13 MATERIAL ASSETS AND OTHER ISSUES

13.1 INTRODUCTION

This chapter assesses the impacts of the Project on material assets. The Project refers to all elements of the application for Derreenacrinnig Wind Farm (**Chapter 2: Project Description**). The assessment will consider the likely significant direct and indirect effects during the following phases of the Project:

- Construction of the Project
- Operation of the Project
- Decommissioning of the Project

Common acronyms used throughout this EIAR can be found in **Appendix 1.4.**

13.2 STATEMENT OF AUTHORITY

This chapter has been prepared by Jennings O'Donovan & Partners Limited, in particular Breena Coyle, Evan Concar and Angelika Thiel.

Breena Coyle, Senior Town Planner in Jennings O'Donovan & Partners Limited (JOD), has a Masters in Environment Planning from Queens University and has over 13 years' experience in Environmental Planning throughout Ireland and the UK. She has a clear understanding of the legislative framework and has experience in the development of windfarms from the pre-planning process through to construction.

Evan Concar., M.Sc., B.Sc. is an Environmental Scientist and Planner. He holds a first-class MSc in Climate Change, Agriculture, and Food Security from the University of Galway and a Bachelor (Hons.) Degree of Arts with Geography and Spanish, also from the University of Galway. He is experienced in report writing, EIA Report chapter writing, Planning Compliance, Planning and Environmental Reports, Feasibility Studies, Stakeholder Engagement, and assisting with Project Management.

Angelika Thiel is an Environmental Scientist and holds a Bachelor's Degree in Geography from the Leibniz University of Hannover, Germany. She has experience through various projects since joining JOD with a current focus on the environmental sector. Angelika's key capabilities are in report writing of Appropriate Assessments and Environmental Impact Assessments.

Further details and biographies/CVs of those involved in the development of each chapter have been included in **Chapter 1: Introduction** and **Appendix 1.1 Author Qualifications.**

13.3 ASSESSMENT METHODOLOGY AND SIGNIFICANCE CRITERIA

Following preliminary consultations with key consultees during the Scoping process, desk-based assessments, site visits and field surveys were undertaken. In line with the EIA Directive 2011/92/EU as amended by EIA Directive 2014/52/EU and current EPA Guidelines, this chapter of the EIAR focuses the assessment solely on those elements likely to have a significant effect on the environment. Economic assets of natural heritage include non-renewable resources such as minerals or soils, and renewable resources such as wind and water. These assets are addressed in **Chapter 7: Land and Soils, Chapter 8: Hydrology and Hydrogeology,** and **Chapter 9: Air and Climate**. Peat and spoil are assessed in **Chapter 7: Land and Soils**. Amenity resources and tourism are addressed in **Chapter 5: Population and Human Health**. The cultural assets of Archaeology and Cultural Heritage are addressed in **Chapter 14: Cultural Heritage** and traffic is addressed in **Chapter 11: Traffic and Transportation**. Utilities such as water, wastewater and waste services are addressed in this chapter and in **Chapter 2: Project Description.**

The material assets considered in this chapter include:

- Land Use – Agriculture;
- Land Use – Forestry;
- Telecommunications;
- Electricity Networks;
- Air Navigation;
- Quarries, and
- Utilities (gas, water, waste)

13.4 LAND USE - AGRICULTURE

13.4.1 Baseline Environment

The Site, located 10.9 km west of Dumanway, is characterised as being one distinct type of landscape and vegetation formation, namely exposed bedrock and upland blanket peat. A small amount of livestock grazing is currently undertaken at the Site. There are also a number of residential properties and established wind farms in the region. The Site as a whole is characterised by elevations of between 232 m and 396 m AOD and a spatial area of 104 hectares.

The agricultural land is predominantly utilised for sheep and cattle grazing.

13.4.2 Assessment of Potential Effects

The total land-take of the Proposed Development, including the Site Access Roads, Turbine Hardstands, Turbine Foundations, Grid Connection route, Turbine Delivery Route nodes and sub-station is 0.9041 hectares. There are 123.2 hectares within the Redline Boundary therefore the total land take is 0.87% of the Site. The proposed Site Access Roads and upgrade to existing roads will improve access for surrounding agricultural use.

The construction, operational and Decommissioning phase of the Project will result in a change of 0.9041 hectares of exposed bedrock and upland blanket peat where new Site Access Roads, wind turbine bases, hardstanding areas, the Onsite Substation and Control Building and associated drainage infrastructure will be located.

The construction of the Grid Connection route and Turbine Delivery Route will only require relatively localised excavation works within and adjoining the public roads, with some works in private lands and the Site Boundary and will be reinstated upon installation of cables.

There will be three turbines located on exposed bedrock and upland blanket peat. This will result in the change of use from exposed bedrock and upland blanket peat with a small amount of livestock grazing to wind farm use. This will have a long-term slight, negative impact on exposed bedrock and upland blanket peat due to the removal of blanket peat for the duration of the construction and operation phases.

The approach proposed for Decommissioning is one of minimal intervention:

- Decommissioning works will be limited to action necessary to remove the wind farm structures, i.e., removal of turbines and monitoring mast, extraction of cables but leaving ducting *in-situ*.
- Roads and associated drainage systems will remain in place to serve ongoing forestry and agriculture activity.
- Hardstanding areas will be allowed to revegetate naturally.
- Turbine plinths will be removed, and the hardcore covering Turbine Foundations will be allowed to revegetate naturally.
- Soil disturbance will be avoided as much as possible.

Therefore, the effects of the Decommissioning phase on agriculture will be less than those during the construction phase and not significant.

13.4.3 Mitigation Measures

A process of "Mitigation by Avoidance" to avoid or minimise impacts on agricultural land use has been incorporated into the design stage. The construction and operational footprint of the Project has been kept to the minimum necessary to avoid impact on existing land uses and existing tracks have been used where possible.

These mitigation measures will allow for the prevention of unnecessary or inappropriate ground works or land use alterations to occur and will avoid unnecessary soil compaction.

13.4.4 Residual Effects

Implementation of the mitigation measures, outlined in **Section 13.4.3**, at the design stage will ensure that residual impacts will be slight, negative and temporary i.e. not significant, for the duration of the construction and negligible for the operational lifespan of the Project.

For Decommissioning phase, the residual effect will be slight, negative and temporary for the duration of the phase.

All existing access points (i.e., to domestic premises, business, farms) will be accessible during construction, operation and Decommissioning stages. This is to maintain local access and avoid impacts on other various land uses. **Chapter 11: Traffic and Transportation** details all of the proposed works and deliveries along the Turbine Delivery Route. The works have been designed to avoid undue impact to adjacent land uses. The traffic impact to adjacent land users was also considered during the design of the Project for the Decommissioning phase for which traffic will be required along the Construction Haul Route. The Turbine Delivery Route will no longer be needed post construction. This is further detailed in **Chapter 2: Project Description**.

Thus, the residual effect on surrounding agricultural land uses is slight during construction and Decommissioning and negligible during the operational phase.

13.4.5 Cumulative Effects

Due to the localised nature of the proposed construction/Decommissioning works, there is no potential for significant cumulative effects in-combination with other local developments on the agricultural land use apart from some small sections of the Turbine Delivery Route, all effects are directly within the Redline Boundary.

Other projects outside the Proposed Development do not have the potential to reduce or increase the magnitude of effects on land use within the Site. Therefore, this will not contribute to any significant cumulative effects during the construction, Decommissioning or operational phases.

Land management practices in the wider area which are considered to have potential for cumulative effects with the Project are agriculture and forestry. All existing and approved projects in **Appendix 2.2** were considered. There are no applications for large-scale commercial or industrial activities near the Site. Minor domestic and agricultural development will not introduce potential for cumulative effects during the construction, operational or Decommissioning phases as the impacts will be localised and not significant.

The nearest operational wind farm is located 5.08 km to the south-east of the Proposed Development (Milane Wind Farm). Surrounding agricultural activities can and will continue during the construction, operational and Decommissioning phases of the Proposed Development when fencing has been fully established.

13.4.6 Statement of Significance

No significant impacts are predicted on agricultural land use.

13.5 LAND USE - FORESTRY

13.5.1 Baseline Environment and Description of Development

Permission is being sought by the Developer for the construction of three (3 No.) Wind Turbines, an on-site substation, all ancillary works and upgrade works along the site access road from the L8767. A full description of the Project can be found in **Chapter 2: Project Description**.

13.5.2 Assessment of Potential Effects

The lands affected by the Project are mountainous terrain of heathland and scrub .

Arc GIS Pro was used to calculate areas of forestry within the surrounds of the Proposed Development. Dereenacrinnig was calculated to have 35.9 ha. The majority of the forestry within the surrounds of the Proposed Development was classed as 'Coniferous forest' according to CORINE Land Cover (Copernicus)[1].

[1] Environmental Protection Agency Maps https://gis.epa.ie/EPAMaps/ [Accessed Online_22/06/2022]

There will be no removal of forestry lands within the Site and therefore will have a neutral effect on the existing forestry land use during the construction, operation and Decommissioning of the Project.

13.5.3 The 'Do-Nothing' Impact

If the Project does not proceed, lands in the vicinity of the Site will continue to be used for forestry and agricultural purposes. This would have a neutral effect.

13.5.4 Mitigation Measures

Existing forestry tracks have been incorporated into the design to minimise the construction of new Site Access Roads and minimise the removal of forested areas. New Site Access Roads have been sensitively designed to minimise impact on forestry. As there are no turbines being built within the forested land, electricity cables installation underground in or alongside Site Access Roads is not required. The construction and Decommissioning works will be planned and managed by a Construction and Environmental Management Plan (CEMP) (**Appendix 2.1**). This provides details on day to day works and methodologies. As part of these works, the public and other stakeholders will be provided with updates on construction activities which will affect access to surrounding lands. This will be communicated to members of the public through a community liaison officer employed for the duration of the construction period.

13.5.5 Residual Effects

The impact on land take during construction/Decommissioning is not likely to have an impact on forestry, in that it alters the character of the environment, albeit in a manner consistent with existing and emerging wind farm trends in the surrounding area. Implementation of the measures outlined in **Section 13.5.4** will ensure that any residual impacts will be slight negative and short term in duration.

During the operational phase, the impact on forestry land take is likely to have a slight negative permanent impact on the environment of the area however, this change is consistent with existing and emerging trends. There are no predicted residual impacts, with respect to forestry land use, arising from the operational phase.

13.5.6 Cumulative Effects

A list of projects and plans for cumulative assessment has been included as **Appendix 2.2** of this EIAR.

Due to the localised nature of the proposed construction/Decommissioning works which will be kept within the Site Boundary, there is no potential for significant cumulative effects in-combination with other local developments on commercial forestry as all effects are directly within the Site.

As forestry activity is expected to continue on surrounding lands throughout the lifespan of this Project, no potential significant cumulative effects are considered likely.

13.5.7 Statement of Significance

No significant impacts are predicted on commercial forestry.

13.6 TELECOMMUNICATIONS

Microwave links need an unobstructed line of sight from end to end as blocked links will perform inadequately. It is therefore necessary to ensure tall wind turbines will not interrupt links. Impacts can include reflection, diffraction, blocking and radio frequency interference.

During operation, wind turbines have the potential to interfere with electromagnetic signals passing above the ground due to the nature and size of the wind farm.

Ireland saw the roll out of Digital Terrestrial Television, locally known as Saorview TV, in October 2010, incorporating the switchover from analogue to digital television. According to Ofcom (a regulatory UK body) (2009), *digital television signals are much better at coping with signal reflections, and digital television pictures do not suffer from ghosting*[2]. Ghosting is the replica of a transmitted image which is offset in position and is superimposed on top of the main image.

Since digital switchover, there have been very few reported cases of wind turbine interference with domestic analogue reception. Modern turbine blades are also typically made of synthetic materials which have a minimal impact on the transmission of electromagnetic radiation. Therefore, potential effects on television and radio signals from the Project will be negligible and are not considered further, given the advancements in technology.

[2] Ofcom (2009) *Tall Structures and Their Impact on Broadcast and Other Wireless Services*, OFCOM, United Kingdom. Available online at: https://www.ofcom.org.uk/__data/assets/pdf_file/0026/63494/tall_structures.pdf [Accessed 21/11/2024]

13.6.1 Guidance

Potential telecommunication effects generated by the Project have been assessed in accordance with relevant guidance and best practice with reference to the following documents.

- Cork County Development Plan, 2022 - 2028
- 'Best Practice Guidelines for the Irish Wind Energy Industry', published by the Irish Wind Energy Association (2012).
- Information about Electric & Magnetic Fields and the Electricity Transmission System in Ireland, EirGrid[3]
- Wind Energy Development Guidelines: Planning Guidelines, Department of Environment, Heritage and Local Government (DHPLG) 2006[4]
- Draft Revised Wind Energy Development Guidelines, Department of Housing, Local Government and Heritage (2019)[5]

13.6.2 Scoping and Consultation

Telecommunications providers were consulted about the Project. A summary of responses is outlined in **Table 13.1** and **Appendix 1.3** outlines full consultation responses.

Table 13.1: Summary of Consultations

Consultee	Response Date	Response
RTÉ Donnybrook Dublin 4 (*2RN is the trading name of RTÉ Transmission Network DAC*)	17/11/2023	*"We don't have and fixed linking nearby, but there is a risk of interference to broadcast services in the area.* *We would therefore ask that a protocol be signed between 2rn and the Developer should the Site go ahead."*
Virgin Media Television Westgate Business Park Ballymount Dublin 24	15/11/2023	"I refer to your query of 15th November about the above location. Virgin Media does not have any record of underground services at this location as indicated by your drawing. WHILST THE INFORMATION GIVEN IS BELIEVED TO BE CORRECT NO WARRANTY IS MADE AS TO ITS ACCURACY. THIS INFORMATION MUST NOT BE RELIED UPON IN THE EVENT OF EXCAVATION OR OTHER WORKS CARRIED OUT IN THE SITE AREA. NO LIABILITY OF ANY KIND WHATSOEVER IS ACCEPTED BY VIRGIN MEDIA, ITS SERVANTS OR AGENTS FOR ANY ERROR

[3] Eirgrid (2014) *Information on Electric and Magnetic Fields*. Available online at : http://www.eirgridgroup.com/site-files/library/EirGrid/Information%20on%20Electric%20and%20Magnetic%20Fields.pdf [Accessed on 21/11/2024]
[4] Department of Housing, Planning, Community and Local Government (2006) Planning Guidelines. Available online at: https://www.gov.ie/en/publication/f449e-wind-energy-development-guidelines-2006/ [Accessed 21/11/2024]
[5] Department of Housing Local Government and Heritage (2019). Available at: https://www.gov.ie/en/organisation/department-of-housing-local-government-and-heritage/. [Accessed 02/12/2024]

Consultee	Response Date	Response
		OR OMISSION IN RESPECT OF INFORMATION CONTAINED WITHIN THIS COMMUNICATION. THE ACTUAL POSITION OF UNDERGROUND SERVICES MUST BE VERIFIED AND ESTABLISHED ON SITE BEFORE ANY MECHANICAL PLANT IS USED."
Vodafone Ireland Limited, Registered Office: MountainView, Leopardstown, Dublin 18	15/11/2023	"Proposed turbine locations will not affect any Vodafone transmission."
Tetra Ireland	11/12/2023	"We anticipate no impact from the Proposed Development in the area proposed."
Three 28/29 Sir John Rogerson's Quay, Dublin 2, Ireland.	16/11/2023	"These locations will have no impact on the Three Ireland Microwave Transmission network."
Comisiún na Meán	05/12/2024	Coimisiún na Meán does not perform an in-depth analysis of the effect of wind turbines or electrical sub stations on FM networks. However, we are not aware of any issues from existing windfarms or electrical sub stations into existing FM networks. Also, the proposed substation is not located close to any existing or planned FM transmission sites.

13.6.3 Assessment Methodology

Consultation with telecommunications operators was initiated during the Scoping phase of this EIA to identify any potential microwave or telecommunication links that could be affected by the Project. Details of the Proposed Development were shared with link operators. A summary of responses are shown in **Table 13.1**. Response from 2rn (the trading name of RTÉ) indicated a potential for effects. Responses from Virgin, Vodafone, Tetra and Three stated that either they currently had no communication links in the area or that they did not anticipate any effect from the Proposed Development. No responses were received from ESB Telecoms and Éir.

13.6.4 Assessment of Potential Effects

All potential effects, which are associated with the operational phase of the Project, are classified as long-term effects.

13.6.4.1 The 'Do-nothing Impact'

If the Project does not proceed, there will be neutral effects on telecommunications. This 'do-nothing' scenario would result in no interference in electromagnetic signals subject to the continuation of current activities and practices which are expected to continue.

13.6.4.2 Construction Phase

During the construction phase, there are likely to be several sources of temporary electromagnetic emissions. Chief among these will be the brief use of electrical power tools and the use of electrical generators which may be brought onsite before mains electricity is provided. These devices are required by Irish and European law to comply with the EMC Directive 2014/30/EU. Compliance with this Directive will mean that the electromagnetic emissions from these devices will not cause interference to other equipment and therefore no significant effects are likely.

Other potential effects during the construction phase are likely to be as a result of tall cranes used for constructing the turbines. These cranes will be beside the proposed turbines on the Turbine Hardstands. There are no telecommunication towers within the proximity of the Proposed Development, thus. the effect can be classed as not significant.

A number of telegraph poles will likely need to be temporarily removed to facilitate the transport of turbine components to the Site. This will have temporary, short-term effects on telecommunications in the locality which can be described as not significant.

13.6.4.3 Operational Phase

The Scoping response provided by 2rn, identified a risk of potential interference to broadcast services in the area. 2rn have requested that a protocol be signed between the Developer and 2rn should the Site go ahead.

No further telecommunication links have been identified during the Scoping and consultation process. All remaining responses received from telecommunications consultees have stated that the Proposed Development will have no effect on their telecommunications services.

13.6.4.4 Final Decommissioning Phase

When Decommissioning of the Project takes place, effects associated with this phase on telecommunications will be similar to those at the construction phase.

13.6.5 Mitigation Measures

All electrical elements of the Proposed Development are designed to ensure compliance with electro-magnetic fields (EMF) standards for human safety. The effects on human health are assessed in **Chapter 5: Population and Human Health**.

Mitigation measures were undertaken in the design phase through mitigation by avoidance i.e., the known routes of the telecommunication links were plotted and a buffer was applied to them, outside of which the proposed turbines were located. Compliance with the EMC Directive 2014/30/EU will mean that the electromagnetic emissions from devices used will not cause interference to other equipment.

In the event the Project is granted planning permission a protocol will be signed between 2RN and the Developer.

13.6.6 Cumulative Effects

All existing, approved and proposed projects in **Appendix 2.2** have been considered for potential cumulative effects. There are a number of proposed, permitted or operational wind farms within 20 km of the Proposed Development (**Appendix 1.5**). Each developer is responsible for engaging with all relevant telecommunications operators to ensure their proposals will not interfere with television or radio signals by acting as a physical barrier. Therefore, as each project is designed and built to avoid impacts arising, a cumulative impact cannot arise.

There will be no cumulative impacts relating to the Project and surrounding projects in relation to telecommunications.

13.6.7 Statement of Significance

No significant effects are predicted on telecommunications or radio reception as a result of the Proposed Development.

13.7 ELECTRICITY NETWORKS

13.7.1 Introduction

This section describes the transmission network and the anticipated connection option. It is not proposed to utilise any elements of the distribution network.

The nationwide electricity transmission system allows for the transport of large volumes of electricity from generation stations, including wind farms, to bulk supply points near the main population centres where it interconnects with the distribution system.

The Grid Connection will be 14.05 km in length, comprising 10.75 km of overhead line, and 3.3 km of underground cable. ESB as the Distribution System Operator specified the connection method in the Derreenacrinnig West Wind Farm's ESB Connection Agreement to be via a new dedicated 20kV connection from the Derreenacrinnig West Wind Farm site to a proposed 20kV bay which will be constructed within existing Ballylickey Electrical Substation. The Grid Connection will be constructed to the requirements and specifications of ESB Networks.

13.7.2 Assessment Methodology

A desktop study was carried out to identify a GCR between the Site and the Ballylickey 110kV Electrical Substation. The total length of the connection will be 14.05 km in length, comprising 10.75 km of overhead line, and 3.3 km of underground cable. See **Figure 2.2.** A document outlining the construction techniques and methodologies for the construction of the proposed proposed Grid Connection route to the Ballylickey 110 kV Electrical Substation, is included as **Appendix 2.1.** The construction methodologies, including watercourse and road crossings, drainage management plan and access route to work area and consideration of existing services are presented in **Appendix 2.1.**

It is proposed to construct one 20kV Electrical Substation within the Site, as shown on **Figure 2.2** This will provide a connection point between the wind farm and the Grid Connection point at the existing Ballylickey 110kV Substation. Electricity transmitted between the turbines and the substation on the Site will be at 20kV. The layout of the substation and compound is further detailed in **Figure 2.7**.

Part of the substation and all of the Grid Connection will be handed over to ESB networks to own and operate. As part of the national grid infrastructure, their life can extend beyond the life of the wind farm.

Transport Infrastructure Ireland (TII) were consulted in the Scoping process. All items raised have been addressed/ considered during the design process and is documented within **Chapter 11: Traffic and Transport**.

13.7.3 Assessment of Potential Effects

All on-site internal cabling will be installed underground. Additionally, approximately 3.3 km of the Grid Connection route between the wind farm and the existing Ballylickey 110kV Electrical Substation will also be underground. The remaining section of the Grid Connection, approximately 10.75 km, will be via an overhead line (OHL). A temporary outage will be required during the connection to the OHL.

The Proposed Development will contribute directly and in the long term to the electricity network by strengthening it through additional renewable energy generation.

At the existing Ballylickey 110kV Electrical Substation, the cable will connect into existing infrastructure within the confines of the substation and its compound, and thus will have a slight, brief effect on the electrical network during the construction phase.

There will no effect on the electrical network during the operational phase or the Decommissioning phase.

13.7.4 The 'Do-nothing' Impact

If the Project does not proceed, there will be no offset to fossil fuel usage, and no provision of additional electricity generation in the local area.

13.7.5 Mitigation Measures

Mitigation by design and avoidance will minimise impacts on existing electricity networks.

- Prior to construction confirmatory drawings for all existing services will be sought from ESB Networks.
- Immediately prior to construction taking place, the area where excavation is planned will be surveyed by CAT scan (sub-surface survey technique to locate any below-ground utilities) and all existing services will be verified. Temporary warning signs will be erected.
- The as-built location of the installed ducts will be surveyed and recorded using a total station/GPS before the trench is backfilled to record the exact location of the ducts. The co-ordinates will be plotted on as-built record drawings for the Grid Connection cable operational phase.
- Clear and visible temporary safety signage will be erected all around the perimeter of the live work area to visibly warn members of the public of the hazards of ongoing construction works.

13.7.6 Residual Effects

The residual effect on electricity during construction is likely to have a slight brief negative effect and therefore not significant. The residual effect on electricity during the operational phase is likely to moderate positive and long-term.

As the electrical transmission infrastructure will remain in place, the residual effect on electricity network during the Decommissioning phase is likely to be slight, positive and long-term.

13.7.7 Cumulative Effects

All existing, approved and proposed projects in **Appendix 2.2** have been considered. There are a number of proposed, permitted or operational wind farms within 20 km of the Proposed Development.

Each Developer is responsible for engaging with all relevant energy operators (ESB/EirGrid) to ensure their proposals will not interfere with other developments. Therefore, as each project is designed and built to avoid adverse effects arising, an adverse cumulative effect cannot arise.

Potential negative cumulative effects on electricity networks as a result of the Project are unlikely. Mitigation by design and avoidance, as detailed in **Section 13.7.5**, will be implemented.

13.7.8 Statement of Significance

No significant negative impacts on the Grid Connection or grid network are anticipated. There will be a long-term slight positive residual impact on transmission infrastructure in the area (due to the installation of new infrastructure) and no impact on distribution. It is not proposed to utilise any elements of the distribution network.

13.8 AIR NAVIGATION

13.8.1 Introduction

Operating wind farms have the potential to cause a variety of adverse effects on aviation. Rotating wind turbine blades may have an effect on certain aviation operations, particularly those involving radar. The physical height of turbines can cause obstruction to aviation and the overall performance of communications, navigation and surveillance equipment. According to the Irish Aviation Authority (IAA) Guidance Material Annex 14, *Structures that extend to a height of 150m or more above ground elevation should be regarded as an*

obstacle[6]. The IAA requires that all structures over 150m in height require lighting of an obstacle[7] to warn aviation traffic. The Proposed Development's ground to blade tip height of the wind turbines will be 119.3 m during operation.

The Proposed Development is approximately 53 km South of Kerry Airport and 57 km West of Cork Airport. Enniskeane Airstrip is 29 km to the east. Bantry Aerodrome is 17 km to the south-west of the Proposed Development.

13.8.2 Consultation

Consultation with Air Navigation stakeholders was initiated during the Scoping phase of this EIA to identify any potential aviation issues that could be affected by the Proposed Development.

The findings are summarised in **Table 13.2**.

Table 13.2: Summary of Consultation Response

Consultee	Scoping Date	Response Date	Response
Irish Aviation Authority The Times Building 11-12 D'Olier Street Dublin 2	15/11/2023	07/12/2023	*"The Proposed Development appears to be approximately 53 km South of Kerry Airport and 57 km West of Cork Airport, as such, it is recommended that the Developer engage directly with Kerry Airport and Cork airport to make them aware of the proposal and ensure appropriate screening from an aviation safety perspective.* *Furthermore, it would be prudent to engage as early as possible with AirNav Ireland to undertake a preliminary screening assessment to confirm that the proposed wind farm and the associated cranes that would be utilised during its construction would have no impact on instrument flight procedures, communication and navigation aids or other en route communication, navigation and surveillance equipment.* *It is likely that the following general observations would be proffered by the Authority during a formal planning process: In the event of planning consent being granted, the applicant should be*

[6] Irish Aviation Authority (2015) *Guidance Material on Aerodrome Annex 14 Surfaces*. Available online at: https://www.iaa.ie/docs/default-source/publications/advisory-memoranda/aeronautical-services-advisory-memoranda-(asam)/guidance-material-on-aerodrome-icao-annex-14-surfaces.pdf?sfvrsn=e2ae0df3_6 [Accessed:17/06/2024]
[7] Irish Aviation Authority (2005) Statutory Instrument No. 215 of 2005, Obstacles to Aircraft in Flight Order, 2005. Available online at: https://www.iaa.ie/docs/default-source/publications/legislation/statutory-instruments-(orders)/irish-aviation-authority-(obstacles-to-aircraft-in-flight)-order.pdf?sfvrsn=fcb70df3_4 [Accessed:17/06/2024]

Consultee	Scoping Date	Response Date	Response
			conditioned to contact the Irish Aviation Authority to: *(1) agree an aeronautical obstacle warning light scheme for the wind farm development,* *(2) provide as-constructed coordinates in WGS84 format together with ground and blade tip height elevations at each wind turbine location and* *(3) notify the Authority of intention to commence crane operations with at least 30 days prior notification of their erection."*
Department of Defence Station Road Newbridge Kildare W12 AD93	05/12/2024	12/12/2024	*" I wish to advise at the outset that any determination in relation to a planning consent is solely a matter for the planning authorities and/or ABP, as appropriate. Therefore, the following observations are made on a non-prejudicial basis, and are not intended to be used to rely on for a prospective planning application, nor are these observations to be relied on in the event of any commercial transaction pertaining to such lands and they are not to be relied on in the event of any contract exchange pertaining to same.* *As a matter of practice, the Department of Defence does not provide observations or advice in the Scoping process, except where the relevant parties have been directed by a planning authority to seek the Department's views.* *Having consulted with the Military authorities, the Department of Defence wishes to make the following observations:* *• The Minister for Defence is responsible for the regulation of military aviation, whereas the Irish Aviation Authority (IAA) is responsible for the safety regulation of civil aviation including aerodromes. The IAA does not have remit for military aviation or installations. Safeguarding of military flight operations and installations is intended to protect both current and future aircraft operations and also to take account of the security requirements associated with some of those operations.* *• All turbines should be illuminated by Type C, Medium intensity, Fixed Red obstacle lighting with a minimum output of 2,000 candela to be visible in all directions of azimuth and to be operational H24/7 days a week.* *• Obstacle lighting should be incandescent or, if LED or other types are used, of a type visible to Night Vision equipment. Obstacle lighting used must emit light at the near Infra-Red (IR) range*

Consultee	Scoping Date	Response Date	Response
			of the electromagnetic spectrum, specifically at or near 850 nanometres (nm) of wavelength. Light intensity to be of similar value to that emitted in the visible spectrum of light *• Any Irish Air Corps (IAC) requirements for are separate to Irish Aviation Authority (IAA) requirements.* *Nothing in the above observations shall be taken as a binding response by the Minister for Defence in the event that a planning application is made. The Minister reserves the right to comment on an actual planning application as and when it is submitted in accordance with the provisions of the planning regulatory code.* *We would appreciate if you could keep us informed on any progress relating to this Proposed Development, in particular if this development was to progress to the planning stage."*

13.8.3 Assessment of Potential Effects

The effect of the Project on air navigation is limited to turbine visibility and lighting. IAA has made recommendations on lighting requirements and specifications, as outlined in **Table 13.2.** The IAA will be consulted to agree all lighting specification at least 30 days prior notification of the erection of the turbines.

As such, with the implementation of appropriate lighting, the potential effect of the Project on air navigation will be not significant and be short term.

13.8.4 The 'Do-Nothing Impact'

If the Proposed Development were not to proceed, there would be no impact on aviation operations in the area.

13.8.5 Mitigation Measures

Although no potential effects were identified, the following mitigation measures proposed by the Irish Aviation Authority (IAA) will be implemented:

- An aeronautical lighting scheme for the Proposed Development will be agreed with the IAA and will be installed.
- As-constructed coordinates in WGS84 format together with ground and tip height elevations at each wind turbine location will be provided to the IAA.

- The IAA will be notified of intention to commence crane operations with at least 30 days prior notification of their erection.

13.8.6 Cumulative Effects

All existing, approved and proposed projects in **Appendix 2.2** have been considered. There are a number of proposed, permitted or operational wind farms within 20 km of the Proposed Development. Each Developer is responsible for engaging with the aviation authority to ensure the proposals will not interfere with aviation radio signals by acting as a physical barrier. Therefore, as each project is designed and built to avoid impacts arising, a cumulative impact cannot arise. Other developments have also been assessed in terms of their potential to impose a cumulative effect on aviation assets in conjunction with Proposed Development. No likely significant effects have been identified. Therefore, it is considered there will be no cumulative effects relating to the Project and surrounding projects in relation to aviation during the construction phase.

The installation of aeronautical obstacle warning lighting will mitigate against potential aviation accidents in the surrounding area. Therefore, cumulative effects on aviation during the operational and Decommissioning phases are considered not significant.

13.8.7 Statement of Significance

No significant impacts are predicted in terms of air navigation. In adherence to IAA Safety Regulations and International Civil Aviation Organisation, ICAO Annex 15, aeronautical obstacle warning light schemes will be installed as requested by IAA. Co-ordinates of ground and tip height elevations at each wind turbine location as constructed will be provided to the IAA. IAA will be notified of the provision of the intention to commence crane operations within a minimum of 30 days prior to erection.

The potential effects of the Project on air navigation are considered not significant.

13.9 QUARRIES

13.9.1 Introduction

Crushed stone required for construction of the access tracks and will be imported as outlined in **Chapter 11: Traffic and Transport**. The crushed stone, will come from a licenced quarry in the locality such as:

- Mid Cork Quarries, Macroom;
- Flynn Stone Quarry, Kealkill;
- Kilmichael Quarries, Macroom;

- McSweeney Bros, Kilmichael;
- Keohane Readymix, Ballygurteen, and
- Roadstone Quarry, Castlemore.

These quarries will also be the source of crushed stone and concrete for Turbine Foundations and Grid Connection works. The locations of these quarries in relation to the Proposed Development can be seen in **Figure 11.4** in **Chapter 11: Traffic and Transport**.

13.9.2 Assessment of Potential Effects

The construction of the Proposed Development will have an effect on natural resources such as aggregates which will be sourced from the quarries in proximity to the Site (**Section 13.9.1**). This will have a short-term slight negative effect (i.e. not significant) on natural resources for the duration of the construction phase of the Project.

It is likely that a small amount of granular material may be required to maintain access tracks during operation which could impact the source quarry. This will have a long-term imperceptible negative effect on natural resources for the duration of the operational phase of the Project but will not be significant.

The Decommissioning phase will have no requirement for stone or granular material, therefore there will be no effect on natural resources for the duration of the Decommissioning phase of the Project.

The use of imported materiel will have a slight, permanent negative impact on non-renewable resources of the area. This impact is considered to be imperceptible in the long-term.

13.9.3 The 'Do-Nothing Impact'

If the Project were not to proceed,
there would be no likely significant effect on quarry operations in the area and quarrying activities would continue as normal.

13.9.4 Mitigation Measures

- Existing tracks have been used where possible and the layout was designed to minimise the length of new track required in order to reduce the requirement for such stone material.
- The on-site borrow pit will not be used during construction and will be restored. The quarry will therefore be used to provide the stone material required.

- Local quarries have been identified to reduce impact on transportation (Please see **Chapter 11: Traffic and Transportation)**.
- The source quarry will be chosen based on stone which is chemically similar to that occurring at the Proposed Development. This will reduce hydrogeochemical impacts. (Please see **Chapter 7: Land and Soils**)

13.9.5 Residual Effects

The residual effect on quarry resources during construction is likely to have a short-term, slight, negative effect but will not be significant. There will be residual effects on quarries from the Proposed Development during the operational phase. There will be no residual effect on quarry resources during the Decommissioning phase.

13.9.6 Cumulative Effects

All existing, approved and proposed projects in **Appendix 2.2** have been considered. The very nature of a quarry is that it will be subjected to cumulative effects as it is the source of stone for almost all developments in the area.

Therefore, there will be cumulative impacts relating to the Project and smaller projects in the surrounds, such as one-off houses, extension to houses and housing development relation to quarries during the construction phase. The cumulative effect on quarry resources during construction is likely to have a short-term, moderate, negative effect. There will be no cumulative effect on quarry resources during the operational phase of the Proposed Development. There will be no cumulative effect on quarry resources during the Decommissioning phase.

13.9.7 Statement of Significance

No significant negative impacts on local quarries are anticipated. There will be a slight, permanent negative residual impact on natural resources in the area. There will be no impacts during either the operational or Decommissioning phases.

This effect is considered to be imperceptible in the long-term.

13.10 UTILITIES

13.10.1 Introduction

In order to assess the potential for significant effects on built services gas, water and waste in the vicinity of the Proposed Development, Scoping requests were made to Irish Water and Cork County Council including Water Services and the Environment departments.

Refer to **Chapter 1: Introduction** of this EIAR for details in relation to the EIA Scoping exercise.

13.10.2 Assessment Methodology

In order to assess the potential for effects to gas and water infrastructure and waste services, a Scoping exercise was carried out with a number of key consultees, including GNI, Uisce Éireann and Local Authorities. Full details of the Scoping exercise that was carried out is provided in **Chapter 1: Introduction**. These key consultees were also contacted directly and provided with electronic drawing of the design layout and were requested to provide infrastructure drawings/ layout of the utilities to inform design layout. A desk study of available information from the EPA was undertaken to identify all waste facilities in the area.

13.10.3 Assessment of Potential Effects - Gas, Water Utilities

There are no gas mains located within the Site Boundary. There is therefore no potential for impact. Gas Networks Ireland responded to a consultation request confirming no existing services along the Grid Connection route or Turbine Delivery Route and there does not appear to be any visible gas infrastructure along the route.

Given that no detailed information has been provided by Uisce Éireann or Cork County Council in relation to water services within the Site Boundary, it is reasonable to conclude that there is no potential for interference with local water services during the construction phase of the Proposed Development. Based on this information, the risk of encountering existing water infrastructure is considered imperceptible.

Potential impacts arising from the Proposed Development relating to existing water services have been assessed and are detailed in **Chapter 8: Hydrology and Hydrogeology** and referred to in **Chapter 5: Population and Human Health** with accompanying mitigation measures.

13.10.4 Assessment of Potential Effects - Waste

There are many waste types generated from the construction and operational phase of the Project. These are general office waste, bowser waste**,** portaloo waste**,** excavated soil**,** washings, concrete waste and wash-out water**,** chemicals, fuel and oils, packaging waste and hazardous waste. Waste generated on site will be managed as per the **Appendix 2.1**.

Staff Facilities

During the construction, operational and Decommissioning phases of the Project, there will be the typical waste generated in an office such as left-over food and sandwich wrappers. This is a non-hazardous waste. All such waste will be stored appropriately and safely from wind, rain and wild animals that often tear apart rubbish bags and disposed of via a licensed waste handler. Due to the low volume of such waste anticipated to be generated through the construction phase of the Project, the effects of this waste generation will be not significant as it will be of relatively small quantity and treated with residual residential waste at a licensed waste facility.

Waste generated on site is estimated to range between 0.005 kg and 0.189kg per person per day.[8]

Sewage

The self-contained port-a-loo units at the construction/Decommissioning phase will be managed and serviced regularly (by removal of the contents by tanker to a designated sewage treatment plant such as Drimoleague or Kealkill Wastewater Treatment Plant) and removed off site on completion of construction. Toilet waste is a non-hazardous waste and effects will be slightly significant.

The maximum wastewater production during construction is estimated to be the same as the maximum water consumption (1,000 litres per day)[9].

All wastewater will be tankered off-site by a licensed waste collector to the nearest wastewater treatment plant, (Drimoleague or Kealkill). There will be no on-site treatment of wastewater and effects will be not significant.

Concrete

The use of concrete (construction of Turbine Foundations, Substations etc.) onsite will have slight and permanent effects. It is expected that a small volume of concrete washout will be produced during the construction phase which will be collected in designated skip(s) in a bunded area located in the designated concrete washout facility at the contractor's

[8] Based on 1 hour a day within communal facilities. Worldwide, waste generated per person per day averages 0.74 kilogram but ranges widely, from 0.11 to 4.54 kilograms. (World Bank) Available Online: https://datatopics.worldbank.org/what-a-waste/trends_in_solid_waste_management.html [Accessed 22/11/2024]

[9]Table 3 of the EPA WW treatment Manual (Treatment systems for Small Communities, Business, Leisure Centres and Hotels), Environmental Protection Agency, 1999. Quarry (Excluding Canteen) best reflects a construction site. [Available online: https://www.epa.ie/publications/compliance--enforcement/waste-water/EPA_water_treatment_manual_-small-comm_business.pdf]

compound. The proposed location for the Temporary Construction Compound is south of the turbine locations as shown in **Figure 2.8** and the layout is shown in **Figure 2.2**.
Concrete structures will be left in place during Decommissioning and allowed to naturally revegetate over time. This is the least impactful process of Decommissioning. As the Site will have already been altered, the impacts are imperceptible and permanent.

Chemicals, Fuels and Oils

Oil waste and diesel are classified as hazardous waste/dangerous substance. There is no expected chemical/fuel/oil waste other than from rags and residual amounts in containers. Without mitigation, the effects would be slight and medium-term in duration. This would be in the form of leaching of chemical or fossil fuel contaminants into the soil, groundwater and/or surface waters on Site. However, through the implementation of the mitigation measures set out in **Section 13.10.7** of this chapter, the residual effects will be not significant in the construction/Decommissioning phase. The storage/use of such liquids is not seen necessary on site during the operational phase; thus, the effects are imperceptible.

Refuelling

Refuelling on site will only take place during the construction phase. As outlined in the CEMP, **Appendix 2.1** (**Waste Management Plan No. 3**), where possible all refuelling on site will be within the Temporary Construction Compound within the re-fuelling area. Only essential refuelling (e.g. cranes) will be carried out outside of this area, and has been mitigated by design. Some refuelling of cranes may be required (to a lesser extent) during the Decommissioning.
As such, the residual effects are not significant negative and temporary during the construction phase and not significant during the Decommissioning phase. There will be no need for refuelling during the operational phase and effects are imperceptible.

Packaging

Packaging will be brought on site during the construction, operational and Decommissioning phases and can include cardboard, wood and plastics used to package turbine components. Packaging waste will be dealt with in accordance with the European Union (Packaging) Regulations 2014 to 2022.

'A producer who supplies to another producer packaging material, packaging or packaged products shall comply with any reasonable request from the latter producer for data on the weight of the material or packaging concerned sufficient to enable the latter producer to comply with these Regulations.'

The occurrence of 10 kg of plastic per turbine blade, between 40 and 50 pallets and 50 to 60 cable drums are expected. This will be removed from site for re-use by an authorised person(s).

Plastic waste and damaged cable drums will be re-cycled at a licenced facility, as outlined in the CEMP, **Appendix 2.1** (**Waste Management Plan No. 3**). This waste is non-hazardous, much of which can be directly re-used (pallets and cable drums).

The effects of this waste will be slight negative and temporary during construction, imperceptible during Decommissioning phase, and imperceptible during operational phase.

Metals

During Decommissioning, it is expected that some steel will be removed from surface level concreted plinths supporting the turbine tower sections. Steel can be reclaimed for re-use in future steel making production where required. However, steel enclosed in the reinforced concrete Turbine Foundation bases will remain in-situ. This waste is non-hazardous, and effects of leaching into the soil and water table are considered Not significant due to the differential placing of steel set within the concrete foundation formations as well as the gradual nature of any natural breakdown products.

Turbine components will be reused or recycled where appropriate at time of Decommissioning.

Excavated Materials

Excavated materials will be required for habitat and ecological restoration, reprofiling and backfilling in accordance with the **Appendix 2.1**. As such, excavated materials will not be classified as waste except along the Grid Connection route.

An estimated 1,457.7m^3 of material will be excavated along the Grid Connection route. This material will be used as much as possible to backfill roads but where it cannot, it will be transported by an authorised waste permit holder to a local licensed waste disposal facility.

The effect of this will be not significant.

13.10.5 The 'Do-Nothing Impact'

If the Project were not to proceed, there would be no impact on the utilities or waste in the area.

13.10.6 Mitigation Measures - Utilities

Mitigation measures relating to existing water services have been assessed and are detailed in **Chapter 8: Hydrology and Hydrogeology** and referred to in **Chapter 5: Population and Human Health**. Confirmation of the location of water services within the Site and Grid Connection route will be sought immediately prior to construction taking place.

13.10.7 Mitigation Measures - Waste

Staff Facilities

Provision for separation of waste streams will be provided so that e.g., paper, and cardboard waste and bottles may be recycled. This waste will be appropriately stored to prevent exposure to wind, rain, and wildlife.

Sewage

It is proposed to install a rainwater harvesting system as the source of water for toilet facilities for the operational phase. Wastewater from the staff welfare facilities in the control building will be collected in a sealed storage tank, fitted with a high-level alarm. This is a device installed in a fuel storage tank that is capable of sounding an alarm, during a filling operation, when the liquid level nears the top of the tank.

Concrete

During the construction phase:

- Precast concrete will be used wherever possible i.e., formed offsite. Elements of the Proposed Development where precast concrete will be used have been identified and are indicated in the CEMP. Elements of the Proposed Development where the use of precast concrete will be used include structural elements of watercourse crossings (single span / closed culverts) as well as Cable Joint Bays. Elements of the Proposed Development where the use of precast concrete is not possible include Turbine Foundations and joint bay pit excavations. Where the use of precast concrete is not possible the following mitigation measures will apply.
- The acquisition, transport and use of any cement or concrete on site will be planned fully in advance and supervised at all times.
- Vehicles transporting such material will be relatively clean upon arrival on site, that is; vehicles will be washed/rinsed removing cementitious material leaving the source location

of the material. There will be no excess cementitious material on vehicles which could be deposited on trackways or anywhere else on site. To this end, vehicles will undergo a visual inspection prior to being permitted to drive onto the proposed site or progress beyond the contractor's yard. Vehicles will also be in good working order.

- Where shuttering is required to be installed in order to contain the concrete during pouring, it will be installed to a high standard with minimal potential for leaks. Additional measures will be taken to ensure minimal potential of leaking. These measures are the use of plastic sheeting and the use sealing products at joints.
- Concrete will be poured during meteorological dry periods/seasons. This will reduce the potential for surface water run off being significantly affected by freshly poured concrete. This works will be limited to dry meteorological conditions i.e. avoid foreseen sustained rainfall (any foreseen rainfall event longer than 4-hour duration) and/or any foreseen intense rainfall event (>3mm/hour, yellow on Met Éireann rain forecast maps), and do not proceed during any yellow (or worse) rainfall warning issued by Met Éireann. This also will avoid such conditions while concrete is curing, in so far as practical.
- Ground crew will have a spill kit readily available, and any spillages or deposits will be cleaned/removed as soon as possible and disposed of appropriately.
- Pouring of concrete into standing water within excavations will be avoided. Excavations will be prepared before pouring of concrete by pumping standing water out of excavations to the buffered surface water discharge systems in place.
- Temporary storage of cement bound sand (if required) will be on hardstand areas only where there is no direct drainage to surface waters and where the area has been bunded e.g., using sand-bags and geotextile sheeting or silt fencing to contain any solids in run-off.
- No surplus concrete will be stored or deposited anywhere on site. Such material will be returned to the source location or disposed of off-site appropriately.

Upon implementation of the above mitigation measures, the effects of the construction of the Proposed Development are considered to be not significant.

Chemicals, Fuels and Oils

All storage containers of over 200 litres will have a secondary containment of 110% capacity to ensure that any leaking oil is contained and does not enter the aquatic environment.

A Chemical and Waste Inventory will be kept. This inventory will include:

- List of all substances stored on-site (volume and description)
- Procedures and location details for storage of all materials listed

- Waste disposal records, including copies of all Waste Transfer Notes detailing disposal routes and waste carriers used
- Any tap or valve permanently fixed to the mobile unit through which oil can be discharged to the open or when delivered through a flexible pipe which is fitted permanently to the mobile unit, will be fitted with a lock and locked shut when not in use
- Sight gauges will be fitted with a valve or tap, which will be shut when not in use Sight gauge tubes, if used will be well supported and fitted with a valve
- Mobile units must have secondary containment when in use/out on site

Under the EU Directive 2008/68/EC/55/EC all such dangerous substances will be conveyed in a container that compiles with the ADR[10]. As such the manufacturer of each bowser will provide certification to contractors that the following:

- A leak-proof test certificate
- A copy of the IBC approval certificate
- An identification plate attached to the container

Where mobile bowsers are used on site, guidelines will be followed so that:

- Any flexible pipe, tap or valve will be fitted with a lock where it leaves the container and be locked shut when not in use;
- Flexible delivery pipes will be fitted with manually operated pumps or a valve at the delivery end that closes automatically when not in use. Where possible, a nozzle designed to dispense oil will be used;
- The pump or valve will have a lock and be locked shut when not in use.

For loads in excess of 1000 litres (220 gallons), the bowser vehicle driver will have undergone training and hold a special license.

Refuelling

During construction/Decommissioning, where possible all refuelling on site will be within the Temporary Construction Compound within the re-fuelling area. Only essential refuelling (e.g., cranes) will be carried out, outside of this area, but not within 65 m of any watercourse. In such cases a non-permeable High-density Polyethylene (HDPE) membrane will be provided beneath connection points to catch any residual oil during filling and disconnection. This membrane will be inspected and if there is any sign of oil contamination, it will be

[10] ADR, 2023 (European Agreement Concerning the International Carriage of Dangerous Goods by Road). https://unece.org/transport/standards/transport/dangerous-goods/adr-2023-agreement-concerning-international-carriage Accessed 29/01/2024

removed from site by a specialist licensed waste contractor. All vehicles will be well maintained and free from oil or hydraulic fuel leaks.

An Emergency Response Plan (ERP) (**Management Plan No. 1**) has been prepared and is contained in the CEMP (**Appendix 2.1**) and contains measures for dealing with an accidental spillage of chemicals, fuels, or other lubricants shall be prepared prior to works commencing and communicated to all operatives. The ERP will be further developed by the appointed contractor.

Packaging

In accordance with the waste hierarchy, packaging will be returned to the originator ahead of re-use or recycling. Where this is not possible, waste will be separated as appropriate and safely stored on site appropriately in anticipation of recycling.

Metals

Waste metals from concrete reinforcing during construction and removal of metals during Decommissioning etc. will have commercial value and will be re-used or recycled with the appropriate licensed waste contractor.

13.10.8 Residual Effects

The residual effect on the water infrastructure and services during the construction phase will be imperceptible during both the operational and Decommissioning phases. Effects will not be significant.

There will be no residual effect on gas infrastructure and services during the construction phase, operational phase and Decommissioning phase.

The residual effect on waste facilities is likely to have a short-term not significant negative effect during construction, a long-term imperceptible effect during the operational phase and short-term not significant effect during the Decommissioning phase.

13.10.9 Statement of Significance

There are no gas mains located within the Site Boundary. There is therefore no potential for impact.

Given the detailed information provided by Uisce Éireann regarding water services within the Redline Boundary, it is reasonable to conclude that there is no potential for interference with local water services during the Proposed Development. Based on this information, the risk of encountering existing water infrastructure is considered imperceptible.

Potential effects arising from the Project relating to existing water services have been assessed and are detailed in **Chapter 8: Hydrology and Hydrogeology**. No significant negative effects on the water infrastructure and services are anticipated. The effect due to the Project will be not significant.

There are no EPA-licensed or local authority-authorised waste facilities or activities located within the Site. The closest, authorised municipal waste facility is located approximately 18.3 km south-east of the Proposed Development in the townland of Codrum, Macroom, Co. Cork. A list of waste facilities within the vicinity of the Proposed Development has been included in **Appendix 2.1** (**Waste Management Plan No. 3**). Please see **Appendix A** of this Management Plan for registered facilities.

The residual effects of waste produced as a result of the construction, operational and Decommissioning phases of the Project are considered to be not significant.