CONDITION 3 ROADS

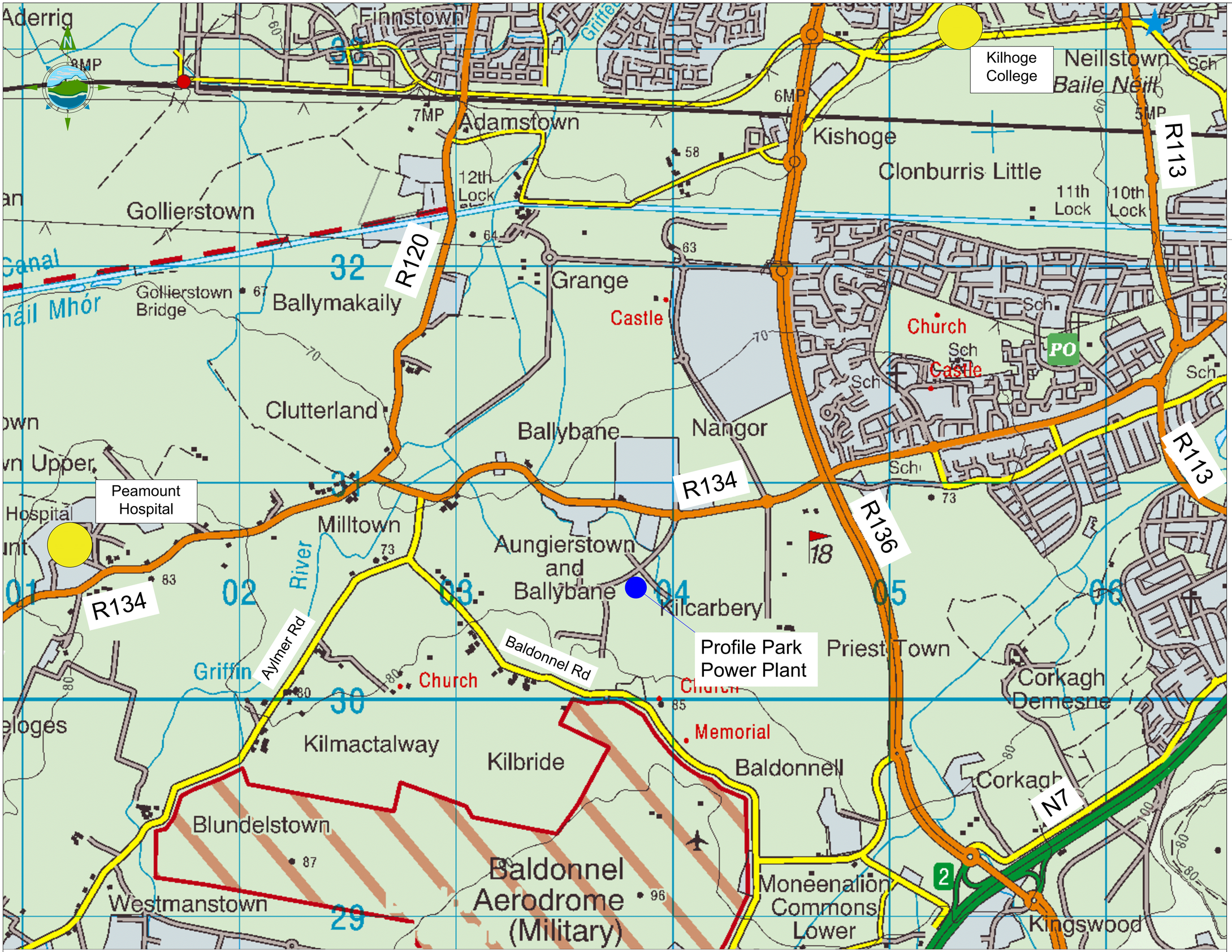
1. Prior to the commencement of development, the applicant shall submit a developed Construction Traffic Management Plan for the written agreement of the Planning Authority.
2. Prior to the commencement of development, the applicant shall submit a developed Construction & Demolition Waste Management Plan (C&DWMP) for the written agreement of the Planning Authority.

REASON: In the interest of sustainable transport.

Compliance

1. Please refer to the enclosed high-level Construction Traffic Management Plan (CTMP). This report will be passed to the appointed building contractor with a request to provide a developed CTMP. Upon completion of a developed CTMP, GIL will pass this report to South Dublin County Council for approval.

2. Please refer to the enclosed Construction & Demolition Waste Management Plan (CD&DWMP).



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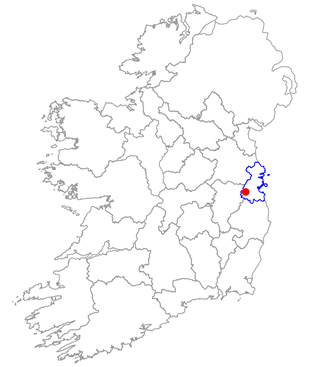


LEGEND:

POINTS OF INTEREST

SITE LOCATION

NOTES:

1. FIGURED DIMENSIONS ONLY TO BE TAKEN FROM THIS DRAWING.
2. ALL DRAWINGS TO BE CHECKED BY THE CONTRACTOR ON SITE
3. ENGINEER/EMPLOYERS REPRESENTATIVE, AS APPROPRIATE, TO BE INFORMED BY THE CONTRACTOR OF ANY DISCREPANCIES BEFORE ANY WORK COMMENCES
4. THE CONTRACTOR SHALL UNDERTAKE A THOROUGH CHECK FOR THE ACTUAL LOCATION OF ALL SERVICES/UTILITIES, ABOVE AND BELOW GROUND, BEFORE ANY WORK COMMENCES
5. ALL LEVELS SHOWN RELATE TO ORDNANCE SURVEY DATUM AT MALIN HEAD

Rev	Date	Description	By	Chkd.
D01	16/09/22	ISSUED FOR PLANNING	KD	JO'F

Client: centrica

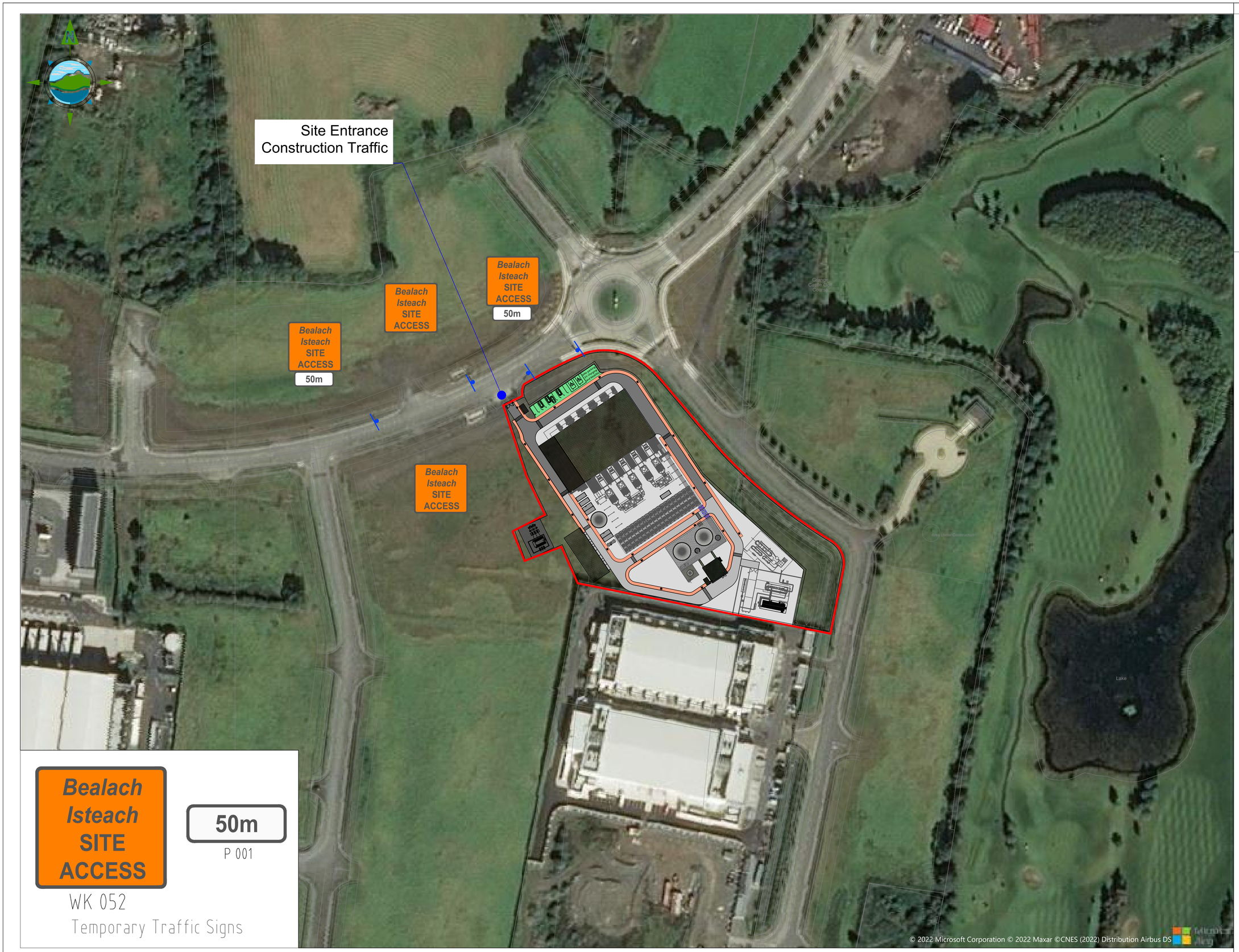
Project: PROFILE PARK POWER PLANT

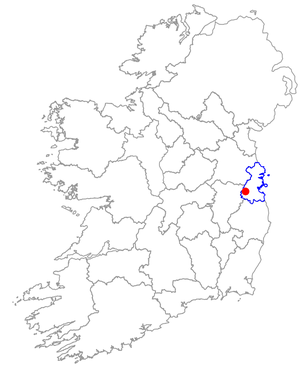
Title: Traffic Management Plan
Site Location
Sheet 1 of 2

Scale @ A1:	1:1,250	
Prepared by: K.D	Checked: J.O'F	Date: Sep 2022
Project Director:	BRIAN CARROLL	
Drawing Status:	PLANNING	

TOBIN CONSULTING ENGINEERS
TOBIN Consulting Engineers,
Block 10-4, Blanchardstown Corporate Park,
Dublin 15, Ireland.
tel: +353-(0)1-8030406
fax:+353-(0)1-80304O9
e-mail: dublin@tobin.ie
www.tobin.ie

Drawing No.: 11069-6000 | Revision: D01





LEGEND:

SITE BOUNDARY

TEMPORARY TRAFFIC SIGN

NOTES:

1. FIGURED DIMENSIONS ONLY TO BE TAKEN FROM THIS DRAWING.
2. ALL DRAWINGS TO BE CHECKED BY THE CONTRACTOR ON SITE
3. ENGINEER/EMPLOYERS REPRESENTATIVE, AS APPROPRIATE, TO BE INFORMED BY THE CONTRACTOR OF ANY DISCREPANCIES BEFORE ANY WORK COMMENCES
4. THE CONTRACTOR SHALL UNDERTAKE A THOROUGH CHECK FOR THE ACTUAL LOCATION OF ALL SERVICES/UTILITIES, ABOVE AND BELOW GROUND, BEFORE ANY WORK COMMENCES
5. ALL LEVELS SHOWN RELATE TO ORDNANCE SURVEY DATUM AT MALIN HEAD

Rev	Date	Description	By	Chkd.
D01	16/09/22	ISSUED FOR PLANNING	KD	JO'F

Client:

centrica

Project:

PROFILE PARK
POWER PLANT

Title:

Traffic Management Plan
Temporary Signage
Sheet 2 of 2

Scale @ A1:	1:1,000	
Prepared by: KD	Checked: JO'F	Date: Sep 2022
Project Director:	BRIAN CARROLL	
Drawing Status:	PLANNING	

TOBIN
CONSULTING ENGINEERS
TOBIN Consulting Engineers,
Block 10-4, Blanchardstown Corporate Park,
Dublin 15, Ireland.
tel: +353-(0)1-8030406
fax:+353-(0)1-8030409
e-mail: dublin@tobin.ie
www.tobin.ie

Drawing No.: 11069-6001 Revision: D01

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PROFILE PARK POWER PLANT

PROFILE PARK, DUBLIN 22

CONSTRUCTION & DEMOLITION WASTE MANAGEMENT PLAN

Profile Park Power Plant

CONSTRUCTION & DEMOLITION WASTE MANAGEMENT PLAN

Document Control Sheet	
Document Reference	11069-R-001
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Current Revision	0
Client:	Greener Ideas Limited
Client Address:	C/O Centrica Business Solutions, 1 Seapoint Building, 44-45 Clontarf Road, Dublin 3, D03 F4A7
Project Number	11069

Galway Office	Dublin Office	Castlebar Office
Fairgreen House, Fairgreen Road, Galway, H91 AXK8, Ireland. Tel: +353 (0)91 565 211	Block 10-4, Blanchardstown Corporate Park, Dublin 15, D15 X98N, Ireland. Tel: +353 (0)1 803 0406	Market Square, Castlebar, Mayo, F23 Y427, Ireland. Tel: +353 (0)94 902 1401

Revision	Description	Author:	Date	Reviewed By:	Date	Authorised by:	Date
D01	Draft Issue	SB	24/08/22	RH	29/08/22	RH	31/08/22
0	Final	SB	13/09/22	RH	13/09/22	RH	14/09/22

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ENVIRONMENT I.S. EN ISO 14001:2015 NSAI Certified
HEALTH & SAFETY I.S. ISO 45001:2018 NSAI Certified
QUALITY I.S. EN ISO 9001:2015 NSAI Certified

ACEI ASSOCIATION OF CONSULTING ENGINEERS OF IRELAND

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1.0 INTRODUCTION

Greener Ideas Limited (GIL) have received planning permission to develop a ca. 102 MW dual fuel gas fired power plant at a site located in Profile Park, Dublin 22. Profile Park is a 100 acre (40.5 hectare (Ha)) fully enclosed, private business park. The immediate area is predominantly commercial / industrial in nature. No existing environmental (waste or industrial emissions) licence has been or is currently held for this site. Presently, the site is greenfield with no previous or existing development present within the proposed facility boundary. The site was previously in agricultural use within the last c. 15 years.

This report presents a Construction & Demolition (C&D) Waste Management Plan (C&DWMP) for the proposed development which will address the following:

- Analysis of the waste arisings/material surpluses;
- Waste management objectives for the project;
- Methods proposed for prevention, reuse and recycling of wastes;
- Material handling procedures; and
- Proposals for training and auditing.

This C&DWMP has been prepared in accordance with the *Best Practice Guidelines for the Preparation of Resource & Waste Management Plans for Construction & Demolition Projects*[1], published by the EPA in November 2021. These guidelines replace the 2006 guidelines previously published by the former Department of the Environmental, Heritage and Local Government (DOEHLG) and the National Construction and Demolition Waste Council (NCDWC).

The main objective of these guidelines is to provide a practical and informed approach informed by best practice in the prevention and management of C&D wastes and resources from design to construction of a project (including consideration of deconstruction). The guidelines provide those involved in a project, including clients, developers, designers, practitioners, contractors, sub-contractors and competent authorities, with a common approach when preparing Resource and Waste Management Plans (RWMPs) for C&D projects.

The updated document sets out practical guidelines informed by best practice approaches in the management and prevention of C&D waste from initial design stages onwards, including:

- *"Prior to Construction – including the stages of design, planning and procurement in advance of works on site (in the 2006 guidelines this was referred to as an outline or preliminary plan)"*; and
- *"During Construction – relating to the effective management of resources and wastes during construction or demolition operations (in the 2006 guidelines this was referred to as the detailed plan)"*.

The proposed development is located in the administrative area of South Dublin County Council (SDCC).

[1] EPA *Best Practice Guidelines for the Preparation of Resource & Waste Management Plans for Construction & Demolition Projects* (November 2021) - https://www.epa.ie/publications/circular-economy/resources/CDWasteGuidelines.pdf (26 August 2022)

1.1 Waste Management Context

The primary legislative instrument that governs waste management in Ireland is the *Waste Management Act (WMA) 1996*, as amended. The WMA is a key instrument which, among other legislation, implements the EU *Waste Framework Directive* (2008/98/EC) in Ireland. The WMA provides for a general duty on everyone not to hold, transport, recover or dispose of waste in a manner that causes or is likely to cause environmental pollution. The WMA also sets out the provisions for the collection of waste and for its recovery/disposal.

Any person or contractor engaged in the collection of waste on a commercial basis is required to hold a Waste Collection Permit in accordance with the requirements of the *Waste Management (Collection Permit) Regulations 2007*, as amended. A Waste Collection Permit is issued to appropriate contractors by the National Waste Collection Permit Office (NWCPO).

Waste materials collected by a suitably permitted waste contractor must only be transported to appropriately permitted or licensed waste facilities. Authorisation for receiving waste materials are provided in accordance with the *Waste Management (Facility Permit & Registration) Regulations 2007*, as amended, for waste permits and certificates of registration (COR) granted by the relevant Local Authority. Waste management authorisations granted by the Environmental Protection Agency (EPA) are issued in accordance with the *Waste Management (Licensing) Regulations 2004*, as amended, and the *Environmental Protection Agency (Industrial Emissions) (Licensing) Regulations 2013*, as amended.

1.2 Relevant Policy

1.2.1 EU Policy

The EU *Waste Framework Directive (2008/98/EC)* lays down the basic principles and concepts related to waste management. It requires that waste be managed

- *Without endangering human health and harming the environment;*
- *Without risk to water, air, soil, plants or animals;*
- *Without causing a nuisance through noise or odours; and*
- *Without adversely affecting the countryside or places of special interest*[2].

The Directive also sets out key definitions including for waste, recycling and recovery, while also defining when waste ceases to be waste and becomes a secondary raw material (end-of-waste criteria) and how to distinguish between waste and by-product. The Directive also introduces the *"polluter pays principle"* and the *"extended producer responsibility"*.

The basis of EU waste management is the 5-step "*waste hierarchy*", established in the Directive. It confirms the order of preference for managing and disposing of waste and requires EU Member States to carry out the following:

- *Apply the waste hierarchy in their waste management legislation and policy;*
- *Take measures to promote the reuse of products and preparing-for reuse activities;*
- *Establish waste management plans;*
- *Encourage high-quality recycling of waste materials as part of the aim to make the EU a 'recycling society'; and*
- *Ensure that the preparation for reuse, recycling and other material recovery of non-hazardous C&D waste (excluding naturally occurring material defined in List of Waste*

[2] EU, *Waste Framework Directive* - https://environment.ec.europa.eu/topics/waste-and-recycling/waste-framework-directive_en (accessed 26 August 2022)

category 17 05 04) is a minimum of 70% by weight by 2020. The Directive states that this target should be achieved by preparing for reuse, recycling and other material recovery, such as backfilling operations making use of waste to substitute other material.

In Ireland, the Directive is legislated under the *European Union (Waste Directive) Regulations 2020* (S.I. No. 323 of 2020)[3].

The EU are currently working on a targeted revision of the Waste Framework Directive (expected in 2023). Despite current legislation, there has been an increase in municipal waste generation over the last decade, partly due to inefficient waste-collection systems, low recycling rates, lower quality recyclates, and lack of proper implementation of the *"polluter pays principle"*. Revision of the Directive aims to improve the overall environmental outcome of waste management in line with the waste hierarchy, and will focus on the policy areas of prevention, separate collection, waste oils and textiles.

In March 2020, as part of the European Green Deal, the EU adopted the new Circular Economy Action Plan (CEAP). The new action plan includes initiatives along the entire life cycle of products. It targets how products are designed, promotes circular economy processes, encourages sustainable consumption, and aims to ensure that waste is prevented, and the resources used are kept in the EU economy for as long as possible. It introduces legislative and non-legislative measures.[4] Measures under the plan are aimed at ensuring less waste while making circularity work for people, regions and cities and puts focus on sectors that use most resources and where there is a high potential for circularity such as; packaging, plastics, food, textiles, construction and buildings, batteries and vehicles, electronics and ICT, and water and nutrients.

1.2.2 National Policy

Ireland's waste management policy is based on the EU waste hierarchy and establishes a priority order for waste handling and treatment as set out in Figure 1-1.

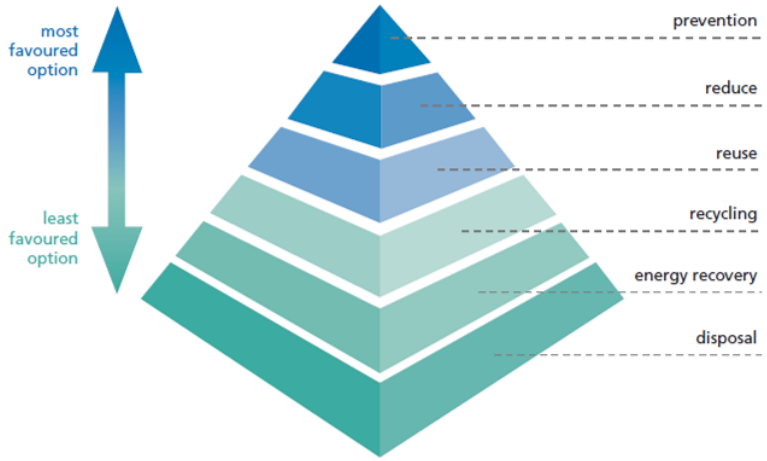

Figure 1-1 – Waste management hierarchy (Source: EPA)

[3] Amends the *Waste Management Act 1996* and the *EU Waste Directive Regulations 2011 (S.I. No. 126 of 2011)* https://www.irishstatutebook.ie/eli/2020/si/323/made/en/print (accessed 26 August 2022)
[4] EU, Circular Economy Action Plan (2020) - https://environment.ec.europa.eu/strategy/circular-economy-action-plan_en (accessed 26 August 2022)

The current government policy document on waste, which covers the period from 2020 – 2025, is entitled *A Waste Action Plan for a Circular Economy* (WAPCE) and was published in June 2020[5]. This document is Ireland's new roadmap for waste planning and management and aims to embed climate action in all strands of public policy. The Plan shifts focus away from waste disposal and looks instead to how the country can preserve resources by creating a circular economy.

The Plan outlines the contribution of the sector to the achievement of a number of other national plans and policies including the Climate Action Plan. It also matches the level of ambition being shown across the European Union through the European Green Deal which encompasses a range of actions supporting circularity and sustainability.

The key targets under the WAPCE in relation to C&D waste are:

- *Streamlining by-product notification and end-of-waste decision making process;*
- *Revision of the 2006 best practice guidelines for C&D waste; and*
- *Working group to develop national end-of-waste applications for priority streams.*

Most notably in respect of the proposed development works, the new WAPCE states that:

- *C&D waste management plan guidelines will be updated, and we will ensure that there is a consistent application of planning requirements;*
- *We will develop reuse and recovery targets for plastic from the construction and demolition sector; and*
- *We will examine methods to encourage source segregation of waste materials on site which could include moving away from the use of mixed skips or incentivised pricing or other financial instruments to support segregation.*

In 2021 the Department of the Environment, Climate and Communications (DECC) launched the "*Whole of Government Circular Economy Strategy*"[6], Ireland's first national circular economy strategy. The Strategy was a specific commitment in the WAPCE and is a key addition to Government's drive to achieve a 51% reduction in overall greenhouse gas emissions by 2030 and to get on a path to reach net-zero emissions by no later than 2050, as per commitments in the Programme for Government and the Climate Act 2021.

In July 2022, as part of the Strategy, the *Circular Economy Act* (2022)[7] was signed into law, and for the first time defines the Circular Economy in Irish Law. In terms of C&D waste, the Act ensures that a fit-for-purpose regulatory system will be in place to allow hundreds of thousands of tonnes of material be safely and sustainably re-used as secondary raw materials. The Act will help streamline the process for decision making by the EPA on end-of waste and by-product applications. This is particularly important in the construction sector, where there is considerable potential to reduce the need for aggregate extraction (e.g. crushed rock, sand and gravel used in concrete) by reusing material that may otherwise be treated as demolition waste. The end-of-waste process allows for safeguards so that this reuse can be done in a way that is safe in terms of the environment and human health.

[5] DECC, *A Waste Action Plan for a Circular Economy: Ireland's National Waste Policy 2020-2025* (June 2020)
[6] DECC, *Whole of Government Circular Economy Strategy 2022 – 2023 'Living More, Using Less' (2021)* - https://www.gov.ie/en/publication/b542d-whole-of-government-circular-economy-strategy-2022-2023-living-more-using-less/ (accessed 26 August 2022)
[7] DECC, *Landmark Circular Economy Act signed into law* (2022) - https://www.gov.ie/en/press-release/4546a-landmark-circular-economy-act-signed-into-law/ (accessed 26 August 2022)

1.2.3 Regional Waste Management Plans

For the purposes of waste planning, Ireland has been divided into three waste regions, namely the Eastern-Midlands Waste Region, the Southern Waste Region and the Connacht-Ulster Waste Region. The project is situated within the Eastern-Midlands Waste Region (EMWR), which comprises 12 no. local authority areas which are:

Eastern-Midlands Waste Region	
Dublin City Council	Laois County Council
Dún Laoghaire-Rathdown County Council	Longford County Council
Fingal County Council	Meath County Council
South Dublin County Council	Offaly County Council
Kildare County Council	Westmeath County Council
Louth County Council	Wicklow County Council

Each of the three waste management regions has developed a Regional Waste Management Plan to provide a framework for the prevention and management of wastes in a safe and sustainable manner. The current waste plan for the EMWR is the *Eastern-Midlands Region Waste Management Plan 2015 – 2021*.

The strategic vision of the regional waste plan is to rethink Ireland's approach to managing wastes, by viewing waste streams as valuable material resources that can lead to a healthier environment and sustainable commercial opportunities for the economy.

Specifically, in relation to C&D waste, the regional plan identifies Irelands mandatory target under the Waste Framework Directive to achieve 70% reuse, recycling and materials recovery of non-soil and stone construction and demolition waste to be achieved by 2020. The latest EPA waste statistics (2019) [8] identify that Ireland's current rate achieved is 84%. The regional plan also states that *"there is significant potential for recycling of the C&D waste stream given the nature of its characteristics"*.

The WAPCE states that the three existing regional waste management plans will be replaced by a new single *National Waste Management Plan for a Circular Economy* (NWMP), which will contain targets for reuse, repair, resource consumption, and reducing contamination levels.

The process of developing the new NWMP is underway and is subject to a Strategic Environmental Assessment and an Appropriate Assessment; the pre-draft consultation has been undertaken[9] and a draft of the NWMP is expected to be published for consultation in late 2022. The NWMP will be in respect of the Local Authority administrative areas, with the lead authority for the Eastern-Midlands Region being Dublin City Council.

1.2.4 County Development Plan

The current development plan applicable to the proposed development is the *South Dublin County Development Plan 2022-2028 (SDCC, 2022)*[10] which sets out the local authority's commitments to provide and deliver infrastructural services which will enhance the quality of the South County Dublin environment and facilitate sustainable economic development and

[8] EPA, *Progress to EU Waste Targets* (June 2022) - https://www.epa.ie/our-services/monitoring--assessment/waste/national-waste-statistics/progress-to-eu-targets/ (accessed 26 August 2022)
[9] My Waste, National Waste Management Plan for a Circular Economy – pre-draft consultation process - https://www.mywaste.ie/pre-draft-consultation/ (accessed 26 August 2022)
[10] SDCC, *South Dublin County Development Plan 2022-2028* - https://www.sdcc.ie/en/devplan2022/ (accessed 25 August 2022)

housing. The development plan sets out a number of policies, objectives, standards and criteria with regard to waste management, with those specifically in relation to C&D waste outlined below.

Policy within Chapter 5 - *Quality Design and Healthy Placemaking* - sets out the following objective in terms of C&D waste:

- QDP11 Objective 3: *"To promote the reuse and recycling of materials to promote the circular economy and reduce construction and demolition waste"*

Chapter 11 - *Infrastructure and Environmental Services* - sets out the following objective in relation to waste management and C&D:

- IE7 Objective 2: *"To support the implementation of the Eastern Midlands Region Waste Management Plan 2015-2021 or as amended by adhering to overarching performance targets, policies and policy actions";*
- IE7 Objective 8: *"To adhere to the recommendations of the National Hazardous Waste Management Plan 2014-2020 and any subsequent plan, and to co-operate with other agencies including the EPA in the planning, organisation and supervision of the disposal of hazardous waste streams, including hazardous waste identified during construction and demolition projects".*

Chapter 12 - *Implementation and Monitoring of the CDP* - sets out the development standards and criteria that arise out of the policies and objectives of the CDP, and includes the following in relation to C&D waste:

(iv) Construction and Demolition Waste

Construction and Demolition Waste Management Plans should be submitted as part of development proposals for projects in excess of any of the following thresholds:

- *New residential development of 10 units or more;*
- *New developments other than above, including institutional, educational, health and other public facilities, with an aggregate floor area in excess of 1,000 square metres;*
- *Demolition / renovation / refurbishment projects generating in excess of 100 cubic metres in volume, of Construction and Demolition (C&D) waste;*
- *Civil engineering projects in excess of 500 cubic metres of waste materials used for development works on the site.*

The Construction and Demolition Waste Management Plan, as a minimum, should include provision for the management of all construction and demolition waste arising on site, and make provision for the reuse of said material and / or the recovery or disposal of this waste to authorised facilities by authorised collectors. Where appropriate, excavated material from development sites is to be reused on the subject site.

1.2.5 South Dublin County Waste Bye-Laws

New Waste Bye-Laws[11] for the functional area SDCC entered into force on 03 December 2018. These are referred to as the *South Dublin County Council Household & Commercial Waste Bye-Laws 2018*[12]. The provisions of the Waste Bye-Laws do not apply to C&D waste.

[11] SDCC, *Environmental Bye-Laws* - https://www.sdcc.ie/en/services/environment/environment-bye-laws/ (accessed 25 August 2022)
[12] SDCC, *South Dublin County Council Household & Commercial Waste Bye-Laws 2018* - https://www.sdcc.ie/en/download-it/publications/waste-management-bye-laws-2018-v-1.pdf (accessed 25 August 2022)

1.3 National Waste Statistics

The EPA reports on national waste generation statistics on a regular basis[13]. The latest reference year available in terms of C&D waste statistics is 2019[14] released in November 2021. This data indicates the following key trends in the sector:

- C&D waste generated increased to 8.8 million tonnes in 2019, up from 2.6 million tonnes in 2018 and relates to the significant increase in construction activity nationally in 2019;
- The data indicates the increase was driven mainly by an additional 2.7 million tonnes of soil and stones, which totalled 7.5 million tonnes in 2019;
- In 2019, soil, stones and dredging spoil made up the largest fraction of C&D waste collected at 85%, up from 77% in 2018. The next largest waste types in 2019 were concrete, bricks, tiles and gypsum (7%) and mixed C&D (4.5%);
- Most of the C&D waste generated in 2019 (82%) was backfilled while 10% went for disposal, and only 7% of all C&D waste was recycled;
- Recycling was the main treatment operation for metals (100%) and waste bituminous mixtures (64%); and
- Only 39% of C&D related segregated wood, glass and plastic waste was recycled in 2019 while 54% went for energy recovery.

Under the Waste Framework Directive (2008/98/EC), EU Member States must achieve a rate of 70% material recovery of non-hazardous, non-soil and stone C&D waste by 2020. In 2019, Ireland achieved 84% material recovery of such waste, surpassing the 2020 target; an improvement on the recovery rate of 71% achieved in 2016 and 77% achieved in 2018.

In terms of C&D waste statistics, the EPA states that *"Prevention and improved recycling of C&D waste could be achieved by employing best practice circular construction activities, such as designing out waste, enhanced segregation of C&D materials into individual material streams and by maximising the use of resources, in line with the EPA's revised Best Practice Guidelines for the Preparation of Resource [& Waste] Management Plans for Construction & Demolition Projects".*

As previously mentioned, development of this C&DWMP has been informed by these guidelines, and prevention and management of C&D waste generated on-site will follow best practice.

The EPA provides a release calendar for their waste statistics, which currently states that the planned release for 2020 C&D data is September 2022[15].

2.0 WASTE MANAGEMENT OBJECTIVES

The following waste management objectives are identified for the proposed development:

- Maximise the on-site segregation of C&D wastes;
- Consideration of all reuse opportunities for material surpluses within the site;
- Avoid oversupply of incoming construction materials which have the potential to become waste; and

[13] EPA, *National Waste Statistics for Ireland* - https://www.epa.ie/our-services/monitoring--assessment/waste/national-waste-statistics/ (accessed 25 August 2022)
[14] Construction & Demolition Waste Statistics for Ireland - https://www.epa.ie/our-services/monitoring--assessment/waste/national-waste-statistics/construction--demolition/ (accessed 25 August 2022)
[15] EPA planned releases for 2022 (last updated July 2022) - https://www.epa.ie/our-services/monitoring--assessment/waste/national-waste-statistics/release-calendar/ (accessed 26 August 2022)

- Engage appropriately licensed waste contractors that can provide maximum off-site reuse, recovery and recycling of waste materials in preference of disposal.

The national target for preparing for reuse, recovery and recycling of C&D waste (excluding soil and stone) is 70% and the waste industry in Ireland is currently achieving 84% (2019).

The target set for C&D waste management for the Profile Park Power Plant project is to exceed the national target of preparing for reuse, recovery and recycling of 70% of C&D waste (excluding soil and stone).

The main contractor will be made aware of this project target and will be required to engage suitably permitted/licenced waste contractors that will be able to provide a commitment to achieving, or exceeding, this target.

3.0 PROJECT DESCRIPTION

The site of the proposed power plant is located in Profile Park, Dublin 22 which is situated c.3.15 km west of Clondalkin town centre. Profile Park is a 100 acre (40.5 Ha) fully enclosed, private business park. Presently, the site is greenfield with no previous or existing development present within the proposed facility boundary. The site was previously in agricultural use within the last c. 15 years.

The site comprises an area of flat disturbed ground which appears to have been subject to topsoil disturbance in recent years during the construction of roadways to the north and east – as per review of aerial photography evidence. The topography of the proposed power plant site can be described as ostensibly flat, or slightly sloping, with elevations from c.73 mAOD to c.76 mAOD, resulting in the lands being at a marginally lower elevation to the surrounding Profile Park road and footpath infrastructure.

No existing environmental (waste or industrial emissions) licence has been or is currently held for this site.

The proposed development is a c. 102 MW dual fuel gas fired power plant, comprising associated plant, equipment and buildings including the following elements:

- 1 no. Engine Hall building with a height of 16.9m, (comprising 5 no. gas engines and ancillary infrastructure);
- 1 no. Electrical Annex Building (height of 18.7m);
- 1 no. Workshop Building with a height of 5.1m;
- 1 no. Tank Farm building with a height of 5.68m;
- 1 no. Security Hut with a height of 3.27m;
- Tanks including 2 x Diesel Oil Storage Tanks, a SCR Urea Tank, a Lubricant Oil Storage Tank, a Lubricant Oil Maintenance Tank, a Pilot Oil Tank, a Fire Water Storage Tank, an Effluent Collecting Tank; and an Underground Surface Water Attenuation Tank;
- 2 no. exhaust stacks (each 28m in height);
- 1 no. Gas AGI including a kiosk (height of 3.3m);
- Radiator Coolers (height of 8.46m);
- 2 no. electrical transformers (height of 4.98m);
- 2 no. new access onto the existing private road network within Profile Park;
- 12 no. number parking spaces, footpaths, landscaping; and
- Fencing and all other associated site development plant and equipment and other works including surface water and foul wastewater drainage.

The development will also include landscaping, site services and all associated infrastructure works necessary to facilitate the development.

The proposed construction works are set out in the Construction Environmental Management Plan (CEMP) prepared by TOBIN Consulting Engineers.

4.0 WASTE ARISINGS

C&D waste statistics from 2019 published by the EPA[16] identify the main waste types generated in the construction industry in Ireland as set out in Table 4-1.

Table 4-1 – EPA C&D waste statistics – composition of C&D waste for 2019

Waste Type	% of total (by weight)	List of Waste Codes*
Soil, stones and dredging spoil	84.8%	17 05 03 to 17 05 08
Concrete, brick, tile and gypsum	6.9%	17 01 01 to 17 01 07
Mixed C&D waste	4.5%	17 09 03, 17 09 04
Metal	2.2%	17 04 01 to 17 04 11
Bituminous Mixtures	1.3%	17 01 03 to 17 03 03
Segregated wood, glass and plastic	0.3%	17 02 01 to 17 02 03

* Waste types may be non-hazardous or hazardous

As above, soil and stones waste typically make up a significant proportion of C&D waste generated in Ireland.

The power plant development will require pre-construction activity and ground excavations to enable works as the existing site is greenfield with no previous or existing development present. The building structures will require excavations for foundations which will be determined as part of the detailed design phase. Excavations will also be required for underground utilities and surface water drainage infrastructure.

Arisings from piling and excavation works will be reused on site wherever possible for site profiling and landscaping works.

There have been no intrusive site investigation (SI) works carried out at the site to date and, as such, there is no site-specific soil / ground quality data available at this time. Site investigations will be carried out as part of the detailed design of infrastructure for the power plant in the coming months and these intrusive investigations will include the collection, monitoring, analysis and reporting of environmental quality records for the current site conditions. Any SI works carried out will include environmental soil analysis to identify the potential for encountering contaminated soils during ground works.

As per the CEMP, any contaminated material identified will be excavated in a controlled environment and handled appropriately as hazardous waste.

Due the nature of the site, i.e. greenfield with previous agricultural use, no asbestos containing materials (ACMs) are predicted to be present on-site. Therefore, no asbestos survey or specific handling procedures in terms of ACMs have been undertaken or will be required.

[16] EPA (2019) Composition of C&D waste- https://www.epa.ie/our-services/monitoring--assessment/waste/national-waste-statistics/construction--demolition/ (accessed 25 August 2022)

During construction works, waste material will be generated mainly from excavations, material off-cuts and packaging. Oversupply of materials can also lead to waste generation. The typical waste materials generated again will be concrete rubble, metals, wood and plastics.

Other waste types generated in smaller quantities on construction sites may include materials such as waste oils, resins, paints and adhesives, as well as waste generated from office and welfare facilities on site, such as paper, packaging, food and canteen waste, and wastewater and effluent. Some of these materials may be hazardous and will require specific handling procedures. It is expected that waste quantities of these materials will be small.

4.1 Demolition Waste

No demolition works are proposed for this site. Presently, the site is greenfield with no previous or existing development present within the proposed facility boundary.

4.2 Excavation Waste

The site is currently greenfield, as such the key potential source of waste material during the construction of the development will be from the excavation of ground material to allow for the laying of foundations and construction of the building structures. Material from piling and excavation works will be reused on site wherever possible, such as for site profiling and landscaping works.

This will require removal of topsoil and subsoil to a competent founding layer and upfilling with structural fill and/or concrete (concrete only proposed for the tank farm, oil supply and storage, engine hall, electrical annex building, transformers, workshop, parking and plant associated structures) to the required finished floor level. Up to 8,500m^3 (c. 14,875 tonnes) of excavated soils wills be generated as part of the cut and fill balance.

A review of the EPA website for both existing and historic licensed and illegal waste activities was carried out to identify any potential contamination sources present in the area and to identify any potential contaminating activities near the proposed power plant. The desk study indicated that no waste facilities or illegal waste activities were recorded with a 2km radius of the site proposed facility. No visual or olfactory evidence of contamination was identified during site walkovers carried out in February and May 2021.

SI works carried out during the detailed design stage of the project will include visual inspection and testing to confirm the environmental quality of the excavated ground materials.

4.3 Construction Waste

The power plant will be characterised by pre-construction gradually phasing out to a number of main civil engineering works to provide the necessary infrastructure for completion.

The pre-construction phase will include preparatory works (i.e. post planning surveys and reporting) and consultation with statutory bodies and the public. Following this process, site clearance activities will commence. The construction phase comprises civil and plant construction works, including:

- Construction of access and hardstands (temporary contractor's compound, temporary site offices, welfare facilities, car parking and equipment laydown areas);
- Topsoil stripping of the construction working area (and localised at certain locations along the cable/ gas pipeline route), the removal of ditches, trees, and other vegetation from the site;

- Processing of materials and reinstatement;
- Construction of infrastructure foundations (power plant infrastructure foundations, parking, site entrance);
- Excavation for cable ducts, gas pipeline, tank farm, infrastructure foundations;
- Management of excavated materials; and
- Construction of surface water drainage system along the new access to site.

The power plant will be constructed using standard construction and building materials and methodologies. Materials will be required for construction of the elements of the design including building structures, concrete floors, and metal decking. Therefore the majority of construction waste material will be streams including mixed C&D waste, metal, wood, plasterboard, glass and waste electronic and electrical equipment (WEEE) as would typically be generated from the building of a similar industrial style facility. Materials required for the construction works will be sourced locally, where feasible. Material importation to site will be required such as ready mixed concrete, road surface, etc.

Construction waste quantities have been estimated based on the gross area of new infrastructure proposed. The breakdown of anticipated waste types are based on a study on construction waste generation carried out by GMIT and the EPA in 2015[17]. Table 4-2 below presents the estimated construction waste quantities for the main waste types.

Table 4-2 – Estimated construction waste quantities

Waste Type	Tonnes
Mixed C&D waste	108
Timber	92
Plasterboard/Gypsum	33
Metals	26
Concrete	20
Other waste (cabling/wiring, ducting, insulation, packaging and plastics)	49
TOTAL	**327**

The estimates above are based on construction of commercial developments but can be applied as an estimate for the proposed development. Waste type breakdown will vary depending on final selection of material types and the extent of on or off-site construction employed.

5.0 WASTE HANDLING

5.1 On-Site Waste Management

To ensure that waste management is given adequate consideration throughout the excavation and construction phases, the main contractor will appoint a Waste Manager who will have overall responsibility for implementing this C&DWMP, ensuring that the project remains in compliance with waste legislation and striving to achieve, and exceed, the waste management targets as set out in Section 2.

As a primary measure, waste generation will be avoided, where possible, by ensuring that an excess supply of building materials is not delivered to the site and that only the minimum materials required to meet the construction schedule are available on-site. This will reduce the

[17] EPA and GMIT, *A Review of Design and Construction Waste Management Practices in Selected Case Studies – Lessons Learned (EPA Research Report 146)* (2015)

potential for damage and re-ordering materials which will save on project costs. The 'Just-in-time' delivery concept will be applied, where possible, to minimise waste creation. Off-site construction of key equipment, machinery and other infrastructure will be explored, where possible, to minimise waste generation at the project site. Off-site manufacturing techniques are typically optimised to reduce wastage.

There are stockpiles of spoil from a third-party development in the north and western areas of the site. This material comprises layers of gravels and concrete blocks with some topsoils. There is no evidence that there are contaminated materials within the stockpiles, however the site engineer/environmental representative will monitor the handling of the materials and obtain samples for environmental analysis where there is suspected contaminants or where the material has to be removed off-site as waste. It is intended to retain this material on site for use in site profiling and landscaping, subject to the suitability of the material which will be determined when site preparation works commence.

The Waste Manager will liaise with procurement teams to ensure that minimal and unnecessary packaging is not brought on-site or is removed from site by delivery vehicles. In particular, timber pallets will be returned with deliveries where possible.

Maximum segregation of waste materials on-site will be carried out to increase the off-site potential for reuse and recycling of materials. Skips of varying sizes will be provided strategically at the site to promote source segregation and avoid rubbish build-up and potential for off-site littering. A waste compound will be set up such that skips are located close together which helps promote source segregation and aids collection of skips by the waste contractor. As required, skips/tipper skips will be temporarily positioned adjacent to works areas to help waste segregation and reduce handling of wastes.

All skips will be maintained in good condition and clearly labelled so that there is no confusion as to what materials are to be placed in which skip. The main contractor will appoint an employee(s) to keep the area around the skips clean and to ensure skips are not overflowing with waste. Waste materials such as gypsum, WEEE, batteries or hazardous waste will be stored separately and may require covered skips or containers to prevent contaminated run-off in the event of getting wet. Dedicated bunded storage areas will be provided for storage of liquid wastes such as resins, oils, paints etc.

Appropriate handling, storage and reuse of excavated materials are important during the construction phase of the proposed power plant. Excavation and piling works will be monitored, and environmental sampling carried out to classify the material for off-site recovery or disposal, if required. Clean uncontaminated material will be kept separate from contaminated (or potentially contaminated) materials so as to avoid cross contamination and reduce the quantity of contaminated material requiring off-site treatment.

Stockpiles will be located away from the Baldonnell Stream. Opportunities to reuse suitable excavated material within the site will be maximised where appropriate. Topsoil and subsoils will be stored separately and used for landscaping and in the reinstatement of the site areas. Topsoil/subsoil will be stockpiled no higher than 2.5m and follow the recommendations set out in the NRA *Guidelines for the Management of Waste from National Road Construction Projects* (NRA, 2014).

There is potential for a negative effect on water as a result of the erosion of soil and the inappropriate storage of excavated materials. However, any risk from the stockpiling of excavated materials can be managed through good site practice. The presence of watercourses

within the site requires a robust sediment and erosion plan to effectively reduce the risk of sediment release to surface waters.

For works along the grid and gas connections, and site entrance works, the excavated material will be cast to the side to be reused as backfilling material where appropriate. This material will not be stored in the vicinity of any watercourses. It will be cast on the upgradient side of the trench, so if any runoff did occur, it would run into the downgradient trench.

Excess material will be transported off-site as waste to a local appropriately licensed/permitted waste facility (see Section 5.2 Off-Site Waste Management).

5.2 Off-Site Waste Management

During construction, excess material will need to be transported offsite as waste for appropriate management. The main contractor will appoint a suitably permitted waste contractor(s) to collect waste from the site and transfer to appropriately permitted or licensed waste facilities. It is not possible at this stage to identify who the waste contractor(s) will be or to provide their waste collection permit number(s). However, these details will be retained on site following appointment as described in Section 6.

The appointed waste contractor(s) will typically determine the facilities where C&D waste will be taken to. Upon appointment of a waste contractor, details of the waste collection permit(s) and chosen waste facilities (including waste licence details) will be collated and retained on site. Written confirmation of the acceptance of the material at the chosen facilities can be obtained and provided to SDCC if required.

There are numerous waste transfer stations, treatment facilities, and recovery facilities in the Greater Dublin Region (including Dublin, Meath, Kildare, and Wicklow) that can accept C&D waste for reuse, recycling and recovery. Examples of these facilities include Roadstone Belgard Quarry, Roadstone Huntstown and Calary Quarries and Sorundon Ltd, Dublin 12.

Excavated soil and stone material will be tested to provide a classification for off-site recovery or disposal in accordance with the EPA requirements set out in the *Waste Classification* publication[18]. Alternatively, the EPA approved *HazWasteOnline* application can be used to classify the excavated material as hazardous or non-hazardous. Waste facilities permitted for acceptance of waste materials for landfilling will also require the classification of waste in accordance with the Waste Acceptance Criteria (WAC) set out in *EC Council Decision 2003/33/EC*[19], and in terms of soil recovery, in accordance with the EPA (2020) "*Guidance on Waste Acceptance Criteria at Authorised Soil Recovery Facilities*"[20]. It is anticipated that excavated soil and stone will be transferred off-site in rigid trucks and will be covered to prevent dust deposition off-site.

Uncontaminated soil and stones that is not reused on-site can be recovered as engineering fill in landfill facilities or used for ground improvement in soil recovery facilities. As a last resort, excavated materials can be disposed of to landfill.

[18] EPA, *Waste Classification – List of Waste & Determining if Waste is Hazardous or Non-Hazardous* (2019)
[19] EC Council Decision 2003/33/EC – establishing criteria and procedures for the acceptance of waste at landfills pursuant to Article 16 of and Annex II to Directive 1999/31/EC.
[20] EPA, *Guidance on Waste Acceptance Criteria at Authorised Soil Recovery Facilities* (2020) - https://www.epa.ie/publications/compliance--enforcement/waste/Guidance-on-Waste-Acceptance-Criteria-at-Authorised-Soil-Recovery-Facilities.pdf (accessed 26 August 2022)

Where appropriate, some materials, such as uncontaminated soil and stones, may be classified as a by-product (and not as a waste) in accordance with Article 27 of the *European Communities (Waste Directive) Regulations 2011*, as amended subject to meeting specific requirements as set out in the Regulations and guidance issued by the EPA[21]. A by-product classification on the excavated materials would permit the use of the material in non-waste licenced or permitted sites. Where contaminants are found (or where bitumen-based materials are present) the material will be classified as waste and will be removed from site to an appropriately licenced/permitted facility.

The main construction waste materials such as concrete rubble (including ceramics and bricks), metals, plastics, plasterboard, glass and wood are widely recyclable and will be segregated on site into separate skips insofar as is possible with the space available on-site. These materials will be transferred off-site using dedicated skip lorries to appropriate facilities.

Any WEEE generated will be stored separately (under cover if required) and transferred to suitable facilities for processing and onward recycling of components. Similarly, where possible, cardboard packaging will be segregated to maximise recycling potential off-site.

A mixed C&D waste skip will be required for non-recyclable wastes or where site constraints do not permit segregation into all of the above waste types. The appointed Waste Manager will monitor site segregation to ensure recyclable materials are placed in dedicated skips, where provided, and not placed in the mixed C&D waste skip. This material will be transferred off-site for processing and further removal of recoverable materials.

Off-site facilities for processing of C&D waste typically generate a 'fines' material which can be recovered as an engineering material in landfill facilities. The Waste Manager will liaise with the waste contractors to ensure maximum diversion of waste from disposal to landfill as per the targets set out in Section 2.

Hazardous waste will only be removed from site by waste contractors permitted to handle hazardous waste. Waste oils, resins and paints may be suitable for off-site recovery, and this will be explored with waste contractors.

6.0 RECORD KEEPING

Once a waste contractor(s) has been appointed, the Waste Manager will request copies of their waste collection permits which will be held on file at the site office. The waste collection permits must include an up-to-date list of approved vehicle registrations associated with the permit which can be spot checked by the Waste Manager.

The waste contractor will also be requested to identify where waste materials will be taken to, and copies of waste licences/permits for each facility will be requested to hold on file in the site office. The Waste Manager will confirm that the waste collection permits, and facility licences/permits are appropriate for the waste types proposed.

A waste log will be set up by the Waste Manager to record all outgoing waste movements from the site. The waste collection vehicle driver will be required to supply an individual signed waste docket (waster transfer form for hazardous waste) for each waste movement off-site which must specify the waste collection permit number, waste type, EWC code, waste treatment, source of the waste and waste destination. The docket provided by the driver may also include the weight of waste where the collection vehicle is equipped with a load cell, or the weight of

[21] EPA, *Guidance on classification and notification of soil and stone as a by-product* (2017)

waste is known. Alternatively, the weight of the waste may be determined from a weighbridge at the receiving facility and the weight of waste provided to the Waste Manager as soon as possible after receipt at the off-site facility. Regardless, the waste contractor must be able to provide an accurate measurement of the waste tonnage to the Waste Manager. The waste contractor will also be required to provide feedback on waste collected identifying the percentage of waste recovered and disposed of.

The waste log will be used to identify the main waste types being generated and can be linked to delivery records to identify the percentage of waste from incoming building materials. The Waste Manager will be able to analyse these records to improve efficiency and seek to reduce wastage. The Waste Manager can also use the information to determine the success of the project against the targets set out in Section 2.

7.0 TRAINING, RESPONSIBILITIES & AUDITING

The main contractor will include the waste management objectives outlined in Section 2 as part of the site induction for all new employees on the site. The importance of source segregation and maintaining a clean site will be highlighted and the locations of skips on the site will be provided.

The appointed Waste Manager will be trained in setting up the waste log and checking waste dockets as described in the previous section. The Waste Manager will also be given responsibility for providing toolbox talks on waste management, organising specific training where required and educating workers throughout the project. The Waste Manager will also liaise with SDCC to provide details on the waste facilities to be used and provide waste data as required. It is also beneficial for the Waste Manger to provide feedback on waste statistics to the project team on a regular basis to acknowledge good performance or identify areas for improvement.

The Waste Manager will be familiar with the content of this document and will ensure compliance with the measures set out herein for the duration of the project. Where appropriate, the Waste Manager may delegate responsibility to others for management of waste in particular areas of the site or may seek appointment of Waste Mangers for specific sub-contracts.

The Waste Manager will also establish an audit checklist to inspect skips and waste containers across the site and identify contamination of skips or other waste related issues which may arise. A review of waste records held for each movement of waste off-site will also be carried out. The waste log will be cross-checked with hard copy dockets and any missing details filled in. Depending on the nature of the wastes generated, the Waste Manager may also carry out an audit of the receiving waste facilities to confirm that the waste sent from the site is being treated as described on the waste dockets.

The costs associated with waste management will also be reviewed during the project and highlighted to the Project/Site Manager as to where savings can be made, if any. Typically, maximum on-site segregation of waste and reuse of material where appropriate reduces the costs associated with mixed C&D waste collection which is required to be processed off-site.

8.0 INTERACTIONS WITH OTHER BODIES

The Waste Manager will ensure coordination with relevant bodies throughout the project. This will include compliance with any construction traffic management requirements identified by the project team or imposed by SDCC.

The Waste Manager will provide details to SDCC on the destinations of waste materials from the site and will provide waste records to SDCC as required. The Site Manager contact details will also be provided to SDCC.

www.tobin.ie

TOBIN Consulting Engineers

@tobinengineers

Galway
Fairgreen House,
Fairgreen Road,
Galway,
H91 AXK8,
Ireland.
Tel: +353 (0)91 565 211

Dublin
Block 10-4,
Blanchardstown Corporate Park,
Dublin 15,
D15 X98N,
Ireland.
Tel: +353 (0)1 803 0406

Castlebar
Market Square,
Castlebar,
Mayo,
F23 Y427,
Ireland.
Tel: +353 (0)94 902 1401