

Environmental Impact Assessment Report

PROVISION OF A PROPOSED 110KV GAS INSULATED SWITCHGEAR (GIS) SUBSTATION ON A SITE TO THE NORTH OF THE EXISTING KISH BUSINESS PARK, ARKLOW, COUNTY WICKLOW, AND AN UNDERGROUND 110KV TRANSMISSION LINE CONNECTION TO THE EXISTING ARKLOW – BANOGE OVERHEAD LINES

Volume 1 – Non-Technical Summary

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NON-TECHNICAL SUMMARY

1.0 INTRODUCTION

This is the non-technical summary of an Environmental Impact Assessment Report (EIAR) that has been prepared by AWN Consulting on behalf of Crag Wicklow Limited herein referred to as ‘the Applicant’ to accompany a Strategic Infrastructure Development (SID) application to An Bord Pleanála (ABP).

The Proposed Development comprises the construction of a 2 storey 110kV Gas Insulated Switchgear (GIS) Substation (intended to be named ‘Oaklands’), and installation of two underground single cable circuits originating at the proposed 110 kV Substation and terminating at the existing 110 kV Arklow – Banoge overhead line to the west of the site, and two c. 17 m above ground level connection masts.

The proposal subject of this planning application forms part of a wider development site for the development consisting of three ICT Facilities and ancillary structures (WCC Reg. Ref.: 201088) as described in Chapter 2, Section 2.8.

A detailed description of the proposed development and a site layout is presented in Chapter 2 (Description of Development) and the included planning documentation.

The proposed development site, identified in Figure 1.1 below, is c. 8.68 ha of predominantly agricultural land, located in the townlands of Kish, Bogland, Ballynattin, and Ballintombay, to the south of Arklow, County Wicklow.



Figure 1.1 Proposed Development Lands (red boundary)

The 110 kV Substation Site lands are zoned *E Special – Special Employment* under the *Arklow and Environs Local Area Plan 2018-2024*. E Special zoning is to facilitate opportunities for large, single, undivided employment development, with a given example being significant IT developments. The surrounding E Special zoned lands are currently still in use as agricultural lands. The Proposed Cable Routes and Masts predominantly run along existing roads and through an area to the northwest with no zoning designation

The 110 kV Substation Site is located within the Kish Business Park and comprises part of an irregularly shaped field bounded by hedgerows typical of its agricultural setting. The Site is currently in use as agricultural lands. Circuit Route A is a linear route of 2934 m; between the 110 kV Substation Site to the existing 110 kV Arklow – Banoge overhead line located to the west. Circuit Route B is a linear route of 2216 m; between the 110 kV Substation Site to the existing 110 kV Arklow – Banoge overhead line located to the west.

The proposed site is connected by road to the southern end of Arklow where residential areas including Meadowvale and The Maples lie. These residential areas, approximately 2 km from the site, and buffer the Arklow town centre and port facilities from the zoned employments areas.

The wider area is characterised by predominantly agricultural uses, as well as some one-off developments associated with these agricultural holdings, there are few commercial light industrial developments within the wider area. To the north east of the Site (approximately 400 m from the 110 kV Substation Site) is the Moneylands Farm B&B and café, and to the north-west is Servier (Ireland) Industries Ltd, To the east of the site is the Roadstone Arklow quarry, and further to the east the Irish sea.

1.1 METHODOLOGY FOR THE ENVIRONMENTAL IMPACT ASSESSMENT REPORT

An Environmental Impact Assessment (EIA) is the process of examining the anticipated environmental effects of a proposed project. The Environmental Impact Assessment Report (EIAR) is prepared by the developer and is submitted to a Planning Authority (PA) as part of the Planning Permission process. The national requirements to provide an EIA with a planning application is outlined in the Planning and Development Act 2000 to 2019.

The EIAR describes the findings of the EIA process to the PA, statutory consultees, other interested parties, and the public in general about the likely effects of the project on the environment. This is used to assess the environmental effects of the project and, in the context of other considerations, to help determine if consent should be granted and to inform other parties' submissions to the Planning Authority.

The requirement for EIA for certain types and scales of development is listed in Annex I and Annex II of the EIA Directive¹ and transposed into Section 5 (Parts 1 and 2) of the Planning and Development Regulations 2001, as amended.

¹ Directive 2011/92/EU of the European Parliament and of the Council of 13 December 2011 on the assessment of the effects of certain public and private projects on the environment (2011); as amended by Directive 2014/52/EU of the European Parliament and of the Council of 16 April 2014 amending Directive 2011/92/EU on the assessment of the effects of certain public and private projects on the environment (2014)

This EIA Report has been developed in accordance with the most relevant guidance, including:

- EIA Directive 2011/92/EU as amended by 2014/52/EU.
- Planning and Development Act 2000
- Planning and Development Regulations 2001
- *Guidelines for Planning Authorities and An Bord Pleanála on carrying out Environmental Impact Assessment* (Department of Housing, Planning and Local Government, 2018)
- *Guidelines on the Information to be Contained in Environmental Impact Assessment Reports Draft* (EPA, 2022)
- *Guidance on the preparation of the Environmental Impact Assessment Report* (EU, 2017)
- *Advice Notes for Preparing Environmental Impact Statements Draft* (EPA, 2015)

This report has been laid out using the Grouped Format Structure, the EIA Report examines each environmental aspect in a separate chapter. Each specialist chapter generally covers the following:

- Assessment Methodology;
- Receiving Environment;
- Characteristics of the Proposed Development;
- Potential Impacts of the Proposed Development;
- Mitigation Measures;
- Residual Impacts of the Proposed Development;
- Monitoring or Reinstatement; and
- Cumulative Impacts of the Proposed Development.

Chapter 15 of this report shows where interactions have been identified and how they have been addressed. The cumulative impact of the development and the potential cumulative impacts of the proposed development with any/all relevant other planned or permitted developments are discussed in each chapter.

1.1.1 Contributors to the EIA Report

The preparation and co-ordination of this EIA Report has been completed by AWN Consulting in conjunction with experienced subject matter experts. Each environmental specialist of the applicants project team was commissioned having regard to their previous experience in EIA; their knowledge of relevant environmental legislation relevant to their topic; familiarity with the relevant standards and criteria for evaluation relevant to their topic; ability to interpret the specialised documentation of the construction sector and to understand and anticipate how their topic will be affected during construction and operation phases of development; ability to arrive at practicable and reliable measure to mitigate or avoid adverse environmental impacts; and to clearly and comprehensively present their findings.

The role and responsibility of each contributor, their qualifications and relevant experience are detailed in Table 1.1 of Chapter 1, along with the corresponding EIA Report chapter.

1.1.2 Additional Assessments Required

The additional reports and/or assessments required under Legislation or EU Directives other than the Environmental Impact Assessment Directive in respect of the Proposed Development are described below.

The Floods Directive (Directive 2007/60/EC)

The Floods Directive (Directive 2007/60/EC) establishes a framework for the assessment and management of flood risks, with the aim to reduce the adverse consequences on human health, the environment and material assets.

The Site-Specific Flood Risk Assessment (FRA) that has been prepared by AWN Consulting in accordance with the Planning System and Flood Risk Management Guidelines for Local Government (2009) is included as Appendix 6.2 to Chapter 6 (Hydrology).

Habitats Directive (Directive 92/43/EEC) and Birds Directive (Directive 2009/147/EC)

The main EU legislation for conserving biodiversity is the Directive 2009/147/EC of the European Parliament and of the Council of November 2009 on the conservation of wild birds (Birds Directive); and the Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora (Habitats Directive).

The environmental sensitivity of the Proposed Development site in respect of Natura 2000 sites designated pursuant to the Habitats Directive and the Birds Directive been considered with reference to the application Appropriate Assessment Screening which comprises an initial impact assessment of a project; examining the direct and indirect impacts that it might have on its own or in combination with other plans and projects, on one or more Natura 2000 sites in view of the sites' conservation objectives.

The Appropriate Assessment (AA) Screening that has been prepared for the Proposed Development by Moore Group and is included as Appendix 7.1 to Chapter 7 (Biodiversity).

2.0 DESCRIPTION OF THE PROPOSED DEVELOPMENT

This chapter presents the description of the project comprising information on the Site, design, size and other relevant features of the Proposed Development. The scope of this chapter aligns with the legislation and guidance material as set out in the EIA Directive (2011/92/EU) as amended by EIA Directive (2014/52/EU), as well as the relevant EPA guidance documents *Guidelines on the Information to be Contained in Environmental Impact Assessment Reports* (EPA, 2022), *European Commissions Guidelines, Guidance on the preparation of the Environmental Impact Assessment Report* (2017), and *Draft Advice Notes for Preparing Environmental Impact Statements* (EPA, 2015).

This chapter summarises the existing site, the Proposed Development, and the existence of the project as set out within the *Guidelines on the Information to be Contained in Environmental Impact Assessment Reports* (EPA, 2022). This guidance advises that description of the existence of the project should define all aspects of the proposed lifecycle of the facility, including:

- Description of Construction;

- Description of Commissioning;
- Operation of the Project;
- Changes to the Project; and
- Description of Other Related Projects.

This chapter draws on and has been informed by the Project Design and summarises the key relevant details of the Proposed Development and its lifecycle as it relates to EIA Report.

The Proposed Development consists of three main components the 110 kV Substation Site, Circuit Route A, Circuit Route B.

Proposed 110 kV Gas Insulated Switchgear (GIS) Substation

Construction of a 2 storey 110 kV Gas Insulated Switchgear (GIS) Substation (intended to be called 'Oaklands Substation') that would be located on lands at Kish and Boglands, to the south of Arklow, County Wicklow. The proposed comprises a 110 kV Substation building that includes, cable room, battery room relay room, stair cores and circulation areas, welfare facilities, with an overall height of c. 14.5 m, a Client Control Building that of c. 6 m, and site infrastructure 4 no. transformer bays, fire walls (c. 10 m high), drainage works, all internal road/footpath access routes, landscaping and boundary treatment works, vehicular access and provision of 9 no. car parking spaces in the overall compound. Disabled parking spaces and electric car charging ports are not proposed due to occupancy and usage of the substation. The proposed 110 kV Substation and underground grid connection will serve the permitted ICT Facility permitted under WCC Reg. Ref.: 201088.

Cable Circuits and New Masts

The underground cable (Cable Circuit A) is a single circuit 110 kV cable and communications ducts and 5 joint bays that will follow a liner route of 2,888 m; originating at the proposed 110 kV Substation and terminating at the existing 110 kV Arklow – Banoge overhead line. The 2,888 m route can be summarised as approximately:

- extending to the north-west c. 434 m from the proposed 110 kV Substation including a 103 m horizontal directional drilling (HDD) crossing under the Dublin-Rosslare rail line via.
- c. 800 m in the existing carriageway ducting along the R772 to the M11 Junction 21
- c. 300 m in carriageway through the M11 Junction 21
- Proceeding to the northwest c. 1,400 m in the existing carriageway along the L6187.
- At the terminus the cable connects to the existing 110 kV Arklow – Banoge overhead line via a proposed c. 17 m above ground level lattice mast adjacent to Knockeneahan Road (L2190).

The underground cable (Cable Circuit B) is a single circuit 110 kV cable and communications ducts and 4 joint bays that will follow a liner route of 2,164 m; originating at the proposed 110 kV Substation and terminating at the existing 110 kV Arklow – Banoge overhead line. The 2,164 m route can be summarised as approximately:

- extending to the north-west c. 416 m from the proposed 110 kV Substation including a 103 m horizontal directional drilling (HDD) crossing under the Dublin-Rosslare rail line via.
- 158 m in farmland crossing, and carriageway ducting along the R772
- 142 m under the M11 via HDD
- 600 m in private road (IDA), and future development lands (IDA)
- 900 m in farmland
- At the terminus the cable connects to the existing 110 kV Arklow – Banoge overhead line via a proposed c. 17 m above ground level lattice mast adjacent to Knockeneahan Road (L2190).

Figure 2.1 shows the location of the 110 kV substation compound alongside the previously permitted ICT Facility.

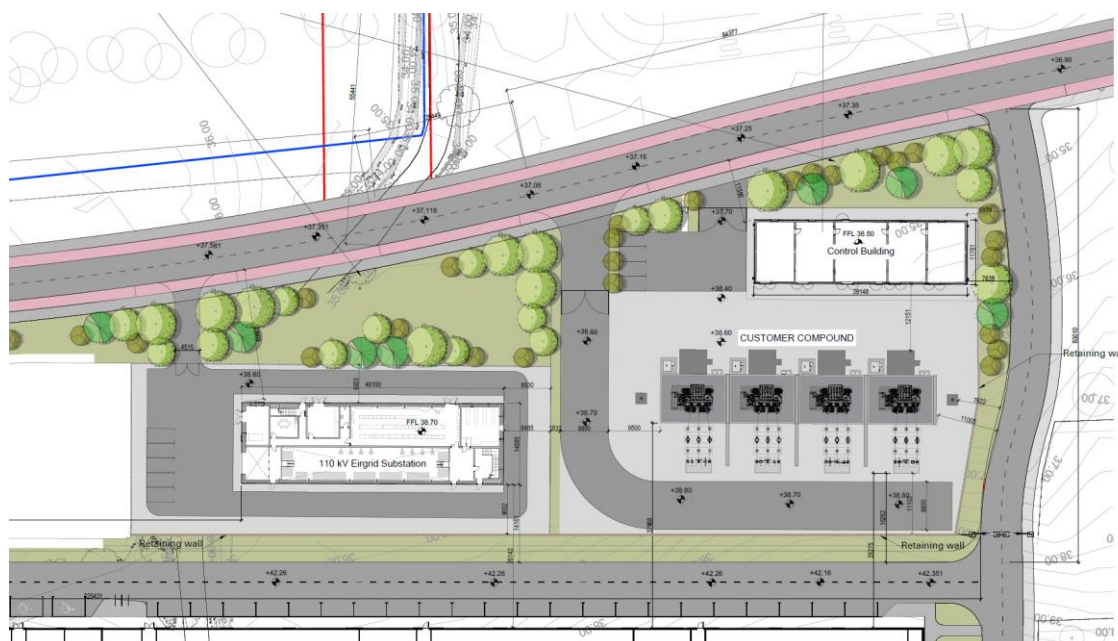


Figure 2.1. 110 kV Substation Site Layout (Reddy Architects: DUB30-02-ZZZ-L00-DR-RAU-AR-1004)

Figure 2.2 shows the site layout of Cable Route A, Cable Route B and the locations of the 2 no. drop down masts.

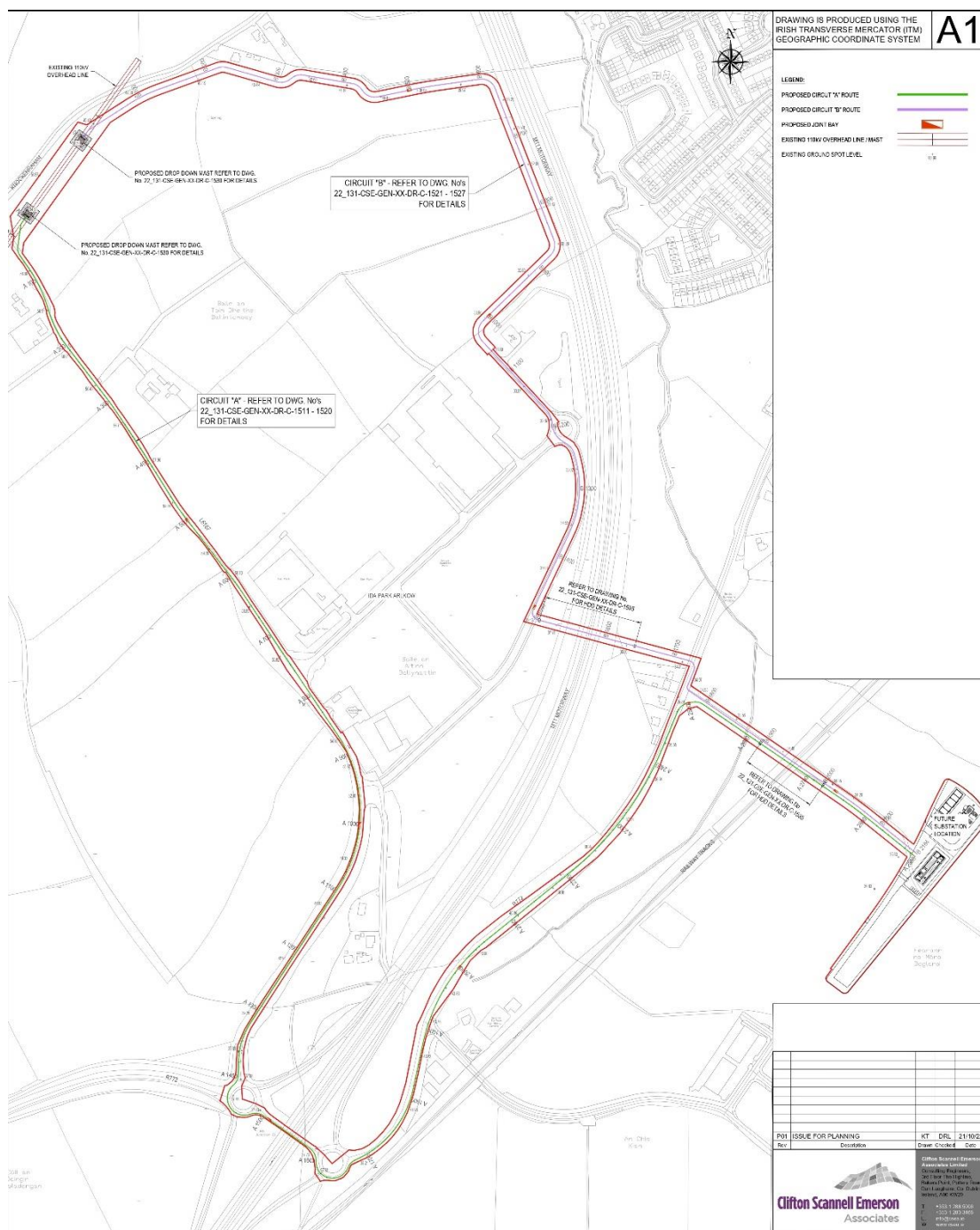


Figure 2.2 Cable Circuit Site Layout (CSEA: 122_131-CSE-GEN-XX-DR-C-1510)

Construction

The overall start-to-finish duration is estimated to be 12 months with development aspects overlapping. The anticipated development duration is set indicatively in Table 2.1 below.

Table 2.1 Estimated Construction Duration

Work Package	Estimated Construction Duration
Substation and associated works	12 months
Ducting, cabling and mast works	8 months

No more than a 100 m section of trench will be opened at any one time. The second 100 m will only be excavated once the majority of reinstatement has been completed on the first. The excavation, installation and reinstatement process will take place at a rate of c. 100 m per day.

It is estimated that there will initially be 15-20 staff on site on a typical day, however during peak construction periods this is expected to fluctuate up to a maximum of 35-60 staff and contractors on site per day.

AWN Consulting and the project team have prepared *Outline Construction Environmental Management Plan (CEMP)* (2022) that is included with the application documentation. This outlines and explains the construction techniques and methodologies which will be implemented during construction of the Proposed Development. The CEMP mitigation measures will be implemented to ensure that pollution and nuisances arising from site clearance and construction activities is prevented where possible and managed in accordance with best practice environmental protection.

Preparation of the site will require limited works with minimal site clearance along the route, establishing entranceways and haul roads for vehicles, surveying and setting out, setting up of the construction site with fencing, and establishment site compounds.

The key civil engineering works will involve the excavation of soil material through the trenching, and HDD works associated with the installation of the underground ducting that will accommodate the cabling. Other construction activities will include site storage of cement and concrete materials, fuels for construction vehicles.

It is proposed that some of the spoil generated will be reused under landscaped areas and/or in the formation level for roads and/or the construction compound. For the underground cabling works all excavated material will be temporarily stored adjacent to the trench prior to re-use in the trench reinstatement (where applicable). Stockpiles will be restricted to less than 2 m in height. The 110 kV Substation site requires a net fill of 22,091 m³. The recontouring of the 110 kV Substation lands will be undertaken as part of the Permitted ICT Facility. The Permitted ICT Facility required a net export of soil / stones. The Proposed Development will therefore utilise cut material from the Permitted ICT Facility site and will not require the importation of fill material.

Commissioning

Once the construction of the Proposed Development is completed, ESB Networks will mobilise to complete the commissioning. Commissioning will be carried out over a period of weeks and is included within the construction timelines.

Commissioning works primarily involve a suitably qualified individual connecting the relevant cables to a switchgear within the substations. Following this, energisation can take place.

Operation

ESB Networks will be the transmission asset owner (TAO) and the distribution asset owner (DAO). EirGrid and ESB Networks will operate the transmission and distribution circuits remotely from their control centres in accordance with their statutory Licences. and ESB Networks will carry out any local operations on Eirgrid's behalf.

The 110 kV Substation does not require any full-time staff to operate it. However, maintenance of the substation will be required by ESB Networks, including a routine weekly inspection, and a more comprehensive inspection once per year. The weekly inspection of the Substation will take a maximum of 8 hours on a single day and will be conducted by up to 2 staff.

Once constructed, the proposed underground 110 kV circuits will not require any staff to operate them. Instead, ESB Networks maintenance staff will carry out a routine inspection of the asset one year after completion and once every three years thereafter.

The primary input to the operational phase of the Proposed Development is potable water (mains) for welfare facilities within the GIS building. The main outputs are stormwater and foul wastewater. The utility requirements during the operational phase are discussed in Section 2.6.4.

There will be some wastes generated from onsite activity and maintenance / repairs etc. All waste materials will be segregated into appropriate categories and will be temporarily stored in appropriate bins or other suitable receptacles in a designated, easily accessible areas of the site.

Decommissioning

The lifespan of the Proposed Development is not defined but it is anticipated that it will be maintained, and periodic upgrading undertaken over a long lifetime to meet future demand and upgrade in technology.

If the proposed 110 kV Substation, underground cables and associated ducting are no longer required over the long term, then full decommissioning in accordance with prevailing best practice will be undertaken. All plant and equipment would simply be decommissioned, removed and recycled/disposed as appropriate. The costs associated with the decommissioning, removal and disposal of the asset will be met by the ESB Networks.

Related Development and Cumulative Impacts

As part of the assessment of the impact of the proposed development, account has also been taken of developments that are currently permitted or under construction within the neighbouring industrial parks and surrounding areas. A list of the other developments considered is provided in Section 2.8.

The proposed 110 kV Substation will serve the Permitted ICT Facility under WCC Reg. Ref.: 20/1088. The Permitted ICT Facility will consist of 3 no. part one storey, part two storey information and communication technology (ICT) facility buildings. Each of the 3 no. ICT facility buildings will accommodate ICT equipment rooms, associated electrical and mechanical equipment rooms, loading bays, maintenance and storage space, office administration areas, and staff facilities. Emergency generators (20 no. for each ICT facility building), flue stacks and associated plant are provided in a fenced compounds adjacent to each ICT facility.

The Permitted ICT Facility is anticipated to be constructed on a phased basis over 6 years., beginning in Q2 2023 and ending in Q3 2028. Based on the applicant's current timelines, it is likely that the construction of the Proposed Development will directly coincide with the construction and commissioning works for the Permitted ICT Facility.

However, it is submitted that these timelines may be subject to change outside the applicant's control.

There are potential short-term nuisances such as dust, noise, as well as the potential for pollution of groundwater or the existing drainage ditches associated with the demolition, excavations and construction of the Permitted ICT Facility. In advance of work starting on site, the works contractor will further detail the outline CEMP to include the planning conditions under WCC Reg. Ref. 201088 and the mitigation measures contained within the EIA.

The most relevant Proposed Development identified in the surrounding area (Table 2.5) that may be capable of combining with the Proposed Development and resulting in cumulative effect during either the construction or operational phase is the proposed Biofuel Facility proposed under Reference: 21677 (under appeal ABP reg. ref.: PL27.312181).

The proposed Biofuel Facility is anticipated to be constructed over 1 year. The total peak construction population on site is estimated to be up to 15 staff. A preliminary CEMP has been prepared for the proposed Biofuel Facility and the construction contractor shall develop the detailed CEMP prior to commencement of development. The CEMP will incorporate mitigation measures outlined in the proposed Biofuel Facilities EIA report as they relate to the construction phase.

3.0 ALTERNATIVES

The reasonable alternatives to the proposed development with regards to its environmental effects have been addressed in Chapter 3. The siting of the proposed facility at an existing greenfield site, as well as the overall design of the facility, have been carefully selected based on a suitably comprehensive assessment of alternative site locations, designs and processes. The proposed development will considerably enhance the utilisation of the site.

Do Nothing Alternative

The Proposed Development site is currently an undeveloped greenfield site used for agricultural purposes. The proposal subject of this planning application forms part of a wider development site for the development consisting of three ICT facility and ancillary structures (WCC Reg. Ref.: 201088) as described in Chapter 2, Section 2.8). The proposed 110 kV Substation and underground grid connection will serve the permitted ICT Facility.

The do-nothing scenario would result in both the Proposed Development and the permitted ICT Facility not proceeding at this time. Given the zoning of this land, it is likely that development on these lands would proceed at some point in the future.

Alternative Project Locations

The Proposed Development is designed to support the power demand of development on lands adjoining the proposed 110 kV Substation.

On the 10th of June 2021, a final grant of permission was issued by the Wicklow County Council for Permitted ICT Facility on the adjacent lands under Reg. Ref.: 20/1088. The Permitted ICT Facility included the site of the 110 kV Substation now proposed.

The proposed location is deemed to be the most logical location on the site for such a development and to provide the energy needed for the area. It was not deemed practicable or necessary therefore, to consider an alternative location for the proposed 110 kV Substation during this assessment.

The assessment of the alternative routes for the 110kV transmission line considered four route options for the 110kV transmission line as follows:

- Route Option 1 – Via the town of Arklow to Arklow Substation
- Route Option 2 – Via the town of Arklow to the permitted Pollahoney substation
- Route Option 3 – Loop in / loop out to existing Arklow – Banoge overhead line
- Route Option 4 – Via Emoclew road to Arklow substation

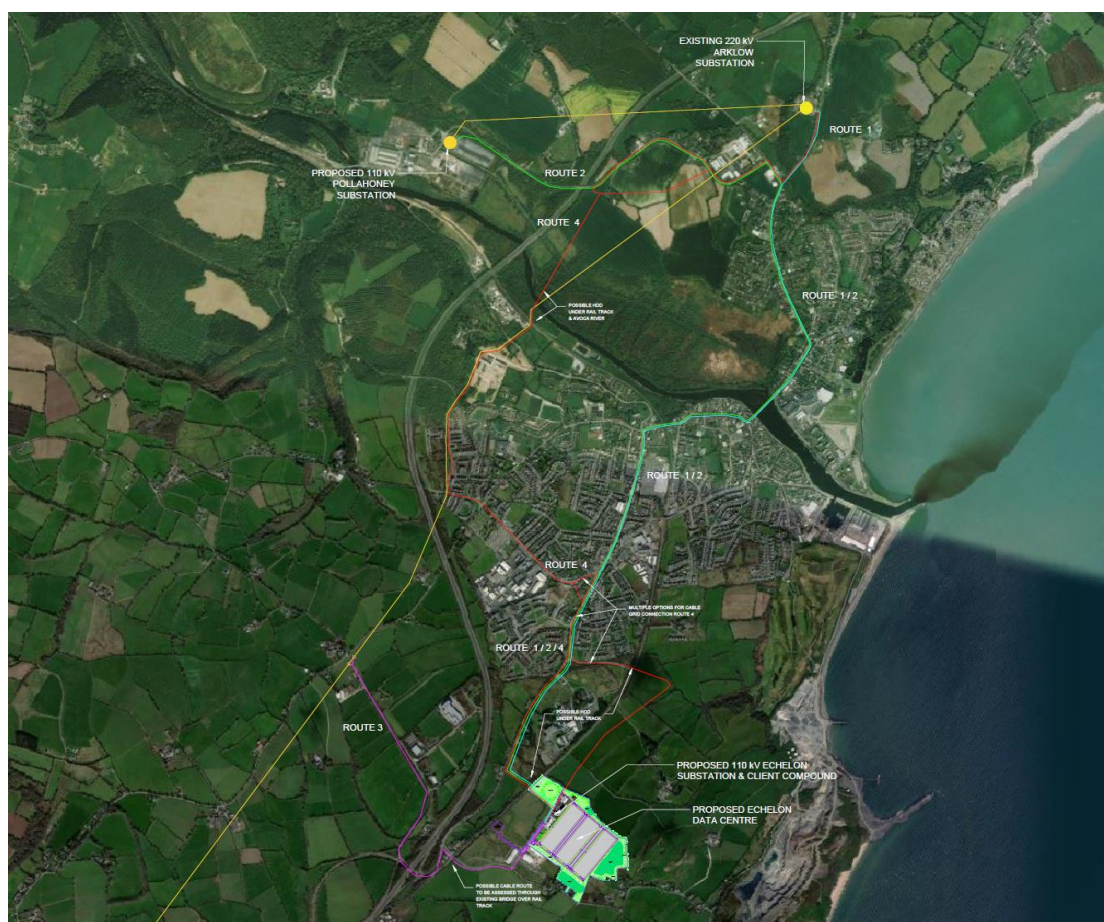


Figure 3.1 Proposed 110 kV Grid Route Options

A preliminary appraisal and comparison of the environmental effects of the potential route options was undertaken as part of the route selection process to determine the more preferred and less preferred option, and in some cases there was no discernible difference between the route options and are therefore considered neutral.

There is the potential for significant effects on biodiversity associated with Route Options 4 as this crosses the Arklow Town Marsh Proposed Natural Heritage Area. Furthermore, Route Options 1, 2, 4 have greater potential for significant effects on biodiversity and hydrology with the HDD crossing under the Avoca River. The Route Options 1, 2, 4 also come into contact with a greater number of sensitive residential receptors and road users therefore resulting in a greater potential for noise, air quality (dust) and human health and population effects.

Route Option 3 includes the installation of new masts that will result in greater visual effects. The review of relevant environmental factors shows a preference for Option 3 based on short term impacts during construction. This is primarily due to the fact that Option 3 is a significant shorter route and avoids crossing any significant watercourses or area of ecological importance and comes into proximity to a lesser number of sensitive residential receptors and road users being impacted.

Through the design process Route Option 3 (the chosen route) was refined into the Proposed Development.

Alternative Design/Layouts

The proposed 110 kV Substation and underground cable design based on requirements stipulated by the ESB Networks and EirGrid. The design of the substation units is centred around the equipment requirements of ESB Networks that are required to provide an efficient and safe service. Therefore, from an alternative 'design' point of view, the flexibility to select alternatives 110 kV Substation and underground cable is not available to the Applicant.

Whilst there are no alternatives for design, there is the floatability to alter the layouts of the Proposed 110 kV Substation. The assessment of the alternative layouts for the 110 kV Substation considered three design options.

Option 1 was viewed negatively from an ESB standard design perspective as it did not allow for separate access or appropriate circulations space as per ESB minimum requirements, it only allows for one access road to both the substation and the customer compound.

Option 2 involves extensive construction works to move the link road and the detention lake to provide capacity for the aligning facilities. There is also a negative landscape and visual impact with this option as it does not provide adequate screening between the development and the link road.

Option 3 is the chosen site design. It is very similar to Option 1; however, it rectifies the access road issue with Option 1, with the chosen layout providing for separate access roads to both the customer compound and the substation. This layout removed any requirement of extensive construction works as the link road and the detention lake do not need to be relocated. There is ample parking, and the chosen design maximised the available green space between the substation and the permitted link road to provide for soft landscaping and allow for screening.

Alternative Processes

The underground 110 kV transmission line will become an integral part of the national high voltage electricity grid which is currently operated by ESB Networks. As such the underground cable installations must meet ESB Network's strict specifications to ensure it will be seamlessly absorbed into the national grid infrastructure and can provide a reliable power supply. Therefore, from an alternative 'process design' point of view, the flexibility to select alternative processes for integrating into the current national grid is not available to the Applicant.

In terms of the proposed processes, the proposed 110 kV Substation will employ the same electricity generation and transmission processes that are used by ESB Networks at their other facilities in Ireland and represents the most up-to-date and state of the art processes currently available. As appropriate, alternative processes are

considered on an ongoing basis by ESB Networks as a part of each of their operations based on many factors including technical feasibility, environmental impact, efficiency, security, reliability and cost. Therefore, from an alternative 'process design' point of view, the flexibility to select alternative processes for integrating into the current national grid is not available to the Applicant.

Alternative Mitigation

For each aspect of the environment, each specialist has considered the existing environment, likely impacts of the Proposed Development and reviewed feasible mitigation measures to identify the most suitable measures appropriate to the environmental setting of the Proposed Development.

In deciding on the most suitable mitigation measure the specialist has considered relevant guidance and legislation. In each case, a comparison of environmental effects was made, and the specialist has reviewed the possible mitigation measures available and considered the use of the mitigation in terms of the likely residual impact on the environment. The four established strategies for mitigation of effects have been considered: avoidance, prevention, reduction and offsetting (not required in this development). Mitigation measures have also been considered based on the effect on quality, duration of impact, probability and significance of effects.

The selected mitigation measures are set out in each of the EIA Report Chapters.

4.0 HUMAN HEALTH AND POPULATIONS

The potential impacts of the proposed development on and human health and populations are discussed in Chapter 4.

The Proposed Development site is located in County Wicklow within the Arklow Rural ED (038), and within 1 km of the site are the EDs of Arklow No. 1 Urban ED (001) and Ballylarkin ED (045). These EDs are located within County Wicklow and County Wexford. Due to the Proposed Development site's proximity to the County Wexford border these areas have also been considered in this Chapter to provide a representative overview of the area within which the site is located.

The sensitivity of the surrounding area has been considered based on the details of the available published data. The local area has seen a population growth between the 2011 and 2016 census, there is a large proportion of the population within working age (15 - 64 years old) reflective of the national level. The Pobal HP Deprivation Index shows the area to be marginally below average. The general health and ability to perform daily activities of the population is on trend with the state averages. The population within the study area is therefore not particularly sensitive to change, with a ranking of low to medium sensitivity.

The initial analysis indicates the site has good access to social infrastructure and emergency services within 5 km of the site. Notable concentrations of residential settlements occur to the north of the site in the nearby Arklow urban area. To the south, west and east of the site there are scattered residential developments typical of their rural setting.

The potential receptors within the environs of the site include other industrial and commercial businesses in the area, as well as nearby residential developments and farms.

Notable facilities within the vicinity of the site include; Armstrong Timber Engineering, ASL Safety & Training (plant and machinery), Concept Joinery (furniture), Dolphin Distributors (distribution service), Arc Building Products (manufacturer), Glenhaven Foods (poultry processing), Elavon Merchant Services (financial institution), Paramount Packaging Limited (food packaging distribution), Senator Windows and Doors Wicklow (window installation service) and Servier (Ireland) Industries Ltd (pharmaceuticals).

The main potential impacts on population and human health from the Proposed Development are potential for spills/leaks, air emissions, noise, visual, and traffic impacts. The baseline environment, pollution pathways, relevant mitigation measures and residual impacts have been assessed in greater detail within the corresponding specialist chapters; Chapter 5 (Land, Soils, Geology and Hydrogeology); Chapter 6 (Hydrology); Chapter 8 (Air Quality and Climate), Chapter 9 (Noise and Vibration); Chapter 10 (Landscape and Visual); and Chapter 12 (Traffic and Transportation).

It is predicted that there will be a slight positive impact on local business activity during the construction phase with the increased presence of construction workers using local facilities. This job creation will result in a **positive, local to regional, imperceptible, short-term** socioeconomic impact.

No significant visual effects have been identified, and the proposal would contribute to the planned urbanisation of the Arklow southern environs, where an extensive expansion of the town is envisioned, with employment the predominant use.

As detailed in Chapter 8 (Air Quality & Climate), best practice mitigation measures that will be put in place during construction of the Proposed Development will ensure that the impact of the development complies with all EU ambient air quality legislative limit values which are based on the protection of human health and the environment.

The dust emission magnitude for the proposed construction activities can be classified as small as a worst-case as the total building volume will be less than 25,000 m³. As outlined in Table 8.9, this results in an overall low risk of dust soiling impacts and a **negligible** risk of human health impacts as a result of the proposed construction activities.

As detailed in Chapter 9 (Noise and Vibration), during the construction phase of the project there is the potential for short-term noise impacts on nearby noise sensitive properties due to noise emissions from site activities. The application of binding noise limits and hours of operation, along with implementation of appropriate noise and vibration control measures, will ensure that noise and vibration impact is kept to a minimum as far as practicable. In terms of noise associated with the gird connection route the associated effect is stated to be **negative, significant** and **brief**. In relation to the noise from the substation construction, the associated effect is stated to be **negative, slight** and **temporary**.

As detailed in Chapter 9 (Noise and Vibration), when operational, and considering the nearest noise sensitive locations, which are those along Ballynattin Road (the R772) at a distance of 275 m, the noise emissions from the substation will be inaudible at the nearest NSLs. The resultant noise effect is stated to be **neutral, imperceptible** and **long-term**. Due to the fact that the proposed 110 kV lines will be located underground there are no operational operation noise impacts associated with them.

The proposed development has the potential for an impact on the health and safety of workers employed on the site, particularly during the construction phase. The

activities of contractors during the construction phase will be carried out in accordance with the Safety, Health and Welfare at Work (Construction) Regulations 2013 (S.I. No. 291 of 2013) to minimise the likelihood of any impacts on worker's health and safety.

When the mitigation measures outlined in this EIAR are implemented, there will be no residual impacts of significance on human health and populations from the construction or operational phases of the proposed development.

5.0 LAND, SOILS, GEOLOGY AND HYDROGEOLOGY

Chapter 5 of the EIA Report assesses and evaluates the potential impacts of the proposed development on the land, geological and hydrogeological environment.

Currently the landscape of the receiving environment is peri-urban in character. It incorporates some remaining agricultural use (in the form of large grassland fields divided by hedgerows), several clusters of rural housing along the Clogga Road, and a cluster of warehousing/factory type buildings at the Kish Business Park adjacent to the site. The sensitivity of the landscape to the proposed development is not high. The site itself would be fundamentally altered, with the removal of the grassland fields and internal hedgerows to accommodate the industrial-scale buildings and ancillary infrastructure. However, at the wider scale (the 'landscape scale') the development would be in keeping with the plan-driven trend of change towards an urban area dominated by employment uses.

The majority of the Proposed Development site has historically been used for agriculture and there is no evidence of soil or groundwater contamination based on previous site use, site investigation and soil quality assessment. The site is drained by a series of land drains which discharge beneath the Dublin- Rosslare railway at two locations to the Moneylane stream c. 0.91 km downgradient of the site. One of the land drains is named the Springfield stream on EPA mapping. The Moneylane stream joins the Avoca c. 2.3 km further downgradient (north) and ultimately this discharges to the Irish sea at Britttas Bay.

Currently the landscape of the receiving environment is peri-urban in character. It incorporates some remaining agricultural use (in the form of large grassland fields divided by hedgerows), several clusters of rural housing along the Clogga Road, and a cluster of warehousing/factory type buildings at the Kish Business Park adjacent to the site. The site itself would be fundamentally altered, with the removal of the grassland fields and internal hedgerows to accommodate the industrial-scale buildings and ancillary infrastructure of the Permitted ICT Facility.

There are no potential for impacts on recorded archaeological, architectural or cultural heritage sites associated with the proposed development. There are no recorded sites of architectural heritage value listed in the National Inventory of Architectural Heritage for the county, or in the Register of Protected Structures. However, a late 19th / early 20th century farmhouse, outbuildings and gardens survive in ruins on the site.

The Teagasc soil mapping indicates that the soils are comprised primarily of sandstone and shale till (AminPD & AminSRPT). The soil mineral is composed primarily of poorly drained (mainly acidic) with the western area of the site experiencing Deep well drained mineral (mainly acidic). The EPA have classed this area as agricultural land used for pastoral farming and as non-irrigated arable land. The subsoil type present across the

site is Irish Sea Till derived from Lower Palaeozoic sandstones and shales (IrSTLPSsS) with matrix of Irish Sea Basin origin present within small areas in the southern portions of the site.

The site is underlain by a *Locally Important* limestone aquifer. Aquifer vulnerability and soil type was confirmed by site investigation (12 trial pits and 4 no. rotary core) and confirmed as glacial clays with low vulnerability. None of the boreholes/trial pits encountered competent rock (with the exception of one, which encountered weak foliated weathered Slate at 10.3mbgl). As such there is good natural protection to the underlying aquifer. A discontinuous perched water table was encountered where more permeable lenses exist within the clay.

The land has historically been used for agriculture and there is no evidence of soil or groundwater contamination based on previous site use, site investigation and soil quality assessment.

Presently, the groundwater body in the region of the site (Wicklow GWB) is classified under the WFD Risk Score system (EPA, 2019) as 'Good Status' and its risk is under review at present. Analysis of site-specific groundwater samples compared to Statutory Instruments European communities' environmental objectives (groundwater) regulations (SI366 of 2016) showed no evidence of historical contamination.

The site is drained by existing drainage ditches which ultimately discharge into onsite and offsite watercourses (Springfield 10 & Moneylane 10). The current EPA watercourse mapping shows an existing stream called Springfield 10 located in the most eastern portion of the proposed development site adjacent to the site boundary. However this feature is not shown in any of the old records provided within the GeoHive website. It has been determined that, this feature is likely a surface water drainage feature that has developed over time along the laneway in a roadside ditch, rather than a pre-existing natural watercourse.

The proposed development is located in an area where groundwater wells are used for water supply. A public water supply has been developed along the Avoca river at Woodenbridge. There are a number of domestic/agricultural wells in the surrounding lands. There are no areas of geological heritage or groundwater dependent terrestrial ecosystems which have potential to be impacted by the proposed development.

There are no proposed Special Areas of Conservation (pSAC), Special Protection Areas (SPAs) or Natural Heritage area (NHA) within the study area boundary. The nearest European site to the proposed development is the Arklow Rock Askintinny (Site Code 001745) 1km to the East. This is an area of exposed rock and associated habitat which will not be impacted by the proposed development. Drainage from site is towards the Moneylane which joins the River Avoca c. 4.3 km further downstream. The River Avoca discharges to the Avoca Estuary then into the Irish Sea – Brittas Bay 4.4 km downstream.

Based on the site geology and the design of the development, no dewatering, or groundwater abstraction is required as part of the construction or operation phase of the proposed development. The development design incorporates containment measures following EPA guidance on containment i.e. above ground storage of the required diesel storage and all pipelines for transport of fuel are above ground. As a result, the only potential for discharge to ground (other than foul water) is an accidental leak during refuelling or localised spill from a vehicle. As described previously, the contractor will be required to operate in compliance with a CEMP which includes

measures for management of any accidental leaks from construction vehicles or temporary oil storage. During operation, any accidental leaks will be contained within the diesel fuel bunds or if outside of storage compounds, diverted into the stormwater infrastructure and treated within oil interceptors. The presence of hardstand minimises any potential for discharge to ground and therefore a very low risk to the underlying aquifer.

Cut and fill will be required to facilitate construction, expansion of drainage network and ancillary works. Subsoil stripping and localised stockpiling of soil will be required for short periods of time during construction. The maximum depth of excavation required to facilitate installation of the development foundations and the terracing of the site is, is c. 6.5m below ground level. There will be no excavation of bedrock required as part of the Proposed Development. In addition to the transmission lines, it is estimated that approximately 3,860m³ of topsoil and subsoils will be excavated for the substation, attenuation, and landscaping component of the proposed development. Suitable soils and stones will be reused on-site as backfill in the grassed areas, where possible. The 110 kV Substation site requires a net fill of 22,091 m³. The recontouring of the 110 kV Substation lands will be undertaken as part of the ICT Facility permitted under WCC Reg. Ref.: 201088. The permitted ICT Facility required a net export of soil / stones which will be reused on site for ground levelling. The proposed development will therefore utilise cut material from the ICT Facility site and will not require the importation of fill material.

Following implementation of mitigation measures detailed in Chapter 5 of the EIA Report, the predicted impact during construction of the proposed development will be **short term, imperceptible** and **neutral** during construction and **long term imperceptible** and **neutral** during operation.

6.0 HYDROLOGY

This chapter of the EIA Report assesses and evaluates the potential impacts of the development on the hydrological aspects of the site and surrounding area.

The site is drained by a local network which is composed of ditches and watercourses (Moneylane 10 & Springfield 10) which traverse the site. The Springfield 10 is located in the eastern area of the proposed development site; however, this feature is not shown in any of the historical mapping (1832 to 1913) records provided within the GeoHive website. A site walkover conducted in January 2020 included a visual inspection of this watercourse. This visit was after significant rain and stagnant water was visible in this watercourse, additionally the watercourse is heavily modified with a straight channel delineating a field boundary. The inspection suggests that the watercourse is a manmade drainage feature with intermittent or ephemeral and likely fed from surface runoff from the clay soils shown in the majority of the trial pits across the site.

The site is drained by a local network which is composed of ditches and watercourses (Moneylane 10 & Springfield 10) which traverse the site. The Springfield 10 flows in a westerly direction and enters the Moneylane 10 along the sites eastern boundary. The Moneylane 10 flows North before merging with the Ballyduff Stream c. 1.4km downstream. The Ballyduff Stream enters the River Avoca a further 2.2km downstream before eventually flowing into the southwestern Irish Sea at Ballybrittas Bay c. 8km downstream of the proposed development site.

There is no likely potential impact on any protected habitat based on the design criteria and distance of any hydrological or hydrogeological pathways.

There are no European sites at the mouth of the Avoca River, the closest, Buckroneys-Brittans Dunes and Fen SAC (Site code 000729), is located approximately 5 km to the north of the river mouth. The Kilpatrick Sandhills SAC is located over 6km to the south along the coast. Potential adverse effects on these European sites from the proposed development are highly unlikely given the distance of removal. The nearest protected site is the Arklow Rock Askintinny (Site Code 001745). This is an area of outcrop with associated habitat. There is no hydrological connectivity to this proposed Natural Heritage Site.

Records of the surface water networks received from WCC indicate that there is no public surface water infrastructure located within or adjacent to the site. There is a visible attenuation pond serving the adjacent Industrial Park and the planning records indicate that it is discharging to an existing watercourse to the west of the Industrial Park.

The most recent published status (www.epa.ie - River Waterbody WFD Status 2013-2018) is for the Ballyduff stream c. 2.6km downstream of the proposed development is 'Poor' and its environmental risk is qualified by the WFD is 'At Risk'

There is no existing public foul network at the site, properties in the adjacent development to the 110 kV Substation site within Kish Business Park treat their wastewater on site with percolation to ground. There is no public surface water infrastructure located within or adjacent to the site. The 110 kV Substation site is drained by a series of agricultural ditches which connect to the Moneylane Stream which ultimately discharges into the Avoca River.

The 110 kV Cable Circuits and Mast do not require an operational Potable Water supply. The 110 kV Substation building has a potable water requirement associated with the welfare facilities. A water line will be connected to the 150mm water main permitted as part of ICT facility (WCC Reg. Ref. 201088). A pre connection enquiry to Irish Water has been submitted (CDS21001316). Irish Water issued a Confirmation of Feasibility letter on 4 January 2022 to confirm that the proposed wastewater connection to the Irish Water network can be facilitated subject to upgrades.

A Pre-Connection Enquiry form has been issued to Irish Water in relation to the feasibility of servicing the permitted ICT facility (WCC Reg. Ref. 201088) with a water supply connection (CDS21001316). Irish Water issued a Confirmation of Feasibility letter on 4 January 2022 to confirm that the proposed water supply connection to the Irish Water network can be facilitated subject to upgrades. The upgrades outlined by Irish Water are for the upsizing of approx. 50m of existing watermain to 150mm, and the construction of approx. 50m of new 150mm watermain, on site storage will also be required for this development.

AWN have produced a Flood Risk Assessment for the subject site this is included with the planning documentation and is summarised here. The potential risk of flooding on the site was also assessed by a Flood Risk Assessment that was completed for the site. the site of the proposed 'Less Vulnerable Development' is clearly not located within both Flood Zones A or B for fluvial flooding i.e. it is located within **Flood Zone C**. Therefore, in accordance with The Planning System and Flood Risk Management Guidelines for Planning Authorities it is considered that there is no apparent significant risk of fluvial flooding.

As the site is currently in agricultural use there is no existing infrastructure for water supply or wastewater. The proposed development includes a connection to an Irish Water supply for water supply. Consultation has been undertaken with Irish Water in regard to the expected water supply requirements. Wastewater will be discharged following treatment in a proprietary treatment plant to a suitably designed percolation areas on the site.

A Construction Environmental Management Plan (CEMP) has been prepared in respect of the proposed development by AWN (refer to standalone document submitted under separate cover). It contains best practice measures and protocols to be implemented during the construction phase of the proposed development to avoid / minimise environmental impacts, including in relation to surface water. During construction, the CEMP will incorporate measures for management of silty water within run-off and buffer zones will be retained along any open drainage to minimise potential for blow off or run-off into open streams. During construction, the CEMP will also incorporate measures for management of any accidental leaks from construction vehicles or temporary oil storage. During operation, any accidental leaks will be contained within the diesel fuel bunds or diverted into the stormwater infrastructure which has oil interceptors for removal of any such fuel spills.

Following implementation of mitigation measures detailed in Chapter 6 of the EIA Report, the predicted impact during construction of the proposed development will be **short term, imperceptible** and **neutral** during construction and **long term imperceptible** and **neutral** during operation.

7.0 BIODIVERSITY

This chapter provides an assessment of the impacts of the proposed development in question on the ecological environment, i.e. flora and fauna.

The proposed development is to take place on site comprising several agricultural grassland fields with intervening hedgerows.

There is no potential for otter habitats on site. There will be no direct or indirect impact on otters downstream on the Avoca River.

There will be no direct or indirect impact on bats. There will be no direct or indirect impact on birds.

A badger sett identified as a possible outlier sett, will be closed off under licence from the NPWS to facilitate the development of the Substation section of the proposed development within the larger Data Storage Facility site.

There are no rare or protected habitats recorded in the study area. The site development areas are considered of Low Local Ecological Value.

The proposed development will have no predicted significant impacts Biodiversity, therefore cumulative impacts can be ruled out.

Potential impacts on birds will be avoided by cutting of vegetation outside the bird nesting season March 1st to August 31st.

The conclusion of a report for AA Screening is that the possibility of any adverse effects on the integrity of the European Sites considered, or on the integrity of any other

European Site (having regard to their conservation objectives), arising from the proposed development, either alone or in combination with other plans or projects, can be excluded.

8.0 AIR QUALITY AND CLIMATE

This chapter evaluates the impacts which the proposed development may have on air quality & climate.

Air Quality

In terms of the existing air quality environment, data available from similar environments indicates that levels of particulate matter less than 10 microns and particulate matter less than 2.5 microns (PM₁₀/PM_{2.5}) are, generally, well within the National and European Union (EU) ambient air quality standards.

An assessment of the potential dust impacts as a result of the construction phase of the proposed development was carried out based on the UK Institute of Air Quality Management (IAQM) guidance. This established the sensitivity of the area to impacts from construction dust in terms of dust soiling of property and human health effects. The sensitivity of the area was combined with the dust emission magnitude for the site under three distinct categories: earthworks, construction and trackout (movement of vehicles) in order to determine the mitigation measures necessary to avoid significant dust impacts. It was determined that the surrounding area was of medium sensitivity in relation to potential dust soiling and of low sensitivity in relation to dust related human health effects.

Once mitigation measures, such as dust and traffic management, are implemented the impacts to air quality during the construction of the proposed development are considered, short-term, direct, negative and imperceptible, posing no nuisance at nearby sensitive receptors (such as local residences).

As the proposed cables will be underground once completed, there are no potential impacts to air quality during the operational phase.

Climate

The existing climate baseline can be determined by reference to data from the EPA on Ireland's total greenhouse gas (GHG) emissions and compliance with the European Union's Regulation 2018/842. The EPA state that Ireland had total ESR GHG emissions of 46.19 Mt CO₂eq in 2021. This is 2.71 Mt CO₂eq higher than Ireland's annual target for emissions in 2021. The EPA predict that Ireland can comply with the GHG targets for 2021 – 2030 provided full implementation of the measures outlined within the Climate Action Plan and the use of the flexibilities available.

Based on the scale and temporary nature of the construction works, the potential impact on climate change and CO₂ emissions from the construction of the proposed development is deemed to be short-term, neutral and imperceptible in relation to Ireland's obligations under the EU 2030 target. There is no impact during operation as there are no emissions from the proposed development.

Human Health

The best practice dust mitigation measures that will be put in place during construction

of the proposed development will ensure that the impact of the proposed development complies with all EU ambient air quality legislative limit values which are based on the protection of human health. Therefore, the impact of construction of the proposed development is likely to be short-term, direct, negative and imperceptible with respect to human health. The proposed cables will be underground and will have no impact air quality in relation to human health once operational. In addition, the proposed substation does not have the potential for any emissions which could impact air quality in terms of human health during operation.

Mitigation Measures

A dust minimisation plan will be implemented during the construction phase of the proposed development to ensure that no significant dust nuisance occurs outside the site boundary, measures include the development of a documented system for managing site practices with regard to dust control, monitoring and assessment of dust. No mitigation is required during operation.

Residual Impacts

Once the mitigation measures outlined in this assessment are implemented, there will be no residual impacts of significance on air quality or climate from the construction or operational phases of the proposed development.

9.0 NOISE AND VIBRATION

AWN Consulting Limited has carried out an assessment into the likely environmental noise and vibration impacts of the proposed DUB30 Grid Connection (the 'Proposed Development').

The background noise environment has been established through consultation of the EPA Round 3 Noise Maps, supplemented with noise monitoring surveys undertaken in the preparation of the EIAR for the now permitted ICT Facility. Prevailing noise levels are primarily attributable to traffic movements in the surrounding area, both on local roads and along the M11 motorway.

When considering a development of this nature, the potential noise and vibration effects on the surroundings must be considered for two stages: the short-term construction phase during which noise is generated by the construction machinery and plant, and the long-term operational phase.

The assessment of construction noise and vibration and has been conducted in accordance with best practice guidance contained in BS 5228-1:2009+A1:2014 *Code of practice for noise and vibration control on construction and open sites – Part 1: Noise* and *Part 2: Vibration*. Subject to good working practice as recommended in the EIAR Chapter, at the majority of noise-sensitive locations for the majority of the construction period, it is not expected that there will be any significant noise and vibration impacts. It is however possible that significant construction noise occurs while the works are being carried out at short distances from noise-sensitive locations. However, as the works will proceed along the route the duration of the effect at any one location is considered brief.

In terms of construction noise associated with the grid connection route the associated effect is stated to be negative, significant and brief. In relation to the noise from the

substation construction, the associated effect is stated to be negative, slight and temporary.

As the proposed 110kV lines will be located underground there is no operational noise impact associated and therefore no significant effect associated with their operation. Similarly, the proposed masts do not generate noise or vibration. In respect of the proposed substation, it has been shown in the EIAR the noise from the substation will be imperceptible at noise-sensitive locations. No significant vibration effects are associated with the operation of the proposed development.

In summary, the noise and vibration impact of the proposed development is not significant.

10.0 LANDSCAPE AND VISUAL

Site Baseline Description

The landscape of the area in the vicinity of the site is in a peri-urban condition, with the existing employment developments separated by areas of farmland (the future employment development lands) characterised by large, undulating fields divided by hedgerows or tree lines. Employment developments at Kish Business Park adjacent to the south of the site, Servier to the north across the railway line, and the IDA Business Park at Ballynattin to the west across the M11. Within Kish Business Park there are currently five large individual warehousing / factory buildings surrounded by hard standing areas, parking and road infrastructure, and several large, serviced sites currently covered in grass with potential for further development.

The site is located within a large area zoned for employment development, and is specifically zoned for 'Special Employment', i.e. a large, single, undivided employment development such as 'significant IT', including data centres.

Additionally, the site is located within the Arklow Urban Area in the Landscape Category Map contained in the Landscape Assessment in Appendix 5 of the WCDP Appendix 5. Regarding these areas, the Landscape Assessment states: "In terms of landscape classification, these settlements have already been deemed suitable for development (of the type allowed by the settlement strategy and the development standards of this plan) and the impacts on the wider landscape of such development has already been deemed acceptable".

The WCDP and the ALAP effectively prescribe the land use change – and therefore the landscape change – proposed.

Proposal Description

The proposed development comprises a location for a substation for a data centre and the route and siting of underground cables, pylons and associated infrastructure required to connect the substation with the grid. The single rectangular 110 kV Substation building (and ancillary structures and plant) is laid out perpendicular alongside permitted ICT Building 1 to the north west and is separated from them and surrounded by internal access roads. This orthogonal layout is the most efficient possible arrangement of the buildings on the site.

Due to the site's irregular shape, the orthogonal arrangement of the 110 kV Substation and adjacent permitted ICT facility buildings and infrastructure would result in several

areas surrounding the buildings being unused. These spaces provide opportunity for landscaping with the dual function of visual screening and biodiversity enhancement and would be integrated with that that has been proposed for the permitted ICT facility buildings.

The proposed development includes belts of woodland vegetation within these areas. The location of the proposed woodland belts was informed by the Landscape and Visual Impact Assessment, with the intention of (a) maximising the screening effect for the most sensitive visual receptors (the residential properties to the south, south east and west), and (b) maximising the biodiversity value, by connecting to the network of hedgerows around the site.

Landscape Impacts

The site is located within an area zoned for employment development, and is specifically zoned for 'Special Employment', which includes data centres. The site is surrounded on three sides (north, west and south west) by lands similarly zoned, and the area's transformation has begun: There is existing employment development adjacent to the south west (Kish Business Park) and north (Servier), as well as to the west beyond the railway line and M11 motorway.

Additionally, the site is classified as 'urban area' in the WCDP Landscape Assessment. These are the areas of (generally) lowest landscape sensitivity in the county. The Landscape Assessment states that these areas "have *already been deemed suitable for development of the type allowed by the settlement strategy [i.e. their zoning] and the development standards of this plan and the impacts on the wider landscape of such development has already been deemed acceptable*".

Overall, the landscape sensitivity of the receiving environment to the proposed development can be considered low-medium. At the wider scale (landscape scale) the development would be in keeping with the plan-driven trend of change towards an urban area dominated by employment uses.

Considering the magnitude of change and the sensitivity of the receiving environment the significance of the potential landscape effects can be classified neutral, slight and permanent.

Visual Impacts

The number and distribution of potential visual receptors in the receiving environment, and their degree of exposure to the site, is relatively limited. This is due to a number of factors including (a) the low-lying topography of the site combined with few publicly accessible elevated vantage points in the area; (b) the site's removal from the public road network (which additionally is sparse in the area, so there are few journeys made around the site); (c) the sparsity of existing development (particularly residential development) in the area – there are no houses close to the site to the west, north or east.

Viewpoints for Visual Effects Assessment

Seven viewpoints representative of the receiving environment were selected for visual impact assessment informed by verified photomontages. The viewpoints were selected to represent the range of potential visual receptors in terms of sensitivity, as well as views from various angles and distances from the site. The significance of the visual effects would be Moderate and negative.

Remedial And Mitigation Measures

No significant visual effects have been identified, and the proposal would contribute to the planned urbanisation of the Arklow southern environs, where an extensive expansion of the town is envisioned, with employment the predominant use.

The implementation of the Landscape Plan would have significant benefits to (a) the site's biodiversity, by expanding, connecting and diversifying habitats, and (b) the occupants of nearby residential properties, by screening the buildings from view.

Cumulative Effects

There is potential for cumulative impact if not adequately mitigated. While there is the potential for cumulative impacts between the Proposed Development and the Permitted ICT Facility during a simultaneous construction phase, the effect is considered to be neutral, imperceptible, and temporary in duration (due to the duration of the construction works of the Proposed Development lasting no more than 12 months).

The proposed Biofuel Facility is similarly subject to an Environmental Impact Assessment Report which includes appropriate mitigation measures to minimise environmental impacts. The effect is considered to be neutral, imperceptible, and permanent in duration.

The proposed substation and underground line in combination with the permitted ICT facility buildings development, in terms of both landscape and visual effects, is neutral slight and permanent. The proposed pylons result in inconspicuous cumulative effects with any other new development within the study area.

Residual Effects

While no significant negative landscape or visual effects have been predicted, and in the long term the effects will become neutral, it was recommended that a Landscape Plan be prepared for the site. Implementation of the Landscape Plan would – until further development takes place in the area - meaningfully reduce the negative visual effects. The planting would also have biodiversity benefits.

The proposed substation and underground line in combination with the permitted ICT facility buildings development, in terms of both landscape and visual effects, is slight and neutral. On balance, both landscape and visual effects are negative but not significant.

The proposed development is in keeping with the land use objectives for the site and the trend of landscape change in the receiving environment. It would cause no undue accumulation of landscape or visual effects, and once the ALAP is fully realised the development's effects would be reduced to neutral and negligible.

11.0 ARCHAEOLOGICAL, ARCHITECTURAL AND CULTURAL HERITAGE

This chapter assesses the predicted impacts of the proposed development on archaeological, architectural and cultural heritage using a number of sources including the Record of Monuments and Places, the National Inventory of Architectural Heritage, the Excavations Database, cartographic, aerial photography and documentary sources.

No recorded archaeological or architectural heritage features will be impacted on by the proposed development. Geophysical survey did not identify any features potentially associated with the former chapel and graveyard site of Killynee, immediately to the northwest of the proposed lands. However, sub-surface features relating to this, may survive sub-surface.

Geophysical survey identified a number of potential archaeological features, preliminarily identified as prehistoric fulachta fiadh, which are in keeping with similar findings uncovered during development in Ballynattin, to the northwest.

Potential impacts on archaeological and cultural heritage associated with the proposed development involves ground disturbance associated with the construction of the proposed development in green. Should archaeological remains survive below surface, then ground disturbance in these areas would remove sub-surface features.

Potential impacts on architectural heritage associated with the proposed development involves the demolition of the landscaped gardens and entranceway of the ruins of the 19th / early 20th century buildings which survive to the south of the proposed grid route.

To mitigate against the potential impact of the proposed underground route on these features, should they exist, a programme of archaeological monitoring where the route traverses greenfield by a suitably qualified archaeologist under license to the National Monuments Service will be undertaken.

To mitigate against the potential impact of the proposed substation on potential archaeological features, should they exist, the following mitigation measures will be undertaken:

- Pre-development archaeological testing, under license to the National Monuments Service of the Department of Culture, Heritage and the Gaeltacht, will be undertaken in advance of construction.
- Trenches will largely target anomalies identified by the archaeo-geophysical survey, but a number of trenches will also be excavated in areas where no features were highlighted (as per best practice guidelines; c. 10% of the site).
- Trenches will be dug by a tracked excavator equipped with a 1.8 m wide toothless ditching bucket. Each trench will be excavated to the surface of archaeological features, deposits or structures, or to the surface of the undisturbed natural soil or bedrock (typically less than 75cm). Topsoil will be removed from the test trenches in horizontal levels of not more than 0.20 m in thickness until sterile subsoil is reached.
- Should archaeological or architectural heritage features, deposits or structures be uncovered during these will be cleaned by hand, investigated and recorded.

By implementing the above mitigation measures, the assessed impact **imperceptible, positive** (where any encountered previously unknown archaeology is uncovered and recorded) and **permanent**.

Please note that the recommendations given here are subject to the approval of the National Monuments Service, Department of the Culture, Heritage and the Gaeltacht.

12.0 TRAFFIC AND TRANSPORTATION

The proposed development comprises a substation and associated work located on existing greenfield site together with duct and cable connection to the existing electricity grid. The facility will not require significant regular staffing.

Existing Road Access

The proposed substation site is located in the Kish Business Park off Clogga Road with ducting and cabling works passing through farmlands and along the R772 and L6187 south of Arklow.

Traffic Generation and Distribution

At the construction stage the site will generate a maximum of 45 operatives' vehicles per day together with up to 20 HGV movements. At operational stage there will be occasional van visits totalling one vehicle per day.

All traffic will access the substation site via the Kish Business Park Road and onwards to the R772 via Clogga Road.

Construction Phase Impacts

The substation site is on undulating terrain and services are provided along the existing road network adjacent to the site. Construction activities for the substation and associated facilities will be largely contained within the boundary of the site. Construction materials will need to be brought to the site as will specialist plant. It is anticipated that these deliveries will occur throughout the day and will be infrequent. There will be two cable routes established between the substation site and the existing electricity grid to provide security of supply. The construction of duct runs incorporates horizontal directional drilling for some sections in order to negate adverse impact on the railway and M11 motorway. Where possible routings are via farmlands, but there will be part routing along the local road network.

The estimated increase in traffic associated with the construction phase of the proposed development will be insignificant, but there will be adverse impact during ducting and cabling works. Overall, the impact will be of temporary in duration of insignificant negative effect.

Operational Phase Impacts

The generated trips to and from the site throughout the operational phase of the development, will not result in a material impact upon the surrounding road network. Overall, the impact of the development on the traffic and transportation environment will be long term in duration of insignificant neutral effect.

13.0 MATERIAL ASSETS

This chapter evaluates the potential impact from the proposed development on Material Assets which are defined in the EPA Guidelines (2012) as "*built services and infrastructure, roads and traffic and waste management*". The EPA Advice Notes (2015) also gives examples of material assets including assimilative capacity of air and water; ownership and access; and tourism and recreational infrastructure. The

European Commission Guidance (2017) refers to several examples of material assets including buildings, other structures, mineral resources and water resources.

The site consists of a 110 kV Substation Site and two linear routes “Circuit Route A” and “Circuit Route B” connecting the Substation to the existing 110 kV overhead line located to the west. The 110 kV Substation Site currently exists as agricultural land and the Circuit Routes are generally surrounded by the IDA Business Park, agricultural lands and some once-off developments.

The proposed development site is predominantly zoned as ‘*E Special – Special Employment*’ in the *Arklow and Environs Local Area Plan 2018-2024*, for which the zoning objective is to “*to facilitate opportunities for large, single, undivided employment development.*”

During construction, contractors will require power for onsite accommodation, and construction equipment/plant. The power requirements will be relatively minor. It is anticipated that generators will be provided on site to provide temporary power until a temporary connection to mains can be established.

Once in operation, the 110 kV Substation, Cable Circuits and Drop Down Mast do not require an electrical supply. The proposed 110 kV Substation and the cable connections are designed to support power demand for the three ICT Facilities previously permitted under WCC Reg. Ref. 201088.

The proposed construction works (inclusive of the Permitted ICT Facility) include the removal, infilling and redirection of the existing agricultural ditches that currently drain the site. Surface water discharge from the site will be managed and controlled for the duration of the construction works until the permanently attenuated surface water drainage system of the proposed site is complete. A temporary drainage system shall be installed prior to the commencement of the construction works to collect surface water runoff by the site during construction. Any discharge water will be treated using a silt-buster or similar to removed suspended solids prior to discharge. The excavated trench for the underground line will be dewatered if required, from a sump installed within the low section of the opened trench. Where dewatering is required, dirty water will be fully and appropriately attenuated, through silt bags, before being appropriately discharged to vegetation or surface water drainage feature

There is no additional hardstanding or surface water generation associated with the operational phase of the Cable Circuits or Drop Down Masts. The new hardstanding and resultant surface water associated with the 110 kV Substation will be collected using road gullies and a suitably sized network and discharged into the Permitted ICT Facility storm sewer. Prior to discharging into this storm sewer in the access road, all run-off will pass through a petrol interceptor.

The Permitted ICT Facility surface water drainage system has been designed in relation to Sustainable Urban Drainage Systems (SuDS) in accordance with the guidelines of the GSDS, the SuDS Manual Ciria C753, and the 2016-2022 Wicklow Green Infrastructure Development Plan Strategy. Measures include a detention basin (capacity of 7820 m³) to attenuate the surface water at the lower portion of the site, along the western boundary and 2 no. hydro-brake flow control which will limit the surface water runoff flow to 101.921 l/s each (203.84 l/s total). Surface water will ultimately discharge to the Moneylane Stream.

Welfare facilities will be provided for the contractors via portable sanitary facilities within the construction compound site during the construction works. It is anticipated

that due to the short duration of works and low waste water requirements that foul water will be collected from the welfare facilities by a licensed waste sewerage contractor.

The Cable Circuits and Drop Down Masts will have no waste water demand when operational. There will be limited waste water demand associated with the welfare facilities within the 110 kV Substation building when operational. Discharged foul water from the proposed substation will be collected using a suitably sized network and discharged into a new junior pumping station located in the green area adjacent to the substation. From here sewage will be pumped via a rising main to a new discharge manhole before gravity flowing into the Permitted ICT Facility. Irish Water issued a Confirmation of Feasibility letter (see Appendix 13.1) to confirm that the proposed foul water connection to the Arklow WWTP / Irish Water network can be facilitated subject to onsite treatment and upgrade works.

During construction, a temporary connection will be required for welfare facilities, dust suppression and general construction activities. It is anticipated that due to the short duration of works and low water requirements that water supply will be provided by tanker to the site.

When operational the Cable Circuits and Drop Down Masts do not require a potable water supply. The 110 kV Substation building has a potable water requirement associated with welfare facilities. A 32 mm connection will be made to the Permitted ICT Facility 150 mm watermain. Irish Water issued a Confirmation of Feasibility letter (see Appendix 13.1) to confirm that the proposed water supply connection to the Irish Water network can be facilitated subject to upgrades.

Telecommunications including fibre required during the construction phase will be provided via a mobile connection. There are telecommunication lines in existence for telephone and broadband services in the area and fibre provisions for the proposed development

The CEMP (AWN, 2022) will be implemented and adhered to by the construction Contractor and will be overseen and updated as required if site conditions change by the Project Manager, Environmental Manager and Ecological Clerk of Works where relevant. The implementation of mitigation measures within each chapter and detailed in this Chapter (Chapter 13) will ensure that the predicted impacts on the material assets during the construction phase will be neutral, imperceptible and short-term.

Likewise the implementation of mitigation measures within each chapter and detailed in Chapter 13 will ensure that the predicted impacts on the material assets during the operational phase will be neutral, imperceptible and long-term.

14.0 WASTE MANAGEMENT

AWN Consulting Ltd. carried out an assessment of the potential impacts associated with waste management during the construction and operational phases of the proposed development. The receiving environment is largely defined by Wicklow County Council as the local authority responsible for setting and administering waste management activities in the area through regional and development zone specific policies and regulations.

During the construction phase, typical construction and demolition (C&D) waste materials will be generated which will be source segregated on-site into appropriate

skips/containers and removed from site by suitably permitted waste contractors to authorised waste facilities. Where possible, materials will be reused on-site to minimise raw material consumption. Source segregation of waste materials will improve the reuse opportunities of recyclable materials off-site. There will be topsoil and subsoil excavated to facilitate construction of new foundations and underground services. It is estimated that c. 0.046 m³ of material will be excavated to facilitate the proposed development. The 110 kV Substation site requires a net fill of 22,091 m³. The recontouring of the 110 kV Substation lands will be undertaken as part of the ICT Facility permitted under WCC Reg. Ref.: 201088. The permitted ICT Facility required a net export of soil / stones. The proposed development will therefore utilise cut material from the ICT Facility site and will not require the importation of fill material.

A carefully planned approach to waste management and adherence to the site-specific Resource and Waste Management Plan (Appendix 14.1) during the construction phase will ensure that the effect on the environment will be **short-term, neutral and imperceptible**.

During the operational phase, a structured approach to waste management as set out in Chapter 14 will promote resource efficiency and waste minimisation. Provided the mitigation measures are implemented and a high rate of reuse, recycling and recovery is achieved, the predicted impact of the operational phase on the environment will be **long-term, neutral and imperceptible**.

15.0 INTERACTIONS – INTERRELATIONSHIPS BETWEEN THE ASPECTS

This chapter of the EIA Report addresses potential interactions and inter-relationships between the environmental factors discussed in the preceding chapters. This covers both the construction and operational phase of the proposed development.

The interactions between the environmental factors and impacts discussed in this EIA Report have been assessed and the majority of interactions are neutral.

During operation the noise impact will be greater than in the current agricultural environment although it will not at risk of impact on human health. The proposed development will create significant temporary direct and indirect employment. This will have a positive benefit on the economic development for the area in which the development is located.

There are no significant negative impacts predicted from the interactions of the constituent elements of the proposed development when viewed in the light of their associated mitigation measures.