

10.0 LANDSCAPE AND VISUAL

10.1 Introduction

This Environmental Impact Assessment Report [EIAR] has been prepared to accompany a planning application under S.37L of the Planning and Development Act, 2000 as amended for further quarrying of an existing quarry at Windmillhill, Rathcoole, Co. Dublin. The remedial Landscape and Visual Impact Assessment (LVIA) was prepared by Cunnane Stratton Reynolds.

This LVIA was carried out by Ronan Finnegan BSc PGDipLA CMLI. Ronan has over eight years' experience in LVIA, and has worked on the Landscape and Visual assessment for a range of developments throughout Ireland and the UK, including wind and solar energy, infrastructure, quarry developments, residential and commercial developments. Oversight of the chapter was provided by Declan O' Leary, CMLI, MILI, Managing Director of Cunnane Stratton Reynolds.

The application for further quarrying is to be made concurrent with an application for substitute consent of the existing quarry that is accompanied by an rEIAR.

This section of the EIAR considers and assesses potential significant effects resulting from quarrying related activities that are proposed to be carried out on the site and on its surrounding environment. It also records mitigation measures proposed to be undertaken.

10.2 Methodology

10.2.1 Guidance Documents

Landscape and Visual Impact Assessment (LVIA) is a tool used to identify and assess the effects of change and the significance of these effects, resulting from development on both the landscape and on people's views and visual amenity.

The methodology for remedial assessment of the landscape and visual effects is informed by the following key guidance documents for LVIA and EIA, namely:

- *Guidelines for Landscape and Visual Impact Assessment*, 3rd Edition 2013, (UK Landscape Institute and Institute of Environmental Management and Assessment) - hereafter referred to as the GLVIA;
- *Guidelines for Information to be Contained in Environmental Impact Assessment Reports* (EPA, 2017 Draft).
- South County Dublin Development Plan 2016-2022; and
- Kildare County Development Plan 2017-2023.

References are also made to the '*Landscape and Landscape Assessment – Consultation Draft of Guidelines for Planning Authorities*' document, published in 2000 by the Department of Environment, Heritage and Local Government.

10.2.1.1 Definitions in LVIA

A key distinction to make in a LVIA is that between landscape effects and the visual effects of development. These are related but assessed separately.

'Landscape' results from the interplay between the physical, natural, and cultural components of our surroundings. Different combinations of these elements and their spatial distribution create distinctive character of landscape in different places. The effects on the landscape as a resource, and on the physical fabric and character of the landscape are assessed. Character is not just about the physical elements and features that

make up a landscape, but also embraces the aesthetic, perceptual and experiential aspects of landscape that make a place distinctive.

Views and 'visual amenity' refer to the interrelationship between people and the landscape. The GLVIA prescribes that effects on views and visual amenity should be assessed separately from landscape, although the two topics are inherently linked. Visual assessment is concerned with changes that arise in the composition of available views, the response of people to these changes and the overall effects on the area's visual amenity.

The GLVIA also advises that the terms 'impact' and 'effect' should be clearly distinguished and consistently used in the preparation of an LVIA. This is consistent with the EPA (2017) draft guidelines.

'*Impact*' is defined as the action being taken. In this case, the impact would be the development on the quarry site from 1990 to the present day.

'*Effect*' is defined as the change or changes resulting from those actions, e.g., a change in landscape character, or changes to the composition, character and quality of views in the receiving environment. This chapter therefore focusses on these effects.

10.2.1.2 European Landscape Convention and GLVIA

Ireland is a signatory to the European Landscape Convention (ELC). The ELC defines landscape as 'an area, as perceived by people, whose character is the result of the action and interaction of natural and/or human factors'. This definition is important in that it expands beyond the idea that landscape is only a matter of aesthetics and visual amenity. It encourages a focus on landscape as a resource in its own right - a shared resource providing a complex range of cultural, environmental and economic benefits to individuals and society.

The Guidelines for Landscape and Visual Impact Assessment (GLVIA) notes that as a cultural resource, the landscape functions as the setting for our day-to-day lives, also providing opportunities for recreation and aesthetic enjoyment and inspiration. It contributes to the sense of place experienced by individuals and communities and provides a link to the past as a record of historic socio-economic and environmental conditions. As an environmental resource, the landscape provides habitat for fauna and flora. It receives, stores, conveys and cleans water, and vegetation in the landscape stores carbon and produces oxygen. As an economic resource, the landscape provides the raw materials and space for the production of food, materials (e.g. timber, aggregates) and energy (e.g. carbon-based fuels, wind, solar), living space and for recreation and tourism activities.

The GLVIA also notes that landscape is not unchanging. Many different pressures have progressively altered familiar landscapes over time and will continue to do so in the future, creating new landscapes. For example, within the receiving environment, the environs of the Proposed Development have altered over the last thousand years, from wilderness to agriculture, forestry and settlement.

Many of the drivers for change arise from the requirement for development to meet the needs of a growing population and economy. The concept of sustainable development recognises that change must and will occur to meet the needs of the present, but that it should not compromise the ability of future generations to meet their needs. This involves finding an appropriate balance between economic, social and environmental forces and values.

The reversibility of change is an important consideration. If change must occur to meet a current need, can it be reversed to return the resource (in this case, the landscape) to its previous state to allow for development or management for future needs.

Climate change is one of the major factors likely to bring about future change in the landscape, and it is accepted to be the most serious long-term threat to the natural environment, as well as economic activity (particularly

primary production) and society. The need for climate change mitigation and adaptation, which includes the management of water and more extreme weather and rainfall patterns, is part of this.

10.2.2 Methodology for Landscape Assessment

In Section 10.6 of this chapter the landscape effects of the Proposed Development are assessed. Landscape assessment considers the likely nature and scale of changes which have taken place to the main landscape elements and characteristics, and the consequential effect on landscape character and on the landscape fabric. Existing trends of change in the landscape are taken into account. The landscape effect is assessed based on measurement of the landscape sensitivity against the magnitude of change which has taken place.

10.2.2.1 Sensitivity of the Landscape Resource

Landscape sensitivity is a function of its land use, landscape patterns and scale, visual enclosure and distribution of visual receptors, scope for mitigation, and the value placed on the landscape. It also relates to the nature and scale of development proposed. It includes consideration of landscape values as well as the susceptibility of the landscape to the proposed change.

Landscape values can be identified during the desk study, by the presence of landscape designations or policies which indicate particular values, either on a national or local level. In addition, a number of criteria are used to assess the value of a landscape. These are described further in below.

Landscape susceptibility is defined in the GLVIA as the ability of the landscape receptor to accommodate the Proposed Development without undue consequences for the maintenance of the baseline scenario and/or the achievement of landscape planning policies and strategies.

Susceptibility also relates to the type of development – a landscape may be highly susceptible to certain types of development but have a low susceptibility to other types of development. Landscape susceptibility in relation to quarry developments can include consideration of:

- Topography and skyline;
- Landscape pattern and landcover; and
- Settlement pattern.

For the purpose of assessment, five categories are used to classify the landscape sensitivity of the receiving environment. These are set out in Table 10-1 below.

Table 10.1: Categories of Landscape Sensitivity

Sensitivity	Description
Very High	Areas where the landscape exhibits a very strong, positive character with valued elements, features and characteristics that combine to give an experience of unity, richness and harmony. The character of the landscape is such that its capacity for accommodating change in the form of development is very low. These attributes are recognised in landscape policy or designations as being of national or international value and the principal management objective for the area is protection of the existing character from change.
High	Areas where the landscape exhibits strong, positive character with valued elements, features and characteristics. The character of the landscape is such that it has limited/low capacity for accommodating change in the form of development. These attributes are recognised in landscape policy or designations as being of national, regional or county value and the principal management objective for the area is conservation of the existing character.

Sensitivity	Description
Medium	Areas where the landscape has certain valued elements, features or characteristics but where the character is mixed or not particularly strong. The character of the landscape is such that there is some capacity for change in the form of development. These areas may be recognised in landscape policy at local or county level and the principal management objective may be to consolidate landscape character or facilitate appropriate, necessary change
Low	Areas where the landscape has few valued elements, features or characteristics and the character is weak. The character of the landscape is such that it has capacity for change; where development would make no significant change or would make a positive change. Such landscapes are generally unrecognised in policy and where the principal management objective is to facilitate change through development, repair, restoration or enhancement.
Negligible	Areas where the landscape exhibits negative character, with no valued elements, features or characteristics. The character of the landscape is such that its capacity for accommodating change is high; where development would make no significant change or would make a positive change. Such landscapes include derelict industrial lands or extraction sites, as well as sites or areas that are designated for a particular type of development. The principal management objective for the area is to facilitate change in the landscape through development, repair or restoration

10.2.2.2 Magnitude of Landscape Change

The magnitude of change is a factor of the scale, extent and degree of change imposed on the landscape with reference to its key elements, features and characteristics (also known as 'landscape receptors'). Five categories are used to classify magnitude of landscape change as set out in Table 10-2 below.

Table 10.2: Magnitude of Landscape Change

Magnitude of Change	Description
Very High	Change that is large in extent, resulting in the loss of or major alteration to key elements, features or characteristics of the landscape (i.e. landscape receptors), and/or introduction of large elements considered totally uncharacteristic in the context. Such development results in fundamental change in the character of the landscape.
High	Change that is moderate to large in extent, resulting in major alteration or compromise of important landscape receptors, and/or introduction of large elements considered uncharacteristic in the context. Such development results in change to the character of the landscape.
Medium	Change that is moderate in extent, resulting in partial loss or alteration of landscape receptors, and/or introduction of elements that may be prominent but not necessarily substantially uncharacteristic in the context. Such development results in change to the character of the landscape.
Low	Change that is moderate or limited in scale, resulting in minor alteration of landscape receptors, and/or introduction of elements that are not uncharacteristic in the context. Such development results in minor change to the character of the landscape.
Negligible	Change that is limited in scale, resulting in no alteration to landscape receptors, and/or introduction of elements that are characteristic of the context. Such development results in no change to the landscape character.

10.2.2.3 Significance of Effect

In order to classify the significance of effects, the magnitude of change is measured against the sensitivity of the landscape/viewpoint, using the following guide, from the EPA Draft Guidance (2017).

There are seven classifications of significance, namely: (1) imperceptible, (2) not significant, (3) slight, (4) moderate, (5) significant, (6) very significant, (7) profound. It is considered that Significant Effects would be those described as Significant, Very Significant and Profound.

Table 10.3 below outlines how the sensitivity and magnitude of change are combined in the assessment.

Table 10.3: Significance of Effect Matrix

		Sensitivity of the Resource				
		Very High	High	Medium	Low	Negligible
Magnitude of Change	Very High	Profound	Profound-Very Significant	Very Significant-Significant	Moderate	Slight
	High	Profound-Very Significant	Very Significant	Significant	Moderate-Slight	Slight-Not Significant
	Medium	Very Significant-Significant	Significant	Moderate	Slight	Not Significant
	Low	Moderate	Moderate-Slight	Slight	Not significant	Imperceptible
	Negligible	Slight	Slight-Not Significant	Not significant	Imperceptible	Imperceptible

It should be noted that the matrix is a guideline only, and the assessor’s professional opinion may depart from the above matrix.

Landscape effects are also classified as beneficial, neutral or negative/adverse. Development has the potential to improve the environment as well as damage it. In certain situations, there might be policy encouraging a type of change in the landscape, and if a development achieves the objective of the policy the resulting effect might be positive, even if the landscape character is changed.

10.2.3 Methodology for Visual Assessment

In Section 10.6 of this chapter the visual effects of the development are assessed. Visual assessment considers the value of the views, and the visual susceptibility of the visual receptors (groups of people) and the changes to the composition and character of views. The assessment is made for a number of viewpoints selected to represent the range of visual receptors in the receiving environment. The significance of the visual effects experienced at these locations is assessed by measuring the visual receptor sensitivity against the magnitude of change to the view resulting from the development.

10.2.3.1 Sensitivity of the Visual Receptor

Visual receptor sensitivity is a function of two main considerations:

Susceptibility of the visual receptor to change -This depends on the occupation or activity of the people experiencing the view, and the extent to which their attention or interest is focussed on the views or visual amenity they experience at that location.

Visual receptors most susceptible to change include residents at home, people engaged in outdoor recreation focused on the landscape (e.g. trail users), and visitors to heritage or other attractions and places of community congregation where the setting contributes to the experience.

Visual receptors less susceptible to change include travellers on road, rail and other transport routes (unless on recognised scenic routes which would be more susceptible), people engaged in outdoor recreation or sports where the surrounding landscape does not influence the experience, and people in their place of work or shopping where the setting does not influence their experience.

Value attached to the view - This depends to a large extent on the subjective opinion of the visual receptor but also on factors such as policy and designations (e.g. scenic routes, protected views), or the view or setting being associated with a heritage asset, visitor attraction or having some other cultural status (e.g. by appearing in arts).

Visual receptor susceptibility and value of the viewpoints which are assessed, are discussed further in Sections 10.3.3.5 and 10.6.2. For the purpose of assessment, five categories are used to classify a viewpoint's sensitivity as set out in Table 10.4 below.

Table 10.4: Visual Receptor Sensitivity

Sensitivity	Description
Very High	Viewers at iconic viewpoints - towards or from a landscape feature or area - that are recognised in policy or otherwise designated as being of high value or national value. This may also include residential viewers who are focussed to a large extent on the view.
High	Viewers at viewpoints that that are recognised in policy or otherwise designated as being of value, or viewpoints that are highly valued by people that experience them regularly (such as views from houses or outdoor recreation features) and views which are valued by the local community. This would include tourist attractions, and heritage features of regional or county value, and viewers travelling on scenic routes
Medium	Viewers at viewpoints representing people travelling at slow or moderate speed through or past the affected landscape in cars or on public transport, where they are partly but not entirely focused on the landscape, or where the landscape has some valued views. The views are generally not designated, but which include panoramic views or views judged to be of some scenic quality, which demonstrate some sense of naturalness, tranquillity or some rare element in the view.
Low	Viewers at viewpoints reflecting people involved in activities not focused on the landscape e.g. people at their place of work or engaged in similar activities such as shopping, etc. The view may present an attractive backdrop to these activities but there is no evidence of that the view is valued, and not regarded as an important element of these activities. Viewers travelling at high speeds (e.g. Motorways) may also be considered of low susceptibility.
Negligible	Viewers at viewpoints reflecting people involved in activities not focused on the landscape e.g. people at their place of work or engaged in similar activities such as shopping where the view has no relevance or is of poor quality.

10.2.3.2 Magnitude of Change to the View

Classification of the magnitude of change takes into account the size or scale of the intrusion of development into the view (relative to the other elements and features in the composition, i.e. its relative visual dominance), the degree to which it contrasts or integrates with the other elements and the general character of the view, and the way in which the change will be experienced (e.g. in full view, partial or peripheral, or glimpses). It also takes into account the geographical extent of the change, the duration and the reversibility of the visual effects.

Five categories are used to classify magnitude of change to a view as set out in Table 10.5 below.

Table 10.5: Magnitude of Change to the view

Magnitude of Change	Description
Very High	Full or extensive intrusion of the development in the view, or partial intrusion that obstructs valued features or characteristics, or introduction of elements that are completely out of character in the context, to the extent that the development becomes the dominant the composition and defines the character of the view and the visual amenity
High	Extensive intrusion of the development in the view, or partial intrusion that obstructs valued features, or introduction of elements that may be considered uncharacteristic in the context, to the extent that the development becomes co-dominant with other elements in the composition and affects the character of the view and the visual amenity.
Medium	Partial intrusion of the development in the view, or introduction of elements that may be prominent but not necessarily uncharacteristic in the context, resulting in change to the composition but not necessarily the character of the view or the visual amenity
Low	Minor intrusion of the development into the view, or introduction of elements that are not uncharacteristic in the context, resulting in minor alteration to the composition and character of the view but no change to visual amenity
Negligible	Barely discernible intrusion of the development into the view, or introduction of elements that are characteristic in the context, resulting in slight change to the composition of the view and no change in visual amenity

A set of 12 no. viewpoints were produced from a list carefully selected viewpoints, to assist in assessing the magnitude of changes from various locations throughout the study area. These locations include areas near to residences, along local roads, and viewpoints also representing protected views and scenic routes. These were initially identified during the desk study and verified during a site visit. The rationale for the viewpoints selected is at 10.3.3.52 below.

10.2.3.3 Significance of Visual Effects

As for landscape effects, in order to classify the importance of visual effects, the magnitude of change to the view is measured against the sensitivity of the viewpoint as set out in Table 10.3 above in Section 10.2.2.3. The seven categories as set out by the EPA (2017) are used to describe the significance of the effect.

10.2.3.4 Quality and Timescale of Effects

The effects are also classified as beneficial, neutral or adverse. This is not an absolute exercise; in particular, visual receptors' attitudes to development, and thus their response to the impact of a development, will vary. However, the methodology applied is designed to provide robust justification for the conclusions drawn. These qualitative impacts/effects are defined as:

- Adverse – Scheme at variance with landform, scale, pattern. Would degrade, diminish or destroy the integrity of valued features, elements or their setting or cause the quality of the landscape(townscape)/view to be diminished;
- Neutral - Scheme complements the scale, landform and pattern of the landscape(townscape)/view and maintains landscape quality; and

- Beneficial – improves landscape(townscape)/view quality and character, fits with the scale, landform and pattern and enables the restoration of valued characteristic features or repairs / removes damage caused by existing land uses.

Landscape and Visual effects are also categorised according to their longevity or timescale:

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

10.2.4 Study Area

The EIA project area, defined in Figure 10.1 below, is referred to under the heading ‘Site and Immediate Vicinity’. This area includes the existing quarry, the Proposed Development and adjoining agricultural land all contained within the project boundary line. However, the LVIA study area also includes part of the wider landscape approximately 5 kilometres radius from the existing quarry site.

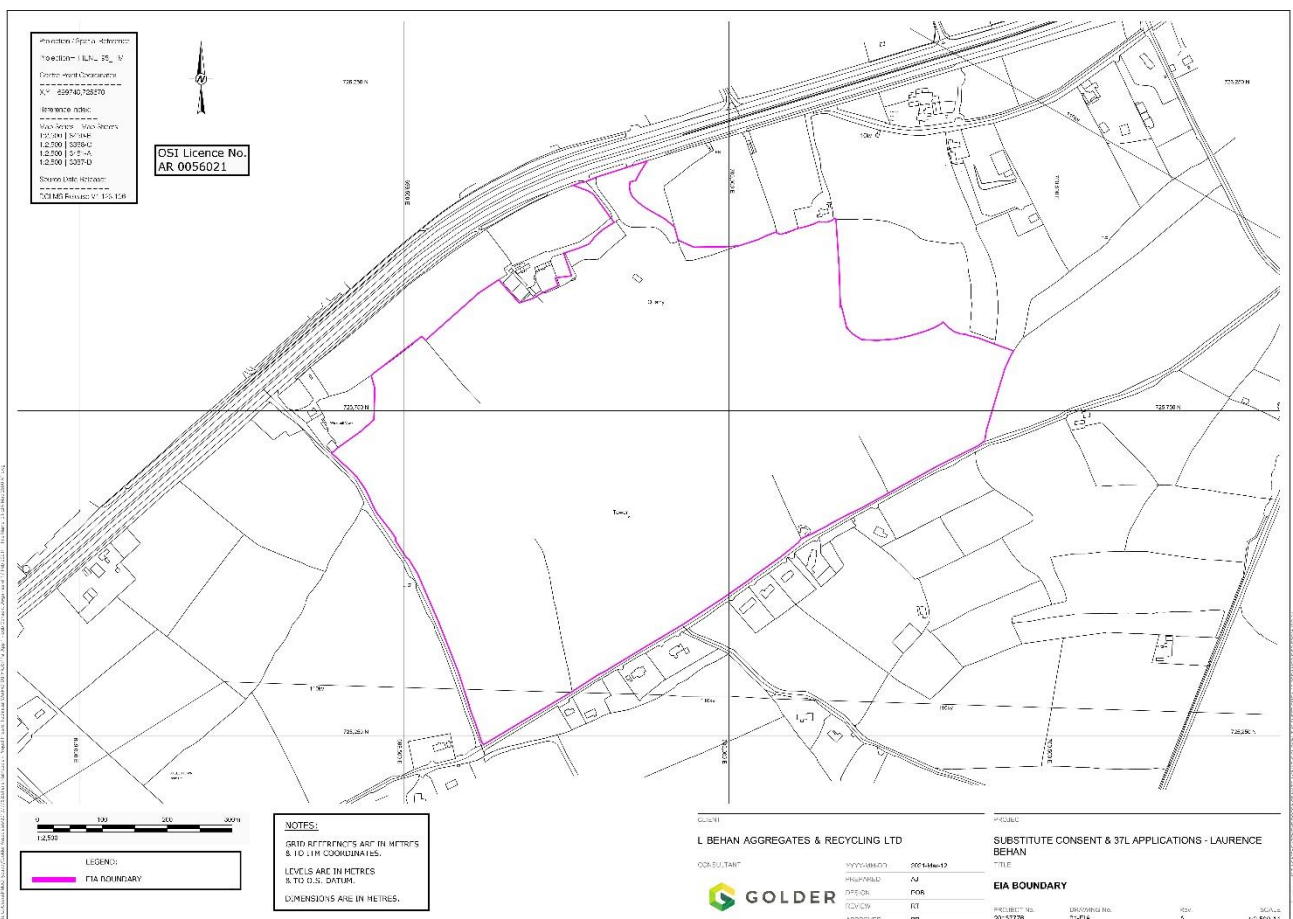


Figure 10.1: EIA Project Boundary

10.2.5 Limitations

The assessment of the 12 viewpoints is based on the captured view at the time of the field visit. All views are captured from the public road, in a site visit in June 2021, and so assumptions must be made on the potential

views of the Proposed Development from the adjoining representative receptors located on private lands, e.g. grounds of a residence. Views will be affected by changes in the weather and there may also be alteration in the growth of roadside hedgerows, or the addition or removal of an element which could affect the predicted changes to the captured view.

10.3 Receiving Environment

This section sets out the character of the baseline landscape by starting with a description of the relevant planning policies, landscape character, landscape of the site and environs and visual receptors.

10.3.1 Planning Policy

The South Dublin County Development Plan 2016-2022 (hereafter referred to as the SDCC Plan) relates to the site and eastern part of the study area, covering a mix of rural landscape and urban landscape. The western and southern parts of the study area from lies within the rural landscape of Kildare County Council and therefore the Kildare County Development Plan 2017-2023 is also referred to.

10.3.1.1 South Dublin County Development Plan 2016-2022

10.3.1.1.1 Land Use Zoning and Objectives

The site (indicated in Figure 10.2 below with a red dot) is zoned RU (*To protect and improve rural amenity and to provide for the development of agriculture*).

The Zoning Map also includes several marked Prospects (Windmill Hill, Athgoe Hill and Bustyhill) as well as views on the map (one east of the site and one to the northeast. The accompanying policies are set out below.

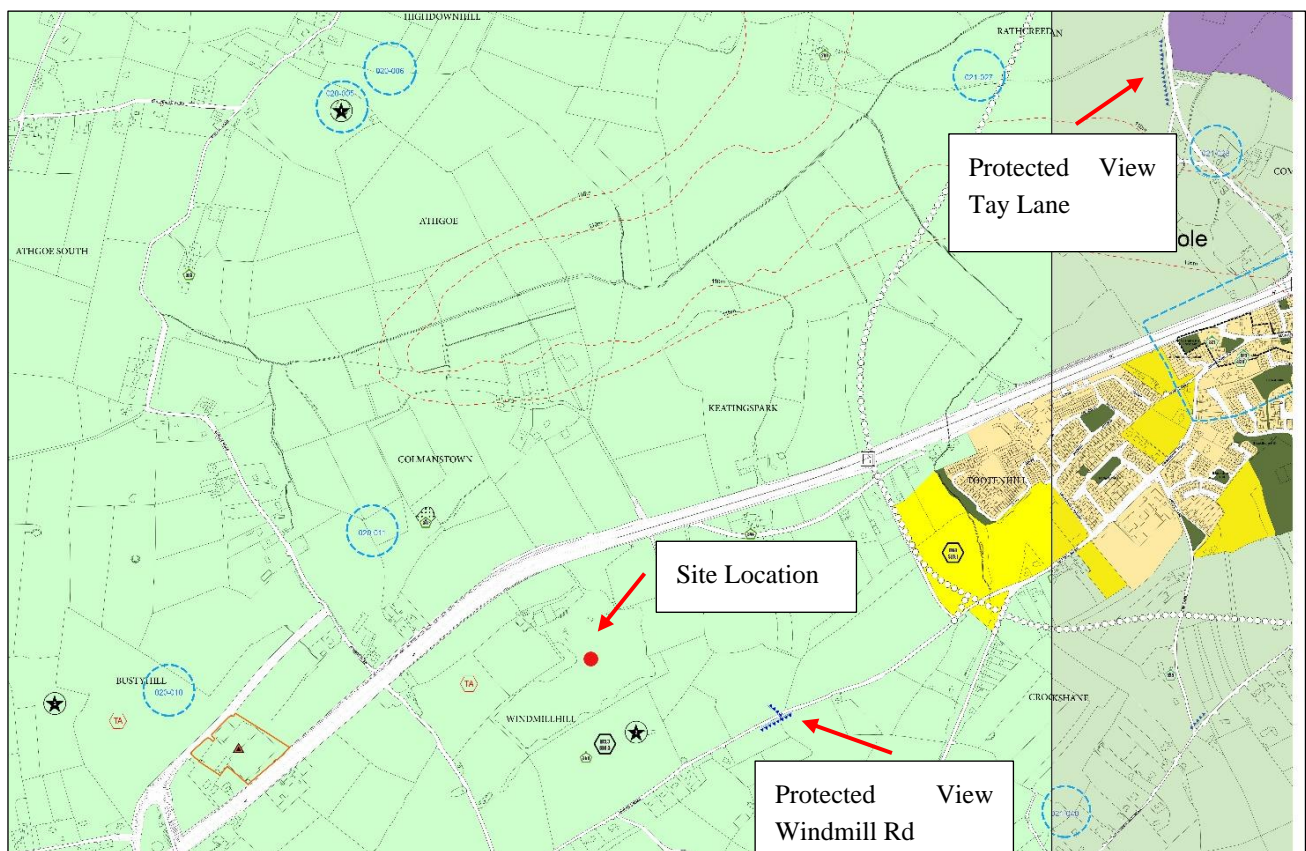


Figure 10.2: Land Use Zoning Map 7 and 8, (Source: the SDCC Plan).

Chapter 4 of the SDCC Plan includes objectives relating to sustainable Mineral Extraction the relevant policy and objectives are as follows:

- *ECONOMIC AND TOURISM (ET) Policy 10 Mineral Extraction: is the policy of the Council to support the sustainable extraction of aggregate resources at suitable locations within the County subject to appropriate environmental safeguards*
- *ET10 Objective 1: To facilitate mineral extraction in suitable locations subject to the protection of amenity and environmental quality*
- *ET10 Objective 2: To limit the operation of the extractive industry and ancillary uses at environmentally sensitive locations and within areas designated with Zoning Objective 'HA – DM', 'HA-LV' and 'HA-DV' where extraction would result in significant adverse effects and/or prejudice the protection of the County's natural and built heritage.*
- *ET10 Objective 3: To ensure the satisfactory reinstatement and/or re-use of disused quarries and extraction facilities, where active use has ceased.*

Chapter 9 of the SDCC Plan includes objectives relating to Heritage, Conservation and Landscapes. The relevant policy and objectives are as follows:

- *HERITAGE, CONSERVATION AND LANDSCAPES (HCL) Policy 2 Archaeological Heritage: is the policy of the Council to manage development in a manner that protects and conserves the Archaeological Heritage of the County and avoids adverse impacts on sites, monuments, features or objects of significant historical or archaeological interest.*
- *HCL2 Objective 1: To favour the preservation in-situ of all sites, monuments and features of significant historical or archaeological interest in accordance with the recommendations of the Framework and Principles for the Protection of Archaeological Heritage, DAHGI (1999), or any superseding national policy document.*
- *HCL2 Objective 2: To ensure that development is designed to avoid impacting on archaeological heritage that is of significant interest including previously unknown sites, features and objects.*
- *HCL2 Objective 3: To protect and enhance sites listed in the Record of Monuments and Places and ensure that development in the vicinity of a Recorded Monument or Area of Archaeological Potential does not detract from the setting of the site, monument, feature or object and is sited and designed appropriately*
- *HERITAGE, CONSERVATION AND LANDSCAPES (HCL) Policy 3 Protected Structures: is the policy of the Council to conserve and protect buildings, structures and sites contained in the Record of Protected Structures and to carefully consider any proposals for development that would affect the special character or appearance of a Protected Structure including its historic curtilage, both directly and indirectly.*
- *HCL3 Objective 1: To ensure the protection of all structures (or parts of structures) and the immediate surroundings including the curtilage and attendant grounds of structures contained in the Record of Protected Structures.*
- *HCL3 Objective 2: To ensure that all development proposals that affect a Protected Structure and its setting including proposals to extend, alter or refurbish any Protected Structure are sympathetic to its special character and integrity and are appropriate in terms of architectural treatment, character, scale and form. All such proposals shall be consistent with the Architectural Heritage Guidelines for Planning Authorities, DAHG (2011) including the principles of conservation.*
- *Heritage, Conservation and Landscapes (HCL) Policy 7 Landscapes: is the policy of the Council to preserve and enhance the character of the County's landscapes particularly areas that have been deemed to have a medium to high Landscape Value or medium to high Landscape Sensitivity and to ensure that landscape considerations are an important factor in the management of development.*

- *HCL7 Objective 1: To protect and enhance the landscape character of the County by ensuring that development retains, protects and, where necessary, enhances the appearance and character of the landscape, taking full cognisance of the Landscape Character Assessment of South Dublin County (2015).*
- *HCL7 Objective 2: To ensure that development is assessed against Landscape Character, Landscape Values and Landscape Sensitivity as identified in the Landscape Character Assessment for South Dublin County (2015) in accordance with Government guidance on Landscape Character Assessment and the National Landscape Strategy.*
- *HERITAGE, CONSERVATION AND LANDSCAPES (HCL) Policy 8 Views and Prospects: is the policy of the Council to preserve Views and Prospects and the amenities of places and features of natural beauty or interest including those located within and outside the County.*
- *HCL8 Objective 1: To protect, preserve and improve Views and Prospects of special amenity, historic or cultural value or interest including rural, river valley, mountain, hill, coastal, upland and urban views and prospects that are visible from prominent public places*

10.3.1.1.2 Views and Prospects

The SDCC Plan, as well as the Landscape Character Assessment, includes views and prospects. The SDCC Plan notes that there are many scenic views and prospects. The SDCC Plan distinguishes between these as follows:

Views, which are more localised views, and Prospects, which relate to prominent landscapes or areas of special amenity or special interest that are widely visible from surrounding areas. It notes that views from prominent public places will be protected.

A review of views within the study area indicates two views in proximity to the quarry development. These views are indicated on the SDCC Plan Maps and shown in Figure 10.2 above. A protected view on Tay Lane lies to the northeast of the site, while another protected view lies to the southeast of the site along Windmill Road and are indicated on the map.

The nearest view is located on a short section of the L6065 Windmill Road just along the Site's south eastern end boundary.

The mapped location of the Windmill Road protected view is obstructed by trees, thus impeding any potential view. However, the intended view can be partially experienced nearby from minor gaps within the roadside vegetation to the west of the mapped scenic view location as illustrated below in Figure 10.2. however this view is not in the direction of the site and is not considered further

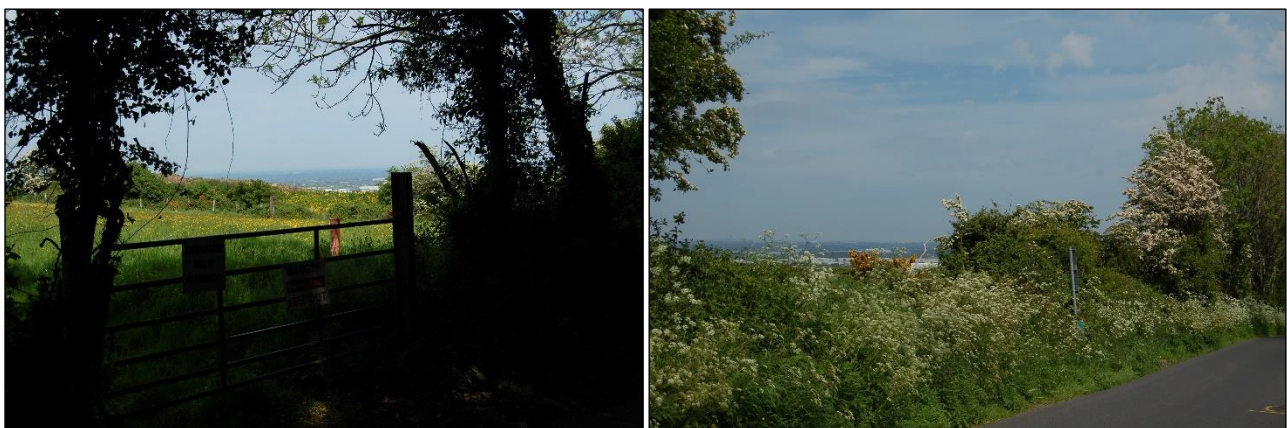


Figure 10.3: Views west of mapped Scenic View on Windmill Road

A view is also located to the west of Rathcoole, on Tay Lane. This view is towards the west, with arable land in the foreground, and views of gently rolling hills of Athgoe, and Windmill Hill. The quarry is visible from this view and this is included in the Viewpoint list (Viewpoint 1).

The SDCC Plan includes a list of 18 Prospects, which are prominent hills or mountains which are widely visible from surrounding areas. A total of 18 prospects are listed in the SDCC Plan and 16 are listed in the SDCC Landscape Character Assessment.

A total of five of these hills are prospects located within the study area, with the most prominent being Saggart Hill. The existing quarry site and is located on the northern side of Windmill Hill. These prospects listed within the study area include:

- Athgoe Hill;
- Bustyhill;
- Windmill Hill;
- Lugmore/Tallaght Hill; and
- Saggart Hill.

There may be some limited visibility of the southern ridgeline of Windmill Hill from more distance (over 11km) prospect hills within the Dublin Mountains to the southeast edge of the council area however it is unlikely there is any visibility of the quarry development at this distance.

(The SDCC Plan Landscape Character Assessment also includes some views for consideration; however, it should be noted they do not appear in the SDCC Plan). Only one view is within the study area, that from the Grand Canal (all canal length) which emphasis views along the canal and towpath.

10.3.1.2 Kildare County Development Plan 2017-2023

The western and southern parts of the study area lie within the rural landscape of Kildare County Council (KCC). The various policies in relation to landscape character, protection and enhancement of the landscape through the county are found within the Kildare County Development Plan 2017-2023 (hereafter referred to as the KCC Plan), specifically Chapter 14 Landscape, Recreation and Amenity. Policies relevant to the proposed development are outlined below.

The KCC Plan notes that there are many scenic routes across the county which provide views of the landscape of the county and many built and archaeological features. Additional protected views include those along river and canal corridors and from hills. Views are listed on Table 14.5 and Maps 14.2 and 14.3 of the KCC Plan.

Policy: 14.9 Scenic Routes and Protected Views

- *14.9.1 Scenic Routes It is the policy of the Council to: SR 1 Protect views from designated scenic routes by avoiding any development that could disrupt the vistas or disproportionately impact on the landscape character of the area, thereby affecting the scenic and amenity value of the views. SR 2 Review and update all Scenic Routes and Views in the county during the lifetime of the Plan (Tables 14.5 – 14.10 refer)*
- *14.92.2 Water Course and Canal Corridor Views: WV2 Preserve and enhance the scenic amenity of the river valleys and canal corridors and the quality of the vistas available from designated views.*

A total of three scenic routes (10,11,12), one hill view and two views along the Grand Canal (GC1, GC2) are within the study area, and listed below. These are illustrated identified in Figure 10.3 below with the approximate Site location also indicated.

Scenic Routes:

- No.10 - Views of the West Plains on the Oughterard Road (L2009)
- No.11 - Views of the Upland Areas on the Oughterard Road (L6018)
- No.22 - Views to the North-West of the Open Countryside; from Killeel Village to Rathmore Village

Hill Views;

- Cupidstownhill

Canal Views;

- GC1 - Old Grange Bridge Old Grange
- GC2- Henry Bridge Clonaghria

The visual assessment considers the potential effects of the Development upon the nearest scenic route No. 11. Scenic Routes 10 and 22 are focussed to the west, and north-west, away from the site. The canal views are not likely to have visibility and are not considered further.

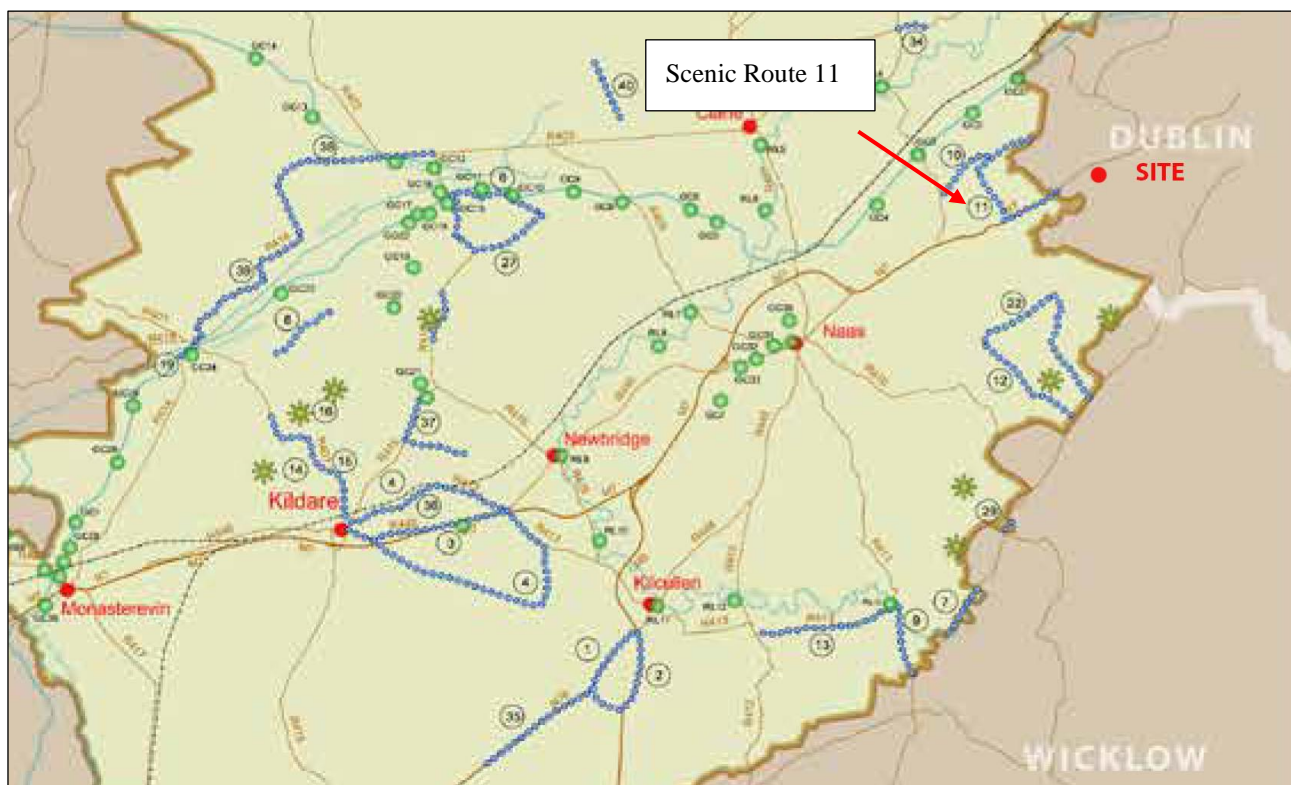


Figure 10.4: Scenic Routes and Viewpoints. Source: Kildare County Council

10.3.2 Landscape Character Assessment

In 2015, South Dublin City Council carried out a Landscape Character Assessment of South Dublin County (hereafter known as the SDCC Assessment). The study area (within 5 km radius of the site) includes three of these Landscape Character Areas (LCAs). They include the Athgoe and Saggart Hills LCA, Urban South Dublin LCA and Newcastle Lowlands LCA. However, the site and its immediate vicinity are included in the Athgoe and Saggart Hills LCA. The Site is shown in the LCA map in Figure 10.4 indicated by a red dot.

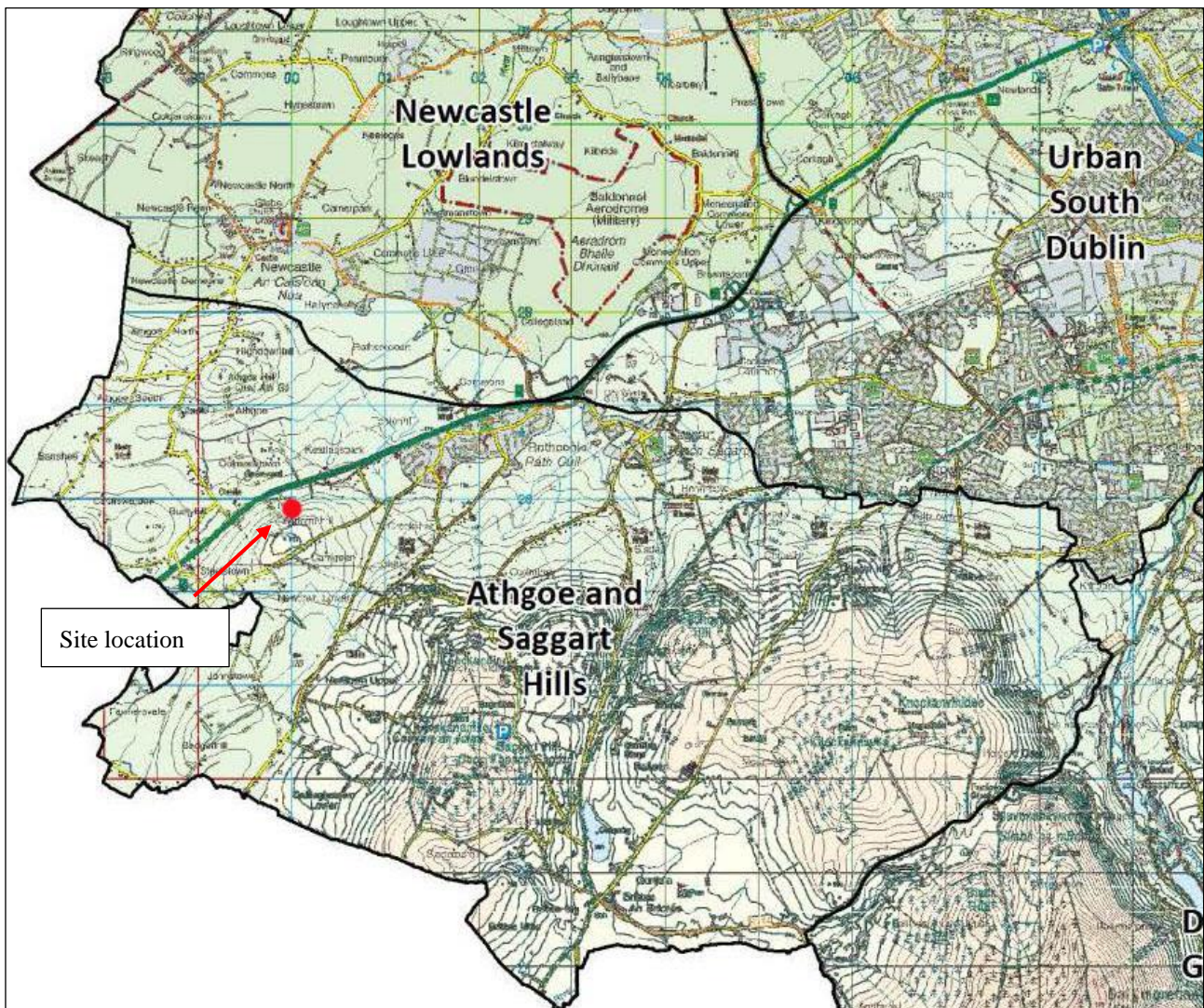


Figure 10-5: LCA Map with site. (Source: SDCC)

Further detail on each LCA is provided in the SDCC Assessment document itself. The Proposed Development falls within the Athgoe and Saggart Hills LCA which the Assessment describes the key characteristics as:

- Enclosure varies between open and expansive on hills such as Athgoe, Saggart Hills to more enclosed, intimate areas defined by narrow rural lands on slopes with high earth banks and hedgerows;
- Long views across surrounding lowlands to the north and east;
- Round pillars associated with vernacular style;
- Sheep grazing; and
- Field boundaries medium to large rectangular pattern and evidence of removal and rationalisation of boundaries relatively recently.

The landscape values noted in the SDCC Assessment are as follows:

- pNHA designations;
- prehistoric megalithic ritual landscape;
- scenic routes and extensive views; and

- recreational uses -golf course, equestrian and walking activities.

Landscape Value and Sensitivity, as well as visual sensitivity, and the landscape capacity, are also set out in the Assessment. It should however be noted that the GLVIA (2013) regard Landscape Sensitivity as related to the type of development and therefore can vary depending on the type of development being considered. . The SDCC Assessment states the following:

- Landscape Character Sensitivity – Medium-High.
- Visual Sensitivity: High
- Overall landscape Sensitivity: High
- Landscape Value: High

The sensitivity of the site, which is on the side of Windmill Hill, a prospect, to quarrying, an activity which typically extracts material from the ground and can change local topography is potentially of High sensitivity but this is considered more fully in Section 10.5.

Co. Kildare

A Landscape Character Assessment for County Kildare was carried out and this identifies the nearest Landscape Character Area as the Eastern Transition LCA, west of the site. The key characteristics are as follows:

- Located between the between the County Kildare uplands and lowlands;
- Undulating topography with a series of small hilltops;
- Long distance views of Kildare lowlands, eastern uplands and the skyline to east is defined by the Wicklow hills; and
- Predominantly pastureland use with some blocks of coniferous forestry and
- Dense rural population across small settlements and clusters of rural dwellings.

The parts of the LCA closest to the site would have some visibility of the site as shown in Section 10.5.2.

10.3.3 Landscape Character

Landscape character is described in terms of landform (topography and drainage) and landcover (vegetation, built form, natural and cultural heritage). The Site (which is the EIAR project boundary) and immediate surrounds are described separately from the wider landscape.

10.3.3.1 Topography and Drainage

10.3.3.1.1 Wider Landscape

The topography of the wider landscape is influenced by a number of relatively low but nonetheless noticeable hills (ranging from approx.170-395mAOD) which lie on a larger, relatively elevated plain, as seen in the OSI Discovery Map. The N7 runs northeast/southwest through this elevated plain.

Windmill Hill lies immediately southeast of the Site, and the hills of Badgerhill, Knockananiller and Saggart Hills lie further to the southeast. Hills are also found to the northwest, with Bustyhill and Castlewarden the closest hills, and Athgoe Hill lies further north. Several rivers or streams run off the hills, with the Griffin River rising near Athgoe Hill and running to the east, and a number of unnamed streams are shown to the southeast of the site, at Newtown Upper, Newtown Lower and Redgap.

10.3.3.1.2 Site and immediate vicinity

The Site and the immediate surroundings (as seen on the EIA project boundary) is defined by its location on the north-eastern slope of Windmill Hill. The quarry face is currently approximately 50m north of the peak of Windmill Hill.

Across the existing quarry the current elevation levels greatly vary between approximately 215m along the top of the southern quarry face down to 150m on the lowest point of the quarry floor.

Within the EIA project boundary, Windmill Hill slopes south from the hilltop (219 m) near the remaining windmill structure to approximately 205m OD along Windmill Road, and to the west to a level of 200mOD while the lands to the east slope to a height of approximately 180m OD at the lowest point. Lands to the north of the quarry slope from 160m, to approximately 144-147 m contour, just south of the N7 road.

10.3.3.2 Land Cover – Vegetation, Built Form and Cultural Heritage

10.3.3.2.1 Wider landscape

The landcover of the wider landscape compose of agricultural lands, interspersed with a number of areas of built form, but mainly rural in nature. The N7 lies just north of the Site, and runs northeast/southwest through a predominantly rural landscape. Fields range from large to relatively large, to smaller fields in the areas of Redgap and to the east of Athgoe Hill with some also evident at Keatingspark. A considerable area of woodland to the south of the site, denotes the boundary of the golf course, formerly the lands associated with Johnstown House.

In terms of built form, several areas in the wider landscape show small clusters of detached dwellings – south of the site along Windmill Road, some at Redgap, and further clusters to the north at Athgoe, and east of the site along the Killeel Road. There is an expanding urban landscape further to the northeast of the site. The nearest settlement is the small town of Rathcoole which lies approximately 590m to the east of the site. This settlement consists predominantly housing estates which merge into the neighbouring Saggart on the periphery of Dublin City. Some 2km to the north is the small town of Newcastle with the large Greenogue Business Park and Baldoyle aerodrome located east of this settlement. The small village of Killeel, within County Kildare, is approximately 3.44km to the southwest of the Site.

There are a number of industrial estate/storage units located within the wider rural landscape outside of the surrounding settlements and not far from the N7 road corridor. These include Blackchurch business park north of the N7, and a number of sheds on the location of the present day Barlon Industrial Park. These are on the northern side of the N7, west of the site. Several buildings which are today of an industrial nature at the end of the cul-de-sac road at Colemanstown, north of the site across the N7 road. To the east of the site, several large sheds are visible on the L-6065, which is currently a plant rental location.

There are several golf courses in the area, the Beech Park Golf Club southwest of the Site would have been the main recreational land use in the vicinity. Another golf club is at Castlewarden to the southwest of the Site, between the N7 and Castlewarden Road. Other recreational activity land uses include Coillte looped walks on the hills of Saggart/Slievethoul and Lugg lie southeast of the Site.

10.3.3.2.2 The Site (EIAR project boundary) and immediate vicinity

The quarry in the centre of the EIAR project boundary is only accessible from directly off the N7 road. The main components of the Site (all lands contained within the EIAR boundary) in landscape terms are as follows:

- Site entrance: A stone wall with pillars and gated separate entry and exit points;
- Buildings: A small office beside a weigh bridge, a large agricultural-type shed, and several smaller structures;

- Storage and loading area: Hard standing areas on the northern end around the existing buildings, used for processing, storage and loading of quarried materials, parking for vehicles etc;
- The excavation: An excavation of irregular shape in plan approximately 28.8ha in area at its upper perimeter, with steeply sloping rock faces of varying height (up to 56m) around the sides. The southern quarry face which follows the ridgeline of Windhill is particularly prominent when viewed from the north. Other sections of excavations within the existing quarry are much less visible from the surroundings due to the higher topography of the immediate land;
- Disturbed lands around the excavation: Areas of varying width around the excavation (between the excavation and the earth mounds inside the site boundary), variously stripped of topsoil, excavated to shallow depths, used for storage of material;
- Earth mounds. Mounds of earth have been formed inside the south east and south west boundaries of the (existing) site. and these are effective in screening the excavation and operations from the surroundings. The south east mound is high and angular in form. It is visible from the surroundings. The mound to the southwest is narrow and less prominent in the landscape;
- Agricultural lands: Outside of the existing quarry limits but within the EIAR site boundary are seven fields of varying sizes under pasture. The largest field located to the south of the site contains the base of the windmill tower on the summit of Windmill Hill. Only the three northern fields, covering approximately 5.19 hectares, are required for the proposed site extension to the existing quarry.
- Boundary vegetation: There are various lines of trees, hedgerows and gorse scrub along the various boundaries of the quarry with the adjoining agricultural lands. Some lines of coniferous trees along the quarries northern boundary near the quarry entrance along with small pockets of deciduous woodland.



Figure 10.6: Elevated view from the quarry's eastern end looking across the quarry and wider landscape



Figure 10.7: View of workings within western quadrant of quarry, facing north west face of quarry.



Figure 10.8: View of quarry face and floor along the south western boundary of the western quadrant of the quarry.



Figure 10.9: View of quarry floor and adjacent haul route, facing south, along south eastern boundary of quarry.



Figure 10.10: View of quarry face along the southwestern boundary.



Figure 10.11: Elevated view from the quarry's western end looking east across the quarry and beyond.



Figure 10.12: Roadside view of the Site’s agricultural land which contains the remaining windmill structure.

10.3.3.3 Land Use

10.3.3.3.1 Wider landscape

Land uses in the wider vicinity include agriculture, several industrial parks/areas, scattered residential clusters, and recreation/leisure (golf courses). Transport is also a land use with the N7 a prominent feature of the baseline landscape.

10.3.3.3.2 Site (EIAR project boundary) and immediate vicinity

Land uses on site and immediate surrounds included quarrying on the Site, agriculture, and residential land uses. Some nearby land uses include small industry/commercial yards to the east and west of the Site.

10.3.3.4 Landscape Value/Sensitivity

10.3.3.4.1 Landscape Characteristics

The landscape value can be described in terms of value with reference to ‘designated features’ which are referred to in the current SDCC Plan, as well as values derived from its qualities which include quality, naturalness, cultural heritage, rarity, tranquillity, recreation value and accessibility.

The SDCC Plan notes that in this LCA 4 – Athgoe and Saggart Hills – is considered of High Value, and of Medium-High to High sensitivity. (As noted previously, the sensitivity of a particular landscape relates to the type of development proposed).

The values associated with the site and wider landscape are evident in the importance of the surrounding hills (Windmill Hill, Athgoe, Bustyhill and Saggart) as Prospects, which are important elements of the landscape when viewed from the surroundings – particularly from ‘prominent public places’ as notes in the SDCC Plan. Other evidence of value are the protected views in the vicinity which have views either towards the hills (Protected View from Tay Lane, northeast of the site, as annotated on Figure 10.2) or long-distance views over the rolling countryside. The remnants of historic landscapes are also considered to be valued features of the landscape.

More localised elements of landscape value evident in the immediate vicinity of the site include Windmill Hill itself (designated as a Prospect), the windmill tower which is a landmark, and the number of cultural heritage monuments located adjacent to this. The Site was not publicly accessible, and the quarry surrounded by agricultural fields and hedgerows which are not considered rare.

10.3.3.5 Visual Receptors

Potential visibility of the proposed extension is largely limited to those receptors located upon the lower lands to the north of site, as the ridgeline of Windmill Hill, vegetation along L6065 Windmill Hill road and some existing mounds help screen receptors views from the south of the study area.

Despite the close proximity to the site a number of receptors will have no or very limited views of the Proposed Development, including those on L6065 Windmill Hill Road which bounds the site (Viewpoints 5 and 7), L8040 Keatings Park and some directly north of the N7 where views are screened by topography and/or vegetation. Potential views from the N7, near to the Site entrance, are similarly limited by the same factors.

Receptors with the clearest visibility of the Proposed Development will be those where the existing quarry face and ridgeline of Windmill Hill is already clearly visible within these receptors' existing views. Such views are typically experienced by road users or residences located along the local road network north of the Site, such as those including along Tay Lane (Viewpoint 1); Colemanstown Lane (Viewpoint 4); L6002 Athgoe Road (Viewpoint 10); Old Chapel View Road (Viewpoint 11) and L6018 Puckstown Road (Viewpoint 12).

Potential visual receptors which would have the highest sensitivity to the Proposed Development will include views from residences along the local road network and edges of settlements. Less sensitive receptors would be those road users through the surroundings roads, in particular those travelling at speed along the N7 will have low sensitivity, workers or recreational activity within the small settlements will have low to medium sensitivity.

Twelve viewpoints were selected for the visual assessment which are representative of a range of receptors. These viewpoints are listed in Table 10.6 and Section 10.4.2.

10.4 Proposed Development

The main elements of the proposed development will consist of:

- Continued use of the existing quarry (26.87 ha) and further expansion of the quarry by 4.1ha (extracted area) along the northern boundary;
- Removal of three agricultural fields over 5.1ha area (extraction and buffer boundary area) for the proposed site extended area;
- Removal of trees and scrub on internal field boundaries;
- Creation of mounds around the boundary edges using the site's cleared earth;
- Implementation of the landscape planting along the boundary edges and internally as part of the proposed mitigation and restoration measures; and
- Lifetime of quarry to occur over next 10 to 15 years, depending on market conditions with a further 2-5 years for restoration.

10.5 Proposed Landscape Mitigation and Remediation Measures

The proposed approach to landscape mitigation and remediation has been informed by (a) the existing effects of the quarry and the historic remediation measures implemented on site, (b) the potential effects of further

quarrying at the site (i.e. the Proposed Development), and (c) consideration of the relevant policy in the SDCC Plan.

The landscape mitigation and remediation measures will seek to provide visual screening of the existing quarry and proposed development from nearby visual receptors. The landscape proposals will also enhance the biodiversity and ecosystem services delivery of the site in comparison with the surrounding agricultural lands.

Details of these mitigation measures are illustrated in Appendix 10.1 Figure 10.26 (Drawing 214201-1-101/B).

Measures to be implemented prior to the excavation of the proposed site and during its operational phase are:

- Management/Improvement of the retained site boundary hedgerows and trees: Generic improvements and spot fixes to be made where required to optimise the health of the hedgerows, their biodiversity value and visual screening function;
- Reprofilling of the existing mounds on the south eastern and southwestern boundaries of the Site, where required, in order to help reduce the prevalence of these structures on views within the locality;
- Woodland planting added to existing and new earth mounds (within the Proposed Development). These will be planted with a woodland species mix (including tree and shrub species), to form a substantial belt of woodland along the hillside. This will soften the form of the constructed mound, add to the height of the mound as a visual screen, and contribute to vegetation/habitat in the landscape generally; and
- Annual review/management of the new boundary planting to ensure that it becomes established and provides adequate visual screening, with generic improvements and spot fixes (including supplementary planting or thinning) to be implemented where required.

Measures to be implemented after the cessation of quarrying include:

- Management/Improvement of site boundary hedgerows: A final survey and appraisal of the site boundary hedgerows in terms of (a) species mix - for biodiversity and maximum screening (height, density of foliage), and (b) intactness/continuity. Generic improvements and spot fixes to be made where required to optimise the health of the hedgerows, their biodiversity value and visual screening function;
- Management/Improvement of woodlands on the mounds: A final survey of the woodland planted earth mounds, with generic improvements and spot fixes (including supplementary planting, or thinning) to be implemented where required;
- Re-vegetation/colonisation of site outside of excavation: In accordance with current best practice recommendations the areas between the excavation and the woodland-planted earth mounds around the perimeter of the site will be allowed to re-vegetate/colonise naturally. This results in greater biodiversity and habitats most appropriate to the site conditions;
- Removal of built infrastructure: All buildings and redundant infrastructure to be removed from site and the lands prepared for natural re-vegetation/colonisation;
- Lake formation in quarry void to a level of 155mAOD: Engineered shallow areas on the floor of the quarry will initially provide islands and will ultimately be covered by water as the quarry fills to its natural level (determined by the water table), forming a permanent lake. The shallow areas will provide suitable substrate for aquatic invertebrates, with gentle grading of shoreline and marginal planting added (to be determined at the time, with the advice of an ecologist);
- Quarry benches: At a number of locations (to be determined at the time, with the advice of an ecologist) a mixture of trees and shrub species will be planted in an engineered substrate to form patches of habitat.

This will create a platform for a more diverse flora to develop naturally and provide habitat and food resources for birds, mammals, insects and other invertebrates.

- Quarry faces: Whilst recognising the geological heritage value of the exposed quarry faces, it is proposed that some native tree and shrub species be planted in/on fissures and ledges, to help break up the bare profile of the quarry face. Other plant species will be allowed to find and colonise the area by natural means and these will include various mosses, lichens, algae, ferns, flowering plants, etc. The gradually increasing plant diversity over time will in turn ensure that a corresponding diverse list of animal species (birds, mammals, butterflies and other insects, other invertebrates, etc.), can become established.
- Safety measures: An agricultural fence to be installed around the edge of the excavation, to act as a visual indicator of the edge and a physical barrier for people and animals. Signage as required around edges to notify of danger.

10.6 Assessment of Effects

10.6.1 Landscape Effects

The assessment of potential landscape effect considers the sensitivity of the landscape resource and the magnitude of landscape change which would result from the Proposed Development.

10.6.1.1 Landscape Sensitivity

The sensitivity of the landscape resource refers to the degree to which a particular landscape type can accommodate change arising from a particular development without detrimental effects on its character, quality/condition or value. The sensitivity of the landscape to development varies depending on the nature and scale of the development.

10.6.1.1.1 Wider landscape

Landscape Sensitivity of the wider Landscape Character Area is considered by the SDCC Landscape Character Assessment to be Medium-High to High. However, the GLVIA notes that Sensitivity is considered to be a combination of an area's landscape value and its susceptibility to change. The SDCC Assessment considers the Landscape Value to be High.

Several elements of high value are indicated in the Development Plan – namely the topography and hills in the area, and several open and expansive views of the hills and landscape, as well as elements such as cultural heritage features in the wider landscape. However, this study also identifies several elements of low landscape value in the area include the N7, and areas of industrial development.

10.6.1.1.2 Site and Immediate Vicinity (rEIAR project boundary)

Elements of high value on the Site and its immediate vicinity include the landmark which is Windmill Hill itself, which is an important part of the wider landscape and views, and also the windmill ruin itself, as well as and other features of cultural heritage interest on the hill identified by reference to the historic environment viewer (maps.archaeology.ie). The field boundaries and hedgerows are considered of Medium value. The quarry void itself is an operating quarry, would be considered of Low sensitivity.

10.6.1.2 Potential Magnitude of Landscape Change

Magnitude of change refers to the potential effects of the Proposed Development on the main elements, characteristics and values of the receiving environment landscape of the site and wider landscape.

10.6.1.2.1 Wider Landscape

The Proposed Development is located within and adjacent to the existing quarry which occupies a small portion of the Athgoe and Saggart Hills LCA. The proposed excavation will consist of the deepening of the existing

quarry floor and extending the quarry's limits further north consuming three former pasture fields. The scale of these changes will be localised and contained from the south by Windmill Hill. The magnitude of change of the development to the Athgoe and Saggart Hills LCA and wider landscape would be considered Low:

Change that is moderate or limited in scale, resulting in minor alteration of landscape receptors, and/or introduction of elements that are not uncharacteristic in the context. Such development results in minor change to the character of the landscape.

10.6.1.2.2 The Site

- The extraction of minerals by excavation results in alteration of the landform. At a local scale this is high magnitude. The Proposed Development would see the area of the application boundary of approximately 28.8ha being further extracted (including the extraction extent). The shape of the excavation area will remain irregular shape as the new land take follows the three existing field boundaries. The depth of the excavation would be increased to a level of 150m AOD; Several benches would be formed in the quarry faces (creating potential for habitat development in the future). New mounds will be added around the boundary edges of the new excavation areas. Some alternations to the form of the mounds on the southern boundaries is proposed as part of development in order to make them less conspicuous in the landscape. The landform of the agricultural lands within the overall site boundary but outside of the Proposed Development will remain unaltered.
- While the landform of the (enlarged) Site would be significantly altered, at a wider landscape scale this is less notable. The profile of the Windmill Hill ridgeline would not be altered as seen from the south. The loss of lands on the northern boundary will slightly increase the views of the quarry's southern rock face and new northern boundary mounds from the north;
- There would be some loss of woody vegetation in the form of the hedgerows and trees with the removal of field boundaries along the northern boundary of the existing quarry and the expanded site lands and one internal field boundary between two of the fields. The agricultural grassland will be stripped from all three fields within the extent of the proposed expanded site and the underlying soil used to create the boundary earth mounds;
- The landscape mitigation and remediation proposals include the planting of a belt of woodland on the retained and new earth mounds inside the site boundaries, and supplementation/improved management of existing hedgerows and treelines on the site; and
- In time there would be an increase in the volume and connectivity of woody vegetation on the site overall. On completion of quarrying activity, the remainder of the site (the areas between the earth mounds/woodland belts and the excavation, and the benches in the quarry walls) would be allowed to recolonise naturally, and the excavation would be allowed to fill with water to a level dictated by the water table. Ultimately, the site would develop a high diversity of habitats compared to the wider agricultural environs.

Overall, the potential magnitude of change of the development to the Site's characteristics would be considered Medium:

Change that is moderate in extent, resulting in partial loss or alteration of landscape receptors, and/or introduction of elements that may be prominent but not necessarily substantially uncharacteristic in the context.

10.6.1.2.3 Land Use

10.6.1.2.3.1 Wider Landscape

The primary land uses in the area are agriculture, extractive industry, residential, industrial, transport, and sports/recreation. There would be a loss of agricultural land (grassland/pasture) and a corresponding increase

in the area occupied by extractive industry (and ultimately habitat). At a landscape scale this change would be slight, i.e., the agricultural usage and value of the landscape would not be significantly altered.

10.6.1.2.3.2 The Site

There will be a loss of 5.19ha of pasture to accommodate the extended quarry. The remaining agricultural lands within the site boundary will continue to be farmed and not be directly affected by the Proposed Development. There would be no direct effect on residential land use in that the lands affected have no residential use or development potential (being removed from the road network).

The potential magnitude of change to land use can be considered low:

Change that is moderate or limited in scale, resulting in minor alteration of landscape receptors, and/or introduction of elements that are not uncharacteristic in the context. Such development results in minor change to the character of the landscape.

10.6.1.3 Significance of Effect

The significance of landscape effects is determined by measuring the proposed magnitude of change against the landscape sensitivity (refer to Table 10.3).

The potential landscape effects of the Proposed Development will be relatively localised, resulting in **Slight to Moderate**, adverse long term on the Landscape Character and landscape fabric of the site being greatest within the immediate environment. There will be a **Slight** adverse long-term effect on the land use with the increased area of mineral extraction. After the cessation of the quarry there will be some **Slight** beneficial long-term effects through the restoration of the lands to provide a diverse range of vegetation cover, habitats and water bodies, which will help improve the character of the site and immediate surroundings.

10.6.2 Visual Effects

10.6.2.1 Visual Receptor Sensitivity

Visual receptors of medium to high sensitivity include those at locations of scenic viewpoints (Viewpoints 1 and 12), viewpoints near residences and viewpoints which have a view towards Windmill Hill and could be considered as a Prospect as per the SDCC Plan.

There were no viewpoints considered along the N7 as the quarry is largely screened from view and vehicles are typically travelling at speed. Some 12 viewpoints from the surrounding area were chosen and reviewed to assist in the assessment of visual effects which have occurred. The locations are shown below in Figure 10.13 (and listed in Table 10.6) listed below:

It is noted that there is not full visibility from all viewpoints, however these viewpoints are consistent with the rEIAR viewpoints, and therefore are included to allow direct comparison between the rEIAR and EIAR.

Table 10.6: Viewpoint Location

Viewpoint	Description
1	View from South Dublin County Council Protected View on Tay Lane
2	View from Rathmill Green, Broadfield Manor housing estate
3	View from next to farmhouse along L8040 Keatings Park northeast of quarry
4	View from along Colemanstown Lane north of quarry
5	View from nearest group of houses south of quarry along Windmill Road

6	View from group of houses along Windmill Hill Road west of junction with Carrigeen Lane
7	View from next to group of houses along Windmill Road to the southwest of quarry
8	View from edge of a group of houses along Rathcoole Hill Road at junction of Carrigeen Lane
9	View from along L6044 Oweneen's Lane
10	View from group of houses along L6002 Athgoe Road
11	View from group of houses along Old Chapel View Road
12	View from Kildare County Council Protected route on L6018 Puckstown Road

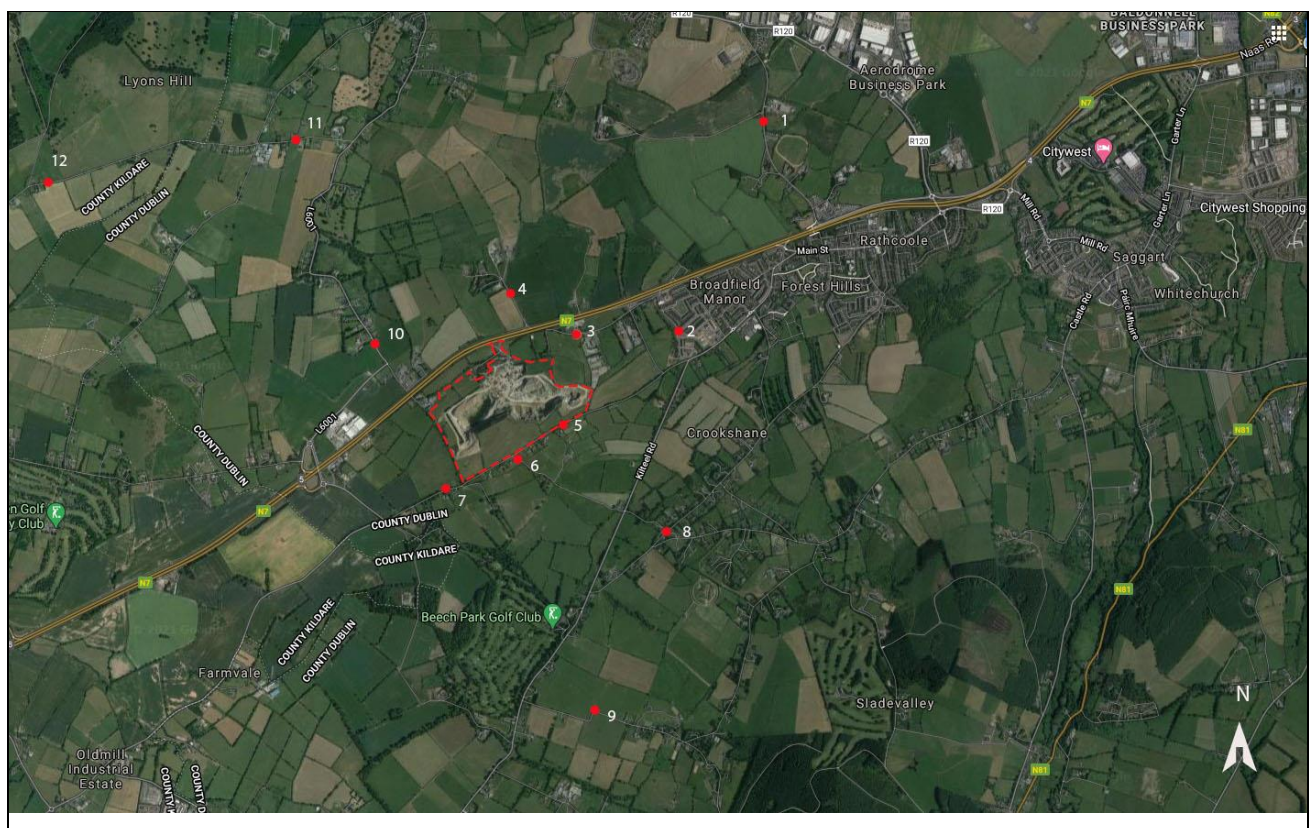


Figure 10-13: Viewpoint Locations. Image Source: Google Maps 2021

10.6.2.2 Viewpoint Assessment

The viewpoint assessment considers the potential visual effects of the Proposed Development upon the existing views of visual receptors identified within Table 10-6 above and in Figure 10-13 and summarised in Table 10-7 at the end of this section.

Viewpoint 1 –South Dublin County Council Protected View on Tay Lane.

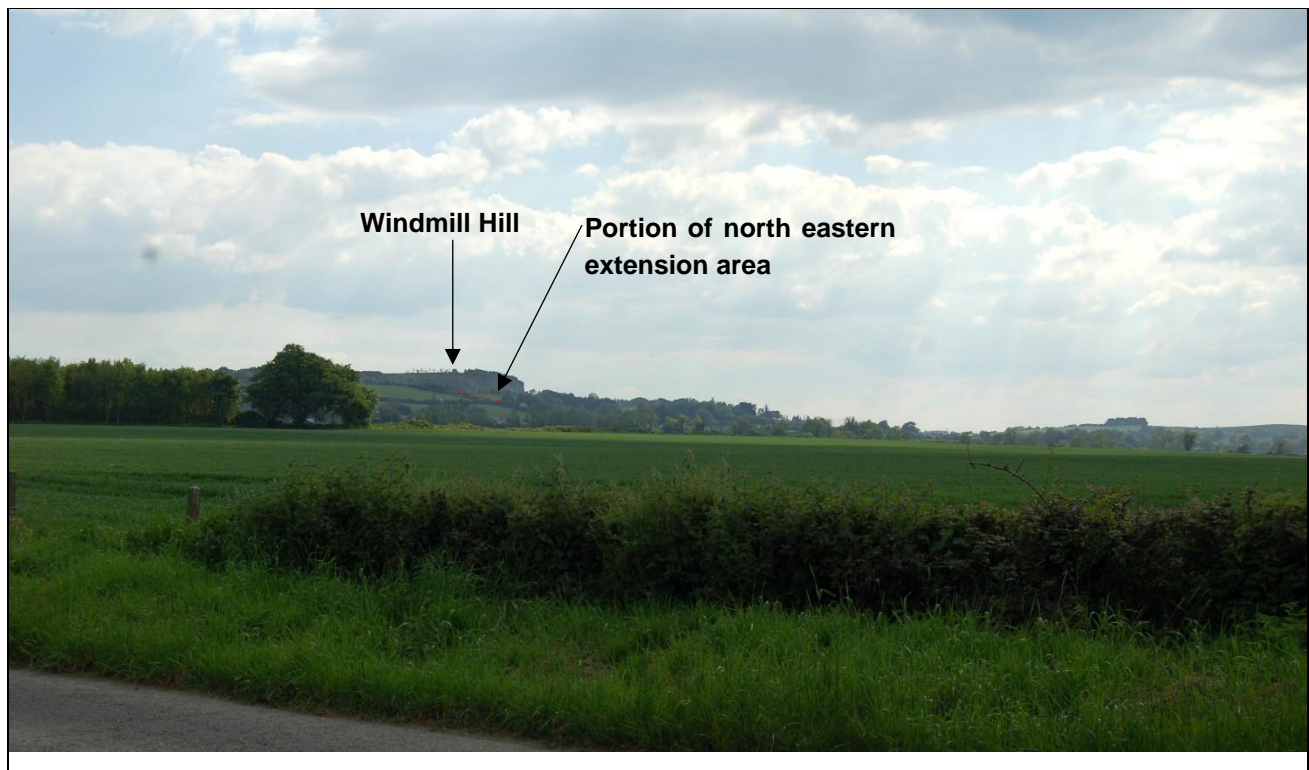


Figure 10.14: Viewpoint 1–Existing View

Existing View

A lack of high field hedgerows allows panoramic roadside views across the large field and towards the outline of hills in the background towards the west and south. Amongst these hills the existing quarry is distinguishable by its pale rock face along the ridge of Windmill Hill. Only the north eastern field of the proposed extension area is partially visible below this rock face, as the other Proposed Development lands are fully screened by the trees within and surrounding the quarry. The remaining windmill structure is visible on the summit of Windmill Hill, directly south of the quarry's edge.

Proposed View

The visibility of the existing quarry's southern rock face will be slightly increased due to the loss of the agricultural field within the north eastern proposed extension area. The new mounds and woodland planting along the edges of the same site boundary will further reduce views as the planting matures.

Visual Receptor Sensitivity

The visual receptor sensitivity is considered High (designated protected view).

Magnitude of Change

The magnitude of change is considered Low. Low is "*Minor intrusion of the development into the view, or introduction of elements that are not uncharacteristic in the context*".

The loss of the north eastern field within the proposed extension area will open up views of quarry's southern rock face. Trees will be removed along the northern boundary of the existing quarry but changes within this view are likely to be barely perceptible due to screening by the proposed site's retained trees nearer to the quarry

entrance. Addition of new mounds and woodland planting along the edges of the same site boundary will further reduce views as the planting matures.

Significance of Visual Effect

The significance of the visual effect is **Moderate-Slight**. The quality of the effect is considered adverse, medium term. These effects will reduce to **Slight** and beneficial as the boundary planting matures helping to further screen both the extended and the existing quarry rock face.

Viewpoint 2 – Rathmill Green, Broadfield Manor housing estate

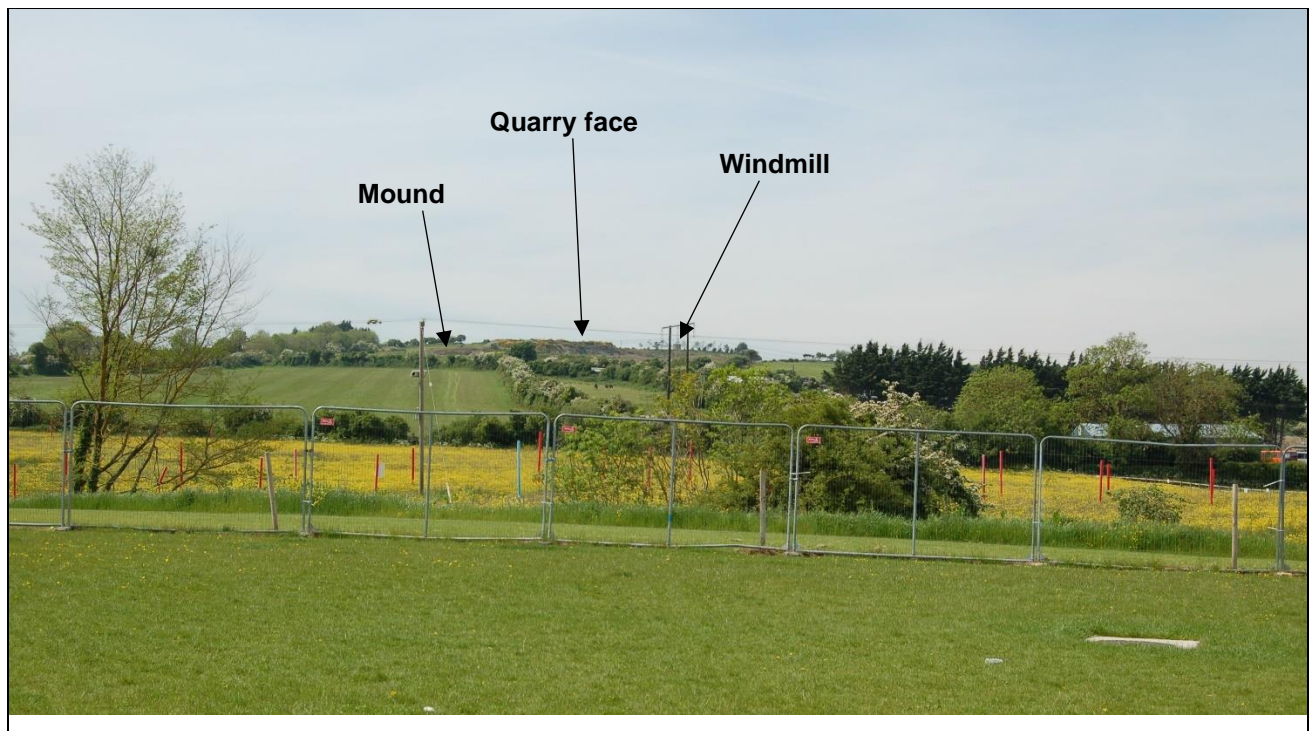


Figure 10.15: Viewpoint 2– Existing View

Existing View

The view is from the small amenity space between the houses of Rathmill Green and Brookfield lawns, which is contained by the temporary security fencing. Beyond the fencing is the surrounding farmland which raises west towards the summit of Windmill Hill in the background. In the middle ground are partial views of sheds and vehicles within the industrial units on L6040 Keatings Park. Partial views of the Site's worked quarry face, south eastern boundary mound and boundary vegetation along with the remaining windmill structure on the ridge (through the electricity post in the centre) are visible in the background. The majority of the quarry is not visible due to topography.

Views from the adjacent groups of houses tend to be partially obscured by the trees along the small stream flowing past the amenity space with more open views experienced from upper floors.

Proposed View

Views will be limited to the existing mound and small portion of rock face. The mound will be the regraded of the mound, where required, to help reduce its jagged appearance and planted with a woodland mix to soften its form and in time mature to form a belt of woodland on the upper flank. The exposed rock face will similarly be softened by natural regeneration.

Visual Receptor Sensitivity

Visual Receptor Sensitivity is considered to be Medium. The view is from a residential area but is not considered of high scenic value.

Magnitude of Change

The magnitude of change is considered Low. “*Minor intrusion of the development into the view, or introduction of elements that are not uncharacteristic in the context*”.

The new woodland planting mix on the south eastern boundary mound will help reduce the visibility of an existing mound and provide new block of woodland on part of the hill.

Significance of Visual Effect

The visual effect is considered **Slight**. The quality of the effect is considered beneficial effects, long term. As the current views of the mound will be improved by the proposed regrading and as the woodland planting matures along with natural regeneration along the rock face.

Viewpoint 3 – Farmhouse along L8040 Keatings Park

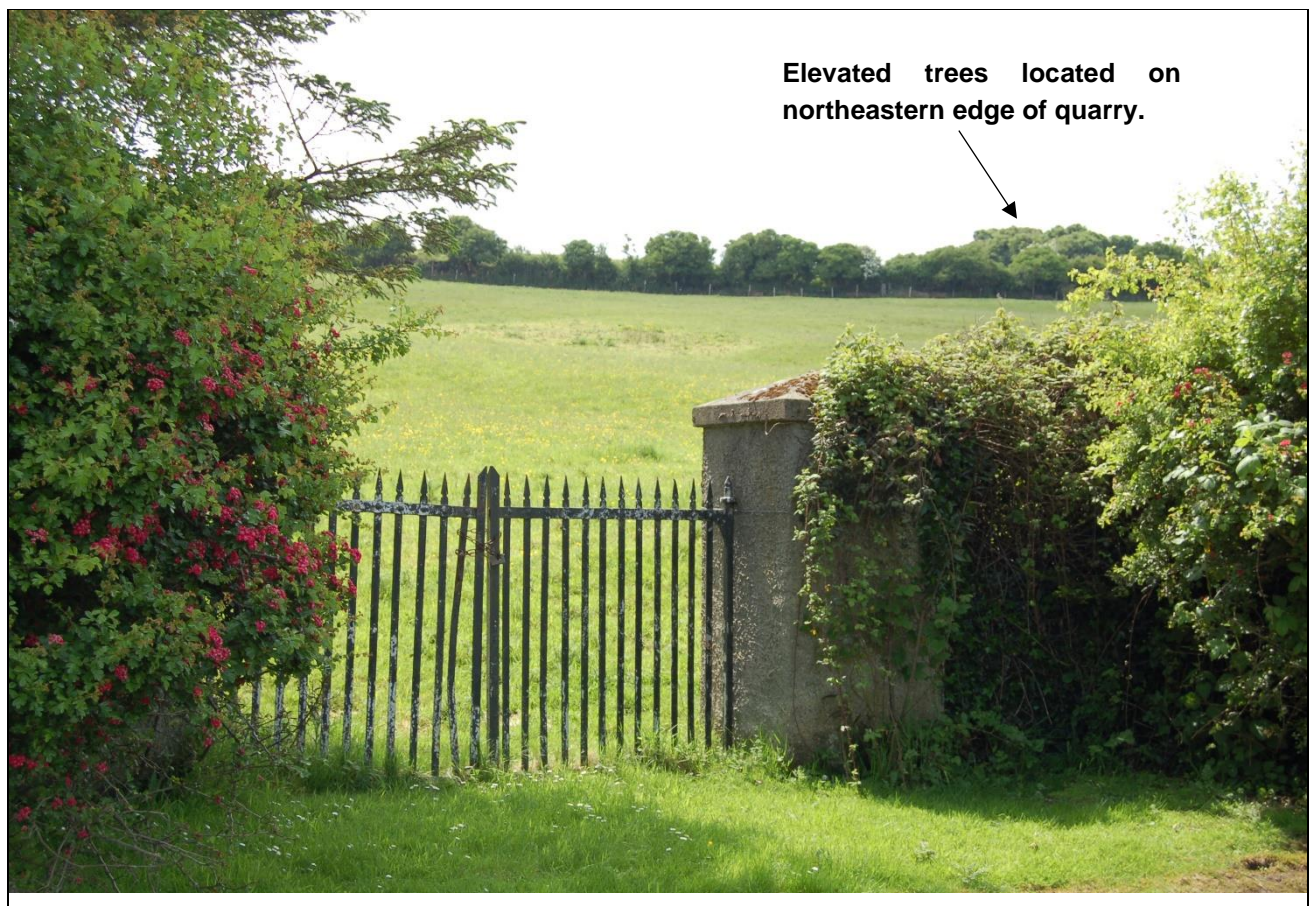


Figure 10.16: Viewpoint 3– Existing View

Existing View

The view is taken opposite Keatings Park House, to the northeast of the quarry. Outward views from the house are heavily restricted by the mix of walls and hedgerows along the garden and opposite side of the laneway. The field gate in the foreground provides views into the neighbouring fields which rises up towards the southwest

in the direction of the existing quarry. However, the intervening field hedgerow in the middle ground greatly screens views of the site boundary. The only visible elements of the Site are the upper portions of a group of trees on the quarry's far north-eastern boundary which peer above the intervening hedgerow.

Proposed View

The extended quarry would remain screened by the topography and dense field hedgerows. Proposed woodland planting mix on the new north-eastern boundary mound would ultimately mature and become partially visible behind the existing high field hedgerows.

Visual Receptor Sensitivity

The visual receptor sensitivity is considered to be Medium.

Magnitude of Change

The magnitude of change would be negligible.

The additional mound and woodland planting mix to the internal boundary will have limited visibility behind the existing field boundary.

Significance of Visual Effect

The visual effect is considered to be **Not Significant**; the quality of the effect is considered neutral, long term. As there is no significant effect on the composition, character or quality of the view.

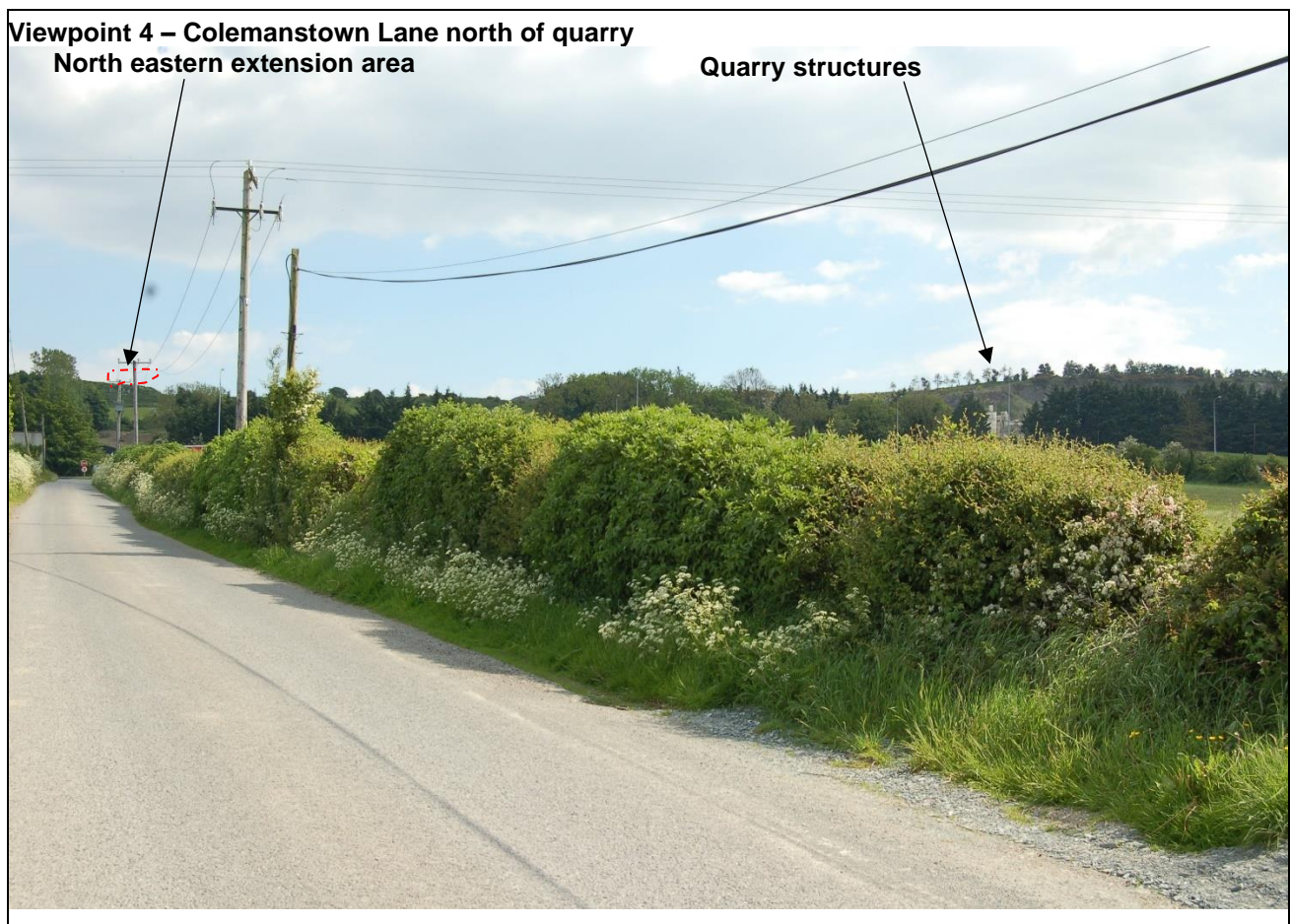


Figure 10.17: Viewpoint 4– Existing View

Existing View

The existing view looks north towards the N7 road and the Site directly beyond the road in the background. Views of the N7 road and its' traffic are partially screened by the hedgerow opposite, the route is clearly defined within the middle ground by the street lighting.

The single agricultural field within the north eastern end of the proposed extension area is partially visible through gaps in the trees lining the roadside and field boundaries. The existing quarry is largely screened by the topography. The ridgeline of Windmill Hill and existing quarry's upper southern rock face are visible in the background peering above the lower hillside, trees and hedgerows. Some of the quarry's processing plant structures are partially visible between a gap in the tree cover.

Proposed View

The view will consist of the expansion of the existing quarry over the one agricultural field located in the north eastern proposed extension area, resulting in greater visibility of the quarry within the landscape than at present. As the Proposed Development progresses, it will result in notable quarrying activity across the proposed extension area resulting in a lowering of the current ridge and topography of this field providing greater views of the existing quarry and towards its southern rock face. The new northern mound and woodland planting mix will help to enclose the works. In time as the planting matures it will form a belt of woodland which will reduce views into the quarry.

Views will be experienced by road users including local residents along the laneway on approach to the N7. Potential views from the group of residences located at the end of the same laneway, approximately 120m northwest of the viewpoint, are fully screened by their garden hedgerows and other houses.

Visual Receptor Sensitivity

Views will be experienced by road users walking or driving towards the N7 road. The visual receptor sensitivity is considered to be Medium, representing road users (primarily residents) travelling at slow speeds at a viewpoint which is pleasant but not highly scenic. (It should be noted that in selecting this viewpoint, consideration was also given to potential views from a group of residences located at the end of the same laneway, approximately 120m northwest of the viewpoint, but these appear to be fully screened by their garden hedgerows and other houses.) Viewers closer to the N7 road would not experience open views.

Magnitude of Change

The magnitude of change in this view is considered Medium:

"Partial intrusion of the development in the view, or introduction of elements that may be prominent but not necessarily uncharacteristic in the context".

There will be a notable loss of one field currently under pasture, some trees and scrub removed on the fields southern boundary and alternations to the landform resulting from the quarrying activity within the proposed extension area. Additional mound and woodland planting mix will be added to the proposed extended area's eastern, northern and western boundary edges.

Significance of Visual Effect

The visual effect is considered a **Moderate-Slight**, the quality of the effect is considered adverse, medium term. These effects will reduce to **Slight to Not Significant** as the boundary mound planting matures reducing views. Any potential views will only be experienced temporarily in passing by the road users on the laneway (approaching the junction).

Viewpoint 5 – Nearest group of houses south of quarry along Windmill Road



Figure 10.18: Viewpoint 5– Existing View

Existing View

The existing view, next to the property entrance, looks across the road to the high vegetated bank marking the Site's southern boundary with the road. Some gorse covered mounding is visible in the centre of the view above the field boundary. However, the main orientation of the residence is facing away from the proposed site.

All roadside views looking north from the group of residences are contained by their lower elevation below the road, the planting within their gardens and the gorse lining the site's southern boundary. Some partial views of the outline of Windmill Hill and the remaining windmill structure are possible through gaps in the roadside vegetation. Similarly, road users are hindered by the same roadside vegetation with only occasional glimpse towards the Site through small breaks in this vegetation cover. The existing quarry is not visible as it is set behind the hill's ridgeline.

Proposed View

Potential views of the proposed extended site from this group of residents will be fully screened by Windmill hill's ridgeline. The limited visibility of the existing boundary mounds from the end residence would appear further softened by the woodland planting along them. As the planting matures it will further reduce the visibility of the mound. Similarly,

Visual Receptor Sensitivity

The visual receptor sensitivity is considered to be Medium as the road is considered scenic with long distance views glimpsed between gaps in the hedgerow, and the location is close to a scenic view and a cluster of houses. There is potential visibility, similar to this view, from the grounds of the nearest dwelling.

Magnitude of Change

The magnitude of change is considered Low:

“Minor intrusion of the development into the view, or introduction of elements that are not uncharacteristic in the context”.

The only change would be the slight altering of the shape of the existing mounds within the Site’s south eastern boundary and planting them up with a woodland mix which as it matures will soften these structures appearance.

Significance of Visual Effect

The visual effect is considered **Not Significant**, the quality of the effect is considered neutral, long term. As the improvements to the view will be barely perceptible from this single resident and road users. An element of professional judgement was applied to the guideline Matrix outlined in Table 10.3.

Viewpoint 6 – Group of houses along Windmill Road west of junction with Carrigeen Lane

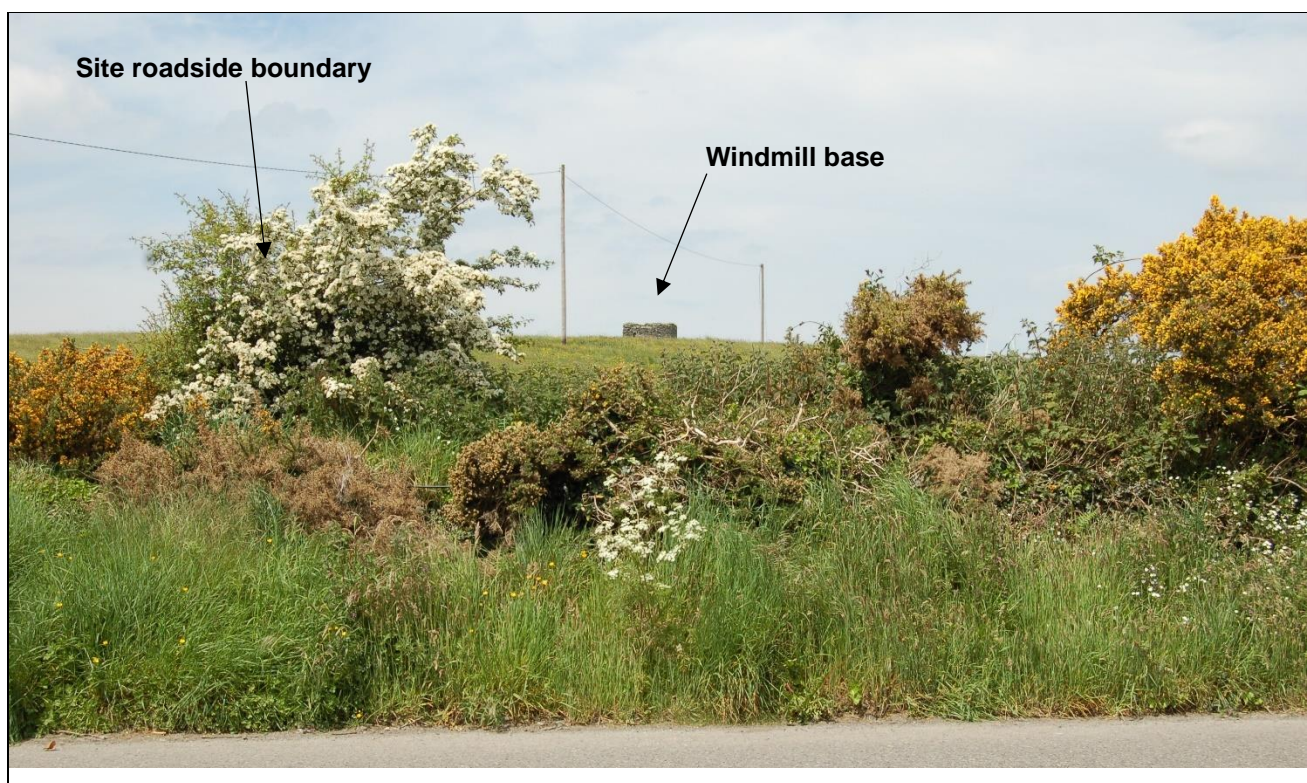


Figure 10.19: Viewpoint 6– Existing View

Existing View

This view is from the junction of Carrigeen Lane looking onto Windmill Road. (Note four houses are located to the left of the junction but not visible in the view). A large sloping agricultural field is seen behind a low hedgerow, and the remains of the windmill structure is visible on the summit of the hill. This land falls within part of the southern part of the Site boundary.

Of the four houses, only the one on the far western end has any views of the existing quarry or Proposed Development, not shown in the above view. Such views will consist of partial first floor views looking through the roadside trees and scrub towards the quarry’s disturbed grounds and mound on its southwestern edge along the hill’s ridgeline.

Proposed View

The Proposed Development would remain screened by the ridgeline of Windmill Hill. Additional mitigation hedgerow and woodland planting mix will be visible along the south western end of the existing quarry edge.

This planting will mature providing a dense field hedgerow boundary along the flanks of the hill and reduce visibility of the mounding. These changes will only be visible from the first floor views of the end residential receptor. The remaining residents within the group and road users will not be affected as any potential views are fully screening by the roadside vegetation.

Visual Receptor Sensitivity

The visual receptor sensitivity is considered to be High –views would be experienced by local residents in the adjacent houses and there are clear views of the Windmill ruin on the summit of the hill which is regarded as a Prospect in the development plan and is a landmark in the local landscape.

Magnitude of Change

The magnitude of change is considered Low:

“Minor intrusion of the development into the view, or introduction of elements that are not uncharacteristic in the context”.

The new hedgerow and woodland planting on the south western boundary will add a new hedgerow to the hillside which will add an enclosure between the field and existing quarry but has limited visibility from this group of residential receptors.

Significance of Visual Effect

The visual effect is considered **Moderate-Slight** upon the single affected residential receptor. The quality of the effect is considered neutral, long term.

Viewpoint 7 –Group of houses along Windmill Road to the southwest of quarry



Figure 10.20: Viewpoint 7– Existing View

Existing View

This view is taken from a relatively narrow road with a rural character ((Windmill Road). A short break in the predominantly high roadside hedgerow allows views towards a dwelling, which partly screen the ridgeline of Windmill Hill. To the left of the house, the ridgeline of the hill is marked by gorse, and a hedgerow marking the existing quarry's western boundary edge, although there are no views of the quarry itself. Trees and vegetation are seen to the rear of the dwelling.

Proposed View

The Proposed Development will not be visible from road users as views are screened by the existing boundary vegetation and adjoining house.

Visual Receptor Sensitivity

The visual receptor sensitivity is considered to be Medium, as it represents road users along a local road with some scenic qualities and a pleasant rural character. This section with a more open view is a short section in a predominantly vegetated roadside.

Magnitude of Change

The magnitude of change is considered None:

Significance of Visual Effect

The visual effect is considered to result in **No Change**.

Viewpoint 8 – Group of houses along Rathcoole Hill Road at junction of Carrigeen Lane



Figure 10.21: Viewpoint 8– Existing View

Existing View

The road junction provides views across the undulating agricultural lands towards the ridgeline of Windmill Hill, with the remaining windmill structure visible in the background. The existing quarry is largely hidden from view by the ridgeline, except for the bare mounds on the south western end and gorse covered mounds on the south-eastern site boundary, but somewhat distant. The visibility of the existing quarry's north-eastern worked face is apparent from the rear of some of the houses along the northern end of the Rathcoole Hill Road and within 450m east of this point.

Proposed View

A woodland planting mix will be added to the existing visible mounds on the south eastern site boundary. As the planting matures it will soften these structures within the view and add a small woodland cluster along the flanks of the hill. Potential views of the Proposed Development from the road and group of residents will be fully screened by Windmill hill's ridgeline.

Visual Receptor Sensitivity

The visual receptor sensitivity is considered to be High as it represents road users along a narrow rural road, with good views towards Windmill Hill which is a Prospect in the SDCC Plan. It is also taken at the entrance to a dwelling which is slightly elevated with good views towards the site.

Magnitude of Change

The magnitude of change is considered Negligible, with the mounds occupying a very limited proportion of the overall view, and rather difficult to discern at this distance. The mounds do not interfere with the views towards the hilltop and the windmill. Negligible is defined as:

'Barely discernible intrusion of the development into the view, or introduction of elements that are characteristic in the context, resulting in slight change to the composition of the view and no change in visual amenity.'

Significance of Visual Effect

The visual effect is considered **Not Significant, neutral effect**. An element of professional judgement was applied to the Matrix in Table 10.3 (which is a guideline only). As the proposed landscape mitigation will help soften the regular form of the existing mounds currently visible from this group of residences and road users at this point.

Viewpoint 9 – L6044 Oweneen’s Lane

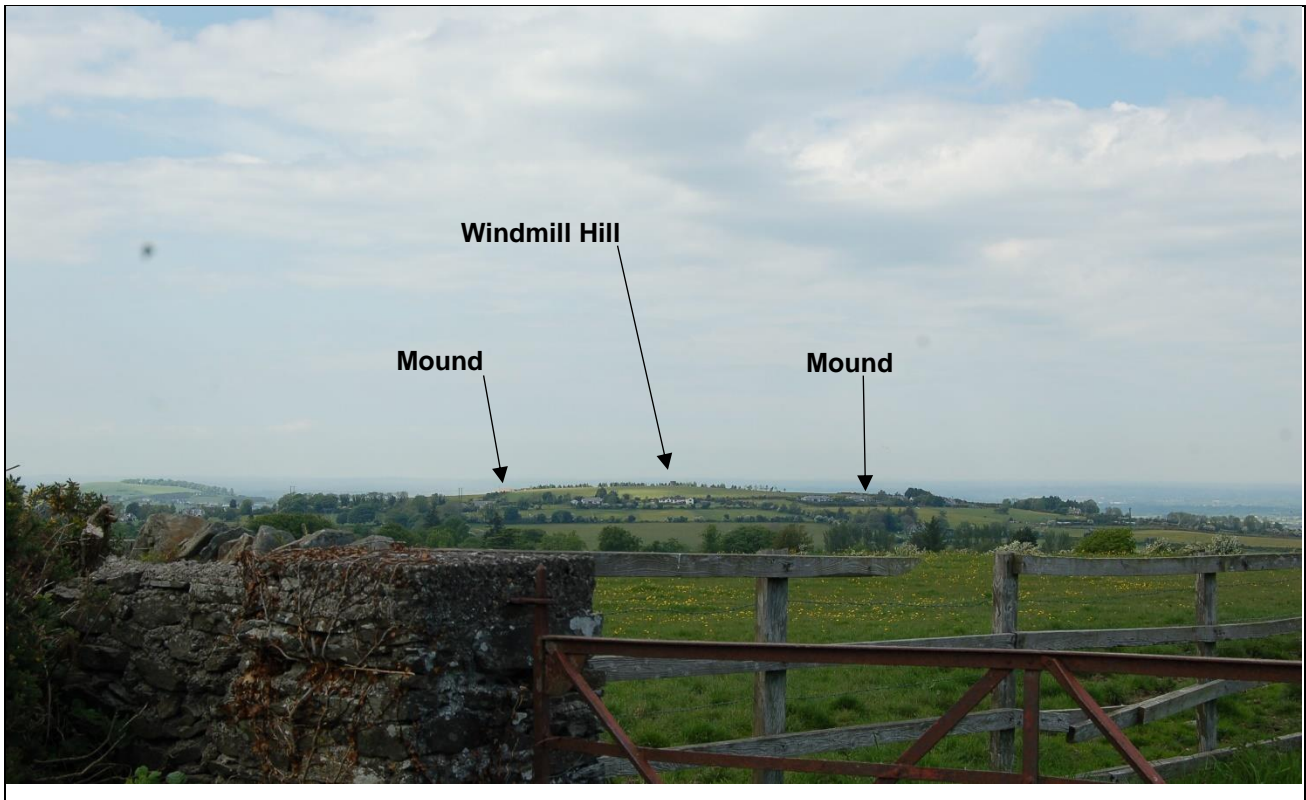


Figure 10.22: Viewpoint 9– Existing View

Existing View

The existing view along a short open section of this local road provides panoramic views across the undulating lands across to Windmill Hill and surrounding hills. The settlements of Rathcoole and Newcastle to the north are visible in the distance. The ridgeline of Windmill Hill blocks views of the proposed extension areas/existing quarry, while in the distance some of the overburden mounds are just visible.

Proposed View

There will be a slight increase of woodland and hedgerow planting visible in front of the existing quarry elements on the southern boundary with the implementing of the mitigation measures. As the planting matures it will provide increased tree and hedgerow cover along the flanks of the hill.

Visual Receptor Sensitivity

The visual receptors are road users in a pleasant area with some scenic views, which will have Medium sensitivity.

Magnitude of Change

The magnitude of change is considered *Negligible*.

“Barely discernible intrusion of the development into the view, or introduction of elements that are characteristic in the context, resulting in slight change to the composition of the view and no change in visual amenity”.

The existing views of the quarry’s southernmost elements will reduce due to the mitigation planting, becoming fully screened as this planting matures overtime. These bands of trees and hedgerows will be similar to others

found upon the surrounding hills and do not affect main views of the windmill base along the summit of Windmill Hill.

Significant of Visual Effect

The visual effect is considered **Slight beneficial in medium term** as the planting becomes established and helps to screen the existing mounds currently visible on Windmill Hill. This will **reduce to Not Significant beneficial as the maturing trees become harder to distinguishable among the hill's existing tree cover.**

Viewpoint 10– Group of houses along L6002 Athgoe Road

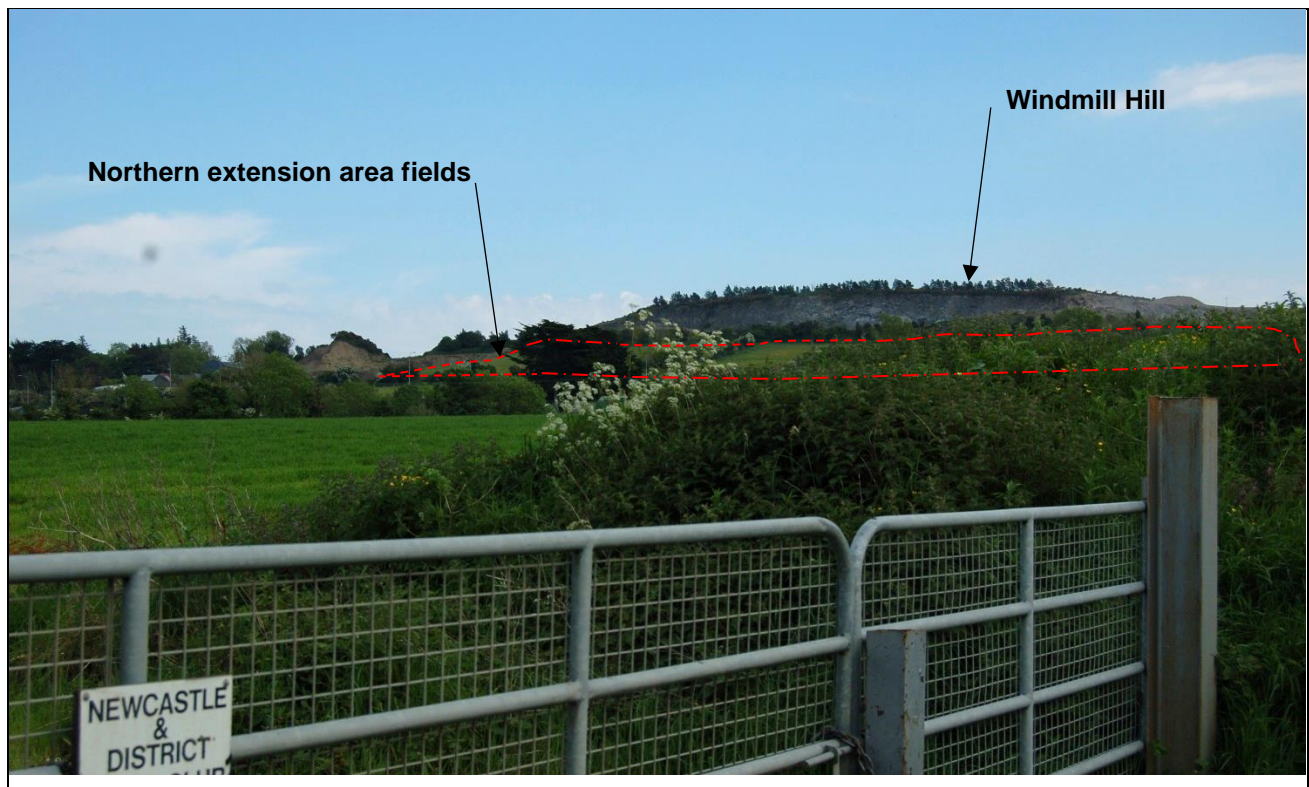


Figure 10.23: Viewpoint 10– Existing View

Existing View

This view is taken from the road, south of a cluster of dwellings where there is an open view towards the Site. (Most houses within the group have no views of the existing quarry as they are surrounded by high garden and roadside hedgerows and trees.) Three houses on the south eastern edge of the group may have varying ground and upper floor views towards Windmill Hill. There is an open view towards Windmill Hill and the quarry, and the hill and quarry face are prominent in the view.

Views of the quarry are partially contained by the topography along the Site's northern boundary, of which the two visible agricultural fields form part of the proposed northern extension area. Portions of these lands are partially obstructed by the surrounding vegetation. The passing traffic along the N7 route is visible through gaps in the roadside hedgerows in the middle ground.

Proposed View

The view will consist of the expansion of the existing quarry over the two adjoining agricultural fields located in the northern proposed extension area. As the Proposed Development progresses, it will result in notable quarrying activity across the proposed extended area resulting in a lowering of the current ridge and topography

of these fields providing greater views of the existing quarry. New mounds formed along the field boundaries and with added woodland planting mix to soften their form. As the new planting matures it will form a belt of woodland on the northern boundary helping to further screen the lower end of the enlarged quarry extent.

Visual Receptor Sensitivity

The visual receptor sensitivity is considered Medium, High, representing road users on a minor road close to a cluster of residences, with some scenic qualities.

Magnitude of Change

There will be a notable loss of two fields currently under pasture and the various mature trees and hedgerow which divide these fields and bound the existing quarry's northern boundary. Together with changes to the landform from the quarrying activity within the proposed extension area. Additional mounds and woodland planting will be added to the proposed extended area's eastern, northern and western boundary edges.

The magnitude of change is considered Medium, defined as:

"...introduction of elements that may be considered uncharacteristic in the context, to the extent that the development becomes co-dominant with other elements in the composition and affects the character of the view and the visual amenity."

Significant of Visual Effect

The significance of the visual effect is considered to be **Significant** for residents. The quality of the effect is considered adverse, medium term. The loss of agricultural lands will result in the quarry becoming more prevalent within the varied views of a few residents. However, as initial views of the lower quarry lands become less apparent with the mature planting the effects will be reduce to **Moderate-Slight** for residents adverse.

Viewpoint 11– Group of houses along Old Chapel View Road

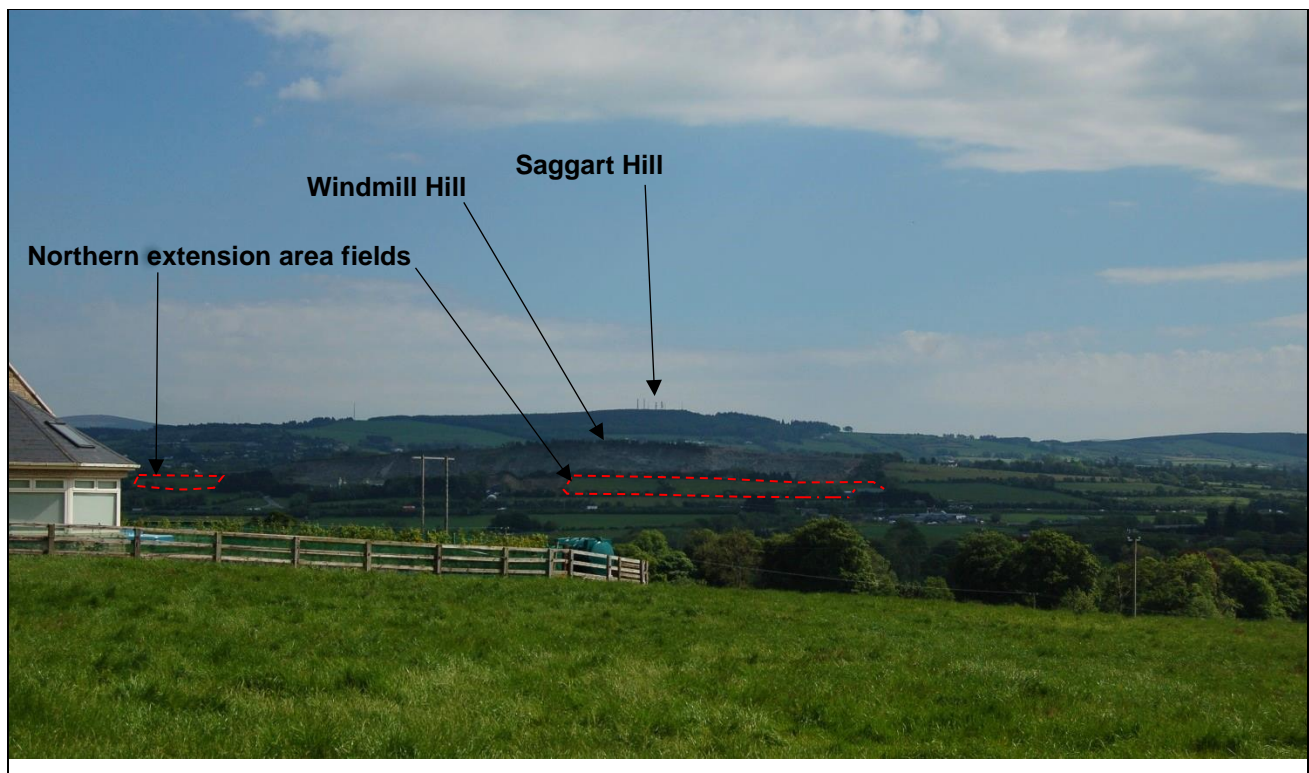


Figure 10.24: Viewpoint 11– Existing View

Existing View

The elevated point in the road near a cluster of houses, provides panoramic views over undulating agricultural fields with tree clumps. The existing quarry is visible in the middle ground, to the right of the residence. The higher Saggart Hill and Dublin mountains form a backdrop to the quarry.

The three agricultural fields which form the proposed northern extension areas are clearly visible along the front of the existing quarry in the middle ground. Views from within this group of residents vary, with most orientated to the southwest away from the proposed Site or enclosed by garden hedges. Some views are possible towards the proposed site from the rear or side of a few residences and over experienced by road users over short gaps in the roadside hedgerows.

Proposed View

The distant view will consist of the expansion of the existing quarry over all three fields within the proposed extension area. As the Proposed Development progresses, it will result in notable quarrying activity across the proposed extended area resulting in a lowering of the current ridge and topography of these fields providing greater views of the existing quarry. New mounds formed along the field boundaries and with added woodland planting mix to soften their form. As the new planting matures it will form a belt of woodland on the northern boundary helping to further screen the lower end of the enlarged quarry extent.

Visual Receptor Sensitivity

The viewpoint is near a cluster of houses and represents an open view which may be shared by some of the houses and gardens without intervening vegetation or walls. Visual receptor sensitivity is considered to be High due to the proximity to houses and the scenic qualities to the view.

Magnitude of Change

There will be a notable loss of three fields currently under pasture and the various mature trees and hedgerow which divide these fields and bound the existing quarry's northern boundary. Together with changes to the landform from the quarrying activity within the proposed extension area. Additional mounds and woodland planting will be added to the proposed extended area's eastern, northern and western boundary edges.

The magnitude of change is considered Medium, defined as “...introduction of elements that may be considered uncharacteristic in the context, to the extent that the development becomes co-dominant with other elements in the composition and affects the character of the view and the visual amenity.”

Significant of Visual Effect

The significance of the visual effect is considered to be **Significant** for residents. The quality of the effect is considered adverse in quality, long term. The loss of agricultural lands will result in the quarry becoming more prevalent within the varied views of a few residents. However, as initial views of the lower quarry lands become less apparent with the mature planting the effects will be reduce to **Moderate-Slight** adverse for residents.

Viewpoint 12– Kildare County Council Protected route on L6018 Puckstown Road

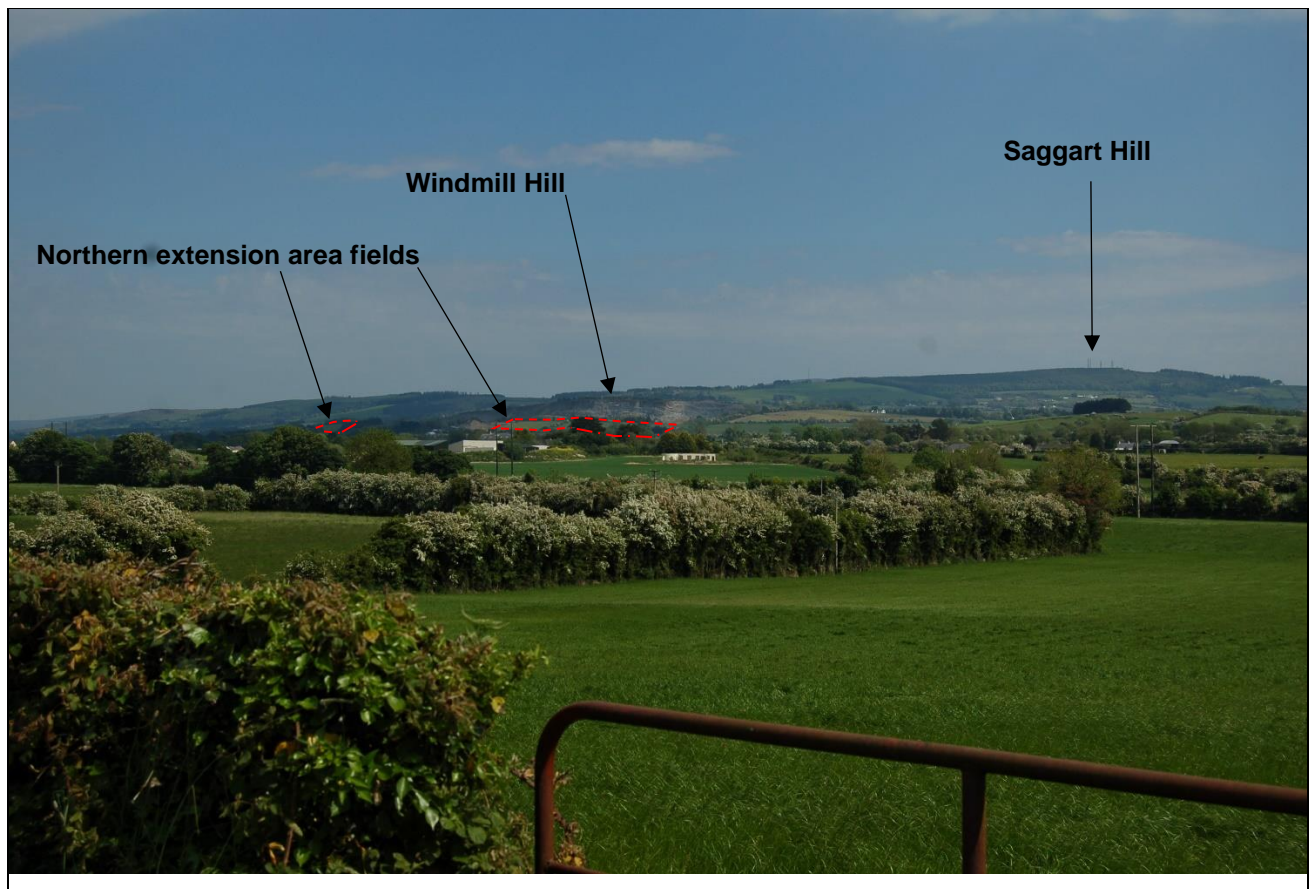


Figure 10.25: Viewpoint 12– Existing View

Existing View

The view looks across the undulating agricultural lands which includes Windmill Hill, Saggart Hill and Dublin Mountains in the background. The site/existing quarry is distinguished by the contrast of the rock face and mounds with the surrounding vegetation cover. The two sections of agricultural lands which form the proposed northern extension area are partially visible to the front of the existing quarry in the middle ground.

Proposed View

The distant view will consist of the expansion of the existing quarry over all three fields within the proposed extension area. There is some partial screening of the Proposed Development by the mature trees bounding the intervening agricultural lands and new mounds.

The distance from the proposed site will mean that it will be hard to clearly distinguish the various quarrying activity as it progresses and lowers the current ridge and topography of these fields providing slightly expanded views of the existing quarry. The new mounds formed along the field boundaries and with added woodland planting mix to soften the edges of the extended quarry works. As the new planting matures it will form a belt of woodland on the northern boundary helping to further screen the lower end of the enlarged quarry extent.

Visual Receptor Sensitivity

The visual receptor sensitivity is considered to be High for road users on this county level designated scenic route.

Magnitude of Change

There will be a notable loss of three fields currently under pasture and the various mature trees and hedgerow which divide these fields and bound the existing quarry’s northern boundary. Together with changes to the landform from the quarrying activity within the proposed extension area. Additional mounds and woodland planting will be added to the proposed extended area’s eastern, northern and western boundary edges.

The magnitude of change is considered Medium, defined as:

“...introduction of elements that may be considered uncharacteristic in the context, to the extent that the development becomes co-dominant with other elements in the composition and affects the character of the view and the visual amenity.”

Significant of Visual Effect

The significance of the visual effect is considered to be **Significant**. The quality of the effect is considered adverse, medium term. The extended quarry will be in contrast with the other hills within this protected view but the distance (approximately 3km) will help reduce the significance of the Proposed Development. However, as initial views of the lower quarry lands become less apparent with the mature planting the effects will be reduce to **Moderate-Slight** adverse, in the long term.

10.6.2.3 Visual Summary

The visibility of the Proposed Development will occur within the same extents as the existing quarry. Any changes to the existing view will be most prevalent upon local receptors, including residents and road users, typically located northwards of the quarry. Visual changes include a loss of three fields, some boundary vegetation and greater views of quarrying activity on site. Mitigation measures to help reduce inwards views of the Proposed Development include providing new mounding with woodland planting and hedgerows along the boundaries with some effected views reducing as the planting matures.

The visual effects, listed below in Table 10-7 range from Not Significant to Significant visual effect in one view and the majority are adverse in quality.

Table 10-7: Summary of visual effects from each viewpoint

Viewpoint	Description	Visual Receptor Sensitivity	Magnitude of Change	Significance and Qualitatively		
				Short	Medium	Long
1	View from South Dublin County Council Protected View on Tay Lane	High	Low	Moderate-Slight Adverse		Slight Beneficial
2	View from Rathmill Green, Broadfield Manor housing estate	Medium	Low	Slight and Beneficial		
3	View from next to farmhouse along L8040 Keatings Park northeast of quarry	Medium	Negligible	Not Significant and Neutral		

4	View from along Colemanstown Lane north of quarry	Medium	Medium	Moderate-Slight, Adverse	Slight-Not Significant Adverse
5	View from nearest group of houses south of quarry along Windmill Road	Medium	Negligible	Not Significant Slight and Neutral	
6	View from group of houses along Windmill Road west of junction with Carrigeen Lane	High	Low	Moderate-Slight and Neutral	
7	View from next to group of houses along Windmill Road to the southwest of quarry	Medium	None	None	None
8	View from edge of a group of houses along Rathcoole Hill Road at junction of Carrigeen Lane	High	Negligible	Not Significant, Neutral	
9	View from along L6044 Oweneen's Lane	Medium	Negligible	Slight and Beneficial	Not Significant Beneficial
10	View from group of houses along L6002 Athgoe Road	Medium	Medium	Significant Adverse and	Moderate-Slight and Adverse
11	View from group of houses along Old Chapel View Road	High	Medium	Significant Adverse and	Moderate-Slight and Adverse
12	View from Kildare County Council Protected route on L6018 Puckstown Road	High	Medium	Significant Adverse and	Moderate-Slight-and Adverse

10.6.3 Cumulative Effects

Cumulative landscape effects can be defined as those which:

'...result from additional changes to the landscape or visual amenity caused by the proposed development in conjunction with other developments (associated with or separate to it) or actions that occurred in the past, present or are likely to occur in the foreseeable future' (Landscape Institute and IEMA, 200 quoted in GLVIA 2013).

The potential for cumulative landscape and visual effects to have occurred, e.g., other quarries, road schemes or large-scale housing/industry across the study area were considered.

The potential for cumulative landscape and visual effects of the Proposed Development with other potential development types e.g., other quarries, road schemes or large-scale housing/industry across the study area were considered. However, following a review of South Dublin County Council and Kildare County Council Planning Portals there are no developments likely to have any notable potential cumulative interaction with the Proposed Development.

Several active quarries are located across the wider landscape (6-10km) within both SDCC and KCC areas. The nearest quarries are Ballinascorney (6.0km southeast) and Belgard (6.2km east). These various quarries through the wider landscape are generally contained within their local rural or urban landscapes and not likely to have any notable potential cumulative interaction with the Proposed Development, so are not considered any further here.

10.7 Conclusion

The Proposed Development is located within and adjacent to the existing Behan's Quarry, Rathcoole. The existing quarry covers an area of approximately 28.8ha across a variation in quarry floor levels. The quarry's various plant machinery, processing/office structures and stockpiles of the extracted materials are all contained within the EIA project boundary. The proposed further quarry expansion will laterally extend the existing quarry void to the north by approximately 4.1 ha. and deepen the existing quarry void to a final average depth of 150m AOD.

Despite its scale, views of the working quarry are generally hidden by the surrounding topography. The upper profile of the worked southern boundary does however stand proud of the tree cover within the quarry and in contrast to the surrounding local hills.

The Proposed Development will result in further excavation from the existing quarry void and expanding it northwards across three small fields, over an additional 5.19ha of which 4.11ha will be extracted. This will result in lowering of the existing quarry floor, loss of pasture cover and some boundary hedgerows and trees. The alternation to the landform across the agricultural lands set within the proposed extension area will highly noticeable across the local landscape but limited over the wider landscape. Mitigation measures at section 10.5 include the use of mounds and woodland planting along the revised boundary edges to help enclose the development. The implementation of the proposed landscape mitigation and remediation measures will increase the quantity and diversity of vegetation and habitat in the local landscape, as highlighted on the restoration plan (Appendix 10.1, Figure 10.26).

Similarly, the viewpoint assessment found that this alternation of landform would be most apparent from those nearest visual receptors north of the proposed site which already experience clear views of the existing quarry's deep southern rock face. These affected receptors will experience a localised visual change of landcover from pasture to quarrying, with the associated site works gradually lowering the existing landform. This will open the lands up and potentially increase the visual prominence of the quarry within these views compared to the existing quarry's visibility. However, the landscape mitigation measures include new mounds and woodland planting across the boundaries of the affected fields to help screen inwards views, which will further reduce as the planting matures.

The ridgeline of Windmill Hill, which is a SDCC protected prospect, helps to screen views of the existing quarry and proposed extension areas from the majority of receptors views located south of the quarry and this ridgeline. Some limited receptors have partial views of the existing quarry's mounds on the southern boundary. However, the proposed mitigation measures will help to soften their appearance with woodland planting.

APPENDIX 10.1

**Proposed Landscape Mitigation
(Drawing 214201-1-101/B)**



LEGEND

	EIA SITE BOUNDARY		LANDOWNER BOUNDARY
	WORKING QUARRY LIMITS		PROPOSED EXCAVATION
	EXPOSED ROCK FACES AND BENCHES IN THE EXTENDED AREAS		EXISTING BUILDING RETAINED
	EXPOSED ROCK FACES IN THE WORKING QUARRY		EXISTING WATER BODY
	EXISTING SCREENING MOUND		PROPOSED SCREENING MOUND
	EXISTING WOODLAND SUPPLEMENTED BY INFILL PLANTING AS REQUIRED		AGRICULTURAL FIELD
	NEW WOODLAND FRAMEWORK FOR SCREENING AND HABITAT ENHANCEMENT		BIRD BOX (indicative location)
	EXISTING HEDGEROW SUPPLEMENTED FOR SCREENING HABITAT		BAT BOX (indicative location)
	PROPOSED HEDGEROW		INVERTEBRATE HOUSING (indicative location)
	AREAS AROUND QUARRY FOR NATURAL COLONIZATION		
	AREA FOR REINSTATEMENT		

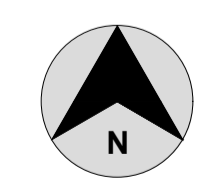
PLANTING SCHEDULE				
PLANT TYPE	%/No.	Size	Form	Spacing
WOODLAND MIX : Planted at 2-3m c/s in groups of 5-15 no.				
<i>Alnus glutinosa</i>	25%	120-150cm	1+1	2-3m c/s
<i>Betula pendula</i>	10%	120-150cm	1+1	2-3m c/s
<i>Ilex aquifolium</i>	5%	60-90cm	3lt cg	5/lin.m
<i>Pinus sylvestris</i>	15%	120-150cm	1+1	2-3m c/s
<i>Prunus avium</i>	10%	120-150cm	1+1	2-3m c/s
<i>Quercus robur</i>	20%	120-150cm	1+2	2-3m c/s
<i>Salix caprea</i>	10%	120-150cm	1+1	2-3m c/s
<i>Sorbus aucuparia</i>	5%	120-150cm	1+1	2-3m c/s

Hedgerow Mix supplementing existing and new hedgerows: Planted at 5/lin.m double staggered				
<i>Corylus avelana</i>	25%	40-60cm	B/R	5/lin.m
<i>Crataegus monogyna</i>	35%	60-90cm	B/R	5/lin.m
<i>Ilex aquifolium</i>	10%	45-60cm	2lt cg	5/lin.m
<i>Prunus spinosa</i>	10%	60-90cm	B/R	5/lin.m
<i>Rosa canina</i>	5%	40-60cm	B/R	5/lin.m
<i>Sambucus nigra</i>	5%	60-90cm	B/R	5/lin.m
<i>Viburnum opulus</i>	10%	40-60cm	B/R	5/lin.m

B	03/06/2021	REVISED LAYOUT
REV	DATE	AMENDMENT

CUNNANE STRATTON REYNOLDS
LAND PLANNING & DESIGN

DUBLIN OFFICE
3 MOLESWORTH PLACE DUBLIN 2
TEL 01 661 0419 FAX 01 661 0431
EMAIL info@csrlandplan.ie



PROJECT: BEHANS QUARRY EIAR WINDMILL HILL, RATHCOOLE, CO. WICKLOW	DATE: June 2021
DRAWING: PROPOSED LANDSCAPE MITIGATION	SCALE: 1:2000 @ A1
	DRAWN: CHECKED: RF DOL
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