



9.0 LANDSCAPE

9.1 Introduction

This landscape and Visual Impact Assessment (LVIA) has been prepared in respect of a waste licence application for the proposed infilling and restoration of the existing Ballinderry quarry, located approximately 4.5 km north of the settlement of Carbury. This LVIA report describes the landscape context of the proposed project 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 assessing effects of a Development on the landscape as a resource in its own right and is concerned with how the proposal will affect the elements that make up the landscape, the aesthetic and perceptual aspects of the landscape and its distinctive character.

Visual Impact Assessment (VIA) relates to assessing effects of a development 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).

This landscape and visual impact assessment is based on:

- The 'Guidelines for Landscape and Visual Impact Assessment – 3rd Edition' (GLVIA3 - 2013) produced by the Institute of Environmental Management and Assessment (IEMA) in conjunction with the Landscape Institute (UK).
- The Environmental Protection Agency (EPA) publication 'Guidelines on the Information to be contained in Environmental Impact Statements (updated 2015)' and the accompanying Advice Notes on Current Practice in the Preparation of Environmental Impact Statements (updated 2015).

This Landscape and Visual Assessment report was prepared by Macro Works Limited of Cherrywood Business Park, Loughlinstown, Dublin 18; a consultancy firm specialising in visual impact analysis and visual impact graphics. Relevant experience consists of a vast range of infrastructural, industrial and commercial projects since 1999 including approximately 20 quarry and landfill projects.

9.2 Description of Proposed Development

The former Ballinderry quarry has been exhausted of extractable materials and is no longer operational. The site operator, GCHL Limited, is proposing to restore the quarry by infilling the void produced by the previous excavation activities with inert waste materials to a level similar to the previous landform, which was an esker. This new mound will be top soiled and seeded with a grass seed mix. The finished level of the mound will not exceed height of 92 m AOD. The tallest part of the mound will be in the northern portion of the site and the profile of the mound will be such that it will slope away in all directions and will merge with the existing berms that surround the perimeter of the existing quarry. The area within the planning boundary is ca 14 ha, however, the area to be infilled will be less extensive than this. Access to the site will be from the existing quarry entrance situated on the L1002 local road which adjoins the eastern perimeter of the site.

9.3 Methodology

Production of this Landscape and Visual Impact Assessment involved:

- A desktop study to establish an appropriate study area, relevant landscape and visual designations in the Kildare County Development Plan (CDP) 2017-2023, as well as other 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;
- Assessment of the significance of the landscape impact of the Development as a function of landscape sensitivity weighed against the magnitude of the landscape impact; and



- Assessment of the significance of the visual impact of the development 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.

9.3.1 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 9.1.

Table 9.1: 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 Application Site boundary that may have an effect on the landscape character of the area. Table 9.2 refers.

Table 9.2: 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.



Magnitude of Impact	Description
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 9.3.

Table 9.3: Impact Significance Matrix

	Sensitivity of Receptor				
Scale/Magnitude	Very High	High	Medium	Low	Negligible
Very High	Profound	Profound-substantial	Substantial	Moderate	Minor
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: 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.

9.3.2 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.

9.3.3 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 9-6 below 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 the **Table 9.5** below. Overall sensitivity may be a result of a number of these factors or, alternatively, a strong association with one or two in particular.

9.3.4 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 9.4**.

Table 9.4: 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

9.3.5 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 and applies the same EPA definitions of significance as used earlier in respect of landscape impacts (Table 9.3 refers).

9.3.6 Study Area

It is anticipated that the proposed development is likely to be difficult to discern beyond its immediately enclosed setting and is very unlikely to give rise to any significant landscape or visual impacts beyond approximately 1 km. However, in the interests of a comprehensive appraisal, a 2 km radius study area is used in this instance. One exception to this 2 km radius 'principle study area' is the inclusion of Carbury Castle as a visual receptor on the basis of its elevation above the surrounding lowland landscape and its sensitivity.



9.4 Site Context

The landscape baseline represents the existing landscape context and is the scenario against which any changes to the landscape brought about by the Development will be assessed. It is worth noting, however, that many of the landscape elements identified in the landscape baseline also relate to visual receptors i.e. places and transport routes from which viewers can potentially see the proposed development.

9.4.1 Landform and Drainage

The landform within the study area is generally low lying and gently undulating. The nearest elevated terrain is in the southeast portion of the study area in Calfstown, which rises to 110 m AOD, just 20 m above the ground level at the site entrance. The site itself is contained on a gentle southeast facing slope. The Glash is a redirected minor watercourse which flows past the eastern side of the site in a northerly direction and the source of the River Boyne occurs in the southern portion of the study area.

9.4.2 Vegetation and Land Use

The surrounding countryside is predominantly contained in pastoral farming within a matrix of small to medium sized geometric fields defined by broad leaf hedgerows. However, immediately to the west of the site there is evidence of other quarries. There is a conifer forestry plantation just to the northwest of the site as well as on the fringes of bogs situated in both the northern (Ballina Bog PNHA) and southern portions of the study area. These bogs appear to host both commercial and domestic production. This is evidence of an historic demesne landscape to the south of the site.

9.4.3 Centres of Population and Houses

The proposal site lies between the settlements of Broadford (2.5 km to the north) and Carbury (4.5 km to the south). There is a relatively loose network of local roads surrounding the site, providing access to a scattering of farmsteads and rural dwellings.

9.4.4 Transport Routes

The principle transport route with regard to this proposal is the L1002 local road. This road lies adjacent to the east of the proposal site. There are several other smaller and less busy local roads within the study area.

9.4.5 Public Amenities and Facilities

There are not considered to be any public amenities or facilities relevant to this proposal.

9.5 Characteristics of the Proposal

The proposed quarry restoration project and inert soil recovery facility at Ballinderry Quarry will involve:

- Use of approximately 1,234,335 tonnes of imported inert natural materials, comprising excess soil, stones and/or broken rock, to restore existing quarry by backfilling it to within 5m of former ground levels;
- Installation of temporary site infrastructure and services including, site office, staff welfare facilities, weighbridge (with dedicated office), wheelwash, settlement ponds, hardstand areas, fuel and water storage tanks, waste inspection and quarantine facility;
- Temporary stockpiling of topsoil for re-use as cover material for final restoration of the site; and
- Restoration of the backfilled void (including placement of cover soils and seeding) and establishment of an agricultural grassland habitat similar to that which existed prior to quarrying and in line with existing adjacent habitats.

9.6 Policy Environment

9.6.1 Kildare County Development Plan 2017-2023

A Landscape Character Assessment was produced in 2004 for County Kildare and is incorporated into the current Kildare County Development Plan 2017-2023. The landscape character assessment categorises County Kildare into 14 geographically distinct landscape character areas (LCAs), of which, the application site is situated in the LCA – 'North-Western Lowlands' (see Figure 9.1).



The North-Western Lowlands LCA is located in the north-west of the County and the Landscape Character Assessment (2004) describes the 'North-Western Lowlands – Cadamstown & Environs' LCA as being an area "characterised by generally flat topography and smooth terrain, gently undulating around Carbury the occurring open lands with medium to large field patterns are bordered by well-maintained and low hedgerows, which contain scattered trees along some sections of the field boundaries. Although hedgerows partially screen the adjacent lowest lying areas, the commonly flat terrain allows long-distance visibility." The CDP also categorises this LCA as being of 'Low Sensitivity' and states that the landscapes classed as having low sensitivity have "the capacity to generally accommodate a wide range of uses without significant adverse effects on the appearance or character of the area."

The Kildare CDP includes a number of policies regarding the North-Western Lowlands LCA, some of which are relevant to the proposed Project. 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.

The Kildare CDP also lists a number of general landscape policies, in Section 14.8 of the Kildare CDP. The most relevant of these to the proposed development is:

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 at the end of Chapter 14 of the Kildare CDP are a number of general landscape objectives. Those that are considered to be relevant to the proposed project are included below:

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.

According to the Map 14.2 in the CDP (See Figure 9.2), the North-Western lowlands has a "Class 1 Low Sensitivity," which is described as, "Areas with the capacity to generally accommodate a wide range of uses without significant adverse effects on the appearance or character of the area."

Two new matrices have been introduced into the current CDP (Table 14.3 + Table 14.4), the first (Table 14.3) relates to the compatibility of various land uses with each of the different LCAs in a range from 1 – Least compatible to 5 – Most compatible. North-Western Lowlands is deemed as having "high" compatibility with both 'Sand & Gravel' extraction and 'Industrial Projects'.

The second matrix, (Table 14.4 in the CDP) relates to the compatibility of various land uses with 'Principal Landscape Sensitivity Factors'. This is based on sensitive landscape features situated within a 300 m of proposed developments and compatibility is measured from '0 – Very unlikely to be compatible' to '5 – Likely to be very compatible in most circumstances'. Of the 12 sensitive landscape features listed in the CDP, none are located within 300 m of the site.

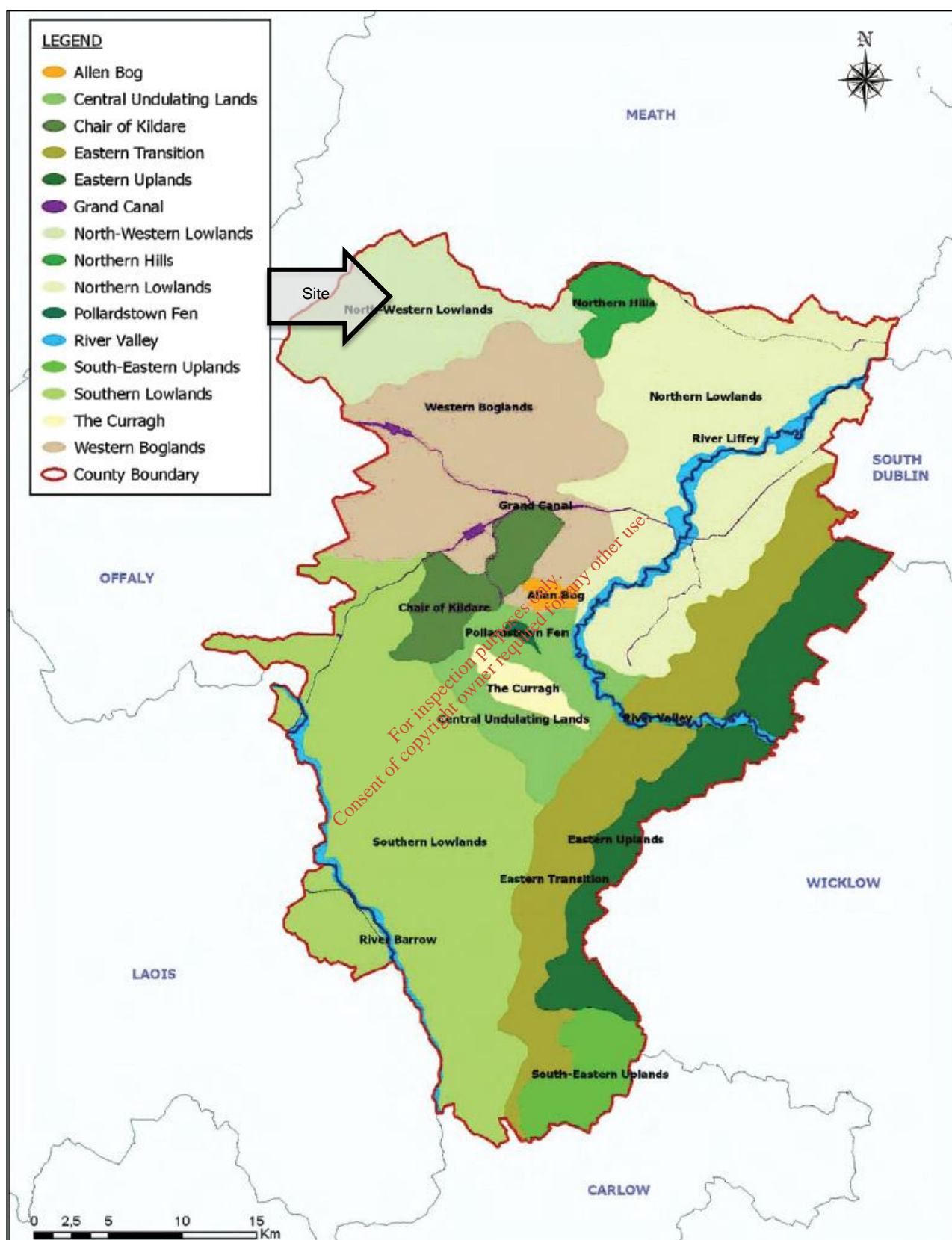


Figure 9.1: Excerpt from Map 14.1 of the Kildare County Development Plan 2017 – 2023 showing the approximate location of site in relation to designated landscape character areas.

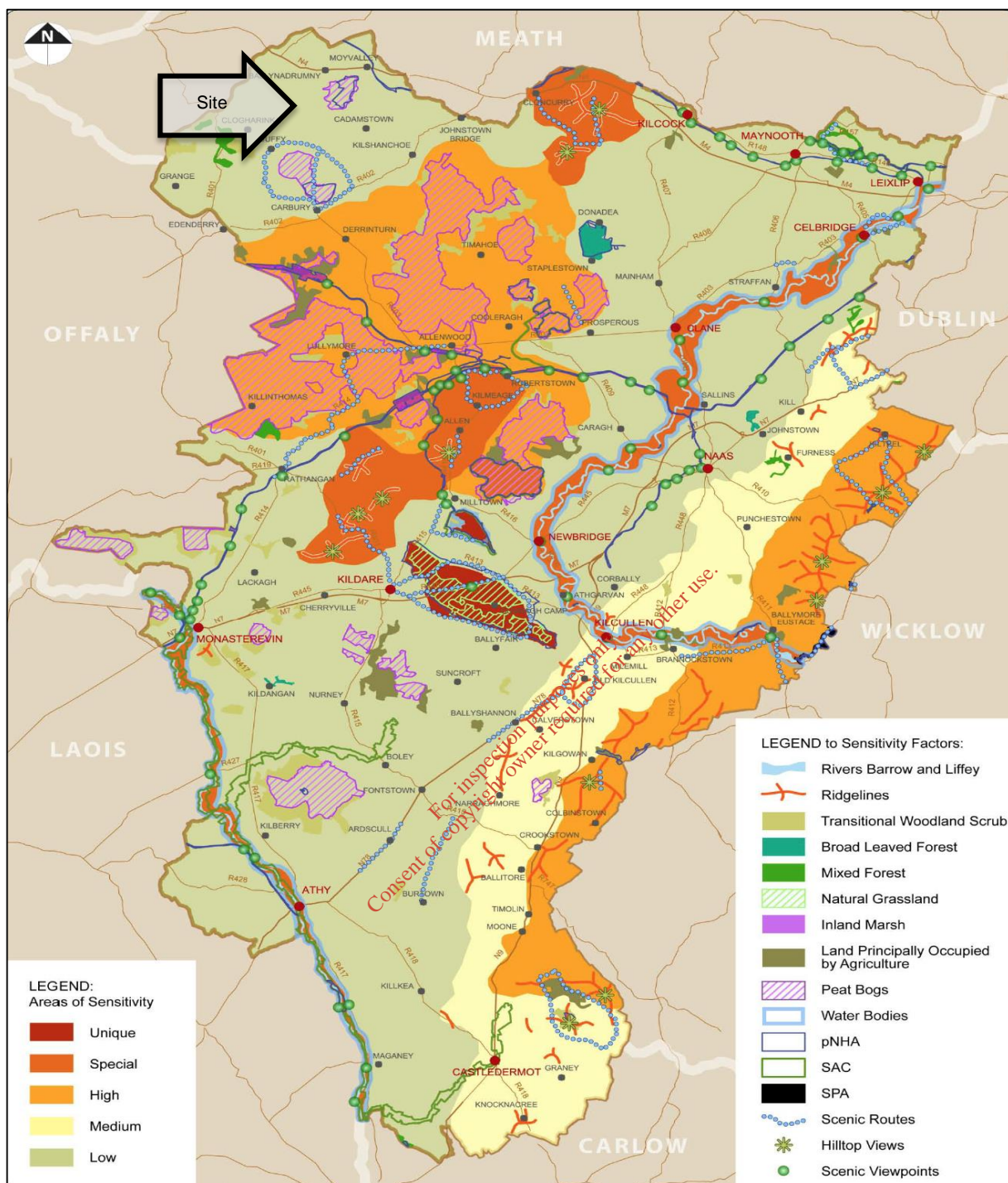


Figure 9.2: Excerpt from Map 14.2 of the Kildare County Development Plan 2017 – 2023 showing the approximate location of site in relation to designated landscape character areas.

9.6.1.1 Designated Scenic Route

There is a designated scenic route (SR28) a short distance to the south of the site that relates mainly to views of Carbury Castle. This designated route has been considered herein and is represented by two viewpoints in the visual impact assessment.

9.6.1.2 National Parks & Wildlife Service (NPWS)

There is one ecological site designated by the NPWS within the study area. The Ballina Bog Proposed Natural Heritage (PNHA – Site Code: 000390) is situated 1.5 km to the northeast of the site.



9.7 Visual Baseline

9.7.1 Identification of Viewshed Reference Points as a Basis for Assessment

Viewshed Reference Points (VRP's) are the locations used to study the visual impacts of the proposal 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, the selected viewpoints are intended to reflect a range of different receptor types, distances and angles. 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);
- 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 the table below and the locations are shown in Figure 9.3.

Table 9.5: Outline Description of Selected Viewshed Reference Points (VRPs)

VRP No.	Location	Viewing Distance	Direction of view
VP1	Carbury Hill	3.95 km	N
VP2	Local road L5011, Calfstown	1.55 km	NW
VP3	Local road L1006, Ballinderry	0.65 km	N
VP4	Local Road L1002, Ballinderry	<0.01 km	W
VP5	Tanderagree Cross Roads	0.03 km	SW
VP6	Local road L5004, Kilglass	0.08 km	SE

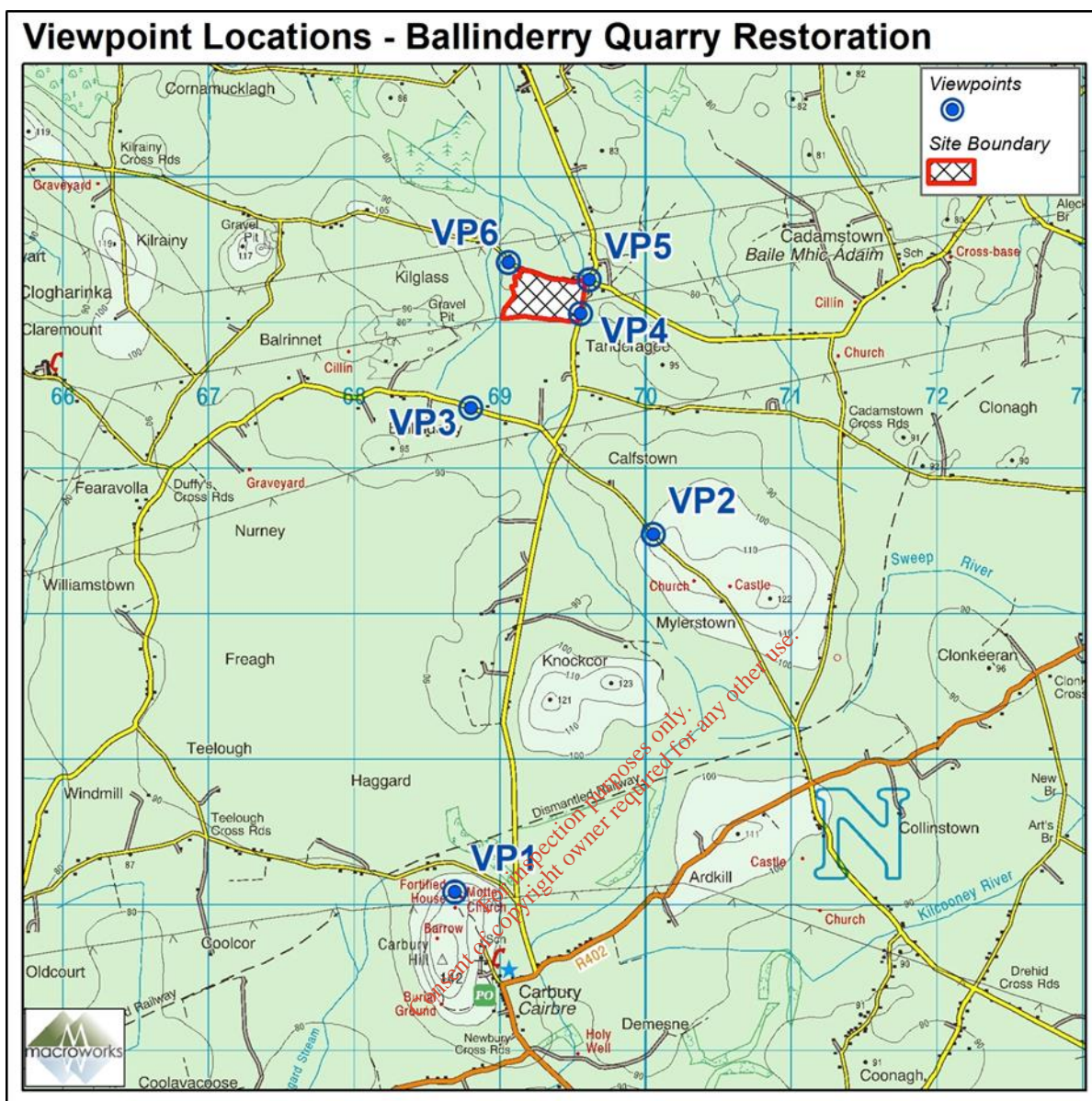


Figure 9.3: Location of Viewshed Reference Points in relation to the Site

9.8 Predicted Landscape Impacts

9.8.1 Landscape Character, Value and Sensitivity

The Kildare Landscape Character Assessment assigns the North-western Lowlands LCA, within which this site is located, a 'Low' degree of landscape sensitivity. Although such county-wide designations can be relatively broad-brush and fail to pick up locally sensitive landscape features, in this instance it is considered to be a fair reflection of the receiving landscape for this project. It is a robust working landscape where landscape related values tend to favour subsistence of the rural based economy rather than naturalistic or scenic values. The exhausted Ballinderry Quarry also contributes to the diversity of land use in its immediate setting and a sense of landscape degradation.

In accordance with the Guidelines for landscape and Visual Impact Assessment (GLVIA- 2013) landscape sensitivity / susceptibility is relative to the nature of the development proposed. In this instance, the development in question is the infilling and restoration of an existing quarry and thus, there is very little susceptibility to the changes proposed. Overall, it is considered that the Landscape sensitivity of the receiving landscape concurs with the Kildare CDP – **Low**.



9.8.2 Magnitude of Landscape Effects

9.8.2.1 Effects on the Physical Landscape of the site

In terms of physical impacts on the site, the proposal is seeking the infill and restoration of an existing, exhausted quarry. The waste will be formed into a subtle mound, thereby echoing the esker that previously existed on this site. In effect the landscape is being reinstated and returned to its former agricultural land use and the end-use mound will not appear incongruous in this landscape setting, particularly as part of the former esker remains in place just beyond the site as a reference. The physical impact on the site is therefore considered to be positive in nature.

9.8.2.2 Effects on Landscape Character

During the restoration phase there will be a considerable amount of activity within the site in the form of workers and earth moving machinery, though most of this activity will remain below surrounding ground / berm levels and therefore out of site until the near final finished levels are achieved. Thus, effects from site related activities will be temporary in nature and of a Low magnitude.

In addition to site activity, there will also be a considerable number of HGV movements required along surrounding local roads, to and from the site entrance, as they import the inert waste material to be utilised for in-fill operations (See chapter 3 Traffic and Transport for details). It is anticipated that there will be around 160 HGV moments to and from the site across the course of a 10-hour day. This will occur six days per week for 3-4 years until such time as the in-fill operations are complete – a 'short-term' impact by definition (EPA Guidance). This off-site HGV 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, agriculture, and quarrying activities in the vicinity such as this. Furthermore, the visual impacts of such traffic tend to be of much less concern to local residents than the potential for dust, noise vibration and safety issues.

Once the restoration is complete and grassland has been restored to the infill mound, there will be little or no discernible impact on the local landscape character other than a positive one in comparison to the existing quarry.

9.8.3 Summary of landscape impact significance

On the basis of the factors discussed above it is considered that the magnitude of landscape impact will be Low during the restoration phase and Negligible / Positive once restoration is complete.

With reference to the significance matrix, the Low landscape sensitivity judgement attributed to the study area coupled with a **Low** magnitude of landscape impact (restoration phase) is considered to result in a **Slight imperceptible** significance of landscape impact. Post-restoration landscape impact significance is considered to be **Imperceptible / Positive**.



9.9 Predicted Visual Impacts

9.9.1 Sensitivity of Visual Receptors

On the basis of the criteria set in in Section 9.3.3:

- Viewpoint 1 is deemed to be of **High** sensitivity;
- Viewpoint 2 is deemed to be of **High-medium** sensitivity;
- Viewpoint 3 is deemed to be of **Medium** sensitivity;
- Viewpoint 4 is deemed to be of **Low** sensitivity; and
- Viewpoints 5 and 6 are deemed to be of **Medium-low** sensitivity.

9.9.2 Magnitude of Visual Effects

The assessment of visual impacts at each of the selected viewpoints is aided by photomontages of the Proposed Development (See Appendix A). 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. For each viewpoint, the following images have been produced:

- 1) Existing view;
- 2) Outline view (yellow outline showing the extent of the proposed buildings and structures, overlaid on the photograph);and
- 3) Montage view pre-mitigation (proposed Development upon completion of construction, prior to maturing of the landscaping).

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Viewshed Reference Point		Viewing distance to site boundary	Direction of View
VP1	Carbury Hill	3.95km	N
Representative of	Heritage feature - The ruin of Carbury Castle		
Receptor Sensitivity	High		
Existing View	<p>Although this viewpoint is located outside of the 2km study area, it was considered prudent to include it into the visual assessment because of its heritage value and elevation.</p> <p>This is a vast and elevated view from within the ruin of Carbury Castle on Carbury Hill. In the foreground is a grazed parkland-like landscape with a local road sweeping left-right through the scene. In the middle ground is Carbury Bog, enclosed by a belt of mature broad-leaved woodland on the near and far side. The background is composed of a gently undulating pastoral landscape which stretches to a distant horizon.</p>		
Visual Impact of Proposed Development	<p>Due to the viewing distance between this viewpoint and the site as well as the stacking effect this has on the intervening woodland and treeline vegetation, the mound of the proposed quarry restoration will not be readily discernible from this location.</p> <p>On this basis, the magnitude of visual impact is considered to be Negligible.</p>		
Summary	Based on the assessment criteria and matrices outlined at Section 9.1.3, the significance of residual visual impact is summarised below.		
	Visual Receptor Sensitivity	Visual Impact Magnitude	Significance of Visual Impact
Visual Impact Summary	High	Negligible	Imperceptible



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Viewshed Reference Point		Viewing distance to site boundary	Direction of View
VP2	Local road L5011, Calfstown	1.55km	NW
Representative of:	Designated Scenic Route (SR28) Local community views		
Receptor Sensitivity	High-Medium		
Existing View	This viewpoint is located on the designated scenic route SR28. From this viewpoint, a slightly elevated but slightly channelled view is afforded to the northeast. The local road and adjoining roadside vegetation occupy the foreground and leads off into the middle distance. To the north of this road, in the lower middle ground, is a large agricultural building surrounded by mature hedgerows and agricultural fields. In the background, glimpsed views of a distant horizon are afforded through gaps in the canopies of the mature broadleaf trees. A very small portion of quarry face appears to be visible through one of these gaps though it would not be immediately recognisable as such.		
Visual Impact of Proposed Development	The small patch of quarry face that was potentially discernible will return to grassland land cover and will not draw any attention particular attention. There is very little consequence for visual amenity from this change, but in terms of the nature of the change it is likely to be Negligible / Positive .		
Summary	Based on the assessment criteria and matrices outlined at Section 9.1.3, the significance of residual visual impact is summarised below.		
	Visual Receptor Sensitivity	Visual Impact Magnitude	Significance of Visual Impact
Visual Impact Significance	High-medium	Negligible / Positive	Imperceptible

Viewshed Reference Point		Viewing distance to site boundary	Direction of View
VP3	Local road L1006, Ballinderry	0.65km	N
Representative of:	Designated Scenic Route (SR28) Local community views		
Receptor Sensitivity	Medium		
Existing View	This is a partially open view afforded from an otherwise well screened local road. This local road also forms part of the designated scenic route SR28. In the foreground is a residential property which is separated from an adjoining agricultural field by a concrete post and wire fence. Landform rises gently to the north and east forming a low ridge within the pastoral field in the middle ground. The highest point in this field is occupied by an agricultural building nestled amongst some mature vegetation. Mature tree lined hedgerows in the background foreshorten the view, but reveal a glimpse of the Ballinderry quarry face beyond.		
Visual Impact of proposed development	In a very similar manner to VP2, the small patch of visible quarry face will revert to mounded grassland. This change is consistent with the context of the surrounding landscape and will actually improve the sense of uniformity and integrity. For this reason, the magnitude of visual impact is deemed to be Negligible / Positive .		
Summary	Based on the assessment criteria and matrices outlined at Section 9.1.3, the significance of residual visual impact is summarised below.		



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Viewshed Reference Point		Viewing distance to site boundary	Direction of View
	Visual Receptor Sensitivity	Visual Impact Magnitude	Significance of Visual Impact
Visual Impact Significance	Medium	Negligible	Imperceptible

Viewshed Reference Point		Viewing distance to site boundary	Direction of View
VP4	Local Road L1002, Ballinderry	<0.01km	W

Representative of:	Local community views
Receptor Sensitivity	Low

Existing View	<p>The roadside vegetation along the western side of this local road thins out close to the entrance of the former quarry, thus views are afforded towards the site between gaps in the roadside vegetation. In the foreground, there is a deep ditch, which hosts the redirected Glash watercourse. Just beyond, regularly spaced avenue trees line the internal quarry access road. On the far side of the access road is a 2-3m tall berm. The only features visible beyond this berm are the tops of a few spoil heaps and a pair of high voltage overhead power line pylons. The berm appears to be still in the process of being colonised with self-seeding wildflowers and grasses, suggesting that taller, more mature vegetation is likely to cover it in the decades to come. In the opposite direction, in the field adjoining the road, a remnant of the esker that once lay in this area is clearly visible.</p>
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Visual Impact of Proposed Development	<p>The new mound will present at relatively close quarters but will only create a very minor additional visual intrusion into this already modified scene. The south-eastern portion of the mound of the proposed quarry restoration will be barely visible and is unlikely to be noticed or considered out of the ordinary by a passer-by. The new mound will present slightly above the existing bund which is located approx. 40m to the west, in the middle ground of the view. The existing bunds will help the new mound to assimilate readily into the existing scene.</p> <p>Once the surface of the mound has been seeded it will appear reasonably naturalistic and consistent with the surrounding agricultural context. The new mound will not be uncharacteristic in this location, as there remains an unexcavated portion of the esker that was the source of Ballinderry quarry within the field on the opposite side of the road. The mound will not have no marked effect on the visual amenity of the scene. For these reasons, the magnitude of visual impact is considered to be Negligible.</p>
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Summary	Based on the assessment criteria and matrices outlined at Section 9.1.3, the significance of residual visual impact is summarised below.
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	Visual Receptor Sensitivity	Visual Impact Magnitude	Significance of Visual Impact
Visual Impact Significance	Low	Negligible	Imperceptible



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Viewshed Reference Point		Viewing distance to site boundary	Direction of View
VP5	Tanderagree Cross Roads	0.03km	SW
Representative of:	Local Community Views		
Receptor Sensitivity	Medium-low		
Existing View	This is a largely enclosed view. In the foreground is the intersection at Tanderagree Cross Roads. On the far side of the road is a small communal green area with seating, a monument and a number of specimen trees. All views towards the southwest are obscured by mature vegetation and a large, vegetated berm within the quarry site in the middle ground. Only a pair pylons for overhead high voltage electricity lines are visible in the distance.		
Visual Impact of Proposed Development	<p>The new mound will present in close proximity to this viewpoint, but will only create a very minor visual change, which is either neutral or positive in terms of its nature. The existing bund will help the new mound 'bed in' to the landscape.</p> <p>Once the surface of the mound has been seeded it will appear as any other field in this area and will blend in with the existing vegetation. The mound will not have a marked effect on the visual amenity of the scene. For these reasons, the magnitude of visual impact is considered to be Negligible.</p>		
Summary	Based on the assessment criteria and matrices outlined at Section 9.1.3, the significance of residual visual impact is summarised below.		
	Visual Receptor Sensitivity	Visual Impact Magnitude	Significance of Visual Impact
Visual Impact Summary	Medium-low	Negligible	Imperceptible



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Viewshed Reference Point		Viewing distance to site boundary	Direction of View
VP6	Local road L5004, Kilglass	0.08km	SE
Representative of:	Local community views		
Receptor Sensitivity	Medium-low		
Existing View	This is an enclosed view from a narrow local road. Three rural dwellings line the southern side of this road in the foreground. A glimpse view of a berm within the site is possible over a panel fence in the front garden of the house furthest from the viewpoint. This berm, along with the adjacent houses and mature vegetation, foreshorten views in the direction of Ballinderry Quarry.		
Visual Impact of Proposed Development	The new mound of the proposed quarry restoration will rise marginally above the existing perimeter mound and will have a similar, if not slightly more manicured and managed appearance. There will not be an increased sense of enclosure or foreshortening of the view and the nature of the visual change is either neutral or positive. Consequently, the magnitude of visual impact is considered to be Negligible / Positive .		
Summary	Based on the assessment criteria and matrices outlined at Section 9.1.3, the significance of residual visual impact is summarised below.		
	Visual Receptor Sensitivity	Visual Impact Magnitude	Significance of Visual Impact
Residual Impact	Medium-low	Negligible	Imperceptible

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9.9.3 Summary

In terms of **landscape impacts**, the applicant site displays a robust set of features that will help to assimilate, absorb and integrate itself into the surrounding landscape of the central study area and its documented landscape character.

While the landscape itself is the sole receptor in the assessment of landscape impacts of a proposed development – and not human eyes viewing that landscape – context remains key. While the landscape of the central study area consists of several hundred acres, the total application boundary area is ca 14 ha, within which the final extraction area is smaller. Furthermore, to the landscape, the Ballinderry quarry served as an extension of the adjacent Kilglass quarry; a traditional and long-established land use for this part of the county, and one found elsewhere in the study area.

Indeed, in this much-modified and ever-evolving landscape, quarrying has traditionally sat comfortably alongside pasture, tillage, commercial forestry and peat extraction, and the proposed restoration is considered to have a neutral / positive nature. On balance, the **Low** landscape sensitivity judgement attributed to the study area coupled with a **Low** magnitude of landscape impact (restoration phase) is considered to result in an **Slight imperceptible** significance of landscape impact. Post-restoration landscape impact significance is considered to be **Imperceptible / Positive**.

In terms of **visual impacts**, six viewpoints were selected within the study area to represent a range of viewing distances, angles and receptor types. The visual impact magnitude for all viewpoints from the proposed development is deemed to be 'Negligible and the significance of visual impact is deemed to be 'Imperceptible'.

9.10 Conclusion

Only during the restoration phase is there considered to be any discernible landscape and visual impacts and these will principally relate to on-site infilling activities from earth moving machinery and from HGV movements to and from the site. Such effects are 'temporary' or 'short term' in duration and of a Low magnitude. Consequently the significance of restoration phase landscape and visual effects is considered to be Slight-imperceptible in this robust landscape context.

Visual impacts have been assessed from 6 not representative viewpoints using photomontages that depict the end use, grassed mound. In all instances, the effect on infilling and restoring the existing quarry to agricultural grassland is deemed to result in an Imperceptible / Positive significance of impact.

Based on the landscape and visual impact judgements provided throughout this assessment, the proposed development at Ballinderry, County Kildare, is not considered to give rise to any significant residual impacts.