3 RECORD KEEPING 29
6.4 WASTE AUDIT PROCEDURE 30
6.5 CONSULTATION 30
7 SITE INFRASTRUCTURE 31
7.1 SIGNAGE 31
7.2 CANTEEN WASTES/W/C/UTILITY WASTES 31
7.3 REUSE/RECOVERY 31
7.4 RECYCLING 31
7.5 DISPOSAL 31

7.6 STORAGE 32
8 VERIFICATION 33

LIST OF FIGURES

Figure 1: Site Location 12
Figure 2: Proposed Site Layout 15
Figure 3: Rhododendron Observed on Site 23

LIST OF TABLES

Table 1: C&D Composition of C&D waste collected in Ireland in 2021 20
Table 2: C&D Waste Categories 20
Table 3: Predicted construction waste targets for the proposed development 24

1 INTRODUCTION

1.1 PROJECT CONTRACTUAL BASIS & PARTIES INVOLVED

This Resource and Waste Management Plan (RWMP) has been prepared by O'Connor Sutton Cronin & Associates Ltd. (OCSC) at the request of their Client, Zolbury Ltd. The proposal is for the construction of a new residential scheme comprising 192 no. residential units, associated resident amenity facilities and a childcare facility. The regulatory authority for the site is Dun Laoghaire Rathdown County Council.

This RMWP provides a strategy for segregation (at source), storage, and collection of the wastes generated within the development during the construction phase of the development, including dry mixed recyclables, organic waste, and mixed non-recyclable waste as well as providing a strategy for management of other wastes including glass, batteries, WEEE, printer/toner cartridges, chemicals, textiles, waste cooking oil, and furniture. This document also aims to provide an overview of the waste management strategy to be implemented by the scheme's management company.

The plan provides details on the expected waste arisings which will be generated during the construction phase of the development and the methods and locations to be employed for the prevention, minimisation, recovery and disposal of this material in accordance with Dun Laoghaire Rathdown County Council waste requirements. In summary, this RWMP presents a waste strategy that complies with all legal requirements, waste policies, and best practice guidelines and demonstrates that the required storage area has been incorporated into the development design.

1.2 PROJECT OBJECTIVES

This report sets out the Resource and Waste Management Plan for the Blackglen Road LRD. The overall RWMP objectives include:

- Ensuring that wastes arising from the construction works on the proposed site are managed, reused, recovered, or disposed of by a method that ensures the provisions of the Waste Management Acts 1996-2020 amendments & Associated Regulations.
- Ensuring that the optimum levels of waste reduction, reuse, and recycling are achieved.
- Providing guidance on the appropriate collection and transport of waste from the site to prevent issues associated with litter or more serious environmental pollution (e.g. contamination of soil and/or water).
- The project-specific resource targets will be set by the Client during the design phase.

1.3 METHODOLOGY AND APPROACH

The following publications have been used as references for the Resource and Waste Management Plan:

- Environmental Protection Agency (EPA), 2021. Best practice guidelines for the preparation of resource & waste management plans for construction & demolition projects;
- FAS and the Construction Industry Federation, 2002. Construction and Demolition Waste Management - A Handbook for Contractors and Site Managers;
- EPA, 2015, Waste Classification, List of Waste & Determining if Waste is Hazardous or Non-hazardous; and
- EA, 2021, Guidance on the classification and assessment of waste (1st Edition v1.2.NI) Technical Guidance WM3.

A more detailed description of applicable legislation for construction waste management is included in Section 2.

Please note that this document is considered a 'live' document, which could be subject to expand and change once a contractor is appointed post-planning. Any changes will be in compliance with the EPA guidelines.

1.4 LIMITATIONS

This RWMP has been prepared for the sole use of Zolbury Ltd. ("the Client"). No other warranty, expressed or implied, is made regarding the professional advice included in this Plan or any other services provided by OCSC. This report is confidential and may not be disclosed by the Client nor relied upon by any other party without the prior and express written agreement of OCSC.

This assessment is based on a review of available site information and records and consultations from third parties. All information received has been taken in good faith as being true and representative.

This report has been prepared in line with best industry standards. The methodology adopted and the sources of information used by OCSC in providing its services are outlined in this report. The scope of this report and the services are accordingly factually limited by these circumstances.

OCSC disclaim any undertaking or obligation to advise any person of any change in any matter affecting the report which may come or be brought to OCSC's attention after the date of the report.

The conclusions presented in this report represent OCSC's best professional judgement based on a review of the relevant information available at the time of writing. The opinions and conclusions presented are valid only to the extent that the information provided is accurate and complete.

1.5 POLICIES AND GUIDANCE – A HISTORY

DoEHLG – Waste Management Changing Our Ways (September 1998)

The October 1998 policy statement on waste management – "changing our ways" – outlines the government's policy objectives in relation to waste management and suggests some key issues and considerations that must be addressed in order to achieve these objectives. In particular, it focuses on the need to give clear and particular expression to the requirements of the hierarchy by developing and pursuing integrated solutions which combine progressive policies with a suitable and cost-effective waste infrastructure.

Changing our ways sets the following ambitions and targets for achievement over a fifteen-year time scale.

- A diversion of 50% of overall household waste away from landfills.
- A minimum 65% reduction in biodegradable municipal wastes consigned to landfills.
- The development of composing and other feasible biological treatment facilities capable of treating up to 300,000 tonnes of organic waste annually.
- Materials recycling of 35% of municipal waste.
- Recovery of at least 50% of construction and demolition waste within a five-year period, with a progressive increase to at least 85% over fifteen years.
- Rationalisation of municipal waste landfills with progressive and sustained reductions in numbers, leading to an integrated network of some 20 or so state-of-the-art facilities incorporating energy recovery and high standards of environmental protection.

DoEHLG – Preventing and Recycling Waste – Delivering Change – a Policy Statement (2002)

The government added to the messages presented in waste management "changing our ways" with the publication of Preventing and Recycling Waste – Delivering Change 2002. In addition to setting objectives, the policy statement set out how these might be achieved through investment from the national development plan in waste infrastructure. Key objectives of the policy statement are:

- The setting up of a market development group focusing on markets for recyclables.
- Formulating a national strategy on biodegradable waste policy.
- Expansion of the network of civic amenity sites and materials recycling facilities.

DoEHLG – Waste Management – Taking Stock and Moving Forward (2004)

Waste management – taking stock and moving forward reviewed the progress of implementation of key policies including the national waste prevention to 2004. It set up a framework for implementing key policies including the national waste prevention programme and the setting up of a market development group. It also set an objective date of 1st January 2005 for the implementation of user-based sharing for waste collection.

DoEHLG – National strategy on biodegradable waste (2006)

The national strategy on biodegradable municipal waste published by the DoEHLG in 2006 set out measures to progressively divert biodegradable municipal waste from landfill in accordance with the agreed targets in EU Directive 1999/31/EC on the landfill of waste (landfill Directive). The strategy is based on the integrated waste management approach established as government policy since the publication of "Changing Our Ways" in 1998.

National Waste Prevention Programme

A National Waste Prevention Programme (NWPP) operated by the EPA focuses on reporting on the prevention and minimization of waste and produces annual progress reports. A Resource Efficiency Unit (formerly known as the Core Prevention Team (CPT)) within the EPA promotes waste minimization. A Prevention Programme Steering Group, also known as the NWPP Steering Committee, was established to "liaise with public authorities, monitor the overall thrust of the NWPP, and provide strategic direction to the CPT." A new National Waste Prevention Plan entitled "Towards a Resource Efficient Ireland, A National Strategy to 2020" was published in 2014. A report on the progress made on waste prevention projects during 2014 was published by the EPA in 2015 and is available on its website.

Construction & Demolition Waste - Soil and Stone Recovery / Disposal Capacity Waste Management Plans 2015 – 2021 - Eastern Midlands Region (EMR) / Connacht Ulster Region (CUR) / Southern Region (SR) – Updated in 2020

There are currently no Irish guidelines on the assessment of operational waste generation. Guidance is taken from industry guidelines, plans, and reports, including the SR Waste Management Plan 2015–2021 and BS 5906:2005 Waste Management in Buildings – Code of Practice 2020. The previous waste plan was the Regional Waste Management Plan for the Eastern Midlands Region, Connacht Ulster Region, and Southern Region in 2016.

The Eastern Midlands Region Waste Management Plan 2015 – 2021 includes DLRCC and sets out the strategic targets for waste management in the region, including a specific target for C&D waste of 70% 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 plan reflects the targets set out for Construction & Demolition waste in the Waste Framework Directive (WFD).

Eastern Midlands Region / Connacht Ulster Region / Southern Region Waste Management Plans 2015 – 2021

Waste management planning is the responsibility of the local authorities under Part II of the Waste Management Act 1996, and in June 2013, the three waste management regions of Connacht-Ulster, Southern, and Eastern Midlands were established. In May 2015, each of the three regions published a Regional Waste Management Plan (RWMP) to cover the period 2015 to 2021.

The Eastern Midlands Regional Waste Management Plan 2015-2021 identified the following targets:

- Preparing for reuse and recycling rate of 60-70% of Municipal Waste by the end of 2030.
- Eliminate the use of landfilling of all major waste streams including municipal, industrial, construction and demolition wastes in favour of recovery of residual wastes.

Best Practice Guidelines for the Preparation of Resource & Waste Management Plans for Construction & Demolition Projects

The Environmental Protection Agency published a guidance document in 2021 Best Practice Guidelines for the preparation of resource & waste management plans for construction & demolition projects. These guidelines outline the issues that need to be addressed at the pre-planning stage of a development all the way through to its completion. These guidelines have been followed in the preparation of this document and include the following elements:

- Predicted C&D wastes and procedures to prevent, minimise, recycle, and reuse wastes;
- Waste disposal/recycling of C&D wastes at the site;
- Provision of training for waste manager and site crew;
- Details of the proposed record-keeping system;
- Details of waste audit procedures and plan; and
- Details of consultation with relevant bodies, i.e. waste recycling companies.

These guidance documents are considered to define best practice for C&D projects in Ireland and describe how C&D projects are to be undertaken to minimise environmental impacts and risks and maximise levels of waste recycling.

National Hazardous Waste Management Plan (NHWP) 2021 - 2027

Hazardous waste is generated by all sectors of Irish society, from large industries and healthcare to small businesses, households, and farms. It is, for the most part, managed by the professional hazardous waste industry and is treated appropriately and in accordance with legal requirements.

The NHWP 2021-2027 for Ireland focuses on improving the prevention and management of hazardous waste over six years and beyond. Its main goal is to protect the environment and human health through best-practice management of hazardous wastes.

DLR Guidelines for Waste Management in Residential and Commercial Developments

The requirements set out in the Dún-Laoghaire Rathdown County Council Segregation, Storage & Presentation of Household and Commercial Waste Bye-Laws 2019, or any revision thereof, must be adhered to and, in particular, the requirement in the bye-laws to segregate waste to facilitate the collection of dry recyclables, organic kitchen/garden waste and residual waste in line with the Waste Management (Food Waste) Amendment Regulations 2015 (S.I. 190 of 2015) and the European Union (Household Food Waste and Bio-waste) Regulations 2015 (S.I. 191 of 2015), the Waste Management (Food Waste) Regulations 2009 (S.I. 508/2009) and the Eastern- Midlands Regional Waste Management Plan 2015 – 2021.

Waste storage issues should be considered at the initial design and pre-planning stage, to ensure access for all (including people with disabilities), in a brightly lit, safe and well-signed area, spacious enough for easy manoeuvrability, with good ventilation and ready access if required for the control of potential vermin. Where storage is provided in a basement area, sufficient access and egress must be provided to enable receptacles to be moved easily from the storage area to an appropriate collection point on the public street nearby.

The Carbon Footprint of Waste in Ireland, 2021

The document titled "Carbon Metric International – ZWS & ACR+ partnership" provides an in-depth analysis of the carbon footprint of waste in Ireland, focusing on the period from March to October 2021. Authored by Ramy Salemdeeb (Zero Waste Scotland) and Jean-Benoit Bel (ACR+), it highlights efforts to measure and reduce the carbon impact of municipal waste. The study covers the methodology and data sources used, details on waste collection and separation in Ireland, treatment processes, key findings including the top five waste materials by weight vs. carbon impacts, and scenario analyses for carbon reduction and concludes with recommendations for future actions. Key objectives include establishing carbon reduction targets for Ireland, offering a detailed breakdown of waste carbon impacts, and assessing carbon reduction scenarios to help Ireland meet its targets.

National Waste Management Policy

Directive 2006/12/EC (repealed with effect from 12th of December 2010) of the European Parliament and of the Council of 19th November 2008 on waste and directive 2008/98/EC was transposed into Irish law by the Waste Management Acts and the European Communities (Waste Directive) Regulations 2011 (the "Waste Directive Regulations").

The European Council of Ministers has adopted a revised Waste Framework Directive, mandating EU member states to achieve a 70% recycling rate for non-hazardous construction and demolition waste by 2020. By 2024, the European Commission proposed further revisions focusing on food waste management practices while continuing to emphasize sustainability and alignment with the EU's Circular Economy Action Plan and the European Green Deal. These updates aim to reduce waste generation and improve management across various streams. Additionally, the Waste Directive 2008/98, as incorporated into Irish law, clarifies that uncontaminated soil and naturally occurring materials from construction sites are not considered waste if used in construction on the same site or potentially elsewhere, depending on specific circumstances and the intent to discard.

The Third Schedule of the Waste Management Acts lists activities commonly regarded as disposal activities while common recovery activities are listed in the Fourth Schedule. Broadly, disposal means getting rid of waste forever by, for example, landfilling it or burning it without recovering the energy from it.

Directive 2008/98/EC 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.

The five-stage waste hierarchy, which is designed to prevent and reduce waste production, is made more certain and comprehensive and moved to a more prominent place in the Waste Directive 98/2008. Article 7 of the Waste Directive Regulations 2011, which came into force on March 31, 2011, transposes the waste hierarchy into Irish law. In addition, the directive also deals with the issue of “end of waste” and “by-products” and clarifies the definitions of recovery, disposal and by-product.

The 1998 Irish Government policy statement ‘Changing Our Ways’ identified objectives for the prevention, minimisation, reuse, recycling, recovery, and disposal of waste in Ireland with specific targets for C&D waste. In response to the Changing Our Ways report, a task force representing the waste sector of the Forum for the Construction Industry released a report entitled ‘Recycling of Construction and Demolition Waste’ concerning the development and implementation of a voluntary construction industry programme to meet the Government’s objectives for the recovery of C&D waste.

The national policy document was published in July 2012, entitled ‘A Resource Opportunity - Waste Management Policy in Ireland’. This document stresses the environmental and economic benefits of better waste management, particularly in relation to waste prevention. The document sets out a number of actions in relation to C&D waste and commits to undertake a review of specific producer responsibility requirements for C&D projects over a certain threshold.

The most recent National Waste Management Plan for a Circular Economy 2024-2030 for Ireland aims to shift away from the linear "take-make-use-dispose" model towards a circular economy where waste generation is minimized and resources are reused or recycled to the fullest extent. The plan emphasizes sustainable consumption, waste prevention, and enhancing recycling rates, targeting zero waste growth per person and

specifically focusing on non-household wastes. It includes comprehensive targets, policies, actions, and key deliverables across various sectors and stakeholders, requiring collaborative efforts nationally. The plan also outlines significant financial and organizational commitments to support the transition, aiming to address challenges such as waste generation, recycling targets, and the need for infrastructural development to support circular practices. The National Waste Management Plan for a Circular Economy 2024-2030 replaces the 2015-2021 Regionals Waste Management Plans for Ireland.

C&D Waste Management Laws in Ireland

The overarching legislative instruments governing waste management in Ireland are as follows:

- Waste Management Act 1996 (S.I. No. 10 of 1996) as amended 2001 (No. 36 of 2001), 2003 (No. 27 of 2003), 2011 (No. 20 of 2011), and 2013 (S.I. No. 194 of 2013).
- Sub-ordinate legislation includes:
  - Waste Management (Landfill Levy)(Amendment) Regulations 2023 (S.I. No. 398 of 2023);
  - Circular Economy (Waste Recovery Levy) Regulations 2023 (S.I. No. 406 of 2023);
  - European Communities (Waste Directive) Regulations 2011 (S.I. 126 of 2011) as amended 2011 (S.I. No. 323 of 2011), 2016 (S.I. 315 of 2016), 2018 (S.I. 851 of 2018), and 2020 (S.I. 323 of 2020);
  - Waste Management (Collection Permit) Regulations 2007 (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), 2014 (S.I. No, 320 and No. 546 of 2014), and 2015 (S.I. No. 198 of 2015);
  - Waste Management (Licensing) Regulations 2000 (S.I. No. 185 of 2000) as amended 2004 (S.I. No. 395 of 2004) and 2010 (S.I. No. 350 of 2010);
  - Waste Management (Packaging) Regulations 2014 (S.I. 282 of 2014) as amended 2003 (S.I. No. 61 of 2003), 2004 (S.I. No. 871 of 2004), 2006 (S.I. No. 308 of 2006), and 2007 (S.I. No. 798 of 2007);
  - Waste Management (Planning) Regulations 1997 (S.I. No. 137 of 1997);
  - Waste Management (Landfill Levy) Regulations 2015 (S.I. No. 189 of 2015) as amended 2011 (S.I. No. 434 of 2011) and 2012 (S.I. No. 221 of 2012);
  - 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);
  - 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) Regulation, 1998 (S.I. No. 147 of 1998);
  - Waste Management (Movement of Hazardous Waste) Regulations 1998 (S.I. No. 147 of 1998);

  - European Communities (Transfrontier Shipment of Waste) Regulations 1998 (S.I. No. 147 of 1998) as amended 1994 (SI 121 of 1994);
  - European Union (Properties of Waste which Render it Hazardous) Regulations 2015 (S.I. No. 233 of 2015).
- Litter Pollution Act 1997 (S.I. No. 12 of 1997) as amended by Protection of the Environment (Amendment) Act 2003 as amended;
- Planning and Development Act 2000 as amended (S.I. No. 30 of 2010) and 2015 (S.I. No. 310 of 2015); and
- Protection of the Environment Act 1992 as amended 2003 (S.I. No. 413 of 2003) and by Planning and Development Act 2000 as amended (S.I. No. 30 of 2010).

The above Acts and Regulations transpose European Union policy and Directives into Irish law. The overriding 'Duty of Care' principle implies that the producer is responsible for waste from the time it is generated until its legal disposal (including its method of disposal). As it is not practical in most cases for the waste producer to physically transfer all waste from where it is produced to the final disposal area, waste contractors will be employed to transport waste to the final waste disposal site. In addition, the 'Polluter Pays' principle means that the waste producer is liable to be prosecuted for pollution incidents that may arise from the incorrect management of waste produced, including the actions of any contractors engaged (for transportation and disposal/recovery/recycling of waste).

It is imperative then that the developer ensures that waste companies engaged by construction contractors are legally compliant with respect to waste transport and disposal, recovery, and recycling. This includes the requirement that a contractor handle, transport, and dispose of waste in a manner that ensures that no adverse environmental impacts occur as a result of any of these activities. In this regard, a waste collection permit issued by the National Waste Collection Permit Office (NWCPO) must be held by every waste contractor engaged in the project.

Waste-receiving facilities must also be appropriately permitted or licensed to accept waste. Operators of such facilities cannot receive any waste unless in possession of a waste permit granted by the relevant Local Authority under the Waste Management (Facility Permit & Registration) Regulations 2007 and Amendments or a waste licence granted by the Environmental Protection Agency (EPA). The permit/licence held will specify the type and quantity of waste able to be received, stored, sorted, recycled, and/or disposed of at the specified site. In addition, the 'Polluter Pays' principle means that the waste producer is liable to be prosecuted for pollution incidents which may arise from the incorrect management of waste produced, including the actions of any contractors engaged (for transportation and disposal/recovery/recycling of waste).

Waste Management Acts, 1996 as Amended and Regulations Made Under the Acts

Waste management in Ireland is subject to EU, national, and regional waste legislation which defines how waste materials must be managed, transported, and treated. The overarching EU legislation is the Waste

Framework Directive (2008/98/EC) which is transposed into national legislation in Ireland. The cornerstone of Irish waste legislation is the Waste Management Act 1996 (as amended).

In addition, the Irish government issues policy documents which outline measures aimed at improving waste management practices in Ireland and helping the country to achieve EU targets in respect of recycling and disposal of waste. The most recent policy document A Resource Opportunity – Waste Management Policy in Ireland was published in 2012 and stresses the environmental and economic benefits of better waste management, particularly in relation to waste prevention.

The strategy for the materials management of waste from the construction phase is in line with the requirements of the Best Practice Guidelines for the Preparation of Waste Management Plans for Construction and Demolition Projects published in 2021. The guidance document Construction and Demolition Waste Management: A Handbook for Contractors and Project Managers was also consulted in the preparation of this assessment.

The Waste Management Act, of 1996 (as amended) sets out the responsibilities and functions of various persons in relation to waste. In summary 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 out 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 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 the collection of household waste and to provide facilities for the recovery and disposal of such waste;
- Enables the minister of the environment and local government to make regulations for various purposes to promote better waste management and provides for substantial penalties for offences including fines, imprisonment, and/or liability for clean-up measures.

Waste Management (Collection Permit) Regulations, 2007 as Amended

Waste may only be collected by the holder of a waste collection permit or a local authority. The effect of s.34 of the Waste Management Acts is that waste (whether hazardous or not) should only be given to a haulier or collector who has the correct permit under the Waste Management (Collection Permit) Regulations 2008 (the "Waste Collection Permit Regulations"), or whatever regulations amend or replace them, to collect and transport the particular waste in question.

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

Where waste from the proposed development is exported outside of Ireland for recovery or disposal the national Trans-Frontier Shipment (TFS) office within Dublin City Council must be notified. Certain financial guarantees must be in place and certified issued by the national TFS officer prior to the waste movement taking place. If the waste involved is hazardous, the contractor must ensure that it complies with the Waste Management (Hazardous Waste) Regulations 1998 (as amended) and the European Communities (Shipments of Hazardous Waste exclusively within Ireland) Regulations 2011, unless it is exempted from compliance with those Regulations under art.35 of the Collection Permit Regulations. Hazardous waste can only be given to a collector or haulier with a collection permit under the Waste Collection Permit Regulations and the collector or haulier must bring the waste to a licensed hazardous waste management facility and ensure that it is shipped within Ireland in accordance with the stringent requirements of the European Communities (Shipments of Hazardous Waste exclusively within Ireland) Regulations 2011 and/or exported from Ireland in accordance with the Waste Management (Shipments of Waste) Regulations 2007 (as amended) and Council Regulation (EC) No. 1013/2006 on shipments of wastes, as amended (the "TFS Regulations").

2 CHARACTERISTICS OF THE DEVELOPMENT

2.1 STUDY AREA

The subject site is located at lands at Blackglen Road in Sandyford, Co. Dublin as shown in the figure overleaf. The proposed development site is immediately bound by:

- Blackglen Road to the north;
- Residential properties to the east, south, and west; and
- Woodside Road to the west and south.



Figure 1: Site Location

2.2 DEVELOPMENT DESCRIPTION

Zolbury Ltd., intend to apply to Dun Laoghaire Rathdown County Council for permission for development for a Large Scale Residential Development (LRD) on a site of approx. 3.86ha on lands at Blackglen Road, Sandyford, Dublin 18.

The development will consist of 192 no. residential units ranging from 2-5 storeys in height, associated resident amenity facilities, a childcare facility, all boundary treatment and landscaping works, site services connections and all site development works to include:

(a) Construction of 192 no. residential units, in the form of 6 no. new apartment buildings (A1 – B4), 40 duplexes (C1, C2, C2A) and 14 houses (D1 & D2), to include 33 no. 1-beds, 84 no. 2 -beds, 61 no. 3-beds and 14 no. 4-beds as follows:
- Block A1 (4 storeys) comprising 15 no. apartments (3 no. 1 bed units, 6 no. 2 bed units & 6 no. 3 bed units); a crèche facility of approx. 378.2 sq. m with associated outdoor play space of approx. 170 sq. m; and resident amenity facilities of approx. 31.6 sq. m.
- Block A2 (3-4 storeys) comprising 26 no. apartments (2 no. 1 bed units, 20 no. 2 bed units and 4 no. no. 3 bed units) and resident amenity facilities of approx. 353.6 sq. m.
- Blocks B1 and B2 (2-5 storeys) comprising 51 no. apartments (15 no. 1 bed units, 29 no. 2 bed units, 7 no. 3 bed units).
- Blocks B3 and B4 (2-5 storeys) comprising 46 no. apartments (13 no. 1 bed units, 23 no. 2 bed units and 10 no. 3 bed units).
- Duplex Units C1 (4 storeys), C2 and C2A (3 storeys) comprising 40 duplexes (6 no. 2 bed units, 20 no. 3 bed units and 14 no. 4 bed units).
- House Units D1 and D2 (2 storeys) comprising 14 houses (14 no. 3 bed units).

(b) Total Open space (approx. 10,854 sq. m) is proposed in the form of public open space (approx. 8, 686 sq. m), and residential communal open space (approx. 2,168 sq. m). Each residential unit is afforded with associated private open space in the form of a garden/terrace/balcony.

(c) The development will be served via a new vehicular access via Blackglen Road. This will be designed as a priority junction with pedestrian and cycle crossings where required to tie in with the Blackglen Road Improvement Scheme.

(d) A new toucan crossing is proposed across Blackglen Road just to the east of the new vehicular access. This toucan crossing has been designed as per TL607 of the Cycle Design Manual to allow crossing of pedestrians and cyclists to the northern side of Blackglen Road for improved public transport access.

(e) Emergency access only is proposed via Woodside Road.

(f) A dedicated wildlife corridor is proposed to the east/south-east side of the site and a public open space (approx. 307 m in length) tree trail to the west/north-west side of the site.

(g) Basement/Podium car park areas are proposed below Blocks B1, B2, B3 and B4. A total of 226 no. car parking spaces are proposed, which includes 2 no. car club spaces, 12 no. accessible spaces and 47 no.

EV charging spaces (198 no. long-stay spaces, 18 no. visitor space & 10 no. car parking spaces for creche use), in addition to 9 no. motorcycle spaces.

(h) A total of 484 no. bicycle spaces are proposed in the form of 442 no. long stay bicycle spaces 42 short-term stay visitor parking.

(i) 2 no. ESB substations at surface level.

(j) Bin Storage areas for the Duplex blocks are proposed at ground level adjacent to the Duplex blocks.

(k) All associated site and infrastructural works to include provision for water services; foul and surface water drainage and connections; internal roads, attenuation proposal; permeable paving; all landscaping works including green infrastructure zones; green roofs; and general plant areas; photovoltaic panels; landscaped boundary treatment; footpaths; public lighting; and electrical services.

2.3 DEVELOPMENT OVERVIEW

The proposed LRD development will consist of the following elements:

192 no. residential units, associated resident amenity facilities and a childcare facility as follows:

- 138 no. apartments;
- 40 no. duplexes;
- 14 no. houses; and
- A crèche facility of approx. 378 sq. m.

The proposed site layout plan is shown in the figure overleaf.



Figure 2: Proposed Site Layout

3 ROLES AND RESPONSIBILITIES

Overview of Client and Advisory Team:

Client:	Zolbury Ltd
Civil Engineer:	OCSC Consulting Engineers
Architect:	O'Mahony Pike Architecture
Environmental Consultant:	Enviroguide
Quantity Surveyor:	To be appointed by the Client
Contractor:	To be appointed by the Client.
Resource Manager:	To be nominated by the Contractor
Sub-Contractors:	To be appointed by the Contractor

3.1 CLIENT

The Client will finance the project and is responsible for the following:

- Establishing the ambition and the performance targets for the project;
- Setting out these commitments and targets in relation to prevention and minimisation in the project brief, tender documentation including pre-qualification requirements, invitation to tender, etc;
- Preparation and submission of an RWMP as part of the design and planning submission, even if not requested by the planning authority for planning;
- Preparation and submission of an updated RWMP as part of the construction tendering process;
- Ensuring that the RWMP is agreed upon and submitted to the local authority prior to the commencement of works on site; and
- Requesting the end-of-project RWMP from the Contractor.

3.2 DESIGN TEAM

The Client Advisory Team (engineers, architects, consultants, etc) will be appointed by the Client and is responsible for the following:

- Drafting and maintaining the RWMP through the design, planning, and procurement phases of the project;
- Appointing a Resource Manager (RM) to track and document the design process, inform the Design Team, and prepare the RWMP;
- Including details and estimated quantities of all projected waste streams. This should also include data on waste types (e.g. waste characterisation data, contaminated land assessments, site investigation information) and prevention mechanisms (such as by-products) to illustrate the positive circular economy principles applied by the Design Team;

- Incorporating relevant conditions imposed in the planning permission into the RWMP;
- Handover of the RWMP to the Contractor at the commencement of construction for the development of the RWMP in a similar fashion to how the safety file is handed over to the Contractor; and
- Working with the Contractor as required to meet the performance targets for the project.

3.3 LOCAL AUTHORITY

The Local Authority (or An Bord Pleanála) as the planning regulator is responsible for the following tasks:

- Ensuring that the requirement for an RWMP for C&D Projects (as specified in these guidelines) is required for all planning applications (through setting this requirement as an objective of the County Development Plan or local planning policy) for development where construction or demolition is proposed;
- Ensuring that any RWMP submitted with planning complies with the requirements of these guidelines;
- Setting appropriate planning conditions as required in line with the requirements of Section 34(4)(l) of the Planning and Development Acts, as amended; and
- Ongoing enforcement of these conditions through the construction phase.

3.4 CONTRACTOR

The principal Contractor to be procured by the Client to undertake the construction operations will be responsible for the following:

- Preparing, implementing, and reviewing the RWMP through the Construction Stage (including the management of all suppliers and sub-contractors) as per the requirements of the RWMP Guidelines;
- Identifying a designated and suitably qualified RM who will be responsible for implementing the RWMP;
- Identifying all hauliers to be engaged to transport each of the resources/wastes off-site. Note that any resource that is legally a 'waste' must only be transported by a haulier with a valid Waste Collection Permit;
- Identifying all destinations for resources taken off-site. As above, any resource that is legally a 'waste' must only be transported to an authorised waste facility;
- Addressing end-of-waste and by-product notifications with the EPA as required;
- Clarification of any other statutory waste management obligations, which could include on-site processing;
- Maintaining full records of all resources (both wastes and other resources) for the duration of the project; and
- Preparing an RWMP Implementation Review Report at project handover.

4 DESIGN APPROACH

This section provides information on project design, proposed reuse and recycling, green procurement, off-site construction, materials optimisation, and flexibility and deconstruction to show how the prevention and management of waste streams have been considered.

4.1 DESIGN WORKSHOPS

At the time of preparation of this report, information regarding design workshops was not available. The design team will be responsible for planning the workshop schedule.

4.2 REUSE AND RECYCLING

The main points regarding reuse and recycling of materials during this project are as follows:

- The site lacks any existing structures that can be directly modified, repurposed, or refurbished, either partially or fully, to fulfil the Client's needs.
- The detailed design phase will begin following the completion of the planning stage and will include comprehensive information regarding the reuse, recycling and recycling of wastes during the construction and operations phases of the project.

4.3 GREEN PROCUREMENT

Green procurement refers to the practice of purchasing products and services that are environmentally sustainable, aiming to minimize ecological impact and promote resource conservation. Green procurement procedures will be incorporated in the detailed design phase which will commence after completion of the planning stage.

4.4 OFF-SITE CONSTRUCTION

Consideration of off-site construction will be incorporated in the detailed design phase which will commence after completion of the planning stage.

4.5 MATERIALS OPTIMISATION

Consideration of materials optimisation will be incorporated in the detailed design phase which will commence after completion of the planning stage.

4.6 FLEXIBILITY AND DECONSTRUCTION

Consideration of flexibility and de-construction will be incorporated in the detailed design phase which will commence after completion of the planning stage.

5 WASTE ARISINGS

5.1 CONSTRUCTION AND DEMOLITION MATERIAL

The EPA reports on waste from construction and demolition (C&D) projects. In 2021, Ireland saw C&D waste rise to 9 million tonnes, a 10% increase from 8.2 million tonnes in 2020. Detailed breakdowns of C&D waste types and amounts for 2021 are presented in the table below.

Table 1: C&D Composition of C&D waste collected in Ireland in 2021

C&D Waste Type	Tonnage	Per cent of the total
Soils, stones & dredging spoil	7,696,287	85.1%
Concrete, brick, tile & gypsum	608,235	6.7%
Mixed C&D waste	362,380	4.0%
Metal	257,558	2.8%
Bituminous mixtures	87,343	1.0%
Segregated wood, glass & plastic	31,946	0.4%
Total	9,043,749	100%

It is anticipated these types of C&D wastes will be broadly similar to those anticipated for the proposed project. The waste categorization and handling of these wastes are outlined in the following sections.

5.2 WASTE CATEGORIZATION

The anticipated non-hazardous and hazardous waste streams predicted during project implementation, along with their corresponding European Waste Code (EWC) classifications, are detailed in the table below.

Table 2: C&D Waste Categories

17 Construction And Demolition Wastes (Including Excavated Soil From Contaminated Sites)	
17 01 01	Concrete
17 02 01	Wood
17 02 02	Glass
17 02 03	Plastic
17 02 04*	Glass, plastic, and wood containing or contaminated with hazardous substances
17 05 03*	Soil and stones containing hazardous substances
17 05 04	Soil and stones other than those mentioned in 17 05 03*
17 09 04	Mixed construction and demolition waste other than those mentioned in 17 09 01, 17 09 02 and 17 09 03

5.2.1 NON-HAZARDOUS ARISINGS

The works will result in the production of non-hazardous waste materials. These materials will include soil and stones, general municipal waste, dry recyclable waste, and waste construction materials.

The classification of materials as non-hazardous or hazardous will be based on the www.hazwasteonline.com web-based system and the Waste Acceptance Criteria in accordance with the European Communities (EC) Council Decision 2003/33/EC, which establishes criteria for the acceptance of waste at landfills.

5.2.2 HAZARDOUS ARISINGS

Contaminated Soil

The Waste Management Hierarchy states that the preferred option for waste management is prevention and minimisation of waste, followed by preparing of wastes for reuse and recycling/recovery, energy recovery (i.e. incineration) and, least favoured of all, disposal. Excavations are required to facilitate construction works, so the preferred option (prevention) cannot be accommodated for the excavation phase. Therefore, minimisation will be utilised where possible.

If suitable, material removed from the site could be reused as a by-product (and not as a waste). This can be undertaken 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 notifications are made to the EPA via their online notification form. Excavated material should not be removed from the site area until approval from the EPA has been received. If the material is deemed to be a waste, then removal and reuse/recovery/disposal of the material will be carried out in accordance Soil the Waste Management Act 1996 – 2011 as amended, the Waste Management (Permit) Regulations of 2007 as amended, and the Waste Management (Collection Permit) Regulations of 2007 as amended. 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.

The next option (beneficial reuse) may be appropriate for the excavated material pending environmental testing to classify the material as hazardous or non-hazardous in accordance with the EPA Waste Classification – List of Waste & Determining if Waste is Hazardous or Non-Hazardous publication. Clean, inert material may be used as fill material in other construction projects or engineering fill for waste-licensed sites. Beneficial reuse of surplus excavation material as engineering fill may be subject to testing to determine if materials meet the specific engineering standards for their proposed end-use.

The EPA (2020) published 'Guidance on waste acceptance criteria at authorised soil recovery facilities. This document identifies waste management acceptance procedures for unlined landfills and provides clarity on permitted concentrations of naturally occurring parameters.

Fuels/Oils

Any fuels or oils which are stored on the site area during the construction phase will be stored in a dedicated storage area with bunding of storage tanks and draw-off points. Provided that these requirements are adhered to and the site crew are trained in the appropriate refuelling techniques, it is not expected that there will be any fuel/oil releases during the works. Regardless, spill kits will be required anywhere fuel is stored or dispensed.

Asbestos

Any suspected asbestos-containing material found during the works will be sampled and sent for analysis. If asbestos-containing materials are found to be present, these materials will be removed by a suitably qualified contractor in accordance with S.I. No. 386 of 2006 Safety, Health and Welfare at Work (Exposure to Asbestos) Regulations 2006-2010. If the asbestos-containing materials are found to be present within excavated soils, these soils will be stockpiled separately prior to disposal. All asbestos-containing materials will be handled and disposed of in accordance with Irish and EU legislative requirements.

Invasive Alien Species

Prior to site works commencing an invasive alien species (IAS) survey of the Site will be carried out by a suitably qualified IAS specialist. This survey will identify the current status of IAS on Site and make appropriate recommendations as to their removal and control.

Rhododendron seedlings were recorded in the south of the Site in November 2023 by the Enviroguide Ecologist. Rhododendron is listed in the Third Schedule of the European Communities (Birds and Natural Habitats) Regulations, 2011 (as amended), making it an offence under Regulation 49 of that instrument to plant, disperse, allow or cause to grow this plant. Rhododendron is one of 47 species listed for Ireland as at risk of high impact (O'Flynn et al., 2014).



Figure 3: Rhododendron Observed on Site

See the Construction and Environmental Management Plan (CEMP) submitted under separate cover for more information on the IAS.

Other Hazardous Substances

Paints, glues, adhesives, and other known hazardous substances which will be used during the works will be stored in designated areas. They will generally be present in small volumes and associated waste volumes generated will be kept to a minimum. Wastes will be stored in appropriate receptacles pending collection by an authorised waste contractor.

WEEE (containing hazardous components), printer toner/cartridges, batteries (Lead, Ni-Cd, or Mercury), fluorescent tubes, and other mercury-containing waste may be generated during construction activities or by

temporary site offices. These wastes will be stored in appropriate receptacles in designated areas of the site pending collection by an authorised waste contractor.

5.3 THE PREDICTED QUANTITY OF MATERIAL GENERATED

The following table shows typical target values for the management of waste at the site, to be completed by the contractor prior to starting on site.

Waste Types	Waste	Reuse/Recover		Recycle		Disposal	
	tonnes	%	tonnes	%	tonnes	%	tonnes
Soil & Stones	60000	20	12000	0	0	80	48000
Concrete, Bricks, tiles, plastics etc	5000	0	0	80	4000	20	1000
Asphalt, tar/tar products	700	0	0	20	140	80	560
Metals	2000	5	100	90	1800	5	100
Others	3000	10	300	40	1200	50	1500
Total	**70700**	**-**	**12400**	**-**	**7140**	**-**	**51160**

Table 3: Predicted construction waste targets for the proposed development

It should be noted that the cited figures in the table above are based on overall cumulative cut volumes and relate to all proposed works at the site. It should be further noted that these numbers are approximated and will be subject to change depending on construction methodologies and ambient weather conditions at the time of the works. It was assumed that the density of excavated material is approximately 2.3 tons/m3.

5.4 COST OF RESOURCE MANAGEMENT

The cost of waste management is difficult to estimate at this stage as waste costs have changed significantly over the past few years and will continue to change as the National Waste Management Plan for a Circular Economy is implanted fully with increased targets for reducing, reusing, and recycling wastes. The total cost of implementation of this RWMP will be estimated following completion of the detailed design stage and will take into account handling costs, storage costs, transportation costs, revenue from rebates, and disposal costs.

5.5 RESOURCE MANAGEMENT ROUTES

Waste materials will be segregated on-site where it is practical. Waste bays can be delineated using concrete/sleepers for certain material types. Skips and other receptacles will also be provided where necessary to facilitate segregation at the source. Dedicated bunded storage containers will be provided for hazardous wastes such as batteries, paints, oils, chemicals, etc. if required. All waste receptacles leaving the site will be

covered or enclosed. The appointed waste contractor will collect and transfer the waste as receptacles are filled. Where the site segregation of certain waste types is not practical, off-site area segregation will be carried out.

All waste arising will be handled by an approved waste contractor holding a current waste collection permit. All waste arising requiring disposal off-site area will be disposed of at a facility holding the appropriate licence or permit, as required. Written records will be maintained by the contractor(s) detailing the waste arising throughout the construction phase, the classification of each waste type, the contact details and waste collection permit number of all waste contractors who collect waste from the site, and the end destination and waste facility permit or licence number for all waste removed and disposed off-site area.

Any soil removed from the off-site area will be carried by contractors licensed under the Waste Management Acts 1996 - 2020, the Waste Management (Collection Permit) Regulations 2007 and Amendments and the Waste Management (Facility Permit & Registration) Regulations 2007 and Amendments.

5.6 THE MANAGEMENT OF THE MAIN WASTE STREAMS

The management of the main waste streams is detailed in the following sections.

5.6.1 SOIL/SUBSOIL

Excess inert soil and stone, sub-soils, and fill material requiring excavation for construction purposes and not required for use as fill on-site will be recovered off-site. Soil and stones will only be removed by authorised waste collectors to an authorised site. Any fill material excavated within the site area which is deemed to be contaminated (i.e. non-hazardous or hazardous) will be stored separately from the inert material, sampled and tested, in order to appropriately classify the material as non-hazardous or hazardous in accordance with the www.hazwasteonline.com application and EC Council Decision 2003/33/EC10, which establishes the criteria for the acceptance of waste at landfills before being transported to an appropriately authorised facility by permitted contractors.

5.6.2 BEDROCK

It is not anticipated that bedrock will be encountered during the works.

5.6.3 CONCRETE

Most of the concrete generated as part of the works is expected to be clean, inert material and should be recycled, where possible.

5.6.4 CARDBOARD

Cardboard from deliveries will be separated and sent for recycling.

5.6.5 PLASTIC

There will be plastic wrapping from deliveries and hard plastic from the drainage system. All recyclable plastic will be segregated and stored in skips prior to collection for recycling.

5.6.6 TIMBER

It is predicted there will be timber waste generated from the works and from wooden pallets from the delivery of goods, materials, signage, etc. Timber that is uncontaminated, i.e. free from paints, preservatives, glues etc., will all be recycled. It will be collected within the site in a designated area and collected by a timber recycling company or a recycling company that will pass it on to a timber recycling company. Such companies shred the timber and use it in energy recovery, for the manufacture of wood products, or for landscaping woodchips, etc.

5.6.7 METAL

It is not predicted there will be metals generated on-site. If any waste metals are generated, they will be segregated into mixed ferrous, cladding, aluminium, high-grade stainless steel, low-grade stainless steel, etc. where practical and stored in skips prior to collection by a metal recycling company.

5.6.8 ORGANIC (FOOD) WASTE

A canteen within the site area may be provided to allow workers to prepare and eat food. This facility will incorporate provisions so that organic waste will be segregated for separate collection. Segregation at source and separate collection of organic waste is required in accordance with the Waste Management (Food Waste) Regulations 2009 (if food is prepared within the site area).

5.6.9 WASTE ELECTRICAL AND ELECTRONIC EQUIPMENT (WEEE)

WEEE that does not contain hazardous components will be stored in dedicated covered cages/receptacles/pallets pending collection for recycling.

5.6.10 NON-RECYCLABLE WASTE

Waste which is not suitable for reuse or recovery will be placed in separate skips or other receptacles. Prior to removal from the site area, the non-recyclable waste skip/receptacle will be examined by a member of the waste team to determine if recyclable materials have been misplaced. If this is the case, efforts will be made to determine the cause of the waste not being segregated correctly and recyclable waste will be removed and placed into the appropriate receptacle.

5.6.11 ASBESTOS

If Asbestos Containing Material (ACM) is encountered, the removal of ACMs must be carried out by a suitably qualified contractor in accordance with S.I. No. 386 of 2006 Safety, Health and Welfare at Work (Exposure to Asbestos) Regulations 2006-2010. All material will be removed and disposed of by a suitably licensed or permitted facility.

5.6.12 OTHER HAZARDOUS WASTES

Storage of all hazardous wastes found within the site will be undertaken so as to minimise exposure to site operatives and the public and to minimise the potential for environmental impacts. The storage of any hazardous wastes produced (i.e. contaminated soil and/or waste fuels) within the site area will be kept to a minimum, with removal of off-site areas organised on a regular basis.

6 SITE MANAGEMENT

6.1 MANAGEMENT & CONTROL SYSTEMS

One of the construction team or the foreperson will be appointed as Waste Manager and will be responsible for finding alternatives to sending C&D waste to a landfill. Waste materials will be stored in the specifically designated compound. All wastes leaving the site area will be placed in appropriate containers. Any concrete, soil, gravel, or broken stone transported off-site area will be covered to prevent dust or particle emissions from the load.

All movement of waste and the use of waste contractors will be undertaken in accordance with the Waste Management Acts 1996 - 2020, Waste Management (Collection Permit) Regulations 2007 and Amendments and Waste Management (Facility Permit & Registration) Regulations 2007 and Amendments. The waste contractor will provide the Waste Manager with a copy of their waste collection permit.

Prior to the waste leaving the site area, the Waste Manager will have documentation to show where the waste is being taken and that the facility is licensed to accept the particular waste. Waste leaving the site will be weighed by the contractor, either by weighing mechanism on the truck or at the receiving facility. A receipt will be issued for each load that leaves the site.

For wastes being transported to another location, a copy of the Local Authority waste permit or EPA Waste Licence for that site will be provided to the Waste Manager. If the waste is being shipped abroad, a TFS document will be obtained from Dublin City Council (as the relevant authority on behalf of all local authorities in Ireland) and kept in the site area along with details of the final destination (permits, licences etc.). A receipt from the final destination of the material will be maintained by the Waste Manager along with copies of all waste collection permits, local authority waste permits, and EPA waste licences for facilities taking wastes from the site.

All information will be entered into a waste management recording system to be maintained on-site. Additionally, toolbox talks and all other necessary training sessions will be undertaken during the construction phase to ensure comprehensive education and adherence to waste management protocols throughout the project.

6.2 TRAINING PROVISIONS FOR WASTE MANAGER AND SITE CREW

It will be the responsibility of the Waste Manager to ensure commitment, operational efficiency and accountability with regard to waste management. The Waste Manager will be given responsibility and authority to select a waste team if required, i.e. members of the site crew that will aid him/her in the organisation, operation, and recording of the waste management system on the site. The Waste Manager will have overall

responsibility to oversee records and provide feedback to the client on everyday waste management within the site. Authority will be given to the Waste Manager to delegate responsibility to sub-contractors where necessary and to coordinate with suppliers, service providers, and sub-contractors to prioritise waste prevention and salvage on the site.

The Waste Manager will be trained in how to set up and maintain a record-keeping system, how to perform an audit, and how to establish targets for waste management within the site. He/she will be also trained in the best methods for the segregation and storage of recyclable materials, have information on the materials that can be reused on-site and know how to implement the RWMP.

Training of the site crew is the responsibility of the Waste Manager. A waste training program will be organised. A basic awareness course will be held for all site crew to outline the RWMP and to detail the segregation of waste materials at source, the storage methods, and the location of the waste storage areas. A subsection on hazardous wastes will be incorporated and the particular dangers of each hazardous waste will be explained. This may be incorporated into the induction course or the safety training course.

6.3 RECORD KEEPING

Records will be kept for each waste material that leaves the site area, either for reuse on another site or for recycling or disposal. A system will be put in place to record the material waste arisings within the site area. The Waste Manager or a member of his team will record the following:

- Waste taken for reuse off-site (i.e. for capping of landfill cells or at another site);
- Waste taken off-site for recovery;
- Waste taken for recycling;
- Waste taken for disposal; and
- Reclaimed waste materials brought on-site for reuse.

For each movement of waste on- or off-site, the Waste Manager will obtain a signed docket from the contractor detailing the weight and type of the material and the source and destination of the material. This system will also be linked with the delivery records. In this way, the percentage of C&D waste generated for each material can be determined.

The system will allow the comparison of these figures with the targets established for the recovery, reuse, and recycling of C&D waste and highlight the successes or failures against these targets.

6.4 WASTE AUDIT PROCEDURE

The Waste Manager will be responsible for conducting a waste audit at the site. A review of all the records for the waste generated and transported on- or off-site will be undertaken. If waste movements are not accounted for, the reasons for this should be established to see if and why the record-keeping system has not been maintained.

A Summary Report will be prepared and compared with the established recovery/reuse/recycling targets for the site. Each material type will be examined to see where the largest percentage of waste generation is occurring. The waste management methods for each material type will be reviewed to highlight how the targets can be achieved. Waste management costs will also be reviewed.

6.5 CONSULTATION

Consultation with waste contractors and with the Lead Authority of DLRCC throughout the construction phase will be pursued to ensure best practices for waste management are being followed on the site.

7 SITE INFRASTRUCTURE

7.1 SIGNAGE

The resource manager shall ensure that appropriate signage for materials segregation is in place.

7.2 CANTEEN WASTES/W/C/UTILITY WASTES

Regular housekeeping of the temporary canteen/W/C areas will be carried out. Removal of domestic waste from the construction compound will be carried out by a permitted waste contractor. An approved and permitted contractor will maintain any temporary W/C utilities used within the site during the construction phase.

7.3 REUSE/RECOVERY

Reusing the site materials will reduce the transport and disposal costs associated with the requirement for a waste contractor to take the material away to the landfill. Clean and inert soils, gravel, stones, etc. which cannot be reused within the site may be used as capping material for landfill sites, or for the reinstatement of quarries etc. This material is often taken free of charge for such purposes, reducing final waste disposal costs.

7.4 RECYCLING

Salvageable metals will earn a rebate which can be offset against the cost of collection and transportation of the skips. Clean, uncontaminated cardboard and certain hard plastics can be recycled. Waste contractors will charge considerably less to take segregated wastes such as recyclable waste from a site than mixed waste.

7.5 DISPOSAL

The Waste Management (Landfill Levy) (Amendment) Regulations 2023 and the Circular Economy (Waste Recovery Levy) Regulations 2023 introduced a waste recovery levy of €10 per tonne (or 1,000kg) and increased the existing landfill levy by €10 to €85 per tonne. These levies only apply to 'black' bin waste and encourage the mitigation of financial impact by sorting waste to maximize reuse and recycling, thereby minimizing overall waste charges.

In addition to disposal costs, waste contractors will also charge a collection fee for skips. Collection of segregated C&D waste usually costs less than municipal waste. Specific C&D waste contractors take the waste off-site area to a licensed or permitted facility and, where possible, remove salvageable items from the

waste stream before disposing of the remainder in a landfill. Clean soil, rubble, etc. is also used as fill/capping material wherever possible.

7.6 STORAGE

The resource manager shall ensure that appropriate storage is provided for the different waste streams including:

- Dedicated skips;
- Hazardous materials storage; and
- Stockpile management.

8 VERIFICATION

This report was compiled and verified by:

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