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ENVIRONMENTAL IMPACT ASSESSMENT REPORT (EIAR) FOR THE PROPOSED SHANCLOON WIND FARM,CO. GALWAY

VOLUME 2 - MAIN EIAR

CHAPTER 16: LANDSCAPE AND VISUAL IMPACT

Prepared for:

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TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

16. LANDSCAPE AND VISUAL IMPACT ASSESSMENT

16.1 Introduction

This chapter describes the landscape context of the proposed Shancloon Wind Farm and assesses the likely landscape and visual impacts of the scheme on the receiving environment. Although closely linked, landscape and visual impacts 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 this 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.

In accordance with current best practice in the Republic of Ireland, this LVIA 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 (2022).
- Landscape Institute and the Institute of Environmental Management and Assessment publication entitled Guidelines for Landscape and Visual Impact Assessment – Third Addition (2013) and draft Notes and Clarifications on aspects of the 3rd Edition Guidelines on Landscape and Visual Impact Assessment (GLVIA3).
- Scottish Natural Heritage (SNH) Guidance Note: Cumulative Effect of Wind Farms (2012).
- Department of the Environment, Heritage and Local Government Wind Energy Development Guidelines (2006).
- Scottish Natural Heritage (SNH) Visual representation of wind farms: Best Practice Guidelines (version 2.2 - 2017).
- Department of the Environment, Heritage and Local Government Draft Revised Wind Energy Development Guidelines (2019).

Regard has been given to the Wind Energy Development Guidelines (2006) and the Revised Wind Energy Development Guidelines (2019) despite the latter being in draft form and may be subject to change.

16.1.1 Statement of Authority

This Landscape and Visual Assessment (LVIA) report was prepared by Richard Barker (MLA MILI) and Rory Curtis (BA BEng GDip A MILI) of Macro Works Ltd. Macro Works Ltd, is 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 includes LVIA work on over 140 on-shore wind farm proposals throughout Ireland, including six Strategic Infrastructure Development (SID) wind farms. Macro Works and its senior staff members are affiliated with the Irish landscape Institute.

16.1.2 Description of the Proposed Development

The Proposed Development, for which consent is being sought, as assessed in this EIAR comprises the following elements:

- The wind farm site (referred to in this EIAR as the 'Site') which includes the on-site 110 kV substation and loop-in connection to the existing Cashla-Dalton overhead line;
- The turbine delivery route (referred to in this EIAR as the 'TDR').

An overview of the Proposed Development location is shown in Figure 2.1.

On 13th June 2025, An Bord Pleanála provided an opinion under section 37CD of the Planning and Development Act 2000 (as amended) that the following details may be confirmed after the proposed application has been made and decided:

- Turbine Dimensions
  a) Turbine tip height
  b) Rotor diameter
  c) Hub height

The application for the Proposed Development is consistent with the opinion provided by the Board in accordance with section 37CD of the Act and the EIAR has been prepared to reflect the opinion provided by the Board.

The turbine model will be a conventional three-blade horizontal axis turbine. Schematic drawings of the design parameters accompany the planning application. Wind turbine components will include:

- Blades
- Tower sections
- Nacelles

The final choice of make and model of the turbine that will be developed at the Site will be dictated by a competitive tender process of the various turbines on the market at the time, but will be in accordance with the following design parameters/turbine specification:

- ground to blade tip height range of 179.25 m to 180 m
- rotor diameter ranging from 149.1 m to 155m
- hub height ranging from 102.5m to 105m

The turbine blades for the Proposed Development comprise fibreglass reinforced epoxy, carbon fibres and solid metal tip with the following design parameters/turbine specification:

- Blade length ranging from 72.4m to 76m (rotor length of 74.55m to 77.5m);
- Blade width (maximum chord length) ranging from 4.2m to 4.5m;
- Blade swept area of ranging from 17,460 m2 to 18,869 m2.

This assessment considers wind turbine specifications with a hub height of 102.5 m and a rotor diameter of 155 m with a tip height of 180 m. This represents the most conservative of the candidate turbines for this Proposed Development (see 16.8.2.6 for further discussion in this regard).

This Chapter should be read in conjunction with the following:

- Appendix 16.1 Volume III – Assessment of Viewshed Reference Points;
- Appendix 16.2 Volume III – LVIA Mapping;
- Appendix 16.3 Volume III – Photomontages; Appendix 16.4 Volume III – Comparative Photomontages for turbine design flexibility options
- Planning Drawings accompanying the planning application.

16.1.3 Definition of the Study Area

The Wind Energy Development Guidelines (current 2006) and Draft Revised Wind Energy Development Guidelines (2019) published by the Department of the Environment, Heritage and Local Government specify different radii for examining the zone of theoretical visibility (ZTV) of proposed wind farm developments. The extent of this search area is influenced by turbine height, as follows:

- 15 km radius for blade tips up to 100m;
- 20 km radius for blade tips greater than 100m and;
- 25 km radius where landscapes of national and international importance exist.

In the case of this Proposed Development, the blade tips are greater than 100 m high and thus, the minimum ZTV radius recommended is 20 km from the outermost turbines of the scheme. Notwithstanding the full 20 km extent of the LVIA Study Area, there will be a particular focus on receptors and effects within the central Study Area, where there is a higher potential for significant impacts to occur. When referenced within this assessment, the 'central Study Area' is the landscape within 5 km of the Site. Notwithstanding the 20 km extent of the Study

16.2 Methodology

Production of this Landscape and Visual Impact Assessment involved baseline work in the form of desktop studies and fieldwork comprising professional evaluation by qualified and experienced Landscape Architects as detailed in the preceding Statement of Authority. This entailed the following:

16.2.1 Desktop Survey

- Establishing an appropriate Study Area from which to study the landscape and visual impacts of the proposed wind farm;
- Review of a Zone of Theoretical Visibility (ZTV) map, which indicates areas from which the Proposed Development is potentially visible in relation to terrain within the Study Area;
- Review of relevant County Development Plans, particularly with regard to sensitive landscape and scenic view/route designations;
- Selection of potential View Points (VPs) from key visual receptors to be investigated during fieldwork for actual visibility and sensitivity;

16.2.2 Fieldwork

- Fieldwork investigations and capturing of baseline photography took place between Autumn 2021 and Spring 2024.
- Recording of a description of the landscape elements and characteristics within the Study Area.
- Selection of a refined set of VRPs for assessment. This includes capturing reference images, and grid reference coordinates for each VRP location so that the visualisation specialist can prepare photomontages.

16.2.3 Appraisal

- The receiving landscape is considered 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, facilities and heritage features; and designated and recognised views of scenic value.
- Consideration of design guidance and planning policies.
- Assessment of potentially significant effects and the mitigation measures that are proposed to reduce such effects.
- Assessment of the significance of residual landscape impacts.
- Assessment of the significance of residual visual impacts aided by photomontages prepared at all of the selected VRP locations.
- Assessment of cumulative landscape and visual effects in combination with other surrounding developments that are either existing, permitted or proposed.

16.2.4 Difficulties or Limitations

No difficulties or limitations were encountered when completing the landscape and visual impact assessment.

16.2.5 Assessment Criteria for Landscape Impacts

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 potential impacts on the landscape resulting from a wind farm development, the following criteria are considered:

- The landscape character, value and sensitivity;
- The magnitude of likely effects; and
- The 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 on its essential characteristics. Landscape Value and Sensitivity are classified using the following criteria outlined in Table 16.1 below;

Table 16.1: Landscape Value and Sensitivity

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.

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 the 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 Site that may have an effect on the landscape character of the area. Table 16.2 refers.

Table 16.2: Magnitude of Landscape Impacts

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.

The significance of a landscape impact is based on a balance between the sensitivity of the landscape receptor and the magnitude of the impact. The significance of landscape impacts is arrived at using the following matrix set out in Table 16.3.

Table 16.3: Landscape Impact Significance Matrix

	Sensitivity of Receptor				
Magnitude	**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

* Note: Judgements deemed 'substantial' (shaded cells) and above are considered to be 'significant impacts' in EIA terms.

16.2.6 Assessment Criteria for Visual Impacts

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

16.2.6.1 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 criteria. 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 value, including, but not limited to, scenic designations. These 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 (3rd edition 2013) 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 focused 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*
- *Travellers on 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 focused 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, at least, a public consultation process is required;
- **Views from within highly sensitive landscape areas**. Again, highly sensitive landscape designations are usually part of a county's Landscape Character Assessment, which is then incorporated with 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;
- **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.

16.2.6.2 Visual Impact Magnitude

The magnitude of visual effects is determined on the basis of two factors; the visual presence of the proposal 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 such as might occur where turbines are viewed as part of/beyond a busy street scene. The backdrop against which the Proposed Development is presented and its relationship with other focal points or prominent features within the view are 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, and highly dominant.

For wind energy developments, a strong visual presence is not necessarily synonymous with adverse impact. Instead, the 2012 Fáilte Ireland survey entitled 'Visitor Attitudes On The Environment – Wind Farms' found that *"Compared with other types of development in the Irish landscape, wind farms elicited a positive response when compared to telecommunication masts and steel electricity pylons"*…. and that *"most* (tourists) *felt that their presence did not detract from the quality of their sightseeing, with the largest proportion (45%) saying that the presence of the wind farm had a positive impact on their enjoyment of sightseeing…*". The purpose here is not to suggest that turbines are either inherently liked or disliked but rather to highlight that the assessment of visual impact magnitude for wind turbines is more complex than just the degree to which turbines occupy a view. Furthermore, a clear and comprehensive view of a wind farm might be preferable in many instances to a partial, cluttered view of turbine components that are not so noticeable within a view. On the basis of these reasons, the visual amenity aspect of assessing impact magnitude is qualitative and considers such factors as the spatial arrangement of turbines both within the scheme and in relation to surrounding terrain and land cover. It also examines whether the Proposed Development contributes positively to the existing qualities of the vista or results in distracting visual effects and disharmony.

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. Given that wind turbines do not represent significant bulk, visual impacts result almost entirely from visual 'intrusion' rather than visual 'obstruction' (the blocking of a view). The magnitude of visual impacts is classified in the following table:

Table 16.4: Magnitude of Visual Impact

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 clutter 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 clutter 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 clutter 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

16.2.7 Visual Impact Significance

As stated above, the significance of visual impacts is a function of visual receptor sensitivity and visual impact magnitude. This relationship is expressed in the same significance matrix included for Landscape Impact Significance in Table 16.3 above.

16.2.8 Quality and Timescale in Effects

In addition to assessing the significance of landscape effects and visual effects, the 2022 EPA Guidance for EIARs requires that the quality of the effects is also determined. This could be negative/adverse, neutral, or positive/beneficial. In the case of new energy / infrastructure developments within rural and semi-rural settings, the landscape and visual change brought about by an increased scale and intensity of built form is seldom considered to be positive / beneficial.

Landscape and Visual effects are also categorised according to their duration:

- Temporary – Lasting for one year or less;
- Short Term – Lasting one to seven years;
- Medium Term – Lasting seven to fifteen years;
- Long Term – Lasting fifteen years to sixty years; and
- Permanent – Lasting over sixty years.

16.2.9 Assessment Criteria for Cumulative Effects

The NatureScot Guidance relating to 'Assessing the Cumulative Effects of Onshore Wind Farms (2012) identify that cumulative impacts on visual amenity consist of combined visibility and sequential effects. The same categories have also been subsequently adopted in the Landscape Institute's 2013 revision of the Landscape and Visual Impact Assessment Guidelines. The principal focus of wind energy cumulative impact assessment guidance relates to other wind farms - as opposed to other forms of development. This will also be the main focus herein, albeit with a subsequent consideration of cumulative impacts with other forms of notable development (existing or permitted), particularly within the central portion of the Study Area.

'Combined visibility occurs where the observer is able to see two or more developments from one viewpoint. Combined visibility may either be in combination (where several wind farms are within the observer's arc of vision at the same time) or in succession (where the observer has to turn to see the various wind farms).

Sequential effects occur when the observer has to move to another viewpoint to see different developments. The occurrence of sequential effects may range from frequently sequential (the features appear regularly and with short time lapses between, depending on speed of travel and distance between the viewpoints) to occasionally sequential (long time lapses between appearances, because the observer is moving very slowly and / or there are large distances between the viewpoints.)'

Cumulative impacts of wind farms tend to be adverse rather than positive as they relate to the addition of moving manmade structures into a landscape and viewing context that already contains such development. Based on guidance contained within the NatureScot Guidelines relating to the Cumulative Effects of Wind Farms (2005) and the DoEHLG Wind Energy Guidelines (2006), cumulative impacts can be experienced in a variety of ways.

In terms of visual amenity, there is a range of ways in which an additional wind farm might generate visual conflict and disharmony in relation to other wind energy developments. Some of the most common include visual tension caused by disparate extent, scale or layout of neighbouring developments. A sense of visual ambivalence might also be caused by adjacent developments traversing different landscape types. Turbines from a Proposed Development that are seen stacked in perspective against the turbines of nearer or further developments tend to cause visual clutter and confusion. Such effects are exacerbated when, for example, the more distant turbines are larger than the nearer ones, and the sense of distance is distorted.

Table 16.5 below provides the criteria used for assessing the magnitude of cumulative landscape and visual impacts, which are derived from the NatureScot Guidelines (2012), DoEHLG Wind Energy Guidelines (2006) and the Landscape and Visual Impact Assessment Guidelines based on professional judgment and experience in the context of wind energy development in the Republic of Ireland.

Table 16.5: Magnitude of Cumulative Impacts

Magnitude of Impact	Description
Very High	• The proposed wind farm will strongly contribute to wind energy development being the defining element of the surrounding landscape. • It will strongly contribute to a sense of wind farm proliferation and being surrounded by wind energy development. • Strongly adverse visual effects will be generated by the proposed turbines in relation to other turbines.
High	• The proposed wind farm will contribute significantly to wind energy development being a defining element of the surrounding landscape. • It will significantly contribute to a sense of wind farm proliferation and being surrounded by wind energy development. • Significant adverse visual effects will be generated by the proposed turbines in relation to other turbines.
Medium	• The proposed wind farm will contribute to wind energy development being a characteristic element of the surrounding landscape. • It will contribute to a sense of wind farm accumulation and dissemination within the surrounding landscape. • Adverse visual effects might be generated by the proposed turbines in relation to other turbines.
Low	• The proposed wind farm will be one of only a few wind farms in the surrounding area and will be viewed in isolation from most receptors. • It might contribute to wind farm development becoming a familiar feature within the surrounding landscape. • The design characteristics of the proposed wind farm accord with other schemes within the surrounding landscape and adverse visual effects are not likely to occur in relation to these.
Negligible	• The proposed wind farm will most often be viewed in isolation or occasionally in conjunction with other distant wind energy developments. • Wind energy development will remain an uncommon landscape feature in the surrounding landscape. • No adverse visual effects will be generated by the proposed turbines in relation to other turbines.

16.3 Existing Environment

16.3.1 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 proposal 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).

Below, under the headings of landform and drainage and vegetation and land use, is a description of the landscape context of the Site and wider Study Area. Centres of population, transport routes, tourism, recreation, and heritage features form part of the visual baseline and are dealt with in Section 16.4 below.

Figure 16.1: Aerial photography showing the nature of the landscape in the immediate surrounds of the Site

16.3.1.1 Landform and Drainage

The Site and Central Study Area (< 5km from the Site)

The Site and its immediate surroundings are flat, highlighted by the array of peat bogs that contain the Site and some of the surrounding central Study Area. Beyond the Site's immediate context, the terrain is also characterised by relatively flat to low-rolling lands. Lough Hacket is situated 3.8 km southwest of the Site. The nearest watercourse is the Back River, which flows a short distance to the north and west of the Site. The smaller Togher River meanders through the Site. Otherwise, the Site and central Study Area comprise small streams and drainage ditches.

The Wider Study Area (5-20km from the Site)

The wider Study Area is slightly more varied and contains the broader extents of Lough Corrib in the southwest portion. Other notable watercourses within the wider Study Area include the Robe River, which flows through the Ballinrobe in the northern portion. Turloughs are dotted throughout the wider Study Area.

16.3.1.2 Vegetation and Land Use

The Site and Central Study Area (< 5km from the Site)

The Site is contained across a flat open area. The periphery of these peat bogs includes areas of transitional vegetation and some notable areas of conifer woodland. Beyond the Site's immediate context, the principal land use is pastoral farmland bound by networks of mixed hedgerow vegetation and mature trees. Areas of peat bog also occur throughout the eastern extent of the central Study Area, whilst small blocks of conifer woodland are also dotted throughout all aspects of the central Study Area. The historic demesne of Castle Hacket and adjacent Knockma Wood and a quarry are in the south-eastern portion of the central study area. The settlement of Shrule accounts for the most prominent areas of urban land cover within the central Study Area.

Wider Study Area (5-20km from the Site)

The principal land uses in the wider Study Area are medium to large-sized pastoral fields bound by networks of hedgerow vegetation and blocks of peat bogs. The wider Study Area also contains the existing Cloonlusk wind farm development, which occurs in the surrounds of the peatlands in the south-eastern extent of the wider Study Area. The south-western portion of the Study Area is composed of the lake lands of Lough Corrib. The wider Study Area also has a notable presence of industrial land uses, particularly those associated with the extractive industry at Shanvally. Other notable land uses include the urban settlements of Tuam, which is the largest settlement in the wider Study Area, as well as Headford.

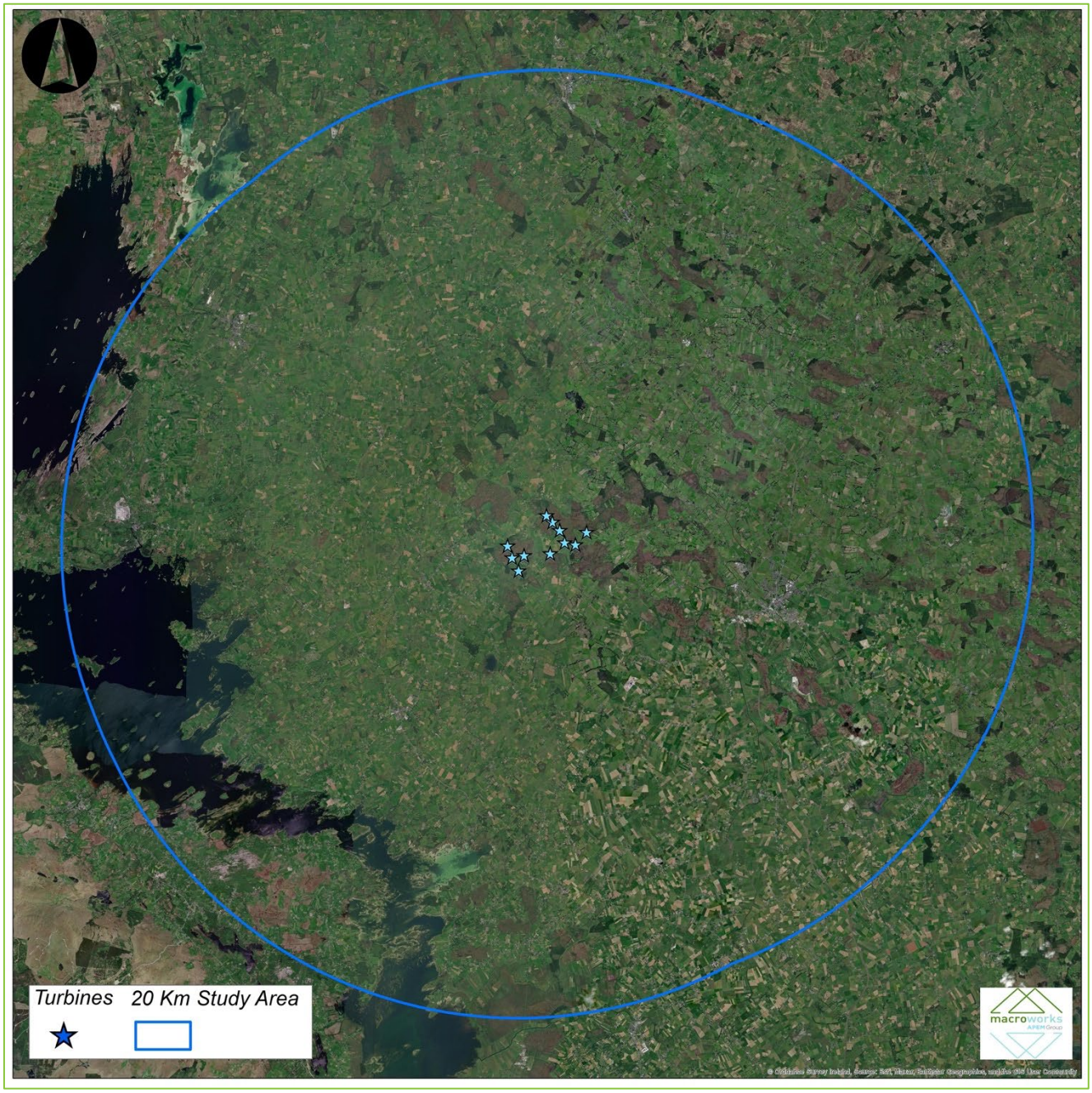

Figure 16.2: Aerial photograph showing the landscape context of the wider Study Area which includes a broad array of land uses.

16.3.2 Landscape Policy Context and Designations

16.3.2.1 Department of Environment, Heritage and Local Government Wind Energy Development Guidelines 2006

The 2006 Wind Energy Development Guidelines provide guidance on wind farm siting and design criteria for a number of different landscape types (this section remains unchanged in the draft 2019 guidelines). The main wind farm Site and central Study Area are considered to be located within a landscape that is consistent with both the '*Flat Peatland*' and the '*Hilly and Flat Farmland*' landscape type. In such instances the Guidelines recommend consideration of the advice for each landscape type. Siting and design recommendations for these landscape types include the following:

Flat Peatland:

> *'**Location** - Wind energy developments can be placed almost anywhere in these landscapes from an aesthetic point of view. They are probably best located away from roadsides allowing a reasonable sense of separation. However, the possibility of driving through a wind energy development closely straddling a road could prove an exciting experience.*
> ***Spatial Extent** - The vast scale of this landscape type allows for a correspondingly large spatial extent for wind energy developments.*
> ***Spacing** - Regular spacing is generally preferred, especially in areas of mechanically harvested peat ridges.*
> ***Layout** - In open expanses, a wind energy development layout with depth, preferably comprising a grid, is more appropriate than a simple linear layout. However, where a wind energy development is located close to feature such as a river, road or escarpment, a linear or staggered linear layout would also be appropriate.*
> ***Height** - Aesthetically, tall turbines would be most appropriate. In any case, in terms of viability they are likely to be necessary given the relatively low wind speeds available. An even profile would be preferred.'*

It is considered that the Proposed Development is entirely consistent with the guidance provided above for the 'Flat Peatland' landscape type.

Hilly and Flat Farmland :

> *'**Location** - Location on ridges and plateaux is preferred, not only to maximise exposure, but also to ensure a reasonable distance from dwellings. Sufficient distance should be maintained from farmsteads, houses and centres of population in order to ensure that wind energy developments do not visually dominate them. Elevated locations are also more likely to achieve optimum aesthetic effect. Turbines perceived as being in close proximity to, or overlapping other landscape elements, such as buildings, roads and power or telegraph poles and lines may result in visual clutter and confusion. While in practice this can be tolerated, in highly sensitive landscapes every attempt should be made to avoid it.*
> ***Spatial extent** - This can be expected to be quite limited in response to the scale of fields and such topographic features as hills and knolls. Sufficient distance from buildings, most likely to be critical at lower elevations, must be established in order to avoid dominance by the wind energy development.*
> *2(a) Wind energy development of large spatial extent – this example is inappropriate given the scale of this landscape.*

2(b) Wind energy development of small spatial extent – this example is appropriate given the scale of this landscape.
2(c) Wind energy development with random layout - this response is inappropriate given the patchwork field pattern of this landscape.
2(d) Wind energy development with grid layout - this response involving any form of linear layout and regular spacing is appropriate given the patchwork field pattern of this landscape.
2(e) Small wind energy development with regular linear layout - the rhythmic order is more appropriate to this landscape due to the order created by the field pattern.
***Spacing** - The optimum spacing pattern is likely to be regular, responding to the underlying pattern field pattern. The fields comprising the site might provide the structure for spacing of turbines. However, this may not always be the case and a balance will have to be struck between adequate spacing to achieve operability and a correspondence to field pattern.*
***Layout** - The optimum layout is linear, and staggered linear on ridges (which are elongated) and hilltops (which are peaked), but a clustered layout would also be appropriate on a hilltop. Where a wind energy development is functionally possible on a flat landscape a grid layout would be aesthetically acceptable.*
***Height** - Turbines should relate in terms of scale to landscape elements and will therefore tend not to be tall. However, an exception to this would be where they are on a high ridge or hilltop of relatively large scale. The more undulating the topography the greater the acceptability of an uneven profile, provided it does not result in significant visual confusion and conflict.*
2(f) Small wind energy development located close to modern farm buildings - a thematic association is established involving modern materials and construction. Careful consideration needs to be given to tall turbines in this landscape given the potential proximity of houses.'

In instances where two or more landscape types are potentially applicable, the Guidelines recommend consideration of the advice for each landscape type rather than just the one which is considered to be most applicable. The 2006 Guidance specifically states (p40):

> *"It is, however, common that a wind energy development is located in one landscape character type but is visible from another, for example, where the site comprises an unenclosed moorland ridge standing above a broad flat farmland. In such an instance, the entire visual unit should be taken into consideration …".*

The siting and design recommendations for *'Flat Peatland' and 'Hilly and Flat Farmland'* landscape types have been considered when designing the turbine layout for the proposed Shancloon Wind Farm as a result of the varied nature of the landscape within the central and wider Study Area. In general, the Proposed Development is largely consistent with the guidance notes for these two landscape types but it is especially consistent with the guidance for the landscape type '*Flat Peatland*' in which the proposed turbines are situated (see Section 16.8.1 for further discussion).

Siting in Relation to Individual Properties ('Setback')

Section 6.18 of the Draft Revised Wind Energy Development Guidelines (December 2019) refers to appropriate setback distances for visual amenity purposes. The guidelines outline a mandatory minimum setback distance of *"500 meters"* or the distance of *"4 times the tip height"* of the proposed *turbines "between the nearest point of the curtilage of any residential property".* This is set out in the 2019 Draft Revised Wind Energy Development Guidelines in SPPR2 (subsection 6.18.1) which is included below:

> *SPPR 2: With the exception of applications where reduced setback requirements have been agreed with relevant owner(s) as outlined at 6.18.2 below, planning authorities and An Bord Pleanála (where relevant), shall, in undertaking their development planning and development management functions, ensure that a setback distance for visual amenity purposes of 4 times the tip height of the relevant wind turbine shall apply between each wind turbine and the nearest point of the curtilage of any residential property in the vicinity of the proposed development, subject to a mandatory minimum setback of 500 metres from that residential property. Some discretion applies to planning authorities when agreeing separation distances for small scale wind energy developments generating energy primarily for onsite usage. The planning authority or An Bord Pleanála (where relevant), shall not apply a setback distance that exceeds these requirements for visual amenity purposes.*

There are 224 residential properties (or proposed residential developments which have received/hold active planning consent) within 2 km of the turbine array and 49 residential properties (or consented residential developments) within 1km of the turbine array, as shown on Figure 2.5. The closest property to a turbine (Eircode H54 KH73) is located 357 m distance from Turbine T01, however this property is under the control of the Developer and will be taken out of use as a residential property and will not be occupied for the operational period of the development should the Proposed Development be granted planning permission. The next nearest property is a derelict building (currently uninhabitable property) located 720.4m south-east of T1 (no Eircode assigned). The closest habitable residential property to the Proposed Development is located 728m east of T11 (Eircode H54 XC65), which exceeds and fully complies with the setback distance outlined in the Draft Revised Guidelines (2019). It is important to note that the current Wind Energy Development Guidelines 2006 do not provide for a mandatory minimum setback distance between wind turbines and residential dwellings in terms of visual amenity. The setback approach in the Draft Revised Guidelines (2019) has been adopted in relation to the Proposed Development as this approach is considered to represent current best practice.

16.3.2.2 Galway County Development Plan 2022-2028

16.3.2.2.1 Landscape

Chapter 8 of the Galway County Development Plan (CDP) pertains to 'Tourism and Landscape.' Section 8.13.1, Landscape Character, states:

> *'Landscape is a precious national asset with a variety of landscape types ranging from the quartzite mountain ranges and blanket bogs of Conamara to the fertile patchwork of farmland in east Galway and the bare karst pavements of the Oileáin Árann and South Galway. The natural diversity of the landscapes of the County coupled with built and cultural heritage features such as the archaeological monuments, stonewalls, hedgerows, woodlands, field patterns, settlements and buildings has given the county its distinctive character.*

Galway County Council has prepared a Landscape Character Assessment (LCA) for the county. Landscape Character Assessment is a process that describes, maps and classifies landscapes objectively. Defining landscape character enables an understanding to be formed of the inherent value and importance of individual landscape elements and the processes that may alter landscape character into the future. The LCA will assist in the identification of the most appropriate locations for development.'

Figure 8.1 of the CDP pertains to the Landscape Character Areas (LCA) of the county. The Proposed Development is entirely contained within the 'North Galway Complex Landscape' LCA. This LCA is situated adjacent to the 'Central Galway Complex Landscape' LCA to the south (Figure 16.3 refers).

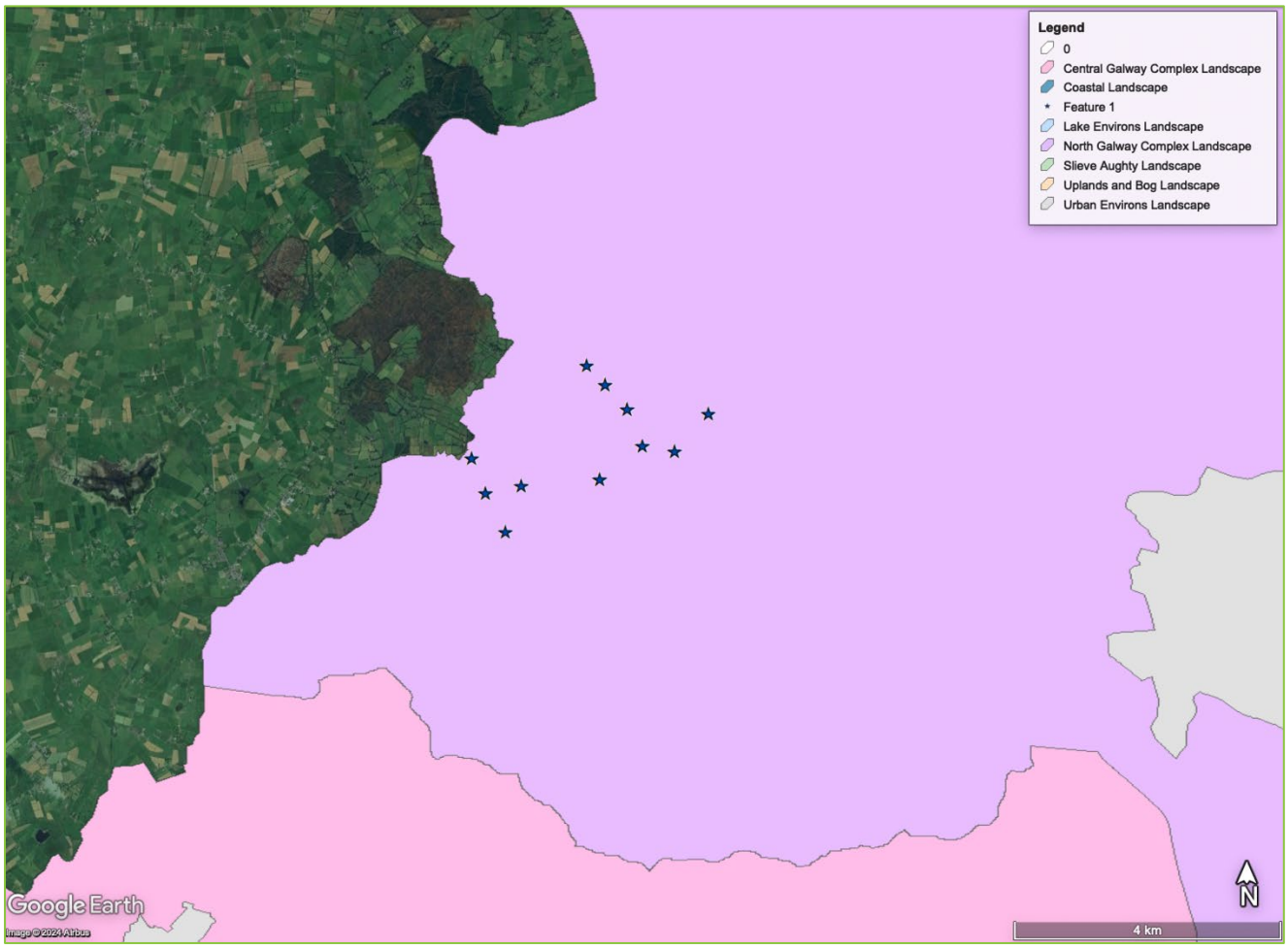

Figure 16.3: Extract of Figure 8.1 of the Galway CDP showing the proposed turbines in relation to the North Galway Complex Landscape LCA (purple coloured area), Central Galway Complex Landscape LCA (pink coloured area) and Urban Environs Landscape LCA (grey coloured area).

Section 8.13.2. Landscape Sensitivity, of the County Development Plan defines Landscape Sensitivity as:

'A landscape's capacity to absorb new development, without exhibiting a significant alteration of character or change of appearance is referred to as it's 'sensitivity'. This depends on factors such as elevation, slope, as well as the types of land-cover and soil. The area is classified as being increasingly sensitive as more of these factors are present in the same place.'

The Landscape Character Assessment for the county has outlined four separate Landscape Sensitivities as follows:

> *'Class–1 - Low: Unlikely to be adversely affected by change*
> *Class–2 - High: Elevated sensitivity to change*
> *Class–3 - Special: High sensitivity to change*
> *Class–4 - Iconic: Unique Landscape with high sensitivity to change'*

Map 8.2 of the Galway CDP indicates the landscape sensitivity across the county. The entirety of the 'North Galway Complex Landscape' LCA and the 'Central Galway Complex Landscape' LCA are rated as being of 'low' landscape sensitivity.

16.3.2.2.2 Galway Landscape Character Assessment

According to the aforementioned Landscape Character Assessment of County Galway in Appendix 4 of the Galway CDP, the 'North Galway Complex Landscape' LCA 'is described as:

> *'An extensive grassland plain stretching from the Suck River in the east to the watershed of the River Clare in the west. It includes elevated areas such as Slieve Dart in the north, as well as lakes, turloughs, raised bogs, wetlands and winding rivers.*
> *Agriculture, scattered forestry and associated field patterns are very mixed and can exhibit large and abrupt changes of character over very short distances, especially in areas around bogs. It has a dense network of smaller settlements and roads, though at a lower density than the southern plains of the county.*

Open areas around bogs produce extensive sky views and the area that are free from light pollution.'

Its principle characteristics are described as:

> *'Very large and abrupt changes of character over very short distances, especially around bogs.'*

In terms of sensitivities, these are described as:

> *'Open countryside offers frequent extensive panoramic views from local highpoints.'*

The adjacent 'Central Galway Complex Landscape' LCA is described as:

> *'An extensive plain of grasslands comprising of medium-to-large fields with low enclosures and many areas of low stone walls used for field boundaries. It also includes distinctive features, including locally elevated features, such as Knockma, south-west This landscape contains a number of locally elevated lands that offer extensive views as well as local landmarks. Example of view in Central Galway Complex Type, Black River Basin Unit (53.462395, -8.948002, Dir.N) of Tuam as well as areas that overlook Lough Corrib in the west and the complex of lakes and foothills between Gort and Loughrea in the south. This area contains the majority of the county's population with associated high levels of urban generated rural housing, roads and settlements. These range from large to small settlements with associated infrastructure, services and commercial activity. The western and southern parts of these landscapes are underlain by karst limestone which results in many unusual hydrological features - such as turloughs and large springs. The more productive soils of this area have resulted in long histories of more intensive historic settlement and associated higher concentrations of remains from major periods of land-management, including early Christian, medieval and 16th - 19th century estates. This historic pattern of settlement has resulted in elevated concentration of archaeological, architectural and cultural remains. Features from different periods of land management and settlement are often found in close proximity. Examples of sites with many periods include Pallas, Eyrecourt and Garbally Park.'*

Its principle characteristics are described as:

> *'Level plain of productive grassland contain many settlements and dwellings.'*

In terms of sensitivities, these are described as:

> *'Open countryside offers frequent extensive panoramic views from local highpoints.'*

16.3.2.2.2.1 Landscape Units

The landscape character types are then split into landscape character units. The Site is located within the 'North River Clare Basin Unit.' No further information about this landscape character unit is provided in the Galway County Development Plan.

16.3.2.2.3 Galway County Development Plan - Policy Objectives

Relevant landscape Policy Objectives in the Galway CDP (i.e. 'Landscape Conservation and Management') that pertain to the Site and the Proposed Development entail:

'LCM 1 - Preservation of Landscape Character

> *Preserve and enhance the character of the landscape where, and to the extent that, in the opinion of the Planning Authority, the proper planning and sustainable development of the area requires it, including the preservation and enhancement, where possible of views and prospects and the amenities of places and features of natural beauty or interest.*

LCM 2 - Landscape Sensitivity Classification

The Planning Authority shall have regard to the landscape sensitivity classification of sites in the consideration of any significant development proposals and, where necessary, require a Landscape/Visual Impact Assessment to accompany such proposals. This shall be balanced against the need to develop key strategic infrastructure to meet the strategic aims of the plan.'

LCM 3 - Landscape Sensitivity Ratings

Consideration of landscape sensitivity ratings shall be an important factor in determining development uses in areas of the County. In areas of high landscape sensitivity, the design and the choice of location of proposed development in the landscape will also be critical considerations.'

16.3.2.2.4 Visual

Section 8.13.3 of the Galway CDP pertains to protected views and scenic routes in the County. There are no protected scenic routes within the Study Area. Views relevant to the Proposed Development (within the Study Area) as derived from LCA Table 6.4 Schedule of Protected Views are indicated in Table 16.6 below. There are three protected views within the Study Area, but none are orientated towards the Site (Figure 16.4). Relevant scenic amenity policy includes;

'PVSR 1 – Protected Views and Scenic Routes

Preserve the protected views and scenic routes as detailed in Maps 8.3 and 8.4 from development that in the view of the Planning Authority would negatively impact on said protected views and scenic routes. This shall be balanced against the need to develop key infrastructure to meet the strategic aims of the plan.'

Table 16.6: Protected Views

View No.	Location	Field of View (FOV) and rotation	Relative Site Location (within/outside of FOV) and Predicted Zone of Theoretical Visibility (ZTV)
27	Ard na Goaithe	• 150 degrees • 180 degrees	Outside of FOV, within ZTV
31	Kilbeg Peir	• 180 degrees • 210 degrees	Outside of FOV, within ZTV
33	Friary of Ross	• 30 degrees • 340 degrees	Outside of FOV, within ZTV

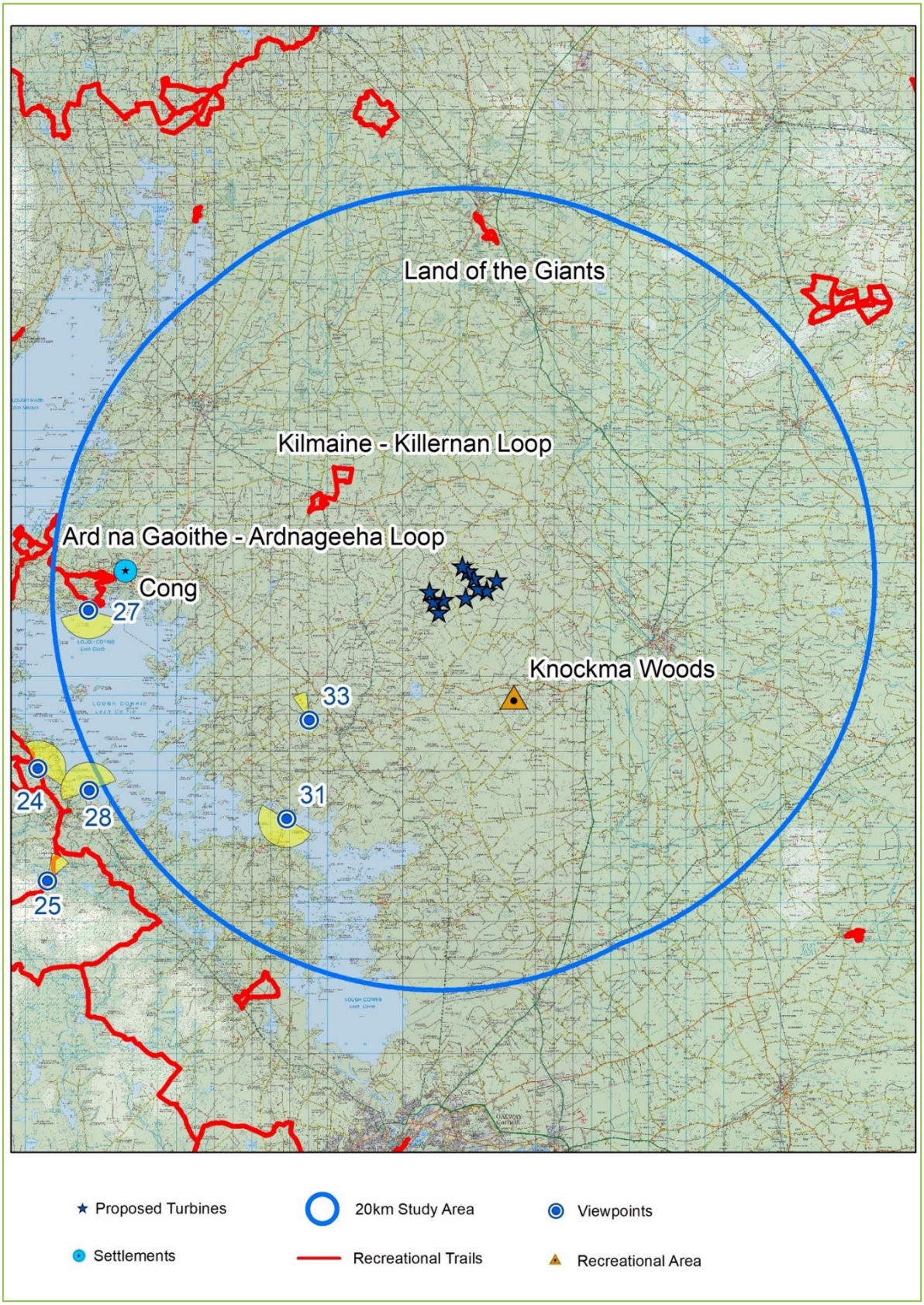

Figure 16.4: Showing the Study Area (blue circle) in relation to the protected view (orange points), recreation trails (red lines) and Knockma Wood (yellow pin).

*Note as per Figure 16.4 the direction of the protected view is shown in yellow, none of which are looking towards the proposed Shancloon Wind Farm.

In addition to the protected views identified in the Galway CDP, the following key amenity and heritage features were identified within the Study Area where there is likely to be a heightened degree of visual sensitivity (Figure 16.4 refers):

- Kilmaine - Killernan Loop recreational trail 4.5 km northwest of the Site;
- Knockma Wood c.6 km south of the Site;
- Friary of Ross (Ross Errilly Friary) ruin is a heritage feature c.10 km southwest of the Site (subject of the nearby protected view no. 33);
- Cong village, c.16.5 km west of the Site;
- Ard na Gaoithe – Ardnageeha loop recreational trail c.16.5 km west of the Site; and
- Land of the Giants recreational trail c.17 km north of the Site.

16.3.2.2.5 Local Authority Renewable Energy Strategy (LARES)

A new Local Authority Renewable Energy Strategy has been prepared for County Galway using guidance from the Sustainable Energy Authority of Ireland (SEAI) and it is stated that:

> *'The LARES replaces the Wind Energy Strategy of the Galway County Development Plan 2015 (as varied)…*
> *Section 14.8.1 Local Authority Renewable Energy Strategy*
> *To facilitate the sustainable growth of renewable energies a Local Authority Renewable Energy Strategy (LARES) has been prepared for the county as part the plan and is included in Appendix 1. The LARES' outlines the renewable energy resource potential in the county and it is a strategic aim to ensure that such developments are suitably located, economical and sustainable in the long term. The Strategy has been prepared taking account of relevant European, national, regional and local planning frameworks and guidelines.*
> *Policy Objective Renewable Energy (RE) 3 Wind Energy Developments*
> *Promote and facilitate wind farm developments in suitable locations, having regard to areas of the County designated for this purpose in the Local Authority Renewable Energy Strategy. The Planning Authority will assess any planning application proposals for wind energy production in accordance with the Local Authority Renewable Energy Strategy, the DoEHLG Guidelines for Planning Authorities on Wind Energy Development, 2006 (or any updated/superseded documents), having due regard to the Habitats Directive and to the detailed policy objectives and Development Standards set out in the Local Authority Renewable Energy Strategy.'*

In Chapter 15 of the Plan 'Development Management Standards', the following standards apply to Wind Energy 'Section 15.13.3 Renewable Energy Proposals, DM Standard 70: Wind Energy';

When assessing planning applications for wind energy developments the Council will have regard to;

- the Wind Energy Development Guidelines for Planning Authorities, DoEHLG, (2006) and any amendments to the Guidelines which may be made; and
- the Local Authority Renewable Energy Strategy;

In addition to the above, the following local considerations (relevant to landscape) will be taken into account by the Council in relation to any planning application;

- Impact on the visual amenities of the area;
- Impact on the residential amenities of the area:
- Scale and layout of the Proposed Development, any cumulative effects due to other developments and the extent to which the impacts are visible across the local landscape;
- Visual impact of the proposal with respect to protected views, scenic routes and sensitive landscapes (Class 2, 3 and 4);

The key points from the above are the presence of sensitive landscapes and views within the immediate Study Area. The proposed turbines are located within an area categorised as 'Open to consideration' zoning on Map 15: Wind Potential from Appendix 1: LARES of the Galway CDP (See Figure 16.5).

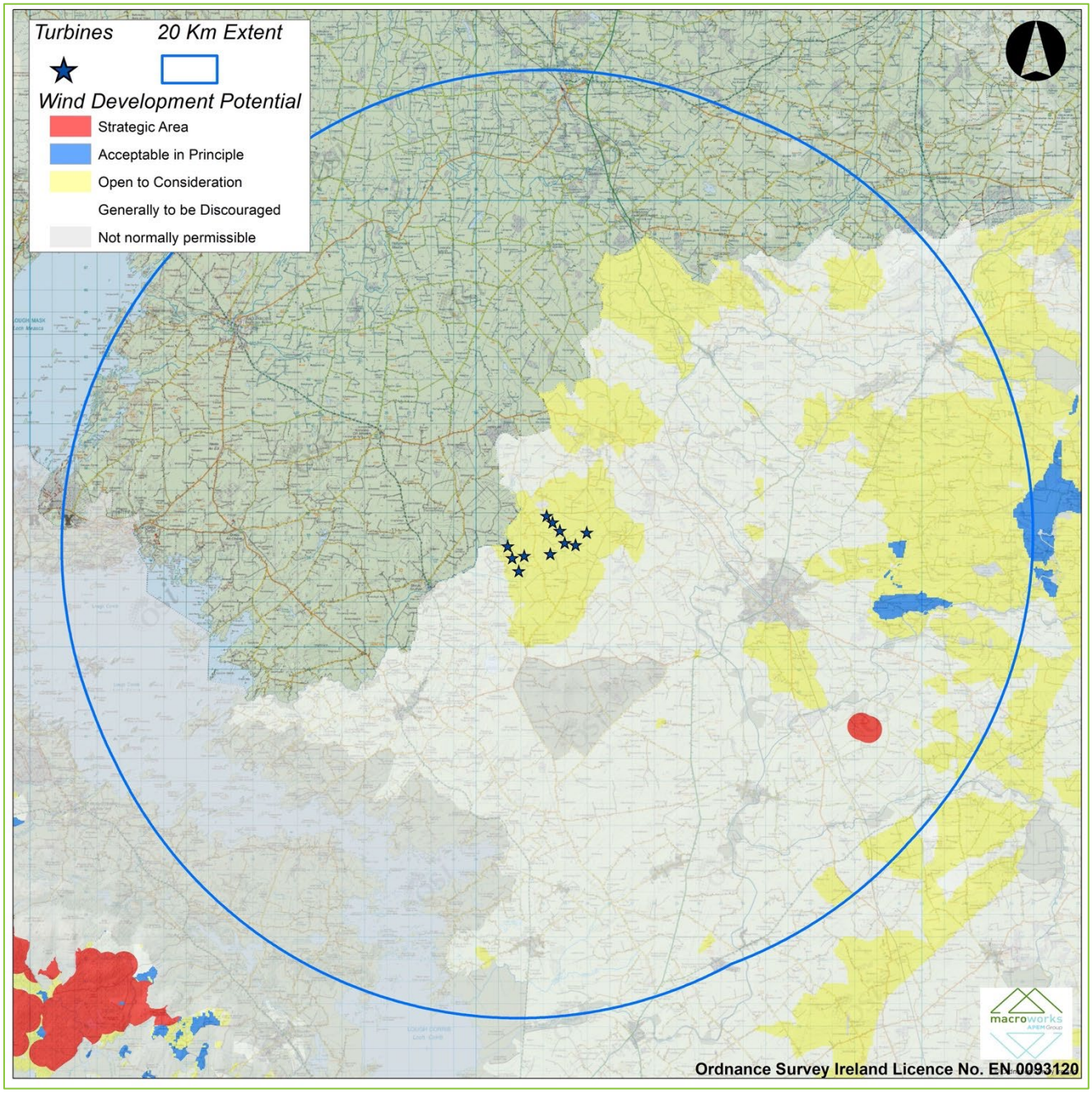

Figure 16.5: Wind Energy Potential zoning relative to the proposed wind farm layout

Relevant Policy Objectives within the LARES include;

'LARES Policy Objective 13 Wind Energy Generation
To increase renewable energy generation levels from wind energy developments in County Galway, given the recognised wind energy potential of the County.
LARES Policy Objective 14 National Wind Energy Guidelines
All onshore wind energy developments shall comply with the National Wind Energy Development Guidelines or any subsequent version thereof.
LARES Policy Objective 16 Open to Consideration
Wind energy development proposals in areas that are identified as 'Open to Consideration' for wind energy development will be considered in accordance with the LARES and the proper planning and sustainable development of the area.'

16.3.2.3 Mayo County Development Plan 2022-2028

The Galway-Mayo county border is adjacent to the Site and occupies the north-eastern third of the Study Area. In terms of landscape and visual considerations, the Mayo County Development Plan incorporates the 'Landscape Appraisal of County Mayo' (2008), which provides a framework for the county's landscape and visual policy. The relevant aspects of these documents are outlined below.

16.3.2.3.1 Landscape Appraisal For County Mayo (2008)

A Landscape Appraisal of County Mayo is included in the current Mayo County Development Plan 2022-2028 (Volume 4 - Supporting Documentation) in which the County is divided into sixteen Landscape Units. The Proposed Development occurs within the '*L – South East Mayo Plains*' Landscape Unit. The landscape contained within this Landscape Unit is described as being a;

> *'This area is a mosaic of high quality pasture with distinct paddocks divided by rock walls and well-maintained hedgerows. There are occasional pockets of transitional pasture and woodland scrub throughout the gently rolling drumlins… The main land use of the region is livestock rearing, conspicuous on the landscape by the dominance of pasturelands. Agricultural lands, complex cultivation patterns and conifer forests are also representative of the land uses in the area. Intermittent areas of urban fabric reveal the significance of urban settlements … in the area.'*

The Landscape Appraisal for Mayo identifies Critical Landscape Factors for this landscape unit, which are described below:

> *'**Undulating topography** - Mildly undulating topography as represented in this character unit by low drumlins, has the ability to both shelter and absorbs the visual impact of development. Firstly, the physical shielding of a built form within the lee of hill where it does not break the skyline renders it visually unobtrusive and reflective of landscape scale. Secondly, the dynamic and complex nature of undulating country provides fore, middle, and distant ground to a vista that helps to provide a realistic scale and visual containment not available in open country.*
> ***Shelter Vegetation** - In a similar manner to undulating topography, shelter vegetation has a shielding and absorbing quality in landscape terms. It can provide a natural visual barrier and also adds to the complexity of a vista, breaking it up to provide scale and containment for built forms.'*

Figure 16.6: Mayo Landscape Unit L and indicating the location of the proposed wind farm layout to the southwest.

16.3.2.3.1.1 Landscape Policy Areas

The various landscape units identified for the county are consolidated into six of Landscape Policy Areas based on generic landscape types. Landscape Unit 'L – South East Mayo Plains' falls within 'Policy Area 4 – Drumlins and Inland Lowlands.' Contained in section 4.1.5 of this document, the policies for which are outlined below:

> *'Policy 21 - Recognise that these areas are made up of a variety of working landscapes and contain the vast proportion of the Counties population within principle towns and on rural holdings. These also incorporate all of the major national primary and regional roads, and railways.*
> *Policy 22 - Continue to permit development that can utilise existing infrastructure, whilst taking account of absorption opportunities provided by the landscape and prevailing vegetation.*
> *Policy 23 - Encourage development that will not significantly interfere or detract from scenic lakeland vistas, as identified in the Development Plan, when viewed from areas of the public realm.*
> *Policy 24 - Encourage development that will not result in detrimental impacts (through excessive bulk, scale or inappropriate siting) on the landscape at a local or micro level as viewed from areas of the public realm.*
> *Apply policies 14 and 16 above, as appropriate….*

Policy 14 - Encourage development that will not interrupt or penetrate distinct linear sections of primary ridge lines when viewed from areas of the public realm.
Policy 16 - Preserve from development any areas that have not already been subject to development, which have retained a dominantly undisturbed upland/moorland character.'

Note: A series of land use sensitivity matrices are also provided at the end of the Landscape Appraisal for County Mayo. Within these the 'Development Impact – Landscape Sensitivity Matrix' indicates that 'wind farms' in the subject 'Policy Area 4' have a high to medium 'potential to create adverse impacts on the existing landscape character.' Policy Area 4 represents the most preferred location for wind farms in County Mayo.

16.3.2.3.1.2 Policies and Objectives

Volume 1 (written statement) of the Mayo County Development Plan (2022-2028) sets out one policy in relation to landscape protection;

'Landscape Policy
NEP 14 - To protect, enhance and contribute to the physical, visual and scenic character of County Mayo and to preserve its unique landscape character.'

Scenic Designations

County Mayo is renowned for its coastal views and designated scenic routes throughout the county. However, the Study Area is not within any scenic designations and there are no designated scenic views or protected viewpoints within the Study Area or with visibility of the Proposed Development.

16.3.2.4 Ecological Designations

Ecological designations such as Special Areas of Conservation (SAC's), Special Protection Areas (SPA's) and Natural Heritage Areas (NHA's) are relevant to the landscape and visual assessment as they can identify areas that are likely to exhibit naturalistic character and low levels of built development. They also highlight areas to which landscape conservation values are attached and they are sometimes associated with outdoor amenity facilities where people go to enjoy the landscape setting.

In this instance, there are a number of ecological designations throughout the Study Area. Those within central Study Area are included below as designations beyond this distance will have little potential to be notably impacted by the Proposed Development, in terms of landscape effects, due to their distance from the Site. They are included here as they contribute to the overall landscape character of the receiving landscape. There are no publicly accessible amenity facilities at these locations thus no viewpoints were selected.

- Shrule Turlough SAC – c. 3.2 km west of the Site (north of Shrule)
- Lough Corrib SAC – c. 3.2 km west of the Site (south of Shrule)

16.4 Visual Baseline

Only those parts of the Study Area that potentially 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 (ZTV) and subsequently, identifying important visual receptors from which to base the visual impact assessment.

16.4.1 Zone of Theoretical Visibility (ZTV)

A computer-generated ZTV map has been prepared to illustrate where the proposed turbines are potentially visible. The ZTV below is based on the 180 m tip height of the proposed turbines. The ZTV map is based solely on terrain data (bare ground visibility) and ignores features such as trees, hedges or buildings, which may screen views. 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 20km Study Area. The result of the ZTV analysis can be divided into the following five categories:

- No Visibility Zones: Areas on the base map without any coloured overlay indicate locations where visibility of the turbines would be impossible. These areas would not experience any visual impact from the turbines.
- High Potential Visibility Zones: The areas with blue colours represent locations with the highest potential number of visible turbines (9-11). These zones would have the greatest potential for visual impact from the turbines.
- Moderate Potential Visibility Zones: The purple areas show moderate potential visibility, where seven to nine turbines may be visible. These zones are likely to experience a noticeable visual presence of the turbines but to a lesser extent than the high-potential visibility zones.
- Low Potential Visibility Zones: The pink areas indicate low potential visibility, where four to six turbines may be visible. These zones may experience some visual impact.
- Very Low Potential Visibility Zones: The yellow areas indicate very low potential visibility, where only one to three turbines have the potential to be visible. These zones are likely to experience minimal visual impact.

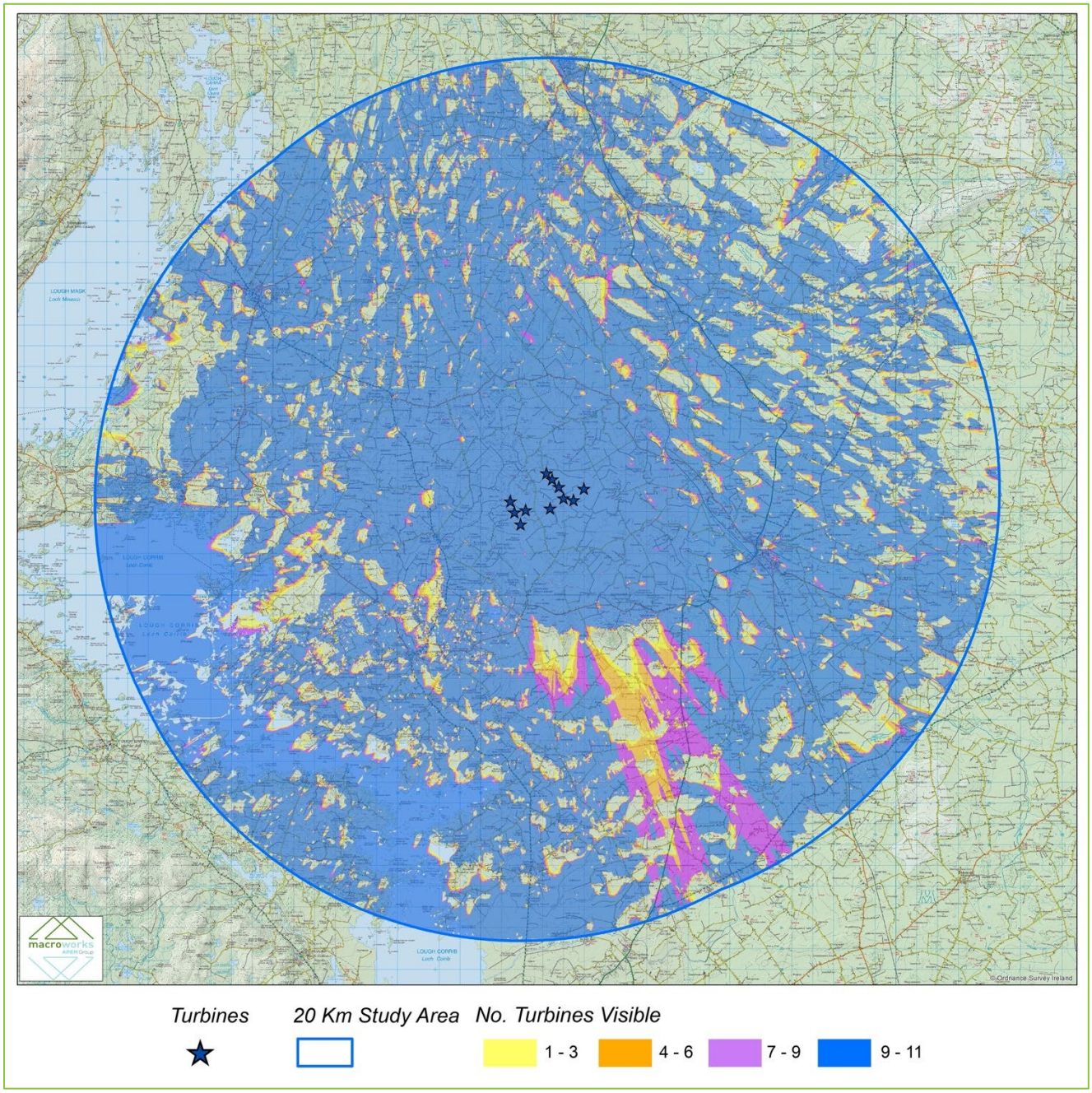

Figure 16.7: ZTV Map (180 m Tip Height) for Shancloon Wind Farm (See Volume 3, Appendix 16.2 for full scale annotated ZTV maps.

The following key points are illustrated by the 'bare-ground' ZTV map (Figure 16.7 refers);

- Due to the location of the Study Area within the plains of north Galway and south Mayo, there is theoretical potential for comprehensive views of the proposed turbines across the majority of the Study Area as a result of the gently rolling topography. (However, this gently rolling landscape is also the reason why, in reality, there will be limited locations with sufficient elevation to have visibility of the turbines above the hedgerows and treelines.)
- The greatest potential for comprehensive visibility occurs in the central Study Area, where, due to the proposed turbines' height, they may be visible above the existing vegetation.

- Further from the Site, the potential for turbine visibility decreases as the gently rolling terrain rises and falls, producing a 'sand ripple' effect on the ZTV pattern where regular pockets of the landscape have no ZTV pattern due to the screening effects of intervening low hills.
- A portion of the Study Area to the south of the Site has limited potential for turbine visibility due to the intervening hills (167 m Above Ordnance Datum) at Knockma Wood, located approximately 6 km south of the Site.

16.4.2 Visual Receptors

16.4.2.1 Centres of Population and Houses

The area near the Site has a moderately populated but dispersed rural population. The central Study Area contains several settlements, the largest of which is Shrule, located approximately 3.8 km west of the Site.

The centre of Headford is located approximately 8.2 km southwest of the Site. The largest and most notable population centre in relation to the Proposed Development is Tuam, which is approximately 8.8 km southeast of the Site. Ballinrobe is located approximately 15 km northwest of the Site. Other settlements in the broader Study Area include Claremorris, Dunmore and Abbeyknockmoy, located approximately 19 km from the Site.

16.4.2.2 Transport Routes

The national rail line between Athenry and Westport, a significant transportation artery, traverses the Study Area and passes the Site at approximately 4 km to the east at the closest point. The M17/N17 (motorway/national primary road), N63, N83, and N84 (national secondary roads) are the other notable transport routes within the Study Area. The M17/N17, N83 and N84 all traverse the Study Area in a north-south orientation. The N84 is the closest national road to the Site, passing through the central portion of the Study Area at a distance of approximately 4 km to the west of the Site. The M17/N17 and N83 both pass through the eastern portion of the Study Area at a distance of approximately 8 km. Approximately 6.6 km of the N63 passes within the southeastern portion of the Study Area. The ZTV indicates that the portion of the N83 that passes within the southern portion of the Study Area would only have limited potential for visibility of the proposed turbines due to the terrain screening. A network of interconnecting regional roads also traverses the wider Study Area; many converge at the settlements of Tuam and Ballinrobe. The closest are the R332 and R333 regional roads, located approximately 3 km to the northeast and south, respectively. A dense web of local roads also cloaks the Study Area, the nearest of which passes through the Site.

16.4.2.3 Tourism, Recreational and Heritage Features

Lough Corrib is one of the most notable areas for outdoor recreation within the Study Area and comprises numerous cycling, walking, and hiking trails. The settlement of Cong is a tourist destination, as it is featured in the famous movie 'The Quiet Man'. Knockma Wood, located approximately 6 km south of the Site, is a very popular walking destination for the local community. It is an elevated location, but the trails are heavily enclosed in nature due to the woodland setting. The Study Area also encompasses numerous local walking trails, some of which include the Kilmaine - Killernan Loop trail located 4.5 km northwest of the Site. The Study Area is also punctuated by various heritage features, many located within its wider extent. The Friary of Ross (Ross Errilly Friary) is a ruins/heritage feature located approximately 10 km southwest of the Site.

16.4.3 Views of recognised scenic value

Views of recognised scenic value are primarily indicated within County Development Plans in the context of scenic views/route designations, but they might also be indicated on touring maps, guidebooks, roadside rest stops or on postcards that represent the area.

All of the scenic routes and views in Galway that fall inside the ZTV pattern (Figure 16.7) were investigated during fieldwork to determine whether actual views of the proposed wind farm might be afforded. Where visibility may occur, a viewpoint has been selected for use in the visual impact appraisal later in this Chapter.

Table 16.7: Rationale for selection of scenic designations within the current Galway County Development Plan 2022-2028

Galway CDP ref:	Relevance to visual impact appraisal?	VP ref no. herein
27	**Not Relevant** – View is located within ZTV, however, the direction of the view is not oriented in the direction to the Site and there is no potential that the turbines will be visible due to intervening vegetation	n/a
31	**Not Relevant** – View is located within ZTV, however, the direction of the view is not oriented in the direction to the Site and there is no potential that the turbines will be visible due to intervening vegetation	n/a
33	**Yes Relevant** – View is located within ZTV, however, the direction of the view is oriented in the opposite direction to the Site but selected as a viewpoint as there is the potential that the turbines may be visible(Described in the Galway CDP '*The focus of this view is the Ross Friary ruins through the trees as the road approaches the site. The turlough in the background is an important feature (when present).*') The visual impact assessment is contained in Appendix 16.1 Volume III.	VP18

16.4.4 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), which are the locations used to study the landscape and visual impact of the proposed wind farm 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, a variety of representative receptor locations was selected that are likely to provide views of the proposed wind farm from different distances, different angles and different contexts.

The visual impact of a Proposed Development is assessed using up to 6 categories of receptor type as listed below:

- Key Views (from features of national or international importance) (KV);
- Designated Scenic Routes (SR) and Views;
- Local Community Views (LCV);
- Centres of Population (CP);
- Major Routes (MR); and
- Amenity and Heritage Features (AH).

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.

Key Views (KV)

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.

Designated Scenic Routes and Designated Scenic Views (SR/SV)

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.

Local Community Views (LCV)

This type of VRP represents those people who live and/or work in the locality of the proposed EIA Development, usually within a 5 km radius of the Site. 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.

Centres of Population (CP)

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.

Major Routes (MR)

These include national and regional level roads and rail lines and are relevant VRP locations due to the number of viewers potentially 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.

Amenity and Heritage Features (AH)

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.

The Viewshed Reference Points selected in this instance are set out in Table 16.8 and Figure 16.8 below. The visual impact assessment is contained in Appendix 16.1 Volume III.

Table 16.8: Selected Viewshed Reference Points (VRPs)

VRP No.	Location	Representative of:	Distance to nearest turbine (km)	Nearest Turbine Ref. No.	Direction of view (degrees)
VP1	Local road, Ballinrobe	MR, CP	18.16	T10	180
VP2	Killosheheen, Ballinrobe	CP	14.75	T2	135
VP3	N17 national primary road, Milltown	MR, CP	9.73	T11	225
VP4	R328 regional road, Dunmore	MR, CP	17.72	T11	225
VP5	Kilmainepark, Kilmaine	CP, AH	7.13	T2	135
VP6	R332 regional road, Oultauns	MR, LCV	4.64	T10	180
VP7	Local road, Kilshanvy	LCV	2.30	T10	180
VP8	Local road, Carrowmore	LCV	2.44	T2	90
VP9	Local road, Cloonsheen	LCV	0.81	T10	135
VP10	Local road, Cloonbar	LCV	0.78	T8	225
VP11	Local road, Cloonnaglasha	LCV	1.27	T11	270
VP12	N84 national secondary road, Shrule	MR, LCV	3.96	T2	90
VP13	Local road, Derrymore	LCV	1.11	T3	45
VP14	Local road, Beagh More	LCV	2.12	T5	315
VP15	Pedestrian bridge, N17 national primary road, Tuam	CP	7.78	T11	270
VP16	Church, Carheenard	CP	3.19	T4	0
VP17	R333 regional road, Thomastown	MR, LCV	5.87	T7	315
VP18	Local road, Ardfintan	AH, LCV	8.94	T4	45

VRP No.	Location	Representative of:	Distance to nearest turbine (km)	Nearest Turbine Ref. No.	Direction of view (degrees)
VP19	Woodland, Tobermina	AH	6.13	T7	315
VP20	Local road, Annagh East	AH	13.40	T4	0
VP21	N63 national secondary road, Abbeyknockmoy	MR, CP	19.29	T11	315

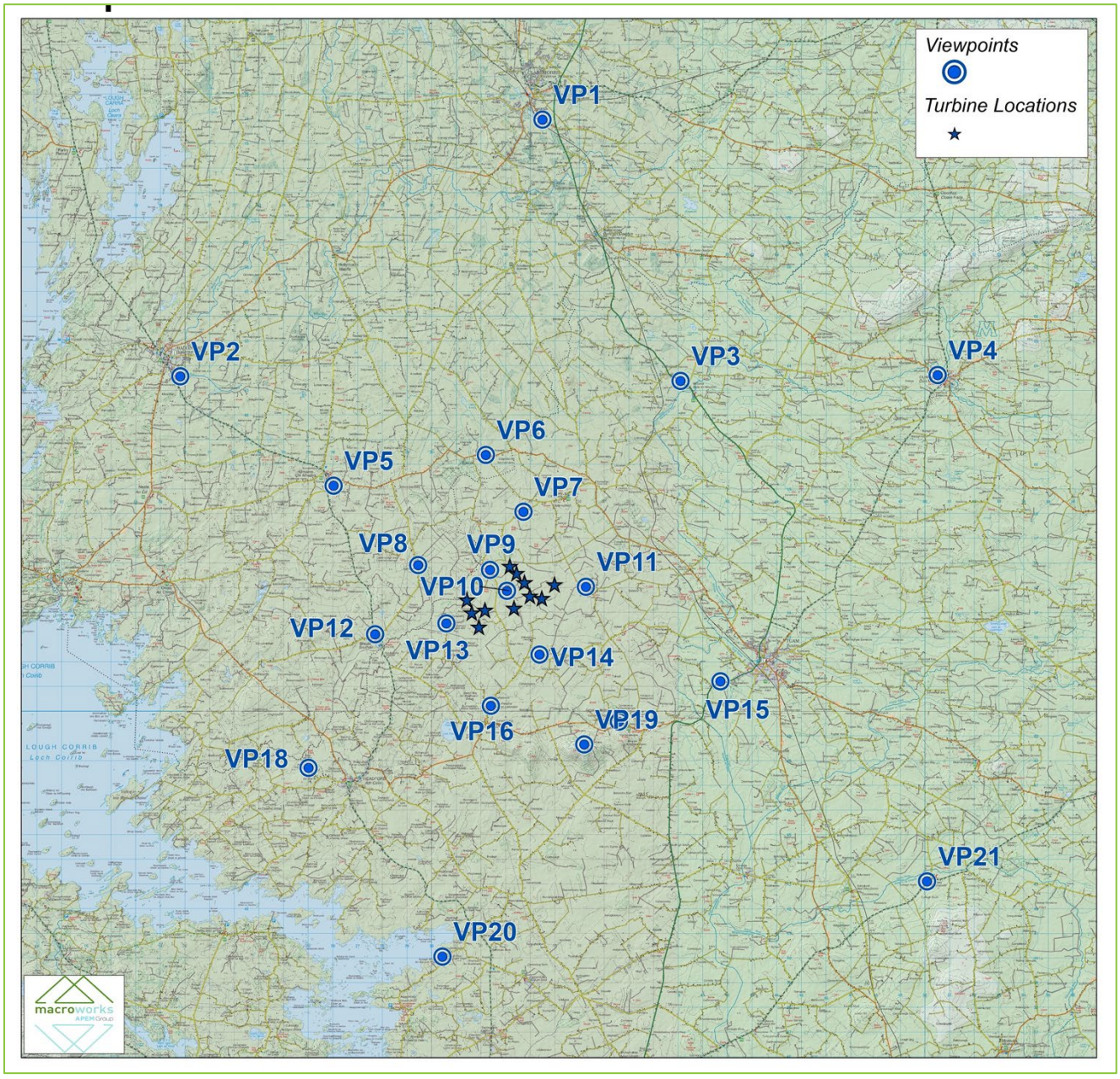

Figure 16.8: Map of Viewpoint Locations

16.5 Potential Effects

Based on the assessment criteria employed herein, potential significant effects during construction and operation are considered most likely to occur in instances where highly sensitive landscape and visual receptors coincide with high-order landscape and visual effects (see descriptions Table 16.1, Table 16.2 and Table 16.4). From Macro Works previous experience of this type of development in a transitional rural setting, it is considered that potentially significant landscape and visual impacts have the potential to occur in the following ways.

Landscape Effects

a) Irreversible physical effects on sensitive landscape features
b) Disruption of existing land use patterns
c) Incongruous change to areas of sensitive landscape character

Visual Effects

a) A combination of visual and spatial dominance as seen from highly sensitive receptor locations. This is most likely to occur within 0-3km of the Proposed Development as a result of the perceived scale of the proposed turbines (see Figure 16.9).
b) Visual clutter and ambiguity as seen from highly sensitive receptor locations can occur at any distance but tend to occur beyond 2-3km as turbines can become stacked in perspective, causing a more two-dimensional layout to be perceived.
c) A combination of both of the above effects.

From baseline studies and early-stage assessments specific to the Proposed Development, Lough Corrib is considered one of the most highly sensitive physical landscape receptors. The River Clare and Robe River are also considered sensitive landscape receptors in this instance.

The most sensitive visual receptors are the designated scenic view identified in the Galway County Development Plan, in addition to the numerous linear walking and cycling routes at Cong and its surrounding landscape context on Lough Corrib. These locations are considered sensitive receptors because they represent a notable degree of scenic and recreational amenity.

16.6 Mitigation Measures

Construction

No specific mitigation measures are to be implemented in relation to landscape and visual effects.

16.6.1 Operation

Given the highly visible nature of commercial wind energy developments, it is not generally feasible to screen them from view using on-site measures, as would be the primary form of mitigation for many other types of development. Instead, landscape and visual mitigation for wind farms must be incorporated into the early-stage site selection and design phases.

In this instance, the two main forms of landscape and visual mitigation employed were:

- Avoidance in design
- Buffering of Residential Receptors

Mitigation by Avoidance and Design

At a macro level, the siting of the proposed turbines was selected due to the robustness of the receiving landscape and to minimise the impacts of key receptors.

Buffering of Residential Receptors

For the proposed Shancloon Wind Farm, the closest property to a turbine (Eircode H54 KH73) is located 357 m distance from Turbine T01, however this property is under the control of the Developer and will be taken out of use as a residential property and will not be occupied for the operational period of the development should the Proposed Development be granted planning permission. The minimum distance of any turbine from the next nearest house is 720.4m, which is in excess of the draft Wind Energy Development Guidelines (2019) minimum set back of 500m and the setback distance of 4 times the tip height of the proposed turbines. In this instance, the setback for visual amenity purposes would be 720m from residential receptors on the basis of the 180 m high turbines.

Variation in residential buffer distances within the nearest kilometre has a much more noticeable effect on perceived turbine scale than when it occurs in the context of more distant views. This is due to the law of perspective – that doubling the distance to an object halves its perceived height. The reduction factor is even more pronounced when considered in the context of the 'swept area' of turbine blades and not just their tip height. This exponential 'scale in relation to the distance scenario is illustrated in Figure 16.9 below.

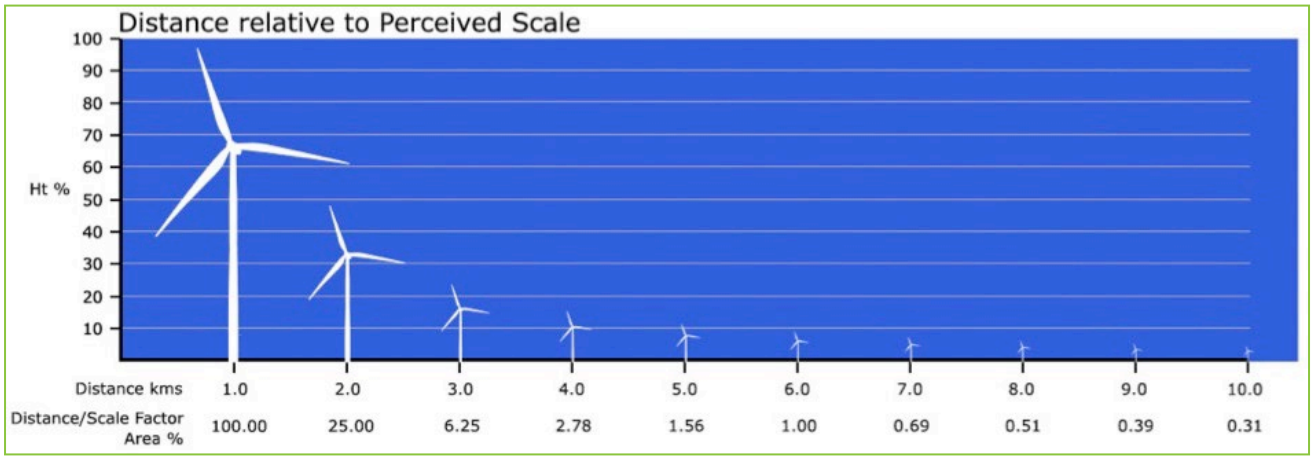

Figure 16.9: Turbine 'scale in relation to distance' relationship

16.6.2 Decommissioning

No landscape or visual mitigation measures are proposed during the decommissioning phase.

16.7 Monitoring

There are no monitoring measures relevant to landscape and visual.

16.8 Residual Effects – Landscape

16.8.1 Landscape Character, Value and Sensitivity

Effects on landscape character will be assessed at both the localised scale of the Site and its immediately surrounding landscape and at the broader scale of the wider Study Area.

Central Study Area (< c. 5km from nearest turbines)

Much of the central Study Area is heavily influenced by extensive areas of peat bog previously used to harvest peat for fuel. Nonetheless, the surroundings of these peat bogs are now going through the process of natural regeneration. They are fringed by conifer forest areas, which reduces the overall perceived scale of these extensive peatlands from surrounding local receptors. These peatland areas are also encircled by more typical areas of working agricultural farmland bound by networks of hedgerows and mature trees. The terrain within the central Study area is typically low rolling, and the layers of intervening hedgerow vegetation and small blocks of conifer forestry tend to inhibit any strong sense of openness, aside from some locally elevated hills, which afforded broad views across the rural farmland and peatlands.

Due to its location along one of the main transport routes from Galway to Castlebar, the central Study Area encompasses a modest rural population with the notable town of Shrule, some c. 4km west of the nearest turbine. Whilst the turbines are proposed primarily on a peat bog, the central Study Area includes a mix of isolated rural dwellings, farmsteads and clusters of dwellings. As noted above, the central Study Area is also heavily influenced by the existing N84 corridor, which is situated throughout the western periphery of the central Study Area.

Regarding scenic amenity value, the central Study Area comprises some scenic amenity, principally associated with the more elevated area in its southern extent where views are afforded towards Knockma Wood.

Large parts of the central Study Area comprise a notable sense of enclosure due to its flat nature and nearby hedgerow vegetation, which truncates any strong sense of openness.

The central Study Area also comprises some landscape values relating to amenities and heritage associated with Friary of Ross and the adjacent turlough.

The central Study Area is part of the Galway landscape character area ‘LCA5 - Northeast Galway (Tuam environs)’: Class 1 – Low sensitivity rating. This makes it an eminently suitable location for turbines in County Galway. A significant portion of the study area falls under the Mayo landscape character area: ‘Area L - South East Mayo Plains’ in ‘Policy Area 4’. According to the Mayo CDP, wind farms in this area have a High-Medium potential for adverse impacts, indicating a higher sensitivity to wind turbines but Policy Area 4 represents the most preferred location for wind farms in County Mayo. These designations highlight a robustness within the central study area for wind energy development.

In summary, the Site and central Study Area have strong productive rural values, which are highlighted by the strong historical associations that the Site has with the peat extraction, combined with the more current traditional working landscape values associated with the surrounding agricultural lands. Notwithstanding, some landscape sensitivities are related to local areas of amenity and heritage assets. Overall, the Site and central Study Area is a modified rural setting that comprises a modest rural settlement pattern of small towns and villages. The N84 is also a notable anthropogenic feature that influences the surrounding landscape. Although there are some localised areas of higher sensitivity relate to heritage and amenity assets, on balance, of the reasons outlined above, the overall landscape sensitivity of the Site and central Study Area is deemed Medium-low.

Wider Study Area (c. 5-20km)

The wider Study Area encompasses many of the same landscape values and sensitivities of the central Study Area. However, some areas of localised heightened sensitivity are located throughout its full extent. In terms of the landform, much of the western extents of the wider Study Area is heavily influenced by the Lakeland type of landscape associated with Lough Corrib and Lough Mask that follows the flat to low rolling topography of the central Study Area. Indeed, much of the scenic amenity within the wider Study Area is contained in its western extent and often relates to views to and from these lakes. Whilst most of the Study Area comprises a more homogenous typical flat to low rolling landscape context, principally cloaked in agricultural farmlands bound by hedgerow vegetation, some heightened areas of sensitivity are located throughout, typically associated with susceptible heritage features. Two scenic views are situated on the banks of Lough Corrib. One is associated with the principal heritage assets of note within the wider Study Area, Friary of Ross. Whilst some localised areas have heightened sensitivity, the wider study is heavily influenced by highly anthropogenic built features. The Kilmaine - Killernan looped walking trail has limited scenic qualities; thus, its value is likely to be primarily at a local level.

Wind energy development is present within the south-eastern portion of the wider Study Area. These wind turbines are located amongst peat bogs and their surrounding pastoral lowlands. The wider Study Area also encompasses numerous rural service centres, the largest of which is the settlement of Tuam. Several major interconnecting routes converge near Tuam in the eastern half of the wider Study Area, including the M17/N17, N83, R347, and R332. Several local quarries are also dotted throughout the wider Study Area, whilst industrial and commercial land use is prominent on the outskirts of the urban centres within the wider Study Area.

In summary, the wider Study Area, with its slightly more varied landscape than the central Study Area, is home to some highly susceptible receptors. Many of these receptors, such as the Friary of Ross and the Kilmaine-Killernan looped walking trail, hold considerable heritage and tourism value. However, the wider Study Area is predominantly a robust settled rural landscape. Therefore, similar to the central Study Area, the landscape sensitivity of the wider Study Area is predominantly deemed to be of Medium-low sensitivity, but in the outer western quarters around Lough Corrib and Lough Mask, the sensitivity increases to High-medium.

Magnitude of Landscape Effects

The physical landscape, as well as the landscape character of the Site and its central Study Area (<5km), is affected by the proposed wind turbines as well as ancillary development such as internal roads including grid connection, areas of hard standing for the turbines and the substation compound. By contrast, for the wider landscape of the Study Area, landscape impacts relate exclusively to the influence of the proposed turbines on landscape character. The aspects of the Proposed Development that are likely to have an impact on the physical landscape and landscape character are described in Chapter 2 (Description of Proposed Development) with construction processes described in the Construction and Environmental Management Plan (CEMP) at Appendix 2.1.

16.8.1.1.1 Construction Stage Effects

It is considered that the Proposed Development will have a modest physical impact on the landscape within the Site as none of the Proposed Development features have a large 'footprint', and land disturbance/vegetation clearing will be relatively limited. The topography and land cover of the Site will remain largely unaltered, with construction being limited to tracks, areas of hard standing for the turbines, the onsite substation compound, temporary site construction compounds, and proposed met masts. Excavations will tie into existing ground levels insofar as possible and will be the minimum required for efficient working. Any temporary excavations or stockpiles of material will be re-graded to marry into existing site levels and reseeded appropriately in conjunction with advice from the project ecologist. Highly localised tree felling may be required to facilitate the construction.

The finalised internal access track layout has been designed to avoid environmental constraints, and every effort has been made to minimise the length of the necessary roadway by utilising and upgrading the existing access tracks. Furthermore, the road layout has been designed to follow the natural contours of the land wherever possible, reducing the potential for areas of excessive 'cut and fill'. There will be an intensity of construction stage activity associated with the access tracks and turbine hardstands consisting of the movement of heavy machinery and materials, but this will be temporary/short-term in duration and transient in location. The construction stage effects on landscape character from these activities will be minor.

One permanent meteorological (Met) mast will be erected on the Site. It will consist of 110m high lattice steel masts with a shallow concrete foundation. The most notable construction stage effects here relate to the minor ground excavation required to facilitate the shallow foundations for the steel mast structure. The Proposed Development also includes constructing a new access to the Met mast.

There will be one onsite substation compound constructed to collect the generated power from the Proposed Development before distributing it to the national grid. The onsite substation will be located in a pastoral field west of the proposed turbines and will be connected by an underground cable. The proposed sub-station compound will be approximately 145m in length by 140m in width and will include two single-storey buildings with pitched roofs (c. 8.3m high control building and c. 6.7m high IPP building) and a concrete render finish. A high steel palisade fence will enclose the proposed substation compound, which a timber post and rail fence will further enclose. The most notable construction stage landscape impacts resulting from the proposed on-site substation relate to the construction of concrete foundations to facilitate that substation building. Overall, these construction stage effects are relatively minor compared to the construction of a large industrial farm shed. All internal site cabling will be underground and follow proposed site access tracks, largely following existing farm access routes. This will minimise the need for trenching through open ground and hedgerow removal. Indeed, land cover will only be interrupted as necessary to build the proposed wind farm structures and provide access to them. Impacts from land disturbance and vegetation loss at the Site are considered modest in the context of this landscape setting that is influenced by an array of working rural land uses.

The grid connection cabling will run underground (c. 790m) from the onsite substation across a combination of private lands and traversing a public road, generating land disturbance and associated movement of machinery and stockpiling of materials. Connection works will involve the installation of ducting, drainage, and ancillary infrastructure and the subsequent running of cables along the existing road network. Two new line interface masts will connect with the existing overhead lines. This will require delivery of plant and construction materials, followed by ground excavation, cable laying, and subsequent reinstatement of trenches, and will result in minor and very localised construction stage landscape effects.

Site activity will be at its greatest during the construction phase due to the operation of machinery onsite and the movement of heavy vehicles to and from the Site. This phase will have a more significant impact on the character of the Site and cable routes than the operational phase, but it is a 'short-term' impact that will cease as soon as the Proposed Development is constructed and becomes operational (approximately 24 months from the commencement of construction).

There will be some long-term/permanent construction stage effects on the physical landscape in the form of turbine foundations and hardstands, access tracks and a substation, but only the substation is proposed to remain in perpetuity as part of the national grid network. It is proposed that with the exception of some residually useful access tracks, all other development features will be removed from the Site, and it will be reinstated/restored to the prevailing land cover. Thus, the construction stage landscape effects of the Proposed Development are largely reversible.

As identified in the Construction and Environmental Management Plan (CEMP), some construction stage effects on landscape character will be generated by the intensity of construction activities (workers and heavy machinery), areas of bare ground, and stockpiling of materials. Such effects will be temporary/short-term in duration. Overall, construction stage landscape effects are considered to be of a **High-medium** magnitude. The quality of the landscape effects is deemed **Negative**.

16.8.1.1.2 Operational Stage Effects

For most commercial wind energy developments, the greatest potential for landscape impacts to occur is as a result of the change in character of the immediate area due to the introduction of tall structures with moving components. Thus, wind turbines that may not have been a characteristic feature of the area become a new defining element of that landscape character. In this instance, wind turbines are not a characteristic feature of the central Study Area, albeit the wider Study Area is influenced by the existing Cloonlusk wind farm development in the wider south-eastern periphery of the 20km extent. (Refer to Section 16.9 for further assessment of cumulative effects).

In terms of scale and function, the Proposed Development is well assimilated within the context of the central Study Area. This is due to the broad scale of the landform, landscape elements and land use patterns. These attributes prevent the height and extent of the proposed wind farm from causing the type of scale conflict that can occur in more intricate landscape areas. The landscape in the immediate surrounds of the Site has a notable working character due to the presence of the existing commercial conifer plantations and broad areas of pastoral farmland that occur within and around the Site. Although the Proposed Development represents a stronger human presence and level of built development than currently exists on the Site, it will not detract significantly from the productive rural character.

It is important to note that in terms of duration, this development proposal represents a long-term, but not permanent, impact on the landscape and is reversible. A 30-year operational life from the date of commissioning of the entire wind farm (including meteorological mast) is being sought , after which time it will be dismantled and the landscape reinstated to prevailing conditions.

In summary, there will be physical impacts on the land cover of the Site as a result of the Proposed Development during the operational phase, but these will be relatively minor in the context of this productive rural landscape that comprises existing wind energy developments and extensive areas of commercial conifer forest. Whilst the Proposed Development represents a notable intensification of development in the local landscape context, the scale of the Proposed Development will be well assimilated within its landscape context without undue conflicts of scale with underlying landform and land use patterns. For these reasons, the magnitude of the landscape impact is deemed to be **High-Medium** within the Site and its immediate environs (c.1km), reducing to Medium for the remainder of the central Study Area. The quality of the landscape effects is deemed **Negative**. Beyond 5km from the Site, the magnitude of landscape impact is deemed to reduce to Low and Negligible at increasing distances as the wind farm becomes a proportionately smaller and integrated component of the overall landscape fabric.

16.8.1.1.3 Decommissioning Stage Effects

The decommissioning phase will have similar temporary impacts as the construction phase with the movement of large turbine components away from the Site. There may be a minor loss of roadside and trackside vegetation that has grown during the operational phase of the project, but this can be reinstated upon completion of decommissioning. Areas of hard standing that are of no further use will be reinstated and reseeded to blend with the prevailing surrounding land cover of the time. It is expected that the decommissioning phase will be completed within a period of approximately 3 months. Within 2-3 years of decommissioning, there will be little evidence that a wind farm ever existed on the Site, albeit the proposed onsite substation will remain in perpetuity as part of the national grid infrastructure, in addition to residually useful access tracks. The magnitude of the landscape impact is deemed to be **High-Medium.** The quality of the landscape effects is deemed **Negative**.

16.8.1.2 Significance of Landscape Effects

The significance of landscape effects is a function of landscape sensitivity weighed against the magnitude of the landscape impact. This is derived from the significance matrix (Table 16.3), which is used in combination with professional judgement.

Based on a Medium-low sensitivity judgement and a High-medium magnitude of construction stage landscape impact, the significance of impact is considered to be **Moderate / Negative / Short-term** within and immediately around the Site during construction, but reducing with distance and broader context. This in not significant in EIA terms.

Based on a Medium-low sensitivity judgement and a High-medium / Medium magnitude of operational stage landscape impact, the localised significance of impact is considered to be **Moderate / Negative / Long-term** within and immediately around the Site. Thereafter, significance will reduce to Moderate-slight and Slight at increasing distances as the development becomes a progressively smaller component of the wider landscape fabric, even in the context of higher-sensitivity landscape units/features such as the Uplands to the east and west and the coastline in the southeast quadrant of the Study Area. This in not significant in EIA terms.

Based on a Medium-low sensitivity judgement and a High-medium magnitude of decommissioning stage landscape impact, the significance of impact is considered to be **Moderate / Negative / Short-term** within and immediately around the Site during decommissioning, but reducing with distance and broader context. This in not significant in EIA terms.

16.8.2 Visual Effects

Construction stage visual effects will have a similar or a lesser magnitude of effect as what will occur in the operational stage, therefore the focus of this assessment is on the operational stage. Table 16.9 below summarises the full textual assessment of visual effects during the operational stage for each Viewshed Reference Point (VRP) contained in Appendix 16.1 Volume III. Whilst the 'receptor sensitivity analysis table' and full-textual assessment for each VRP is normally contained within the landscape and visual chapter, in this instance, given the considerable number of VRPs, it is considered more prudent to place this material in a separate appendix (Appendix 16.1 Volume III) and focus herein on the significance of the findings. The left-hand side of the table indicates the distance to the nearest turbine from the viewpoint, whilst the right-hand side contains professional judgements in respect of the view. It is important to note that professional judgements are based on the effects experienced in relation to the view and are not directly influenced by the statistical data.

Table 16.9: Summary of Visual Effects at Viewshed Reference Points (VRP's)

VRP No.	Distance to Nearest Turbine (km)	Visual receptor Sensitivity (see Appendix 16.1)	Visual Impact Magnitude	Significance of Visual effect
VP1	18.16	Medium-low	Negligible	**Imperceptible/Neutral/Long Term**
VP2	14.75	Low	Negligible	**Imperceptible/Neutral/Long Term**
VP3	9.73	Medium-low	Low	**Slight/Negative-Neutral/Long Term**
VP4	17.72	Medium-low	Negligible	**Imperceptible/Neutral/Long Term**
VP5	7.13	Medium-low	Negligible	**Imperceptible/Neutral/Long Term**
VP6	4.64	Medium-low	Low	**Slight/Negative/Long Term**
VP7	2.30	Medium-low	Medium-low	**Moderate-slight/Negative/Long Term**
VP8	2.44	Medium-low	Medium-low	**Moderate-slight/Negative/Long Term**
VP9	0.81	Medium-low	Medium	**Moderate/Negative/Long Term**
VP10	0.78	Medium-low	High	**Substantial-moderate/Negative/Long Term**
VP11	1.27	Medium-low	Medium	**Moderate-slight/Negative/Long Term**
VP12	3.96	Medium-low	Medium	**Moderate-slight/Negative/Long Term**
VP13	1.11	Medium-low	Medium Low	**Moderate-slight/Negative/Long Term**

VRP No.	Distance to Nearest Turbine (km)	Visual receptor Sensitivity (see Appendix 16.1)	Visual Impact Magnitude	Significance of Visual effect
VP14	2.12	Medium-low	Medium Low	**Moderate-slight/Negative/Long Term**
VP15	7.78	Low	Negligible	**Imperceptible/Negative-Neutral/Long Term**
VP16	3.19	Medium-low	Low	**Slight/Negative/Long Term**
VP17	5.87	Medium-low	Low	**Slight/Negative/Long Term**
VP18	8.94	Medium	Low	**Slight/Negative/Long Term**
VP19	6.13	High-medium	Medium	**Moderate/Negative/Long Term**
VP20	13.40	Medium-low	Low Negligible	**Slight-imperceptible/Negative-Neutral/Long Term**
VP21	19.29	Medium-low	Negligible	**Imperceptible/Neutral/Long Term**

16.8.2.1 Impacts on Designated Views

Three designated views occur within the Study area but two have no potential for views of the Proposed Development. Although not orientated towards the Site, designated view no. 33 from the Galway CDP was selected as a viewpoint (VP18).

Designated View 33

Designated View 33 is described in the current Galway CDP as *"The focus of this view is the Ross Friary ruins through the trees as the road approaches the site. The turlough in the background is an important feature (when present)."* It is c. 8.9 km southwest of the Site. This location affords a view to the northeast in the direction of the Site, and the turbines will be visible within a context of rolling farmland, where they will present as small-scale features in the background. Whilst the turbines will generate a small increase in the intensity of built development, they will only have a very limited impact on the visual amenity. The proposed turbines will not be within the designated viewshed towards Ross Friary or materially detract from its visual setting. Overall, the significance of visual impact was deemed Slight at VP18.

16.8.2.2 Impacts on Local Community Views

Local Community views are considered to be those experienced primarily by those people who live, work and move around the area within approximately 5km of the Site. These are generally the people who are most likely to have their visual amenity affected by a wind energy proposal due to proximity to the turbines, a greater potential to view turbines in various directions, or having turbines as a familiar feature of their daily views. Up to 11 views were chosen to represent the local community and include VP6, VP7, VP8, VP9, VP10, VP11, VP12, VP13, VP14, VP16 and VP17.

The highest impact significance occurs at VP10, one of the nearest potential views of the Proposed Development and represents the local community views from the centre of the Site. All of the proposed turbines have the potential to be viewed from this landscape context, albeit one will be fully screened by an intervening dwelling as viewed specifically from VP10. Whilst the turbines will be one of the most distinctive features of the open view to the south, they will not block or obstruct the views. The closest turbines will present in silhouette against the sky as they rise from behind agricultural buildings and hedgerows to the north and east. The proposed turbines will present here at a considerable scale and thus will have a dominant-to-co-dominant visual presence, and the magnitude of visual impact is deemed to be High. When combined with the Medium-low sensitivity, the significance of the residual visual impact is deemed to be 'Substantial-moderate' (VP10).

VP9, VP11, VP13 and VP14 all represent local community receptors immediately adjacent to the Site. The sensitivity judgement at all these viewpoints is Medium-low. Similar to VP10, these are the locations within the Study Area where the proposed turbines have the greatest visual dominance due to the proximity of the turbines, and this is what generates the Medium magnitude of impact at VP9, VP11 and VP12 and the resultant 'Moderate-slight' significance of residual impact at VP11 and VP12. At VP9, the turbines present with a notable lateral extent; therefore, the significance is greater and is deemed to be 'Moderate'.

VP7, VP8, and VP12 are located slightly further north, northwest, and west of the Site. However, all will incur 'Moderate-slight' significance of residual impact. Meanwhile, impacts at VP6, VP16, and VP17 are deemed 'Slight' due to a combination of intervening screening and increased distance from the Site.

Overall, the Proposed Development will present in a dominant manner at some of the nearest residential receptors to the Site. Whilst some of these local receptors will experience borderline significant impacts, it is not considered that the Proposed Development will generate significant visual impacts at local community receptors within the central Study Area.

16.8.2.3 Impacts on Centres of Population

Seven viewpoints (VP1, VP2, VP3, VP4, VP5, VP15 and VP21) were chosen to represent centres of population within the wider Study Area. The largest settlement is Tuam and is represented by VP15. This viewpoint is positioned on top of a footbridge, and glimpses of blade tips in the distance are possible, but there will be no possibility of views of the proposed turbines from ground level in or near Tuam. VP1, VP2, VP4, VP5 and VP21 represent Claremorris, Ballinrobe, Dunmore, Kilmaine and Abbeyknockmoy respectively, but there is no potential for views of the proposed turbines from these settlements. Milltown is represented by VP3, and impacts are anticipated to be 'Slight'. The only notable settlement within the central Study Area with the potential for turbine visibility is Shrule, located to the west of the Site. This was represented by VP12, which indicates that portions of all the turbines will be visible. Whilst the Proposed Development will present some negative aesthetic effects, principally associated with the overlapping of turbine blade sets, the turbines will not appear out of place in terms of their scale or function at this settlement. A 'Moderate-slight' significance of visual impact was deemed appropriate in this instance.

As a result of the reasons outlined above, it is not considered that any significant visual impact will occur with respect to centres of population within the central and wider Study Area.

16.8.2.4 Impacts on Heritage and Amenity Features

Two viewpoints (VP19 and VP20) were chosen to represent heritage and amenity features within the Study Area. V19 represents a potential view out of Knockma Woods, and VP20 represents views towards the site from Lough Corrib. VP20 demonstrates that the proposed turbines are generally unlikely to be visible, and if they are, the view is likely to be limited to views of just the blade tips rotating above vegetation in a distant background.

VP19 represents one of the most elevated views afforded in the Study Area, where a broad panoramic view is afforded across the lowland plains of northeast Galway. A relatively clear view of the eastern portion of the proposed turbine array is afforded from this elevated location. VP19 was classified with a visual impact significance of 'Moderate' as the proposed turbines will increase the intensity of built development in a lowland setting, but in reality, all the walking trails in Knockma Woods are within the centre of the woods and will not be afforded this view.

16.8.2.5 Significance of Visual Effects

Based on the visual impact assessments outlined in Sections 16.8.2.1 - 16.8.2.4 above, the significance of visual impacts for receptor types ranges between 'Substantial-moderate' to 'Imperceptible'. The most notable visual impacts will occur within the immediate surroundings of the turbines at local residential receptors. Whilst the turbines will be dominant features in this local landscape context, impacts beyond this tend to reduce quickly to 'Moderate' and 'Moderate-slight', as vegetation tends to screen and partially contain the overall perceived scale of the proposed wind farm development from surrounding receptors. Furthermore, even when clearly visible from surrounding receptors outside of the immediate Site context, the proposed turbines generally present in a compressible manner and are well accommodated in this broad landscape context.

Overall, the turbines will generate some borderline significant visual impacts in the centre of the Site. Nonetheless, beyond the very localised part of the central Study Area, visual impacts will reduce rapidly throughout the central and wider Study Area, with many locations having no visibility of the proposed turbines. Thus, it is not considered that the proposed Shancloon Wind Farm will result in significant visual impacts on surrounding receptors.

16.8.2.6 Consideration of Turbine Dimension Range

As a result of the recent Derryadd Wind Farm high court decision relating to the degree of flexibility for the likes of turbine dimensions that are put forward at planning stage, it is now considered necessary to be more specific in terms of the design envelope being applied for and to ensure that the full range is adequately assessed in the EIAR. For the landscape and visual assessment, the pertinent aspect of the design envelope relates to the turbine dimensions used to prepare the photomontages, upon which, the visual impact assessment is based.

Prior to the high court decision, Macro Works had taken the approach of using the highest possible tip height and hub height combination. This is on the basis that a viewer who can see a hub rising above a skyline ridge is likely to feel they are seeing more of the turbine than when the hub is screened from view (i.e. in the case of a lower hub / longer blade combination). That premise is based on the hub being perceived as the key and central component of a turbine in a figurative sense. However, there is also some merit to the argument that a larger rotor diameter / lower hub balances out the higher hub / shorter blade scenario, especially as there is a trend towards rotor diameters getting proportionately greater over recent years. In this instance the specimen turbine used for the photomontages that informed the visual impact assessment employed the maximum tip height dimension of 180m with a hub height of 102.5m and maximum rotor diameter of 155m. The variation between the specimen turbine and the alternatives is fractional in the context of 180m tall turbines with a difference of only 1m between the three alternative tip heights.

In order to examine the full range of potential turbine dimensions and to illustrate any corresponding variation in effects, Macro Works prepared comparative photomontages (see Appendix 16.4, Volume III) at three of the previously selected viewpoints (VP7, VP10 (a/b) and VP12 to represent short and mid-distance views of the development in differing contexts. It was not considered necessary to use long distance views (10km+) for this comparative exercise as any variation in turbine dimensions are even less likely to be read at longer distances. The comparative scenarios used include:

- Alternative Option 1 – 104.7m hub, 149m rotor diameter, 179.25m tip height (lowest hub height, longest rotor diameter)
- Option 2 (Specimen Turbine) – 102.5m hub, 155m rotor diameter, 180m tip height (as used for the visual impact assessment herein)
- Alternative Option 3 – 105m hub, 150m rotor diameter, 180m tip height (highest hub height, shortest rotor diameter)

As can be seen from the comparative photomontages the variation in turbine dimensions is very difficult to discern across the three scenarios even with considerable scrutiny. This is unsurprising as the variation in hub height is no greater than 2.5m from the specimen turbine position. There is also a potential 1m departure from the specimen turbine in terms of tip height for alternative Option 1, but this would result a reduction in overall height (i.e. the visual impact would not increase). Whilst the variation in rotor dimeter is 5m between the specimen turbine and Alternative Option 3, this only translates as a variation of 2.5m in blade length.

Regardless of whether the difference between the alternative turbine dimensions presented in the comparative photomontages can be discerned or not, it is clear that there is not a material difference in the level of visual impact between them and certainly not a higher impact than the base-case used for the submitted LVIA. Thus, the submitted LVIA is deemed to comfortably cover the range of potential turbine dimension options proposed and it is not considered necessary to prepare separate photomontages / assessments at all viewpoints for all possible turbine dimensions within the range.

16.8.3 Do Nothing Scenario

In this instance, the likely evolution of the baseline would be that the permitted Cloonascragh Single Turbine is constructed. When considered in conjunction with the existing Cloonlusk Wind Farm, this would increase the number of turbines to the southeast of the settlement of Tuam in north County Galway. These wind energy developments are located at distances over 12 km from the Proposed Development, which is more than 7 km outside the central portion of the Study Area. They are separated by the urban environs of the settlement of Tuam and the transport corridors of the M17 motorway, the N83 national secondary road and the railway line; thus, these two developments, although located in the 'North Galway Complex' Landscape Character Area as well as the proposed development, will not materially alter the baseline of the central portion of the Study Area.

16.9 Cumulative Impacts

Following a review of the proposed developments listed in Chapter 2 that occur within the Study Area, it was deemed that, given the height of the wind turbines and the absence of other tall structures within the Study Area, only other wind turbines have the potential to result in significant cumulative landscape or visual impacts. Thus, these have been scoped into this assessment, and it is considered that there is no potential for significant in-combination effects with other types of development. Within the Study Area, there is one existing wind farm, one permitted single turbine and two other wind energy developments are in-planning. These are set out in Table 16.10 below.

Table 16.10: Cumulative Wind Farms within the Study Area

Wind Farm Name	Number of turbines	Distance and Direction from proposed turbines	Status
Cloonlusk Wind Farm	2	15 km southeast of the proposed turbines	Existing
Laurclavagh Wind Farm	8	10 km south of the proposed turbines	In-planning
Clonberne Wind Farm	11	17 km east of the proposed turbines	In-planning
Cloonascragh Single Turbine	1	12 km southeast of the proposed turbines	Permitted

Note: all cumulative wind farm developments are located outside of the central portion of the Study Area.

The appraisal of cumulative effects with other wind energy developments is based on the cumulative ZTV maps and wireframes provided in Appendix 16.2.

16.9.1 Nature of Cumulative Landscape and Visual Impacts

A review of the wireframe views at each of the 22 no. selected viewpoints was undertaken, and it has been determined that at 17 no. of the 22 no. there would be a theoretical potential for cumulative visual impacts as the Proposed Development would be visible in addition to a portion to one of more of the other wind energy developments listed in Table 16.10. These 17 no. viewpoints are listed and assessed in Table 16.11.

Table 16.11: Cumulative Wind Energy Developments

VP	Description	Significance of Visual effect
VP3	Portions of some in-planning turbines would theoretically be visible from this location as small features in the distance; however, intervening vegetation would screen them from view.	**Imperceptible / Neutral / Long Term**
VP6	All other potential wind energy developments would be either screened by intervening terrain or would be situated beyond the extents of the 53.5 degree planar view towards the proposed turbines.	**Imperceptible / Neutral / Long Term**
VP7	All other potential wind energy developments would be either screened by intervening terrain or would be situated beyond the extents of the 53.5 degree planar view towards the proposed turbines.	**Imperceptible / Neutral / Long Term**
VP8	Portions of a permitted turbine would theoretically be visible from this location as small features in the distance; however, intervening vegetation would screen them from view.	**Imperceptible / Neutral / Long Term**
VP9	Some turbines from the other potential wind energy developments would theoretically be visible from this location as small features in the distance; however, intervening vegetation and structures would screen them from view.	**Imperceptible / Neutral / Long Term**
VP10	Portions of some three in-planning turbines from the Laurclavagh Wind Farm would theoretically be visible from this location as small features in the distance. The nacelles and blade sets of five of the Laurclavagh turbines would be visible in the background of the view to the right of the low hill at Knockma Woods in the distant background of the view.	**Slight / Negative / Long Term**

VP	Description	Significance of Visual effect
	The blade tips of one other turbine would also be identifiable, rotating above intervening vegetation to the right, plus one other above the ridge at Knockma Woods. The other turbines would be fully screened by the intervening terrain. The Laurclavagh turbines are approximately 11 km to the south of this viewpoint. At this distance, the scale of the visible portions of the Laurclavagh turbines would be reduced to such a degree that they would have a minimal visual presence and are unlikely to be noticed by a casual observer. If the proposed turbines and the Laurclavagh turbines are both constructed, the eye would be drawn to the proposed turbines and would further reduce the relevance of the Laurclavagh turbines. The Laurclavagh turbines would be situated in a very different and distant landscape context to the proposed turbines and would have very limited visual associations.	
VP11	All other potential wind energy developments would be either screened by intervening terrain or would be situated beyond the extents of the 53.5 degree planar view towards the proposed turbines.	**Imperceptible / Neutral / Long Term**
VP12	Portions of the permitted turbine would theoretically be visible from this location as a small feature in the distance; however, it is unlikely to be noticeable.	**Imperceptible / Negative / Long Term**
VP13	All other potential wind energy developments would be either screened by intervening terrain or would be situated beyond the extents of the 53.5 degree planar view towards the proposed turbines.	**Imperceptible / Neutral / Long Term**
VP14	All other potential wind energy developments would be either screened by intervening terrain or would be situated beyond the extents of the 53.5 degree planar view towards the proposed turbines.	**Imperceptible / Neutral / Long Term**
VP15	All other potential wind energy developments would be either screened by intervening terrain or would be situated beyond the extents of the 53.5 degree planar view towards the proposed turbines.	**Imperceptible / Neutral / Long Term**
VP16	All other potential wind energy developments would be either screened by intervening terrain or would be situated beyond the extents of the 53.5 degree planar view towards the proposed turbines.	**Imperceptible / Neutral / Long Term**
VP17	All other potential wind energy developments would be either screened by intervening terrain or would be situated beyond the extents of the 53.5 degree planar view towards the proposed turbines.	**Imperceptible / Neutral / Long Term**
VP18	All other potential wind energy developments would be either screened by intervening terrain or would be situated beyond the extents of the 53.5 degree planar view towards the proposed turbines.	**Imperceptible / Neutral / Long Term**
VP19	All other potential wind energy developments would be either screened by intervening terrain or would be situated beyond the extents of the 53.5 degree planar view towards the proposed turbines.	**Imperceptible / Neutral / Long Term**
VP20	Portions of all in-planning turbines from the Laurclavagh Wind Farm would theoretically be visible from this location but would be situated beyond the extents of the 53.5 degree planar view towards the proposed turbines.	**Imperceptible / Neutral / Long Term**
VP21	Portions of the permitted turbine would be visible from this location but the proposed turbines would be barely perceptible at this location.	**Imperceptible / Negative / Long Term**

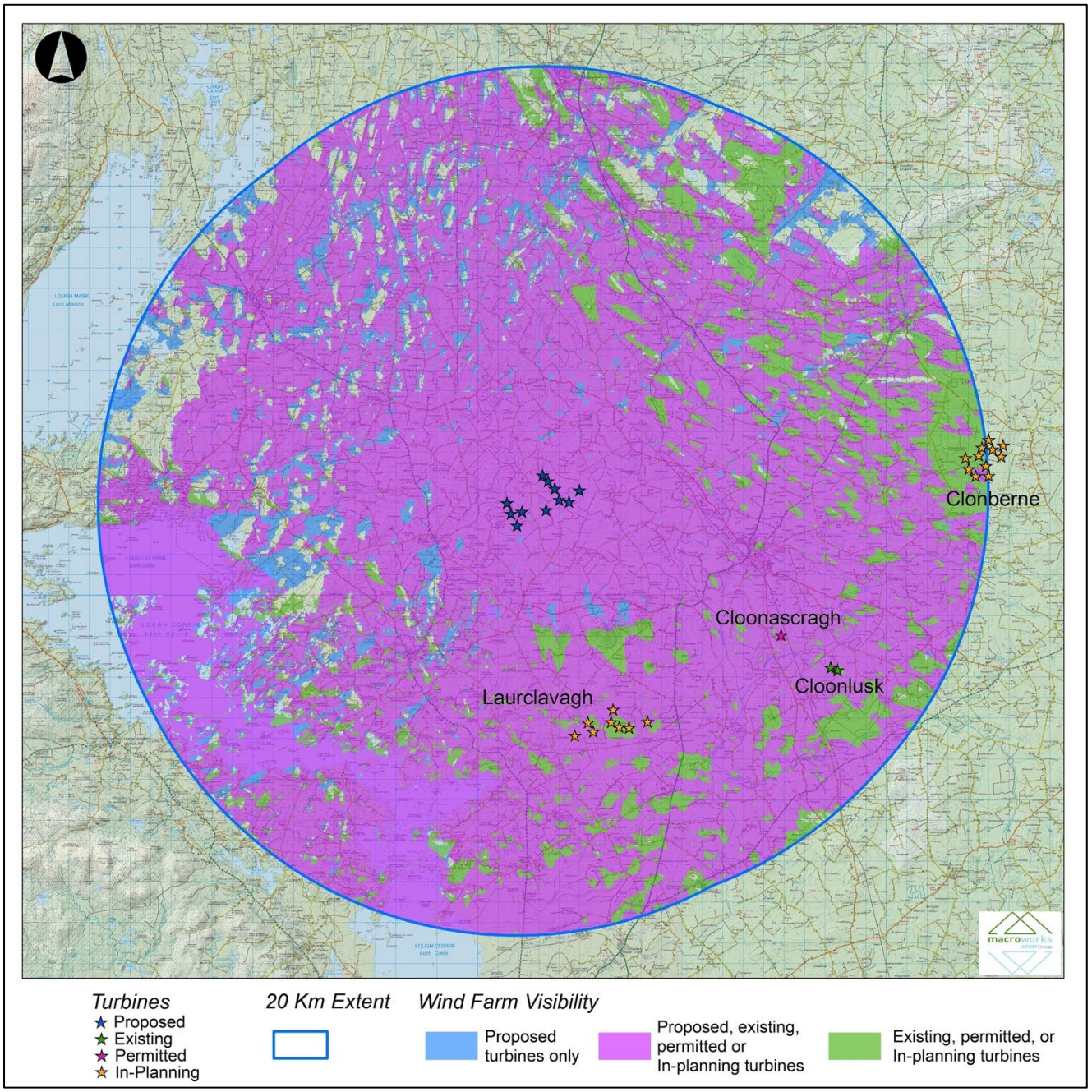

Figure 16.10: Cumulative ZTV Map for Shancloon Wind Farm identifying the potential for intervisibility of the proposed Shancloon Wind Farm with the existing, permitted and in-planning wind turbines within the Study Area

Although the analysis contained in Table 16.11 and consideration of the Cumulative ZTV map in Figure 16.10 relates principally to cumulative visual impacts (i.e. utilising the selected VP set), it also informs the closely related assessment of cumulative landscape impacts, particularly those relating to cumulative effects on the overall landscape character of the Study Area. The assessment below, therefore, relates to both cumulative visual effects and cumulative landscape effects.

The cumulative ZTV map shows the potential for cumulative visibility between the proposed turbines and the other existing, permitted and in-planning wind turbines within the 20km Study Area. At present, there is one other existing wind farm within the Study Area, one permitted single turbine and two in-planning wind energy developments. The ZTV map (based on a bare-ground scenario), identifies that the proposed Shancloon Wind Farm has the potential to be viewed in isolation from small areas scattered across the study area apart from the southeastern portion.

However, the analysis of cumulative visibility within the Study Area based on the selected VRPs in Section 16.9.1 indicates that, in most instances, the proposed Shancloon turbines will generally not be viewed in combination with other existing, permitted or in-panning wind turbines. There is the potential for Slight / Negative / Long Term cumulative visual effect to occur at VP10. All cumulative visual effects at all other viewpoints will be of a lower level of significance. There are no instances where there would be the potential for significant cumulative visual impacts to occur.

There are no other large-scale developments within the vicinity of the Site in terms of cumulative impacts with other forms of development.

Overall, the Proposed Development will result in an intensification of wind energy development within this landscape context and within the surroundings of the planes of northeast Galway and south Mayo. Furthermore, existing wind energy development is an established feature within the wider Study Area (existing Cloonlusk Wind Farm).

Overall, there are instances where the Proposed Development has the potential to be viewed in combination with the existing, permitted or in-planning turbines. However, it is well offset from any other wind farm developments and, thus, will present with no notable negative cumulative aesthetic effects. For the reasons outlined above and with reference to Table 16.5, the Proposed Development is considered to contribute to a cumulative impact no greater than **Slight** with other existing, permitted and in-planning wind energy developments. The quality of the effect is deemed to be **Negative,** and the duration is deemed to be **Long term**.

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