

11.0 LANDSCAPE & VISUAL

11.1 INTRODUCTION

This landscape and Visual Impact Assessment (LVIA) has been prepared in respect of a planning application to further develop the existing Drehid Waste Management Facility (WMF) in County Kildare in the townlands of Timahoe West, Coolcarrigan, Killinagh Upper, Killinagh Lower, Drummond, Kilkeaskin, Loughnacush, and Parsonstown. 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 changes in the composition of views as a result of changes to the landscape, how these are perceived and the effects on visual amenity. Such impacts are population based rather than resource based as in the case of landscape impacts. Visual impacts are measured on the basis of:

Visual Obstruction (blocking of a view, be it full, partial or intermittent) or;
Visual Intrusion (interruption of a view without blocking).

This landscape and visual impact assessment is based on:

- 'Guidelines on the Information to be contained in Environmental Impact Statements', EPA, 2002;
- 'Advice Notes on Current Practice (in the preparation of Environmental Impact Statements)', EPA, 2003;
- 'Guidelines on the Information to be contained in Environmental Impact Assessment Reports', EPA, May 2022;
- Guidelines for Landscape and Visual Impact Assessment (GLVIA), Third Edition, Landscape Institute and Institute of Environmental Management and Assessment (IEMA); 2013;
- 'Photography and Photomontage in Landscape and Visual Impact Assessment', Landscape Institute Advice Note 01/2011;
- Kildare County Development Plan 2023-2029;
- National Parks and Wildlife Service (NPWS), <http://www.npws.ie/>;
- Irishtrails; <http://www.irishtrails.ie/>; and
- Ordnance Survey Ireland, 1:50,000 Discovery Mapping.

11.1.1 Statement of Authority

This landscape and visual assessment was prepared by Rory Curtis BEng BA GDip MILI a Landscape Architect with 9-years of experience in the industry. Rory works for Macro Works Ltd, a specialist LVIA company. The assessment was reviewed by Richard Barker, Landscape Director at Macro Works Ltd. He holds a Masters Degree in Landscape Architecture, Post Grad Dip Forestry and BA Environmental Studies. With 18 years' experience in LVIA, he personally prepared LVIA for over 150 wind farms. Macro Works experience includes a range of industrial,

commercial, renewable energy and infrastructural developments over the past 25 years. Specific experience extends to the assessment of over 20 quarry and landfill projects.

11.2 ASSESSMENT METHODOLOGY AND SIGNIFICANCE CRITERIA

Production of this Landscape and Visual Impact Assessment was in accordance with the guidelines outlined within GLVIA and involved;

A desktop study to establish an appropriate study area, relevant landscape and visual designations in the Kildare County Development Plan 2023-2029 as well as other potentially sensitive visual receptors. This stage culminates in the selection of a set of potential viewpoints from which to study the effects of the proposal;

Fieldwork to establish the landscape character of the receiving environment and to confirm and refine the set of viewpoints to be used for the visual assessment stage (19th January and 5th May 2022);

Assessment of the significance of the landscape impact of the proposal as a function of landscape sensitivity weighed against the magnitude of the landscape impact;

Assessment of the significance of the visual impact of the proposal as a function of visual receptor sensitivity weighed against the magnitude of the visual impact. This aspect of the assessment is supported by photomontages prepared in respect of the selected viewpoints.

11.2.1 Landscape Impact Assessment Criteria

When assessing the potential impacts on the landscape resulting from a proposed development, the following criteria are considered:

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

The sensitivity of the landscape to change is the degree to which a particular landscape receptor (Landscape Character Area (LCA) or feature) can accommodate changes or new elements without unacceptable detrimental effects to its essential characteristics. Landscape Value and Sensitivity is classified using the following criteria set out in Table 11.1.

Table 11.1 – Landscape Value and Sensitivity

Criteria	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 nature or magnitude of the effect likely to occur, namely:

- The size and scale of the landscape and visual effect (for example, whether there is a complete or minor loss of a particular landscape element);
- The geographical extent of the areas that will be affected;
- The duration of the effect and its reversibility; and
- The quality of the effect – whether it is neutral, beneficial or adverse.

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 boundary that may have an effect on the landscape character of the area (Table 11.2 refers).

Table 11.2 – Magnitude of Landscape Impacts

Criteria	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 11.3.

Table 11.3 – Magnitude of Landscape Impacts

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

Note: The significance matrix provides an indicative framework from which the significance of impact is derived. The significance judgement is ultimately determined by the assessor using professional judgement. Due to nuances within the constituent sensitivity and magnitude judgements, this may be up to one category higher or lower than indicated by the matrix. Judgements indicated in orange are considered to be 'significant' impacts in EIA terms.

As this is a one-sided matrix focussed on determining the significance of negative impacts, any positive impacts will default to an 'Imperceptible' classification by default and the positive effect will be described in the context of the assessment.

The quality of both, landscape and visual effects, can be Beneficial (Positive), Adverse (Negative) or Neutral. Table 11.4 below provides the definition of the duration of landscape and visual effects:

Table 11.4 – Magnitude of Landscape Impacts

Duration	Description
Temporary	Effects lasting one year or less
Short Term	Effects lasting one to seven years
Medium Term	Effects lasting seven to fifteen years
Long Term	Effects lasting fifteen to sixty years
Permanent	Effects lasting over sixty years

11.2.2 Visual Impact Assessment Criteria

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

11.2.2.1 Sensitivity Of Visual Receptors

Unlike landscape sensitivity, the sensitivity of visual receptors has an anthropocentric basis. It considers factors such as the perceived quality and values associated with the view, the landscape context of the viewer, the likely activity they are engaged in and whether this

heightens their awareness of the surrounding landscape. A list of the factors considered by the assessor in estimating the level of sensitivity for a particular visual receptor is outlined below and used in Table 11.7 to establish visual receptor sensitivity at each VRP:

1. Susceptibility of Receptors - In accordance with the Institute of Environmental Management and Assessment ("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 focussed on the landscape and on particular views;
 - Visitors to heritage assets, or to other attractions, where views of the surroundings are an important contributor to the experience;
 - Communities where views contribute to the landscape setting enjoyed by residents in the area; and
 - 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 focussed on their work or activity, not their surroundings and where the setting is not important to the quality of working life".
2. 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 Developments Plans, for example, a public consultation process is required;
3. 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 within 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;
4. Primary views from dwellings. A proposed development might be seen from anywhere within a particular residential property with varying degrees of sensitivity. Therefore, this category is reserved for those instances in which the design of dwellings or housing estates, has been influenced by the desire to take in a particular view. This might involve the use of a slope or the specific orientation of a house and/or its internal social rooms and exterior spaces;
5. Intensity of use, popularity. This 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;
6. Connection with the landscape. This considers whether or not receptors are likely to be highly attuned to views of the landscape i.e. commuters hurriedly driving on busy national route versus hill walkers directly engaged with the landscape enjoying changing sequential views over it;
7. 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;

8. Sense of remoteness and/or tranquillity. Receptors taking in a remote and tranquil scene, which is likely to be fairly static, are likely to be more receptive to changes in the view than those taking in the view of a busy street scene, for example;
9. 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 distinctly manmade features;
10. 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;
11. Historical, cultural and / or spiritual significance. Such attributes may be evident or sensed by receptors at certain viewing locations, which may attract visitors for the purposes of contemplation or reflection heightening the sense of their surroundings;
12. Rarity or uniqueness of the view. This might include the noteworthy representativeness of a certain landscape type and considers whether the receptor could take in similar views anywhere in the broader region or the country;
13. Integrity of the landscape character. This looks at 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;
14. Sense of place. This considers whether there is special sense of wholeness and harmony at the viewing location; and
15. Sense of awe. This considers whether the view inspires an overwhelming sense of scale or the power of nature.

Those locations, which are deemed to satisfy many of the above criteria, are likely to be of higher sensitivity. No relative importance is inferred by the order of listing in Table 11.7. Overall sensitivity may be a result of a number of these factors or, alternatively, a strong association with one or two in particular.

11.2.2.2 Visual Impact Magnitude

The magnitude of visual effects is determined on the basis of two factors; the visual presence (relative visual dominance) of the proposal and its effect on visual amenity. The magnitude of visual impacts is classified in Table 11.5.

Table 11.5 – Magnitude of Visual Impacts

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

11.2.3 Visual Impact Significance

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 and applies the same EPA definitions of significance in respect of landscape impacts (Table 11.3).

11.2.4 Study Area

The establishment of the study area was made in accordance with the GLVIA. The proposed entrance road will largely follow the route of an existing track and will not involve many vertical elements; thus, impacts related to this road beyond 1km from this road are highly unlikely. At present, it is difficult to visually identify the existing facility at the site from the surrounding areas due to the existing intervening vegetation. Given scale of the proposed landfill relative the existing facility and in relation to the existing surrounding landform and vegetation, it is anticipated that the proposed landfill would likely be difficult to discern beyond its immediate setting and thus is very unlikely to have the potential to give rise to any significant landscape or visual impacts beyond approximately 2km from the application site boundary. However, in the interest of a comprehensive assessment of the proposed development a 5km radius study area (as measured from the main body of the proposed development site) is used in this instance, which by default also accounts for the entirety of the proposed entrance road (Figure 11-1).

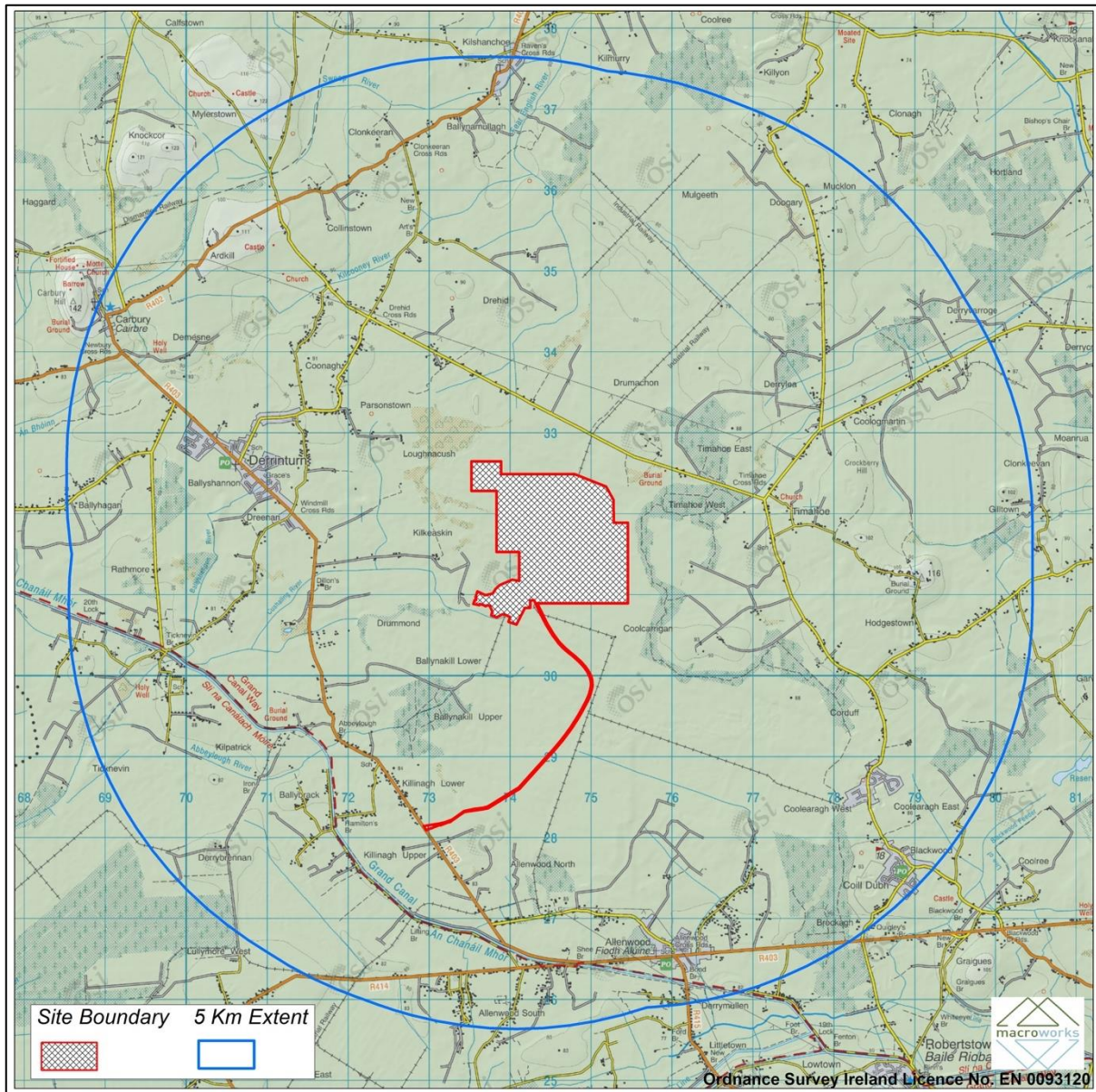


Figure 11-1 – Study area map

11.3 SITE CONTEXT

A description of the landscape context of the proposed development and wider study area is provided below. Although this description forms part of the landscape baseline many of the landscape elements identified also relate to visual receptors i.e. places and transport routes from which viewers can potentially see the proposed development. The visual resource will be described in greater detail in the VIA in Section 11.6.

The location of the proposed development is situated within a Bord na Móna land holding, in relatively flat low-lying cutaway bogland, adjacent to an existing landfill in operation. The Bord na Móna land holding and the lands surrounding it are generally averaging between 80-90 mOD (Figure 11-1). The maximum height of land within the area surveyed is 142 mOD (Carbury Hill, approximately 6.5-7 km to the northwest). The existing landfill, as it has been gradually capped and grassed, has created a new rising landform within the bog (Figure 11-2). The introduction of this land use has also included the construction of access roads, car parks, buildings, attenuation and storage areas within the cutaway bog.

The cutaway bogland consists of areas of open peat, low vegetation, regenerating woodland and scrub vegetation of varying heights (Figure 11-2). The existing landfill is serviced by a 4.8 km long internal, private haul road, used only by HGVs and trucks bringing material to and from the site, and by staff vehicles. Regenerating vegetation is increasingly enclosing the views within the bog. There is significant existing screening vegetation located within the western sections of the Bord na Móna land holding and along sections of the eastern and southern boundary.

While the bog includes areas of tall vegetation, its primarily open nature contrasts with the surrounding landscape. The Bord na Móna land holding is generally surrounded by agricultural pastureland with a well-developed pattern of medium-sized and larger fields and an established hedgerow infrastructure (Figure 11-2). An area of forestry is located on the eastern side of the site.

There is a relatively dispersed low-density population located within a 2 km radius of the existing landfill site. The population density increases beyond the 2km, in particular to the west, south and east of the site (Figure 11-2).

As can be seen in Figure 11-1, the local road L5025 (Derrymahon Road) traverses the Bord na Móna land holding approximately 1 km north of the existing landfill. The R403 regional road runs to the west and south of the lands, via Derrinturn and Allenwood. The R402 regional road runs to the northwest, and the remainder of the study area is served by a local road network. There are residential and farm properties along all of the surrounding roads, with a higher density of settlement around Derrinturn and Allenwood.

The Grand Canal runs 3-4 km to the south and southwest of the application site, via Allenwood and Robertstown (Figure 11-1).

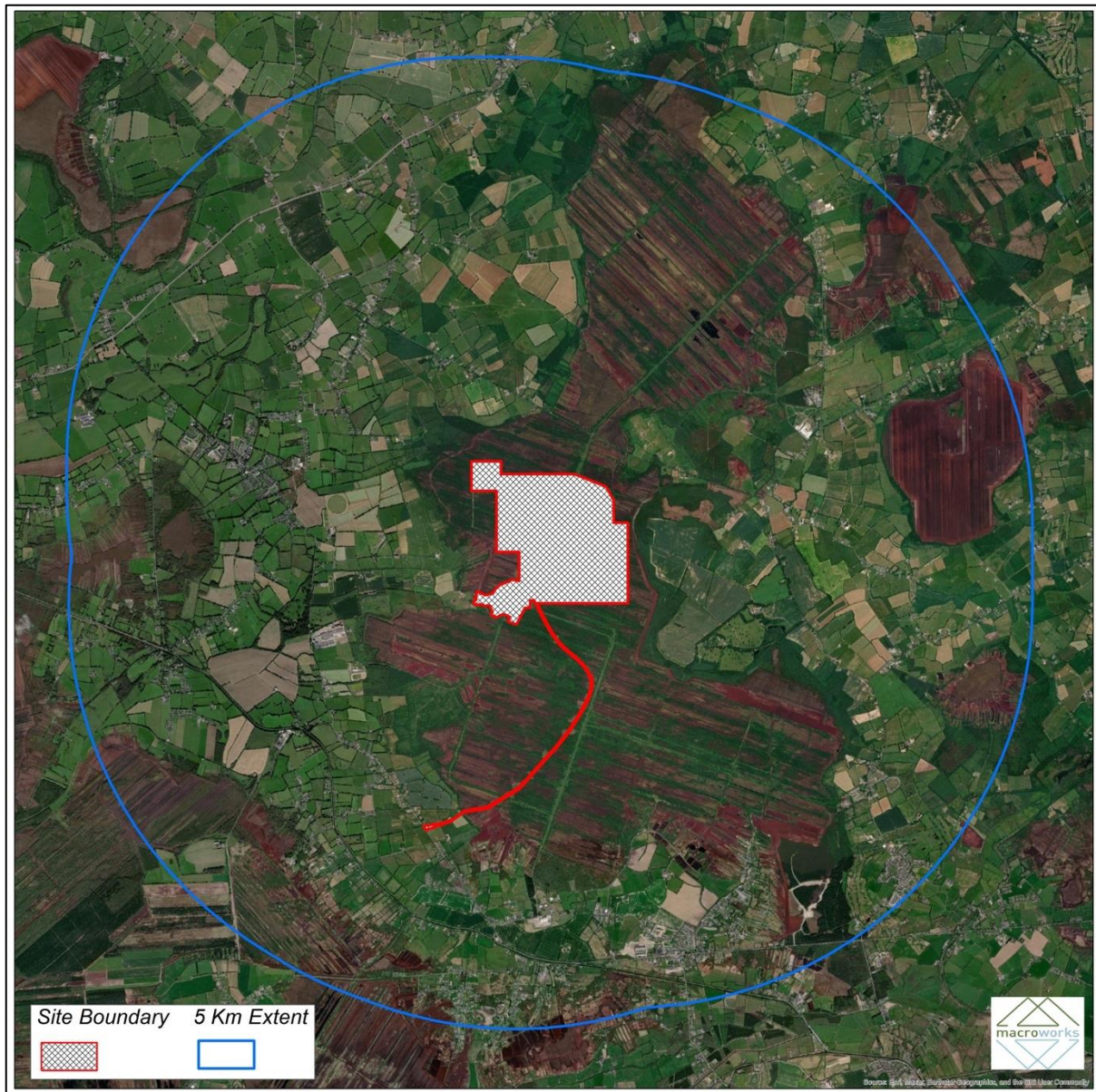


Figure 11-2 – Aerial view of the study area

11.3.1 Demesne Landscapes and Gardens

Demesne landscapes within Ireland have been itemised and described in the National Inventory of Architectural Heritage (Gardens). Within the study area one known such demesne is located at the foot of Carbury Hill:

Newberry Hall – described in the inventory has having main features substantially present some loss of integrity

While not on the inventory of historic gardens, adjacent to the Bord na Móna land holding to the east, Coolcarrigan House and Gardens is open to the public and used for weddings (VP7 is located adjoining this demesne).

11.3.2 Ecological Designations

The study area contains the following areas designated for their ecological value :

Special Areas of Conservation (cSAC)

Ballynafagh Bog 000391
Ballynafagh Lake 001387

Proposed Natural Heritage Areas (pNHAs)

Ballynafagh Bog 001391
Ballynafagh Lake 001387
Grand Canal 002104

Natural Heritage Areas (NHAs)

Carbury Bog 001388
Hodgestown Bog 001393

While these areas are designated for ecological reasons, they are generally examples of intact landscapes and are therefore considered as components of the landscape and as potential visual receptors.

11.3.3 Walking Routes

The Grand Canal Way is located within the study area approximately 3 km southwest of the application site (Figure 11-1) and a looped Slí na Sláinte walk runs through Derrinturn approximately 4 km west of the application site.

11.3.4 Likely Future Receiving Environment / Do Nothing Scenario

All components of the baseline are constantly changing due to a combination of natural and human processes. When predicting likely direct and indirect effects it is important to remember that there are two available for comparison: the existing baseline environment and the future baseline environment without the implementation of the proposed development but considering natural changes only.

In landscape terms, if the development did not go ahead, the proposed development site will remain as an area of regenerating cutaway bog. The succession and maturing of existing vegetation will continue depending on a number of factors for example existing soil / peat conditions, the likelihood of erosion, water levels and the re-establishment of a balanced ecosystem. However, the location of the proposed development site adjacent to an existing waste management site to the north / northwest will retain the site as being subject to development consideration.

In visual terms, the content in available views of the development site will remain similar, although vegetation is likely to increase and grow in height over time.

11.4 CHARACTERISTICS OF THE PROPOSAL

A detailed description of the proposed development is provided in Chapter 2 of this EIAR (Description of the Proposed Development).

11.5 POLICY ENVIRONMENT

11.5.1 Kildare County Development Plan

A landscape character assessment was produced in 2004 for the Kildare County Council and has influenced the current Kildare County Development Plan 2023-2029 (KCDP). Map V1-13.1 in the KCDP outlines the indicative Landscape Character Areas (LCAs) in the County (Figure 11.3). County Kildare is divided into 14 geographically specific LCAs, of which, the Site is shown to be in an area of 'The Western Boglands LCA' as indicated in Figure 11.3.

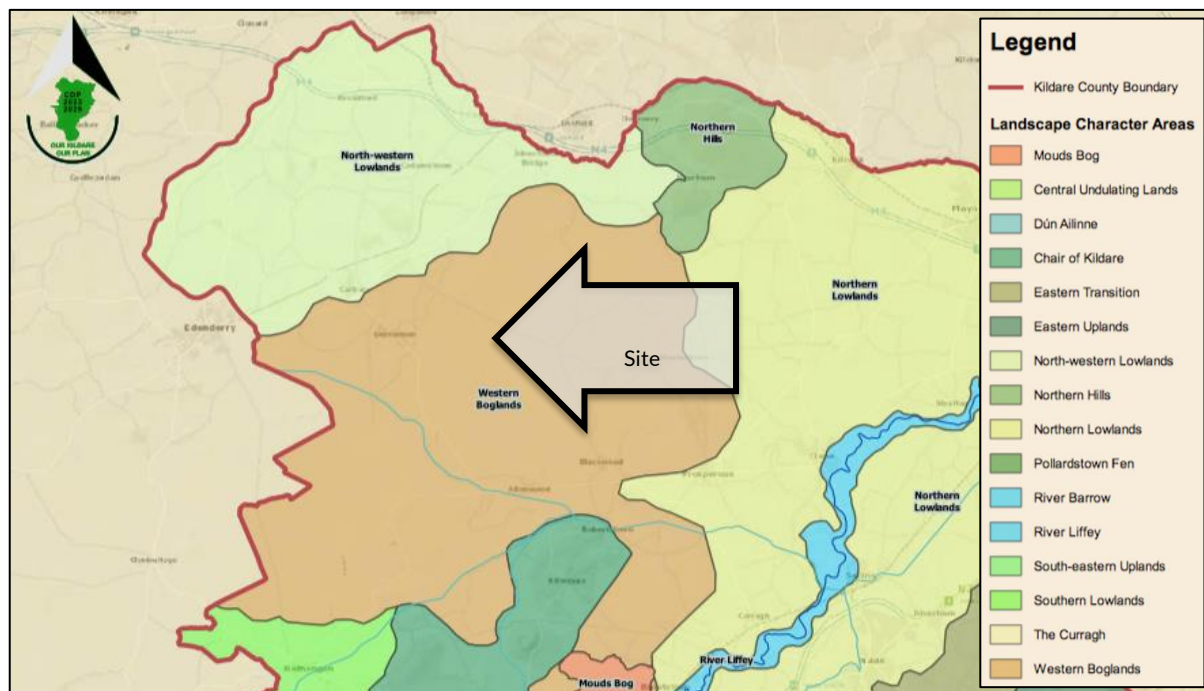


Figure 11-3 – Excerpt from Map No.13.1 of the Kildare County Development Plan 2023-2029, showing approximate location of the site relative to Landscape Character Areas.

The Western Boglands LCA is located in the western central part of the County. The landscape character assessment (2004) describes the 'Western Boglands' LCA as being '*characterised by flat topography and smooth terrain... This area of the county is highly distinctive due to the existing large areas of bogland vegetation. The commonly large sized open lands are often bordered by unmaintained hedgerows, which contain scattered trees, and have the potential to partially screen adjacent lands. Nevertheless, the generally low vegetation and the even ground provide extensive long-distance visibility.*

Each of the LCAs in County Kildare has been designated with a sensitivity class ranging from Class 1 – Low Sensitivity, to Class 5 – Unique Sensitivity. However, it should be noted that the KCDP adds that "*within each of these areas there can be a wide variety of local conditions that can significantly increase or decrease sensitivity*". LCA 'The Western Boglands' has been designated a 'Class 3 – High Sensitivity' (Figure 11-4 refers) and states that the landscapes classed as having high sensitivity have a "*reduced capacity to accommodate uses without significant adverse effects on the appearance or character of the landscape having regard to prevalent sensitivity factors.*"

Table 13.3 in Section 13.3.2 of the KCDP indicates likely compatibility of some of the 'Landscape Character Areas' within the County with particular development types based on five categories.

All the LCAs with a sensitivity of ‘Class 3 – High Sensitivity’ shown in this Table have ‘Medium’ compatibility with the following forms of development types:

- Rural Housing;
- Urban Expansion;
- Industrial projects;
- Major Powerlines;
- Sand & Gravel;
- Rock;
- Windfarms; and
- Solar projects.

All the LCAs with a sensitivity of ‘Class 3 – High Sensitivity’ shown in this Table have ‘Most’ compatibility with ‘agriculture’, ‘Forestry’ and ‘Tourism Projects’.

11.5.1.1 Principal Landscape Sensitivity Factors

Map 13.2 (Figure 11-4) of the KCDP indicates the location of the Principal Landscape Sensitivity Factors across the county. The site is located within the ‘Peat Bog’ Principal Landscape Sensitivity Factor.

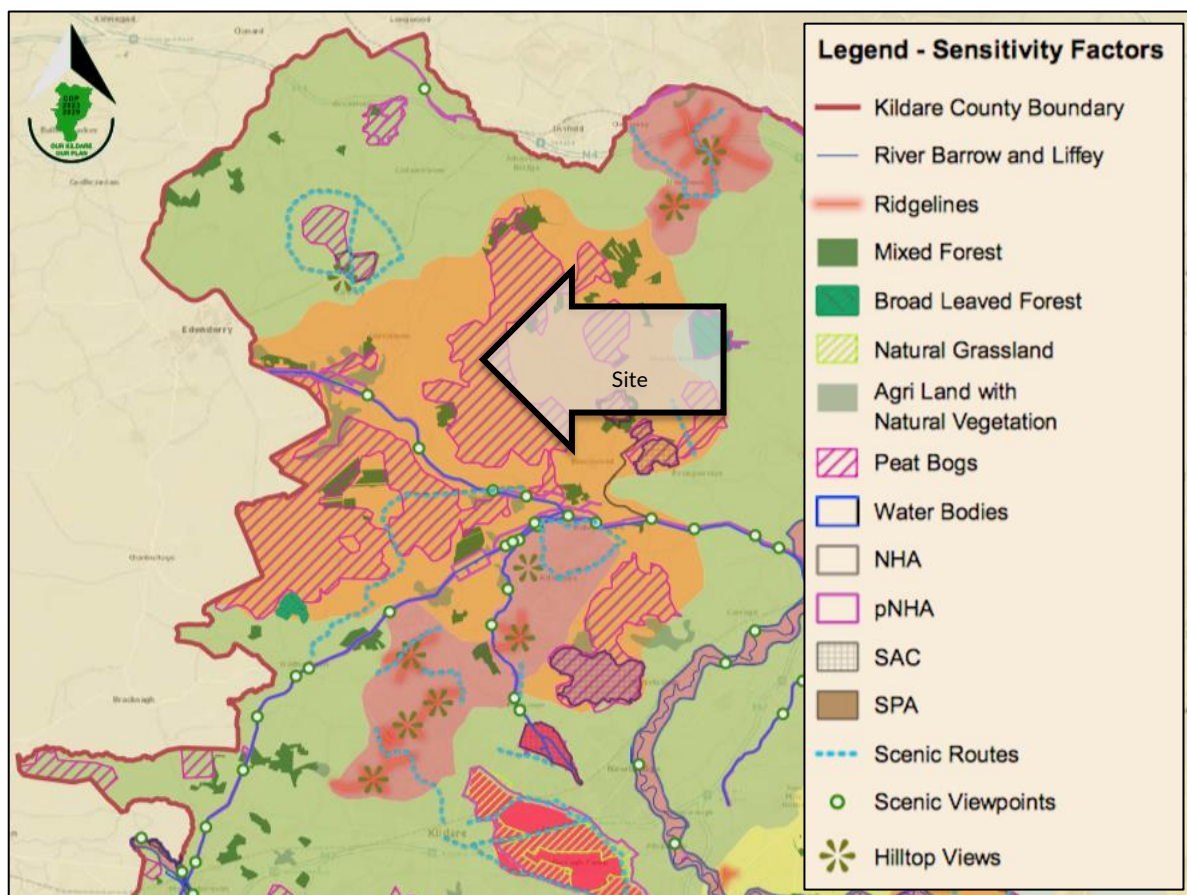


Figure 11-4 – Excerpt from Map No.13.2 of the Kildare County Development Plan 2023-2029, showing approximate location of the site relative to Principal Landscape Sensitivity Factors.

A second matrix, (Table 13.4 in the KCDP) relates to the compatibility of various land uses with ‘Principal Landscape Sensitivity Factors’ (Figure 11-5). This is based on sensitive landscape features situated within a 300m of proposed developments and compatibility is measured from ‘0 – Very unlikely to be compatible’ to ‘5 – Likely to be very compatible in most circumstances’.

There is no land use category in this Table for ‘landfill’. Windfarms are ‘likely to be compatible with great care’ and major powerlines are ‘compatible only in certain circumstances’.

5 - Likely to be very compatible in most circumstances. 4 - Likely to be compatible with reasonable care. 3 - Likely to be compatible with great care. 2 - Compatible only in certain circumstances. 1 - Compatible only in exceptional circumstances. 0 - Very unlikely to be compatible.	Agriculture and Forestry		Housing	Urbanisation			infrastructure	Extraction	Energy		
	Agriculture	Forestry	Rural Housing	Urban Expansion	Industrial Projects	Tourism Projects	Major Powerlines	Sand and Gravel	Rock	Windfarm	Solar
Proximity within 300m of Principal Landscape Sensitivity Factors.											
Major Rivers and Water bodies	5	5	2	2	2	3	2	1	0	1	0
Canals	5	5	2	2	2	3	2	1	0	1	1
Ridgelines	5	5	1	1	1	1	1	0	0	2	0
Green Urban Areas	4	5	2	0	0	4	3	3	3	2	2
Broad-Leaved Forestry	3	5	2	2	2	4	3	2	3	1	2
Mixed Forestry	3	5	2	2	2	4	3	2	3	1	2
Natural Grasslands	5	2	2	1	1	4	2	1	1	2	2
Moors and Heathlands	2	2	1	0	0	1	2	1	0	2	1
Agricultural Land with Natural Vegetation	5	5	2	2	2	3	3	3	3	4	2
Peat Bogs	0	0	0	0	0	3	2	0	0	2	1
Scenic View	5	5	2	1	1	5	1	3	0	0	2
Scenic Route	5	5	2	1	1	5	1	3	0	0	2

Table 13.4 - Likely compatibility between a range of land-uses and proximity to Principal Landscape Sensitivity Factors.

Figure 11-5 - Kildare County Development Plan 2023-2029 - Table 13.4

11.5.1.2 Policies and Objectives

The KCDP includes a number of policies regarding the ‘Lowland Plains and Boglands’ Landscape Area (LA), in which the Western Boglands LCA falls. Some of these are relevant to the proposed development. These include;

- *‘LL1 - Recognise that the lowlands are made up of a variety of working landscapes, which are critical resources for sustaining the economic and social well-being of the county.*
- *LL2 - Continue to permit development that can utilise existing structures, settlement areas and infrastructure, whilst taking account of the visual absorption opportunities provided by existing topography and vegetation.*
- *LL3 - Recognise that this lowland landscape character area includes areas of significant landscape and ecological value, which are worthy of protection.*

- *LL4 - Recognise that intact boglands are critical natural resources for ecological and environmental reasons.*
- *LL5 - Recognise that cutaway and cut-over boglands represent degraded landscapes and/or brownfield sites and thus are potentially robust to absorb a variety of appropriate developments.'*

The KCDP also lists a number of general landscape policies, the following have relevance to the proposed development:

- *'LA1 - Ensure that consideration of landscape sensitivity is an important factor in determining development uses. In areas of high landscape sensitivity, the design, type and the choice of location of proposed development in the landscape will also be critical considerations.*
- *LA2 - Protect and enhance the county's landscape, by ensuring that development retains, protects and, where necessary, enhances the appearance and character of the existing local landscape.*
- *LA4 - Seek to ensure that local landscape features, including historic features and buildings, hedgerows, shelter belts and stone walls are retained, protected and enhanced where appropriate, so as to preserve the local landscape and character of an area, whilst providing for future development.'*

Also included in Chapter 13 of the KCDP are a number of General Landscape Objectives (LO) policies, which include:

- *'LO1 - Have regard to the Landscape Sensitivity Classification of sites in the consideration of any significant development proposals.*
- *LO2 - Ensure landscape assessment will be an important factor in all land-use proposals.*
- *LO4 - Protect the visual and scenic amenities of County Kildare's built and natural environment.*
- *LO5 - Preserve the character of all important views and prospects, particularly upland, river, canal views, views across the Curragh, views of historical or cultural significance (including buildings and townscapes) and views of natural beauty.*
- *LO6 - Preserve and protect the character of those views and prospects obtainable from scenic routes identified in this Plan, listed in Table 14.2 and identified on Map 14.3.'*

11.6 VISUAL BASELINE

11.6.1 Views of Recognised Scenic Value

Views of recognised scenic value are primarily indicated within county development plans (KCDP) in the context of scenic views/routes designations, but they might also be indicated on touring maps, guidebooks, roadside rest stops or on post cards that represent the area.

The Grand Canal Way is a National Waymarked Way (walking trail) that runs along the towpath of the Grand Canal which passes to the south of the site. This walking route is indicated on the Ordnance Survey maps of the area (Figure 11-1 refers). (VP8 in the VIA is representative of the Grand Canal Way.)

The KCDP includes a map of designated scenic views, routes and hilltop views in "Section 14.6 Scenic Routes and Protected Views". An extract from this map is contained in Figure 11-6.

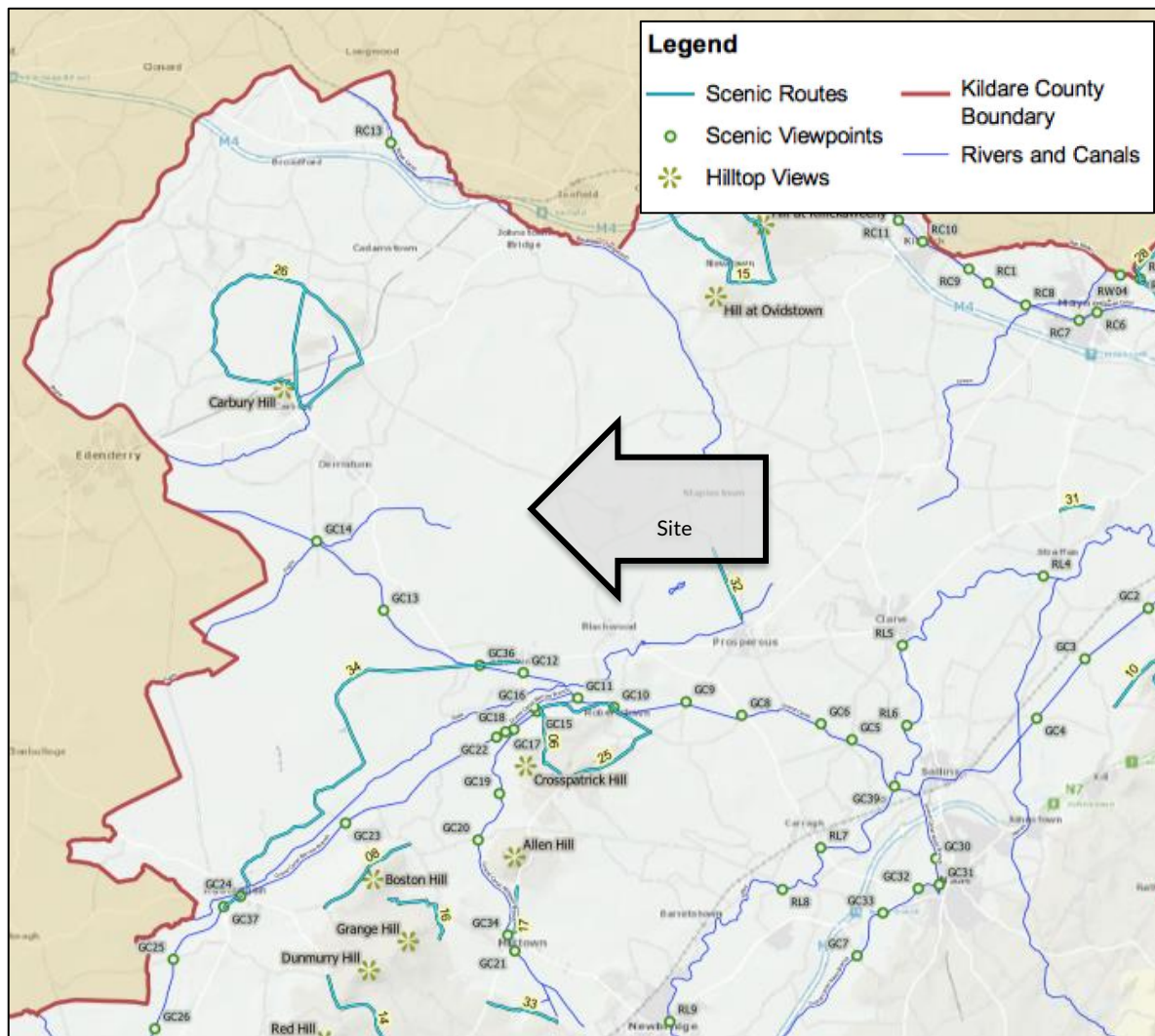


Figure 11-6 – Excerpt from Kildare County Development Plan (2023-2029), Map V1-13.3 showing the designated scenic routes and views in relation to the (approximate) location of the proposed development.

The nearest scenic designation is ‘Hamilton’s Bridge’ scenic view (GC13) located approximately 4km southwest of the site. All scenic designations within the study area were visited during the fieldwork. ‘Shee Bridge’ scenic view is located on scenic route no. 38 (‘Views of Allenwood to Lullymore Road’) and was selected as a VRP (VP8) but the remaining designations were dismissed from further assessment as no views were afforded towards the site due to intervening distance and screening as a result of a combination of terrain and vegetation.

11.6.2 Zone of Theoretical Visibility

Considering the mostly flat or gently undulating nature of the study area and the significant vegetation cover within the Bord na Móna site and throughout the study area, as well as existing built structures, the production of a Zone of Theoretical Visibility (ZTV) would not be useful in the identification of viewpoints within the study area. The assessment relied therefore on comprehensive site surveys to establish the nature of visibility within the study area and to identify key viewpoint locations. Fieldwork was undertaken in accordance with the GLVIA methodology by Rory Curtis on 19/01/2022 and 05/05/2022. This involved driving the roads within the study area to select viewpoints and capturing the photography that was used for the

photomontages. The product of this fieldwork is the assessment outcomes contained with this LVIA.

11.6.3 Identification of Viewshed Reference Points as a Basis for Assessment

Viewshed Reference Points (VRPs) are the locations used to study the visual impacts of the proposal in detail. The selected viewpoints are based on the GLVIA which incorporates expert opinion and best practice and are intended to reflect a range of different receptor types, distances and angles. As per the GLVIA, the visual impact of the proposed development is assessed using up to 6 categories of receptor type as listed below:

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

VRPs might be relevant to more than one category, and this makes them even more valid for inclusion in the assessment. In such cases the VRP will be identified in terms of the primary reason for which they were chosen, but all attributes of the receptor location will be considered in the assessment of its sensitivity.

The Viewshed Reference Points selected in this instance are set out in Table 11.6 and mapped in Figure 11.7.

Table 11.6 – Outline Description of Selected Viewshed Reference Points (VRPs)

VRP No.	Location	Direction of view
VP1	Local road, Carbury	SE
VP2	GAA grounds, Coonagh	SE
VP3	Local road, Dreenan	E
VP4	Local road, Kilkeaskin	E
VP5	Local road, Timahoe East near industrial railway	SW
VP6	Local road, Timahoe East near crossroads	W
VP7	Local road, Coolcarrigan	W
VP8	R403 regional road, Allenwood Middle	N

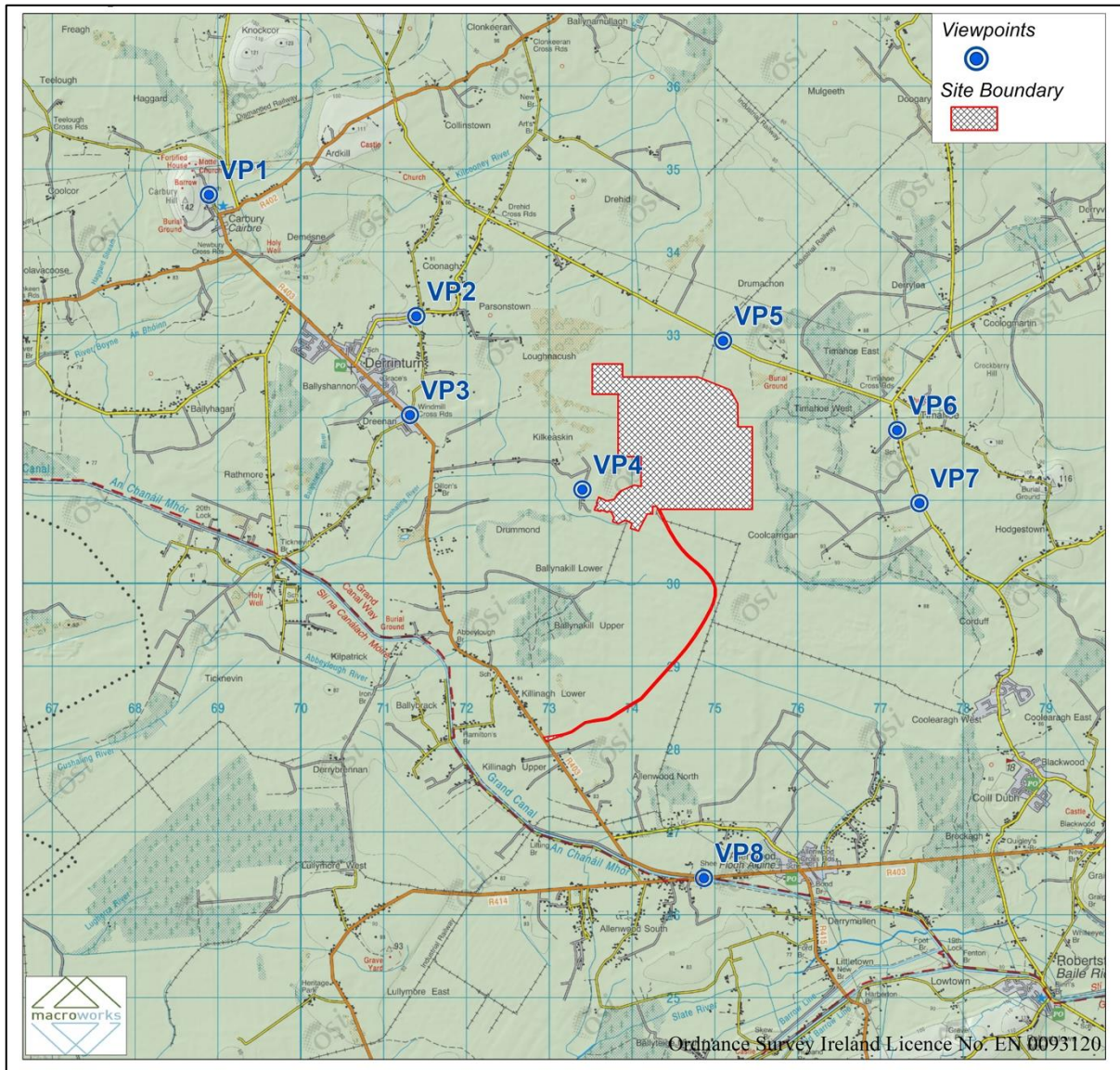


Figure 11-7 – Map of viewpoint locations

11.7 PREDICTED LANDSCAPE IMPACTS

First the landscape character, value and sensitivity of the study area will be assessed. Then the magnitude of impact of the proposed development on the landscape will be assessed.

11.7.1 Landscape Character, Value and Sensitivity

Landscape value and sensitivity are considered in relation to the following factors highlighted in the Guidelines for Landscape and Visual Impact Assessment 2013 (GLVIA), which are set out below and discussed relative to the proposal site and wider study area.

11.7.1.1 Landscape quality (condition)

The site is located in area of exploited bog adjoining an existing industrial facility. Beyond the bog context, there is a relatively intensively managed agricultural landscape of reasonable integrity where, generally, field boundaries appear well maintained. There is a legibility to the land use and vegetation in this working rural landscape. The presence of plots of commercial

forestry across the study area and the commercial exploited peat bog that occurs throughout the study area represent an intensity and diversity to the rural production in the study area.

11.7.1.2 Scenic quality

The principal source of visual amenity within the study area relates to the Grand Canal, and immediate environs, and to views to and from the canal bridges.

11.7.1.3 Rarity and Representativeness

The portion of the canal and associated ancillary structures that occur within the study are rare and are representative of an historical legacy of industrial and transport activity across the country which was connected by the canal network. Beyond the canal corridor, the remainder of the study area is not particularly rare or unique, in either a regional or local sense as it comprises of typical productive agricultural (pasture and arable) land uses.

11.7.1.4 Recreation Value

Recreation value associated with the Grand Canal is reasonably strong due to the historical value and adjoining rural amenity afforded to boaters and walkers but is limited to the canal corridor and immediate environs.

11.7.1.5 Perceptual aspects

In the bog areas away from the road network there is a degree of rural tranquillity. Agricultural areas retain a sense of the traditional pastoral character; however, the study area is principally a working rural setting.

11.7.1.6 Associations

Strong landscape associations to particular people or historic events that have occurred in close proximity to the site or in its wider surrounds were not identified. That is not to say that none exist, as all areas have local landscape associations with particular families or historic incidents, but these would not necessarily be associated with landscape values for the wider population.

11.7.1.7 Landscape Sensitivity Summary

The proposed development site is located in the Landscape Character Area 'Western Boglands'. The sensitivity of this LCA has been described as 'High' in Kildare County Development Plan 2023-2029. However, the development will adjoin a similar existing facility and will be entirely located within cutaway bogland, which represents a degraded landscape as recognised by landscape policy LL5 the Kildare CDP. On balance of these reasons, and in accordance with the criteria outlined in Table 11.3, the overall landscape sensitivity is deemed to be Medium-low.

11.7.2 Magnitude of Landscape Effects

Direct and permanent change will occur where the proposed development will be located resulting in a notable physical landscape change within the site. The proposed development will continue to alter the landscape character, over a limited area, from a cutaway bogland into a large-scale waste management character with light industrial buildings. The highest direct landscape effects will arise from changes to landform and existing vegetation on the site. Outside the Bord na Móna land holding, recognisable changes to the landscape character will be limited and localised due to the flat nature of the overall study area and mature vegetation

surrounding the site, which will prevent the full recognition of the scale of the changes to landform within the land holding.

During the operation phase there will be activity within the site, in the form of workers and machinery, though, due to high levels of existing vegetative screening, a large portion of this activity will remain out of sight until close to when the finished levels are achieved. Thus, effects from on-site related activities will be temporary/short term in duration and of a Low magnitude.

In addition to on-site activity, there will also be a number of HGV movements required along surrounding local roads, to and from the site entrance, as they import materials. As a total planning life of 25 years is being sought, it is therefore deemed by definition, under the EPA EIAR Guidance to be a 'long-term' impact.

The off-site HGV movements will add to the general activity within the vicinity of the site and each movement will cause momentary visual impacts as HGVs pass surrounding dwellings. However, it should be noted that the momentary visual impact of HGV traffic is commonplace along many local roads throughout the country and particularly those in productive rural areas with forestry, peat extraction and agriculture activities as exists in the vicinity of this site. Furthermore, the visual impacts of such traffic tend to be of much less concern to local residents than the potential for dust, noise and vibration and safety issues, refer to relevant chapters within this EIAR for their assessment.

On the basis of the factors discussed above it is considered that the magnitude of landscape impact will be Medium.

With reference to the significance matrix (Table 11.3), the Medium-Low landscape sensitivity judgement attributed to the study area coupled with a Medium magnitude of landscape impact it is considered to result in an overall landscape significance of no greater than **Moderate-Slight**. This is less than 'significant' in EIAR terms.

11.8 PREDICTED VISUAL IMPACTS

11.8.1 Sensitivity of Visual Receptors

11.8.1.1 Scale of value for each criterion

Table 11.7 - Analysis of Visual Receptor Sensitivity at Viewshed Reference Points

Strong association	Moderate association	Mild association	Negligible association

Values associated with the view	VP1	VP2	VP3	VP4	VP5	VP6	VP7	VP8
Susceptibility of viewers to changes in views								
Recognised scenic value of the view								
Views from within highly sensitive landscape areas								
Primary views from residences								

Intensity of use, popularity (number of viewers)								
Viewer connection with the landscape								
Provision of vast, elevated panoramic views								
Sense of remoteness/tranquillity at viewing location								
Degree of perceived naturalness								
Presence of striking or noteworthy features								
Sense of Historical, cultural or spiritual significance								
Rarity or uniqueness of the view								
Integrity of the landscape character within the view								
Sense of place at the viewing location								
Sense of awe								
Overall sensitivity assessment	M	ML	ML	ML	ML	ML	ML	HM

N = negligible sensitivity; L = low sensitivity; ML = medium-low sensitivity M = medium sensitivity; HM = high-medium sensitivity; H = high sensitivity; VH = very high sensitivity

11.8.2 Magnitude of Visual Effects

11.8.2.1 Construction Phase Impacts

From a visual perspective the Construction Phase impacts of the proposed development are considered to be equivalent or less than the Operational Phase impacts.

11.8.2.2 Operational Phase Impacts

The assessment of visual impacts at each of the selected viewpoints is aided by photomontages of the Proposed Development. Photomontages are a 'photo-real' depiction of the scheme within the view utilising a rendered three-dimensional model of the development, which has been geo-referenced to allow accurate placement and scale. The photomontages were prepared in accordance with Landscape Institute Advice Note 01/2011 'Photography and Photomontage in Landscape and Visual Impact Assessment'. No montage views were prepared for VP1, 2, 6 and 8 due to absence of visibility of the proposed development. Otherwise, the following images have been produced for each viewpoint:

- (I) Existing View;
- (II) Outline view (yellow outline showing the extent of the development overlaid on the photograph);
- (III) Montage View (representing the very end of the operational phase where the landfill has reached the highest level and has been toposiled and seeded); and
- (IV) Montage View with Mitigation Established (depicting residual visual impact.)

A consideration of changes to the visual setting and predicated visual impacts is contained in the tables below and are to be read in conjunction with photomontages in Appendix 11-1 (See Volume IV).

Viewshed Reference Point		Direction of View	
VP1	Local road, Carbury	SE (6.5km)	
Representative of:	Local community view Heritage feature		
Receptor Sensitivity	Medium		
Existing View	This is an elevated view from the end of a public road adjacent to a church and graveyard. The view includes a sweep of flat agricultural and wooded landscapes, including Newberry Hall and its demesne in the middle ground. The Wicklow Mountains are visible on the distant horizon.		
Visual Impact	Due to intervening screening, the proposed development will not be visible from this location. The magnitude of visual impacts is deemed to be Negligible.		
Residual Impact	As above.		
Based on the assessment criteria and matrices outlined at Table 11.3, the significance of the visual impact is summarised as follows.			
Summary	Visual Receptor Sensitivity	Visual Impact Magnitude	Significance of Visual Impact
Visual Impact	Medium	Negligible	Imperceptible
Residual impact	As above.	As above.	As above.

Viewshed Reference Point		Direction of View	
VP2	GAA grounds, Coonagh	SE (3.6km)	
Representative of:	Local community view Amenity feature		
Receptor Sensitivity	Medium-low		
Existing View	This is an enclosed view where the fore-to-middle ground is occupied by the carpark and playing fields within the grounds of the Carbury GAA Club, which is contained by a neatly trimmed low hedge along the perimeter of the grounds.		
Visual Impact	Due to intervening screening, the proposed development will not be visible from this location. The magnitude of visual impacts is deemed to be Negligible.		
Residual Impact	As above.		
Based on the assessment criteria and matrices outlined at Table 11.3, the significance of the visual impact is summarised as follows.			

Summary	Visual Receptor Sensitivity	Visual Impact Magnitude	Significance of Visual Impact
Visual Impact	Medium-low	Negligible	Imperceptible
Residual impact	As above.	As above.	As above.

Viewshed Reference Point		Direction of View	
VP3	Local road, Dreenan	E (3.3km)	
Representative of:	Local community view Centre of population		
Receptor Sensitivity	Medium-low		
Existing View	This is a broad view from an agricultural field gate near the junction of a local road with the R403 regional road. There is a large, flat arable field that stretches from the foreground to the middle ground. In the background, the boundaries of this field are demarcated by mature hedgerow trees.		
Visual Impact	It will be possible to identify glimpses of the upper-most portion of the landfill mound between small gaps in the mature hedgerow trees in the background of the view. This vegetation will help screen the landfill mound and the machinery. The visual change will be noticeable but sub-dominant due to the intervening distance and the notable levels of terrain and vegetative screening. The landfill mound will be low and long, helping the proposed development to integrate within the low, flat composition of the view. For these reasons, the magnitude of visual impact is deemed to be Low.		
Residual Impact	The landfill will be covered with topsoil, seeded and planted with bands of woodland and scrub planting and once established will help the mound to blend in with the colour and form of the intervening hedgerow that already largely screens it; therefore, the landfill mound will no longer be noticeable to a casual observer. For this reason, the residual magnitude of visual impact will reduce to Negligible.		
Based on the assessment criteria and matrices outlined at Table 11.3, the significance of the visual impact is summarised as follows.			
Summary	Visual Receptor Sensitivity	Visual Impact Magnitude	Significance of Visual Impact
Visual Impact	Medium-low	Low	Slight
Residual impact	Medium-low	Negligible	Imperceptible

Viewshed Reference Point		Direction of View	
VP4	Local road, Kilkeaskin	E (1.3km)	

Representative of:	Local community view		
Receptor Sensitivity	Medium-low		
Existing View	This is a channelled view located within an exploited bog. Evidence of commercial extraction of peat is recognisable in the foreground. Framed by intervening vegetation is a view toward a low, flat horizon, with a glimpse of the existing landfill development identifiable.		
Visual Impact	During the operational period, machinery and the growing landfill mounds will be openly visible from this location, extending the visible landfill development to the right of the existing development. The proposed landfill will, at this distance, appear as an extension to the existing mound. Following the operational phase, the capped and grassed mounds will be taller than the existing landfill mound. The majority of the proposed ancillary plant structures will be screened by intervening vegetation. While the nature of the development is already established on-site, this particular view will change from one primarily of a regenerating bog to one where a significant portion of the view will include light industrial activity and artificial mounds, with a new skyline in a flat landscape. On balance, the magnitude of visual impact is deemed to be Medium.		
Residual Impact	The landfill mound will be covered in topsoil and seeded, then planted with bands of mixed tree planting, which will help the landfill to blend in with the surrounding landscape. Although the form of the landfill mound may still be identifiable, it is unlikely to be noticed by a casual observer; thus, the residual magnitude of visual impact will reduce to Slight.		
	Based on the assessment criteria and matrices outlined at Table 11.3, the significance of the visual impact is summarised as follows.		
Summary	Visual Receptor Sensitivity	Visual Impact Magnitude	Significance of Visual Impact
Visual Impact	Medium-low	Medium	Moderate-slight
Residual impact	Medium-low	Medium-low	Slight

Viewshed Reference Point		Direction of View
VP5	Local road, Timahoe East near industrial railway	SW (1.1km)
Representative of:	Local community view	
Receptor Sensitivity	Medium-low	
Existing View	Located on the L5025 (Derrymahon Road) and 1.15 km from the nearest part of the proposed landfill structure. The view is orientated to the southwest. Roadside hedgerows and intervening vegetation screen many potential views along this road, but this viewpoint was selected where there is a broad and relatively open view oblique to the orientation of the road. Cutaway bogland forms the fore-to-middle ground of the view. A band of trees foreshortens the view; however, glimpses of the existing landfill site are possible above the tree canopies.	

Visual Impact	During the operation phase, the proposed landfill mound and machinery will also become visible over time as the size of the mound increases and until reaching full height. It will become visible above the band of trees to the left of the existing mound. The proposed compost facility extension and the proposed ancillary plant development will be fully screened by intervening vegetation. The ridge of the artificial hill visible from this location will remain on a permanent basis following the operational phase. The visual change will be noticeable, but due to the distance from the viewpoint, it will be sub-dominant. Although the proposed development is an industrial development, it will be viewed adjoining an existing landfill development from within the same post-industrial landscape in which it is proposed. For these reasons, the magnitude of visual impact is considered Medium-low.		
Residual Impact	When complete, the upper sections of the landfill will remain visible against the sky but will blend in with the existing vegetation in the middle distance once the landscape mitigation planting has become established. The magnitude of residual visual change will therefore reduce to Low.		
	Based on the assessment criteria and matrices outlined at Table 11.3, the significance of the visual impact is summarised as follows.		
Summary	Visual Receptor Sensitivity	Visual Impact Magnitude	Significance of Visual Impact
Visual Impact	Medium-low	Medium-low	Slight
Residual impact	Medium-low	Low	Slight-imperceptible

Viewshed Reference Point		Direction of View
VP6	Local road, Timahoe East near cross roads	W (1.9km)
Representative of:	Local community view	
Receptor Sensitivity	Medium-low	
Existing View	This is a broad view located at the intersection of a local road with a private lane visible in the foreground of the view. Agricultural fields and hedgerows in the fore-to-middle ground are viewed against a backcloth of a conifer plantation in the background, which foreshortens the views to the west.	
Visual Impact	Due to intervening screening, the proposed development will not be visible from this location. The magnitude of visual impacts is deemed to be Negligible.	
Residual Impact	As above.	
	Based on the assessment criteria and matrices outlined at Table 11.3, the significance of the visual impact is summarised as follows.	
Summary	Visual Receptor Sensitivity	Visual Impact Magnitude
		Significance of Visual Impact

Visual Impact	Medium-low	Negligible	Imperceptible
Residual impact	As above.	As above.	As above.

Viewshed Reference Point		Direction of View	
VP7	Local road, Coolcarrigan	W (2.1km)	
Representative of:	Local community view		
Receptor Sensitivity	Medium-low		
Existing View	Located on the L5025 in the townland of Coolcarrigan. This road is also part of the North Kildare Touring Route leading to the adjacent Coolcarrigan House and Gardens, which are open to the public and used for weddings. The gate to a private lane occurs in the foreground of the view, over which a large flat arable field is visible. A treeline to the northwest foreshortens the view. A view of a distant, flat, low-lying landscape is afforded in the background to the west. The existing landfill development is fully screened by intervening vegetation.		
Visual Impact	Due to intervening screening, the proposed development will not be visible from this location. By default, the magnitude of visual impacts is deemed to be Negligible.		
Residual Impact	As above.		
	Based on the assessment criteria and matrices outlined at Table 11.3, the significance of the visual impact is summarised as follows.		
Summary	Visual Receptor Sensitivity	Visual Impact Magnitude	Significance of Visual Impact
Visual Impact	Medium-low	Negligible	Imperceptible
Residual impact	As above.	As above.	As above.

Viewshed Reference Point		Direction of View	
VP8	R403 regional road, Allenwood Middle	N (4.7km)	
Representative of:	Local community view Major road Designated scenic route Designated scenic view Heritage feature Amenity feature		
Receptor Sensitivity	High-medium		
Existing View	This is a heavily channelled view directly to the north from a location where several designations overlap. The Grand Canal and all the		

	associated recreational, heritage and visual sensitivities are located in the opposite direction to the view. The junction of the R414 regional road with the busy R403 regional road, along with various associated signage, occurs in the foreground of the view. Between a gap in the roadside hedgerow, beyond a timber fence, is an agricultural field that rises gently to the north. The canopies of some mature hedgerow trees in the background punctuate the horizon.		
Visual Impact	Due to intervening screening, the proposed development will not be visible from this location. The magnitude of visual impacts is deemed to be Negligible.		
Residual Impact	As above.		
	Based on the assessment criteria and matrices outlined at Table 11.3, the significance of the visual impact is summarised as follows.		
Summary	Visual Receptor Sensitivity	Visual Impact Magnitude	Significance of Visual Impact
Visual Impact	High-medium	Negligible	Imperceptible
Residual impact	As above.	As above.	As above.

11.9 CUMULATIVE IMPACTS

In addition to landscape and visual effects, it is also important to consider potential cumulative effects. The emphasis of the assessment is on likely significant effects. In order to determine the scope of the cumulative landscape and visual effects a review of all the developments outlined Chapter 4 was undertaken. This was undertaken with respect to the GLVIA and professional judgement. Careful consideration was given, and it was considered reasonable and proportional to screen out most developments from further assessment as it is highly unlikely that any material cumulative effects could occur. The most relevant development to take into consideration in relation to the proposed development is the similar existing adjacent landfill. Ballydermot Wind Farm c.3.5km south-west of the proposed landfill and this development would be the most readily visible development from within the study area, thus has also been scoped in.

North Timahoe Solar Farm (planning ref: 151172) is located c.0.7km southeast at the closest point and Coolcarrigan Solar Farm (221203) is located c.1.4km northeast at the closest point. These two solar farm projects are looked at in further details in the in interest of undertaking a thorough cumulative assessment.

The cumulative assessment evaluates the additional change resulting from the proposed development in relation to the theoretical baseline scenario and follows the same methodology to that used for the landscape and visual assessments.

11.9.1 (In Combination) Cumulative effects of the proposed landfill development in conjunction with other similar existing developments

The proposed development is located directly adjacent to the existing landfill and will be viewed as a contiguous development. Therefore, cumulative effects in combination will occur where both developments are visible at a close distance within the Bord na Móna land holding and where both developments are visible in the wider landscape which are described in Section 11.7

above where such in-combination effects were already assessed in the context of the main assessment. All cumulative landscape and visual effects will be less than 'significant' in EIAR terms.

11.9.2 (In addition) Cumulative effects of the proposed landfill development in conjunction with other proposed developments

11.9.2.1 Ballydermot Wind Farm

The Ballydermot Wind Farm is the largest and most notable proposed development in the vicinity of the Site. It is composed of a number of wind turbines located over 3 km to the southwest of the proposed development, on lands east of the settlement of Clonbulloge and north of Rathangan.

Only three viewpoints (VP3, VP4 and VP5) have the potential for visual impacts greater than Imperceptible due to the proposed development. VP3 and VP4 are orientated to the east and northeast, respectively. Thus there is no potential to view the proposed development and the proposed Ballydermot Wind Farm simultaneously. VP5 is orientated to the southwest, with the proposed development in the foreground. Here the wind turbines within the proposed Ballydermot Wind Farm would be located c. 3.5 km beyond the proposed development, and potentially portions of one or more of these turbines are likely to be identifiable, rotating above the skyline in the background, but the two developments will present as two separate and discrete entities that are visually and contextually discrete. The visual change as a result of the proposed development in addition to the Ballydermot Wind Farm will be Negligible thus all cumulative visual effects will be less than 'significant' in EIAR terms.

Both the proposed development and the proposed Ballydermot Wind Farm are located within areas individually characterised by exploited bog; however, these bog areas are in two separate landscape units, divided by a 1.5 km wide band of agricultural fields through which the Grand Canal and the R403 road corridor pass through. The application boundary for Ballydermot Wind Farm includes a large area of land while the proposed development is relatively small, thus represents a Low-Negligible magnitude of cumulative effect. For this reason, it is considered that cumulative impacts on the landscape as a result of the proposed development in conjunction with the proposed Ballydermot Wind Farm are anticipated to be not 'significant' in EIAR terms.

11.9.2.2 Solar Farms

The proposed development will be read as a separate and spatially distinct development from North Timahoe Solar Farm and Coolcarrigan Solar Farm. All three would occur within the same Landscape Character Area. Tracts of exploited bog is located adjacent to the north west and south of Coolcarrigan Solar Farm. Similar to the proposed development, North Timahoe Solar Farm would be situate on an expanse of exploited bog. The proposed development would be an additional development within the vicinity of these two solar farms and will contribute to the ever evolving character within the study area but will not radically alter the landscape values that have been established in this areas since the commencement of industrial peat extraction. All cumulative landscape effects will be less than 'significant' in EIAR terms.

While the LVIA for North Timahoe Solar Farm includes a ZTV map based on a Digital Surface Model (DSM) that indicated that VP6 and VP9 may have the potential to have some views of the Coolcarrigan Solar Farm. However, this assessment has determined that the proposed development will not be visible from these two viewpoints, therefore cumulative visual impacts are not possible. It may be possible to see portions of Coolcarrigan Solar Farm from VP5 but this

view would be in the opposite direction as the proposed development and is likely to be in the form of glimpses of PV panels between intervening vegetation in the distant background. All cumulative landscape effects will be less than 'significant' in EIAR terms.

11.9.3 General Cumulative effects

There may be cumulative impacts relating to HGV movement and activity within the Site during construction and operation phases. When these are considered in addition to the other developments these are considered be less than 'significant' in terms of landscape or visual impacts as they will effectively be temporally and spatially separate.

Given the nature of the end use effects, it is not considered that the proposed development will have any 'significant' or greater landscape or visual impacts in-combination or in-addition with any other existing, proposed or permitted developments in the vicinity.

11.10 LANDSCAPE AND VISUAL MITIGATION MEASURES

Mitigation is a term used to describe the measures or actions that will be taken to minimise environmental effects. The purpose of mitigation is to avoid, reduce and where possible remedy or offset, any significant adverse direct and indirect effects on the environment arising from the proposed development. The Landscape Plan (Drawing No. 11290-2071) shows the planting design which includes the reduction and remediation measures relevant to landscape and visual.

11.10.1 Avoidance Measures

- Selection of a site adjoining a similar existing facility.
- Minimising earthworks and change in levels.
- Restricting areas for construction works and temporary storage to a minimum.

11.10.2 Reduction Measures

- Retention of all existing perimeter planting and re-generating vegetation where possible and sufficiently protect in areas close to construction works as described in BS 5837:2005.
- Disturbance of existing vegetation will be minimised where possible.

11.10.3 Remediation Measures

The landfill mounds will be grasses as each section is completed. Proposed planting shown on the Landscape Plan will be on the landfill cap will precise species and positioning of shrubs and other woody vegetation will be determined at the detailed design stage and due consideration will be given to plant root structures to avoid potential for damage of the landfill cap geomembrane.

In the shorter term, 4-6 m high berms enclosing the development from the north, east and west will be planted with bands of native peatland tolerant woodland mix taking into account the specific drier soil conditions of the mounding. Remaining areas of the berm will naturally revegetate over time.

11.11 RESIDUAL EFFECTS

Effective implementation and establishment of proposed mitigation measures will have a beneficial impact and help to 'soften' landscape and visual effects associated with the proposed development, particularly for areas located within 2 km of the proposed development site and

elevated areas within 5 km and beyond. Proposed planting will help integrate the proposed development into the surrounding landscape, provide screening where needed, reflect vegetation patterns of local habitats and minimise the effect on the landscape character of the area. Identified adverse landscape and visual effects will reduce, in tandem with the maturing of the existing and retained vegetation as well as the proposed planting within the Bord na Móna land holding. Sensitive design of the proposed building structures as well as staged greening of the landfill mounds will help integrate the proposed development into the surrounding environment.

11.11.1 *Landscape Effects*

Long term residual landscape effects will arise from the change in landform by the landfill mounds and berms and the subsequent alterations to existing re-generating vegetation. The proposed development will together with the existing landfill development alter significantly and permanently the landform and landscape character within the Bord na Móna land holding.

Outside the Bord na Móna land holding residual and recognisable changes to the landscape character will be limited due to the flat nature of the overall study area and significant intervening vegetation, which will prevent the full recognition of the scale of changes to the landform within the land holding. Views, from which the changes in landform will be recognisable, will be localised and limited to a small number of viewpoints mainly located to the west, north, northeast and east within 2 km from the centre of the site. There will be no 'significant' change to the landscape character in the areas surrounding the site.

On the basis of the factors discussed above it is considered that the residual magnitude of landscape impact will be Medium-low.

With reference to the significance matrix (Table 3), the Medium-Low landscape sensitivity judgement attributed to the study area coupled with a Medium-low magnitude of landscape impact it is considered to result in an overall landscape significance of no greater than **Moderate-Slight**. This is less than 'significant' in EIAR terms.

11.11.2 *Visual Effects*

Details of the residual visual effects are incorporated into the assessment in the tables in Section 11.8.2.2 Operational Phase Impacts. While the landfill mounds will become a permanent feature in some views, the overall perception of the landscape character will not change in these views. The residual magnitude of landscape change in these views is also considered to be limited. All residual visual effects will be less than 'significant' in EIAR terms.

11.12 SUMMARY

11.12.1 *Landscape Effects*

The proposed development will continue the emerging trend within the Bord na Móna land holding – a landscape changing in character from regenerating cutaway bog to large scale waste management with light industrial buildings. The existing Drehid Waste Management Facility is located immediately adjacent to either side of the proposed development and the proposal will appear as a contiguous development. However, the proposed landfill mounds will ultimately be higher than the existing mound resulting in an increase in the overall height of landfill mounds in this location.

In general, the greatest landscape effects will arise from changes to landform and existing vegetation within the land holding. Outside the Bord na Móna land holding, recognisable changes to the landscape character will be limited due to the flat nature of the overall study area and significant intervening vegetation, which will prevent the full recognition of the scale of the landform changes within the land holding. Effects will be limited and localised and concentrate in parts of the wider landscape outside the Bord na Móna land holding to the east, north, northeast and west. These areas will experience adverse landscape effects related to partial visibility of the proposed development components. There will be no significant change to the landscape character in low lying areas to the southwest, south and southeast beyond 2 km of the site.

The significance of residual landscape effect is considered to be **Moderate-Slight**. This is less than 'significant' in EIAR terms.

11.12.2 *Visual Effects*

The proposed development is located in a mainly flat, basin-like landscape and therefore even relatively low vegetation can provide screening within the wider landscape. The highest visual effects tend to occur where there is no intervening vegetation between the viewer and the proposed development, or where the viewer is at an elevated viewing position. While the development will be openly visible at close range within its immediate vicinity within the Bord na Móna land holding, all views of the proposed development outside of the Bord na Móna land holding will be partially screened by topography or vegetation.

Open and extensive cross-country views are rarely possible due to the mainly flat nature of the majority of the study area. The most open views of the proposals will be from locations identified along the L5025 (Derrymahon Road) to the north of the site as well as to the west near the end of an access lane leading into the bog from the R403 just south of Derrinturn. Photomontages have been prepared for eight viewpoints to illustrate the nature of these views. The visual impacts were appraised at these eight viewpoint locations which cover a wide variety of viewing distances and angles as well as a range of receptor types. A summary of the sensitivity, magnitude of visual impact and the significance of impacts for each of the viewpoints is summarised in Table 11-8 below:

Table 11-8 – Summary of Visual Impacts at Viewpoints

Viewpoint	Visual Receptor Sensitivity	Visual impact Magnitude	Significance of Impact	Significance of Residual Impact
VP1	Medium	Negligible	Imperceptible	Imperceptible
VP2	Medium-low	Negligible	Imperceptible	Imperceptible
VP3	Medium-low	Negligible	Slight	Imperceptible
VP4	Medium-low	Medium	Moderate-slight	Slight
VP5	Medium-low	Medium-low	Slight	Slight-imperceptible
VP6	Medium-low	Negligible	Imperceptible	Imperceptible
VP7	Medium-low	Negligible	Imperceptible	Imperceptible
VP8	High-medium	Negligible	Imperceptible	Imperceptible

The significance of visual impact is deemed to be 'Imperceptible,' at most of the selected viewpoints because the visual change will be difficult to discern. Impacts will be marginally greater at VP4 and VP5 as the landfill mound will be identifiable; however, there will be no material reduction to the visual amenity at these locations.

The proposed development will not be visible from any of the scenic viewpoints as recognised by KCDP.

The significance of residual visual effects is considered to be no greater than **Slight**. This is less than 'significant' in EIAR terms.

11.12.3 *Cumulative Effects*

The proposed development is located directly adjacent to the existing landfill and will be viewed as a contiguous large scale waste management development with light industrial buildings. Therefore, cumulative effects in combination will occur where sections of the existing and proposed developments are visible together at close distance within or immediately adjacent to the Bord na Móna land holding, and where sections of these developments are visible together in the wider landscape as described in Section 11.8 above. The overall cumulative landscape effects are considered **Slight-imperceptible** due to the perceived increase in scale of landfill activities within the land holding and the resulting additional change in landscape character of the area surrounding the site. This is less than 'significant' in EIAR terms.