



Pinewoods Wind Farm Substation & Grid Connection

Chapter 9: Landscape

Pinewood Wind Limited

Galetech Energy Services

Clondargan, Stradone, Co. Cavan Ireland

Telephone +353 49 555 5050

www.galetechenergy.com



Contents

9.1	Introduction	1
9.1.1	Statement of Authority	1
9.1.2	Description of Proposed Development	2
9.1.3	Definition of Study Area	2
9.2	Methodology	2
9.2.1	Desk Study	2
9.2.2	Fieldwork	2
9.2.3	Appraisal	3
9.3	Description of Existing Environment	8
9.3.1	Landscape Baseline	8
9.3.2	Landscape Policy Context and Designations	11
9.3.3	Visual Baseline	13
9.3.4	Identification of Viewshed Reference Points as a Basis for Assessment	17
9.4	Description of Likely Effects	20
9.4.1	Landscape Effects	20
9.4.2	Landscape Impacts – Decommissioning Phase	24
9.4.3	Visual Effects	24
9.4.4	Cumulative Effects	32
9.5	Mitigation Measures	34
9.5.1	Construction Phase	34
9.5.2	Operational Phase	34
9.5.3	Decommissioning Phase	35
9.6	Residual Impacts and Monitoring	35
9.6.1	Post-mitigation Landscape Impacts	35
9.6.2	Post-mitigation Visual Impacts	35
9.7	Summary	35
9.7.1	Landscape Impacts	35
9.7.2	Visual Impacts	36



9.1 Introduction

This chapter describes the landscape context of the proposed development and assesses the likely significant landscape and visual impact of the scheme on the receiving environment.

Although closely linked, landscape and visual impact are assessed separately. Landscape Impact Assessment (LIA) relates to changes in the physical landscape brought about by the proposed development, which may alter its character, and how the landscape is experienced. This requires a detailed analysis of the individual elements and characteristics of a landscape that go together to make up the overall landscape character of that area. By understanding the aspects that contribute to landscape character, it is possible to make judgements in relation to its quality (integrity) and to identify key sensitivities. This, in turn, provides a measure of the ability of the landscape in question to accommodate the type and scale of change associated with the proposed development, without causing unacceptable adverse changes to its character.

Visual Impact Assessment (VIA) relates to assessing effects on specific views and on the general visual amenity experienced by people. This deals with how the surroundings of individuals or groups of people may be specifically affected by changes in the content and character of views as a result of the change or loss of existing elements of the landscape and/or introduction of new elements. Visual impacts may occur from; visual obstruction (blocking of a view, be it full, partial or intermittent) or; visual intrusion (interruption of a view without blocking).

Cumulative landscape and visual impact assessment is concerned with additional changes to the landscape or visual amenity caused by the proposed development in conjunction with other developments (associated or separate to it), or actions that occurred in the past, present or are likely to occur in the foreseeable future.

This assessment uses methodology as prescribed in the following guidance documents:-

- Environmental Protection Agency (EPA) publication '*Guidelines on the Information to be contained in Environmental Impact Statements*' (Draft 2017) and the accompanying Advice Notes on Current Practice in the Preparation of Environmental Impact Statements (Draft 2015); and
- Landscape Institute and the Institute of Environmental Management and Assessment publication entitled *Guidelines for Landscape and Visual Impact Assessment – Third Addition* (2013).

9.1.1 Statement of Authority

This landscape and visual assessment (LVIA) was prepared by Richard Barker (MLA MILI) and Rory Curtis (GDip.LA MILI) of Macro Works Ltd, a specialist LVIA company with over 20-years of experience in the appraisal of effects from a variety of energy, infrastructure and commercial developments. Relevant experience extends to numerous electrical infrastructure developments including transmission lines and substations as well as the assessment of over 140 wind energy developments, including LVIA work on six Strategic Infrastructure Developments (SID), and 100 solar energy developments. Macro Works and its senior staff members are affiliated with the Irish Landscape Institute.

9.1.2 Description of Proposed Development

In summary, the proposed development comprises the following main components:-

- 1 no. 110kV 'loop-in/loop-out' air-insulated switchroom (AIS) substation including control buildings, transformers and all ancillary electrical equipment; and
- All associated site development, access and reinstatement works.

The entirety of the proposed development is located within the administrative area of County Laois; while the overall Pinewoods Wind Farm project is located partly within County Laois and County Kilkenny. Additionally, candidate quarries which may supply construction materials are also located within County Kilkenny and Carlow.

A full description of the proposed development is presented in **Chapter 3**

9.1.3 Definition of Study Area

On the basis of assessments undertaken in respect of similarly sized developments, it is anticipated that the proposed development is likely to be difficult to discern beyond approximately 2km and is not likely to give rise to significant landscape or visual impacts beyond this distance. Therefore the study area for this assessment is a 2km radius around the proposed development site.

9.2 Methodology

The production of this LVIA involved desktop studies to understand the existing baseline environment; fieldwork recording the elements and characteristics of the landscape and the selection and capture of images to allow the preparation of photomontages; and the professional evaluation of the baseline environment and the effects which may occur as a result of the proposed development with the aid of the accompanying photomontages.

9.2.1 Desk Study

The desk study involved:-

- Establishing an appropriate study area from which to study the landscape and visual impacts of the proposed development;
- Review of a Zone of Theoretical Visibility (ZTV) map, which indicates areas from which the development is potentially visible in relation to terrain within the study area;
- Review of relevant legislation and guidance, including County Development Plans, particularly with regard to sensitive landscape and scenic view/route designations; and
- Selection of possible Viewshed Reference Points (VRPs/VPs) from key visual receptors to be investigated during fieldwork for actual visibility and sensitivity.

Concerns raised by local residents and consultees in previous submissions related to the permitted Pinewoods Wind Farm, as they relate to landscape and visual effects, were also assessed in the preparation of this chapter.

9.2.2 Fieldwork

The fieldwork undertaken to inform this assessment included:-

- Recording a description of the landscape elements and characteristics within the study area;

- Selection of a refined set of VRP's for assessment. This includes the capture of reference images and grid reference coordinates for each VRP location for the visualisation specialist to prepare photomontages;
- Following the selection of VRPs, photo-realistic images (photomontages) of the proposed development were prepared by Macro Works.

9.2.3 Appraisal

This assessment, undertaken following the completion of fieldwork and the preparation of photomontages, includes:-

- Consideration of the receiving landscape with regard to overall landscape character as well as the salient features of the study area including landform, drainage, vegetation, land use and landscape designations;
- Consideration of the visual environment including receptor locations such as centres of population and houses; transport routes; public amenities and facilities and; designated and recognised views of scenic value;
- Consideration of design guidance and planning policies;
- Consideration of potentially significant effects and the mitigation measures that could be employed to reduce such effects;
- Estimation of the significance of residual landscape impacts;
- Estimation of the significance of residual visual impacts aided by photomontages prepared at all of the selected VRP locations; and
- Estimation of cumulative landscape and visual effects in combination with other surrounding existing, permitted or proposed developments.

9.2.3.1 Assessment Criteria for Landscape Impact

The classification system used by Macro Works to determine the significance of landscape and visual impacts is based on the IEMA *Guidelines for Landscape and Visual Impact Assessment* (2013). When assessing the likely impacts on the landscape resulting from a development, the following criteria are considered:-

- Landscape character, value and sensitivity;
- Magnitude of likely impacts; and
- Significance of landscape effects

The sensitivity of the landscape to change is the degree to which a particular landscape receptor (Landscape Character Area (LCA) or feature) can accommodate changes or new features without unacceptable detrimental effects to its essential characteristics. The value and sensitivity of landscapes is classified using the following criteria.

Sensitivity	Description
Very High	Areas where the landscape character exhibits a very low capacity for change in the form of development. Examples of which are high value landscapes, protected at an international or national level (World Heritage Site/National Park), where the principal management objectives are likely to be protection of the existing character.
High	Areas where the landscape character exhibits a low capacity for change in the form of development. Examples of which are high value landscapes, protected at a national or regional level (Area of Outstanding Natural Beauty), where the principal management objectives are likely to be considered conservation of the existing character.
Medium	Areas where the landscape character exhibits some capacity and scope for

	development. Examples of which are landscapes which have a designation of protection at a county level or at non-designated local level where there is evidence of local value and use.
Low	Areas where the landscape character exhibits a higher capacity for change from development. Typically this would include lower value, non-designated landscapes that may also have some elements or features of recognisable quality, where landscape management objectives include, enhancement, repair and restoration.
Negligible	Areas of landscape character that include derelict, mining, industrial land or are part of the urban fringe where there would be a reasonable capacity to embrace change or the capacity to include the development proposals. Management objectives in such areas could be focused on change, creation of landscape improvements and/or restoration to realise a higher landscape value.

Table 9.1: Landscape Value and Sensitivity

The magnitude of a predicted landscape impact is a product of the scale, extent or degree of change that is likely to be experienced as a result of a proposed development. The magnitude takes into account whether there is a direct physical impact resulting from the loss of landscape components and/or a change that extends beyond the proposed site boundary that may have an effect on the landscape character of the area.

Magnitude of Impact	Description
Very High	Change that would be large in extent and scale with the loss of critically important landscape elements and features, that may also involve the introduction of new uncharacteristic elements or features that contribute to an overall change of the landscape in terms of character, value and quality.
High	Change that would be more limited in extent and scale with the loss of important landscape elements and features, that may also involve the introduction of new uncharacteristic elements or features that contribute to an overall change of the landscape in terms of character, value and quality.
Medium	Changes that are modest in extent and scale involving the loss of landscape characteristics or elements that may also involve the introduction of new uncharacteristic elements or features that would lead to changes in landscape character, and quality.
Low	Changes affecting small areas of landscape character and quality, together with the loss of some less characteristic landscape elements or the addition of new features or elements.
Negligible	Changes affecting small or very restricted areas of landscape character. This may include the limited loss of some elements or the addition of some new features or elements that are characteristic of the existing landscape or are hardly perceivable.

Table 9.2: Magnitude of Landscape Impacts

The significance of landscape and visual impacts are based on a balance between the sensitivity of the receptor and the magnitude of the impact. The significance of impacts is arrived at using the following matrix:-

Scale/ Magnitude	Sensitivity of Receptor				
	Very High	High	Medium	Low	Negligible
Very High	Profound	Profound-substantial	Substantial	Moderate	Slight
High	Profound-substantial	Substantial	Substantial - moderate	Moderate-slight	Slight-imperceptible
Medium	Substantial	Substantial-moderate	Moderate	Slight	Imperceptible
Low	Moderate	Moderate-slight	Slight	Slight-imperceptible	Imperceptible
Negligible	Slight	Slight-imperceptible	Imperceptible	Imperceptible	Imperceptible

*Categories with orange shading are considered to equate with 'significant' impacts in EIA terms

**The significance matrix provides an indicative framework from which the significance of impact is derived. The significance judgement is ultimately determined by the assessor using professional judgement. Due to nuances within the constituent sensitivity and magnitude judgements, this may be up to one category higher or lower than indicated by the matrix.

Table 9.3: Impact Significance Matrix

It should also be noted that possible beneficial landscape impacts are not accounted for in the tables and matrix above. This is on the basis that developments of the nature of that proposed are very unlikely to generate beneficial landscape impacts. In the rare instances that this might occur, perhaps by facilitating the rehabilitation of a degraded landscape, the benefits will be discussed in the assessment and the significance of impact would default to the lowest end of the range (Imperceptible).

9.2.3.2 Assessment Criteria for Visual Impact

As with the landscape impact, the visual impact of the proposed development will be assessed as a function of receptor sensitivity versus magnitude of effect. In this instance, the sensitivity of visual receptors will be weighed against the magnitude of visual effects.

Visual sensitivity

Unlike landscape sensitivity, visual sensitivity has an anthropocentric basis. Visual sensitivity is a two-sided analysis of receptor susceptibility (people or groups of people) versus the value of the view on offer at a particular location.

To assess the susceptibility of viewers and the amenity value of views, the assessors use a range of criteria and provide a four-point weighting scale to indicate how strongly the viewer/view is associated with each of the criterion. Susceptibility criteria are extracted directly from the *IEMA Guidelines for Landscape and Visual Assessment* (2013), whilst the value criteria relate to various aspects of a view that

might typically be related to high amenity including, but not limited to, scenic designations. The susceptibility criteria are set out below.

Susceptibility of receptor group to changes in view

This is one of the most important criteria to consider in determining overall visual sensitivity because it is the single category dealing with viewer susceptibility. In accordance with the *IEMA Guidelines for Landscape and Visual Assessment* visual receptors most susceptible to changes in views and visual amenity are:-

- Residents at home;
- People, whether residents or visitors, who are engaged in outdoor recreation, including use of public rights of way, whose attention or interest is likely to be focussed on the landscape and on particular views;
- Visitors to heritage assets, or to other attractions, where views of the surroundings are an important contributor to the experience;
- Communities where views contribute to the landscape setting enjoyed by residents in the area; and
- Users of road, rail or other transport routes where such travel involves recognised scenic routes and awareness of views is likely to be heightened.

Visual receptors that are less susceptible to changes in views and visual amenity include:-

- People engaged in outdoor sport or recreation, which does not involve or depend upon appreciation of views of the landscape; and
- People at their place of work whose attention may be focussed on their work or activity, not their surroundings and where the setting is not important to the quality of working life.

Recognised scenic value of the view (County Development Plan designations, guidebooks, touring maps, postcards etc)

These represent a consensus in terms of which scenic views and routes within an area are strongly valued by the population because, in the case of County Development Plans, a public consultation process is required.

Views from within highly sensitive landscape areas

Again, highly sensitive landscape designations are usually part of a Landscape Character Assessment, which is then incorporated into the County Development Plan and is therefore subject to the public consultation process. Viewers within such areas are likely to be highly attuned to the landscape around them.

Intensity of use, popularity

Whilst not reflective of the amenity value of a view, this criterion relates to the number of viewers likely to experience a view on a regular basis and whether this is significant at county or regional scale.

Connection with the landscape

This considers whether or not receptors are likely to be highly attuned to views of the landscape i.e. commuters hurriedly driving on busy national route versus hill walkers directly engaged with the landscape enjoying changing sequential views over it.

Provision of elevated panoramic views

This relates to the extent of the view on offer and the tendency for receptors to become more attuned to the surrounding landscape at locations that afford broad vistas.

Sense of remoteness and/or tranquillity

Remote and tranquil viewing locations are more likely to heighten the amenity value of a view and have a lower intensity of development in comparison to dynamic viewing locations such as a busy street scene, for example.

Degree of perceived naturalness

Where a view is valued for the sense of naturalness of the surrounding landscape, it is likely to be highly sensitive to visual intrusion by obvious human interventions.

Presence of striking or noteworthy features

A view might be strongly valued because it contains a distinctive and memorable landscape feature such as a promontory headland, lough or castle.

Historical, cultural or spiritual value

Such attributes may be evident or sensed at certain viewing locations that attract visitors for the purposes of contemplation or reflection heightening the sense of their surroundings;

Rarity or uniqueness of the view

This might include the noteworthy representativeness of a certain landscape type and considers whether other similar views might be afforded in the local or the national context;

Integrity of the landscape character in view

This criterion considers the condition and intactness of the landscape in view and whether the landscape pattern is a regular one of few strongly related components or an irregular one containing a variety of disparate components;

Sense of place

This criterion considers whether there is special sense of wholeness and harmony at the viewing location; and

Sense of awe

This criterion considers whether the view inspires an overwhelming sense of scale or the power of nature.

Those locations where highly susceptible receptors or receptor groups are present and which are deemed to satisfy many of the view value criteria above are likely to be judged to have a high visual sensitivity and vice versa.

Visual Impact Magnitude

The magnitude of visual effects is determined on the basis of two factors; the visual presence of the proposed development and its effect on visual amenity.

Visual presence is a somewhat quantitative measure relating to how noticeable or visually dominant the proposal is within a particular view. This is based on a number of aspects beyond simply scale in relation to distance. Some of these include the extent of the view as well as its complexity and the degree of existing contextual movement experienced. The backdrop against which the development is

presented and its relationship with other focal points or prominent features within the view is also considered. Visual presence is essentially a measure of the relative visual dominance of the proposal within the available vista and is expressed as such i.e. minimal, sub-dominant, co-dominant, dominant or highly dominant.

It should be noted that as a result of this two-sided analysis, a high order visual presence can be moderated by a low level of effect on visual amenity and vice versa. The magnitude of visual impacts is classified in the following table:-

Criteria	Description
Very High	The proposal intrudes into a large proportion or critical part of the available vista and is without question the most noticeable element. A high degree of visual disorder or disharmony is also generated, strongly reducing the visual amenity of the scene.
High	The proposal intrudes into a significant proportion or important part of the available vista and is one of the most noticeable elements. A considerable degree of visual disorder or disharmony is also likely to be generated, appreciably reducing the visual amenity of the scene.
Medium	The proposal represents a moderate intrusion into the available vista, is a readily noticeable element and/or it may generate a degree of visual disorder or disharmony, thereby reducing the visual amenity of the scene. Alternatively, it may represent a balance of higher and lower order estimates in relation to visual presence and visual amenity.
Low	The proposal intrudes to a minor extent into the available vista and may not be noticed by a casual observer and/or the proposal would not have a marked effect on the visual amenity of the scene.
Negligible	The proposal would be barely discernible within the available vista and/or it would not detract from, and may even enhance, the visual amenity of the scene.

Table 9.4: Magnitude of Visual Impact

9.2.3.3 Visual Impact Significance

As stated above, the significance of visual impacts is a function of visual receptor sensitivity and magnitude of visual impact. This relationship is expressed in the impact significance matrix in **Table 9.3**.

9.3 Description of Existing Environment

9.3.1 Landscape Baseline

The landscape baseline represents the existing landscape context and is the scenario against which any changes to the landscape brought about by the proposed development will be assessed. This also includes reference to any relevant landscape character appraisals and the current landscape policy context (both are generally contained within County Development Plans).

A description of the landscape context of the proposed development site and wider study area is provided below under the headings of 'landform and drainage', 'vegetation and land use', 'centres of population', 'transport route's and 'public amenities and facilities' as well as the immediate site context. Additional descriptions of the landscape, as viewed from each of the selected viewpoints, are provided under the detailed assessments later using a similar structure. Although this description forms part of the landscape baseline, many of the landscape elements

identified also relate to visual receptors i.e. places and transport routes from which viewers can potentially see the proposed development. The visual resource will be described in greater detail in **Section 9.3.3** below.



Figure 9.1: Aerial photograph showing the landscape context within the 2km radius study area.

9.3.1.1 Landform and Drainage

At a the macro level, the study area is situated in a transitional area at the north-western fringe of the Castlecomer Plateau, between a low lying rolling landscape to the west and more distinct undulating upland hills to the east. The eastern fringe of the Castlecomer Plateau tends to be the most elevated portion of the plateau, reaching c.336m above ordnance datum (AOD). Within the study area, orientated in a north to south alignment, there is an escarpment which rises to 302m AOD and slopes down to the river valley of the Owenbeg (Owveg) River (a tributary of the River Nore) in the northern and western segments of the study area at c.130m AOD. The centre of the study area, at the site of the proposed development, the terrain sits at c.240m AOD. Three lower order watercourses; Keelagh, Knockardagur and Agnacross; flow from east to west in the study area into the Owenbeg River.

9.3.1.2 Vegetation and Land Use

Vegetation within the western study area is relatively uniform comprising of rolling agricultural farmland mainly consisting of good quality pasture and arable crops. The irregular, small sized fields are often bound by a mix of dense tree lined hedgerows and, on occasion, with low-clipped hedgerows. Areas of Transitional woodland scrub can be found throughout the study area. A block of commercial conifer forest occurs in the southeast of the study area, the site of the permitted

Pinewoods Wind Farm, while riparian vegetation traces the watercourses that wind through the study area (**Figure 9.1** refers). Kilsaran Concrete is a notable industrial operation at the western extent of the study area.

9.3.1.3 Transport Routes and Centres of Population

The R430 regional road is the most substantial road in the study area, passing through the northern portion of the study area, while a network of local roads serve dwellings scattered across the study area. There are no defined or notable centres of population within the study area; with settlements generally comprising single dwellings or dwellings associated with agricultural landholdings.

9.3.1.4 Ecological Designations

River Barrow and River Nore Special Areas of Conservation (Site Code: 002162) traces the course of the Owenbeg (Owveg) River as it passes through the northern and western extents of the study area (see **Figure 9.2**).

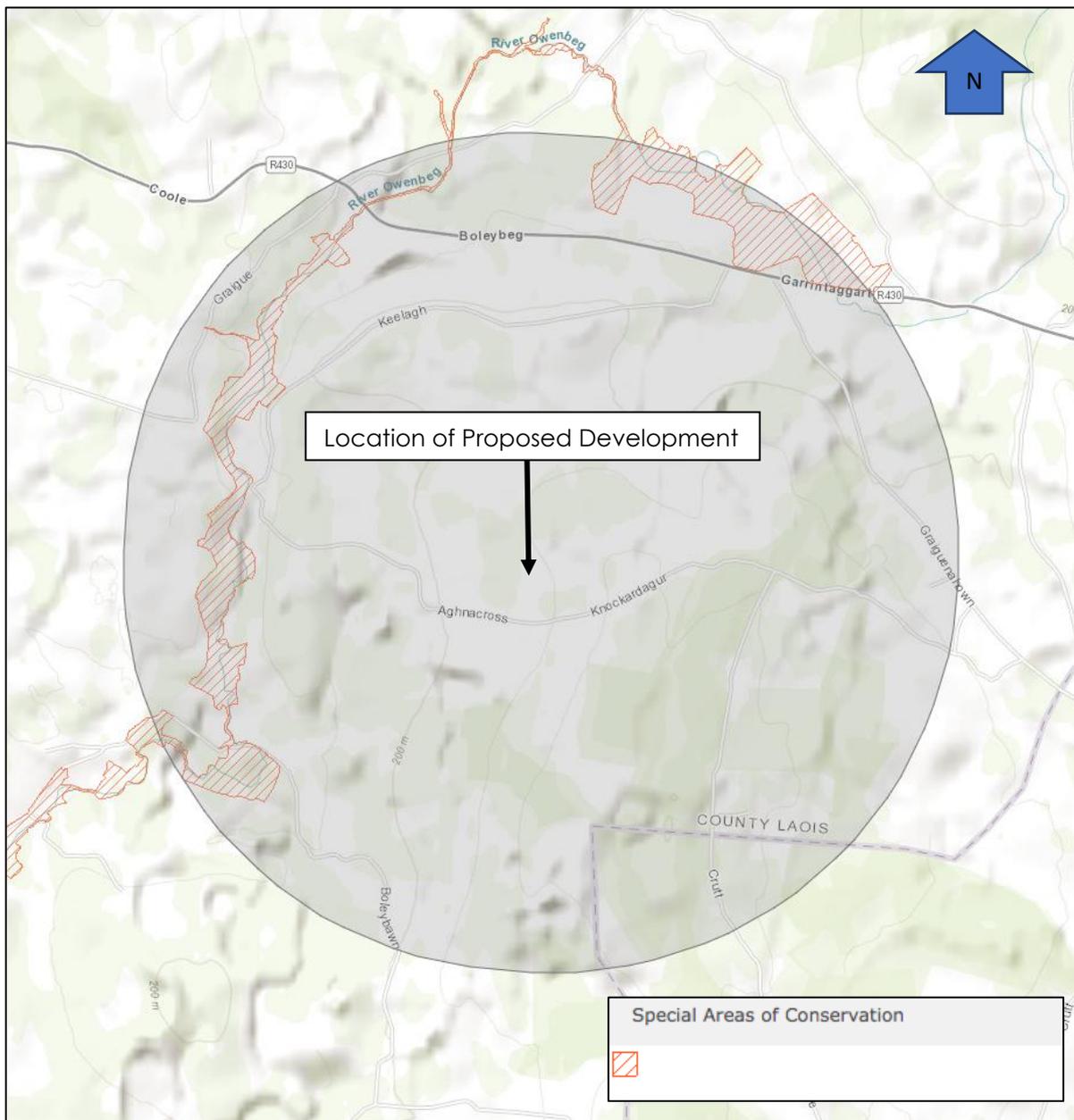


Figure 9.2: Map showing the location of the Special Area of Conservation

9.3.2 Landscape Policy Context and Designations

As the proposed development and vast majority of the study area is within County Laois and only a small peripheral area occurs within County Kilkenny, the focus of the policy context for landscape will be on reviewing the Laois County Development Plan 2017-2023. It is also noted that the proposed development will not be visible (see **Figure 9.4**) from that part of the study area located within County Kilkenny.

9.3.2.1 Laois County Development Plan 2017-2023

The Laois County Development Plan 2017-2023 contains a number of policies, the following are deemed to be relevant to this proposed development:-

- RUR15 - protect from injury scenic and exposed/elevated landscapes, scenic routes, views, prospects and vistas;
- RUR7 - Have regard to Laois' Landscape Character Assessment; and
- RUR13 - Protect rural amenities, natural archaeological and natural heritage, visual amenities, eco-systems, conservation areas, landscape and scenic views from adverse impacts of agricultural practices and development particularly in high amenity areas and ensure that it is appropriate in nature and scale, and ensure it does not have an undue negative impact on the visual/scenic amenity of the countryside and identify mitigating measures where required.

A Landscape Character Assessment was produced for County Laois and was incorporated into the current Laois County Development Plan 2017-2023. Within the landscape character assessment, 7 no. landscape character types (LCT) have been identified. The site is located in LCT 1 – Hills and Upland Areas (**Figure 9.3** refers). The Owenbeg (Owveg) River passes within the study area and is identified as a 'river corridor' on Map 6 of the Laois Landscape Character Assessment.

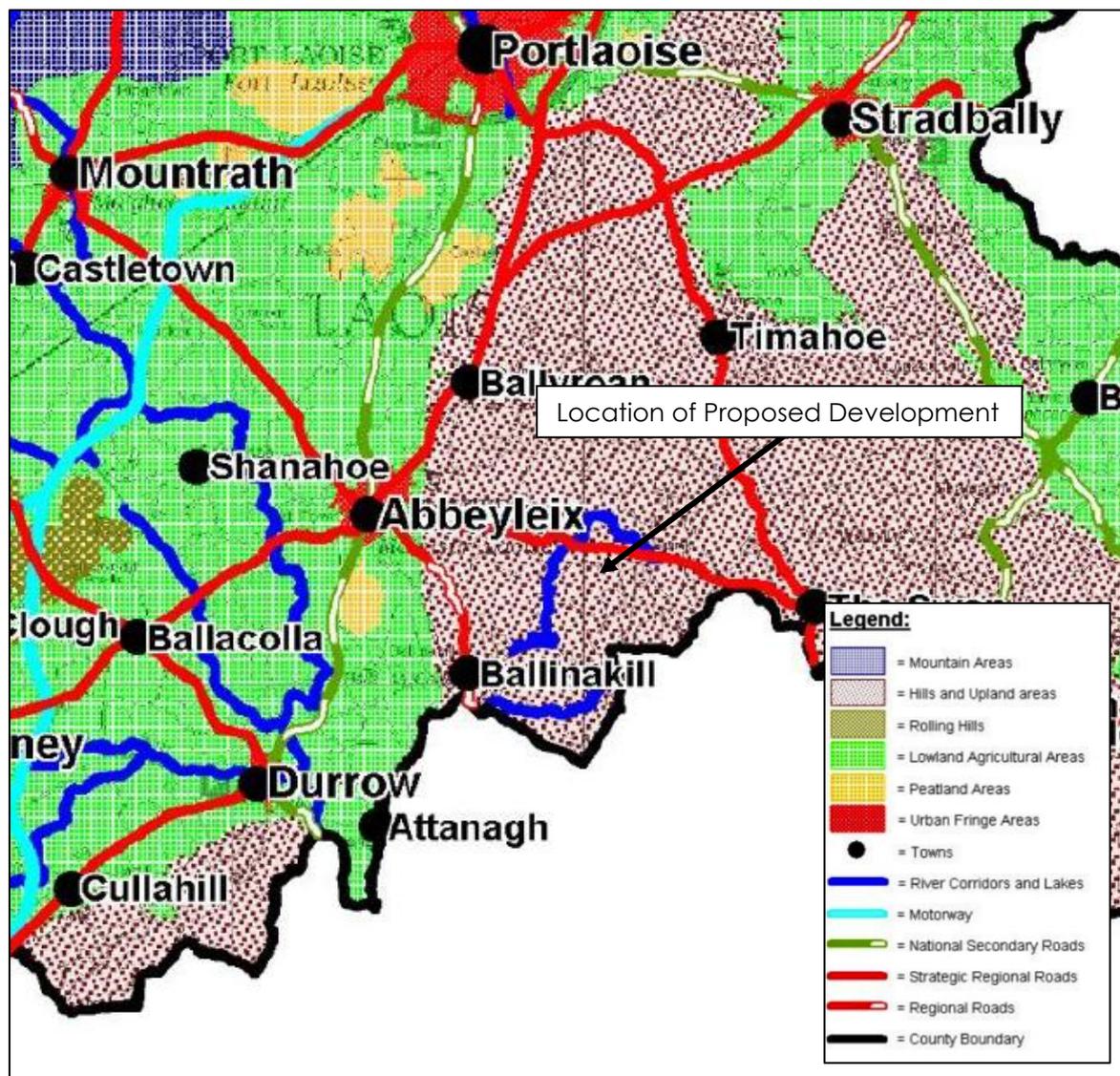


Figure 9.3: Excerpt from Laois County Landscape Character Assessment, Map 6, showing approximate location of the Proposed Development in relation to landscape character types.

The Landscape Character Assessment for County Laois has not incorporated a specific sensitivity rating for the LCTs. Sensitive landscapes are addressed in section 13.9 of the Landscape Character Assessment where it states that “Sensitive areas include upland areas, visually open and expansive areas and areas in the vicinity of natural heritage or built heritage assets or scenic views”. The Laois County Development Plan 2017-2023 contains eight policies relating to LCT1 – Hill and Upland Areas, the following seven are relevant to the portion of LCT1 that occurs within the study area:-

- LS1 - Preserve and enhance the rich heritage assets of these LCTs which provide visible evidence of all four key phases of the County's history;
- LS2 - Protect the positive contribution that views across adjacent lowland areas and landmarks within the landscape make to the overall landscape character;
- LS3 - Respect the remote character and existing low-density development in these LCTs;
- LS4 - Implement improvements to the visitor attractions of these areas;

- LS5 - Define popular walking routes such as Cullahill Mountain and create new routes to additional areas of interest; and
- LS6 - Continue to encourage the improved management of field boundaries such as hedgerows and stone walls and hunting copses/ wooded copses;
- LS7 - Facilitate the development of sustainable rural industries that encourage interaction between urban and rural landscapes and dwellers, e.g. farmer's markets.

9.3.3 Visual Baseline

Only those parts of the study area that are likely to afford views of the proposed development are of interest to this part of the assessment. Therefore, the first part of the visual baseline is establishing a 'Zone of Theoretical Visibility' and subsequently, identifying important visual receptors from which to base the visual impact assessment.

9.3.3.1 Zone of Theoretical Visibility (ZTV)

A computer generated Zone of Theoretical Visibility (ZTV) map has been prepared to illustrate where the proposed development is theoretically visible from. The ZTV map is based solely on terrain data (bare ground visibility) and ignores features such as trees, hedges or buildings which may screen or obscure views of the proposed development. Given the complex vegetation patterns within this landscape, the main value of this form of ZTV mapping is to determine those parts of the landscape from which the proposed development will definitely not be visible, due to terrain screening, within the 2km study area.

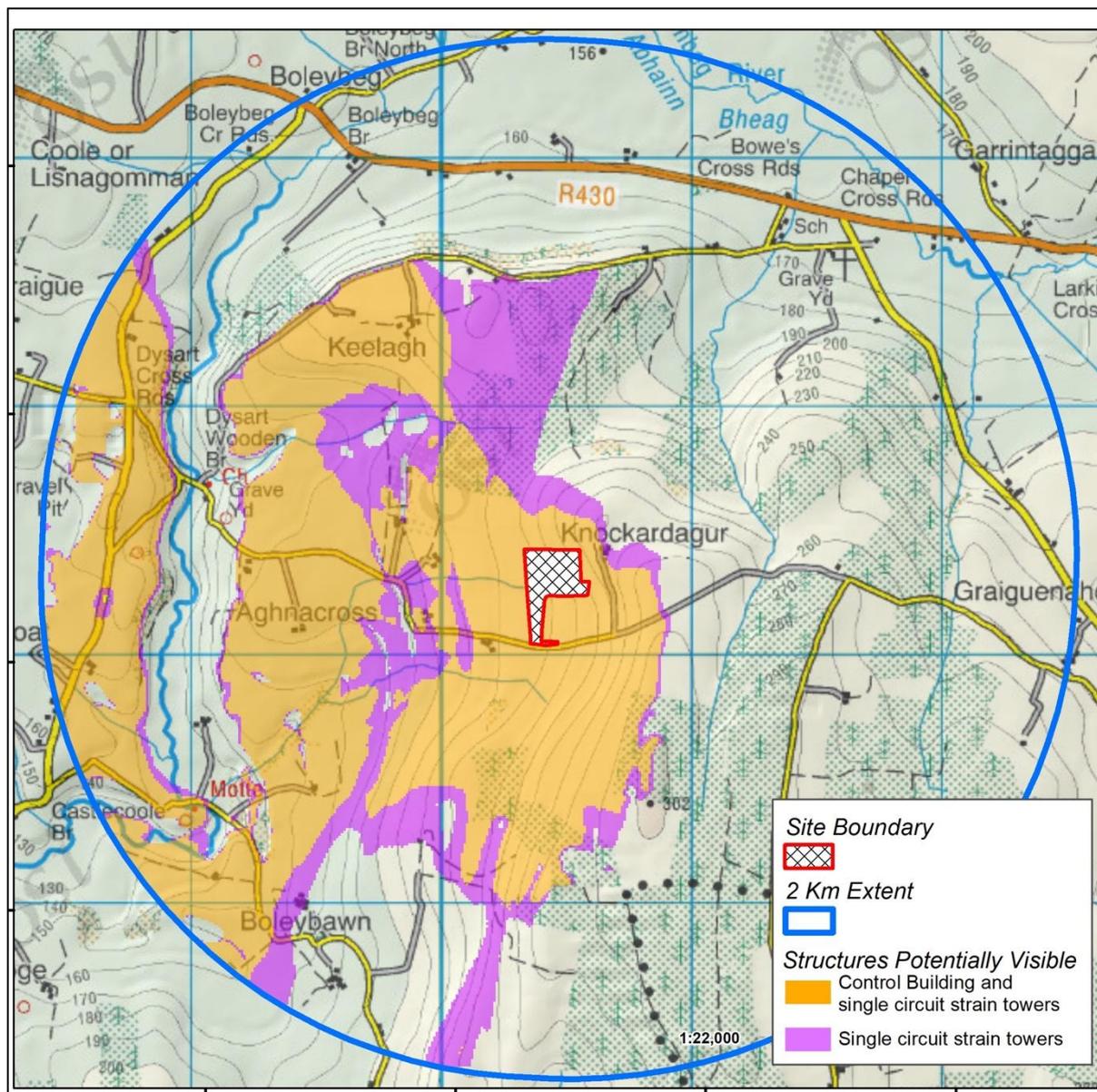


Figure 9.4: Bare-ground Zone of Theoretically Visibility (ZTV) Map. (see also Volume II, Annex 9.1)

The following key points are illustrated by the 'bare-ground' ZTV map (**Figure 9.4** refers). It should be noted that the colouring system used in the above ZTV relates to the degree of visibility of the proposed development based on a 'bare-ground' scenario (Orange = control building and single strain towers within the substation are both theoretically visible; Magenta = only the single circuit strain towers within the substation are theoretically visible). Where there is no colour pattern, visibility of the proposed development is not afforded. The following conclusions are drawn from the ZTV mapping:-

- Hilly terrain within the study area will screen views of the proposed development from large areas in the northern, eastern and southern portions of the study area. These are the areas with an absence of any coloured ZTV pattern in **Figure 9.4**;

- Similarly, the low lying landform related to the Owenbeg (Owveg) River valley results in a corridor in the western portion of the study area with no theoretical visibility of the proposed development;
- The magenta coloured portions of the ZTV pattern represents locations where it is theoretically possible to see some portion of at least one of the proposed strain towers but will not be afforded view of the proposed control building;
- From agricultural land, some sections of the local road network and a number of isolated rural dwellings in the western and southwestern portions of the study area, it is theoretically possible to obtain a view of at least some part of a single strain tower and some part of the proposed control building (orange colour ZTV pattern).

9.3.3.2 Views of Recognised Scenic Value

Views of recognised scenic value are primarily indicated within County Development Plans in the context of scenic views/routes designations, but they may also be indicated on touring maps, guide books, road side rest stops or on post cards that represent the area.

In the event that any scenic routes and views fall inside the ZTV pattern, these would be investigated during fieldwork to determine whether actual views of the proposed development might be afforded. Where visibility could occur, a viewshed reference point would be selected for use in the visual impact appraisal later in this chapter.

9.3.3.3 Laois County Development Plan 2017-2023 – Views and Prospects

The Laois County Development Plan 2017-2023 includes a list of 13 no. 'Designated Amenity Views and Prospects/Scenic Views'. These are also indicated (along with Significant Tree Groups) on Map 1.7.11 in the County Development Plan (**Figure 9.5** refers). **Figure 9.5** illustrates there are no Scenic Views (or Significant Tree Groups) located within the study area.

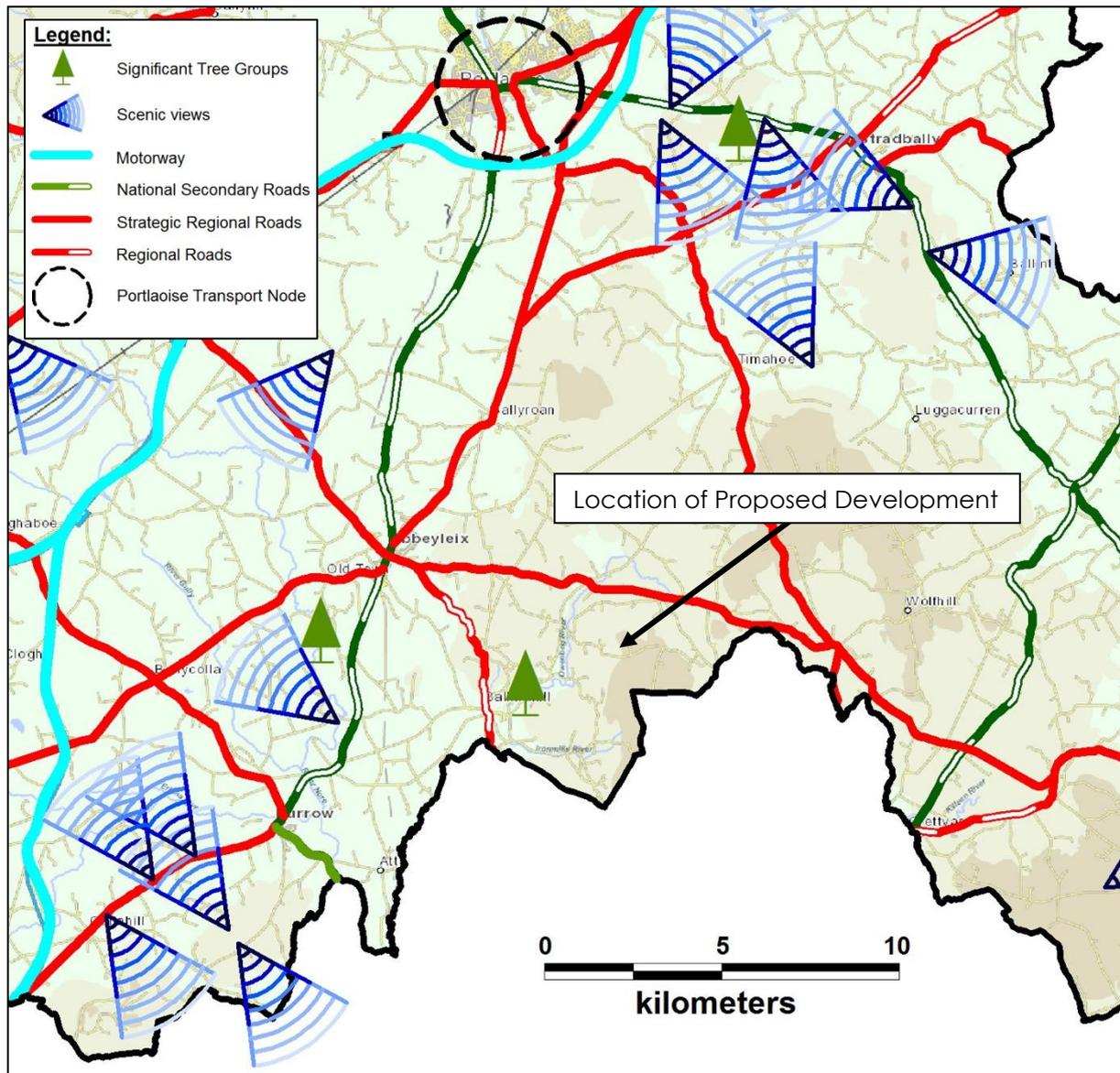


Figure 9.5: Excerpt from Map 1.7.11 of the Laois County Development Plan 2017 – 2023 showing approximate location of the proposed development in relation to Scenic Views.

9.3.3.4 County Kilkenny – Views and Prospects

The results of the Zone of Theoretical Visibility analysis presented in **Figure 9.4** shows that no views of the proposed development will be afforded from the portion of the study area that occurs within County Kilkenny. For this reason, a review of the Kilkenny County Development plan for scenic designations is not considered necessary.

9.3.3.5 Centres of Population and Houses

The settlement pattern within the study area is primarily composed of dispersed 'one-off' dwellings and rural farmsteads. Some rural dwellings are situated along the local roads while others are more isolated.

9.3.3.6 Transport Routes

The R430 regional road is the most notable transport route within the study area and

is located c.1.5km north of the site at its nearest point but is entirely outside the ZTV pattern and, therefore, will not offer views of the proposed development. The L7797 local road in the western extent of the study area would appear to be the busiest local road that passes within the ZTV.

9.3.3.7 Tourism, Recreational and Heritage Features

Cooper's Hill Walk is a locally waymarked walking trail within the study area. It passes the site to the south along the L77951 before turning north at the Owenbeg (Owveg) River onto the L7795. It circles back and reconnects to form a looped walking trail (see **Figure 9.6**).



Figure 9.6: Study area (illustrated in blue) and the route of the local waymarked walking trail (illustrated in orange)

9.3.4 Identification of Viewshed Reference Points as a Basis for Assessment

The results of the ZTV analysis provide a basis for the selection of Viewshed Reference Points (VRPs/VPs), which are the locations used to study the landscape and visual impact of the proposed development in detail. It is not warranted to include each and every location that provides a view of this development as this would result in an unwieldy report and make it extremely difficult to draw out the key impacts arising from the project. Instead, receptor locations were selected that are likely to provide views of the proposed development from different distances, different angles and different contexts.

The visual impact of a proposed development is assessed using up to 6 no. categories of receptor type as listed below:-

- Key Views (from features of national or international importance);
- Designated Scenic Routes and Views;
- Local Community views;
- Centres of Population;
- Major Routes; and
- Amenity and heritage features.

Where a VRP might have been initially selected for more than one reason, it will be assessed according to the primary criterion for which it was chosen. The characteristics of each receptor type vary as does the way in which the view is experienced. These are described below.

9.3.4.1 Key Views

These VRPs are at features or locations that are significant at the national or even international level, typically in terms of heritage, recreation or tourism. They are locations that attract a significant number of viewers who are likely to be in a reflective or recreational frame of mind, possibly increasing their appreciation of the landscape around them. The location of this receptor type is usually quite specific.

9.3.4.2 Designated Scenic Routes and Views

Due to their identification in the County Development Plan, this type of VRP location represents a general policy consensus on locations of high scenic value within the Study Area. These are commonly elevated, long distance, panoramic views and may or may not be mapped from precise locations. They are more likely to be experienced by static viewers who seek out or stop to take in such vistas.

9.3.4.3 Local Community Views

This type of VRP represents those people who live and/or work in the locality of the proposed development. Although the VRPs are generally located on local level roads, they also represent similar views that may be available from adjacent houses. The precise location of this VRP type is not critical; however, clear elevated views are preferred, particularly when closely associated with a cluster of houses and representing their primary views. Coverage of a range of viewing angles using several VRPs is necessary in order to sample the spectrum of views that would be available from surrounding dwellings.

9.3.4.4 Centres of Population

VRPs are selected at centres of population primarily due to the number of viewers that are likely to experience that view. The relevance of the settlement is based on the significance of its size in terms of the study area or its proximity to the site. The VRP may be selected from any location within the public domain that provides a clear view either within the settlement or in close proximity to it.

9.3.4.5 Major Routes

These include national and regional level roads and rail lines and are relevant VRP locations due to the number of viewers who may be impacted by the proposed development. The precise location of this category of VRP is not critical and might be chosen anywhere along the route that provides clear views towards the proposal site, but with a preference towards close and/or elevated views. Major routes typically provide views experienced whilst in motion and these may be fleeting and intermittent depending on screening by intervening vegetation or buildings.

9.3.4.6 Tourism, Recreational and Heritage Features

These views are often one and the same given that heritage locations can be important tourist and visitor destinations and amenity areas or walking routes are commonly designed to incorporate heritage features. Such locations or routes tend to be sensitive to development within the landscape as viewers are likely to be in a receptive frame of mind with respect to the landscape around them. The sensitivity of this type of visual receptor is strongly related to the number of visitors they might attract and, in the case of heritage features, whether these are discerning experts or lay tourists. Sensitivity is also heavily influenced by the experience of the viewer at a heritage site as distinct from simply the view of it. This is a complex phenomenon that is likely to be different for every site.

Experiential considerations might relate to the sequential approach to a castle from the car park or the view from a hilltop monument reached after a demanding climb. It might also relate to the influence of contemporary features within a key view and whether these detract from a sense of past times. It must also be noted that the sensitivity rating attributed to a heritage feature for the purposes of a landscape and visual assessment is not synonymous with its importance to the Archaeological or Architectural Heritage record.

5 no. VRPs were selected for the assessment of the proposed development and are listed in **Table 9.5** and illustrated at **Figure 9.7**.

VRP No.	Location	Distance to site	Direction of view
VP1	Local road, Knockardagur	0.2km	N
VP2	Elevated viewing platform adjoining local road, Knockardagur	0.3km	NW
VP3	Local road, Aghnacross	1.0km	E
VP4	Local road, Moat	2.0km	NE
VP5	Local road, Keelagh	1.3km	SE

Table 9.5: Outline description of selected Viewshed Reference Points (VRPs)

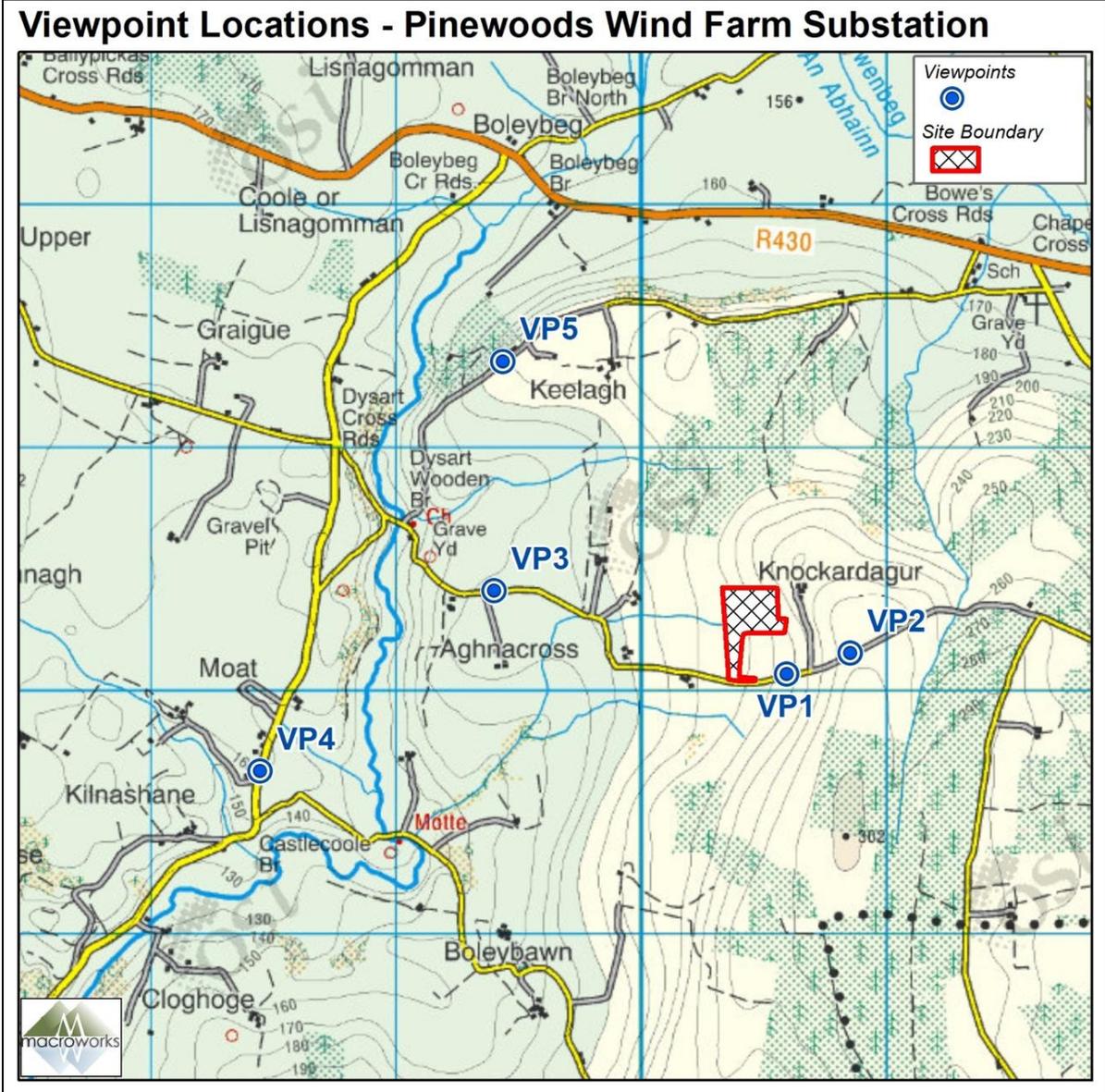


Figure 9.7: Showing the locations of VRPs

9.4 Description of Likely Effects

9.4.1 Landscape Effects

In this section, landscape impacts were considered for both the construction phase and the operational phase. The first aspect of determining the significance of landscape impacts is establishing the sensitivity of the receiving landscape. The significance of landscape impacts are assessed on the basis of landscape sensitivity weighed against the magnitude of physical landscape effects within the proposed development site and effects on landscape character in the wider landscape setting.

9.4.1.1 Landscape Character, Value and Sensitivity

In accordance with *Guidelines for Landscape and Visual Impact Assessment 2013* (GLVIA) (2013) (p71), sensitivity is a function of the susceptibility of the landscape to the type of change proposed and the value placed on that landscape. Landscape value and sensitivity are considered in relation to a number of factors highlighted in

the GLVIA (2013), which are set out below, and discussed relative to the proposed development and wider study area. Landscape Character Value and Sensitivity are now assessed using the methodology described in **Section 9.2.3**.

Landscape Quality (condition)

Landscape quality relates to the physical state of the landscape and its individual elements. The landscape of the study area varies in terms of condition and quality.

The study area is situated at the transition between two landscape types, the uplands of the Castlecomer Plateau and the lower lying, more gently rolling terrain at the north-western fringes. The Castlecomer Plateau has a heightened landscape value, which is strongest in the core areas of the plateau and begins to reduce in the areas approaching the adjoining low lying areas. Land-use within the study area is predominantly intensive agriculture, with some areas of forestry occurring at higher elevations. There are active and former quarries to the west of the Owenbeg (Owveg) River. The low lying position of the Owenbeg (Owveg) River, in combination with the adjoining riparian vegetation results in a largely enclosed character in the immediate environs resulting in a landscape discrete component with a heightened, albeit localised, sensitivity. The landscape to the east of the proposed development is that of farmed and forested hills, with some areas reverting to scrub. The conifer plantations in this area are commercial operations and highlight the economic and productive processes at work in the landscape.

Scenic Quality

There is a degree of scenic value associated with the Owenbeg (Owveg) River, although views tend to be rather limited to the immediate vicinity of the river valley due to the enclosed character of the area. A lesser degree of scenic quality exists in the northern and western extents of the study area, where agriculture is more intensive. Although these areas have a 'pleasant' pastoral aesthetic it is not valued in terms of scenic quality beyond its immediate environs which is reflected in the fact that there are no designated views in these areas. It is notable that with increasing elevation to the east of the study area, broad, open, long distance views to the west begin to open up. The presence of the locally waymarked walking trail (Cooper's Hill Walk) suggests that areas along the route are valued at a local level.

Rarity and Representativeness

It is not considered that this landscape is rare although the Owenbeg (Owveg) River is a locally distinctive landscape setting.

Conservation Interests

The Owenbeg (Owveg) River is subject to an ecological designation, forming part of the River Barrow and River Nore SAC, suggesting this is a valuable landscape component.

Recreation Value

Cooper's Hill Walk is the only known relevant public amenity resource within the study area.

Perceptual Aspects and Associations

A degree of rural tranquillity occurs in some parts of the study area. Areas to the west and north have more pastoral characteristics with a degree of consistency in terms of the scale and pattern of the fields and hedgerows. Mature tree lines and

hedgerows offer a moderate degree of containment. The areas along the Owenbeg (Owveg) River contribute to a sense of the naturalistic, offering a sense of tranquillity and remoteness. Generally, the study area is a productive rural area dotted with farmsteads and dispersed dwellings.

Evaluation of Landscape Sensitivity

On the basis of the factors outlined above, it is considered that this is a diverse and productive rural setting; with relatively high integrity in parts, which contributes to the rural subsistence and amenity of the surrounding dispersed rural population. Notwithstanding the scenic qualities along Cooper's Hill Walk in the elevated areas in the eastern portion of the study area, and the naturalistic values associated with the Owenbeg River; overall, this is a landscape with robust productive landscape values. On balance for these reasons, the landscape sensitivity is deemed to be **Medium-low**.

9.4.1.2 Magnitude of Landscape Impacts – Construction Phase

Physical landscape impacts will occur during the construction phase at the proposed development site. This will result from disturbance to the landform and land cover of the proposed substation footprint and its associated access track and site entrance.

There will be more extensive excavation required to create level foundations for the substation. This is a sloping site and there is a need to modify and redistribute subsoil material around the site to facilitate the required gradients for the buildings, structures and electrical equipment. The proposed substation has been designed using a split level footing to ensure an optimum cut and fill balance to reduce impacts during construction.

The existing land cover at the proposed development site is predominantly pasture. Short sections of the east–west running hedgerow along the southern perimeter of the proposed substation will be removed to facilitate construction of the proposed access track. Similarly, a short section of hedgerow will also require removal to accommodate the construction of the proposed site entrance.

In addition to the physical disturbance of the landform and land cover within the proposed development site during construction, there will also be temporary effects on the landscape character of the site and its immediate surrounding landscape. This will occur due to the intensity of construction activities, which will involve the frequent movement of construction vehicles to and from the site and within the site. There will be site welfare facilities and vehicle parking as well as areas of the site dedicated to the storage of excavated earth and building materials. Cranes and partially completed structures will also be characteristic elements of the construction phase which will be more visible from a broader area than surface level construction activities. Construction phase works; including the movement of heavy machinery, excavation and stockpiling of material as well as the temporary storage of construction materials; will result in temporary effects; however, such effects are likely to be most noticeable in the immediate vicinity of the proposed development.

These are all typical construction phase activities for a development of this scale but they represent a noticeable increase in the baseline levels of activity experienced in and immediately around this rural site. Most importantly, construction stage effects will be short-term in terms of duration (EPA guidance deems effects of between 1-7 years to be short-term). On the basis of the factors discussed above, it is considered that the magnitude of construction phase landscape impacts will be **Medium**.

9.4.1.3 Significance of Landscape Impacts – Construction Phase

The significance of landscape impacts is a function of landscape sensitivity weighed against the magnitude of effects on the landscape. This is derived from the significance matrix (**Table 9.3**) used in combination with professional judgement. Based on a Medium-low landscape sensitivity judgement and a Medium magnitude of construction effect on the landscape, the significance of the construction impact is considered to be **Moderate** within the immediate vicinity of the application site. Thereafter, significance will reduce somewhat at increasing distances as the development becomes a progressively smaller component of the wider landscape fabric, even in the context of the more sensitive landscape components/features identified within the study area.

9.4.1.4 Magnitude of Landscape Impacts – Operational Phase

Following the completion of the construction phase for the proposed development, the main landscape effects remaining to be considered at the operational phase relate to permanent changes in landscape character regarding the physical impact on the landscape, the introduction of above-ground elements and any permanent removal of vegetation.

The main effect of the proposed development will be an increased sense of industrialisation and intensity of built development within this predominantly rural setting. It will also contribute to the diversity of land use, slightly diminishing the integrity of this substantially rural landscape setting. Electrical substations are relatively familiar features throughout the Irish countryside so there will not be a sense of ambiguity associated with its location in this setting, particularly in the context of the adjacent permitted Pinewoods Wind Farm to which the proposed development is directly related.

As proposed mitigation planting becomes established around the perimeter of the proposed development, it will assist in screening low level or near ground infrastructure and activity associated with the proposed development. It will also assist in assimilating the substation into the surrounding landscape setting of fields and hedgerows.

The scale and intensity of the proposed development will have a noticeable influence on the landscape of the immediate surrounds of the site; however, such effects are extremely localised and beyond approximately 500m, it is likely to be perceived as another minor and fairly typical element in the broader context of this rural landscape fabric.

In terms of duration, the operational stage landscape impacts will be long term or permanent in accordance with EPA definitions.

On balance of the factors outlined above, the magnitude of operational phase landscape effect arising from the proposed development is deemed to be **Medium-low**.

9.4.1.5 Significance of Landscape Impacts – Operational Phase

The significance of operational phase landscape impact is a function of landscape sensitivity weighed against the magnitude of operational phase landscape effects. This is derived from the significance matrix (**Table 9.3**) used in combination with professional judgement. Based on a Medium-low sensitivity judgement and a Medium-low magnitude of operational phase landscape effects, the significance of impact is considered to be **Moderate-slight** within the study area. Thereafter, the

significance will reduce to **Slight** and **Imperceptible** at increasing distances as the development becomes a progressively smaller component of the wider landscape fabric.

9.4.2 Landscape Impacts – Decommissioning Phase

As set out at **Chapter 3 (Sections 3.2 and 3.8)**, the proposed development will form part of the national electricity network and decommissioning of the substation is not proposed. Therefore, decommissioning phase effects will not occur.

9.4.3 Visual Impacts

The likelihood of visual impacts was considered for the construction phase, the operational phase and the decommissioning phase. The first aspect in determining the significance of visual impacts is establishing the sensitivity of each of the selected viewshed reference points.

9.4.3.1 Visual Receptor Sensitivity

Unlike landscape sensitivity, visual sensitivity has an anthropocentric basis. Visual sensitivity is a two-sided analysis of receptor susceptibility (people or groups of people) versus the value of the view on offer at a particular location.

To assess the susceptibility of viewers and the amenity value of views, the assessor uses a range of criteria and provides a four point weighting scale to indicate how strongly the viewer/view is associated with each of the criterion identified in **Section 9.2.3.2** above.

Strong association	Moderate association	Mild association	Negligible association

Values associated with the view	VP1	VP2	VP3	VP4	VP5
Susceptibility of viewers to changes in views					
Recognised scenic value of the view					
Views from within highly sensitive landscape areas					
Primary views from residences					
Intensity of use, popularity (number of viewers)					
Viewer connection with the landscape					
Provision of vast, elevated panoramic views					
Sense of remoteness / tranquillity at the viewing location					
Degree of perceived naturalness					
Presence of striking or noteworthy features					

Sense of Historical, cultural and / or spiritual significance					
Rarity or uniqueness of the view					
Integrity of the landscape character within the view					
Sense of place at the viewing location					
Sense of awe					
Overall sensitivity assessment	M	HM	M	ML	M
N = Negligible; L = low sensitivity; ML = medium-low sensitivity M = medium sensitivity; HM = High-medium sensitivity; H = high sensitivity; VH = very high sensitivity					

Table 9.6: Analysis of Visual Receptor Sensitivity at Viewshed Reference Points

9.4.3.2 Magnitude of Visual Impact – Construction Phase

It is not considered gainful to assess construction phase visual impacts from specific receptor locations using photomontages, which is instead reserved for the operational phase of the proposed development in relation to both pre-mitigation and residual (post-mitigation establishment) impact scenarios. This approach is partly on the basis that construction phase visual effects are constantly changing in nature, intensity and location. Furthermore, many construction related visual effects such as dust, lighting and heavy vehicle movements are also not easily depicted or readily experienced through the use of static photomontages. Furthermore, a more generalised approach to assessing construction phase visual impacts is also warranted on the basis that such effects are only short-term or temporary in nature.

Construction phase visual effects will occur in relation to the proposed development throughout the predicted 15-18 month construction period. Excavation works will involve the appearance of a cut face of bedrock, slowly increasing in surface area as works progress. Visual receptors most likely to be affected by the proposed development during construction phase are the residents of dwellings to the west of the application site.

The greatest level of construction phase visual effects for these receptors will likely occur when the proposed strain towers have emerged, the cranes are still present, and construction vehicles and associated traffic is moving within as well as to and from the site.

Construction related visual effects from the proposed development will be short-term in duration and their combined magnitude of effect is considered to be similar to the construction stage effects on landscape character, i.e. **Medium**, and only for the closest of receptors with the clearest views towards the site.

9.4.3.3 Significance of Visual Impacts – Construction Phase

Despite the fact that there are a variety of receptors with differing sensitivities (medium-low to high-medium) within the study area as shown in **Table 9.6**, it is not anticipated that the Medium magnitude of construction effects will result in any significant construction phase visual impacts as a result of any part of the proposed development.

9.4.3.4 Magnitude of Visual Impacts at Viewshed Reference Points – Operation

Phase

Each of the identified VRPs will be assessed to determine the magnitude of effect of visual impacts during the operational phase. This judgement, based on the photomontages presented at **Volume II, Annex 9.2**, will be considered with respect to the sensitivity of the receptor, as determined in **Table 9.**, to yield a judgement on the significance of visual impact.

Viewshed Reference Point		Direction of View	Distance to proposed development
VP1	Local road, Knockardagur	N	0.2km
Representative of:	<ul style="list-style-type: none"> Recreational walking trail Local community views 		
Receptor Sensitivity	Medium		
Existing View	This is a slightly elevated view that is framed by a mature roadside hedgerow in the foreground. This section of road is generally enclosed but a fleeting view is afforded, over this field gate, of sloping agricultural fields. Tree canopies within a conifer plantation protrude above the ridge in the middle ground while the Slieve Bloom Mountains form a distant backcloth.		
Visual Effect of the proposed development (pre-mitigation)	<p>An intervening hedgerow partially screens views of the proposed development and the re-contoured terrain, which nestles into the hillside. The proposed control building, being recessed into the area of cut, is partially screened by a combination of terrain and vegetation to the fore. The tower structures rise from the development site and intrude into the views, but will not obstruct important features. Their light lattice frame construction means they are recessive against this backdrop of vegetation and distant hills. They will be identifiable to a casual observer but at c.300m distance their scale is such that they represent only small degree of visual intrusion. For these reasons, the visual presence of the proposed development is considered to be sub-dominant.</p> <p>Much of the proposed development is visible from this location although the intervening hedgerow helps the development to bed-in to the landscape. The control building will have a similar scale and appearance to many residential dwellings in rural Ireland, thus it will not look out of place in this scene and it will not rise above the terrain immediately beyond. Similarly, the strain towers do not protrude above the ridgeline of the Slieve Bloom Mountains in the background. There will be an increased intensity of built development within this rural scene, but it is relatively well assimilated into the prevailing land form and land cover context.</p> <p>For these reasons the magnitude of visual impact is deemed to be Medium-low.</p>		
Visual Effect of the proposed development (post-mitigation)	The new hedgerows to the north and east of the cut faces will be visible. They will cover the berms in these locations but will not have any screening effect on the remainder of the proposed development. The intervening existing hedgerow will be bolstered, helping to screen the lower portions of the proposed development but it will not be sufficient to reduce the magnitude of visual impact.		
Summary	Based on the assessment criteria and matrices outlined above, the significance of visual impact is summarised below.		
	Visual Receptor Sensitivity	Visual Impact Magnitude	Significance of Visual Impact
	Medium	Medium-low	Moderate-slight

Viewshed Reference Point		Direction of View	Distance to proposed development
VP2	Viewing platform adjoining local road, Knockardagur	NW	0.3km
Representative of:	<ul style="list-style-type: none"> • Amenity feature (Elevated viewing platform on the recreational walking trail) • Local community views 		
Receptor Sensitivity	High-medium		
Existing View	From this elevated viewing platform, panoramic, long distance views are afforded which are not available at ground level. There is an area of thick vegetation containing evergreens such as holly and gorse, in the foreground. A vast expanse of farmed and settled rural lowland landscape, including the prominent Kilsaran Concrete quarry at Ballinakill, extends to a distant horizon with the ridgeline of the Slieve Bloom Mountains identifiable to the northwest.		
Visual Effect of the proposed development (pre-mitigation)	The proposed development will be entirely screened by intervening vegetation from this viewing location. By default, the magnitude of impact is negligible.		
Visual Effect of the proposed development (post-mitigation)	The proposed mitigation will not be visible from this location and will not, therefore, alter the visual effect of the proposed development.		
Summary	Based on the assessment criteria and matrices outlined above, the significance of visual impact is summarised below.		
	Visual Receptor Sensitivity	Visual Impact Magnitude	Significance of Visual Impact
	High-medium	Negligible	Imperceptible

Viewshed Reference Point		Direction of View	Distance to proposed development
VP3	Local road, Aghnacross	E	1.0km
Representative of:	<ul style="list-style-type: none"> Recreational walking trail Local community views 		
Receptor Sensitivity	Medium		
Existing View	Views from this location have been opened up somewhat to the southeast from this local road as a result of the recent trimming of the hedge in the foreground. A mature tree line in the middle ground substantially obscures the lower slopes beyond and a farmed ridge emerges in the middle distance just above the tree tops.		
Visual Effect of the proposed development (pre-mitigation)	The proposed development will be almost entirely screened by the intervening treeline in summer. Even in winter (as depicted), the intervening vegetation will provide notable screening such that the proposed development is unlikely to be noticed by a casual observer. Keen observers will have a heavily veiled view of the proposed development, but it will have only a minimal visual presence given that it does not break the ridgeline and there will be no notable reduction in visual amenity. For these reasons, the magnitude of impact is deemed to be negligible.		
Visual Effect of the proposed development (post-mitigation)	A portion of the proposed mitigation planting will be visible from this VP but will not screen the proposed development and will not, therefore, reduce the magnitude of visual impact.		
Summary	Based on the assessment criteria and matrices outlined above, the significance of visual impact is summarised below.		
	Visual Receptor Sensitivity	Visual Impact Magnitude	Significance of Visual Impact
	Medium	Negligible	Imperceptible

Viewshed Reference Point		Direction of View	Distance to proposed development
VP4	Local road, Moat	NE	2.0km
Representative of:	<ul style="list-style-type: none"> Local community views 		
Receptor Sensitivity	Medium-low		
Existing View	<p>A broad and open view is afforded from this location due to the absence of roadside vegetation. The terrain gently falls away from this viewpoint towards the Owenbeg (Owveg) River before rising more steeply on the far side to form a sparsely populated, farmed and forested ridge in the background.</p>		
Visual Effect of the proposed development (pre-mitigation)	<p>The proposed development is situated on the west facing slope just below the ridgeline in the background of the view. At a distance of 2km, the scale of the proposed development is modest in the context of this vista and may not be noticed by a casual observer. It emerges just above a band of woodland, which it visually integrates with. The control building and towers are nestled within the re-contoured terrain and fit within the existing field boundaries. Intervening vegetation screens almost the entire access track.</p> <p>The proposed development presents a new feature on the distant farmed slope, but this broad view has a degree of inherent complexity. A variety of land uses and field sizes occur on undulating terrain which is interspersed with agricultural buildings and farmsteads. This complexity helps to absorb the proposed development. In particular, the buildings on the ridgeline immediately above the proposed development compete for attention and provide built development context in this portion of the vista. These factors combine such that the visual presence of the proposed development is considered to be sub-dominant.</p> <p>The proposed development represents a minor intensification on the slope of the ridge but is not incongruous in terms of scale, form or function in this working rural landscape. It occupies only a very small portion of the available view, is well integrated within the prevailing landscape pattern and, consequently, the impact on visual amenity is limited.</p> <p>For these reasons the magnitude of effect is deemed to be low-negligible.</p>		
Visual Effect of the proposed development (post-mitigation)	<p>A portion of the proposed mitigation planting will be visible from this VP. It will not have a screening effect and, therefore, will be insufficient to reduce the magnitude of visual impact.</p>		
Summary	<p>Based on the assessment criteria and matrices outlined above, the significance of visual impact is summarised below.</p>		
	Visual Receptor Sensitivity	Visual Impact Magnitude	Significance of Visual Impact
	Medium-low	Low-negligible	Slight-imperceptible

Viewshed Reference Point		Direction of View	Distance to proposed development
VP5	Local road, Keelagh	SE	1.3km
Representative of:	<ul style="list-style-type: none"> Recreational walking trail Local community views 		
Receptor Sensitivity	Medium		
Existing View	Views from this local road are heavily channelled along its route to the southwest due to the presence of tall vegetation on either side. There are very limited opportunities for views to the southeast, towards the proposed development site, even in winter when leaves have fallen. In the foreground brambles and ivy weave over moss covered dry stone walls. The far side of the adjoining field is bounded by an overgrown hedgerow in the middle ground. A farmed and forested ridge provides a backcloth to the view in the middle distance.		
Visual Effect of the proposed development (pre-mitigation)	<p>The vast majority of the proposed development will be completely screened throughout the year by an intervening conifer forest. Only the upper portion of some of the towers, the apex of the roof of the control building and a sliver of the upper edge of the cut face and drainage bund will be identifiable. These aspects of the development will be visually absorbed by vegetation surrounding the site and will not be prominent. Indeed, they are unlikely to be noticed by a casual observer and the visual presence is considered to be minimal as a result.</p> <p>As the proposed development is unlikely to be noticed, there will be no notable impact on visual amenity and the magnitude of effect is deemed to be negligible.</p>		
Visual Effect of the proposed development (post-mitigation)	The proposed new hedgerow above the northern cut face will be visible and will hide the earthen berms on which it is planted. This will help the development blend into the view but will not alter the visual effect of the proposed development.		
Summary	Based on the assessment criteria and matrices outlined above, the significance of visual impact is summarised below.		
	Visual Receptor Sensitivity	Visual Impact Magnitude	Significance of Visual Impact
	Medium	Negligible	Imperceptible

9.4.3.5 Visual Impacts – Decommissioning Phase

As set out at **Chapter 3 (Sections 3.2 and 3.8)**, the proposed development will form part of the national electricity network and decommissioning of the substation is not proposed. Therefore, decommissioning phase effects will not occur.

9.4.4 Cumulative Effects

In order to fully assess the likelihood for cumulative impacts to arise, all existing, permitted and proposed developments within the study area were assessed for the likelihood of resulting in cumulative effects. As set out above, the vast majority of developments within the study area are rural dwellings and agricultural development which are small scale, do not extend over large areas and, typically, do not comprise tall structures. Given the characteristic of the existing landscape, it is considered that there is no likelihood for the proposed development acting in combination with any of these development types.

The main likelihood for cumulative effects to arise in combination with the proposed development is with the permitted Pinewoods Wind Farm and the permitted Laois-Kilkenny Grid Reinforcement Project (i.e. 110kV overhead line). Each of these developments are interrelated and occur in the immediate vicinity of the proposed development site.

It should be noted that the cumulative effects of the permitted Pinewoods Wind Farm and the Laois-Kilkenny Grid Reinforcement Project have previously been assessed (see **Volume III, Chapter 8**) and by the Board in their EIA of the permitted wind farm. The Board's Inspector concluded that *"...the proposed windfarm will not give rise to any significant landscape or visual impacts and the [sic] therefore I consider that the visual impact of the development does not present as an impediment to development of a windfarm on the site."* Having regard to this conclusion, a further evaluation of the landscape and visual context has been undertaken to determine whether there have been any alterations to the baseline environment which could alter the conclusions of the Board and, in turn, this assessment of cumulative effects.

In terms of landscape designations, there have been no changes to the Landscape Character Assessments of Laois County Council or Kilkenny County Council since the decision of the Board. Similarly, no new scenic viewpoints or prospects¹ have been introduced which could affect the assessment previously completed. Therefore, it is concluded that the findings and conclusions of the previous LVIA and those of the Board remain valid and are not conflicted by any changes to the baseline environment.

The likelihood for cumulative effects to arise with the permitted developments is assessed in the following sections, in the context of the above evaluations.

9.4.4.1 Cumulative Landscape Impact Assessment

The proposed development and the permitted Laois-Kilkenny Grid Reinforcement Project are thematically linked and are features that are routinely encountered together. Combined, they represent part of the evolution and growth of the national electricity grid network in the county. Neither are particularly large-scale or prominent developments and both are typically encountered in rural landscapes

¹ The amenity views and prospects designated at Table 27 of the Laois County Development Plan 2017-2023 are identical to those identified at Table 26 of the Laois County Development Plan 2011-2017.

such as this throughout the country.

The proposed development is situated on the escarpment at the cusp of the Castlecomer Plateau, on the descending slopes where the plateau meets the adjoining lowland areas, whereas the permitted Pinewoods Wind Farm sits on the higher, plateau upland area. The proposed development is recessed into the landscape and has a relatively low profile compared with the considerably taller turbines of the permitted Pinewoods Wind Farm, which rise prominently from the underlying terrain.

The permitted Pinewoods Wind Farm will have greater influence on the landscape character in this area than the associated proposed development and sets the context (of renewable energy production) in which the proposed development will be perceived. For these reasons, when the proposed development is assessed in relation to the permitted developments, it is considered to contribute a low and extremely localised magnitude of impact; and is not, therefore, considered to be significant.

9.4.4.2 Cumulative Visual Impact Assessment

The photomontages enclosed at **Volume II, Annex 9.2** depict the cumulative scenario, including the Pinewoods Wind Farm and Laois-Kilkenny Grid Reinforcement Project as relevant, for each VRP location during the operational phase.

It is clear from an appraisal of the likely visual cumulative effects that the predicted effect will be limited; due to the nature, scale and discrete siting of the proposed development within the landscape; thus it is not considered necessary to discuss the cumulative visual impacts for each individual VRP separately. Therefore, similar to the approach taken for construction phase visual impact assessment, the cumulative visual impact will examine visual effects collectively.

A portion of at least one pole set in the permitted Laois- Kilkenny Grid Reinforcement Project will be visible from all of the selected viewpoints, but in all instances the pole sets will occupy only a tiny fraction of the view due to intervening vegetation and/or topography. There is an obvious visual/functional association between these two developments which are commonly seen occurring together in similar rural contexts across Ireland. While, when viewed in combination, they contribute to an intensification of electrical infrastructure in the immediate area, they are readily absorbed into the views, which generally encompass broad sections of the wider landscape.

The permitted wind turbines will be visible in conjunction with the proposed development in all VPs other than from VP1; which, notably, provides one of the clearest views of the proposed development. In all other instances, the permitted turbines rise prominently above the setting of the proposed development due to both their relative scale and ridgetop position. Whereas the proposed development, in isolation, tends to have a sub-dominant visual presence within the existing context of each of these scenes, it is likely to be even less noticeable in the context of the permitted turbines which will draw the viewer's attention more readily. Consequently, the contribution of the proposed development to cumulative visual impacts is extremely minor in the overall context of the three interrelated developments.

Overall, it is considered that the proposed development will contribute to the intensity of built development and particularly electrical infrastructure in this area, but in a very localised way and only to a degree that is consistent with a **Low**

magnitude of impact. Therefore, given the characteristics of the receiving environment, the modest nature of the proposed development, the siting of the proposed development which does not break the ridgeline and the functional inter-dependence of the developments, visual impacts are not assessed to be significant.

9.5 Mitigation Measures

The main mitigation measure employed in this instance is mitigation by avoidance. As part of the design process, detailed consideration was given to the appropriate siting of the proposed development to ensure that it would be located in a robust rural area capable of absorbing it and where it would not be prominent or seen in silhouette above a primary ridgeline. The overall site design also sought to maximise, to the greatest possible degree, the retention of existing hedgerows within the site and bordering the site to avoid a sense of ambivalence, to aid visual screening and to maintain the existing field pattern.

In addition, planting is proposed around the perimeter of the proposed development. However, it should be noted that while will have a limited effect in screening the proposed development; it will assist in assimilating the development within the surrounding landscape and maintaining field patterns through the provision of additional hedgerow.

9.5.1 Construction Phase

Aside from standard practice construction stage measures to minimise land and vegetation disturbance (such as clearly delineating the works area) and dust emissions (through damping down of access tracks if necessary), there are no specific landscape & visual mitigation measures to be implemented. The appropriate management and reinstatement of shallow excavations, in a timely manner, will ensure that any adverse effects caused, for example at the proposed site entrance, are minimised insofar as possible.

Similarly, the progressive reinstatement and landscaping of the site will remediate any short term adverse effects on the local landscape. As part of the reinstatement and landscaping process, planting of hedgerows will also be completed at the site entrance. This planting will be located sufficiently behind the visibility splay to allow for future growth and will ensure that extensive views of the proposed development are not afforded from the local road.

9.5.2 Operational Phase

Any vegetation which is not required to be removed to facilitate the proposed site entrance and access tracks within the site or at the interface with the local road, will be retained and avoided insofar as possible during construction. In terms of planting, the following is proposed:-

- New hedgerows will be planted atop the embankment along the northern and eastern boundaries of the proposed substation. The species to be will, in the first instance, be agreed with the Ecological Clerk of Works and will be selected to reflect the species composition of existing adjacent hedgerows. The species mix is likely to comprise low growing woody species of local provenance including Blackthorn, Hawthorn and Hazel;
- The hedgerows along the southern and western boundaries of the proposed substation will be retained and will be supplemented by additional planting where deemed appropriate. Proposed species will be whip species to complement the existing broadleaf hedgerow species mix around the site and

will be of local provenance; and

- It is intended to manage and maintain proposed hedgerows at c. 3-4m in height.

The strategy for the exposed cut faces, exposed while constructing the level platform for the proposed substation, is to encourage natural regeneration. This will mean, by default, the most suitable species for the conditions will colonise and will help the raw cut face to blend into its surroundings.

Areas of ground disturbed during the construction phase will be seeded with suitable grass and wildflower seed mix.

These proposed mitigation measures are illustrated on the landscape masterplan enclosed at **Volume II, Annex 9.3**.

9.5.3 Decommissioning Phase

As set out at **Chapter 3 (Sections 3.2 and 3.8)**, the proposed development will form part of the national electricity network and decommissioning of the substation is not proposed. Therefore, no decommissioning phase mitigation measures are required.

9.6 Residual Impacts and Monitoring

9.6.1 Post-mitigation Landscape Impacts

Whilst mitigation screen planting and replacement planting will help assimilate the proposed development within the landscape setting, it is not considered that the macro level effects on landscape character and landscape fabric will be noticeably reduced from those predicted for the operational phase in **Section 9.4.3**. Therefore, it is concluded that the landscape effects post-mitigation effects will remain as assessed in respect of the pre-mitigation effects.

9.6.2 Post-mitigation Visual Impacts

In addition to the preparation of a landscape masterplan, a set of photomontages have been created specifically to illustrate the effect of the proposed planting for each of the VRPs.

Once the proposed planting becomes established, it will aid the proposed development to visually blend in with the receiving landscape; however, it will not entirely screen the proposed development from any of the VRPs. Where views are afforded of the development from the surrounding landscape, the proposed mitigation planting will help assimilate the proposed development into the view, thus slightly reducing the magnitude of visual effect; however, in no instance will it be sufficient to reduce the visual impact significance at any of the selected VPs. However, it should be reiterated that the predicted significance is already at the lower end of the significance spectrum for each VP.

9.7 Summary

9.7.1 Landscape Impacts

An appraisal of the existing baseline conditions for landscape was undertaken with reference to the policy context and the sensitivity of the receiving landscape and this is assessed to be medium-low.

The magnitude of construction phase landscape effects is deemed to be medium, and consequently the significance of construction phase impacts on the landscape was assessed to be **Moderate**.

The magnitude of operational phase landscape effects arising from the proposed development is assessed to be medium-low and will be relatively localised. Based on the medium-low sensitivity judgement and a medium-low magnitude of operational phase landscape effects, the significance of the operational phase impact is assessed to be **Moderate-Slight**.

It was identified that the proposed development was likely to contribute to cumulative landscape impacts in conjunction with the permitted Pinewoods Wind Farm and the permitted Laois-Kilkenny Grid Reinforcement Project. Cumulative landscape effects were assessed for the construction, operational and decommissioning phases, and were assessed to be of a low magnitude and, hence, not significant.

The proposed mitigation measures will not alter any of the predicted impacts on the landscape so the significance of residual impacts on the landscape is assessed to remain unchanged when compared to the pre-mitigation impact.

9.7.2 Visual Impacts

The magnitude of visual impacts during construction phase is assessed to be no greater than medium, even at the closest receptor locations where clear views towards the proposed development site are afforded.

A set of photomontages were produced to visually represent the proposed development during the operational phase (pre and post mitigation) and to allow for a comprehensive cumulative impacts assessment in combination with the permitted Pinewoods Wind Farm and Laois-Kilkenny Grid Reinforcement Project. The magnitude of visual effects will not be greater than Medium-low at any of the selected viewpoints during the construction, operational or decommissioning phases.

There are a variety of possible receptors with differing sensitivities within the study area; each of which were taken into consideration when determining the significance of visual impact for each viewpoint. Acknowledging the full range of visual receptor sensitivities and when assessed in combination with the predicted landscape impact and cumulative impact, the overall visual assessment concludes that the significance of visual impact will be no greater than **Moderate-Slight** for any visual receptor within the study area and that the proposed development will not give rise to any significant landscape or visual impacts or effects.