Contents

Introduction

11.1 This Chapter of the Environmental Impact Assessment Report addresses the potential effects of a bio-renewables production facility (incorporating anaerobic digestion) on material assets at Killough Quarry.

11.2 The application site is comprised of c. 6.3 hectares within the southwest corner of the existing permitted Killough hard rock quarry, which has been in operation since the 1950's. To date, material extracted from the quarry area has been processed within the quarry void using mobile processing plant, then stockpiled, prior to further processing at other value added facilities in the wider quarry landholding (such as the concrete manufacturing facility, asphalt plant, limestone production facility and agricultural lime facility) or transported off-site to market.

11.3 It is located in Gaile townland, Holycross, Co. Tipperary, approximately 3.5km and 6.5km south of Holycross and Thurles respectively. The land interest and application areas are shown on **Figure 1-2** and **Figure 1-3** of this EIAR.

11.4 The area is currently occupied by processed aggregate stockpiles which will be relocated elsewhere within the quarry site prior to any development works associated with the proposed bio-renewables facility being carried out.

11.5 An existing single storey block constructed store building (c. 158m²) lies partially within the red line boundary area and it is proposed to demolish the store building to facilitate the proposed development, should planning permission be granted.

11.6 The planning application site area comprises the proposed bio-renewables production facility, buffer screening, ancillary facilities and site access via the existing permitted quarry entrance.

11.7 The proposed bio-renewables production facility (incorporating anaerobic digestion) compound will cover an area of c. 4 hectares with c. 16,821.5m² of new buildings consisting of an administration building; a dry matter reception building; a workshop; a bio-conversion building; a pre-treatment, equalisation and gas upgrading building; a digestate handling building; a warehouse storage building; a bio-filling station building; an odour abatement and pumping station building; a linear generator building; and an ESB sub-station building.

11.8 Ancillary facilities to be provided will include, a wheelwash; a weighbridge; surface water and fire water storage ponds; storage tanks for water, silage feed, cattle manure, pot ale and spent grain, maize, chicken litter and gas; effluent collection and storage tanks; staff and visitor car parking and bicycle storage; HGV parking; roof mounted solar panels; hydrocarbon interceptors; wastewater treatment equipment; bunding and surface treatments; boundary treatments and fencing; lighting; services; drainage; landscaping; and all associated ancillary works.

11.9 Details of the proposed site layout are shown on **Figure 2-2** at the end of Chapter 2 of this document. Key aspects include:

- Proposed development situated within the footprint of the existing permitted rock quarry at Killough which is owned and operated by Roadstone (i.e. not a greenfield site);
- A maximum tank height of c. 16 metres (gas storage balloon structure) and a maximum stack height of c. 17.5m (associated with the linear generator building);
- Facility will operate 24 hours a day / 7 days a week;
- Delivery of feedstock will be between the hours of 8am to 6pm Monday - Saturday / no deliveries Sundays or bank holidays;

- Feedstock importation will be c. 105,000 tonnes per annum consisting of:
  - Chicken Waste c. 15,000 tpa
  - Cattle Slurry c. 20,000 tpa
  - Grass Silage c. 60,000 tpa
  - Maize Silage c. 5,000 tpa
  - Pot ale and Spent Grain c. 5,000 tpa
- Outputs will consist of:
  - bio-methane (gas);
  - compressed bio-methane (bio-CNG);
  - carbon dioxide (CO_2);
  - electricity (green);
  - organic fertilisers (pelleted); and
  - water.

11.10 The adjacent Roadstone Killough Quarry plant will utilise the electricity, bio-methane and water generated by the proposed development. Pelletised fertiliser will be available for supply to local agriculture and traders off-site. CNG and CO_2 will be pressurised and stored for ongoing draw-off by tankers to points of re-use off-site.

11.11 Further details on the proposed development (site infrastructure, operations, environmental management systems, and controls etc.) are provided in Chapter 2 of this EIAR. **Table 2-1** in that chapter provides full details on design, layout, finish and dimensions of each plant component.

Scope of Work / EIA Scoping

11.12 Article 3(1) of the amended EIAR Directive provides the revised headings by which an EIAR is to be written. According to the EPA Advice Notes on Current Practice (EPA 2003):

"Resources that are valued and that are intrinsic to specific places are called 'material assets'. They may be of either human or natural origin and the value may arise for either economic or cultural reasons".

11.13 Under Schedule 6 of the Planning and Development Regulations 2001 (as amended), material assets are taken to refer to architectural and archaeological heritage, and cultural heritage.

11.14 The more recently published EPA guidelines in relation to the preparation of EIAR[1] note the following in respect of material assets:

"Material assets can now be taken to mean built services and infrastructure. Traffic is included because in effect traffic consumes roads infrastructure."

11.15 The specific headings in the guidelines in relation to material assets refer to built services, roads and traffic and waste management. Chapter 14 of this EIAR address transport and traffic aspects while Chapter 12 addresses architectural heritage, archaeological heritage and cultural heritage separately to this Chapter.

[1] Environmental Protection Agency (2022). *Guidelines on the Information to be contained in Environmental Impact Assessment Reports*.

11.16 This material assets impact assessment comprises the consideration of existing resources pertinent to the proposed development and the application site that are not addressed elsewhere in this EIAR and the likely development impacts on those resources. On this basis, this Chapter addresses built services and waste management. Built services are understood to refer to electricity, telecommunications, gas, water supply infrastructure and sewerage.

Consultations / Consultees

11.17 An initial pre-planning consultation meeting was held between officials of Tipperary County Council, the Applicant and their representatives on 20 November 2023.

11.18 In addition, an exercise was undertaken to identify potentially interested stakeholder organisations and a pre-planning consultation document was issued for their feedback in October 2024. Details of those consulted and feedback obtained is contained in Chapter 1 of this EIAR.

11.19 Feedback of most relevance to the assessment of material assets was received from the following:

- The Department of Housing, Local Government and Heritage referred to the wider area of known archaeological settlement and activity and emphasised the importance of the study area for the archaeological and cultural heritage assessment being of sufficient size and extent to reflect that. It also advised that the assessment must be carried out by a suitably qualified Consultant Archaeologist.
- Transport Infrastructure Ireland (TII) provided general advice on the methodology and guidance to be followed in assessing the impact on the road network and the importance of considering cumulative projects in the area in terms of road impacts. TII also highlighted that any improvements required to facilitate development, haul routes and requirements for abnormal loads should be clearly identified and assessed.
- Geological Survey Ireland (GSI) requested consideration of measures by the quarry operator to assist in achieving their geological heritage goals, such as allowing access to quarry faces and facilitating means of allowing wider appreciation of geological heritage with the wider public.
- Uisce Éireann provided advice on ensuring that water resources and infrastructure are safeguarded during all stages of development, and that any new requirements for connection to existing infrastructure are clearly identified.
- The Health and Safety Authority (HSA) highlighted the need to consider whether the project would come within the scope of the Control of Major Accident Hazard Regulations 2015 and requested that the body be notified once a planning application has been submitted.

11.20 A public consultation exercise was undertaken in June 2024. Letters were sent to a total of 89 local residents (dated 10 June 2024), advising of the upcoming planning application and notice of an information drop-in session to be held between 4pm and 8pm at the Horse and Jockey Hotel on 25 June 2024. The letter drop covered all residences within 1500m along with additional residences between 1500m and 2km to the northwest, southwest and east.

11.21 The event was advertised in the local newspaper, the Tipperary Star, on two consecutive weeks (13 June 2024 and 20 June 2024) in advance of the event.

11.22 Details of the proposed development were available to view at the public event, and Roadstone personnel and their planning advisors were present to address any questions. Anybody with any observations or feedback were invited to submit same either in person at the public information session or via email to info@roadstone.ie up until 26 July 2024.

11.23 **Table 11-1** below provides an outline of key material asset issues and concerns raised in respect of the proposed development in the course of the public consultation event.

Table 11-1: Key Material Asset Concerns raised during Public Consultation

Issue Arising	Detail of Concern
Traffic & Road Infrastructure	• Number of HGV's the new development will generate / existing HGV numbers associated with the quarry • Local roads being too narrow, and which already accommodate quarry traffic and difficulty to pass HGVs. Some existing HGV traffic using areas outside dwelling entrances as passing bays • Operating times of HGV accessing the site. Reports that HGVs arrive at the gate outside of permitted hours • Safety concerns about walking, cycling on the local roads and existing HGV drivers giving very little respect to residents • What are the traffic routes for the extra HGVs
Water Management	• Most people on local wells and will they be affected • Concerns that Roadstone won't control the plant and therefore have no accountability if there is an issue/complaint - who will be accountable?
Feedstock	• Queries raised on the types of feedstock - would any animal waste / human sewerage be used in the facility • Would the supply of agricultural feedstock - silage / maize impact on land values and compete with existing agricultural enterprises • How would feedstock be delivered to the plant - from individual farms or hubs
Risks to Built Infrastructure	• Potential risk of gas explosions arising from gas storage at the plant • Potential impact of blasting operations in the quarry on the plant operation

11.24 Consultation has been undertaken directly with EIA specialist contributors such as water, noise, air, cultural heritage and traffic in the preparation of this chapter.

11.25 In addition, consultation has been also undertaken with utility service providers in the course of this assessment to identify the infrastructure resources on and around the application site.

Contributors / Author(s)

11.26 This assessment has been carried out by Lynn Hassett, an Associate with SLR Consulting Ireland. Lynn is an EIA co-ordinator with a BSc in Applied Ecology (2000) and a MSc in Environmental Impact Assessment (2001). She has 15 years of experience in EIA across the not-for-profit, public and private sectors in the UK and Ireland. She has worked on both the review of EIA on behalf of planning authorities assessing applications and in the production of them to support planning applications being lodged. She is a Practitioner member of the Institute of Environmental Management and Assessment, which she is a member of since 2001. She is also a Full Member of the Institution of Environmental Sciences, which she joined in 2023.

11.27 Lynn has acted as a project manager of the EIA process on a number of urban development, wind and quarry projects with responsibility for the co-ordination between project designers and the entire multi-disciplinary environmental team. As a generalist, she has also written the introductory chapters of a large number of EIARs, including the Introduction, Project

Description, Alternatives, Population and Human Health, Material Assets, and Major Accidents and Disasters, co-ordinating with the wider EIA team for input.

Limitations / Difficulties Encountered

11.28 No limitation or difficulties were encountered in the preparation of this Chapter of the EIAR.

Regulatory Background

Guidelines and Technical Standards

11.29 This chapter of the EIAR has been prepared on the basis of the following:

- Guidelines on the Information to be Contained in Environmental Impact Assessment Reports (Environmental Protection Agency, May 2022);
- Advice Notes on Current Practice in the Preparation on Environmental Impact Statements (Environmental Protection Agency, 2003);
- Environmental Impact Assessment of Projects: Guidance on the preparation of the Environmental Impact Assessment Report (European Commission, 2017); and
- Guidelines for Planning Authorities and An Bord Pleanála on Carrying Out Environmental Impact Assessment (Government of Ireland, August 2018).

11.30 There are no technical standards relevant to this Chapter of the EIAR.

Legislation

11.31 There is no specific legislation relevant to this Chapter of the EIAR. However, the information provided within this Chapter is informed by:

- Section 37D and 171A of Planning and Development Act, 2000 (as amended);
- Article 94 and Schedule 6 of Planning and Development Regulations, 2001 (as amended); and
- European Union (Planning and Development) (Environmental Impact Assessment) Regulations 2018.

Planning Policy and Development Control

11.32 This Chapter of the EIAR is informed by the National Planning Framework (NPF) 2040[2], the Regional Spatial and Economic Strategy for the Southern Region and the Tipperary County Development Plan 2022 - 2028 (TCDP).

11.33 The July 2024 Updated Draft Revised NPF on page 125 sets out some of Governments responses to the climate crisis and, as such, refers to the BioEconomy Action Plan 2023-2025.

11.34 The concept of 'Circular Bioeconomy' is promoted in the Draft Updated NPF, with the potential for conversion of biological waste streams into value added products such as bioenergy, meaning their value is maintained in the economy as long as possible, waste is minimised, and a transition to a low carbon, resource efficient and competitive economy is supported. The associated opportunities for the sector to sustain rural employment and the national economy are also acknowledged.

[2] Draft First Revision to the National Planning Framework (issued July 2024)

11.35 The BioEconomy Action Plan 2023-2025 identifies the bioeconomy as a key element in the transition to climate neutrality, and an area of new opportunity, business models, value chains and means of diversification for the agricultural sector which is struggling to maintain its competitiveness in a changing world.

11.36 The Regional Spatial and Economic Strategy for the Southern Region also contains a Regional **Policy Objective (RPO 58)** to:

"*facilitate the development of the rural economy through supporting a sustainable and economically efficient agricultural and food sector, together with the bioeconomy, subject to required environmental assessment processes where necessary and balanced with the importance of maintaining and protecting the natural landscape*."

11.37 The development of a sustainable rural economy based on agriculture, the bioeconomy and renewable energy production is highlighted at the beginning of the TCDP 2022-2028. Planning **Objective 10-E** specifically aims to:

"*Support the diversification of the agriculture sector as part of decarbonisation, and its role in energy production, including anaerobic digestion and green gas production*".

11.38 Planning **Objective 3-E** aims to:

"*Support, in collaboration with stakeholders, research and innovation in smart renewable energy technologies and initiatives to accelerate diversification away from fossil fuels*".

11.39 Chapter 15 of the TCDP 2022-2028 provides the policy background in relation to ensuring appropriate investment in water and energy infrastructure to keep up with economic development and growth of settlements.

11.40 The Plan states that there is an extensive public water supply across the county as well as an extensive and high capacity, gas and electrical network which provide energy and heat as well as an opportunity to expand and develop the County's renewable energy output. Page 154 of the TCDP provides details to show that Tipperary is a strong net exporter to the national grid.

11.41 Reference is made to the proposed 'Water Supply Project Eastern and Midlands Region' which will be relevant to Tipperary and an opportunity to resolve needs across a number of water supplies in north Tipperary, which would be facilitated by a future new connection point from the proposed pipeline.

11.42 The TCDP states that the Council will support the major service providers including EirGrid, ESB Networks and Gas Networks Ireland, where it is proposed to enhance or upgrade existing facilities or networks, or provide new infrastructure in order to extend or strengthen energy supply to meet demand and meet climate reduction targets. Planning **Objective 15-E** is to:

"*Support the sustainable development, maintenance and upgrading of electricity and gas infrastructure, by network providers, to enable the integration of renewable energy sources and enable an energy system that is safe, secure and adaptable*."

11.43 The Council seeks, in collaboration with utilities providers, to support the development of water and energy utilities to enable the delivery of its Core Strategy. In order to support the wider planning policy set out in Chapter 15, the Development Management Standards set out in Volume 3 of the TCDP contain sustainability checklists that include waste water and water services infrastructure questions to ensure appropriate connections are facilitated.

Receiving Environment

Site Context

11.44 The application site is situated in a rural area, approximately 3.5km and 6.5km south of Holycross and Thurles respectively. It is located wholly within the townland of Gaile, Holycross, Co. Tipperary, and within the existing footprint of the Killough quarry development, owned and operated by Roadstone Limited, refer to **Figure 1-1**. The quarry has been in operation since the 1950's.

11.45 Beyond the application site, the overall Roadstone landholding (c. 108.3 hectares) encompasses a large portion of Killough Hill, a limestone escarpment which lies within the otherwise flat plain stretching several kilometres to the east and west of the River Suir. The north slope of the hill is steep whilst the southern side, and application area is a gentle slope.

11.46 The land immediately surrounding Killough Hill lies at levels of between 110 and 120m AOD. Over a distance of 3.5km to the west of the hill the land falls very gently towards the River Suir to levels just under 80m AOD. Killough Hill which reaches a maximum height of approximately 215m is the only noticeable highpoint within the general area.

11.47 The existing main extraction void of the quarry at Killough Hill covers approximately the southern three quarters of the hill. To the immediate northwest, north and east of the void, the land slopes fairly steeply towards the surrounding plain, covering a height difference of between 50-80m over a distance of less than 200m. These steep slopes are covered by conifer and mixed woodland. To the immediate southeast and south of the void the land slopes slightly less steeply and is made up from pasture as well as some woodland scrub areas. To the immediate southwest of the void the quarry processing facilities are located at levels between 140m AOD and 170m AOD.

11.48 The flat landscape surrounding Killough Hill is almost exclusively made up from agricultural land (mostly pasture interspersed with some arable fields). The fields, which are usually enclosed by hedgerows, are also variable in size.

11.49 The main transport route within the area is the M8 motorway, approximately 2.5km to the southeast of the site. There are also a number regional routes in the area, the R659 and R660, east and south of Holycross respectively; and the R639, the former N8, just east of the M8). Access from the site to the primary road network is via c. 2.5 km of local road onto the M8 Motorway between Urlingford and Cashel.

11.50 Existing land use and residential development in the vicinity of the application site is shown in **Figure 11-1**.

Study Area

11.51 For the purposes of this assessment, the study area principally comprises the application site and its immediate surrounds to within a 1 km radius. The study area was selected to ensure that all built service infrastructure within the surrounding area of the application site was identified and to ensure that any associated structures or inter-reliance in the immediate surrounding area were considered if appropriate.

Baseline Study Methodology

11.52 The baseline study in respect of Material Assets comprised a desk-top review of online and published resources, information provided by the Applicant and information contained in the other Chapters of this EIAR. Tailte Éireann (formerly Ordnance Survey Ireland) maps and aerial photography of the local area were also examined.

Sources of Information

11.53 All baseline information which was not contained within other chapters of this EIAR was obtained from the following resources:

- Myplan.ie (www.myplan.ie);
- Historic Environment Viewer (www.webgis.archaeology.ie/historicenvironment);
- Tipperary County Development Plan 2022-2028;
- Tailte Éireann (Osi) Maps;
- Aerial photography;
- Open Streetmaps (www.openstreetmaps.org); and
- Information on infrastructure supplied by utility providers as identified in this chapter.

Infrastructure

Access and Roads

11.54 The existing quarry is accessed by a dedicated paved site access road which spurs off the local L1309 road to the south of the Roadstone landholding. The access is c. 2.5 km west of the R639 (former N8 road), which crosses under the M8 motorway at that location. The access is c. 3.6 km east of the R660 regional road.

11.55 There are also a number of regional and national routes in the area, the R659, the N62 and N75, north of the quarry.

11.56 Junctions 6 and 7 are the closest merging opportunity with the M8 motorway.

Water Supply

11.57 There is no mains water supply to the quarry or surrounding area. Process water is reused in a closed loop system at the existing quarry and is supplemented with precipitation run off that is collected from on-site roofs and hardstanding in a sealed pipe network for onsite water top-up requirements along with supply from existing on-site groundwater wells.

11.58 The Geological Survey Ireland (GSI) database shows a number of wells within a 2 km radius of the site, which abstract from the regionally important Rkd karstified bedrock aquifer and the locally important Ll bedrock aquifer (refer to Chapter 7).

11.59 The closest GSI recorded well is an industrial well located at the entrance of the quarry (GSI name 2015SWW137). This well reports a depth of 96m with no info on the depth to rock. The yield class is noted as excellent (491 m³/day).

11.60 The next closest set of wells are located west of the site. There are three wells, one domestic (GSI name 2015SWW005) and two of which the use for are unknown (GSI name 2015SWW135 and GSI name 2015SWW136). The domestic well has a depth of 96m with no information on the depth to rock. The yield class is noted as excellent (490 m³/day). Well 2015SWW135 has a depth of 40.8m and a depth of bedrock of 1.8m. It is classified as a failure with a yield of only 1.6 m³/day. Well 2015SWW136 has a depth of 34.7m and a depth to bedrock of 0.9m. The well is classified as poor with a yield of 6.5 m³/day.

11.61 There are several other wells within 2km of the site which are of domestic use or of unknown use that range from having a yield class of poor to moderate.

11.62 There is the Ash Hill Group Scheme Source Protection Area located c. 2.5km east of the site. The closest Group Water Scheme (GWS) is located c. 2km northeast of the site, the Graigue-Moycarkey GWS. The Graigue-Moycarkey GWS well has a depth of 76.2m with

no info on the depth of rock. The yield class is noted as good (327.30 m³/day) and has a productivity class of III. There is no public supply source protection area within the vicinity of the proposed site, the closest is Tobernaloo Public Water Supply (PWS) c. 7km north of the site.

11.63 There are ten groundwater well locations on the overall quarry site, three of which have pumps installed and groundwater is regularly abstracted from them for use as process water and for welfare purposes. A groundwater monitoring programme is in place, whereby groundwater levels and quality are measured and recorded.

11.64 Drinking water is imported to site by way of bottled water.

Utilities

11.65 Electrical power is currently supplied to the overall site through a substation in the south on the quarry site. It is connected to the wider ESB network via a 10KV/20KV overhead line approaching the site from the south. There is a further substation supplying the lime plant c. 200m to the east, which is also connected via underground cable to the wider ESB network via a 10KV/20KV overhead line approaching from the southeast. In general, the ESB high voltage network in the area surrounding the quarry is represented on **Figure 11-1** as an overhead 110KV supply crossing the landscape south and east of the quarry. Individual connections to properties appear to be from lower voltage (400V/230V) overhead lines linked to the wider overhead network. The overhead power line runs along the edge of Killough Hill / forestry area in a north-south direction, connecting with properties in those areas. **Appendix 11-A** shows the details from an ESB Networks search which shows the location of the 10KV/20KV overhead lines in the vicinity of the application site.

11.66 **Appendix 11-B** shows the results of an online Dial Before You Dig search on the Gas Networks Ireland website[3]. There is no gas infrastructure on or near the quarry site. The nearest high transmission pipeline is c. 25 km south of the quarry near Clonmel.

11.67 A review of Eir's online civil engineering maps[4] shows no telecommunication infrastructure within or immediately surrounding the application site. There is a pole network visible along the local roads to the south, east and west of the quarry.

Settlements and Housing

11.68 Local residences, most of which are linked to adjacent agricultural/equine enterprises, are indicated on **Figure 11-1**. Residential development is sparsely dispersed, predominantly along the local road network. There are c. 22 residences located within c. 1km of the red line application boundary, of which 12 residences are located within 500m. The designated national monument of Ballytarsna Castle is situated c. 140m east of the site. It is a 15th century fortified tower house, which was restored for residential use at the beginning of this century. Killough Castle is a large arable and pasture farm holding directly to the north of Killough Quarry. As well as representing residential receptors, both of these historical buildings are culturally important features of the landscape.

Local Enterprise

11.69 Farm based businesses are the principal sources of economic activity in the area surrounding the application site. There are also likely to be a number of small home or farm based rural enterprises operating out of local residential properties in the area.

[3] https://www.gasnetworks.ie/home/safety/dial-before-you-dig/dbyd/
[4] https://cei.openeir.ie/emaps/index.html#/map/52.607207,-7.844241,15z

11.70 There are limited tourism amenities in the Study Area, although the rural isolation is likely to attract local walkers. Holycross Abbey is the closest tourist attraction, c. 3.5km northwest of the existing quarry site.

Waste Management

11.71 There is limited waste being generated at the site. Any waste currently generated is handled in accordance with Roadstone Limited's general quarry management procedures.

Fuel Supply

11.72 The application site is situated within a rural area which is surrounded by agricultural enterprises. The functioning of the AD plant will be reliant on the importation of feedstocks from agricultural wastes.

Existing Land Use

11.73 The entire Killough Hill area is a designated County Geological Site (CGS) resource and a proposed Natural Heritage Area (pNHA) as a result of its important representation of fresh and extensive exposures of limestone of the Ballyadams Formation. The northern extremity of the quarry area, and the flanks of the ridge around it, have been designated a proposed Natural Heritage Area (pNHA) (sitecode 000959) owing to the presence of limestone pavement and calcareous grassland there.

11.74 **Figure 11-1** shows the entirety of the application site categories as artificial surfaces or an area of mineral works as per Corine (2018) land use definitions.

11.75 Similarly, the majority of the Roadstone landholding is categorised as Artificial Surfaces, with the northern area of Killough Hill being classed as a Forest and Semi-Natural area.

11.76 The majority of lands surrounding the quarry are classed as Agricultural Pasture land, with some Arable Agricultural land recorded to a lesser extent.

11.77 None of the lands in the immediate vicinity of the application site which are currently used for agricultural, forestry (or past extractive) purposes are zoned for any specific form of future development in the CDP.

Other Receptors

11.78 Gaile national school is located c. 1.4km west of the site. The local school is considered to be sufficiently distant from the proposed development so as to not be impacted.

Impact Assessment

Evaluation Methodology

11.79 The evaluation of effects on built services and waste comprises a qualitative assessment based on an analysis of potential effects on the environment undertaken in other chapters of this EIAR. The assessment was carried out in accordance with the guidelines identified at the outset of the chapter and tailored accordingly based on professional judgement. Assessments of significance follow the terminology regarding significance of effects set out in the EPA (2022) Guidelines on the Information to be Contained in Environmental Impact Assessment Reports and set out in **Table 11-2** below.

Table 11-2: Definitions of Significance suggested by EPA (2022) EIAR Guidelines

Level of Significance	Suggested Definition
Imperceptible	An effect capable of measurement but without significant consequences
Not Significant	An effect which causes noticeable changes in the character of the environment but without significant consequences
Slight Effects	An effect which causes noticeable changes in the character of the environment without affecting its sensitivities
Moderate Effects	An effect that alters the character of the environment in a manner that is consistent with existing and emerging baseline trends
Significant Effects	An effect which, by its character, magnitude, duration or intensity, alters a sensitive aspect of the environment
Very Significant	An effect which, by its character, magnitude, duration or intensity, significantly alters most of a sensitive aspect of the environment
Profound	An effect which obliterates sensitive characteristics

11.80 Industry specific guidance on Project Type 31 (including installations for the disposal of waste) within the 2003 EPA advice notes has been considered. The focus of the assessment is, as stated earlier, on built services and waste management. It has, however, been extended to include a summary review of access and roads (as assessed in Chapter 14) and a review of enterprise and other assets that have not been addressed elsewhere in the EIAR.

11.81 Other Material Assets which have the potential to be impacted by the proposed development are addressed in the following EIAR chapters:

- Amenities (Chapter 4, Population and Human Health; Chapter 12 Cultural Heritage; and Chapter 13, Landscape);
- Utilities and Infrastructure (Chapter 7 Hydrology and Hydrogeology);
- Transport Infrastructure (Chapter 14 Traffic and Transport);
- Cultural Heritage (Chapter 12); and
- Visual Amenity (Chapter 13).

Infrastructure

Construction Stage Impacts – Roads

11.82 The 18-month construction stage of the proposed development is anticipated to generate approximately 60 daily light vehicle trips and 6 daily HGV traffic movements over the existing public local road network.

11.83 **Table 14-3** of Chapter 14 provides an assessment of the additional traffic with background traffic taken into account in the construction years and determined that all roads and junctions will continue to operate within capacity for each of the assessment years. Visibility at the site access junction is considered appropriate and fit for purpose. Management measures relating to championing considerate HGV routing and etiquette are recommended to reduce the residential amenity impacts of the local population.

11.84 Therefore, it is concluded that the development will have an imperceptible impact in accordance with **Table 11-2**.

Operational Stage Impacts – Roads

11.85 The operational stage of the proposed development is anticipated to generate approximately 40 daily light vehicle trips and 76 daily HGV traffic movements over the existing public local road network.

11.86 **Table 14-3** of Chapter 14 provides an assessment of the additional traffic with background traffic taken into account in a range of construction years and determined that all roads and junctions will continue to operate within capacity for each of the assessment years. Visibility at the site access junction is considered appropriate and fit for purpose. Management measures relating to championing considerate HGV routing and etiquette are recommended to reduce the residential amenity impacts of the local population.

11.87 Therefore, it is concluded that the development will have an imperceptible impact in accordance with **Table 11-2**.

Construction Stage Impacts – Water Resources

11.88 Precautions / mitigation measures will be implemented to ensure that any potential impact of site-based activities on local surface waters and groundwater underlying the application site (e.g. accidental oil or fuel spills) is minimised in order to safeguard and protect potential surface water and groundwater resources.

11.89 During construction, all waters will be captured, pumped to storage with in-line quality monitoring and then pumped for reuse in the anaerobic digestion process or off site for reuse by the Killough Quarry and for welfare facilities.

11.90 There will be no impact on water supply arising from construction works given the lack of public or private supply pipe infrastructure in the area and there will be no additional requirement for water importation for construction. Drinking water will be supplied by means of bottled water.

11.91 A temporary contractors compound will be required for the duration of the construction phase works. This will include the temporary staff welfare facilities and will be located within the red line boundary application area. Toilet facilities will be through a serviced portaloo, whereby waste will be removed and disposed of by an authorised waste contractor.

11.92 Therefore, it is concluded that the development will have an imperceptible impact in accordance with **Table 11-2**.

Operational Stage Impacts – Water Resources

11.93 Precautions / mitigation measures will be implemented during operation to ensure that any potential impact of site-based activities on local surface waters and groundwater underlying the application site (e.g. accidental oil or fuel spills) is minimised in order to safeguard and protect potential surface water and groundwater resources.

11.94 During the operational stage, the existing quarry water supply wells will be decommissioned. The groundwater level in the monitoring boreholes has been measured at depths of >20m bgl. The groundwater level in the regionally important bedrock aquifer beneath the facility will rise following the decommissioning of the water supply wells.

11.95 As with the construction stage, process water and precipitation will be reused and not discharged to outfall. On site water will be captured, pumped to storage with in-line quality monitoring and then pumped for reuse on site in the anaerobic digestion process or to the adjacent quarry site for re-use. Drainage networks are presented in Chapter 7 and are not dependent on any off-site infrastructure. Several storage tanks and silos will be located throughout the site which will hold water for reuse in the anaerobic digestion process and water for use in the adjacent concrete batching plant at the quarry. Surface water runoff

and roof water will gravitate to the surface water pond for use as dust suppression water by the adjacent quarry site.

11.96 There will be no additional requirement for water supply arising from the operation of the development. Drinking water will be supplied by means of bottled water. There is no requirement for a groundwater supply to the plant. There is no requirement for a connection to any Irish Water infrastructure.

11.97 Waste water from welfare facilities will gravitate to a collection tank, which will be roofed and with an adsorption roof filter, submersible mixer and sealed tanker connection to prevent any odour emission. It will be drawn off site once every two weeks for treatment at an existing sewage works by agreement with a licenced contractor.

11.98 Similarly, the laboratory facility will be plumbed separately to a holding tank for collection and removal off site by a licensed contractor.

11.99 Therefore, it is concluded that the development will have an imperceptible impact in accordance with **Table 11-2**.

Construction Stage Impacts - Utilities

11.100 The proposed construction of the facility is not likely to give rise to any short-to-long term impacts on services / utilities.

11.101 The existing ESB substations on the quarry site will continue to be used. A new substation is proposed within the redline application site boundary to service the bio-renewables facility and will be constructed in accordance with ESB specifications.

11.102 Notwithstanding the lack of above and underground utility service infrastructure in the proposed area of works that has been identified in this assessment, best practice construction methods will be followed to ensure that due caution is taken with regard to the possibility of encountering undocumented pipes/wires.

11.103 It is concluded that the development will have an imperceptible effect in accordance with **Table 11-2**.

Operational Stage Impacts - Utilities

11.104 The two existing ESB substations on the wider quarry will not be impacted by the proposed development. A new substation will be provided within the application site in accordance with ESB specifications (see Chapter 2 for text and drawing details). This will facilitate connection between the proposed development and the national grid.

11.105 The proposed development will convert a proportion of the biomethane produced directly to electricity for use by the adjacent Roadstone quarry operations without passage through the mains grid. In addition to the above electricity generation, solar photovoltaic (PV) modules are included upon the roof structures of the administration, dry reception, bio-conversion and pre-treatment buildings, covering a total surface area of c. 10,565m^2 with anticipated electricity generation of between 1.5 to 1.8 GWh per annum.

11.106 The biomethane diverted to provide an electrical supply to Killough Quarry will be split to a series of linear electricity generators which can provide electrical supply without waste gas emission and this process will be carried out in the proposed Linear Generator Building (see Chapter 2 drawings and text).

11.107 There is no gas infrastructure in or around the application site, and none will be required. Any compressed gas to be exported off-site will be tankered.

11.108 It is intended that employees at the site will use mobile telephones and there will be no requirement for connecting to the telecommunication infrastructure.

11.109 The enhancements to existing infrastructure and the contribution of the proposed development to a transition to renewable energy and a circular bioeconomy is considered to represent an effect of moderate significance.

Waste

Construction Stage Impacts

11.110 Construction wastes will be managed in accordance with the Construction Environmental Management Plan (CEMP) and will be disposed of through contract with authorised waste collectors.

11.111 Any vegetation to be cut and removed off site during the site establishment or subsequent construction operations will be managed by a landscape contractor and brought to an authorised waste recycling facility.

11.112 It is concluded that the development will have an imperceptible effect in accordance with **Table 11-2**.

Operational Stage Impacts

11.113 By its nature, the proposed development will be a waste management facility in its own right.

11.114 All agricultural wastes entering the facility will be required to meet strict feedstock acceptance procedures and complying with Environmental Protection Agency (EPA) and Department of Agriculture, Food & Marine (DAFM) license conditions and will be strictly monitored as set out in Chapter 2.

11.115 Under the IE licence that will be required following the grant of planning permission, there will be strict requirements on management and recording of all waste streams (including general, domestic and recycling) generated by the development on an annual basis.

11.116 Given the maximised use of agricultural use to produce renewable energy, and the contribution this represents to the circular economy, it is concluded that the development will have an effect of moderate significance in accordance with **Table 11-2**.

Fuel Supply

Operational Impact

11.117 The silage, maize and slurry feedstocks will be supplied locally, and consideration will be given to supply within a radius of less than 20 km approximately. This feedstock approach increases the potential output of farming in the region and individual contracts will be concluded on the basis of unit feedstock values.

11.118 AD can process a broad spectrum of feedstock from various sources. In principle, any biodegradable organic matter can be anaerobically digested to produce biogas.

11.119 An SEAI (2016) study into bioenergy supply in Ireland[5] found that, under favourable conditions with high market prices for bioenergy resources and mitigation of supply-side barriers, the total amount of bioenergy produced in Ireland could reach 3,290 ktoe (138 PJ) by 2035, compared to total primary energy demand of bioenergy, including imports, of 468 ktoe (19.6 PJ) in 2014.

[5] https://www.seai.ie/sites/default/files/publications/Bioenergy-Supply-in-Ireland-2015-2035.pdf

11.120 The study found that agricultural and municipal wastes, along with other by-products, are typically available at low or even negative cost where disposal in landfill is avoided.

11.121 The latest (2021) International Energy Agency Bioenergy country report[6] on the implementation of bioenergy in Ireland found that about one third of renewable energy at that time came from biomass, with renewables making up 11% of the total energy supply in Ireland. Waste, industry residues, and agricultural residues were most in focus for biomass growth potential. The Agency's 2023 Annual Report stated major challenges for the development of the sector being the costs of energy from biogas, the acceptance of the technology and discussion about sustainability. The need for close integration with agricultural practice is also noted.

11.122 In developing proposals for the site, technical investigations have been carried out in relation to the application site's suitability and feasibility of the AD plant in this location and the available capacity for the scale of agricultural wastes required to feed it was confirmed.

11.123 The 20km radius of the proposed development was estimated to include 133,477 hectares of agricultural land with average farm size of 45 hectares. The estimated requirements of the proposed AD plant would utilise 1.7%, 0.25% and 48% of the present indicative potential production grass silage, maize and bovine slurry respectively.

11.124 The Renewable Energy Directive (RED) (2009/28/EC) is the legal framework for the development of clean energy across all sectors of the EU economy. A revised RED Directive, RED II (EU/2018/2001) subsequently defined a series of sustainability and GHG emission criteria that bioliquids used in transport must comply with to be counted towards overall renewable energy targets and to be eligible for financial support by public authorities. Some of these criteria were the same as in the original RED, while others are new or reformulated. In particular, the RED II introduces sustainability for forestry feedstocks as well as GHG criteria for solid and gaseous biomass fuels. RED II was transposed into Irish Law through SI 350 in 2022, which will apply to the Killough facility. Under the Irish transposing regulations (SI 350) the SEAI is the competent authority for verifying that participants in receipt of support, or having biomass fuel count towards a renewable energy obligation in accordance with requisite procedure[7].

11.125 A subsequent revision to the Directive (RED III) (EU/2023/2413) has come into force in 2023 given the need for speed of the clean energy transition. It contains higher targets for renewable energy consumptions (a 12.5% increase up to 42.5%) by 2030, measures and Member State requirements to achieve these increases and reinforcement of the sustainability criteria for feedstocks for bioenergy projects. Full transposition of RED III is required by May 2025.

11.126 Ireland's National Biomethane Strategy (2024) states that, for biomethane from AD plants to be classified as a zero-carbon renewable fuel, the RED II criteria stipulate that biomass fuels produced from agricultural biomass cannot be derived from raw material obtained from (1) land that was formerly peatland; (2) lands with a high biodiversity value; or (3) lands with a high carbon stock. In addition, RED II requires that all biomass fuels used for electricity, heating and cooling must achieve at least a 70% GHG emission saving, increasing to 80% for installations that start operating from 2026.

11.127 The Renewable Energy Directive's sustainability criteria must be applied by biogas facilities beyond 200 Nm^3/h of installed capacity. The Biomethane Sustainability Charter will set similar guidelines for plants that fall outside the RED threshold, if any of that scale are developed in Ireland. They include substantial GHG emissions savings calculated along the supply chain and the guarantee that biomass sourcing has a minimum impact on

[6] https://www.ieabioenergy.com/blog/publications/2021-country-reports/
[7] https://www.seai.ie/sites/default/files/2024-10/Guidance-for-the-Verification-of-Biomass-Sustainability.pdf

biodiversity and soil quality. Compliance with such criteria is necessary to qualify as renewable, to be eligible for any potential financial support, and to be zero-rated under the EU emissions trading system. To demonstrate compliance with such criteria, biogas and biomethane producers must certify their production with one of the European Commission's recognised voluntary schemes.

11.128 Gas Networks Ireland (GNI) commissioned a study[8], which was published in 2021 and found that under 3 scenarios tested it will be possible for Irish agricultural-led AD plants to produce biomethane which meets RED II sustainability criteria so long as an appropriate feedstock mix is used which includes a sufficient proportion of slurry. It also found evidence to strongly suggest that Ireland has both the technical capacity and capability to produce sufficient feedstock to supply an indigenous biomethane industry if improved efficiency across land already in agricultural production was implemented.

11.129 Roadstone will attain verification from SEAI on sustainability criteria of their biomass feedstock in line with RED II/III requirements.

11.130 The proposed development and associated fuel supply will support the delivery of national policy objectives for the development of renewable energy and the circular economy. It will therefore represent a beneficial effect of moderate significance on the availability of renewable energy infrastructure. This according to the EPA (2022) guideline definition is an 'effect that alters the character of the environment in a manner that is consistent with existing and emerging baseline trends'.

Future Land Use, Settlements and Local Enterprise

11.131 The proposed land use is in line with the existing Corine definition of land use in the application site.

11.132 The proposed development will support agricultural activities, which is by far the predominant land use in the surrounding area, with agricultural dwellings co-existing with agricultural enterprise. The support of both the bioeconomy and the diversification opportunities for the agricultural sector are in line with the main objectives of the TCDP 2022-2028.

11.133 It is concluded that the development will have an effect of moderate significance in accordance with **Table 11-2**.

Cumulative / Synergistic Impacts

11.134 A search of the Tipperary County Council and An Bord Pleanála's online planning search facilities was undertaken to identify any potential cumulative projects that have been or may be granted within the last five years in the vicinity of the proposed development.

11.135 The majority of planning permissions granted within that search time /radius relate to small-scale agricultural and domestic projects.

11.136 There are a number of existing / proposed renewable energy projects in the County. Uisce Éireann, working in partnership with Tipperary County Council, completed 230 solar panels to power a new water treatment plant in Thurles in December 2020.

11.137 The County is also host to the National Bioeconomy Campus at the former site of Lisheen Mines. Recently a plan has been announced for a 40 GWh anaerobic digestion plant that would be supplied by 250-300 farmers.

[8] https://www.gasnetworks.ie/biomethane-sustainability-report-2021.pdf

11.138 Killough Solar is a proposed solar farm which is currently at consultation stage directly north of Killough Quarry. It has an estimated capacity to deliver approximately 100MW of solar power comprised of low-density PV panels covering 100 hectares, c. 40% of the Killough Castle 247 hectare land holding.

11.139 The development of the renewable energy in the County at scale is considered to be a positive in terms of advancing the knowledge economy and viability of projects. It is considered that the range of projects is compatible and an appropriate response to the climate crisis.

Transboundary Impacts

11.140 Given the location and site context of the application site, it is not anticipated that the impacts of the proposed development will have any significant transboundary effects on material assets.

Interaction with Other Impacts

11.141 It is not anticipated that the effects of the proposed development on material assets will interact significantly with other impacts.

'Do-nothing Scenario'

11.142 If planning permission is not approved for the proposed development, the existing land use would continue, the application site would continue to be used for storage of aggregates and Killough Quarry would remain reliant on the national grid for its energy use. The Applicant would have no control over the source of energy for its site (i.e. whether from renewable sources or fossil fuels).

11.143 An opportunity would be lost for the generation of renewable energy in line with a globally recognised need. Opportunities would also be lost for the local agricultural landowners to diversify their businesses in line with the green transition and to generate new streams of income while sustainably handling their waste. There would also be a lost opportunity to build the knowledge economy for the bioenergy sector in Tipperary, which in itself could have potential to attract investment and Research and Development opportunities.

Mitigation Measures

11.144 The mitigation of the construction and operational stage impacts of the proposed development in respect of water, air quality, noise, ecology, cultural heritage and traffic are detailed in the relevant Chapters of this EIAR. It is not considered that any additional mitigation measures, over and above those proposed for environmental emissions, are required in respect of infrastructure, utilities or sensitive receptors, other than those set out in other Chapters of this EIAR.

11.145 All waste generated at the site will be appropriately stored and removed by licenced contractors.

Residual Impact Assessment

11.146 It is considered that the potential progress of the proposed development in enabling the development of infrastructure to keep pace with the requirements of a switch to a range of renewable energy technologies, the potential of it to support the diversification and survival of local enterprises, as well as its means of facilitating maximum use of a waste stream represents an effect of moderate significance on material assets.

Monitoring

11.147 Monitoring, over and above that proposed for environmental emissions in other Chapters of the EIAR, is not required or proposed specifically in respect of material assets.

References

Department of the Environment, Climate and Communications (DECC) and Department of Agriculture, Food and the Marine (DAFM) (2024) National Biomethane Strategy

European Commission (2017) Environmental Impact Assessment of Projects: Guidance on the preparation of the Environmental Impact Assessment Report

Environmental Protection Agency (EPA) (2022) Guidelines on the Information to be Contained in Environmental Impact Assessment Reports

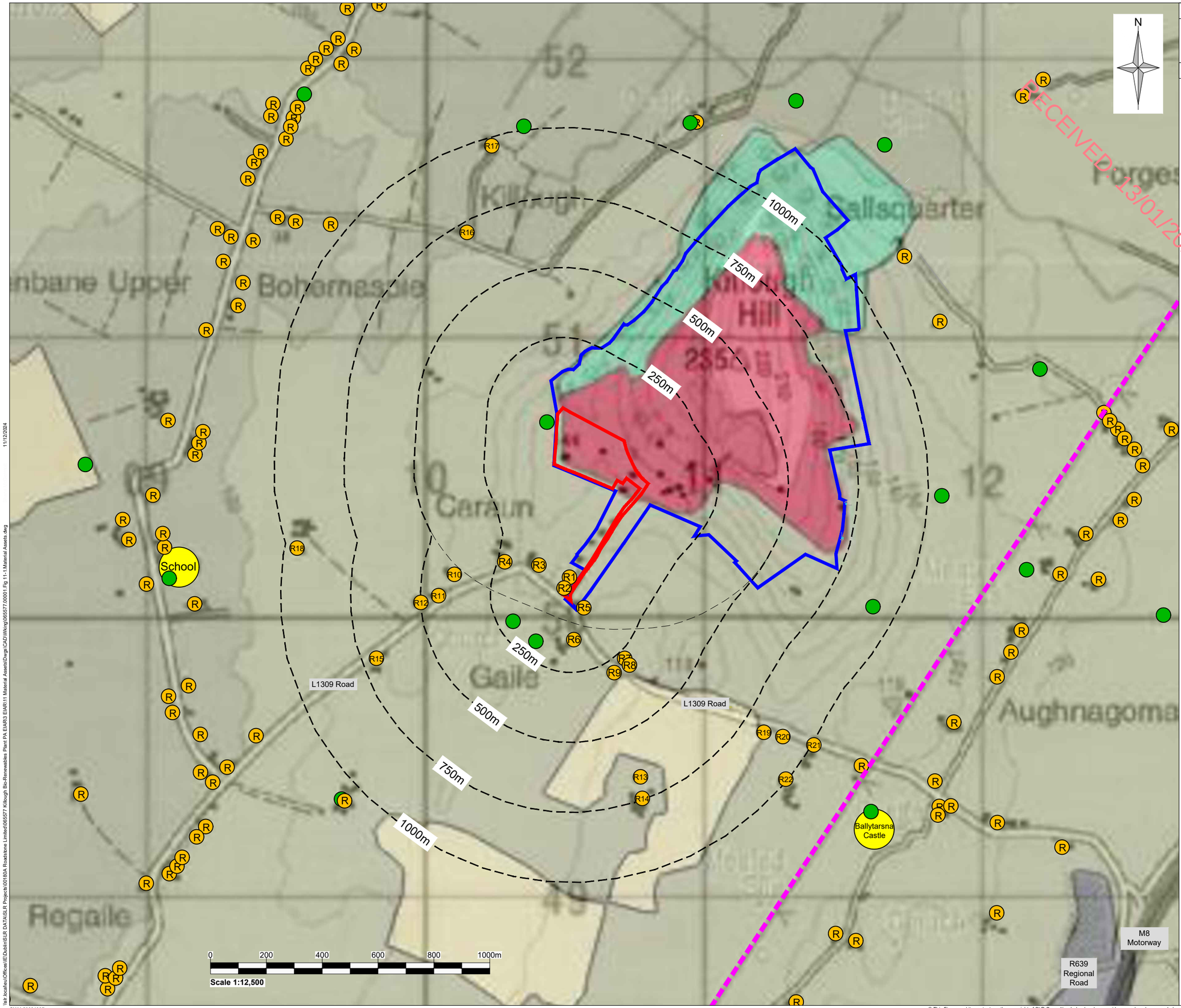
EPA (2003) Advice Notes on Current Practice in the Preparation on Environmental Impact Statements (Environmental Protection Agency, 2003)

Government of Ireland (2018) Guidelines for Planning Authorities and An Bord Pleanála on Carrying Out Environmental Impact Assessment

Sustainable Energy Authority of Ireland (SEAI) (2016) Bioenergy Supply in Ireland 2015-2035

Figures

Figure 11-1: Surrounding Land Use



RECEIVED 13/01/2025

Notes:

1. Extract from Ordnance Survey Discovery Series Map No. 66
2. Extract from EPA Corine Land Cover © EPA

Legend:

- Applicants Land Interest Area (c.108.3 hectares)
- Planning Application Area (c. 6.3 hectares)
- Distance offsets to application boundary (red line)
- Receptor (Residence) Locations
- Receptor (Other) Locations
- Archaeology / Architectural Heritage Locations
- 110KV overhead powerline (main high voltage line in the area)

Corine Land Cover Classification:

- Pastures
- Non-irrigated arable land
- Peat bogs
- Mineral extraction sites

roadstone
A CRH COMPANY

Rev	Amendments	Date	By	Chk	Auth

SLR

www.slrconsulting.com

Client
Roadstone Ltd.

Project
Bio-Renewables Production Facility at Killough Quarry, Holycross, Co. Tipperary

Figure Title
Material Assets Map

Scale		SLR Project No.
1:12,500	@ A3	501.065577.00001

Designed	Drawn	Checked	Authorised
smcd	smcd		
Date	Date	Date	Date
09/24	09/24		

Figure Number
Figure 11-1

Rev.
0

\\slr.local\eu\Offices\IE\Dublin\SLR DATA\SLR Projects\501.065577 Killough Bio-Renewables Plant PA EIAR\3 EIAR\11 Material Assets\Dwgs\CAD\Mxing\065577.00001 Fig 11-1 Material Assets.dwg
11/12/2024

CYAL50381397
© Tailte Éireann - Surveying.

Appendices

Appendix 11-A
Gas Networks Ireland Maps

Appendix 11-B
Gas Networks Ireland Maps

Appendix 11-A
ESB Mapping

ESB Networks

TITLE:

20241210-006_A0

COLOUR CODE:

- BLACK - 38KV & HIGHER VOLTAGE OVERHEAD LINES
- GREEN - MV(10KV/20KV) OVERHEAD LINES
- BLUE - LV (400V/230V) OVERHEAD LINES
- CYAN - 38KV & HIGHER VOLTAGE UNDERGROUND CABLE ROUTES
- RED - MV/LV (10KV/20KV/400V/230V) UNDERGROUND CABLE ROUTES

DATE: 10-Dec-2024

** SCALE: 1:2500

** SCALE WHEN PRINTED ON AN A0 PAGE
XY COORDINATES DISPLAYED IN IRISH GRID COORDINATE SYSTEM

WARNING

THIS MAP INDICATES THE APPROXIMATE LOCATION OF ESB TRANSMISSION (400KV, 220KV, 110KV, 38KV) AND DISTRIBUTION (20KV, 10KV, 230V/400V) UNDERGROUND CABLES AND OVERHEAD LINES IN THE GENERAL AREA OF THE PROPOSED WORKS. ESB NETWORKS TAKES NO RESPONSIBILITY FOR THE ACCURACY OR COMPLETENESS OF THE MAP. IT IS THE USER'S RESPONSIBILITY TO INDEPENDENTLY VERIFY THE INFORMATION AND THE LOCATION OF UNDERGROUND CABLES AND OVERHEAD LINES. LOW VOLTAGE (230V/400V) SERVICE CABLES (E.G. HOUSE SERVICES, FACTORY/SHOP SERVICES, PUBLIC LIGHTING LAMP SERVICES, ETC) ARE NOT INCLUDED BUT THEIR PRESENCE SHOULD BE ANTICIPATED. THE DEPTHS OF UNDERGROUND CABLES MUST NEVER BE ASSUMED. BEFORE ANY MECHANICAL EXCAVATION IS UNDERTAKEN, THE ACTUAL LOCATION OF ALL UNDERGROUND ELECTRICITY CABLES MUST BE ESTABLISHED AND VERIFIED ON THE SITE USING:
(A) UP-TO-DATE MAP RECORDS;
(B) CABLE LOCATER EQUIPMENT OPERATED IN BOTH POWER AND RADIO MODES;
(C) CAREFUL HAND DIGGING OF TRIAL HOLES USING 'SAFE DIGGING PRACTICE'.
REFER ALSO TO 'HSA CODE OF PRACTICE FOR AVOIDING DANGER FROM UNDERGROUND SERVICES'.
ESB TAKES NO RESPONSIBILITY FOR AND SHALL BEAR NO LIABILITY, HOWSOEVER ARISING, IN RELATION TO ANY DAMAGE, INJURY/DEATH OR LOSS OF SUPPLY AS A RESULT OF DAMAGE OR INTERFERENCE WITH ITS NETWORKS.

ESB NETWORKS HAS ISSUED THIS MAP AS A PDF DOCUMENT. IF VIEWING A PAPER VERSION OF THIS MAP, THE VIEWER MUST ENSURE THAT IT HAS BEEN PRINTED IN COLOUR TO FIT TO AN A0 (OR LARGER) PAGESIZE AND THAT EACH OF THE COLOURS INDICATED ON THE COLOUR CODE LEGEND ABOVE ARE CLEAR AND DISTINCT FROM EACH OTHER TO MAINTAIN A CORRECT REPRESENTATION OF THE ELECTRICAL NETWORK INFORMATION.

X,Y: 209392 , 151134

X,Y: 212293 , 151134

X,Y: 212293 , 149210

KILLOUGH ROADSTONE

KILLOUGHHILL QUARRY

KILLOUGH QUARRY

3X1/70 XLP

GAILE DEMESNE NW

GAILE DEMESNE

GAILE DEM E

GAILE MAHER

GAILE SOUTH

KILLOUGH N

GAILE SE

SALLAQUARTER S

SPRING GARDEN

ESAT DIGIPHONE

KILLOUGH HILL EIRCEL

AUGHNAGOM

AUGHNAGOMAUN MID

AUGHNAGOMAUN S

AUGHNAGONAUN GLEESON

CARIGNANS HOUSE

AUGHNAGONAUN SE

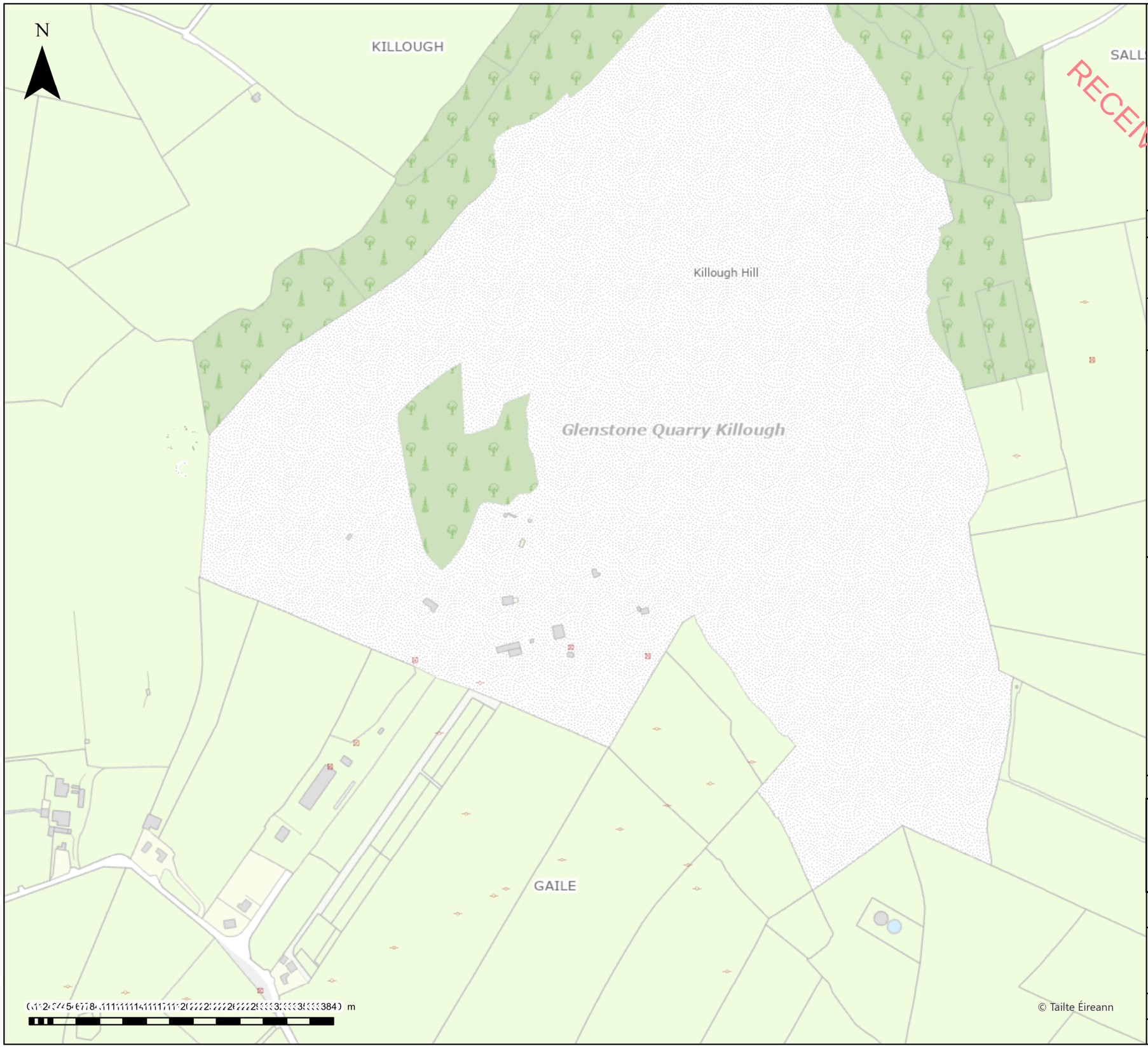
AUGHNAGONAUN E

BALLYTARSNA CASTLE

HIGH VOLTAGE

IF YOU INTEND WORKING, OR UNDERTAKING DEVELOPMENT WITHIN A CORRIDOR EXTENDING 40 METRES ON EITHER SIDE OF ANY HIGH VOLTAGE OVERHEAD LINES OR WITHIN A CORRIDOR EXTENDING 5 METRES ON EITHER SIDE OF ANY HIGH VOLTAGE UNDERGROUND CABLES YOU MUST CONTACT ESB NETWORKS IN ADVANCE OF WORKS AT 1800 372 757 OR EMAIL DIG@ESB.IE TO AGREE SAFE WORKING PROCEDURES AND NECESSARY CLEARANCES BETWEEN THE LINES AND THE DEVELOPMENT IN ADVANCE OF ANY EXCAVATION.

Appendix 11-B
Gas Networks Ireland Mapping



Important Safety Notice: Damage to gas pipelines can result in serious injury or death. Gas network information is provided as a general guide. The exact location and depth of medium or low pressure distribution gas pipes must be verified on site by carrying out necessary investigations, including, for example, hand digging trial holes along the route of the pipe. Service pipes are not generally shown but their presence should always be anticipated.

High pressure transmission pipelines are shown in red. If a transmission pipeline is identified within 10m of any intended excavations then work must not proceed before GNI has been consulted. The true location and depth of a transmission pipeline must be verified on site by a representative of GNI. Contact can be made through 1800 427 747.

All work in the vicinity of the gas network must be completed in accordance with the current edition of the Health and Safety Authority publication, 'Code of Practice For Avoiding Danger From Underground Services' which is available from the Health and Safety Authority (0818 289 389) or can be downloaded at www.hsa.ie.

- Aurora Telecom Duct
- Aurora Telecom Sub Duct
- Aurora Telecom Inserted Gas Pipe

Aurora TELECOM

Aurora Telecom Queries - 01-8926166 (Office Hours)
Aurora_Network_Queries@gasnetworks.ie
Aurora Telecom Emergency Only 1800 427399 / 01 2030120

- Transmission Pipe (High Pressure)
- Transmission Pipe (Construction Issue)
- Distribution Pipe (Medium Pressure)
- Distribution Pipe (Low Pressure)
- Service Pipe (Medium Pressure)
- Service Pipe (Low Pressure)
- Strategic Pipe (Medium Pressure)
- Strategic Pipe (Low Pressure)
- Inserted
- Abandoned Pipe

C=?	Cover (depth in metres)		Pressure Monitor
CP	CP Test Point		Protection (Slabbing)
	End Cap		Protection (Sleeve)
	Hot Tap		Reducer
	Installation		Service Terminator
	Valve		Tee
	Mains Verification**		Transition

** Please contact GNI on 1800-427747 for specific information

DIAL BEFORE YOU DIG 1800 42 77 47
In Emergency call 1800 20 50 50 Gas Networks Ireland

Gas Networks Ireland

GAS NETWORK INFORMATION

Description: test

Location: 610882,650650

Plot Date: 17/10/2024 08:11	Scale: 5000 @ A3
Plotted By: 1088	Ref ID: *1088_17102024081113*