

ENVIRONMENTAL IMPACT ASSESSMENT REPORT

Circular Economy Hub
Huntstown
Dublin 11

Volume 1 Non-Technical Summary



Irish Recycling Ltd



December 2023

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NON TECHNICAL SUMMARY

ENVIRONMENTAL IMPACT ASSESSMENT REPORT

CIRCULAR ECONOMY HUB

HUNTSTOWN

FINGAL

Prepared For: -

Rathdrinagh Land Unlimited Company
T/A Irish Recycling Ltd

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November 2023

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1. NON-TECHNICAL SUMMARY

1.1 Introduction

This Non-Technical Summary provides an overview of the proposed development, the scope of the environmental assessment completed, the findings of that assessment, the prevention, mitigation and monitoring measures that will be applied to prevent and/or minimise the impacts, and an evaluation of the residual impacts. It uses, in so far as possible, non-technical language and is for information purposes only to guide readers to the sections of the Environmental Impact Assessment Report (EIAR) that contain the detailed assessments of the impacts of the proposed development.

1.2 Proposed Development

Rathdrinagh Land Unlimited, trading as Irish Recycling Ltd (IRL), intends to apply to Fingal County Council (the Council) for planning permission for the development of the first phase (Phase 1) of a Circular Economy Hub at Huntstown which will include a materials recovery facility, where wastes will undergo the initial stage of the recycling and recovery process and a separate food container cleaning plant that will allow plastic containers to be reused as food packaging on multiple occasions.

When it is operational the materials recovery facility will accept and process household, commercial, industrial and construction and demolition wastes to separate out the recoverables and recyclable materials so they can be further treated to a point where they are turned into products that can be sold, for example recycled aggregates that replace quarried stone. The objective is to achieve a recovery/recycling rate of 98%.

The food container cleaning plant will take in trays and crates used in the packaging of foodstuffs that currently can only be used once for this purpose due to contamination concerns. The containers will be cleaned and sterilised to point where they are safe to reuse.

Future phases of the Hub will include the development of other recycling plants that will process materials (plastics, wood) separated in the materials recovery facility to a point they are suitable for use as products and replace virgin materials.

1.3 Environmental Impact Assessment

The European Union (EU) Directive 85/337/EEC on the assessment of the effects of certain public and private projects on the environment is known as the Environmental Impact Assessment (EIA) Directive. Its objective is to ensure that developments that are likely to have significant effects on the environment are the subject of an assessment of their likely impacts.

When preparing a planning application for a development the first step is to confirm if the proposed project is one of the activities listed in Annex II of the EIA Directive. If it is, then an EIAR must be prepared.

The proposed materials recovery facility falls into a category listed in Annexe II of the Directive - Installations for the disposal¹ of waste (projects not included in Annex I), but is of a type where the need for EIA is based on a threshold. The threshold, as specified in Class 11 (b) of Part 2 of Schedule 5 of the Planning and Development Regulations, is an annual intake of more than 25,000 tonnes. As the proposed materials recovery facility will accept more than 25,000 tonnes of waste annually an EIA is required.

Although the food container cleaning plant is a type of activity that does not require an EIA, because it will be built and operated in conjunction with the materials recovery facility an assessment of the likely cumulative effects of its impacts its development in combination with the materials recovery facility has been completed.

The purpose of an EIAR is to report the impacts, if any, that a proposed development will have on the environment. The EIA Directive requires an EIAR to describe the likely significant impacts on:

- Population (local services, economic activity).
- Human health (impacts on air quality, likelihood of nuisances and risk of major accidents and natural disasters).
- Biodiversity (habitats, flora, fauna, and sites that have national and international important ecological value).
- Land and soil including loss of land used for food production or recreation);
- Water (streams, rivers and groundwater);
- Air, including air quality issues that can affect people's health
- Climate, including the implications for climate change
- Material assets (roads, water supplies, wastewater treatment, energy supplies)
- Cultural heritage (protected archaeological features and buildings)
- Landscape, and
- Interactions between the above.

This EIAR was prepared in accordance with European Commission's Environmental Impact Assessment of Projects - Guidance on the preparation of the Environmental Impact Assessment Report (2017) and the Environmental Protection Agency's (EPA) Guidelines on the Information to be contained in Environmental Impact Assessment Reports (2022).

Early anticipation is the most effective means of avoiding negative impacts. This requires forming preliminary opinions on the approximate significance, extent, duration and type of the likely impacts that can then be considered at the design stage to identify the measures required prevent or minimise (mitigate) i.e. 'design out' adverse impacts.

Impacts are assessed in terms of the likely changes to the environment resulting either directly, or indirectly from the proposed development. Where possible, the impacts are described in terms of

¹ For the purposes of the Directive the term disposal includes recovery.

quality, significance, extent (magnitude), probability, duration, and type, as defined in the EPA’s 2022 Guidance.

It is not always either possible, or practical to prevent all adverse impacts and those that remain after mitigation are referred to as ‘Residual Impacts. These are the impacts that cannot be reasonably avoided and are a key consideration in deciding whether or not a development should be granted planning permission.

1.4 Consultation

IRL consulted with the Council and Uisce Eireann as part of the pre-planning application process.

1.5 Project Team

The Project Team Members are listed in the Table below. O’Callaghan Moran & Associates (OCM) was the EIA Team Leader. All Team Members have the relevant qualifications and experience to meet the competent expert requirements of the EIA Directive.

Chapter	Title	Prepared By	Contributor
1	Introduction	OCM	
2	Site Description	OCM	Coyle Civil and Structural Engineers
3	Development Description	OCM	Coyle Civil and Structural Engineers
4	Alternatives	OCM	IRL/Coyle Civil and Structural Engineers
5	Climate	Katestone	Trafficwise/OCM
6	Land & Geology	OCM	
7	Water	OCM	
8	Biodiversity	Dixon Brosnan	Andrew Boe Arborist
9	Air	Katestone	OCM
10	Population & Human Health	OCM	Katestone/ Damian Brosnan Acoustics
11	Landscape & Visual Impact	OCM	OCM
12	Cultural Heritage	OCM	Kilkenny Archaeology/Archaeological Consultancy Services Unit
13	Materials Assets: Built Services	OCM	
14	Material Assets: Traffic & Transport	Trafficwise	
15	Interaction of the Foregoing	OCM	

1.6 Difficulties Encountered in Compiling the Required Information

Where difficulties were encountered in compiling the required information these are described in the relevant Chapters.

2. EXISTING SITE DESCRIPTION

2.1 Site Location and Layout

The site location is shown on Figure 2.1. It is close to the M50 to the south and the N2 to the east and is accessed by the North Road. It is in an area zoned for heavy industry in the Fingal Development Plan 2023 to 2029.

The site layout is shown on Drawing No 220602. It encompasses 9.863 hectares and comprises two fields and a section of an existing road along the eastern boundary. The western field had been used for farm animal grazing, but is no longer used for this purpose. The eastern field had been used for tillage, but is currently uncultivated. The ground levels rises from the site boundaries to a small hillock in the centre of the site.

Uisce Eireann permanent and temporary wayleaves for the Greater Dublin Orbital Sewer route run from north to south through the site. Overhead electricity power lines that ran across the site have been laid underground inside the eastern and northern site boundaries.

2.2 Surrounding Land Use

The surrounding land use (Figure 2.2) is a mix of quarrying, utilities and agricultural, Huntstown Quarry, which includes an EPA licensed soil recovery site is 200m to the west; Huntstown Bioenergy, which is an anaerobic digestion plant owned by the applicant, is 150m to the west; Huntstown Power Station is approximately 280m to the north-west, and an Eirgrid 220 kv Substation is to the south-east. The adjoining lands to the east, south and west are currently used for agriculture. The southern runway of Dublin Airport is approximately 2.4km from the north-eastern boundary.

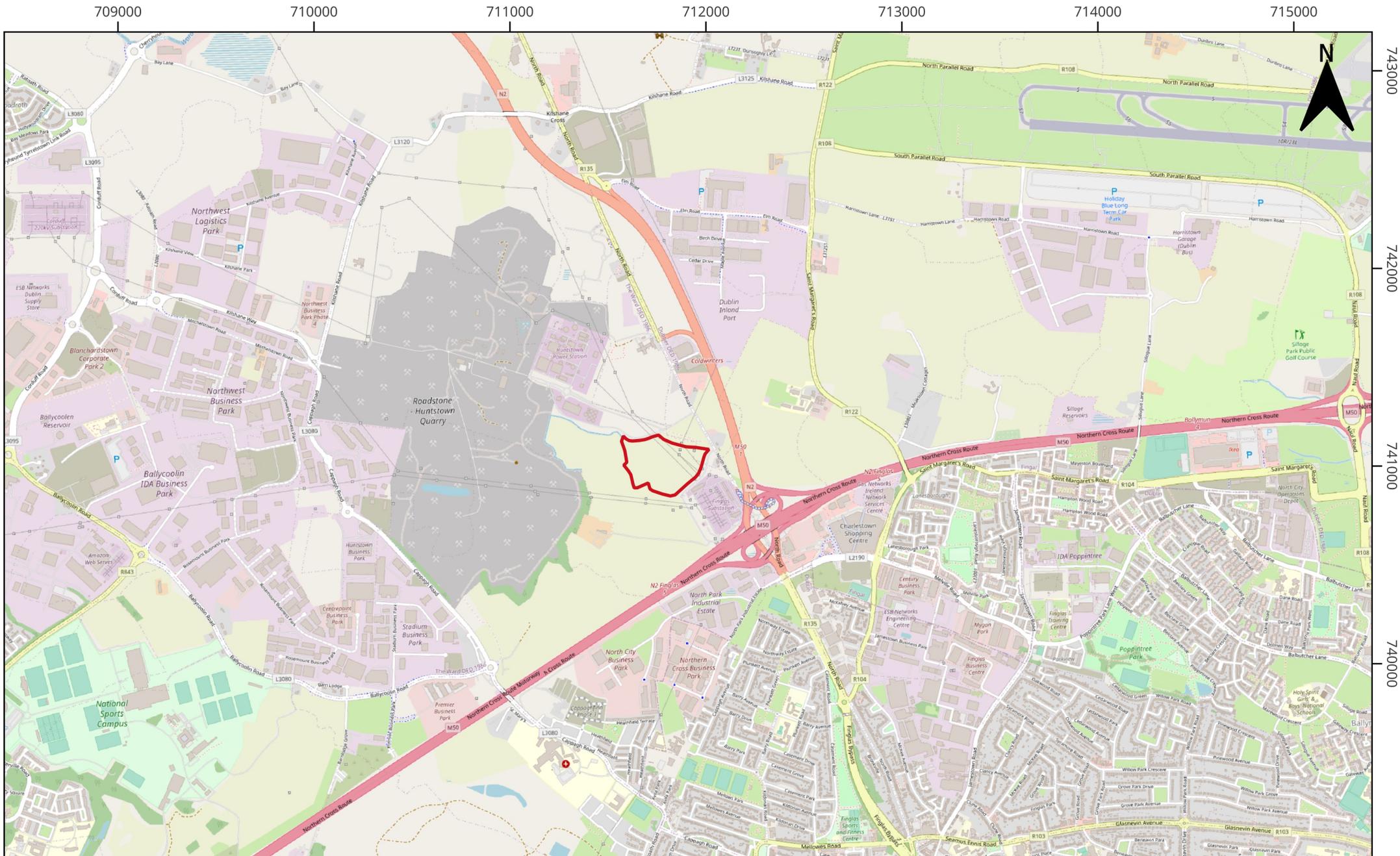
The nearest private residences are on the North Road, approximately 50m from the eastern development site boundary. There is a farmhouse approximately 270m south of the southern boundary.

2.3 Site Services

There are no existing connections to the Uisce Eireann mains supply, storm sewers and foul water network. There is an Uisce Eireann water main on North Road and the nearest connection point to the municipal foul sewer is also on North Road.

2.4 Roads

The site is accessed via National Road N2, North Road and the service road to the Substation.



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CLIENT

Irish Recycling Ltd

TITLE

Site Location

DETAILS

— Site Boundary

0 500 m



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FIGURE 2.1



O'Callaghan Moran & Associates,
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CLIENT

Irish Recycling Ltd

TITLE

Surrounding Landuse

Details:

— Site Boundary

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Figure 2.2

2.5 Environmental Setting

2.5.1 Hydrology

The site is in the catchment of the Tolka River, whose main channel is approximately 3 km to the south. There are no streams or water courses either in the site, or on the surrounding lands. The closest significant water feature is the Huntstown Stream, which is approximately 970m to the north and in a different catchment. The site is neither in nor adjacent to an area that is at risk of flooding and there are no records of any flood event either at, or in the vicinity of the site.

2.5.2 Geology & Hydrogeology

The subsoils in the west and south of the site and along the northern boundary comprise glacial tills, with gravels in the centre and east. The available information indicates the subsoil range in thickness from 1m in the west to more than 20m in the east. The underlying bedrock is a muddy limestone. The subsoils are not significantly water bearing, but the bedrock is classed as a locally important aquifer.

2.5.3 Biodiversity

The fields are no longer used for agriculture and are being recolonised by scrub and weeds. There are hedgerows/treelines along the southern and western boundaries and between the two fields, with hawthorn, blackthorn, elm and ash present. The nearest designated Natura 2000 Site is the South Dublin Bay and River Tolka Estuary Special Protection Area, which is 8.0km to the south-east.

3. PROJECT CHARACTERISTICS

3.1 Proposed Layout

The proposed development is Phase 1 (3.9 ha) of the 9.863 hectare Huntstown Circular Economy Hub. The proposed layout is shown on Drawing No P001. It comprises the materials recovery facility, the food container cleaning plant, surface and foul water drainage system, a new site entrance and internal access road, paved open yards, weighbridge, car and bicycling parking areas, and landscaping.

3.2 Roads

A new access junction will be provided off the service road leading to the Eirgrid Substation and all traffic will enter and leave by the new entrance.

3.3 Building Design & Layout

3.3.1 Materials Recovery Facility

The building will occupy 5,032 square metres. It will be steel portal frame structure with external preformed and profile sheeting on the walls and low pitch roof cladding. It will be 13.5 metres to the eaves, with an upper ridge level of approximately 15 metres above ground level. Solar panels will be mounted on the roof and the edge of the roof will be surrounded by an anti-glint and glare parapet.

The floor layout is shown on Drawing No P005. There will be an office and staff welfare facilities in the south of the building and separate areas for the processing of the different types materials. Household and commercial waste (Municipal Solid Waste, or MSW) that is too contaminated to be recycled and the 'brown bin' (food waste) waste will be handled in an area separated from the rest of the building and fitted with the odour control system.

Commercial, industrial and domestic source segregated and mixed dry recyclables and construction and demolition (C&D) waste will be handled in different bays. There will be designated areas for the storage of baled materials and quarantine areas will be provided where materials not suitable for recovery/recycling will be temporarily stored.

3.3.2 Food Container Cleaning Plant

The building will occupy 5,032 square metres will be steel portal frame structure with external preformed and profile sheeting on the walls and low pitch roof cladding. It will be 12 metres to the eaves, with an upper ridge level of 14 metres above ground level. There will be roof mounted solar panels surrounded by an anti-glint and glare parapet. The building floor plan is shown on Drawing No P003. An office and staff welfare facilities will be provided and there will be designated materials reception, washing, sterilisation and storage areas.



Notes

LEGEND

- ESB/Energia cables denote diversion route subject to separate planning permission
- Proposed Pedestrian Door
- Proposed Lorry Access Door
- Proposed Public Lighting
- Proposed attenuation area
- Future access connectivity route
- Irish Water Permanent works area wayleave
- Irish Water Temporary works area wayleave
- Dropped Crossing
- Dropped Kerb
- Mark pedestrian route
- Outside the scope of this application

Rev	Description	By	Check	Date
3	Updated the landscape	SL	MM	05.12.2023
2	Issued for Information	SL	MM	05.10.2023
1	Issued for Information	SL	MM	27.09.2023

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Project
Rathdrinagh - Warehouse

Drawing
Site Plan - Food Container Plant and Materials Recovery Facility

Scale	Date	Author	Checked
1:1000 @ A2	20.09.2023	SL	MM

Workstage	Status
3	PRELIMINARY

Hyphen Project No.	Drawing No.	Revision
P8908	HYP-A-001	03

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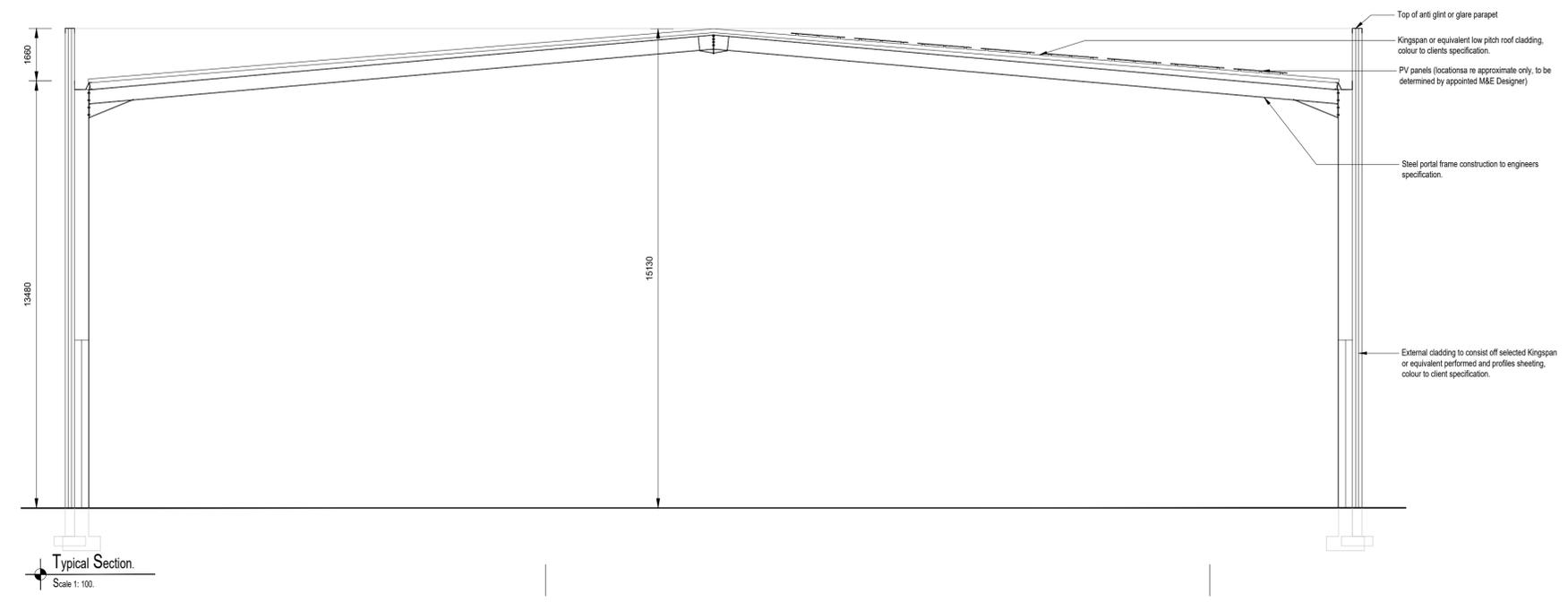
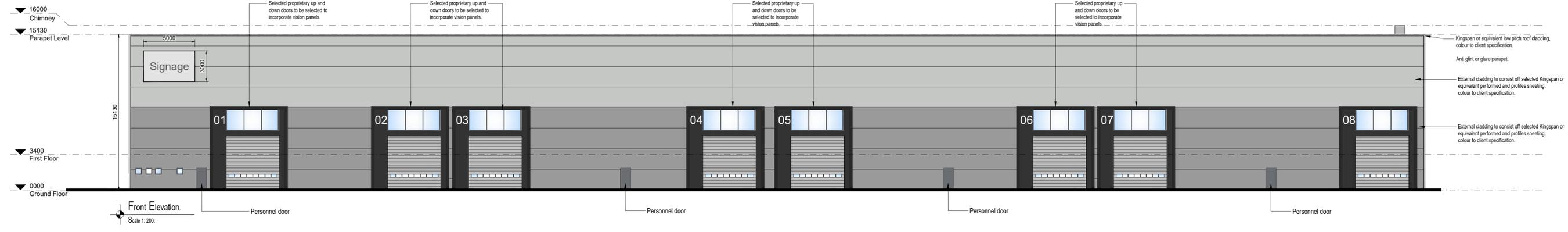
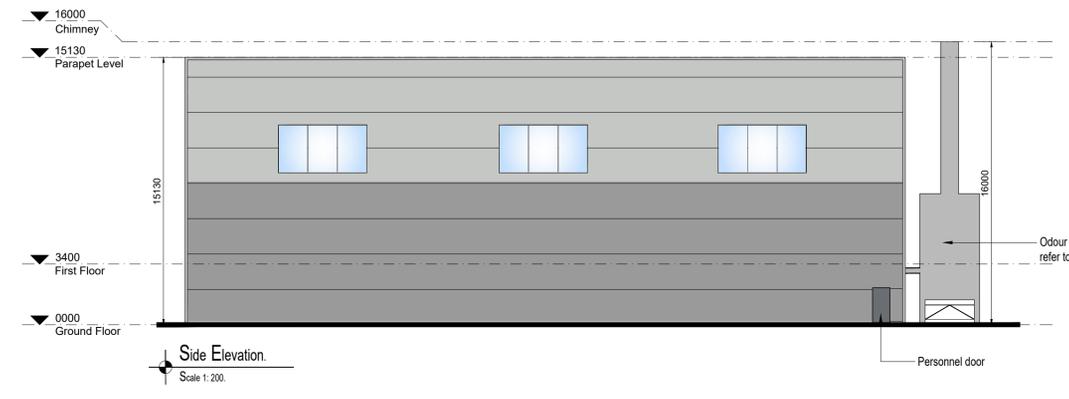
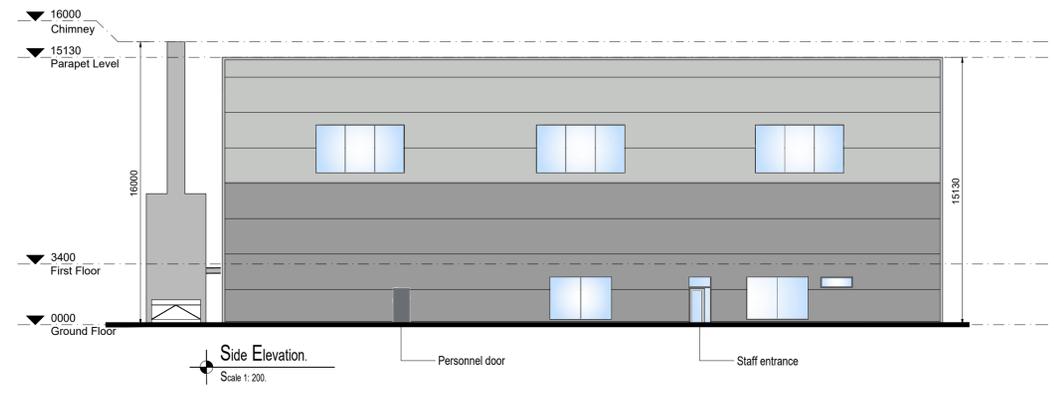
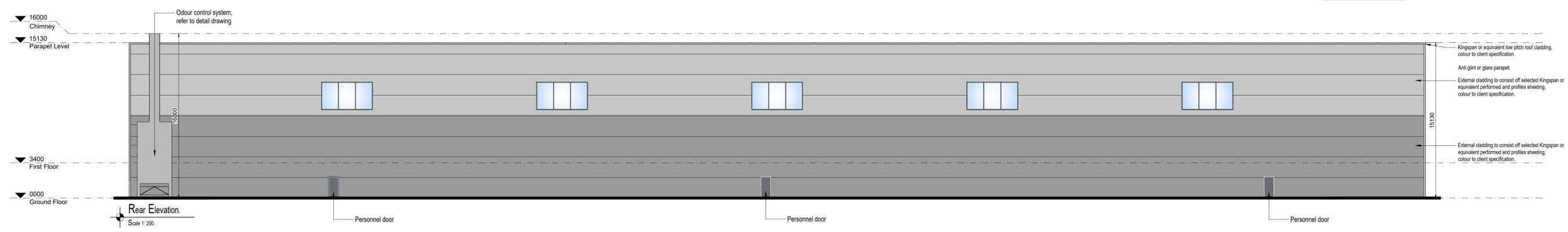
SITE PLAN
SCALE: 1:1000 @ A2



KEY

	RAL 7035
	RAL 7004

Notes



Rev	Description	By	Check	Date
2	Updated titleblock and elevations	SL	MM	24.11.2023
1	Issued for Information	SL	MM	27.09.2023

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Project

Drawing
**Material Recovery Facility
 -Proposed Elevations and Section**

Scale	Date	Author	Checked
1:200 @ A1	15.09.2023	SL	MM

Workstage	Status
3	PRELIMINARY

Hyphen Project No.	Drawing No.	Revision
P8908	HYP-A-005	02

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3.4 Facility Management

The management team will have the appropriate training and experience and all staff will be provided with the appropriate training to complete their assigned tasks.

3.5 Operational Hours & Staffing

Phase 1 will operate 24 hours a day, 7 days a week and there will be approximately 30 full time staff.

3.6 Materials Recovery Facility

3.6.1 Materials Intake

The materials will be subject to a documented acceptance procedure that requires recording details of the source of the wastes, the type of waste, the quantity and the delivery vehicle registration number. The wastes will be delivered by waste collectors that have up to date waste collection permits and wastes will not be accepted from members of the public.

3.6.2 Processes

3.6.2.1 Municipal Solid Waste

The non-recyclable household and commercial waste will be off loaded in the section of the building fitted with an odour control system (MSW & Brown Bin Bay). It will be inspected and unsuitable materials removed and brought to a quarantine area. The materials will then be processed to separate the recoverables (paper, plastic, metals) from the non-recoverable materials (including small particles of organic matter and 'lights' - paper and plastic too contaminated to be recycled).

The metals will be sent to authorised metal recycling facilities. The organic matter will be sent to authorised biological treatment facilities (composting and anaerobic digestion plants). The 'lights' are suitable for use in production of solid recovered fuel (SRF) which is used in cement kilns as a replacement for fossil fuels. The residual materials, which contains some organic matter, is suitable for use as a refuse derived fuel (RDF) in waste to energy plants.

The operators of the Irish cement kilns and waste to energy plants require the alternative fuels to be delivered loose; however the kilns and plants regularly close down for maintenance and when this occurs the alternative fuel will be compacted and wrapped to form bales which will be temporarily stored inside the building. If there is a major breakdown at one of the kilns/waste to energy plants as a contingency measure the bales will be stored externally until the plants come back into service.

3.6.2.2 Brown Bin

The 'brown bin' waste will also be off loaded in the MSW & Brown Bin Bay. The materials will not be processed, but will be loaded into articulated trailers and sent to authorised biological treatment plants.

3.6.2.3 Dry Recyclables

The household mixed recyclables will be off-loaded in the Recyclable Bay where they will be mechanically separated based on type (e.g. paper, cardboard, plastic, metals). The segregated materials will be baled and stored inside the building pending transfer to authorised recycling facilities.

The commercial recyclables will be source separated and will arrive either already baled or loose. The bales will be stored inside the building, pending consignment. The loose materials will be baled and bales stored inside the building. The recovered plastics will be sent to the IRL plastic recycling plant in Portlaoise, which has received planning permission and is at detailed design stage. Depending on market conditions a plastics recycling plant may be developed in future Phases of the Hub.

3.6.2.4 Construction & Demolition Materials

The materials will be off loaded in the C&D Bay. They will comprise segregated and mixed rubble, bricks, tiles, timber metals plastics, timber and soil and stone. The mixed waste will be off-loaded and unsuitable materials (e.g. paint tins, black bags etc) will be removed and sent either to a Quarantine Area, or the MSW/Brown Bin Bay.

The mixed materials will be mechanically separated into 'lights', metals, timber, soil and stone and rubble. The 'lights' will be moved to the MSW Bay for use in the manufacture of SRF. The rubble will be crushed and screened to produce recycled aggregate that can be sold as a construction material.

As timber is biodegradable it is not suitable for landfill. While clean wood is valuable as a carbon neutral fuel source, a significant amount of waste wood contains trace contaminants, such as paint, glue and preservatives, which make it unsuitable to use as a fuel.

IRL intends to carry out trials of the automated segregation of clean and contaminated timber waste and a processing line that will produce a wood fibre suitable for the manufacture of new products. If the trial is successful a full scale processing plant will be developed in future phases of the Hub.

3.6.2.5 Wastewater

A power washer will be located in the MSW and Brown Bin handling area and used to clean the wheels of the waste transport vehicles. The washwater will be collected in the floor drains and discharged to the Uisce Eireann foul sewer.

3.7 Food Container Cleaning Plant

3.7.1 Materials Intake

The containers will arrive in boxes or on pallets covered in plastic wrapping. There will be a dedicated reception area where the trays/crates will be removed from the boxes/unwrapped. The units will then be sent to the cleaning plant.

3.7.2 Processes

There will be a five-step process to clean and sanitise the reusable plastic containers

- Pre-washing—remove visible dirt and debris;
- Washing—hot wash with detergents and water;

- Rinsing—rinse all remaining detergents and residue;
- Sanitising—treat and disinfect;
- Drying – air drying, and
- Packaging & Storage

After drying quality assurance testing will be carried out to confirm the trays are suitable for use. The containers will then be packaged and stored inside the building pending return to the customers.

3.7.2.1 Wastewater Treatment

The pre wash, hot wash and rinse water will be treated in a wastewater treatment plant inside the building. The water will be screened to remove large particles. It will then pass into an above ground balance tank from where it will be pumped to a diffused air floatation unit that will remove the finer particles. Most of the treated water will be returned to the washing plant with a small amount (approximately 1,000 litres/hour) discharged to the Uisce Eireann foul sewer. The screenings and sludge from the dissolved air floatation unit will be sent off site for disposal.

3.7.3 *Regulation*

As the materials recovery facility will process wastes its operation will require an Industrial Emissions Licence from the EPA. The food containers are not wastes and therefore the operation of the food container cleaning plant will not require a waste permit, however the discharge of treated wash water to the foul sewer will be regulated by a trade effluent licence issued by Uisce Eireann.

3.8 Services

3.8.1 *Water Supply*

Water for use in staff welfare facilities and the food container washing plant will be obtained from mains supply. Rainwater from the building roofs will be collected for use as in the staff toilets.

3.8.2 *Wastewater*

Sanitary wastewater from the staff toilets, wheel wash water from the materials recovery facility and treated wastewater from the food container cleaning plant washing system will discharge to the Uisce Eireann foul sewer that runs along North Road. When the bales of SRF and RDF are temporarily stored in the open yard the rainwater run-off from the storage area will be diverted to the foul sewer.

3.8.3 *Surface Water Drainage*

As referred to above, rainwater run-off from the building roofs will be harvested for on-site use. The car parking areas will have permeable paving. Run—off from the yards will be collected, passed through Class 1 Hydrocarbon Interceptor and discharged to ground via a soakaway.

3.8.4 *Electricity Supply*

There will be a connection to the national grid and an electrical substation will be provided in the north east corner of the site. The electricity from the roof mounted solar panels will be used directly on site.

3.9 Development Stages

Given the integrated nature of the development all of the key elements will be constructed in one stage and will take approximately 14 months.

3.10 Construction Stage

The construction stage will involve setting up a contractor's compound; site clearance; soil excavation for building foundations, underground services and new roads; installation of surface water and foul water drainage systems; building construction and fit out and landscaping.

Construction will typically occur between 7am and 7pm Monday to Friday and 8am to 2pm on Saturday, but this may vary subject to the approval of Fingal County Council. The works will be carried out in accordance with Construction Environmental Management Plan and Resource & Waste Management Plans that specify the control measures required to ensure the works do not cause either environmental pollution, or nuisance to nearby residents and minimises construction wastes.

3.10.1 Resource & Waste Management Plan

A Preliminary Resource and Waste Management Plan (RWP) has been prepared that describes the measures that will be implemented to minimise the volumes of waste generated, ensure that the wastes that do arise are managed appropriately and maximise the recycling/recovery of those materials. A Resource & Waste Manager will be appointed and will be responsible for ensuring wastes are managed appropriately.

3.10.2 Construction Environmental Management Plan

A Preliminary Construction Environmental Management Plan (CEMP) has been prepared that describes the prevention and mitigation measures that will be implemented in the construction stage to minimise the risk of adverse environmental impacts, nuisance and impairment of amenity value. An Environmental Clerk of Works will be appointed and will be responsible for ensuring the mitigation measures are properly implemented.

3.11 Other Developments

In addition to the proposed FFCP the EIA considered the existing operations in the vicinity of the site including Huntstown Quarry, Huntstown Power Station and the Huntstown Bioenergy anaerobic digestion Plant. It also included an assessment of proposed developments in the area that have recently received planning permission and whose construction could coincide with the proposed development.

4. ALTERNATIVES

4.1 Site Location

Waste management is considered to be an industrial activity. Based on this, IRL conducted a search of potentially suitable industrially zoned lands in the Greater Dublin Area. The key site selection criteria were:-

- Appropriate land zoning;
- Environmental sensitivity;
- A single landholding large enough (8 to 10 ha) to allow the progressive development of future recycling and recovery capacity, and
- Proximity and accessibility to sources of the wastes arising and existing recycling and recovery facilities and proximity to food retail outlets.

IRL conducted a review of all industrial and general employment zoned lands taking into consideration the other key site selection criteria. The review identified the proposed development area as the most suitable location for the Circular Economy Hub.

The lands are zoned for heavy industrial use and the objective is to facilitate industrial developments that have the potential for adverse effects by way on noise, dust and visual impacts. In this context, areas zoned for heavy industry are considered to have a low environmental sensitivity.

The proposed development site is ca 9 ha, excluding the section of the access road and the removal of the overhead powerlines allows almost the entire area to be developed for industrial purposes. The site is adjacent to the M50 and N2 and the national road connections to the M50 provide easy access to the Greater Dublin Area. The M50 also provides access to Dublin Port for the export of recyclables/recoverables pending the expansion of national capacity, while the M50 / M7 connection provides access to the IRL' proposed plastics recycling plant in Portlaoise.

The North Road provides access to the Huntstown Bioenergy Plant which operates under an EPA licence that authorises the anaerobic digestion of up to 90,000 tonnes of 'brown bin' waste and organic fines. While the amount of non recoverables/recyclables will be small (ca 2% of the annual waste intake) the only management option for these materials is landfill. The N2 provides access to the Knockharley Landfill in County Meath and the M 11/N11 provide access to the Ballynagran Landfill in County Wicklow.

4.2 Alternative Layout

The evaluation of alternative site layouts was constrained by a combination of the site's physical constraints and relevant policy and guidance documents. The constraints were considered by the Design Team and the appropriate avoidance, prevention and mitigation measures were incorporated into the layout design. The physical constraints are defined by:

- The site topography, ground conditions, biodiversity and access;

- Existing Uisce Eireann permanent and temporary wayleaves through the site for the Greater Dublin Orbital Sewer route.
- Eirgrid wayleaves for underground lines inside and close to the eastern and northern site boundaries.

Six different layouts were assessed based on design changes to best fit the physical constraints, address the aviation risks to Dublin Airport and Casement Aerodrome; optimising materials handling and minimising waste generation. The final design is considered to be the best fit for the proposed development given the site constraints.

4.3 Alternative Technologies

The assessment of technologies that will be applied in the Materials Recovery Facility was based on the Best Available Techniques (BAT) Reference Document for Waste Management (European Commission 2018), current proven waste management processing equipment and the need to ensure consistent high quality outputs. Therefore alternative technologies were not considered.

4.4 Alternative Services

It was a surface water management design objective to avoid the use of underground soakaways. The initial design included a combination of rain water harvesting, green roofs, permeable paving and swales; however aviation safety concerns prevent the use of swales and green roofs and the only alternative is a combination of rainwater harvesting, permeable paving and an underground soakaway.

4.5 Alternative Prevention and Mitigation Measures

The proposed prevention and mitigation measures described in the EIAR are appropriate for the development, represent best practice and therefore alternative measures were not considered.

4.6 Do Nothing

There will be no expansion of waste treatment capacity to meet the projected demands in the Greater Dublin region and no contribution to meeting national recovery and recycling targets. Given the land zoning the site will be developed in the short term for industrial use and the impacts are likely to be similar to those associated with the proposed development.

5. CLIMATE

5.1 Introduction

This Chapter examines the impacts of the proposed development on the climate and the vulnerability of the development to the effects of climate change. It describes impacts and the prevention, mitigation and monitoring measures to reduce their significance. It also assesses the baseline scenario, discusses the cumulative effects and concludes on the residual impacts.

5.2 Methodology

The assessment was based on Ireland's commitments to tackle climate change by reducing greenhouse gas emissions; information on Ireland's current and predicted greenhouse gas emission from reports prepared by the EPA; the energy efficient design of the buildings and the emissions from the additional traffic associated with the proposed development.

5.3 Proposed Development

Those aspects of the proposed development relevant to climate are:

- Impacts on climate by greenhouse gas emissions from construction activities, process emissions in the operational stage and emissions from the additional traffic.
- The potential effects of climate change on the development in the future.

5.4 Receiving Environment

The EPA is responsible for tracking and reporting on Ireland's progress towards meeting its climate change objectives, which includes achieving its emission reduction targets for 2020 and 2030 as set out under the European Union (EU) Emissions Sharing Regulations (ESR) and the Emissions Trading System (ETS). The ETS applies to large greenhouse gas producers like power stations. Other activities, which include the proposed development, belong to what is called the Non-ETS Sector.

The EPA predicts that Ireland can meet its Non-ETS Sector targets over the period 2021 to 2030 assuming full implementation of the Ireland's Climate Action Plan. However the more ambitious targets set in the EU Climate Law and Ireland's Climate Act will require many as yet unidentified additional measures.

Increased renewable electricity generation, including offshore wind generation, is expected to assist in achieving a 70% renewable energy in electricity generation by 2030. Energy industry emissions are projected to decrease by one third by 2030 compared to the most recent figures.

The binding annual greenhouse gas emission target for Ireland is a reduction of 30% in emissions by 2030 compared to 2005 levels. In 2005 the annual greenhouse gas emissions for the non-ETS sector were 47.30 million tonnes of carbon dioxide and the 2030 target is 33.58 million tonnes.

The EPA predicts that non ETS greenhouse gas emissions in 2024, when it is expected that Phase I of the development will open, will range from 40.04 to 42.9 million tonnes of carbon dioxide.

5.5 Impacts

5.5.1 Construction Stage

The assessment of greenhouse gas generated in the construction stage established that this is predominantly associated with embodied emissions in construction materials i.e. emissions from the manufacture and transport of the materials, with a minor contribution from the on-site construction works. The impacts will not be significant.

5.5.2 Operational Stage

The operational stage will both generate and offset of direct and indirect greenhouse gas emissions. The offsets will result from the recovery of recyclable materials from the incoming waste and their diversion from landfill and incineration. The roof top solar panels will reduce the need for electricity from fossil fuel powered generating stations. The overall impact will not be significant.

5.6 Baseline

If the development does not proceed, there will be no additional greenhouse gas emissions and no reduction in emissions associated with increasing waste recycling rates.

5.7 Prevention & Mitigation Measures

5.7.1 Design Stage

The design incorporates a number of measures that will minimise emissions of greenhouse gases:

- Roof mounted solar panels;
- Provision of electric vehicle charging points, and
- Energy efficient building design and lighting.

5.7.2 Construction Stage

As the impact of the greenhouse gas emissions from the construction stage will not be significant site specific mitigation measures are not needed; however the following construction best practices will be implemented:.

- Planning routes and schedules for the delivery and removal of materials;
- Efficient use of construction equipment and resources, and
- Minimisation of waste generated from construction activities.

5.7.3 Operational Stage

Operational mitigation measures are not required.

5.8 Monitoring

Monitoring is not required in either the construction, or operational stages.

5.9 Cumulative Effects

The assessment of cumulative effects took into consideration Ireland's legally binding obligations on greenhouse gas emission reduction and the impacts of traffic associated with the proposed development.

5.10 Residual Impacts

5.10.1 Construction Stage

The impacts will be negative, slight, likely, national and long term.

5.10.2 Operational

The impact on climate change will be positive, imperceptible, national, likely and long-term. The impact of climate change on the proposed development will be negative, imperceptible, local, likely and long-term.

6. LAND & GEOLOGY

6.1 Introduction

This Chapter examines the impacts of the proposed development on Land & Soil, which includes land use, soils and the bedrock. It describes the impacts associated with the proposed development and the prevention and mitigation and monitoring measures to reduce their significance. It also assesses the baseline scenario, discusses the cumulative effects and concludes on the residual impacts.

6.2 Methodology

The assessment was based on information obtained from the Geological Survey of Ireland, Teagasc and the Central Statistics Office; site inspections; a site investigation commissioned to establish the ground conditions, which included the excavation of trial pits, the drilling of boreholes and the collection and testing of samples for geotechnical properties and soil quality, and the Engineering Services Report prepared by Coyle Civil and Structural Engineers.

6.3 Proposed Development

The development involves site clearance and the excavation and removal of soils to reach the levels required for building foundations and the installation of underground services; the construction of the buildings; the provision of a new entrance and access road, parking and paved yards and landscaping.

6.4 Receiving Environment

The site encompasses 9.863 hectares and comprises two fields and a section of an existing roadway along the eastern boundary. The western field had been used for farm animal grazing, but is no longer used for this purpose. The eastern field had been used for tillage, but is currently uncultivated. In Fingal there are 15,437 hectares of grassland and 11,021 hectares of tillage land

The subsoils in the west, south and the northern margins of the site are glacial tills (clay), with sand and gravels in the centre and east of the site. A site investigation completed in 2022 established the tills are stiff greyish brown gravelly sandy silty clay containing frequent cobbles and boulders. A geophysical survey carried out in 2019 indicates the subsoils thickness across the site ranges from 1m in the west to up to 25m in the east of the site. The underlying bedrock is a muddy limestone.

6.5 Impacts

6.5.1 Land

The development will result in the loss of approximately 9 ha of former agricultural land, including an internal hedgerow, soil stripping and excavation for building foundations and underground services, and the removal of surplus soil from the site.

6.5.2 *Geology*

In the construction stage, approximately 1,906 cubic metres of topsoil and 29,230 cubic metres of subsoils will be sent off-site either for reuse in other developments or for recovery at authorised soil recovery sites. There is the potential for spills/leaks to occur in areas where polluting substances (e.g. oils) are handled and diesel powered plant items are refuelled that could impact the exposed subsoils.

In the operational stage rainwater run-off from the building roofs that is not harvested, rainfall on the permeable paving and run-off from the operational yards will infiltrate to ground via the soakaways. There is the potential for the infiltrating water to be contaminated by minor oil leaks from vehicles to and for leaks from the underground foul sewer. In the event of a fire there is the potential for firewater to infiltrate to ground through damaged paving and surface water sewers.

6.6 **Baseline Scenario**

If the proposed development does not proceed, the site will remain in its current condition with no impacts on land and geology. Given the land zoning for industrial use in the short term the site will be developed and the impacts will likely be similar to those associated with the proposed development.

6.7 **Prevention & Mitigation Measures**

6.7.1 *Design Stage*

Given the nature of the development there are no design prevention and mitigation measures to reduce the effects of the loss of the farmland.

The operational yards will be constructed of impermeable concrete. The oil interceptor on the surface water drainage system serving the yards and the permeable paving used in car parking areas are designed to filter out oil from leaks from vehicles.

The above ground diesel storage tank equipment will be located inside an impermeable containment bund designed to contain 110% of the contents of the largest tank.

6.7.2 *Construction Stage*

A Preliminary Construction Environmental Management Plan (CEMP) describing the proposed construction mitigation measures for all sensitive environmental receptors and human beings has been prepared. For Land & Geology these measures include:

- Restricting the storage and handling of oils and chemicals to dedicated areas.
- The provision of appropriate storage containers and bunds to retain accidental spills.
- Provision of appropriate equipment and staff training to ensure any spills are quickly cleaned up.
- Scheduling the soil stripping to times that minimise the risk of erosion, and
- Operating machinery and materials storage in ways to minimise the risk of soil compaction.

6.7.3 Operational Stage.

The above ground storage tank and bund and the underground sewers will be subject to regular inspection to ensure they remain watertight. The paved areas will be regularly inspected and repaired as required to maintain the structural integrity.

6.8 Monitoring

6.8.1 Construction Stage

In the construction stage the works will be regularly inspected to ensure that materials handling and storage practices are in accordance with the CEMP.

6.8.2 Operational Stage

As referred to above, the condition of the underground sewers and paved area will be regularly inspected.

6.9 Cumulative Impacts

There are no other permitted developments in the vicinity of the site that involve land take and ground disturbance.

6.10 Residual Impacts

6.10.1 Construction Stage

The loss of approximately 9 ha of former farmland will have a negative, imperceptible, likely, long term impact.

6.10.2 Operational Stage

The development will have a negative, imperceptible, local and permanent impact.

7. WATER

7.1 Introduction

This Chapter examines the impacts of the proposed development on Water, which includes rivers and streams and groundwater. It describes the impacts and the prevention, mitigation and monitoring measures to reduce their significance. It also assesses the baseline scenario, discusses the cumulative effects and concludes on the residual impacts.

7.2 Methodology

The assessment was based on information obtained from the Geological Survey of Ireland, Teagasc and the EPA; the River Basin Management Plan 2013-2018; the findings of a site investigation; site inspections, and the Engineering Services Report prepared by Coyle Civil and Structural Engineers.

7.3 Proposed Development

The development involves site clearance and the excavation and removal of soils to reach the levels required for building foundations and the installation of underground services, including storm water and foul water drainage systems; the construction of the buildings; the provision of an access road, parking and paved yards and landscaping.

A power wash will be provided in the MRF to clean the vehicle wheels and the wash water will discharge to the Uisce Eireann foul sewer. The FCCP will have a washing plant as part of the cleaning process. The wash water will be treated in a water-recycling unit located inside the building. Most of the treated water will be returned to the washing plant, with a small amount discharged to the Uisce Eireann foul sewer.

7.4 Receiving Environment

The site is in the catchment of the Tolka River, whose main channel is approximately 3 km to the south of the site. There are no streams or water courses either on the site, or in the surrounding lands. The closest significant water feature is a tributary of the Ward River, which is approximately 790 m to the north, with tributaries of the Tolka over 1.5 km to south-east and west. The site is neither in, nor adjacent to an area that is at risk of flooding and there are no records of any flood event either at, or in the vicinity of the site.

The subsoils across most of the site comprise glacial tills that are up to 25m thick. The soils are not water bearing and the underlying muddy limestone bedrock is classed as a locally important aquifer. The aquifer vulnerability to contamination from incidents occurring at the ground surface site is 'High', and the vulnerability increases from east to west. The local groundwater flow direction is to the south, towards the Tolka. The groundwater recharge (replenishment by infiltrating rainfall) is 50-200 mm/year.

7.5 Impacts

7.5.1 Construction Stage

The construction stage involves the excavation of the soils and subsoils for the building foundations and underground services, but these will not extend into the water table. There is the potential for spills/leaks to occur in areas where polluting substances (e.g. oils) are stored and handled that infiltrate to groundwater.

7.5.2 Operational Stage

In the operational stage rainwater run-off from the building roofs that is not harvested, rainfall on the permeable paving and run-off from the operational yards will infiltrate to ground via the soakaways. There is the potential for minor oil leaks from vehicles to occur at the ground surface and for leaks from the underground foul sewer. The rainwater harvesting will reduce the groundwater recharge rate within the development boundary. In the event of a fire there is the potential for firewater to infiltrate to ground through damaged paving and surface water sewers and move downwards to the water table.

7.6 Baseline Scenario

If the proposed development does not proceed the current land use will continue and there will be no change to the potential impacts on surface water and groundwater. In the short term, given the land zoning for industrial use, it is likely that the site will be developed and the impacts will be similar to those associated with the proposed development.

7.7 Prevention & Mitigation Measures

7.7.1 Design Stage

Sustainable drainage measures include permeable pavement and a soakaway to minimise the loss of groundwater recharge. To mitigate the potential contamination risk to groundwater an oil interceptor will be provided on the drainage system taking rainwater run-off from the operational yards. The permeable pavement design includes measures to remove oil from the infiltrating rainwater.

7.7.2 Construction Stage:

The mitigation measures for surface water and groundwater in the Preliminary Construction Environmental Management Plan include:

- Restricting the storage and handling of oils and chemicals to appropriately constructed dedicated areas;
- The provision of appropriate storage containers and bunds to retain accidental spills;
- Provision appropriate equipment and staff training to ensure any spills are cleaned up quickly, and
- Prohibiting the wash out of concrete delivery vehicles on-site.

7.7.3 Operational Stage

The above ground storage tank and bund and the underground sewers will be subject to regular inspection to ensure they remain watertight. The paved areas will be regularly inspected and repaired as required to maintain the structural integrity.

7.8 Monitoring

7.8.1 Construction Stage

The works will be regularly inspected to ensure that materials handling and storage practices are in accordance with the CEMP. In the operational stage the above ground storage tank and bund and the underground sewers will be subject to regular inspection to ensure they remain watertight. The paved areas will be regularly inspected and repaired as required to maintain the structural integrity.

7.8.2 Operational Stage

As referred to above the condition of the underground sewers and paved area will be regularly inspected.

7.9 Cumulative Effects

The proposed development will not contribute to any cumulative impacts on surface water. The rainwater harvesting will contribute to an imperceptible cumulative reduction in groundwater recharge to the bedrock aquifer that will impact on the quantitative status of the bedrock aquifer locally.

7.10 Residual Impacts

7.10.1 Construction Stage

There will be no residual impacts on surface water and groundwater.

7.10.2 Operational Stage

The development will not result in any emission to surface water will have no residual impacts. The development will have a negative, imperceptible, local and long term impact on groundwater quality and a negative, imperceptible, local and long term impact on groundwater resources.

8. BIODIVERSITY

8.1 Introduction

This Chapter examines the impacts of the proposed development on Biodiversity which includes habitats, plants (flora) and animals (fauna). It describes the impacts and the prevention, mitigation and monitoring measures to reduce their significance. It also assesses a baseline scenario, discusses the cumulative effects and concludes on the residual impacts.

8.2 Methodology

The assessment was based on a desk top study and ecological field surveys. The desktop study included reviews of databases on protected species held by National Parks and Wildlife Service (NPWS); EPA; National Biodiversity Data Centre (NBDC); Bat Conservation Ireland, and Birdwatch Ireland.

The ecological surveys were completed on 4th December 2020, 1st March, 2021 and the 27th August 2022 and included:

- Habitat survey
- Botanical survey including invasive species
- Otter and general mammal survey
- Breeding bird survey
- Tree Surveys

Habitats were mapped according to the classification scheme outlined in the Heritage Council publication A Guide to Habitats in Ireland and following the guidelines contained in Best Practice Guidance for Habitat Survey and Mapping. Bat activity surveys were conducted under suitable weather conditions, with the dusk activity surveys starting 15 minutes before sunset and ending two hours after sunset.

The otter survey followed the guidance in National Roads Authority publication. The breeding bird survey was based on the British Trust for Ornithology Common Bird Census methodology and Breeding Bird Survey (BBS) and focused on terrestrial habitats within the development site boundary.

The conservation status of birds was recorded with regard to the species listed in the EU Birds Directive and identified by BirdWatch Ireland as 'Birds of Conservation Concern in Ireland', which are species suffering declines in population size. These birds are classified as being in Red, Amber and Green lists. Red List species are of high conservation concern and the Amber List species are of medium conservation concern. Green listed species are those that are regularly occurring and whose conservation status is currently considered favourable.

The assessment also took into consideration the findings of the Soil & Geology, Water, Air and the Population and Human Health Chapters.

8.3 Proposed Development

The development involves site clearance including the removal of approximately 170 metres of hedgerow that forms an internal field boundary and some scrub; the excavation and removal of soils to reach the levels required for building foundations and the installation of underground services, including storm water and foul water drainage systems; the construction of the Materials Recovery Facility, Food Container Cleaning Plant and storage buildings; the provision of an access road, parking and paved yards; landscaping including the provision of compensatory planting of native shrubs and trees. When open the Materials Recovery Facility and Food Container Cleaning Plant will operate 24 hours a day, 7 days a week.

8.4 Receiving Environment

The development site had been used for agricultural purposes, with the western field used for animal grazing and the eastern one for tillage. The fields are no longer used for these purposes and are being recolonised by scrub and ruderal species. There are hedgerows/treelines along the southern and western boundaries and between the two fields, with hawthorn, blackthorn, elm and ash present.

The surrounding land use is a mix of quarrying, utilities and agricultural, Huntstown Quarry is to the west; the Huntstown Bioenergy anaerobic digestion plant, is 150m to the west; Huntstown Power Station is approximately 280m to the north-west and an Eirgrid 220 kv transmission station is to the south-east. The adjoining lands to the east, south and west are currently used for agriculture.

8.4.1 Designated Conservation Sites

Designated conservation sites in what is termed the zone of influence of the proposed development were identified. This included Natural Heritage Areas, proposed Natural Heritage Areas, and Natura 2000 Sites (Special Areas of Conservation and Special Protection Areas). The development site is not in or adjacent to any designated conservation areas. The nearest designated site is the Santry Demense proposed Natural Heritage Area, approximately 4km to the east, while the closest Natura 2000 Site is South Dublin Bay and River Tolka Estuary Special Protection Area, 8km to the south-east.

Important Bird and Biodiversity Areas (IBAs) are considered important for bird conservation because they regularly support significant populations of one or more globally or regionally threatened bird species or highly representative flocks. The proposed development site is 10.7km from Dublin Bay (IBA) and 11.9km from Baldoyle Bay (IBA).

8.4.2 Habitats

There are no watercourses within or near the proposed development site. The larger eastern field is classified as Tilled land. This area was previously cropped for cereals but has not been actively farmed for several years. The centre of the field, occupied by the former sand and gravel quarry is slightly raised and supports a mix of Neutral Grassland and Scrub. In the absence of cultivation common plant species such as Dandelion, Willowherb, Creeping Thistle and Ragwort have become established.

In the western field, where grazing has not taken place for 2-3 years, Wet Grassland has formed beside the Neutral Grassland, with encroachment of Scrub in particular hawthorn. Buddleia was recorded within this area. A small manmade earthen bank spans both fields near the southern boundary and Neutral Grassland has established along its ridge. Plant species recorded in the Neutral Grassland habitat include Meadow Vetchling, Cow Parsley and coarse grasses such as False Oat Grass and Cocksfoot. Rosebay Willowherb was noted growing in thick patches during the August survey, and Creeping Cinquefoil, Common Fleabane and Tufted Vetch were present

There is a mix of Hedgerows and Treelines along the southern and western boundaries. The dominant species is Hawthorn, with Blackthorn, Elm, Ash, Great Willow and Downy Birch also present. The internal field boundary has more species diversity than the external boundaries, including Elm Ash and one Oak. All hedgerows/tree lines are more than 150 years old and have a higher habitat value at a local level. Both elm disease and ash dieback disease are present.

A mix of Wet Grassland /Scrub has become established on the boundary of the development site, with scrub species such as Great Willow, Blackthorn and Hawthorn spreading inwards from the boundary hedgerows. In the north east of the site water logging has allowed species such as Hard Rush and Canary Grass to grow. Other wet grassland species recorded include Meadowsweet, Marsh Thistle and Silverweed.

8.4.3 Flora

The NBDC provides data on the distribution of mammals, birds, and invertebrates within 10 x 10 km squares (100km²) known as Hectads. The proposed development site is located in Hectad O14. The NBDC database lists one protected plant species within O14 (Meadow Barley). The endangered species Blue Fleabane, Smooth Brome and Corn Marigold have also been recorded within O14.

8.4.4 Invasive Species

Invasive non-native species can out compete native vegetation, affecting plant community structure and habitat for wildlife; cause damage to roads, pathways and walls and have an adverse effect on landscape quality. The NBDC lists a number of high impact invasive species that have been recorded within O14 including Ruddy Duck, Flat Worm, Cherry Laurel, Common Cord-Grass, Giant Hogweed, Japanese Knotweed, Eastern Grey Squirrel, American Mink and Brown Rat.

The Birds and Natural Habitats Regulations 2011 prohibits the introduction and dispersal of the invasive species listed in the Third Schedule. No Third Schedule invasive species or species at risk of having damaging effects were identified.

The medium impact invasive species Buddleia is present in the western field. This species is listed on the Invasive Species Ireland “Amber List: Recorded Species” but as it is not included in the Third Schedule its presence does not have the potential to lead to an offence under the Birds and Natural Habitats Regulations 2011.

8.4.5 Fauna

8.4.5.1 Bats

The NBDC database indicates that six of the nine protected Irish bat species have been recorded within O14. These are the Lesser Noctule, Pipistrelle, Soprano Pipistrelle, Daubenton’s Bat, Natterers Bat and Brown Long Eared Bat. Whiskered Bats could also be present, as this species is widespread in the Irish countryside. Nathusius’ pipistrelle and Brandt’s bat, are rarer Irish species and less likely to occur.

Bats generally roost in mature trees that contain natural holes, cracks/splits in major limbs, loose bark and hollows/cavities. The grassland with hedgerows and treelines inside and outside the proposed development site have the potential to provide feeding habitat. The treelines and hedgerows also have the potential to link bat roost sites to foraging areas and facilitate the bats accessing the surrounding area.

The bat field survey established that the ash trees the internal field boundary which will be removed have no obvious cavities and the elms are not sufficient size to be of value for bats and these trees are considered to be of low potential value for bats.

Overall, the habitats within the development site boundary are of low to moderate value for foraging bats and the linear features, i.e., treelines and hedgerows, provide moderate bat foraging habitat.

8.4.5.2 Otter

Otter or signs of otter have been recorded on 14 occasions in O14, the most recent being in May 2015. While Otters are known to occur in the vicinity of the development site, no signs of otter were identified during the surveys. There are no watercourses located within the proposed development site and the closest water feature is Huntstown Stream which is approximately 970m north of the site. Other streams in the vicinity include the Abbotstown Stream, 1.5km west and Bachelor's Stream, 1.6km southeast. Given the lack of watercourses onsite and the level of road traffic in the vicinity, the proposed development site is of negligible value for Otter.

8.4.5.3 Other Mammals

Fourteen other species of terrestrial mammal have been recorded within O14. Seven of these are protected under the Wildlife Act; Badger, Pygmy Shrew, Irish Hare, Hedgehog, Red Squirrel, Irish Stoat, and Pine Marten. The site surveys did not identify the presence of any of these species; however based on the habitats there is the potential for Badger, Pygmy Shrew, Irish Hare, Hedgehog and Irish Stoat to be present.

8.4.5.4 Amphibians

The NBDC lists the Common Frog and Smooth Newt as being present within O14, but were not identified in the field surveys. The wet grassland and waterlogged areas could potentially provide habitat for adult frogs, but there is no breeding habitat within the site. There are no suitable habitats for Smooth Newt within the site.

8.4.5.5 Reptiles

Two species of reptile have been recorded within O14 (Red-eared Terrapin and Yellow-Bellied Slider)). Both are non-native turtle species which are not present within the proposed development site. No valuable habitats for reptiles were recorded within the site.

8.4.6 *Birds*

The NDBC has records of fifteen bird species considered to be of priority conservation importance in the EU Birds Directive within O14- Little Egret, Little Gull, Peregrine Falcon, Golden Plover, Bar-tailed Godwit, Common Kingfisher, Common Tern, Corn Crake, Dunlin, Hen Harrier, Mediterranean Gull, Ruff, Short-eared Owl, Snowy Owl and Whooper Swan. The habitats inside the proposed development site are not critical foraging or breeding habitat for these birds.

No priority conservation species were identified during the surveys and the following species were present—Blackbird, Hooded Crow, Robin, Linnet, Snipe, Song thrush, Blue Tit, Wren, Rook, Woodpigeon, Great Tit, Dunnock, Meadow Pipit, Buzzard, Swallow, Blackcap and Goldfinch.

Certain bird species are listed by BirdWatch Ireland as Birds of Conservation Concern in Ireland. These are species suffering declines in population size. BirdWatch Ireland classify these species by the rate of decline into Red, Amber and Green lists. Red List species are of high conservation concern and the

Amber List species are of medium conservation. Green listed species are regularly occurring birds whose conservation status is currently considered favourable

Overall, the site is of local value for bird species that are relatively common in the Irish countryside. Treelines and woodland provide nesting habitat for common bird species. However, the semi-natural grassland provides the most valuable habitat and two red list bird species i.e. Meadow Pipit and Snipe, were recorded in this habitat and both species probably nest at the site. Two Amber Listed species were also recorded i.e. Linnet and Swallow. Linnet are probable breeders at the site, while Swallows were foraging.

8.4.7 Other Species

The NBDC does not have any records of any protected, rare or notable species of invertebrates within 2km of the development site. While no site is without invertebrate interest, it is unlikely that the proposed development site supports protected invertebrate species given the common and formerly intensively managed habitats that dominate.

8.5 Impacts

Those aspects of the development relevant to biodiversity are:

- Construction Stage loss of habitat and plant species, including approximately 170m of the existing internal field boundary hedgerow;
- Construction Stage disturbance of species due to noise and light emissions and human activity;
- Construction Stage landscaping measures:
- Operational Stage disturbance of species due to light, noise and human activity.

8.5.1 Designated Sites

Potential impacts on the Natura 2000 sites are specifically addressed in the Appropriate Assessment (AA) screening submitted separately with the planning application. The AA screening assessment concluded that the proposed development, either alone or in-combination with other plans and/or projects, does not have the potential to significantly affect any European Site, in light of their conservation objectives

8.6 Baseline Scenario

Most of the habitats that will be impacted have already been significantly modified from their natural state by human activity. In the pockets of semi-natural habitats within the site boundary, the general pattern of progression from grassland to scrub to woodland will continue if the proposed development does not proceed.

8.7 Prevention & Mitigation Measures

8.7.1 Design Stage

It was a design objective to retain the existing boundary hedgerows. A detailed landscape plan has been prepared and it is proposed to augment the boundary hedgerows by planting native shrub

species. Additional planting of native shrubs will be carried out east of the MRF to compensate for the loss of the internal hedgerow. The operational lighting scheme will be designed to minimise the impact of external lighting upon bat populations by retaining dark areas around the boundaries.

8.7.2 Construction Stage

The mitigation measures that will be implemented to mitigate the effects on soils, water and human beings are also effective in relation to protecting biodiversity. Additional measures include:

- Before the start of construction works an invasive species survey will be carried out to establish if Third Schedule invasive species have entered the site since the original survey was completed. If such species are identified a site-specific Invasive Species Management Plan will be prepared and implemented during the works;
- The invasive species *Buddleia* is present but it is easy to control using a mixture of mechanical removal and herbicide treatment. As the plants are mature, the preferred method of treatment is cutting back to a basal stump or grubbing out followed by the application of herbicide;
- Site lighting will be at the lowest level needed for safety and security purposes and wherever possible will be restricted to the working area and set up to avoid overspill and shadows on sensitive habitats outside the construction area;
- Where possible trees will not be removed between the bird breeding season of 1st March and 31st August;
- Before felling a bat specialist will inspect the trees. The felled trees will not be mulched immediately and will be left lying several hours and preferably overnight to allow any bats within the tree to emerge and avoid accidental death;
- Treelines outside the proposed development area but adjacent to it and therefore at risk, will be clearly marked by a bat specialist to avoid any inadvertent damage.

8.7.3 Operational Stage

The primary mitigation relates to bats, as these are considered the most sensitive species in relation to night time lighting, but it will also lessen the impact on other nocturnal species such as hedgehog and otter. The lighting scheme design will consider:

- Light emitting diode (LED) type bulbs that do not emit ultraviolet and infra-red wave lengths will be used as these are the least disruptive to the emergence of bats from roosts at dusk, and subsequent movement to foraging areas, and
- The height of the lighting columns will be kept as low as possible, bearing in mind the need to prevent damage by vandalism.

8.8 Monitoring

8.8.1 Construction Stage

A bat specialist will examine the mature trees in the internal hedgerow prior to removal to determine the presence/absence of bats.

8.8.2 Operational Stage

Monitoring will not be required.

8.8 Cumulative Effects

The proposed development site is located in an area surrounded by existing industrial and road infrastructure, with considerable levels of disturbance. A review of the Fingal County Council planning records identified three relevant proposed developments in the vicinity of the site, which include upgrade works at the Huntstown Soil Recovery Facility (220m to the north- west), the construction of a data centre (120m to the north) and the provision of an electrical substation (100m to the east).

If the construction of these projects runs concurrently with the proposed development, there is potential for localised cumulative disturbance effects. Should this arise, the construction stage of the proposed development will be planned and phased to ensure the works will have no significant cumulative noise/disturbance effects.

8.9 Residual Impacts

The residual impacts of the construction and operation stages are intertwined. The impact on habitats will be negative, slight, local, likely and long term. The impact on bats will be negative, slight, local, likely and long term. The impact on otter will be neutral, imperceptible, local, likely and long term. The impact on other mammals will be negative, not significant, local, likely and long term. The impacts on amphibians and reptiles will be negative, not significant, local, likely and long term. The impacts on birds will be negative, slight, local, likely and long term. The impacts on other species will be negative, not significant, local, likely and long term.

9. AIR

9.1 Introduction

This Chapter examines the impacts of the proposed development on air quality. It describes the impacts and the prevention, mitigation and monitoring measures to reduce their significance. It also assesses a baseline scenario, discusses the cumulative effects and concludes on the residual impacts.

9.2 Methodology

The assessment was based on information on air quality obtained from EPA databases, meteorological data from the closest Met Eireann station at Dublin Airport and the traffic and transport assessment completed by Trafficwise.

The identification and evaluation of impacts followed guidance documents on the impacts of construction projects issued by the National Roads Authority and the Institute of Air Quality Management and the Quarries and Ancillary Activities Guidelines for Planning Authorities issued by the Department of Environment Local Government and Heritage. The traffic impacts were assessed in accordance with the Highways England Design Manual for Roads and Bridges.

9.3 Proposed Development

The development involves site clearance; the excavation and removal of soils to reach the levels required for building foundations and the installation of underground services, the construction of the buildings; the provision of a new entrance access road, parking and paved yards, and landscaping.

When open the Materials Recovery Facility and Food Container Cleaning Plant will operate 24 hours a day, 7 days a week. The annual through put will be 95,000 tonnes and materials will be delivered and removed in heavy goods vehicles. The Materials Recovery Facility will accept and process odorous wastes.

9.4 Receiving Environment

The surrounding land use is a mix of quarrying, utilities and agriculture. Huntstown Quarry, which includes an EPA licensed soil recovery site is to the west; Huntstown Bioenergy, which is an anaerobic digestion plant is 150m to the west; Huntstown Power Station is approximately 280m to the north-west, and an Eirgrid Substation is the south-east.

The adjoining lands to the east, south and west are currently used for agriculture. The nearest private residences are on the North Road, approximately 50m from the eastern site boundary. There is a farmhouse approximately 270m south of the southern boundary. The ambient air quality, based on the results of continuous monitoring conducted by the EPA in Finglas, is good.

9.5 Impacts

9.5.1 Construction

In the construction stage the impacts are associated with dust emissions from soil excavation and stockpiling, building construction; landscape works, wind-blown dusts from access roads and from mud tracked out from the site on vehicle wheels, and exhaust gases from the materials delivery and staff vehicles and mobile plant.

The potential for dust emissions depends on ambient conditions, including rainfall, wind speed, wind direction and on the distance to potentially sensitive locations. Most the dust generated is deposited close to the source and any impacts are typically within a hundred metres or so of the construction area. Depending on the size of the particles dust can result in soiling of houses, gardens and cars, while the smaller particles that are breathed in can affect health.

9.5.2 Operational

In the operational stage the impacts are associated with the emissions to air from the processes and exhaust gases from the traffic to and from the site. The emissions from the materials recovery facility will be regulated by the Industrial Emissions Licence issued by the EPA. The Licence will specify emission limits, derived from the detailed air quality impact assessment completed as part of this EIA, that will ensure that the emissions will not adversely affect air quality.

9.6 Baseline Scenario

If the proposed development does not proceed there will be no new emissions to air and no change to the potential for impacts on air quality. Air quality levels at the site will change over time in line with general trends in air quality for the wider surrounding area.

9.7 Prevention & Mitigation Measures

9.7.1 Design Stage

An odour control system will be installed in the section of the materials recovery facility where the odorous wastes (MSW and 'brown bin') will be processed and stored. The system will involve the abstraction of the air and its treatment in a dust filter to remove dusts and carbon filter to reduce odour levels before it is emitted to the air via a stack. The system will be designed to meet the most stringent odour limit value specified by the EPA. The design, installation and operation of the system will require the EPA's prior approval. Fast opening and closing doors will be fitted on the entrances to the area where odorous wastes are handled.

9.7.2 Construction Stage

The following will be implemented to ensure dusts do not result in any significant adverse impacts on air quality:

- Water spraying of exposed earthworks and site haul road during dry weather using mobile units.
- Provision of a wheel cleaner at the site entrance to remove dirt from vehicles prior to exiting the site.

- Regular inspection of the approach roads and cleaning as needed using a road sweeper.
- Control of vehicle speeds within the site, and
- Material drop heights from plant to plant or from plant to stockpile will be minimised.

Emissions from construction traffic and the use of fossil fuels to power onsite equipment will be minimised through:

- Planning delivery routes and schedules for the delivery and removal of materials.
- Efficient use of construction equipment and resources.

9.7.3 *Operational Stage*

9.7.3.1 Materials Recovery Facility

Wastes will only be accepted and handled inside the building. The doors of the area where the odorous wastes are handled will only be opened to allow vehicles to enter and leave. In dry weather paved yards will be damped down to prevent dust emissions from moving vehicles. The diesel powered trucks that transport the wastes will fitted with nitrous oxides reduction systems and engine idling will not be permitted. The EPA licence will set emission limit values for the emissions to air from the odour control unit derived from the odour dispersion modelling assessment.

9.7.3.2 Food Container Cleaning Plant

Additional mitigation measures are not required.

9.8 **Monitoring**

9.8.1 *Construction Stage*

Dust deposition monitoring will be carried out at locations at the development site boundary nearest the sensitive receptors for the duration of the construction stage. The results will be submitted to the Council.

9.8.2 *Operational Stage*

9.8.2.1 Materials Recovery Facility

The emissions from the odour control unit will be monitored at the frequencies set in the EPA licence to demonstrate compliance with the emission limits. The odour control unit will be inspected regularly to ensure it is operating effectively. Dust deposition monitoring will be carried out at locations and frequencies specified by the EPA.

9.8.2.2 Food Container Cleaning Plant

Monitoring will not be required.

9.9 Cumulative Effects

The baseline air quality assessment considered the existing environment while the air quality impact assessment considered the proposed development in combination with the existing Huntstown Power Station, the Huntstown Bioenergy anaerobic digestion plant and Huntstown Quarry.

9.10 Residual Impacts

9.10.1 Construction Stage

The impacts will be negative, imperceptible, local, likely and temporary.

9.10.2 Operational Stage

The impacts will be negative, imperceptible, local, likely and long term.

10. POPULATION & HUMAN HEALTH

10.1 Introduction

This Chapter examines the impacts of the proposed development on population and human health. It describes the impacts and the prevention, mitigation and monitoring measures to reduce their significance. It also assesses a baseline scenario, discusses the cumulative effects and concludes on the residual impacts.

10.2 Methodology

The assessment was based on the planning zoning status, the land use in the vicinity of the site, settlement patterns; the findings of the assessment of impacts on human health associated noise emissions (Chapter 10) and emissions to air (Chapter 9).

10.3 Proposed Development

The development involves site clearance; the excavation and removal of soils to reach the levels required for building foundations and the installation of underground services, the construction of the buildings; the provision of a new entrance and access road, parking and paved yards, and landscaping.

When open the materials recovery facility and food container cleaning plant will operate 24 hours a day, 7 days a week. The annual through put will be 95,000 tonnes and materials will be delivered and removed in heavy goods vehicles. An odour control system will be provided in the part of the materials recovery facility where odorous wastes are handled.

10.4 Receiving Environment

10.4.1 Population

The surrounding land use is a mix of quarrying, industrial and agriculture use. The nearest private residences are on the North Road, approximately 50m from the eastern site boundary. There is a farmhouse approximately 270m south of the southern boundary. There are no recreational areas, schools or health care facilities within 1 kilometre of the site.

10.4.2 Human Health

The environmental factors relevant to population and human health include impacts that either directly impinge on standards designed to protect health for example air quality, or are indirectly associated with nuisance that can induce stress, for example noise, traffic and odours.

10.4.2.1 Accidents

The Seveso II Directive 96/82/EC, which is implemented by the "European Communities (Control of Major Accident Hazards Involving Dangerous Substances) Regulations, is concerned with the prevention of major accidents that involve dangerous substances. The development will not be subject to the regulations and the closest regulated facility is Huntstown Power Station to the north-west.

The site is 2.4km from one of Dublin Airport's main runways, is directly visible from the Airport's new Control Tower, and is in line with the Control Tower's view of aircraft landing on one of the runways. It is well within the 13km distance from the Airport identified as the area of bird hazard risk (birds entering aircraft engines) and is also directly underneath the flight path approach to Casement Aerodrome.

10.4.2.2 Natural Disasters

The proposed development site is not in an area at risk of either land instability, or flooding.

10.4.2.3 Air Quality

The air quality at and in the vicinity of the proposed development site is good.

10.4.3 *Noise*

The dominant noise sources in the vicinity of the development area are traffic at the N2 and M50 and the Huntstown Quarry.

10.5 Impacts

10.5.1 *Construction Stage*

In the construction stage noise and air emissions and traffic movement have the potential to result in localised, if temporary, nuisance.

10.5.2 *Operational Stage*

10.5.2.1 Nuisance

Traffic movements can, depending on the size, location and capacity of the local road network, be a cause of congestion that affects local residents. Some of the wastes that will be accepted in the materials recovery facility are attractive to vermin, insects and birds. While these do not present a direct human health risk, they can be a significant nuisance and cause of discomfort to people living in the locality. Noise from operations can also be a source of nuisance.

10.5.2.2 Accidents

Given the proximity to Dublin Airport birds attracted to the materials recovery facility present a risk of bird strike to aircraft arriving and leaving the airport. A major incident such as a fire presents a risk to site staff and there is the potential, depending on the weather conditions, for smoke to affect the occupants of the residential, industrial and commercial properties in the vicinity of the site.

10.6 Baseline Scenario

If the proposed development does not proceed the current land use will continue and there will be no change to the potential impacts on Population and Human Health. In the short term, given the land zoning for industrial use, it is likely that the site will be developed and the impacts will be similar to those associated with the proposed development.

10.7 Prevention & Mitigation Measures

10.7.1 Design Stage

10.7.1.1 Aviation Safety

The building and surface water drainage system design took into consideration the aviation safety limitations imposed by the proximity to Dublin Airport and the approach path to Casement Aerodrome.

10.7.1.2 Fire Safety

The separation distances between the buildings means that a fire outbreak in one will not spread to any of the others. In the materials recovery facility the internal separation distances between materials storage areas/bays will comply with the EPA guidance on fire safety. A certified automatic fire detection and alarm system will be installed that covers all internal areas. Six mains water supplied fire hydrants will be installed. To prevent/reduce risk of arson there will be a security fence around Phase 1.

10.7.2 Construction Stage.

10.7.2.1 Air Quality

The measures to mitigate impacts on air quality are described in Section 9.7.2

10.7.2.2 Noise

Although noise emissions will be short term and will not exceed the construction noise criteria, the following mitigation measures will be implemented.

- Works will generally be confined to 7am to 7pm Monday to Friday and 8am to 2pm on Saturday.
- Where plant has to operate between 7am and 8am at locations within 100m of sensitive receptors, standard 'beeper' reversing alarms will be replaced with flat spectrum alarms.
- Construction machinery will be maintained in a satisfactory condition, with exhaust silencers fitted and in good working order.
- Queuing of trucks near off-site receptors and engine idling will be prohibited.

The Environmental Clerk of Works will act as a liaison officer with the local community. .

10.7.3 Aviation Safety

The working heights of cranes used in the construction of the buildings will be limited to 33m above ground level.

10.7.4 Operational Stage

10.7.4.1 Fire

Members of the public will not have access to the facility and only site staff will be permitted inside the buildings. Site visitors will be informed of the safety and fire prevention procedures that must be followed and there will be a policy of only smoking in designated areas.

Safe systems of work will be provided and outside contractors will be obliged to undergo safety inductions before being allowed access operational areas. The inductions will address fire procedures, behaviour on site, housekeeping and specific high risk jobs i.e. hot works procedure & permits.

Fire extinguishers will be positioned at selected locations and staff will be trained to extinguish small fires with appropriate hand held fire. If staff members cannot tackle a fire safely and effectively, the evacuation of all personnel will be the primary priority.

10.8 Monitoring

10.8.1 Construction Stage

If required by Fingal County Council noise and dust deposition monitoring will be carried out at agreed locations and frequencies and the results will be submitted to the Council. The noise limits will be as conditioned in the planning permission.

10.8.2 Operational Stage

Noise emissions will be monitored at the frequencies set in the planning permission to demonstrate compliance with the emission limits. The results will be submitted to the Council and will be publically accessible.

10.8.3 Operational Stage: Fire Safety

The fire extinguishers and the fire detection system will be subject to annual checks by fire safety contractors.

10.9 Cumulative Impacts

No cumulative impacts have been identified with respect to the construction and operational stage.

10.10 Residual Impacts

10.10.1 Construction Stage

The construction stage will have a negative, not significant, local, likely and temporary impact associated with noise emissions.

10.10.2 Operational Stage

The operational stage will have a negative, not significant/slight, local, likely and long term impact associated with traffic noise.

11. LANDSCAPE & VISUAL IMPACT

11.1 Introduction

This Chapter assesses the landscape and visual impacts of the proposed development on the surrounding landscape. It examines and evaluates the impacts in terms of landscape character and visual alterations and identifies the proposed mitigation and monitoring measures to achieve the long-term integration of the proposed development in the surrounding landscape.

11.2 Methodology

The assessment followed the Guidelines for Landscape and Visual Impact Assessment (Landscape Institute & IEMA., UK 2013). It took into consideration the requirements of the Fingal County Development Plan, the Landscape Plan prepared Park Hood Land Chartered Landscape Architects and the building elevation drawings prepared by Coyle Civil & Structural Engineers. The site and the surrounding area was visited to establish views of the development site and the landscape character.

11.3 Receiving Environment

11.3.1 Landscape Character

The Fingal Development Plan defines six Landscape Character Types:

- High Lying Agriculture
- Low Lying Agriculture
- Estuary
- Coastal
- River Valleys and Canal

The site is in the Low Lying area, which is characterised by a mix of pasture and arable farming on low lying land, with few protected views or prospects. At a local level, the surrounding area the area to the west, north-west and south-east are in industrial use and quarrying, with agricultural to the south, north and east. It is not in an area designated as highly sensitive, is not overlooked by any designated views or prospect areas, is not near an amenity area and is not close to any cultural and historic sites.

The site and surrounding area is categorised as having a Modest value and a Low sensitivity and it can absorb a certain amount of development once the scale and forms are kept simple and surrounded by adequate screen boundaries and appropriate landscaping.

11.3.2 Visibility

Given the local settlement pattern, topography and vegetation the views of the site are limited to the North Road and from a pedestrian bridge over the M50 N2 slip road.

11.4 Impacts

11.4.1 Trees and Hedgerows

The development will not result in the loss of any of the existing hedgerows around the site southern and western boundaries. A 170 m section hedgerow that forms an internal field boundary will be removed.

11.4.2 Landscape Character

The development will result in a change to the landscape character and the conversion of former agricultural land to industrial use. However the site is in an area zoned for industrial use and the proposed development is consistent with land zoning.

11.4.3 Views

General Impacts

In the construction stage works, including site clearance, erection of hoarding, use of lighting and cranes and stockpiling of soils, have the potential to cause temporary visual impacts; however these will be short term.

Impacts on Listed Views

There are no '*Listed Views or Prospects*' within or in close proximity to the site.

Impacts on Visibility into the Site

Depending on the position and the time of year given leaf fall, the development will be partially visible from North Road. It will also be partially visible all year round from the new entrance off-the existing service road and from view points on the access road to the Huntstown Quarry and the pedestrian bridge over the slip road.

11.5 Baseline Scenario

If development does not proceed the land use at the subject site will not change, with no alteration to the landscape character and no additional visual intrusion. Given the location and zoning status it is likely that the site will be developed in the short term, with similar impacts to those associated with the proposed development.

11.6 Prevention & Mitigation

11.6.1 Design Stage

The building heights were the lowest that allow the safe internal operations. The height of the stack on the odour control system was determined by the air dispersion modelling completed as part of the assessment of impacts on air quality.

The colours of the external building materials were selected to be minimise visual intrusion. It was a design objective to retain the hedgerows around the site boundary and supplement them with additional native tree/shrub plants.

11.6.2 Construction Stage

Prior to site clearance works all of the trees and hedgerows that are to be removed will be clearly identified and protection measures provided to those that will be retained. Additional tree/shrub planting will be carried out to supplement the boundary hedgerows.

11.6.3 Operational Stage

Periodic visits will be required to the check that the planting is establishing and being correctly maintained.

11.7 Monitoring

11.7.1 Construction Stage

During site excavations vegetation will be inspected to ensure it is adequately protected and that topsoil is being correctly stripped and stored.

11.8 Cumulative Effects

The proposed development will have a slight, negative, local and long term cumulative impact on the local landscape.

11.9 Residual Impacts

The development will alter the existing landscape character as a result of changing from former agricultural to industrial use, but will have no impact on amenities or cultural heritage. The impact will be negative, not significant, local, likely and long term.

The development will be visible all year round from the site entrance and an access road to the north-west and partially visible all year round from a view point to the north west and the pedestrian bridge, however at the other viewpoints the site will either be fully screened or only partially visible over the winter period. In the context of the surrounding landscape, which is dominated by quarrying and industrial developments, the visual impact will be negative, not significant, local, likely and long term.

12. CULTURAL HERITAGE

12.1 Introduction

This Chapter examines the impacts of the proposed development on cultural heritage. It describes the impacts and the prevention, mitigation and monitoring measures to reduce their significance. It also assesses a baseline scenario, discusses the cumulative effects and concludes on the residual impacts.

12.2 Methodology

The assessment was based on information derived from Archaeological Impact Assessments completed by Kilkenny Archaeology in 2020 and by Archaeological Consultancy Services Unit in 2023, which included a desk top study of the area within a 2km radius of the development site, field surveys geophysical survey and the excavation and inspection of archaeological trenches across the entire development site.

12.3 Receiving Environment

There are five prehistoric sites (pre c. 500 AD) inside the 2km radius. The most significant is a Neolithic causewayed enclosure in Kilshane, 1.5 km north of the site. The others include a ring-ditch 500m to the north, a second ring-ditch approximately 1.2km to the north-east and two burnt mound sites, one 1.3km to the west and the other 1km to the north.

From the early medieval period there are four possible ringforts, five enclosures and one souterrain within the 2km radius, with the nearest features being two enclosures between 650 and 750m to the east. From the medieval period there are two motte and bailey castles within 2km- Newtown and Dunsoghly. Both are north-west, with Newtown being the closest at 900m. There are two tower houses within 2km, with the nearest being in Cappoge, 1.6km to the south.

There are twenty cultural heritage sites within the 2km radius associated with the post-medieval period (c. 17th to c. 19th century). None are listed in the National Inventory of Architectural Heritage for Fingal, but five are in the Sites and Monuments Record. The closest is a 16th / 17th century probable fortified house at Dubber, which is 1.8km away.

There are fourteen quarries and six gravel pits, including the one in the centre of the development site where quarrying began in the early 19th Century, within the 2km radius that probably date from the post-medieval period. The quarries pre-date Huntstown Quarry, which was opened in the 1970s. Huntstown House, which was built in the 18th century was 1.4 km north-west of the development area, but was demolished during the development of Huntstown quarry.

Archaeological testing comprising the excavation of trenches under the supervision of an archaeologist, was completed in the western part of the site in December 2020. The trenches extended down to the natural soils and nothing of archaeological interest was found. A geophysical survey of the area of the site where testing had not been done was carried out in 2023 and this identified the presence of potential archaeological features.

Subsequent testing identified the features as being associated with a medieval settlement, consisting of a possible enclosed settlement at the top of the hill in the centre of the site with what appear to be field boundaries along the southern slope. The 19th Century quarry had destroyed/removed the settlement.

12.4 Impacts

The proposed development will have a direct impact on the subsurface archaeology and will result in the removal/destruction of the features.

12.5 Baseline Scenario

If the development does not proceed the site will remain in its current condition, with no changes to the potential impacts on cultural heritage features. Given the sites location and land zoning it is likely it will be developed for industrial use in the short term.

12.6 Prevention & Mitigation Measures

12.6.1 Design Stage

Given the scale of the proposed development and the extent of the archaeological features it is not possible to design out the impacts.

12.6.2 Construction Stage

Prior to the start of the construction works a suitably qualified and experienced archaeologist will be appointed to carry out an archaeological investigation to record the archaeological features. The investigation will be carried out in accordance with a licence issued by the Department Tourism, Arts Culture of Heritage, Culture, Gaeltacht, Sports and Media. The archaeologist will prepare a report that will be submitted to the Department and Fingal County Council and will constituted preservation by record.

12.6.3 Operational Stage

Operational stage mitigation measures are not required.

12.7 Monitoring

12.7.1 Construction Stage

As all of the archaeological features within the site will have been preserved by record before the construction stage begins, monitoring is not required.

12.7.2 Operational Stage

Monitoring is not required.

12.8 Cumulative Effects

The proposed development will have a slight positive cumulative effect on cultural heritage as the preservation by record will add to the cultural heritage database on medieval activities in County Dublin.

12.9 Residual Impact

The proposed development will have a negative, not significant, local, likely, permanent impact on the archaeological features within the site boundary and have a positive, slight, local, likely, permanent impact on cultural heritage database on medieval activities in County Dublin.

13. MATERIAL ASSETS: BUILT SERVICES

13.1 Introduction

This Chapter examines the impacts of the proposed development on built services. It describes the impacts and the prevention, mitigation and monitoring measures to reduce their significance. It also assesses a baseline scenario, discusses the cumulative effects and concludes on the residual impacts.

13.2 Methodology

The assessment was based on the Engineering Services Report prepared by Coyle Civil & Structural Engineers.

13.3 Receiving Environment

13.3.1 Services

There are no power and water supplies to the site and no foul water drainage and surface water drainage systems serving the site. The nearest Uisce Eireann mains water supply and foul sewer run along North Road. Overhead power lines crossing the site are currently being removed and placed underground along the eastern and northern boundaries. Temporary and permanent way leaves for the Dublin Orbital sewer cross the site.

13.4 Impacts

13.4.1 Construction Stage

The construction works will result in the consumption of natural resources and construction and demolition waste will be generated.

13.4.2 Operational Stage

13.4.2.1 Site Services

Water for production and potable use will be obtained mains supply, with rainwater harvesting to supplement use in the toilets. Sanitary wastewater and washwater from the wheel cleaning in the Materials Recovery Facility and treated wastewater from the Food Cleaning Plant wastewater treatment system will discharge to the Uisce Eireann foul sewer.

A connection will be made to the national grid and an electricity substation will be built in the north-east corner of the site. The electricity from the roof top solar panels will be directly used on site.

The wastes generated will include office and canteen waste, unsuitable materials removed from the incoming materials and waste oils and batteries from plant maintenance.

13.4.2.2 Waste & Resource Management

When operational the materials recovery facility will make a significant contribution of the recycling and recovery capacity in the Greater Dublin Area. The food container cleaning plant will contribute to circular economy initiatives by allowing the multiple reuse of plastic food containers.

13.5 Baseline Scenario

If the proposed development does not proceed there will be no new connection to the electricity network and no generation of electricity from renewable sources. There will be no additional demand on the mains water supply and foul sewer networks in the area. There will be no expansion of waste recovery and recycling capacity in the Greater Dublin Area and no contribution of circular economy initiatives.

13.6 Prevention & Mitigation Measures

13.6.1 Design Stage

13.6.1.1 Energy Conservation

The energy conservation measures include:

- Roof mounted solar panels to supplement the electricity supply;
- Insulation of pipes conveying heated water in the washing system in the food container cleaning plant;
- Provision of energy efficient artificial lighting systems, and
- Provision of electric vehicle charging points.

13.6.1.2 Water Conservation

Rainwater will be harvested for use in the staff toilets. The majority of the washwater from the washing plant in the food container cleaning plant will be treated and reused in the washing plant.

13.6.1.3 Waste & Resource Management

The design measures to minimise waste generation in the construction stage will be identified in the Detailed Resource & Waste Management Plan that will be prepared at the detailed design stage.

13.6.2 Construction Stage

The connection to the electricity grid will be managed by ESB Networks, which should limit any disruption and ensure that residents/ businesses in the affected areas receive advance notice of the planned disruptions. Construction and demolition waste will be minimised by implementing the recommendations of the Resource & Waste Management Plan.

13.6.3 Operational Stage

Energy efficiency reviews will be conducted regularly and plant and equipment suppliers will be required to ensure that only the most energy efficient are procured. A preventative maintenance programme will be in place for all equipment to ensure their energy efficiency is optimised. To minimise demand on the mains water supply rainwater run-off from the building roof will be used as 'grey water' in the staff toilets and the washwater from the washing plant will be recycled. The roof mounted solar panels will reduce demand on the national grid.

13.7 Monitoring

13.7.1 Construction Stage

Monitoring is not required in the construction stage.

13.7.2 Operational Stage

Energy, fuel and water usage will be monitored.

13.8 Cumulative Effects

In the operational stage the development will contribute to the cumulative natural resource consumption. It will also contribute to the expansion of waste management capacity in the Greater Dublin Area and the achievement of national recycling and recovery targets and circular economy initiatives.

13.9 Residual Impacts

13.9.1 Construction Stage

The construction stage will have a negative, not significant, likely, temporary impact.

13.9.2 Operational Stage

The impact on resource consumption will be negative, not significant, nation, likely and long term. The impact on waste management capacity in the Greater Dublin Area will be positive, significant, likely and long term.

14. TRAFFIC & TRANSPORT

14.1 Introduction

This Chapter examines the impacts of the proposed development on traffic and transport. It describes the impacts and the prevention, mitigation and monitoring measures to reduce their significance. It also assesses a baseline scenario, discusses the cumulative effects and concludes on the residual impacts.

14.2 Methodology

The Chapter is based on a Traffic & Transport Assessment and Road Safety Audit prepared by Trafficwise. The assessment was completed in accordance with Transport Infrastructure Ireland's Traffic and Transport Assessment Guidelines. Traffic count surveys were completed at relevant junctions. The site layout was designed to provide adequate manoeuvrability for heavy goods vehicles and emergency service access.

14.3 Receiving Environment

14.3.1 Road Network

An existing service road that provides access to the 220kV Substation from North Road runs along the eastern development site boundary. This service road also provides access to agricultural lands and a farm house with a large farm yard and sheds to the south west of the site.

The service road intersects North Road at a simple priority junction approximately 600m south of the Coldwinters N2 off-slip near the Dogs Trust property. North Road was formerly the N2 and had been directly connected to the M50 north of Finglas. The upgraded N2 and M2 road scheme bypasses the former N2 at its southern end and this section has become a cul-de-sac.

An assessment of the traffic associated with the current operation was based on a 24 hour manual classified traffic count completed in November 2022 at six junctions agreed in advance with Fingal County Council, which are:

- Site 1: Huntstown Quarry Access – Priority Access T-junction.
- Site 2: N2 Off-slip (Dogs Trust) – Priority T-junction.
- Site 3: Dublin Airport Logistics Park – Roundabout.
- Site 4: N2 Southbound On-slip – Traffic Signal Control T-junction.
- Site 5: Kilshane Cross – Traffic Signal Control Crossroad.
- Site 6: Brock Inn Roundabout.

The traffic counts established that the weekday morning and afternoon peak traffic hours are between 08:00-09:00 and 16:00-17:00 respectively.

14.3.2 Future Transport Objectives

The Fingal County Development Plan 2023-2029 shows an indicative route of the proposed Metro West rail line adjacent to the M50 northern boundary. A proposed metro stop will be located at Kildonan, which is close to the development site. The light rail scheme will link the principal towns/suburbs along the western fringes of Dublin (beyond the M50 Motorway) including Tallaght, Lucan and Blanchardstown to the proposed Metro North scheme, which will serve Dublin Airport and Swords.

Fingal County Council plans to reopen the cul de sac at the section of North Road south of the entrance to Huntstown Quarry to facilitate access to industrially zoned lands north of the M50 and between North Road and Cappagh Road. The Council also has plans to provide a western link from the Broghan Roundabout on the R135 (old N2) to Dublin Airport. When in place the existing traffic flows at the signal controlled Kilshane Cross on the R132 (North Road) will significantly reduce.

It is an objective of the Fingal County Development Plan to move to more sustainable modes including walking, cycling and public transport during the life time of the Plan. The Greater Dublin Area Cycle Network Plan (2021) envisages the expansion of the city cycle network to provide new connections including a cycle lane along North Road to Ashbourne. The route will be along the hard shoulders of R135 (formerly N2).

14.4 Impacts

14.4.1 Construction Stage

Access will be via the new entrance off the service road to the Substation. Traffic will comprise construction staff private vehicles and materials delivery vehicles, including articulated and rigid body trucks and ready mix concrete trucks. Construction staff will generally arrive before 08:00 and leave at 17.00 thereby avoiding the morning and evening peak hour traffic. Many of the staff will share vehicles. Given the scale of the development it is likely that approximately 60 construction workers will be on site at any time and there will be an average of 32 daily car trips

The initial works will involve the excavation and removal from the site of approximately 31,000m³ of soil. This will be done over a four week period and will generate 1,283 heavy goods vehicle trips, which equates to 25 daily trips over the four weeks. In the subsequent stage trips will be in the region of 25 or less per day. These trips will be evenly spread throughout the day and will not impact significantly during the peak periods.

14.4.2 Operational Stage

The likely impact of the heavy goods vehicle movement on the local road network will have a negligible impact on network capacity and operation. Direct impacts will be limited to the short section of North Road south of Huntstown Quarry Access Junction, which is currently a lightly trafficked cul-de-sac. It is the intention to reopen this cul de sac to allow access to zoned lands north of the M50 between North Road and Cappagh Road.

Based upon detailed assessments will not be a significant increase in traffic throughput or impact upon capacity at any junction either in the vicinity of the site or on the haul routes. The extent of the impact will be limited to the haul route principally along North Road. The impact will be medium-term (i.e. 25 years), occurring 5.5 days a week, between the hours of 07:00 and 19:00 (to 14:00 on Saturdays) and are expected to continue as long as the proposed development continues to operate.

14.5 Baseline Scenario

If the development does not go ahead, the existing junctions will continue to operate as currently and traffic on the public road network will grow in accordance with the latest growth factors published by Transport Infrastructure Ireland (TII) in October 2021.'

14.6 Prevention & Mitigation

14.6.1 Design Stage

The design approach was to:

- Prioritise pedestrians and cyclists without unduly compromising vehicle movement;
- Provide good pedestrian access to encourage walking.

Specific design measures include:

- Use of light emitting diode (LED) luminaires to ensure a uniform lighting spread is achieved and dark corners are avoided.
- Provision of segregated footpaths and cycle lanes on the access road from North Road that will become the future link between North Road and Cappagh Road.
- Provision of shared segregated footpaths and cycle lanes on both sides of the entrance road and the use of high quality and slip resistant materials will be used at dropped crossings to allow access for users of all abilities.
- The sightlines at the junctions of the service road and North Road and the development access junction will be 120m from a setback of 3 m and positioning of roadside features and landscaping not to obstruct visibility for drivers approaching or emerging from these junctions.

14.6.2 Construction Stage

A Construction Traffic Management Plan will be prepared based on a scope agreed in advance with Fingal County Council. The objective will be to minimise traffic disruption in the vicinity of the site and ensure the safety of both residents and construction staff.

14.6.3 Operational Stage

Mitigation measures are not required.

14.7 Monitoring

14.7.1 Construction Stage

The Environmental Clerk of Works will monitor construction vehicle movements in and out of the site to ensure the guidance set out in the Construction Traffic Management Plan is being followed.

14.7.2 Operational Stage

Monitoring is not required in the operational stage.

14.8 Cumulative Effects

The cumulative effects of the traffic associated with the permitted developments in the vicinity of the development site that are already operational and those for which permission has been granted but not yet built were considered, along with the predicted traffic growth figures.

14.9 Residual Impacts

14.9.1 Construction Stage

Construction traffic will have a negative, not significant, local, likely and temporary impact on the local road network.

14.9.2 Operational Stage

The development will have a negative, not significant, likely, local and long term impact on traffic.

15. INTERACTION OF THE FOREGOING

15.1 Introduction

Previous Chapters describe the impacts associated with the proposed development and the prevention and mitigation measures that will be implemented. This Chapter discusses the significance of the actual and potential direct, indirect and cumulative effects of the changes due to interaction between relevant receptor. It is based on the physical and environmental conditions of the subject site and the predicted impacts of the development.

15.2 Population & Health/Air/Material Assets: - Traffic

The proposed development has the potential to impact on human beings from air quality, traffic movements and noise. The local road network has the capacity to accommodate the additional traffic and the air quality assessment has established that the development will not result in any breaches of ambient air quality limits. The noise assessment concluded that traffic noise will have a not significant/slight negative impact.

15.3 Land/Material Assets/Biodiversity

The land take of former agricultural land will remove the agricultural product value of the site and the biodiversity value of the existing habitat.

15.4 Climate/Water

The effects of Climate Change were factored into the design of the surface water drainage system. .

15.5 Climate/Traffic/Material Assets

The development will impact on Climate as a result of increased greenhouse gas emissions from traffic and the raw materials consumption in the construction stage and the energy consumption in the operational stage. The cumulative effects will be somewhat off-set by the carbon savings associated with the diversion of recyclable materials from landfill and incineration and the use of the solar panels.