Volume 1: Planning Statement

Colehill 110kV Substation and Grid Route

20/11/2025

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1. INTRODUCTION

BACKGROUND

1.1. Neo Environmental Ltd has been appointed by Renewable Energy Systems on behalf of Ballyteige Solar Limited (the "Applicant") to undertake a Planning Statement for a Strategic Infrastructure Development ("SID") Application for a new 110kV Substation ("Colehill 110kV Substation") and grid connection to the existing Thornsberry 110kV substation.

1.2. The purpose of this Statement is to outline the Planning merit of the Proposed Development within a context of best practice guidance, legislation and National and County Planning Policy and should be read in conjunction with the following documentation that accompanies the subject application:

- Planning Forms
  - Landowner Letters of Consent;
  - Site notice;
  - Newspaper advert (Local and National); and
  - Cover Letter;
  - Letters to Prescribed Bodies;
  - SID Determination Letter;
  - Schedule of Pre-App Consultation; and
  - Drawing Schedule.
- Volume 1
  - Natura Impact Statement; and
  - Planning Statement.
- Volume 2
  - Planning & Technical Drawings
- Volume 3 – Technical Appendices
  - Technical Appendix 1. Landscape and Visual Impact Assessment (LVIA);

- Technical Appendix 2. Ecological Impact Assessment (EcIA);
- Technical Appendix 3. Archaeology and Architectural Heritage Impact Assessment (AAHIA);
- Technical Appendix 4. Flood Risk Assessment (FRA) and Drainage Impact Assessment (DIA);
- Technical Appendix 5. Construction Traffic Management Plan (CTMP);
- Technical Appendix 6: Preliminary Construction Traffic Management Plan (PCTMP); and
- Technical Appendix 7: Outline Construction and Environmental Management Plan (OCEMP); and
- Technical Appendix 8 – Assessment of Acoustic Impact.

DEVELOPMENT DESCRIPTION

1.3. "The Proposed Development" comprises of a 110kV substation, access road, interconnection cables and grid route. The Proposed Development is to facilitate the connection of Ballyteige (PA Ref: 2198) and Derrygrogan (PA Ref: 22378 and ABP 318041-23) solar farms to the national grid. The method of connection to the national grid for the new substation will be a 110kV tail-fed connection into the existing Thornsberry Substation.

1.4. A detailed description of each of the elements within the Proposed Development can be found in **Section 3** below.

1.5. Please see **Figure 103**, **Volume 2** for the layout of the Proposed Development.

SITE DESCRIPTION

1.6. The Proposed Development is situated within the townlands of Ballyteige Little, Wood of O, Corndarragh, Derrynagall or Ballydaly, Ardan and Puttaghan, Co. Offaly.

1.7. The Colehill 110kV Substation is proposed to be located in one relatively flat agriculture field. The proposed 7.5km grid route will run in a northeast direction from the proposed Colehill 110kV substation to the existing ESB Thornsberry 110kV substation via private land and local roads. Interconnection cables from the eastern sections of Derrygrogan Solar Farm will be

installed via horizontal directional drilling on a section of an agricultural field underneath the dry canal into the proposed access and track of Colehill 110kV Substation.

1.8. The Proposed Development lies at an elevation of c. 71.7 to 77.8m AOD and covers a total area of c. 11.2 hectares. The approximate Irish Grid Reference points (ITM) of the proposed Colehill 110kV substation are X 639234 and Y 727175. Access to the proposed substation will be from the Wood of O road to the east of the Substation "Proposed Substation Site" which is the same entrance point for the consented Ballyteige Solar Farm (PA Ref: 2198).

1.9. The grid route is c.250m northeast of Tullamore Town, while the substation is 5.8km northeast from Tullamore Town.

2. THE PROPOSAL

2.1. Offaly County Council will be aware of the background to the 2No. Solar Farms which are registered under **Planning Reference 2198, 22378 and ABP 318041-23.** The proposed entrance will be from the Wood of O to the east of the Proposed Substation Site which is the same entrance point for the consented Ballyteige Solar Farm (PA Ref: 2198).

2.2. The Prospective Applicant requested a Pre-Application consultation under Section 182e of the Planning and Development Act (as amended). The SID pre-application meeting was then held virtually on 17th July 2023. The meeting was chaired by Stephen Kay (Assistant Director of Planning), Karla McBride and Evan McGuigan were also present and representing An Bord Pleanala. Representing the Prospective Applicant was Paul Neary of Neo-Environmental Ltd and Rachel Buchanan of Renewable Energy Systems (RES) Limited. On 11th October 2024, the Board decided that the proposed development would be strategic infrastructure within the meaning of section 182A of the Planning and Development Act, 2000, as amended.

2.3. Schedule 7 of the Planning and Development Act 2000 (updated 16 July 2021) lists various energy and transmission development types which require a SID application.

2.4. The characteristics of the proposed infrastructure are as follows:

- The proposed method will be a tail fed connection and is defined as *'a new 110kV substation to connect into the existing Thornsberry Substation.'* This type of connection is not listed within the Section 37A of the Planning and Development (Strategic Infrastructure) Act 2006;
- The Substation and grid route lies within one local authority and there are no implications for any other planning authority;
- The Substation and grid route does not lie within any designated areas;
- The Substation currently is to facilitate the Ballyteige Solar Farm (PA Ref: 2198) and the Derrygrogan Solar Farm **(PA Ref: 22378** and **ABP 318041-23)** but once energised, the substation and grid connection will be handed over to ESB networks (as the Transmission System Owner) and it will become part of the National Electricity Network. Therefore, there is potential for future connections if they choose to utilise the substation in the future.
- The substation is not a critical link for other strategic developments in the area; and
- All equipment proposed is standard and meets EirGrid functional specifications.

2.5. Based on environmental assessments, the scale and type of development are in line with the criteria outlined in Schedule 7 of the Planning and Development Act 2000 (updated 16 July 2021). It is therefore anticipated that the proposed infrastructure **will not constitute EIA Development.**

3. DEVELOPMENT DESCRIPTION

3.1. This Section provides a detailed breakdown and description of the design of the Proposed Development.

1 No. Substation Compound

3.2. The substation compound is made up of crushed aggregate which will be compacted to create a surface.

3.3. The substation compound will consist of the following:

- 3No. work areas
- CCTV
- Associated drainage
- Enclosed by 2.6m high palisade fencing and gates
- 1No. Eirgrid control building, 110kV bay arrangements, 4No. lightning poles, compound road
- Crane hardstand, 2 No. transformers and 2 No. auxiliary transformers 110kV electrical equipment and back up generator
- 2 No. Independent Power Purchaser (IPP) control buildings and compound including toilet, 2No. grid code compliance equipment, 2No. harmonic filters, car parking and telecoms pole)

Grid route

3.4. The grid route comprises of c.7.5km underground 110kV cabling with joint bays, over and under water crossing from the proposed Colehill 110kV Substation to the existing Thornsberry 110kV substation. The proposed cable route may require a Horizontal Directional Drilling (HDD) crossing where the route intersects the Corndarragh Stream. In this case, the cable will cross under the watercourse using a trenchless HDD method, subject to detailed design and liaising with Offaly County Council. From the proposed Colehill 110kv Substation, the trench will travel for 240m to the entrance of the Ballytiege solar farm within private land and from here will be constructed within the Wood of O carriageway for 929m before its junction with the L1025. The trench will then follow the L1025 in a western direction for approximately 4750m before it meets the junction with the L1024. The trench will then turn north along the L1024 for approximately 1,203m before it meets the entrance of the Thornsberry 110kV

substation. From here the trench will run for 300m along ESB owned land where it ends at the Thornsberry 110kV substation (which is not part of this planning application).

Remaining associated infrastructure:

- perimeter fencing,
- Access tracks (upgraded, existing and new),
- Temporary construction compound and tracks,
- Temporary and permanent road re-alignment of a section of Wood of O local road,
- c. 610m of medium voltage underground cabling trenching with associated horizontal directional drill.

3.5. Details of all infrastructure are illustrated in each of the Planning Drawings which are located within Volume 2 of this application.

4. CONSTRUCTION

4.1. This Section will provide a brief summary on the construction process associated with the Proposed Development.

4.2. The following activities will be undertaken during the construction phase:

- Erecting construction traffic signage;
- Creation of internal access track;
- Upgrade existing access track;
- Erecting fence;
- Constructing the temporary compound and track;
- Site preparation, including mowing and marking out if required;
- Constructing the permeable pad for the grid compound;
- Sustainable Drainage Systems (SuDS) installation;
- Traffic management system for cable route;
- Cable route trenching and cable laying;
- Horizontal Directional Drilling;
- construction of the road widening;
- Road reinstatement;
- Concrete base formation for the buildings and associated above ground infrastructure;
- Building of above ground infrastructure;
- Installation of ecological and landscape measures as outlined within the supporting Ecology and Landscape and Ecology Management Plan (LEMP), please see **Figure 1.8, Appendix 1A of Technical Appendix 1: Landscape and Visual Assessment.**

4.3. Please note, however, that many of these tasks will take place concurrently in order to limit the construction phase as far as is reasonably possible.

4.4. The construction phase of the Proposed Development is anticipated to cover a period of 12-18 months. During this period, there will be a combination of HGVs for the component

deliveries and cars/vans for construction staff. HGV movements are expected to be most intense throughout the early stages of construction, tailing off towards the final weeks. Car/van movements are expected to be constant throughout.

4.5. All traffic movements will be carried out between the hours of 07.00 to 19.00 on Monday to Friday and 08.00 to 16.00 on Saturdays. Outside of these times works are limited to:

- Testing;
- The abnormal delivery of the Substation transformers;
- Works required in an emergency where there is the potential of harm or damage to personnel, plant, equipment, or the environment, provided the developer retrospectively notifies Offaly County Council of such works within 24 hours of their occurrence.

5. POLICY CONTEXT

5.1. European Union (EU) and Irish Government policies at national, regional and local level identify the development and promotion of renewable energy as a primary strategy in implementing energy policy, tackling climate change and the transition to a low carbon climate resilient and environmentally sustainable economy.

Global Context

5.2. The 2005 'Kyoto Protocol' provided a framework for international action on climate change at a global level. As part of this, Ireland committed themselves to legally binding targets to reduce their greenhouse gas emissions. Ireland were party to the Conference of Parties to the United Nations Framework Convention on Climate Change in December 2015, signifying their intent to play a proactive part in the long-term emissions reduction goal that aspires to net-zero emissions after 2050 via the Paris Agreement.

European Context

5.3. The Renewable Energy Directive 2009/28/EC committed Member States to setting their own targets within a context of an overarching EU target of producing 20% of its energy from renewable sources by 2020. However, the European Commission has since published a revised Renewable Energy Directive to make the EU a global leader in renewable energy and ensure that the target of at least 27% renewables in the final energy consumption in the EU by 2030 is met. This target is binding at EU level and will be fulfilled through individual Member States' contributions guided by the need to deliver collectively for the EU.

5.4. In the context of the Proposed Development, it is also relevant to acknowledge the Renewable Energy Directive (EU) 2018/2001, as amended by the revised Directive (EU) 2023/2413 (REDIII), which strengthens the EU's renewable energy framework. REDIII establishes binding targets to achieve a minimum 42.5 percent share of renewable energy in the EU's overall energy consumption by 2030, with an ambition to reach 45 percent. It also introduces provisions to accelerate permitting processes for renewable energy projects, designating such developments as being in the overriding public interest and requiring Member States to streamline assessment procedures. These measures reinforce the positive policy presumption in favour of renewable energy projects and align directly with Ireland's national policy objectives and the Offaly County Development Plan 2021–2027. In this regard, the Proposed Development remains consistent with both EU and national renewable energy obligations, further supporting its compliance with the wider planning and policy framework.

National Context

5.5. A brief summary of Ireland's legislative context is provided below;

- National Climate Change Strategy 2007-2012[1]
  - Sets out a programme for achieving targets to limit the emission of greenhouse gases in Ireland by reducing transport emissions, encouraging renewable energy, changing agricultural practices and changing in waste disposal policies and plans.
- Delivering a Sustainable Energy Future for Ireland 2007-2020 White Paper[2]
  - This Paper establishes the strategic goal of accelerating growth of renewable energy sources and increasing the production of electricity from renewable energy sources to 33% by 2020, (which has subsequently been increased to 40% in December 2008).
- National Energy Efficiency Plan 2009-2020[3]
  - The Plan sets out a strategy to reduce the Ireland's dependence on imported fossil fuels, improve energy efficiency across a number of sectors and ensure a sustainable energy future.
- National Renewable Energy Action Plan Ireland (NREAP)[4]
  - Article 4 of the 2009/28/EC Directive on renewable energy required Ireland and other Member Statesto adopt a national renewable energy action plan. Submitted to the European Commission in 2010, Ireland's NREAP sets out national targets for the share of energy from renewable sources to be consumed in transport, electricity and heating and cooling in 2020. The plan demonstrates how Ireland will meet its overall national target established under the Directive.
- National Policy Position on Climate Action and Low Carbon Development, 2014[5]

[1] https://www.teagasc.ie/media/website/crops/crops/NationalClimateChangeStrategy2007_2012.pdf

[2] https://www.teagasc.ie/media/website/crops/crops/EnergyWhitePaper12March2007.pdf

[3] https://www.dccae.gov.ie/en-ie/energy/topics/Energy-Efficiency/Pages/related-publications.aspx

[4] https://www.teagasc.ie/media/website/crops/crops/2010NREAP.pdf

[5] https://www.dccae.gov.ie/en-ie/climate-action/publications/Pages/National-Policy-Position.aspx

- The National Policy Position provides a high-level policy direction for the adoption and implementation by Government of plans to enable the State to move to a low carbon economy by 2050.

- Ireland's Transition to a Low Carbon Energy Future 2015 – 2030 White Paper[6]
  - With recognition of the EU and global policy context, the core objectives of Irish energy policy up to 2030 are sustainability, security of supply and competitiveness in the transition to a lowcarbon system. The White Paper makes clear that this transition requires the active engagement of both local and national state agencies, including local planning authorities, along with citizens, communities and businesses.

- Climate Action and Low Carbon Development Act, 2015[7]
  - The Act provides the legislative underpinning of the Irish Government's objective of a low carbon, climate resilient and environmentally sustainable economy by 2050, and supports wider EU and UN objectives. The Act and the objectives it underpins provide a clear steer in favour of development that assists with the transition to a low-carbon, climate resilient and environmentally sustainable economy.

- National Mitigation Plan, (NMP), July 2017[8]
  - This first NMP, (to be completed every five years), represents a critical first step towards a decarbonised economy, identifying where Ireland is in terms of a decarbonisation transition and addressing the challenge of 2020 targets, whilst laying the foundation for the achievement of the 2050 objective.

- National Adaptation Framework, January 2018[9]
  - This outlines statutory enforced responsibilities for Government departments, State agencies and local authorities to reduce the vulnerability of the Ireland to the negative effects of climate change.

[6]https://www.dccae.gov.ie/en-ie/energy/topics/Energy-Initiatives/energy-policy-framework/white-paper/Pages/White-Paper-on-Energy-Policy-inIreland-.aspx

7https://www.dccae.gov.ie/en-ie/climate-action/legislation/Pages/Climate-Action-and-Low-Carbon-Development-Act-2015.aspx

8https://www.dccae.gov.ie/en-ie/climate-action/publications/Pages/National-Mitigation-Plan.aspx

9https://www.dccae.gov.ie/en-ie/climate-action/topics/adapting-to-climate-change/national-adaptation-framework/Pages/default.aspx

- Renewable Electricity Support Scheme, (RESS), July 2018[10]

  – The RESS is a High-Level Design Paper following in the footsteps of the White Paper providing support to renewable electricity projects in Ireland. It will also incorporate a series of auctions to be held at frequent intervals throughout the lifetime of the scheme. This will allow Ireland to take advantage of falling technology costs and by not auctioning all the required capacity at once; we will not be 'locking in' higher costs for consumers for the entirety of the scheme. The Policy objectives of the RESS include:

    - An Enabling Framework for Community Participation through the provision of pathways and supports for communities to participate in renewable energy projects;
    - Increasing Technology Diversity by broadening the renewable electricity technology mix (the diversity of technologies);
    - Delivering an ambitious renewable electricity policy to 2030; and
    - Increasing energy security, energy sustainability and ensuring the cost effectiveness of energy policy.

Regional and Local Planning Policy Context

5.6. Whilst the National climate change and energy policy provide the landscape within which the planning system is set, it is against Regional and Local Planning Policy that the specifics of the subject application are to be considered and, as with the original application, the most applicable documents are:

- Regional Spatial and Economic Strategy for the Eastern and Midland Region
- Offaly County Development Plan 2021-2027

5.7. Prior to the establishment of the Eastern and Midland Regional Assembly on 1st January 2015, the three previous Regional Authorities within Eastern and Midland Region produced individual Regional Planning Guidelines (RPG's), which the original application these were replaced by the Regional Spatial and Economic Strategy (RSES) on the 28th June 2019, in accordance with section 24 (9) of the Planning and Development Act 2000.

"The objective of regional spatial and economic strategies shall be to support the implementation of the National Spatial Strategy and the economic policies and objectives of

10https://www.dccae.gov.ie/en-ie/energy/topics/Renewable-Energy/electricity/renewable-electricity-supports/ress/Pages/default.aspx

the Government by providing a long-term strategic planning and economic framework for the development of the region for which the strategies are prepared which shall be consistent with the National Spatial Strategy and the economic policies or objectives of the Government." (sec23 Planning and Development Act 2000).

5.8. The Strategy recognises in section 7 (page 178) of the report that;

"The Region will need to shift from its reliance on using fossil fuels and natural gas as its main energy source to a more diverse range of low and zero-carbon sources, including renewable energy and secondary heat sources. Decentralised energy will be critical to the Region's energy supply and will ensure that the Region can become more self-sufficient in relation to its energy needs……The Strategy supports an increase in the amount of new renewable energy sources in the Region. This includes the use of wind energy – both onshore and offshore, biomass, and solar photovoltaics and solar thermal, both on buildings and at a larger scale on appropriate sites in accordance with National policy and the Regional Policy Objectives outlined in this Strategy".

5.9. The relevant Regional Policy Objectives are as follows;

RPO 7.35: EMRA shall, in conjunction with local authorities in the Region, identify Strategic Energy Zones as areas suitable for larger energy generating projects, the role of community and micro energy production in urban and rural settings and the potential for renewable energy within industrial areas. The Strategic Energy Zones for the Region will ensure all environmental constraints are addressed in the analysis. A regional landscape strategy could be developed to support delivery of projects within the Strategic Energy Zones.

RPO 7.38: Local authorities shall consider the use of heat mapping to support developments which deliver energy efficiency and the recovery of energy that would otherwise be wasted. A feasibility assessment for district heating in local authority areas shall be carried out and statutory planning documents shall identify local waste heat sources.

5.10. The Strategy recognises in section 10 (page 224) of the report that;

"The main energy networks serving the Region are electricity and gas. Having regard to projected population growth and economic growth in the Region it is important that the existing electricity and gas networks can be upgraded to provide appropriate capacity to facilitate development of the Region. Improving energy efficiency is vital in order to reduce energy consumption while improving economic growth. The roll-out of Smart Grids to support Smart Cities development is supported to advance this sector. Increased connectivity with other grids is also needed and projects such as the North South interconnector are of great importance for the Region. See relevant policy supports in relation to Smart technologies in Chapter 6 Economy and Employment and Chapter 7 Environment and Climate.

The diversification of our energy production systems away from fossil fuels and towards green energy such as wind, wave, solar and biomass, together with smart energy systems and the conversion of the built environment into both generator/consumer of energy and the electrification of transport fleets will require the progressive and strategic development of a different form of energy grid. The development of onshore and offshore renewable energy is critically dependent on the development of enabling infrastructure including grid facilities to bring the energy ashore and connect to major sources of energy demand. It is also necessary to ensure more geographically focused renewables investment to minimise the amount of additional grid investment required, for example through co-location of renewables and associated grid connections."

5.11. The relevant Regional Policy Objectives are as follows;

RPO 10.19: Support roll-out of the Smart Grids and Smart Cities Action Plan enabling new connections, grid balancing, energy management and micro grid development.

RPO 10.20: Support and facilitate the development of enhanced electricity and gas supplies, and associated networks, to serve the existing and future needs of the Region and facilitate new transmission infrastructure projects that might be brought forward in the lifetime of this Strategy. This Includes the delivery of the necessary integration of transmission network requirements to facilitate linkages of renewable energy proposals to the electricity and gas transmission grid in a sustainable and timely manner subject to appropriate environmental assessment and the planning process.

RPO 10.22: Support the reinforcement and strengthening of the electricity transmission and distribution network to facilitate planned growth and transmission/ distribution of a renewable energy focused generation across the major demand centres to support an island population of 8 million people.

5.12. It is clear that the Strategy supports the objectives of the Proposed Development.

Offaly County Development Plan 2021 – 2027

5.13. Offaly County Development Plan was adopted on 10th September 2021 and Volume 1 includes the Written Statement. Within this, Chapter 3, Climate Action & Energy, it highlights the need for a balanced approach to responding to government policy on renewable energy and harnessing the wind energy resources of the County in an environmentally sustainable manner. It goes on to state:

"A reasonable balance between responding to overall positive Government policy on renewable energy and enabling the wind energy resources of the Planning Authority's area to be harnessed in a manner that is consistent with proper planning and sustainable development."

5.14. Relevant objectives from this section include:

- CAEO-03 It is an objective of the Council to achieve a reasonable balance between responding to government policy on renewable energy and in enabling the wind energy resources of the county to be harnessed in an environmentally sustainable manner.

- CAEO-04 It is an objective of the Council to ensure the security of energy supply by supporting the potential of the wind energy (and other renewable) resources of the County in a manner that is consistent with proper planning and sustainable development of the area.

- CAEO-05 It is an objective of the Council to implement the Council's Wind Energy Strategy as follows:

    1. In 'Areas Deemed Open for Consideration for Wind Energy Development' as identified in Map No. 10 'Wind Energy Strategy Designations', the development of windfarms and smaller wind energy projects will be considered; To facilitate improvements in energy infrastructure and encourage the expansion of the infrastructure within the County;

    2. In all other areas, wind energy developments shall not normally be permitted – except as provided for under relevant exemption provisions in the Planning and Development Regulations 2001 (as amended); and

    3. Applications for re-powering (by replacing existing wind turbines) and extension of existing and permitted wind farms will be assessed on a case-by-case basis and will be subject to criteria listed in Development Management Standard 109 contained in Chapter 13 of Volume 1 of this County Development Plan and the Section 28 Ministerial Wind Energy Development Guidelines.

5.15. As set out above, the proposed development is generally supported locally and nationally in policies and objectives set out in the Offaly County Development Plan 2021-2027 and the Regional Spatial and Economic Strategy (2020-2032) for the Midlands Region.

5.16. Regarding the above, it is considered that the Proposed Development of a new 110kV substation and grid route to connect into the existing Thornsberry Substation is broadly accepted and supported by both national and local policy as it is required to export energy from the Ballyteige and Derrygrogan Solar Farms and to provide a source of renewable energy supply to the grid.

6. PLANNING MERIT AND SUMMARY OF COMPLIANCE

6.1. This Section of the Statement will seek to evaluate the Planning Merit and potential impacts associated with the subject development by looking at the key planning considerations on an individual basis below.

The Principle of Development

6.2. Offaly County Council ('OCC') has already accepted the principle of a Solar Farm development at the subject site via the granting **Planning Reference 2198**. This proposal is merely a Substation and associated grid infrastructure (including interconnection cables and HDD) to facilitate the Ballyteige Solar Farm (**PA Ref: 2198**), and the Derrygrogan Solar Farm (**PA Ref: 22378 and ABP 318041-23**). One could therefore argue that adherence with the Regional and Local Planning Policies listed in **Section 6** has already been achieved.

EIA Development

6.3. Based on environmental assessments, the scale and type of development are in line with the criteria outlined in Schedule 7 of the Planning and Development Act 2000 (updated 16 July 2021). It is therefore anticipated that the proposed infrastructure **will not constitute EIA Development.**

Natura Impact Statement

6.4. This application includes a **Natura Impact Statement ('NIS')** (see **Volume 1** for more detail).

6.5. The NIS assesses whether there is connectivity with any European Designated site within a 15km radius of the Proposed Development and whether it alone or in combination with other plans or projects, is likely to have any significant effects on these European Designated sites.

6.6. Within the 15km zone of influence surrounding the Proposed Development there are six Special Areas of Conservation (SACs), namely, Charleville Wood SAC, Raheenmore Bog SAC, Spilt Hills and Long Esker SAC, Clara Bog SAC, River Barrow and River Nore SAC and Lough Ennel SAC. In addition, within the 15km zone of influence surrounding the Proposed Development there are two Ramsar sites, namely, Clara Bog Ramsar site and Raheenmore Bog Ramsar site. No Special Protection Areas (SPAs) were identified within the 15km study zone.

6.7. It was found that hydrological connectivity exists between the Proposed Development and the Charleville Wood SAC and ecological connectivity exists between the Proposed Development and the River Barrow and River Nore SAC.

6.8. With the implementation of best practice construction methods as detailed in **Technical Appendix 8: Outline Construction Environmental Management Plan** (OCEMP), it can be concluded that there will be **no significant impacts** on the integrity of all SACs within the zone of influence.

6.9. It is therefore considered that the next stage of the Appropriate Assessment is not required and that the development will **not result in any significant Impacts** for any European Designated site.

Ecological Impact Assessment

6.10. An **Ecological Impact Assessment ('EcIA')** was completed as part of this application and can be found within **Volume 3, Technical Appendix 2**).

6.11. Baseline information within the ecological impact assessment comprises of an initial desk-based assessment and a Fossitt habitat survey where nine habitat types were identified. The main habitat within the Development Boundary is Improved Agricultural Grassland (GA1).

6.12. The main impacts during the construction phase include the direct loss of habitat under the Proposed Development footprint and indirect loss of habitat due to disturbance and pollution. The loss of the improved agricultural grassland is considered to be **negligible** for nature conservation within the local area.

6.13. As previously mentioned in the NIS section above, there were six Special Areas of Conservation within the 15km study zone, one of which has hydrological connectivity and another which has ecological connectivity with the Proposed Development. In addition to this, the EcIA assesses Natural Heritage Areas (NHA) and proposed Natural Heritage Areas (pNHA) within 5km of the Proposed Development. In this instance there is one NHA, Daingean Bog NHA and seven proposed Natura Heritage Areas, consisting of Charleville Wood pNHA, Ballyduff Esker pNHA, Derrygolan Esker pNHA, Murphy's Bridge Esker pNHA, Rahugh Ridge (Kiltober Esker) pNHA, Ballyduff Wood pNHA and The Grand Canal pNHA. It was found that ecological connectivity exists with the Grand Canal pNHA.

6.14. In-keeping with the conclusions of the NIS, the EcIA concludes that there will be **no adverse effects** on the integrity of any European Designated sites or other ecological designated sites from the Proposed Development. However, as a precaution, several measures have been outlined within the EcIA to reduce any potential impacts of the Proposed Development on European Designated sites and any ecological designated site.

6.15. It is considered that the Proposed Development is **unlikely to have any significant effects** upon local wildlife. However, as a precaution, several measures have been outlined within this report to reduce any potential impacts on local ecology.

Landscape and Visual Impact Assessment

6.16. A **Landscape and Visual Impact Assessment ('LVIA')** was undertaken and submitted as part of this application, which can be found within **Volume 3, Technical Appendix 1**. The purpose of the LVIA is to consider the potential direct and indirect effects of the Proposed Development upon the landscape resources, views and visual amenity receptors within the existing landscape and visual baseline across a 5km study zone.

Construction Effects

6.17. Landscape and visual effects during construction will vary depending on the location and intensity of active works. Activities will include the development of the substation, associated infrastructure, and the grid connection route (potential HDD at Corndarragh stream) and a HDD crossing beneath the dry canal.

6.18. Construction effects of the access tracks, grid route, road re-alignment and interconnection cable will be confined to localised vegetation clearance, trenching, and reinstatement along roadside verges. These activities will be short-term, linear, and reversible, with no long-term alteration to the physical landscape fabric. Mitigation measures will include the re-use of excavated materials where possible, replanting of lost roadside vegetation where feasible, and prompt reseeding of exposed soils. The These construction activities therefore assessed as having slight, short-term, and temporary effects on the landscape.

6.19. Most groundworks within the Proposed Substation will be screened by existing vegetation and buildings, or only partially visible from local roads to the northeast. Construction activities such as vehicle movements, temporary site infrastructure, and tall equipment may cause short-term disruption, but these will be temporary and confined to the construction period. The greatest potential for visibility arises in the immediate vicinity of the Substation Site, particularly to the east and south where views are more open. Beyond 500m, views are unlikely due to screening by vegetation and built form. Any glimpses would be limited and only a minor component of the wider panoramic landscape.

6.20. Overall, construction effects are assessed as temporary and adverse but of **Very Low** magnitude. The resulting significance of landscape and visual effects during construction is **Not Significant**.

Landscape Effects (operational)

6.21. The Proposed 110kV Substation is located within County Offaly's Landscape Classification Area of Low Sensitivity. The grid connection route is situated on the edge of a High Sensitivity Landscape Character Area.

6.22. The substation will replace a field previously used for pastoral agriculture, introducing an industrial character within the confines of the site boundary. While this alters the land use

from agricultural to infrastructure-based, the change is contained within existing field boundaries and partly enclosed by mature hedgerows and forestry.

6.23. Direct effects on landscape character are therefore localised, with the magnitude of change assessed as **Very Low/Negligible**, resulting in **Not Significant** effects. Indirect effects outside the site boundary are also limited, as views of the substation are heavily screened by vegetation and landform. Any change in perception is confined to the immediate surroundings. Beyond 500m to 2km, effects diminish further and are **Not Significant**.

Visual Effects (operational)

6.24. The main visual receptors include local residents, road users, pedestrians, and amenity users of the Grand Canal and Grand Canal Greenway. Residents and pedestrians are considered more sensitive than vehicle travellers, whose views will be fleeting and transitory.

6.25. The ZTV indicates that visibility is most likely within 250m, with the upper elements of the masts and tower being the most evident. However, intervening vegetation and landform heavily limit direct views, and lower elements such as the control building and transformers will generally be screened or only partially perceptible. Existing forestry and tree cover to the southwest provide additional screening

6.26. The greatest potential for visual effects arises within 250m, but even here, views are filtered, and the magnitude of change is **Very Low to Negligible**, with resulting effects **Not Significant**. For more distant receptors, visibility is further reduced by screening, weather, and the presence of existing infrastructure such as 110kV overhead lines, which provide a contextual backdrop.

6.27. Overall, operational visual effects are assessed as **Very Low** to **Negligible** magnitude and **Not Significant.**

Archaeology and Architectural Heritage Impact Assessment

6.28. This application includes an **Archaeology and Architectural Heritage Impact Assessment ('AAHIA'),** see **Volume 3, Technical Appendix 3** for more details.

6.29. A desk-based assessment was conducted to ascertain all historical and archaeological information relevant to the Proposed Development site and the local area. All types of heritage assets were considered and assessed within a 2km study zone around the Proposed Development, including grid route. The size of this study zone was selected to ensure that comprehensive and informative data was collated to characterise the direct and indirect effects that the Proposed Development may have on historical and archaeological assets within the local area. Baseline information was also obtained through a site walkover survey, map regression analysis, placenames analysis, aerial photography and consultation with relevant records and databases.

6.30. There are no recorded sites within the RMP, RPS and NIAH that are within or adjacent to the Proposed Substation Site that could be physically impacted by the Proposed Development. In addition, no features of potential archaeological significance were identified within the site during the investigations, including the baseline analysis and site walkover survey. The only internal feature highlighted from the analysis was the linear line of a former drainage channel depicted on the OSI 6" historic map, which is not considered to be of archaeological importance and not sensitive to direct impacts. As such, direct effects upon known archaeological and heritage assets are anticipated to be Negligible as a result of the proposed substation, track and HDD area and **no specific mitigation measures will be required for the protection or recording of any known remains**. In addition, while the grid route is proposed in close proximity to recorded historic structures, such impacts are expected to be sufficiently mitigated by design.

6.31. Due to the limited archaeological potential of the Proposed Substation Site, **it is recommended that no specific further pre-determination works would be necessary in relation to archaeology and heritage**. Nonetheless, due to the potential for surviving hitherto-unknown remains, **it is recommended that as a minimum, all groundworks associated with the preparation and construction of the substation be monitored by a qualified archaeologist during the construction stage**. The implementation of an appropriate programme of archaeological works, as managed by a qualified archaeologist, would ensure that measures are in place to facilitate the preservation of hitherto-unknown sub-surface remains present within the Proposed Substation Site, either by record (including the potential for further excavation/fieldwork) or *in-situ*, as appropriate. Any required archaeological work is at the discretion of the NMS and Offaly County Council.

6.32. Indirect effects upon the surrounding heritage assets have been assessed as overall **Low** in the worst case. Therefore, **no specific mitigation is considered to be required for the reduction of any visual impacts upon heritage assets**.

Flood Risk Assessment and Drainage Impact Assessment

6.33. A **Flood Risk Assessment and Drainage Impact Assessment ('FRA-DIA')** has been submitted as part of this application and can be found in **Volume 3, Technical Appendix 4**.

6.34. The FRA-DIA uses guidance set out by the Department of Environment, Heritage and Local Government in 'The Planning System and Flood Risk Management Guidelines for Planning Authorities' document. The guidance aims to avoid inappropriate development in flood zones and instead direct it to areas of low risk by adopting a sequential approach.

6.35. The Preliminary Flood Risk Assessment (PFRA), National Infrastructure Fluvial Mapping (NIFM) and CFRAM flood maps flood maps present no areas within the Proposed Substation Site identified as being at risk of flooding from fluvial or coastal events and therefore the Proposed Substation Site is situated in 'Flood Zone C'.

6.36. The proposed type of development is specified as Highly Vulnerable Development category outlined in The Planning System and Flood Risk Management Guidelines. The access track can be classed as 'Water Compatible Development', whilst the substation has been classed as 'Highly Vulnerable Development'. Both are appropriate for Flood Zone C.

6.37. In addition to fluvial and coastal flood risk, the PFRA map also indicates areas of flood risk due to pluvial sources. This indicates no areas of pluvial flooding within the Proposed Substation Site. In addition, the topographical survey was analysed and due to the sloping land down to the watercourse, it is unlikely any surface water flooding will occur. There is a small area of pluvial flooding where HDD is proposed from the Derrygrogan Solar Farm, however this will be managed by only conducting the HDD when there is no forecast of rain.

6.38. It is proposed to construct a network of rainwater harvesting tanks and two soakaway pits/infiltration drains within the Proposed Substation Site. The idea is to capture any overland flow in the SuDS device before infiltrating into the surrounding soils.

6.39. The underground piped system connects the Eirgrid building and IPP switchroom to rainwater harvesting tanks, which overflow into soakaway pits/infiltration drains. As the transformer will hold a volume of oil, the system will include a class 1 full retention separator. The soakaway pits/infiltration drains and rainwater harvesting tanks will be designed to hold a total volume of 111m^3 with the detailed design of the structure being submitted to the council for review prior to the construction period.

6.40. A permanent toilet is proposed within the Eirgrid building and IPP switchrooms and will be utilised by maintenance staff of substation. Each toilet will be off grid toilet with a foul holding tank which will be emptied when required by an approved contractor.

6.41. Additional drainage measures to be implemented on-site include the following:

- Laydown areas: laydown areas are to be unpaved and constructed from local stone. Temporary swales or similar shall be utilised to collect runoff from access tracks with discharge to ground through percolation areas. Where swales are utilised, frequent checks of dams formed from gravels and other excavated material should be undertaken.

6.42. The FRA and DIA have therefore demonstrated that the Proposed Development will **not increase flood risk** away from the Proposed Development during the construction, operation and decommissioning phases. The Proposed Development is therefore considered to be acceptable in planning policy terms.

Construction Traffic Management Plan

6.43. A **Construction Traffic Management Plan ('CTMP')** has been produced and submitted with this application, which can be found in **Volume 3, Technical Appendix 5**.

6.44. The CTMP outlines the overall framework for managing the movement of construction and delivery traffic to and from the Proposed Development, as well as considering the type of traffic it will generate. The traffic assessment for the operational phase is also considered.

6.45. Increased volumes of traffic will be generated by the Proposed Development during the construction period. However, the overall volumes of traffic generated each day by the Proposed Development during the construction period are considered to be quite low. During the anticipated twelve-month construction period, a total of 314 HGV deliveries will be made to the Proposed Development Site. During the peak construction period, it is anticipated that there will be an approximate maximum of 15 daily HGV deliveries.

6.46. Local Roads have a standard speed limit of 80km/h and using the guidance prescribed within the Design Manual for Roads and Bridges this equates to visibility splays of 160m x 3m. The visibility splay is achievable with no remedial works.

6.47. Swept path analysis shows that the existing access requires 6m of hedgerow removal, as well as a small post, in order to be suitable for the largest construction vehicles to access the Proposed Development. No works are required to the carriageway to enable the construction vehicles to enter the Proposed Substation Site. The Wood of O Road, which connects the site entrance from the L60051-1 to the Proposed Substation is a private road to which the Applicant has access rights. There is no drainage in place at present where the new internal access tracks meet this road and there are none proposed.

6.48. Two pinch points were identified along the haul route, one at the L1025/L60051-1 junction and one along the L60051-1. The works required to ensure the largest construction vehicle can access the Proposed Substation Site include; Temporary Road widening with a load bearing surface, temporary hedgerow removal (21m), telegraph pole relocation and permanent widening of road.

6.49. The Applicant will conduct a pre- and post-construction condition survey on the L60051-1, from the site access point to its junction with the L1025, with the Applicant liable to repair any damage to the public roads attributed to the construction of the Proposed Development. This should be conditioned as part of any planning consent.

6.50. The CTMP sets out a variety of specific mitigation measures that will be implemented during construction that will minimise the impact of the construction traffic on the environment and local communities; these include:

- Limitations on working times and HGV scheduling;
- Site security and signage; and,
- Measures to control emissions of dust and other airborne contaminants.

6.51. This Construction Traffic Management Plan conforms to the policies and objectives of the Offaly County Development Plan 2021-2028, and the Design Manual for Roads and Bridges published by the National Roads Authority (NRA).

Preliminary Construction Traffic Management Plan

6.52. The application also includes a Preliminary Construction Traffic Management Plan ('PCTMP), which can be found in Volume 3, Technical Appendix 6.

6.53. The aim of the PCTMP is to put in place procedures to manage grid connection and interconnection construction traffic effectively. Measures are outlined within it which enhance the efficient transportation of construction materials and machinery whilst minimising delay and disruption to general traffic.

6.54. The proposed cable route will run from the proposed Substation to the existing Thornsberry 110kV substation. From the proposed Substation, the trench will travel for 240m to the entrance of the Ballytiege solar farm within private land and from here will be constructed within the Wood of O carriageway for 929m before its junction with the L1025. The trench will then follow the L1025 in a western direction for approximately 4750m before it meets the junction with the L1024. The trench will then turn north along the L1024 for approximately 1,203m before it meets the entrance of the Thornsberry 110kV substation. From here the trench will run for 300m along ESB owned land where it ends at the Thornsberry 110kV substation (which is not part of this planning application).

6.55. Details of the Trenching Methodology and Horizontal Directional Drilling can be found within the Outline Construction Methodology, Appendix 6B, Volume 3.

6.56. Prior to the commencement of construction, a fully detailed Construction Traffic Management Plan (CTMP) will be prepared by the Contractor and submitted to Offlay County Council for approval. The aim of a CTMP is to put in place procedures to manage grid connection and interconnection cables construction traffic effectively. It will outline measures to enhance the efficient transportation of construction materials and machinery whilst minimising delay and disruption to general traffic.

6.57. The UGC works will require a road opening licence under Section 254 of the Planning and Development Act 2000-2015 from Offaly County Council. In the event that planning consent is granted for the Proposed Development, the Draft details of the proposal including drawings/location maps showing directional drill works under the dry canal and the road re-alignment of two sections of the Wood of O were provided to Waterways Ireland. Waterways Ireland responded with a letter of support.

6.58. PCTMP will be updated prior to commencement of development to address the requirements of any relevant planning conditions, including any additional mitigation measures, which are conditioned and will be submitted to the planning authority for written approval. The final CTMP will outline the location of traffic management signage, together with the location of any necessary road closures and the routing of appropriate diversions. Where diversions are required, these will be agreed with Offaly County Council in advance of the preparation of the final CTMP.

6.59. The impact of the Proposed Development has been identified as temporary in nature and associated with a short construction stage only. It is still important that any impact is minimised as far as possible and, in light of this, the following mitigation measures should be considered:

- Advanced publicity outlining the traffic management proposals and duration and giving advance warning of specific traffic management measures;
- Adequate advance signing of the works;
- Using the existing road for cabling works at off-peak hours;
- Using more than one crew at different location along the route to shorten the duration of the grid connection works; and
- Using appropriate machinery to maintain access along the public roads at all times.

6.60. Other mitigation measures include:

- Road signage is to be put in place throughout the site to comply with the traffic management plan;
- Signage will be cleaned and maintained regularly;
- Public roads will be kept clean by sweeping when necessary; and
- All vehicles will be limited to an appropriate maximum speed to be determined in the Construction traffic management plan

Outline Construction Environmental Management Plan

6.61. An **Outline Construction and Environmental Management Plan (OCEMP)** has been produced in support of this application (see **Technical Appendix 7** within **Volume 3** for more detail).

6.62. The overall objective of the OCEMP is to reduce the potential impact on the environment during the construction phase of the Proposed Development. The appointed contractor will need to follow the measures identified within the document.

Acoustic Impact Assessment

6.63. An **Acoustic Impact Assessment ('AIA')** has been produced in support of this application (see **Technical Appendix 8** within **Volume 3** for more detail).

6.64. The scope includes predicting sound levels due to the proposed development in order to assess whether relevant limits are met. Construction noise is discussed and will be further managed through a final CEMP which will be submitted post consent.

6.65. The main sources of sound within the proposed development are the two grid transformers within the substation compound.

6.66. Predictions represent the worst case and the sound levels would be expected to be less when the site is not operating at maximum capacity. The transformers will be operational both daytime and night-time, therefore the predicted levels will be the same for both periods.

6.67. The limits recommended by the WHO Guidelines for Community Noise are met by significant margins of greater than or equal to 16 dB(A) during the daytime and 11 dB(A) at night-time. The limit recommended by the WHO Night Noise Guidelines is met by a margin of 6 dB(A), noting that this is a conservative assessment as the maximum predicted sound level due to the proposed development is being compared to an annual average limit.

6.68. The nearby Ballyteige solar farm (based on the amended site layout which is being submitted to Offaly County Council as an amendment planning application to Ref:2198) and Derrygrogan solar farm (consented: Ref:22378) are considered in a cumulative assessment.

6.69. The limits recommended by the WHO Guidelines for Community Noise are met by significant margins of greater than or equal to 11 dB(A) during the daytime and 7 dB(A) at night-time. The limit recommended by the WHO Night Noise Guidelines is met by a margin of 2 dB(A), noting that this is a conservative assessment as the maximum predicted sound level is being compared to an annual average limit.

6.70. A qualitative assessment of the acoustic impact associated with the construction of the solar farm has been undertaken with reference to BS 5228-1:20096 in order to predict the likely impact upon the nearest residential properties and adjacent church during the construction period.

6.71. Where relatively intense construction activities are expected and/or are to be undertaken near neighbouring residences, specific attention to potential for enhanced mitigation measures to reduce the level of noise from these activities. The British Standards Institution (February 2014) BS 5228-1:2009 + A1:2014 Code of Practice for Noise and Vibration Control on Construction and Open Sites – Part 1: Noise 9 will be considered as and when necessary.

6.72. For all activities, measures will be taken to reduce construction sound levels with due regard to practicality and cost as per the concept of ‘best practicable means’ as defined in Section 72 of the Control of Pollution Act 1974.

6.73. Overall, the results show that relevant limits would be met during both daytime and night-time periods.

Landowner Benefits

6.74. The Proposed Development is required to export the energy from the two solar farms which provide a stable and diversified source of revenue over a sustained period while improving the ecological value of the sites.

Legacy Benefits

6.75. As the substation and grid route will become part of the National grid infrastructure, this will provide an opportunity for future renewable energy projects to connect to the Grid Network. Substations provide a more diversified supply of electricity, help harness the potential of clean energy potentially leading to lower energy costs for consumers and contribute to Ireland's climate goals by providing access to renewable power.

Other Socio-Economic Benefits

6.76. The proposed development will generate a range of economic benefits both in terms of its construction and operation, generating jobs for installation and maintenance. A range of support services will be required including haulage, on-site welfare facilities, refuse and recycling facilities, transport and potentially local accommodation for construction workers.

7. SUMMARY

7.1. "The Proposed Development" comprises of a 110kV substation, access road, interconnection cables and grid route. The Proposed Development is to facilitate the connection of Ballyteige (PA Ref: 2198) and Derrygrogan (PA Ref: 22378 and ABP 318041-23) solar farms to the national grid. The method of connection to the national grid for the new substation will be a 110kV tail-fed connection into the existing Thornsberry Substation.

7.2. This Proposed Development will help to facilitate the continued growth and economic development of Co. Offaly, whilst also helping to meet objectives in relation to increasing the provision of renewable energy nationally, regionally, and locally.

- The policies and objectives included within the national, regional and local plans, particularly Offaly County Development Plan 2021-2027 and the Regional Spatial and Economic Strategy (2020-2032) for the Eastern and Midland Region both support the provision of a secure and reliable energy transmission infrastructure.

7.3. The proposed Substation at the subject site will also retain the following significant benefits:

- A significant saving of CO2 per year compared to equivalent fossil fuel generation by enabling the development of the adjacent solar farm;
- Helping the county of Offaly to fulfil its aims of increased renewable energy production;
- Assisting the National efforts to achieve legally binding renewable energy targets at the EU level;
- Improving energy security for Irish consumers in a volatile marketplace;
- Providing local economic benefits in the form of rural diversification;

7.4. To conclude, we would reiterate that current legislation and planning policy advocate support for renewable energy developments and requires positive consideration, subject to development management and environmental considerations. There are no potential impacts that are considered unacceptable within the context of the planning policy framework for assessing such developments therefore on this basis, we contend that planning permission should be granted.

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