CONTENTS

INTRODUCTION

Background

13.1 This chapter of the EIAR assesses the landscape and visual effects arising from the proposed development at Clonard, 6.5km north-west of Carbury, Co. Kildare. The planning application area, hereafter referred to as the application area or the site, is located east of the R401, and south of the M4 Motorway, approximately 6.5km south-east of Kinnegad and 7km north-east of Edenderry. The boundary with County Meath, which follows the River Boyne, is located c. 380m to the north-west of the existing site entrance.

13.2 The planning application is for quarry development and associated processing, as previously permitted under P. Reg. Ref. No. 99/2042 (ABP Ref. PL09.123207); and small lateral extension to same, with an overall extraction area of c. 6.2 hectares with no vertical deepening below the existing quarry floor. The application further comprises, importation for use in the concrete batching plant of a fine aggregate, principally sand, the use of all existing buildings and structures associated with the sand and gravel pit previously granted planning permission under P. Reg. Ref. No. 03/2754, closure of the existing site entrance and provision of a new entrance, some road improvement works and the restoration of the site to a combination of beneficial agricultural and ecological after-uses. Also included is a screening berm and associated screen planting, as well as blocks of native trees and a hedgerow at the new site entrance, where a section of existing hedgerow would have to be removed.

13.3 The overall planning application area measures c. 51.7 hectares, including the proposed road works. The proposed operational period is for 10 years plus 2 years to complete restoration (total duration sought 12 years). Further details on the proposed development are contained in **Chapter 2** of this EIAR.

13.4 This chapter should be read in conjunction with the following figures, which have been used to inform the EIAR chapter:

- **Figure 13-1:** Landscape Baseline and Viewpoint Locations;
- **Figure 13-2:** Zone of Theoretical Visibility (ZTV) Map;
- **Figure 13-3:** Viewpoints A & B;
- **Figure 13-4:** Viewpoints C & D;
- **Figure 13-5:** Viewpoints E & F;
- **Figure 13-6:** Viewpoints G & H;
- **Figure 13-7:** Viewpoints I & J;
- **Figure 13-8:** Viewpoints K & L.

Scope of Work / EIA Scoping

13.5 The EPA guidelines in relation to the preparation of an EIAR (May 2022)[1] suggest the following typical headings that may be included in respect of the prescribed environmental factor 'The Landscape':

- Landscape Appearance and Character;
- Landscape Context;
- Views & Prospects; and
- Historical Landscapes.

13.6 These headings are incorporated in the below assessment, as appropriate. However, in the absence of more detailed Irish guidance, the assessment contained within this chapter is based on the Third Edition of the Guidelines for Landscape and Visual Impact Assessment issued by the Landscape Institute and Institute of Environmental Management and Assessment[2] (hereinafter referred to as 'GLVIA3'). These guidelines are widely accepted as best practice for Landscape and Visual Assessment (LVIA) in Ireland.

13.7 GLVIA3 emphasises that landscape and visual effects are related but independent issues; landscape effects are changes in the landscape, its character and quality; while visual effects relate to the appearance of these changes and the resulting effect on visual amenity.

13.8 The assessment of overall landscape and visual effects and their significance is defined in terms of the relationship between the sensitivity of the landscape/visual receptors and the magnitude of the change.

13.9 As GLVIA3 (paragraph 2.23) states, professional judgement is an important part of the LVIA process: whilst there may be some scope for objective measurement of landscape and visual changes, much of the assessment must rely on qualitative judgements. It is critical that these judgements are based upon a clear and transparent method so that the reasoning can be followed and examined by others.

13.10 GLVIA3 sets out a framework for making judgements about the level of effects that may result from change or development. It describes a step by step approach in which: judgements about the value and susceptibility of the receptor are combined into a judgement about sensitivity; judgements about the size/scale of the effect, its geographical extent and its duration and reversibility are combined into a judgement about the magnitude of the effect; and finally, the judgements about sensitivity of the receptor and the magnitude of the effect are combined to judge the level of the effect. If the assessment forms part of an EIA, a threshold may then be identified to show which effects are considered to be significant and which are not.

13.11 GLVIA3 is not prescriptive about exactly how the various judgments required in this framework should be made. This is a matter for individual practitioners to decide and explain. In this document it has been assessed that Major or Major/Moderate levels of effect are significant.

13.12 The full LVIA methodology is described in **Appendix 13-A**. Please note that much of the terminology used in assessing the landscape and visual effects is in accordance with the above-mentioned EPA Guidelines. However, the terminology used in this LVIA to describe the level of effects (=

[1] Environmental Protection Agency (2022). Guidelines on the Information to be Contained in Environmental Impact Assessment Reports. Published May 2022. Environmental Protection Agency, Johnstown Castle Estate, Co. Wexford

[2] Landscape Institute and Institute of Environmental Management & Assessment (2013) *Guidelines for Landscape and Visual Impact Assessment*. Third Edition, Routledge.

"significance of effects" in the EPA Guidelines) differs slightly from said EPA Guidelines, based on examples provided in GLVIA3.

Technical Standards

13.13 Photography and visual representations are based on the principles set out in the Landscape Institute – Technical Guidance Note 06/19 – *Visual Representation of Development Proposals*[3]. There is no Irish standard/guidance, and in our experience, it is typically considered sufficient to provide two (annotated) viewpoints on one A3-sized sheet, using a range of horizontal angles of view (i.e. 40˚-110˚) to illustrate the full extent of the development within each photograph presented, as well as the context within which the site is located.

13.14 The Landscape Institute – Technical Guidance Note 02/21 – *Assessing landscape value outside national designations*[4] was taken account of in the preparation of the assessment methodology, as provided in **Appendix 13-A** at the end of this chapter.

Consultations / Consultees

13.15 In preparing the Environmental Impact Assessment Report for the previous planning application (P. Ref. 22/83), a pre-planning consultation meeting was held between officials of Kildare County Council and representatives of SLR Consulting Ireland and Kilsaran Concrete on 9-Dec-2021 via the Microsoft Teams platform (ref. **PP5260**). Staff from the planning, roads, environment and water departments of Kildare County Council were also in attendance.

13.16 As this planning application is for development broadly covering the same development as applied for previously under P. Ref. 23/83, albeit over a smaller application area due to the removal of the onsite sand and gravel extraction element, there was no formal pre-planning meeting held with Kildare County Council.

13.17 Following a review of published development plans and the site survey, it was considered that there was no requirement for a separate formal consultation to be carried out regarding the landscape and visual effects of the proposed development.

Contributors / Author(s)

13.18 The LVIA including site work and completion of drawings was carried out by Anne Merkle, an Associate Landscape Architect with SLR Consulting Ireland. Anne graduated from the Nürtingen-Geislingen University (Germany) in Landscape Architecture (Dipl.-Ing. (FH)), in 2002. She has 20 years' experience working for landscape consultancies in Ireland, specialising in Landscape and Visual Impact Assessments for a wide range of projects, including quarries, waste recovery facilities, wind farms, powerlines and mixed developments. In 2017, Anne completed an MSc in Biodiversity and Land Use Planning at NUI Galway. She is a full member of the Irish Landscape Institute (MILI) since 2005.

Sources of Information

13.19 The assessment is based upon a desk top assessment of relevant plans, guidance and landscape character assessments, as well as a thorough site assessment carried out in August 2022. The desktop study and field work were informed by:

[3] The Landscape Institute (2019) Technical Guidance Note 06/19: Visual Representation of Development Proposals, Landscape Institute.
[4] The Landscape Institute (2021) Technical Guidance Note 02/21: Assessing landscape value outside national designations.

- Kildare County Development Plan 2023-2029
- Meath County Development Plan 2021-2027
- digital and paper (Ordnance Survey Ireland) mapping at different scales; and
- information available on the internet (such as satellite images and information on recreational facilities and nature conservation sites)

Study Area

13.20 A study area of up to 2km to the south-east and east and up to 3km in all other directions surrounding the application area was identified during the desktop study, based on the Zone of Theoretical Visibility Map (refer to **Figure 13-2** and **Appendix 13-B**). This map indicates that the visibility of the site is much reduced by local undulations, with the largest potential visibility within 3km to the northwest of the site. It was confirmed during the field survey that the actual visibility is even further restricted, due to the presence of many tree lined hedgerows and woodland areas in the vicinity of the site. Nevertheless, the 2-3km study area is maintained for the purposes of providing landscape context.

Field Survey

13.21 A detailed field survey was carried out on 22nd June 2021, followed by a second visit on 7th April 2022 to collect additional viewpoint photography. Conditions during both visits were partially overcast, with sunny spells and good visibility. Photographs were taken during the field survey, using a Nikon D610 digital SLR full frame camera, with a fixed 50mm lens, mounted on a tripod with a panoramic head. The individual photos were taken in portrait format.

13.22 In accordance with GLVIA3, the field survey and viewpoint photography concentrated on publicly accessible areas, such as the road and public footpath networks, residential and outdoor recreational areas.

Limitations / Difficulties Encountered

13.23 No difficulties were encountered during the desktop study, field survey or in the preparation of this report.

Significant Risks

13.24 There are no known significant risks to human health or environmental effects, which may occur in relation to this landscape and visual impact assessment.

REGULATORY BACKGROUND

13.25 The following paragraphs set out the regulatory background with regard to LVIA in Ireland and the site-specific planning background relevant to the proposed development.

Legislation

13.26 In 2002, Ireland ratified the European Landscape Convention[5], which promotes the protection, management and planning of landscapes. The National Landscape Strategy for Ireland 2015-2025[6] was published *"to ensure compliance with the European Landscape Convention and establish principles for protecting and enhancing the landscape while positively managing its change"*.

13.27 Article 1a of the European Landscape Convention 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 has been included in the Planning and Development (Amendment) Act 2010, along with the requirement that objectives relating to landscape shall be included in development plans.

13.28 There is no Irish legislation specifically governing the preparation of landscape and visual impact assessments.

Planning Policy and Development Control

13.29 The Kildare County Development Plan (KCDP) 2023-2029[7] is the statutory plan detailing the development objectives/policies of the authority, covering the application area. Due to the proximity to the county boundary, the Meath County Development Plan (MCDP) 2021-2027[8] was also reviewed for landscape/visual designations (e.g. protected views), which may be affected by the proposed development.

13.30 Those policies/objectives, with relevance to this assessment, are listed below. The location/extent of all relevant landscape and visual designations is shown on **Figure 13-1**, at the end of this chapter

Kildare County Development Plan 2023-2029

Mineral Resources & Extractive Industry

13.31 Section 9.9 of the KCDP contains a number of policies and objectives regarding the extractive industry. Those of relevance to this assessment are documented below.

13.32 **Policy RD P8** *"Support and manage the appropriate future development of Kildare's natural aggregate resources in appropriate locations to ensure adequate supplies are available to meet the future needs of the county and the region in line with the principles of sustainable development and environmental management and to require operators to appropriately manage extraction sites when extraction has ceased."*

13.33 **Objective RD O42** *"Ensure that development for aggregate extraction, processing and associated concrete production does not significantly impact the following:*

… - Sensitive landscape areas as identified in Chapter 13 of this Plan.

[5] European Landscape Convention: https://www.coe.int/en/web/conventions/full-list/-/conventions/rms/0900001680080621
[6] National Landscape Strategy for Ireland 2015-2025: https://www.chg.gov.ie/app/uploads/2015/07/N-Landscape-Strategy-english-Web.pdf
[7] Kildare County Development Plan 2023-2029: https://kildarecoco.ie/AllServices/Planning/DevelopmentPlans/KildareCountyDevelopmentPlan2023-2029/index.html
[8] Meath County Development Plan 2021-2027: https://consult.meath.ie/en/consultation/meath-adopted-county-development-plan

- Scenic views and prospects. …

- Established rights of way and walking routes. …"

13.34 **Objective RD O44** *"Require applications for mineral or other extraction to include (but not limited to):*

… - A detailed landscaping plan to be submitted indicating proposed screening for the operational life of the site. The predominant use of native plant species in the proposed landscaping plan will be expected.

- Detailed landscaping and quarry restoration plans. Habitats and species surveying shall be carried out and shall influence the restoration plan for the site.

- Comprehensive Site Restoration Plan and/or After-Use Strategy having regard to the principles of 'Rehabilitation Ecology' …"

13.35 **Objective RD O49** "Have regard to the following guidance documents (as may be amended, replaced, or supplemented) in the assessment of planning applications for quarries, ancillary services, restoration and after-use:

… - Environmental Management Guidelines – Environmental Management in the Extractive Industry (Non-Scheduled Minerals), EPA (2006). …

13.36 **Objective RD O50** *"Ensure the satisfactory and sensitive re-instatement and/or re-use of disused quarries and extraction facilities, where active extraction use has ceased. Future uses should include amenity, recreation and biodiversity areas shall be informed by an assessment of the specific site/lands and shall be subject to an ecological impact assessment or other environmental assessments as appropriate. Where it is proposed to reclaim, regenerate, or rehabilitate old quarries by filling or re-grading with inert soil or similar material, or to use worked-out quarries as disposal locations for inert materials, the acceptability of the proposal shall be evaluated against the criteria set out in Section 15.9.6 of this Plan. The Council will resist development that would significantly or unnecessarily alter the natural landscape and topography, including land infilling/ reclamation projects or projects involving significant landscape remodelling, unless it can be demonstrated that the development would enhance the landscape and / or not give rise to adverse impacts."*

13.37 **Objective RD O51** *"Require that quarry remediation plans provide for environmental benefit, biodiversity and re- wilding in all instances. The 80% requirement for environmental/biodiversity may be waived at sites closer to urban areas where a significant portion of the site is being provided for sports, recreation, and amenity."*

Landscape

13.38 Section 13.3 of the KCDP refers to the 2004 landscape character assessment of the county and related landscape sensitivity assessment (note: the application area is fully located within the North-Western Lowlands Landscape Character Area (LCA), which is judged to be of Class 1 - Low sensitivity). It contains the following policies and objectives relevant to this assessment.

13.39 **Policy LR P1** *"Protect and enhance the county's landscape, by ensuring that development retains, protects and, where necessary, enhances the appearance and character of the existing local landscape."*

13.40 **Objective LR O1** *"Ensure that consideration of landscape sensitivity is an important factor in determining development uses. In areas of high landscape sensitivity, the design, type and the choice of location of the proposed development in the landscape will be critical considerations."*

13.41 **Objective LR O2** *"Require a Landscape/Visual Impact Assessment to accompany proposals that are likely to significantly affect:*

- *Landscape Sensitivity Factors;*
- *A Class 4 or 5 Sensitivity Landscape (i.e. within 500m of the boundary);*
- *A route or view identified in Map V1 - 13.3 (i.e. within 500m of the site boundary). …"*

13.42 **Objective LR O4** "Ensure that local landscape features, including historic features and buildings, hedgerows, shelter belts and stone walls, are retained, protected and enhanced where appropriate, so as to preserve the local landscape and character of an area."

13.43 **Objective LR O7** *"Restrict the quarrying of sensitive sites within the Landscape Character Areas in line with Table 13.3 and Table 13.4 above and to protect and conserve the ecological, archaeological, biodiversity and visual amenity surrounding quarry sites."* Note: Table 13.3 indicates that the North-Western Lowlands LCA has high compatibility with sand & gravel extractions. Table 13.4 indicates that Agricultural Land with Natural vegetation (as found within the application area) is *"likely to be compatible with great care"* with sand & gravel extraction.

13.44 **Objective LR O8** *"Ensure that all quarrying activities and projects associated with the extractive industry comply with all relevant Planning and Environmental Legislation and the Guidelines for the Protection of Biodiversity within the Extractive Industry document 'Wildlife, Habitats & the Extractive Industry'."*

13.45 **Objective LR O9** *"Continue to support development that can utilise existing structures, settlement areas and infrastructure, whilst taking account of local absorption opportunities provided by the landscape, landform and prevailing vegetation."*

Areas of High Amenity

13.46 Section 13.4 of the KCDP introduces Areas of High Amenity (AHA). These *"are classified because of their outstanding natural beauty and/or unique interest value and are generally sensitive to the impacts of development."* None of the listed AHAs are located in the vicinity of the application area or within the study area and these will therefore not be considered further as part of this assessment.

Scenic Routes and Protected Views

13.47 Section 13.5 of the current Kildare CDP states the following: *"Scenic routes provide views of the landscape of the county and many built and archaeological features. In addition to scenic routes there are a number of protected views throughout the county. These are located particularly along water corridors and to and from the hills in the countryside. Scenic routes and protected views consist of important and valued views and prospects within the county. These scenic routes, hilltop views and scenic viewpoints are listed in Table 13.5, 13.6 and 13.7 below and their locations can be seen on Map V1 - 13.3."*

13.48 Section 13.5 of the KCDP contains the following relevant policies and objectives.

13.49 **Policy LR P3** *"Protect, sustain and enhance the established appearance and character of all important views and prospects."*

13.50 **Objective LR O32** *"Avoid any development that could disrupt the vistas or have a disproportionate impact on the landscape character of the area, particularly upland views, river views, canal views, views across the Curragh, views of historical or cultural significance (including buildings and townscapes), views of natural beauty and specifically those views listed in Tables 13.5 – 13.7 of this plan."*

13.51 **Objective LR O33** *"Ensure developments (due to excessive bulk, scale, inappropriate siting or siting on steep slopes i.e. >10%) do not have a disproportionate visual impact or significantly interfere with or detract from scenic upland vistas when viewed from nearby areas, scenic routes, viewpoints and settlements."*

13.52 **Objective LR O35** *"Encourage appropriate landscaping and screen planting of developments along scenic routes. Where scenic routes run through settlements, street trees and ornamental landscaping may be required.*

13.53 None of the Scenic Routes identified in the KCDP are located within the study area. The closest such route (i.e. Scenic Route 26; refer to Table 13.5 of the KCDP), passes over 2km to the south-east, through an area which has not potential visibility of the application areas, as indicated by Figure 13-2, the ZTV map. Scenic Routes will therefore not be considered further as part of this assessment.

13.54 None of the 'Hilltop Views' or 'Views to and from bridges', listed in listed in Tables 13.6 & 13.7 of the KCDP, are located in the vicinity of or are directed at the application area and will therefore not be considered further as part of this assessment.

13.55 Section 13.5.1 of the KCDP, titled 'V*iews to and from Hills',* states the following: *"As the landform of the county is generally flat, with very little variation in topography and predominantly low vegetation, extensive views can be obtained from hilltops, allowing vistas over long distances, and similarly from the lowland areas the eye is drawn to the primary and secondary ridgelines that define the skyline throughout the county.*

Ridgelines are conspicuous features of the natural landscape as they perform an important role as dominant landscape focal points. It is important that development does not interrupt the integrity of ridgelines. Development on steeply sloping land can be viewed over greater distances."

13.56 The south-eastern corner of the application area is located along a low ridgeline, with the quarry being located on a small hill along this ridgeline. Neither the ridgeline nor the hill form conspicuous features in the local landscape, due to their low gradients/elevation and indistinctive shapes. Also, no Hilltop Views or ridgelines are indicated on Maps V1 – 13.2 or 13.3 of the current KCDP within or in the vicinity of the application area. Nevertheless, an assessment of the effect of the proposed development on this local ridgeline will be made, as part of the assessment of landscape and visual effects below.

The Meath County Development Plan 2021-2027

13.57 There are no Views and Prospect or waymarked driving/walking/cycling routes listed in the current MCDP, within the study area.

RECEIVING ENVIRONMENT

Landscape Baseline

Existing Relevant Landscape Character Assessment

13.58 The application area is fully located within the **North-Western Lowlands LCA**, as described in the 2004 Landscape Character Assessment for County Kildare. This comprises the generally flat landscape covering over 100km^2 in the north-western corner of County Kildare, along the boundaries with Co. Meath and Co. Offaly. The North-Western Lowlands LCA is adjoined by the Kildare Western Boglands LCA, over 5km to the south-east.

13.59 Within 400m to the north-west of the application area, across the River Boyne the County Kildare North-Western Lowlands LCA is adjoined by the County Meath South West Lowlands LCA 15, as defined in the Meath Landscape Character Assessment (contained in Appendix 05 of the current MCDP 2021-2027). LCA 15 extends north for approximately 20km from the border triangle of Co. Meath, Co. Kildare and Co. Offaly and covers an area of well over 100km^2.

North-Western Lowlands LCA (Co. Kildare)

13.60 The 2004 landscape character assessment describes the North-Western Lowlands LCA as follows. *"This lowland landscape character unit is located on the north-western boundary of the County. The area is characterised by generally flat topography and smooth terrain, which gently undulates around Carbury, to a maximum elevation of 142m O.D. at Carbury Hill. The occurring open lands with medium to large field patterns are bordered by well-maintained and low hedgerows, which contain scattered trees along some sections of the field boundaries. Although hedgerows partially screen the adjacent lowest lying areas, the commonly flat terrain allows long distance visibility. Distant views include the skylines of Newtown Hills to the east and Allen Hill to the south east. …"*

13.61 Land Uses within the North-Western Lowlands LCA are described as predominantly *"… pasture, with large areas of non-irrigated arable lands (mainly tillage). A relatively large area of mixed forest, combined with some coniferous plantations can also be found. Extensive areas of bogland also occur, combined with peat extraction sites, as well as gravel extraction sites west of Cadamstown.*

13.62 *Existing small villages such as Carbury, Cadamstown, combined with other smaller settlements and dispersed rural houses and farm dwellings throughout the countryside, are indicative of a relatively low population density."*

13.63 Critical Landscape Factors, relevant to the application area and surrounding land, are cited as follows.

- "Smooth Terrain: Smooth terrain and the generally gentle topography and landform that characterised this landscape character unit, allows vistas over long distances without disruption. Consequently development can have a disproportionate visual impact in such terrain, due to an inherent inability to be visually absorbed. …
- Shelter Vegetation: Shelter vegetation is represented at some stretches of this unit by mixed forests and the presence of trees that grow on field hedgerows. In a similar manner to undulating topography, shelter vegetation has a shielding and absorbing quality in landscape terms. It can provide a natural visual barrier and also adds to the complexity of a vista, breaking it up to provide scale and containment for built forms."

13.64 The landscape character assessment contains a landscape sensitivity rating applicable to Kildare's landscapes. This is defined as being *"a measure of the ability of the landscape to accommodate*

change or intervention without suffering unacceptable effects to its character and values. It is determined using the following factors: slope, ridgeline, water bodies, land use and prior development."

13.65 The North-Western Lowlands LCA is judged to be of Class 1 – Low sensitivity which is described as follows: *"Areas with the capacity to generally accommodate a wide range of uses without significant adverse effects on the appearance or character of the area."* Further to that two landscape compatibility matrixes indicate that the North-Western Lowlands LCA has high compatibility with sand & gravel extractions and that Agricultural Land with Natural vegetation (as found within the application area) is *"likely to be compatible with great care"* with sand & gravel extraction.

LCA 15 – South West Lowlands (Co. Meath)

13.66 As described in the Meath Landscape Character Assessment the South West Lowlands LCA 15 *"is characterised by rolling hills interspersed with beech copses and well-wooded hedgerows dividing rough pasture. The main transport routes are the N4 from Enfield to Kinnegad and the Royal Canal (a tourist route). This is one of the more remote areas of Meath with only the village of Clonard servicing a large area. Pasture farmland is dominant although there is rough pasture in the upland areas interspersed with a mix of woodland plantations, small copses and scrubby woodland more prevalent in the south west. Fields are small to medium sized and enclosed with well-wooded hedgerows. …*

13.67 *Views within this area are generally limited by the complex topography and mature vegetation except at the tops of drumlins and from bridges crossing the Royal Canal where panoramic views are available. Short-range views are channelled along narrow valleys between drumlins often along roads and the lowland adjacent to the Royal Canal."*

13.68 LCA 15 is classed in the Landscape Character Assessment document as being of high landscape value, medium landscape sensitivity and regional landscape importance.

Landscape of the Site and its Context

13.69 GLVIA3 recommends that a landscape character assessment should be carried out as part of the baseline study (paragraph 5.4). This should consider:

- The elements that make up the landscape (e.g., physical, land cover and the influence of human activity);
- Aesthetic and perceptual aspects (e.g., scale, complexity, openness, tranquillity or wildness); and
- The overall character of the area.

Landscape Elements

13.70 The site application area is 51.7 ha in size. It is of an irregular shape and is made up from:

- the existing quarry in the south-eastern corner;
- the existing settlement ponds along the southern boundary;
- the processing / storage / office areas at the centre of the site, within the previously permitted sand & gravel pit area (P. Reg. Ref. No. 03/2754); and
- two agricultural fields along the north-western boundary, within one of which the new access road would be located.

13.71 The existing sand and gravel pit comprises the current extraction area, but also an area parallel to the north-western boundary of the site, which has been restored to agricultural land in 2021.

13.72 A mixed forestry plantation adjoins the existing sand and gravel pit to the east and the processing/ storage area to the north-east. All other parts of the application areas are bound by mature hedgerows and adjoined by agricultural fields under pasture. Along the north-western boundary, a local road separates the application area from the adjoining agricultural land.

13.73 The ground levels within the existing site development are varied and range from 66m above Ordnance Datum (AOD) at the existing site entrance to 116m AOD at the top of the southern quarry face. The levels within the processing area range from 67-74m AOD, the silt lagoons from 66-78m AOD and the existing sand and gravel pit (including restored areas) from 69-73m AOD. The existing quarry floor is at c. 75-76m AOD and an overburden storage area to the north-east of the quarry reaches just under 100m AOD. The two agricultural fields along the north-western boundary slope gently towards the local road from 70-65m AOD.

13.74 The wider landscape is dominated by agricultural land, with most fields under pasture, but also some arable fields. Several blocks of conifer plantations/mixed forests break up the agricultural land within 3km to the north-east and south-west of the application area. There are two disused sand and gravel pits within 1km to the west and south-west and a further 4 active/disused pits between 2-4km to the south-east. All of these, in particular those disused for a number of years, have been largely recolonised with grass and scrub species. The field pattern in the wider landscape is irregular, variable in scale and defined by a mixture of dense low-cut hedgerows and unmanaged, gappy tall hedgerows/treelines.

13.75 The topography of the surrounding land is flat to gently undulating with levels typically ranging from 70 to 90m AOD and including some occasional local highpoints. This includes a highpoint of 119m AOD at Kilrainy, just under 1km south-east of the application area and the highpoint of 106m AOD at Clogharinka, as well as the highpoint in the south-eastern corner of the site, which was formerly 119m AOD (as indicated on the OSI 1:50,000 mapping). The lowest elevations of just below 70m AOD are along the River Boyne, which traverses the study area in a south-west to north-east direction. Views into the wider landscape and in particular towards distant higher ground (e.g. Allen Hill), are blocked by the aforementioned local highpoints, as well as the otherwise flat/gently undulating topography and many intervening hedgerows and woodlands.

13.76 There are no villages or towns within the study area. The largest group of properties, as well as a church, school and library, are located at Clogharinka, approximately 1km to the south of the application area. The main settlements closest to the application area include Longwood (Co. Meath), located approximately 7km to the north-east, Kinnegad (Co. Westmeath), approximately 6.5km to the north-west and Edenderry (Co. Offaly), approximately 7km to the south-west. Isolated and groups of properties are located along the regional and local roads surrounding the site.

13.77 The main transport routes through the study area are the R401 – Regional Route and the M4 motorway. The R401 runs in a north south direction, connecting Kinnegad and the M4 with Edenderry and passes the application area to the west. The M4 passes to the north-east and the R148 (the former N4) to the north-east. The latter provides access to the M4, with the closest interchanges at Kinnegad and Enfield. A dense network surrounds the application area, however with little interconnection between the north-western and south-eastern half of the study area, due to the barrier posed by the River Boyne. The only bridges over the river within the study area are those along the R401,the R148 and the M4.

13.78 A high voltage electricity transmission line passes the application area approximately 250m to the south-west. The large steel lattice towers are locally dominant features.

13.79 Human activity has strongly influenced the land use within the study area, in the form of agriculture, forestry and sand and gravel extraction. On a smaller scale, human influences are visible in the form of roads, buildings and the aforementioned high voltage powerline, as well as wooden electricity poles. On the whole, while this is an attractive rural landscape, due to the abundance of vegetation, there are few locations from where no man-made structures are visible (i.e. mostly roads, buildings or electricity poles).

Aesthetic and Perceptual Aspects

13.80 While there are many large fields within the study area, the scale of the landscape is generally reduced, due to the enclosure from tree-lined hedgerows and/or forestry. In locally elevated locations, such as at Clogharinka, where views through gaps in or over hedgerows are available, the scale increases. However, it is ultimately still restricted by the combination of many layers of hedgerows and lack of significant changes in the topography, within the study area.

13.81 Due to the dominance of agricultural fields, bound by hedgerows, the colours and textures throughout the study area are simple and repetitive, but with no regular pattern. There are some areas where the complexity of colours and textures locally increases, i.e. at the existing sand and gravel pits and forestry plantations. The simple colour palette is dominated by multiple shades of green, with the sand and gravel pits contributing some complementing (i.e. not contrasting) greys and blues.

13.82 While the study area has an overall natural appearance, there is little sense of wildness or remoteness, due to the many signs of human activity, such as improved grassland, tillage, electricity poles, roads and buildings. There are no distinctive features, such as regular field patterns, conspicuous hills or ridgelines.

13.83 Due to the relative lack of noise and movement along the network of local roads, there is a sense of tranquillity in some parts of the study area. This is reduced in the vicinity of the existing active sand and gravel pits, due to the sound of existing processing machinery and movement from vehicles accessing these sites.

Overall Character

13.84 The site assessment supports the inclusion of the Site and its immediate context within the **North-Western Lowland LCA**, as set out in the 2004 Landscape Character Assessment for Co. Kildare.

Protected Nature Conservation Sites

13.85 There are no nature conservation sites within the study area. The closest such sites are:

- Ballina Bog Proposed Natural Heritage Area (pNHA, site code: 000390), approximately 3.7km to the east;
- Molerick Bog Natural Heritage Area (NHA, site code: 001582), approximately 4.9km to the north; and
- the Carbury Bog NHA (site code: 001388), approximately 5km to the south-east.

Visual Baseline

Zone of Theoretical Visibility (ZTV)

13.86 The visibility of the application area was initially assessed by a desktop study of OSI Discovery Maps (1:50,000) and available aerial photography. This was followed by 3D computer modelling and

calculation of the zone of theoretical visibility (ZTV), using LSS (McCarthy Taylor) software, in accordance with the methodology provided in **Appendix 13-B** at the end of this section.

13.87 The ZTV, which illustrates the subtended vertical angle of visibility (refer to **Appendix 13-B**), was calculated for the proposed quarry extraction area, as this is the most elevated part of the application area. It should be noted that the ZTV mapping is based on a bare terrain; that is, the computer model does not include built structures or vegetation. As a result, the extent of visibility, which is illustrated, is regarded as a worst-case scenario, and would be greatly reduced if buildings and vegetation, such as the existing hedgerows and trees/forestry along the site boundaries, were included in the model. Also, the proposed screening berm along a section of the western site boundary was not included in the ZTV calculation. Consequently, the ZTV mapping illustrates the potential visibility of the proposed quarry area with no screening berms and no screening vegetation in place.

13.88 In SLR's experience, views from within areas with a visibility of a subtended vertical angle of up to 0.4 degrees tend to be screened by hedgerows and other vegetation (if present) and/or built structures in an urban environment. These areas are coloured in shades of grey on the ZTV mapping, in order to differentiate them from the areas with a higher probability of visibility, which are marked in shades of yellow, orange and red.

13.89 The resulting ZTV is depicted on **Figure 13-2.** It indicates that a higher probability of visibility of the proposed development would be from locations within 0.8km to the south-west, 1.5km to the north-east and up to 3km to the north-west of the application area (i.e. the areas of theoretical visibility in yellow, orange and red).

13.90 While there are large areas up to and beyond 4km to the south-west, west, north and north-east of the application area indicated as having theoretical visibility of the proposed development, all of these areas have a low probability of actual visibility, as indicated by the shades of grey. As mentioned above, views from within these areas are very likely screened by existing intervening vegetation (which was confirmed during the field survey).

13.91 Also, it should be noted that the majority of the theoretical visibility areas cover agricultural land, which is not publicly accessible. While parts of the site may be visible from this land, only few and infrequent visual receptors are present in those areas (i.e. the owners of the land) and these are therefore not assessed in detail.

13.92 The ZTV further illustrates that there would be very little and mostly no visibility of the proposed development from most locations beyond 300m to the south, south-east and east of the application area.

Actual Visibility

13.93 The actual visibility of the application area, from the areas of visibility indicated by the ZTV mapping (**Figure 13-2**), was assessed during the field survey, concentrating on publicly accessible locations. This confirmed that existing roadside and intervening vegetation blocks views towards the application area from the vast majority of locations within the study area.

13.94 It was established that the visibility of (parts of) the application area is restricted to:

- intermittent views from a ca. 500m long section of the local road between Glynn Cross Roads and Dammeen Bridge (including adjoining residential properties);
- views from a ca. 400m long stretch of the local road along the north-western boundary of the application area, north and south of the proposed site entrance location;

- intermittent views from a ca. 750m long stretch of the local road to the north-east of the application area (including adjoining residential properties);
- intermittent views from a ca. 1,700m long stretch of the local roads to the north of Clogharinka and south of the application area (including adjoining residential properties);
- views from a ca. 250m long stretch of the local road west of the R401 at Nule's Bridge (including one adjoining residential property); and
- intermittent a ca. 300m long stretch of the local road at Ticroghan, approx. 2km north-west of the application area (including one adjoining residential property).

13.95 Viewpoint photography was taken during the first field survey from several locations throughout the study area and initially six of these were selected to represent the range of available views. A further six viewpoints were added following the second field survey, to illustrate better the limited extent of visibility of the hill on which the existing quarry is located, as well as the changes to the skyline from the proposed development. The location of the twelve viewpoints is illustrated on **Figures 13-1** & **13-2**. For each of the viewpoints, annotated images showing the existing view are provided (refer to **Viewpoints A-L** on **Figures 13-3** to **13-8**). These images are made up from 4-6 individual photographic frames, which were merged together using Adobe Photoshop software. It should be noted that photography is a tool to assist in the visualisation process and cannot be expected to replicate the actual view that would be attained on the ground.

13.96 **Viewpoint A** represents intermittent views from the local road east of Glynn Cross Roads. The views can be gained through gaps in / over low sections of the existing hedgerow or where the hedgerow has been locally removed (as is the case for Viewpoint A). They are views north-east over gently undulating agricultural fields, towards a shallow ridgeline between 800-1,200m away, depending on the exact viewing location. Many mature trees are visible in the midground at a slightly lower elevation and along the top of parts of the ridgeline. The ridgeline is linear, except for a small indistinct hill in one location. The existing quarry within the application area is located to one side of the highpoint of this hill and the upper section of the eastern quarry face is visible. The skyline formed by the visible parts of the quarry is smooth and ties in with the remainder of the ridgeline, apart from a local drop in elevation at the location of the southern quarry face. A steel lattice electricity pylon dominates the midground of the view (i.e. in front of the visible section of the quarry). All other parts associated with the existing sand and gravel pit and hard-rock quarry development are fully screened by vegetation. Four residential properties along this section of road experience similar views.

13.97 **Viewpoint B** represents views from the local road to the north and south of the location of the proposed new site entrance. They are views north-east and south-west along the road corridor, with dense hedgerows on either side, restricting views into the neighbouring agricultural fields and wider landscape (including the existing sand and gravel pit and hard-rock quarry development). Some glimpsed views of the neighbouring fields are available through gaps in the hedgerows (in particular during the winter months, when deciduous trees/shrubs are not in leaf).

13.98 **Viewpoint C** represents intermittent views along the local road to the north-east of the application area. The views can be gained through gaps in / over low sections of the existing hedgerow. They are views south-west over gently undulating agricultural fields, towards a mixed woodland plantation between 400-1,000m away to the right and a local ridgeline between 1,000-1,700m away, to the left in available views. Part of the plantation appears to be located on a local ridge, which is further accentuated by the height of the trees. The plantation continues to be visible at a lower elevation and merges with the tall trees along several hedgerows forming a dense band across the midground of available views. A shallow ridgeline is visible above parts of this band and

a small indistinct hill is formed in one location. The existing quarry within the application area is located to the front of the highpoint and the upper section of the southern and parts of the western quarry faces are visible. The skyline formed by the visible parts of the quarry is smooth and ties in with the remainder of the ridgeline. All other parts associated with the existing sand and gravel pit and hard-rock quarry development are fully screened by vegetation. Ca. five residential properties along this section of road experience similar views.

13.99 Please also note **Viewpoint G,** located further south along the same road as viewpoint C, at the entrance to Kilrainy Equestrian Centre. This is the only view towards the application area from the southern end of this road and only possible due to the gap in the roadside hedgerow at the entrance. Similar to Viewpoint C, but to a smaller extent, parts of the existing quarry are visible above a treelined boundary hedgerow. In addition, parts of the existing storage area north of the existing quarry are visible. However, the remainder of the existing sand and gravel / hard-rock quarry development are fully screened.

13.100 **Viewpoints D, I, J, K** & **L** represent intermittent views from the local roads north of Clogharinka and south of the application area. Again, views can be gained through gaps in / over low sections of the existing hedgerow. They are views north, north-west and north-east over gently undulating agricultural fields, towards a shallow ridgeline between 200-1,200m away, depending on the exact viewing location. Mature trees visible in the midground and/or background at lower elevations of and/or along the top of parts of the ridgeline, depending on the proximity of the viewpoint location to the application area (i.e. the proximity to the ridgeline). The ridgeline is linear, except for a small indistinct hill in one location. The existing quarry is located on the far side of the hill and therefore none of the existing quarry faces are visible in any of these views. The only indication of the quarry is an area of disturbed ground in the vicinity of the highpoint. All other parts associated with the existing sand and gravel pit and hard-rock quarry development are fully screened by vegetation. Ca. eight residential properties along these sections of road experience similar views.

13.101 **Viewpoint E** represents views from a short section of the local road, west of Nule's Bridge. They are views north-east over gently undulating agricultural fields, towards woodlands and tree-lined hedgerows at varying distances. Therefore, trees are visible along the skyline of the entire view, except for a glimpse of the top of the hill upon which the existing quarry is located, which is just about perceptible at a distance of ca. 3km. All other parts associated with the existing sand and gravel pit and hard-rock quarry development are fully screened by vegetation. One residential property along this section of road experiences similar views.

13.102 **Viewpoint F** represents views from a short section of the local road 2km north-west of the application area, across the River Boyne. They are views north-east over gently undulating agricultural fields, towards tree-lined hedgerows in the mid ground and a shallow, linear, mostly tree-lined ridgeline at 3km distance in the background. A small indistinct hill is formed at one location along the ridgeline. The existing quarry within the application area is located to the front of the hill and part of the southern quarry face is distantly visible. The skyline formed by the visible parts of the quarry is smooth and ties in with the remainder of the ridgeline. All other parts associated with the existing sand and gravel pit and hard-rock quarry development are fully screened by vegetation. One residential property along this section of road experiences similar views.

13.103 **Viewpoint H** illustrates how existing vegetation along the roads in the vicinity of Kilrainy Cross Roads, combined with the locally sloping topography screens views towards the existing sand and gravel pit and quarry development (except for a glimpse of the existing storage area to the north of the quarry over a field gate). Further south and east of this location views towards the site are fully screened by topography alone, as indicated by the ZTV mapping (refer to **Figure 13-2**).

Outdoor Recreational Facilities within the Study Area

13.104 Rahin Woods, popular with local walkers, is located 1.2km to the south-west of the application area. The ZTV mapping (refer to **Figure 13-2**) indicates a low level of visibility for this facility, however, due to the screening provided by the woodland environment, the existing/proposed development is/will not be visible from this area.

13.105 There are no known other outdoor recreational facilities, such as long-distance walking routes, located within the study area.

Sensitive Receptors

Landscape Receptors

13.106 The landscape receptors potentially affected by the proposed development and therefore considered as part of the assessment of landscape effects, are:

- Individual elements:
  - Some sections of hedgerows and areas of scrub; and
  - Small hill upon which the existing quarry is located.
- Overall Character:
  - North-western Lowlands LCA.

13.107 No distinctive or highly sensitive aesthetic / perceptual aspects were identified within the study area, such as wildness, and/or they were found to be already influenced by the existing sand and gravel developments in the local area (e.g. simple colours and textures, locally more complex, due to presence of sand and gravel pits; or tranquillity, locally influenced by existing sand and gravel pits). Considering the proposed development would be a continuation of a long-established existing development, in a local landscape where sand and gravel pits are a common feature, none of the aesthetic and perceptual aspects, were identified as sensitive landscape receptors to be brought forward to the assessment of landscape effects.

Visual Receptors

13.108 The visual receptors, potentially affected by the proposed development and therefore considered as part of the assessment of visual effects, are:

- Residents:
  - Ca. four residential properties between Glynn Cross Roads and Dammeen Bridge (represented by **Viewpoint A** on **Figure 13-3**);
  - Ca. five residential properties along the local road to the north-east of the application area (represented by **Viewpoint C** on **Figure 13-4**);
  - Ca. eight residential properties along the local roads to the north of Clogharinka and south of the application aera (represented by **Viewpoints D, I, J, K & L** on **Figures 13-4, 13-7 & 13-8**);
  - One residential property in the townland of Corwig, ca. 2.2km south-west of the application area (represented by **Viewpoint E on Figures 13-5**); and
  - One residential property in the townland of Ticroghan, ca. 2km north-west of the application area (represented by **Viewpoint F on Figures 13-5**).

- Vehicle users:
  - Intermittently along a ca. 500m section of the local road between Glynn Cross Roads and Dammeen Bridge (represented by **Viewpoint A on Figure 13-3**);
  - Along a ca. 400m section of the local road along the north-western boundary in the vicinity of the proposed new site entrance (represented by **Viewpoint B** on **Figure 13-3**);
  - Intermittently along a ca. 750m section of the local road to the north-east of the application area and at the entrance to Kilrainy Equestrian Centre (represented by **Viewpoints C & G** on **Figures 13-4** & **13-6**);
  - Intermittently along a ca. 1,700m section of the local roads to the north of Clogharinka and south of the application aera (represented by **Viewpoints D, I, J, K** & **L** on **Figures 13-4, 13-7** & **13-8**);
  - Along a ca. 250m section of the local road in the townland of Corwig (represented by **Viewpoint E** on **Figures 13-5**); and
  - Intermittently along a ca. 300m section of the local road in the townland of Ticroghan (represented by **Viewpoint F** on **Figures 13-5**).

IMPACT ASSESSMENT

13.109 This section sets out the effects that the proposed development would have on both landscape and visual receptors (as identified in the previous section), during the operational stage of the quarry extraction works, including restoration activities (i.e. 12 years), as well as during the post-operational stage (i.e. permanent, on completion of all restoration works). It is based on the detailed project description and layout drawings contained in **Chapter 2** of this EIAR.

Aspects of the Development which Have the Potential to Cause Landscape and Visual Effects

Operational Stage

13.110 The operational stage of the proposed development, for the purpose of this assessment, is considered to include the extraction and restoration period, i.e. 12 years.

13.111 The following elements of the proposed development, at the operational stage, are those which are most likely to result in landscape & visual effects:

- the removal of a section of hedgerow to the north and south of the location of the new site entrance to facilitate the sightlines and associated new native hedge and tree planting in compensation and to provide screening (including tree planting to block off the current site entrance), refer to EIAR **Figure 2-4** (Proposed Landscape Plan);
- the removal of a short section of hedgerow and some small areas of scrub surrounding the existing quarry void, refer to EIAR **Figure 2-4**;
- the construction and presence (for the duration of the extraction works) of a 2m high timber acoustic fence along the northeastern side of the new access road, refer to EIAR **Figure 2-4**;
- the construction of a screening berm along the western site boundary and associated native tree planting to provide additional screening, refer to EIAR **Figure 2-4**;
- the proposed scrub planting, to augment existing scrub on the slope to the south of the quarry void, refer to EAIR **Figure 2-4.**
- the changes to the landform within the quarry extraction area, including the reduction in height of a local hill (in line with what was previously permitted under P. Ref. 99/2042 (PL09.123207));
- the restoration of the existing sand & gravel pit and processing / storage areas to agricultural land, with lower pit slopes smoothed out to merge with surrounding land and the taller pit slopes re-graded to slopes less than 27 degrees (i.e. 2:1, H:V), refer to EIAR **Figure 2-5** (Proposed Restoration Plan);
- the proposed planting of hedgerows throughout the restored site re-creating some the former field system and providing connectivity between existing boundary vegetation, refer to EIAR **Figure 2-5**; and
- leaving the remainder of the application area, i.e. the quarry void and the settlement ponds to natural regeneration, refer to EIAR **Figure 2-5**.

13.112 It should be noted that, no additional lighting over and above what is already in place (refer to EIAR Chapter 2 – para. 2.138 to 2.142) within the existing development would be installed. This includes no proposed lighting at the new site entrance or access road. All lighting would continue to only

be in use for wintertime operations, when darkness has fallen, within the permitted site operating hours. The site is proposed to operate 07:00-18:00 Mon-Fri & 07:00-14:00 Sat (loading only before 08:00) in line with the previously permitted operational hours (P. Ref. 99/2042 and P. Ref.03/2754). There would therefore be a period where such lighting would be required for up to 2 hours in the morning and 2 hours in the evening during the height of winter. Night-time light pollution caused by the proposed development would therefore continue to be of brief duration during winter months and is not considered significant.

13.113 It should also be noted that road improvement works are proposed in three locations along the local road to the north of the site entrance (refer to **Figure 13-1** for an indication of the improvement works locations and EIAR Chapter 14 for more information on the proposed works). These works would result in the removal of some sections of existing boundary walls, grass ditches and hedgerows, however, all of which would be reinstated along the realigned boundaries. Considering these changes will be localised and temporary, the resulting landscape and visual effects are not considered significant and will not be discussed in detail below.

Post-Operational Stage

13.114 The post-operational stage of the proposed development, for the purpose of this assessment, is considered to be the period when all extraction and restoration works are completed.

13.115 The following elements of the proposed development, at the post-operational stage, are those which are most likely to result in landscape & visual effects:

- The proposed hedgerows within the site, which would take a number of years to mature and provide functional links within the site.

Operational Stage Landscape Effects

Landscape Sensitivity

13.116 In accordance with GLVIA3, the sensitivity of landscape receptors is determined by combining their value with their susceptibility to the type of development proposed.

13.117 In determining the value of landscapes, GLVIA3 recommends that the starting point should be to consider landscape-related designations. In this context it is important to note that no part of the application area or its immediate context is included within a statutory landscape designation.

13.118 GLVIA3 states that the value of undesignated sites should also be considered. Table 1 of Landscape Institute Technical Guidance Note 2/21 supersedes Box 5.1 of GLVIA3 and provides a helpful guide for assessing these sites. A full assessment against a list of factors set out in the Technical Guidance Note is included in **Table 13-1**, below.

Table 13-1
Evaluation of the Value of the Site and its Immediate Context

Factor	Assessment	Notes
Natural Heritage	COMMUNITY	The site is not designated for ecological reasons but contains and is surrounded by a mix of hedgerows, woodland and scrub areas which are of some local habitat value.
Cultural Heritage	COMMUNITY	No heritage assets remain within the application area. Some were previously recorded and removed under licence, prior to the current extraction works taking place (e.g. KD003-026----, a ring barrow on the summit of Ballykane Hill). Some further assets are located within a 1km radius of the site, most of which are visually separated from the site, by intervening topography and vegetation.
Landscape condition	COMMUNITY	The agricultural landscape surrounding the application area is in a good condition with well-tended fields and hedgerows. While the existing sand and gravel pits within and nearby the site have resulted in a local deterioration of the landscape condition they are not experienced as a detracting or incongruous features, as they are largely screened by existing boundary vegetation.
Associations	LOW	No known associations with art, literature or events.
Distinctiveness	LOW	The application area and surrounding land comprises a common lowland agricultural landscape. There are no rare or unusual features conferring a strong sense of place.
Recreational	LOW	The site is not publicly accessible and there is no formal recreational access to the land immediately surrounding it.
Perceptual (Scenic)	COMMUNITY	The agricultural nature of the surrounding lowland agricultural landscape may be appreciated by local residents and vehicle users in the vicinity of the application area. However, there are no memorable or distinctive landmarks / views within the site or in the surrounding land.
Perceptual (Wilderness and tranquillity)	COMMUNITY	The site and immediate surrounding area have no strong perceptual value, such as remoteness or wildness. While there is tranquillity in some parts of the study area, this is diminished in the vicinity of any of the active sand and gravel pits and at times along the local roads.
Functional	COMMUNITY	The hedgerows within and surrounding the site, including some tall trees, have a function as a carbon sink (on a local scale).

13.119 Using the factors set out in **Table 13-1**, it has been concluded that the site and its immediate context has some value at the community level, in particular regarding the rural agricultural nature of the landscape and existing hedgerows within the site. There are no aspects that would support the elevation of the value of the local landscape above the community level.

13.120 The susceptibility of each of the landscape receptors is assessed in **Table 13-2.** This is combined with the previously assessed value and a judgement of the overall sensitivity provided as well.

Table 13-2
Sensitivity of Landscape Receptors

Landscape Receptors	Value	Susceptibility	Overall Sensitivity
Individual Elements			
Some sections of hedgerows and scrub areas	**COMMUNITY**	Agricultural land with natural vegetation is classified as likely to be compatible with sand & gravel extractions in Kildare Landscape Character Assessment. **LOW**	**LOW**
Small hill	**COMMUNITY**	The KCDP states that ridgelines are susceptible to development, which can interrupt their integrity. Considering its low height and that the hill does not form a distinct landscape feature its susceptibility is assessed as **MEDIUM**	**LOW**
Overall Character			
North-western lowlands LCA	**COMMUNITY**	The Kildare Landscape Character Assessment states that this LCA has *"the capacity to generally accommodate a wide range of uses without significant adverse effects on the appearance or character of the area"* in general and specifically that it has high compatibility with sand & gravel extraction. The proposed development is contained within the existing sand and gravel pit / hard-rock quarry, as well as parts of four adjoining pasture fields, with all existing external vegetation retained (except for at the new site entrance), which supports the assessment of low susceptibility. **LOW**	**LOW**

Magnitude of Landscape Change

13.121 **Table 13-3** describes the size and scale, geographical extent and duration/reversibility of the landscape effects for each landscape receptor, all of which contribute to the assessment of the magnitude of these effects.

Table 13-3
Magnitude of Landscape Change

Landscape Receptors	Factors	Magnitude of Change
Individual Elements		
Some sections of hedgerows and scrub areas	Size & Scale: **SMALL** Geographical Extent: **SMALL** Duration / Reversibility: **MEDIUM-TERM – REVERSIBLE** **Notes:** The proposed development would result in the loss of ca. 310m of hedgerows, mainly at the site entrance and some areas of scrub surrounding the existing quarry void. None of these are prominent in the wider landscape. Overall, the loss of hedgerows and scrub areas would be a small proportion of	**SLIGHT**

Landscape Receptors	Factors	Magnitude of Change
	similar abundant elements in the surrounding landscape. The composition / balance of the lowland landscape would not significantly change. Due to the visual enclosure by existing hedgerows along and in the vicinity of the site boundaries, in combination with the generally flat topography, the changes would be focused on the site itself and along the local road along the north-western boundary. To compensate the loss of existing hedgerows / treelines and scrub areas, a replacement native hedge will be planted along the sightlines of the new site entrance, on commencement of the proposed development. Also, native tree planting would be carried out along parts of the new access road, to block off the existing site entrance and on top of the screening berm along the western boundary. In addition, a series of native hedges would be planted across the site, in two Restoration Phases, ensuring early restoration of parts of the site.	
Small hill	Size & Scale: **SMALL** Geographical Extent: **SMALL** Duration / Reversibility: **MEDIUM-TERM – REVERSIBLE** **Notes:** The reduction in height of the hill on which the quarry is situated, would be a continuation of the existing (previously permitted) extraction works. Considering the existing hill does not form a distinct focal point in the local landscape, its lowering would not result in the removal of a characteristic landscape element. The composition / balance of the local landscape would not significantly change. While the changes to the small hill, would be visible in a number of locations within the local area surrounding the site, they would not influence the wider landscape and would be focused on the site.	**SLIGHT**
Overall Character		
North-western lowlands LCA	Size & Scale: **SMALL** Geographical Extent: **SMALL** Duration / Reversibility: **MEDIUM -TERM – REVERSIBLE** **Notes:** Considering the large area covered by this LCA, the proposed development covers a small portion of this. It would not result in the introduction of new elements, due to the presence of a number of existing sand and gravel pits within the local area, including part of the site itself. The composition/balance of the landscape would not significantly change. Considering the visual enclosure by existing hedgerows along all site boundaries, the changes would be focused on the site itself. The proposed native tree planting and phased restoration would result in a (partial) reversal of the loss of vegetation returning the site to a similar state / land use to what was previously present, while also increasing its biodiversity value, through the use of diverse plant mixes and by leaving some parts of the site to natural regeneration.	**SLIGHT**

Assessment of Landscape Effects and Significance

13.122 An assessment of the landscape effects during the operational phase, based on the sensitivity of each of the landscape receptors combined with the magnitude of change experienced by each of them, are provided in **Table 13-4** below. The assessment also includes a judgment of the nature of the effect (i.e. negative/positive/neutral):

Table 13-4
Assessment of Landscape Effects

Landscape Receptors	Sensitivity	Magnitude	Landscape Effects	Nature of Effect
Individual Elements				
Some sections of hedgerows and scrub areas	LOW	SLIGHT	**MINOR/NEGLIGIBLE**	Negative
Small hill	LOW	SLIGHT	**MINOR/NEGLIGIBLE**	Negative
Overall Character				
North-western lowlands LCA	LOW	SLIGHT	**MINOR/NEGLIGIBLE**	Negative

13.123 **None of these landscape effects are assessed to be significant**.

Post – Operational Stage Landscape Effects

13.124 At the post-operational stage, the sand and gravel pit and quarry void would integrate more and more with the surrounding landscape, as

- the site would continue to be enclosed by the existing boundary vegetation,
- the native tree planting carried out on commencement of the development in a number of locations would continue to mature and merge with the adjoining treelined hedgerows,
- the native hedge planting within the site would continue to mature, linking with the external hedgerows,
- the areas restored to agricultural land would visually merge with surrounding pasture fields, and
- locally occurring grass and scrub species would colonise those areas of the existing sand and gravel pit (i.e. the settlement lagoons and adjoining areas) and the quarry void left for natural regeneration.

13.125 As a result of all of the above, the effects on all landscape receptors would reduce to NEGLIGIBLE (negative, becoming neutral over time).

Operational Stage Visual Effects

Visual Receptor Sensitivity

13.126 The value placed on each of the types of visual receptors identified above is described in **Table 13-5** below. Also, the susceptibility to change of each of the receptor types (as per the LVIA Methodology in **Appendix 13-A**) is described and a judgement of the overall sensitivity made.

Table 13-5
Sensitivity of Visual Receptors

Visual Receptors	Value	Susceptibility	Overall Sensitivity
Residents			
All residential receptors identified.	**LOW** (No designated or locally promoted views)	**HIGH** (Susceptible to changes in views, particularly from gardens and living rooms)	**MEDIUM**
Vehicle Users			
All vehicle users identified.	**LOW** (No designated or locally promoted views)	**LOW** (Unlikely to be focused on views)	**LOW**

Magnitude of Visual Change

13.127 **Table 13-6** describes the size and scale, geographical extent and duration/reversibility of the visual effects for each visual receptor, all of which contribute to the assessment of the magnitude of these effects.

Table 13-6
Magnitude of Visual Change

Visual Receptors	Factors	Magnitude of Change
Residents and Vehicle Users		
Along the local road between Glynn Cross Roads and Dammeen Bridge (**Viewpoint A**)	Size & Scale: **SMALL** Geographical Extent: **SMALL** Duration / Reversibility: **MEDIUM-TERM – REVERSIBLE** **Notes:** The early stages of the quarry extraction works, resulting in the lowering of the existing small hill and quarry faces would be visible along the skyline. However, the majority of the quarry extraction works would be fully screened by intervening vegetation and topography. The visual changes would take place at a minimum distance of 800m, within a narrow band in the background and along the skyline. Intervening vegetation screens the quarry to varying degrees, depending on the exact viewing location. The small hill does not currently form a distinctive feature in the existing views. As a result of the works, the skyline would be flattened and tie into the adjoining linear ridgeline. A narrow section of the eastern quarry face may remain visible but would be less noticeable compared with the existing views of the quarry. The resulting change would be perceptible and would partially alter the composition of the view. It should be noted that the proposed works are in line with what was previously permitted under P. Ref. 99/2042 (PL09.123207). Views are available intermittently from a 500m section of road and from ca. four residential properties only. The extraction works within the upper section of the quarry would be visible for a number of years (c. 5 years) during the operational stage, until the full extraction outline is set, at which stage works would continue at lower levels within the quarry void and would be fully screened by topography (and vegetation).	**SLIGHT**

Visual Receptors	Factors	Magnitude of Change
	While the changes to the landform would be permanent and irreversible, they would result in a reduction of visibility of the quarry and could therefore be seen as a partial reversal of existing effects.	
Along the local road to the north-east of the application area (**Viewpoints C & G**)	Size & Scale: **SMALL** Geographical Extent: **SMALL** Duration / Reversibility: **MEDIUM-TERM – REVERSIBLE** **Notes:** The early stages of the quarry extraction works, resulting in the lowering of the existing small hill and quarry faces would be visible along the skyline. However, the majority of the quarry extraction works would be fully screened by intervening vegetation and topography. The visual changes would take place at a minimum distance of 900m, within a narrow band in the background and along the skyline. Intervening vegetation screens the quarry to varying degrees, depending on the exact viewing location. The small hill does not currently form a distinctive feature in the existing views. As a result of the works, the skyline would be flattened and tie into the adjoining linear ridgeline. A narrow section of the western / southern quarry faces may remain visible but would be less noticeable compared with the existing views of the quarry. The resulting change would be perceptible and would partially alter the composition of the view. It should be noted that the proposed works are in line with what was previously permitted under P. Ref. 99/2042 (PL09.123207). Views are available intermittently from a 750m section of road and from ca. five residential properties only. The extraction works within the upper section of the quarry would be visible for a number of years (c. 5 years) during the operational stage, until the full extraction outline is set, at which stage works would continue at lower levels within the quarry void and would be fully screened by topography (and vegetation). While the changes to the landform would be permanent and irreversible, they would result in a reduction of visibility of the quarry and could therefore be seen as a partial reversal of existing effects.	**SLIGHT**
Along the local roads to the north of Clogharinka and south of the application area (**Viewpoints D, I, J K & L**)	Size & Scale: **SMALL** Geographical Extent: **SMALL** Duration / Reversibility: **MEDIUM-TERM – REVERSIBLE** **Notes:** The early stages of the quarry extraction works, resulting in the lowering of the existing small hill would be visible along the skyline. However, the vast majority of the quarry extraction works would be fully screened by intervening vegetation and topography. The visual changes would take place at a minimum distance of 200m (but in most cases more, up to 1km), within a narrow band in the background of all views and along the skyline. Intervening vegetation screens the quarry to varying degrees, depending on the exact viewing location. This would be further augmented by the proposed scrub planting to the south of the quarry void. The small hill does not currently form a distinctive feature in the existing views. As a result of the works, the skyline would be flattened and tie into the adjoining linear ridgeline, except for a small drop in height at one point,	**SLIGHT**

Visual Receptors	Factors	Magnitude of Change
	visible in some views. The quarry faces would remain screened by topography at all times. The resulting change would be perceptible and would partially alter the composition of the view. It should be noted that the proposed works are in line with what was previously permitted under P. Ref. 99/2042 (PL09.123207). Views are available intermittently from two sections along the relevant roads, i.e. ca. 1,700m in total and from ca. eight residential properties only. The outline of the upper section of the hill would change for a number of years (c. 5 years) during the operational stage, until the full extraction outline is set, at which stage no further changes / works would become visible. While the changes to the landform would be permanent and irreversible, no obviously visible elements / effects would remain.	
Along the local road at Corwig (**Viewpoint E**)	Size & Scale: **NEGLIGIBLE** Geographical Extent: **NEGLIGIBLE** Duration / Reversibility: **SHORT-TERM – REVERSIBLE** **Notes:** The lowering of the small hill would be visible at a minimum distance of 2.5km in a very small section in the background of available views. The changes, although visible along the skyline, would be barely perceptible, as screened / filtered by lush vegetation in the midground. The composition of views would be barely altered. Views are available from a limited 250m section of an infrequently used road and from one residential property only. The removal of the visible section of the hill would be completed in a number of years (c. 5 years). Once removed no obviously visible elements / effects would remain.	**NEGLIGILBE**
Along the local road at Ticroghan (**Viewpoint F**)	Size & Scale: **NEGLIGIBLE** Geographical Extent: **NEGLIGIBLE** Duration / Reversibility: **SHORT-TERM – REVERSIBLE** **Notes:** The lowering of the small hill would be visible at a minimum distance of 2km in a very small section in the background of available views. The small hill does not currently form a distinctive feature in the existing views. As a result of the quarry extraction works, which would be barely noticeable at this distance, the skyline would be flattened and tie into the adjoining linear ridgeline. The changes, although visible along the skyline, would be barely perceptible, and the composition of views barely altered. Views are available from a limited 350m section of an infrequently used road and from one residential property only. The removal of the visible section of the hill would be completed in a number of years (c. 5 years). Once removed no obviously visible elements/ effects would remain.	**NEGLIGILBE**

Visual Receptors	Factors	Magnitude of Change
Vehicle Users only		
Along the local road in the vicinity of the proposed site entrance (**Viewpoint B**)	Size & Scale: **MEDIUM** Geographical Extent: **SMALL** Duration / Reversibility: **MEDIUM-TERM – REVERSIBLE** **Notes:** The removal of the roadside hedgerow, construction of the new site entrance, access road and timber acoustic fence, as well as new hedge and native tree planting would be visible at a close distance on one side of the road and therefore occupy approximately half of the available views. The removal of vegetation would open up views into the neighbouring field across which the new access route and associated acoustic fence would be routed. The existing and proposed extraction works and the processing area would however be screened by intervening topography and vegetation. Once the proposed hedge and tree planting matures the views along the road would return to a state similar to the existing views. The initial changes would be clearly noticeable and would alter the composition of the view to a moderate degree. Views are available from a 400m section of road. There would be no residential receptors affected. The removal of the hedgerow and construction of the access road would be carried out in a short timeframe (i.e. a number of months). The views into the neighbouring field would remain open for much of the operational stage (i.e. 5-10 years), by which time the new roadside hedgerow and separate blocks of tree planting would have matured enough to block views into the neighbouring fields views again.	**MEDIUM**

Assessment of Visual Effects and Significance

13.128 An assessment of the visual effects during the operational phase, based on the sensitivity of each of the visual receptors combined with the magnitude of change experienced by each of them, are provided in **Table 13-7** below. The assessment also includes a judgment of the nature of the effect (i.e. negative/positive/neutral):

Table 13-7
Assessment of Visual Effects

Visual Receptor	Sensitivity	Magnitude	Visual Effects	Nature of Effect
Residents				
Along the local road between Glynn Cross Roads and Dammeen Bridge (**Viewpoint A**)	MEDIUM	SLIGHT	**MINOR**	Negative
Along the local road to the north-east of the application area (**Viewpoints C & G**)	MEDIUM	SLIGHT	**MINOR**	Negative
Along the local roads to the north of Clogharinka and south of the application area (**Viewpoints D, I, J K & L**)	MEDIUM	SLIGHT	**MINOR**	Negative

Visual Receptor	Sensitivity	Magnitude	Visual Effects	Nature of Effect
Along the local road at Corwig (**Viewpoint E**)	MEDIUM	NEGLIGIBLE	**MINOR / NEGLIGIBLE**	Neutral
Along the local road at Ticroghan (**Viewpoint F**)	MEDIUM	NEGLIGIBLE	**MINOR / NEGLIGIBLE**	Negative
Vehicle Users				
Along the local road between Glynn Cross Roads and Dammeen Bridge (**Viewpoint A**)	LOW	SLIGHT	**MINOR / NEGLIGIBLE**	Negative
Along the local road to the north-east of the application area (**Viewpoints C & G**)	LOW	SLIGHT	**MINOR / NEGLIGIBLE**	Negative
Along the local roads to the north of Clogharinka and south of the application area (**Viewpoints D, I, J K & L**)	LOW	SLIGHT	**MINOR / NEGLIGIBLE**	Negative
Along the local road at Corwig (**Viewpoint E**)	LOW	NEGLIGIBLE	**NEGLIGIBLE**	Neutral
Along the local road at Ticroghan (**Viewpoint F**)	LOW	NEGLIGIBLE	**NEGLIGIBLE**	Negative
Along the local road in the vicinity of the proposed site entrance (**Viewpoint B**)	LOW	MEDIUM	**MINOR**	Negative

13.129 **None of these visual effects are assessed to be significant**.

Post – Operational Stage Visual Effects

13.130 At the post-operational stage, the currently visible sections of the quarry, in views from some location to the south-west, north-west and north-east (represented by **Viewpoints A, C, E** & **F**), would have been reduced in height, if not removed completely, resulting in a positive effect. While the landform would have been permanently changed, this would be a barely perceptible change, considering the hill to be removed is not a distinctive feature in existing views and the flattened skyline would tie into the adjoining linear ridgeline. Any remaining visible sections of the quarry faces would weather with time and become partially colonised with grass and scrub species. This would help those section integrating more a more with the surrounding vegetation. Ultimately, the visual effects on these views would reduce to **NEGLIGIBLE** at the post-operational stage

13.131 The hedgerow and native tree planting in the vicinity of the site entrance would have matured at the post-operational stage and provide ample screening into the neighbouring fields in views from the adjoining road (represented by **Viewpoint B**). While the site entrance would be retained, all HGV movements would have seized and overall the visual effects would reduce to **NEGLIGIBLE**.

13.132 In views from locations to the south of the application area (represented by **Viewpoints D, I, J, K** & **L**), there would be no reminder of a quarry or the previously present small hill, at the post-operational stage, except for a small drop in height at one point along the skyline, resulting in a reduction of visual effects to **NEGLIGIBLE**.

Direct/Indirect Effects

13.133 All landscape and visual effects described above are direct effects. The proposed development is not considered to have indirect effects in landscape and visual terms, i.e. the proposed development is unlikely to cause consequential changes to the surrounding landscape character areas or to existing views of the landscape surrounding the application area.

Compliance with relevant Planning Policies

Mineral Resources & Extractive Industry

13.134 The above assessment was carried out in line with current best practice, taking account of the Kildare Landscape Character Assessment and the 2006 EPA Guidelines on 'Environmental Management in the Extractive Industry'. The assessment confirmed that no sensitive landscapes, scenic views and prospects or established rights of way or walking routes would be affected by the proposed development.

13.135 Both a detailed Landscape and Restoration Plan are submitted with this application (refer to **Figures 2-4 and 2-5** of this EIAR), illustrating details, such as proposed screening during the operational period and proposals for the phased restoration of the site. All proposed plant mixes contain native species only and a substantial portion of the site would be restored to a natural habitat with multiple biodiversity features. However, it is proposed to return the majority of the existing sand and gravel pit and processing/storage areas to an agricultural grazing land-use, due to the large size of the site and its location within a generally agricultural landscape. The proposed biodiversity features, surrounding / traversing these agricultural fields include:

- the retention of all existing boundary vegetation, as well as 215m of hedgerow, 4,950m^2 of native tree planting, 1,680m^2 of scrub planting, and 650m^2 of willow, alder, reed planting carried out on commencement of the development;
- leaving a substantial area along the southern boundary (including all settlement lagoons) and the quarry void for natural regeneration, i.e. the colonisation by naturally occurring grass and scrub species; and
- 2.5 hectare area restored to agriculture surrounding the existing access road following its closure.

13.136 In view of the above, the development is considered to be in compliance with **Policy RD P8** and **Objectives RD O42, RD O44, RD O49, RD O50, RD O51** of the current KCDP.

Landscape

13.137 The above landscape and visual impact assessment was carried out in accordance with current best guidance and taking account of relevant environmental legislation, as well as the existing landscape character assessment for Co. Kildare. This includes the sensitivity assessment for the landscape surrounding the application area, listed scenic routes and protected views & prospects. The assessment concluded that the level of landscape change on the flat/gently undulating agricultural landscape character (part of the North-Western Lowlands LCA), due to the proposed development, would be minor-negligible. It can therefore be argued that, overall, the character of the local landscape would be protected. It was further found that no designated scenic routes, views and prospects or sensitive landscapes would be affected by the proposed development.

13.138 While some sections of hedgerow would have to be removed to facilitate the proposed development, no distinctive local landscape features would be affected. Further to that all existing

hedgerows and tree lines along the application area boundary (except for at the site entrance) would be retained. These provide substantial screening of the existing/proposed development. A significant amount of diverse native tree and scrub planting and native hedges would be planted in compensation for the loss of vegetation, on a phased basis. The proposed development would utilise the facilities present at an existing sand and gravel pit / quarry development, rather than setting up a sand and gravel pit / quarry development in a new location.

13.139 In view of the above, the development is considered to be in compliance with **Policy LR P1** and **Objectives LR 01, LR 02, LR 04, LR 07, LR 08, LR 09** of the current KCDP.

Scenic Routes and Protected Views

13.140 As mentioned previously no scenic routes, protected views, ridgelines or hilltop views listed in the current Kildare CDP or indicated on the CDP mapping are located in the vicinity of the application area. Further to that, the viewpoints provided illustrate that neither the shallow ridgeline nor the small hill along which the existing quarry is located form a distinctive feature or dominant landscape focal point in the local landscape. Landscape and visual effects associated with the changes to the ridgeline / hill were assessed as minor or less for all relevant landscape and visual receptors.

13.141 In view of the above, the development is considered to be in compliance with **Policy LR P3** and **Objectives LR O32, LR O33, LR O35** of the current KCDP.

Unplanned Events (i.e. Accidents)

13.142 It is highly unlikely that any unplanned events within the application area would result in significant landscape or visual impact.

Cumulative / Synergistic Impacts

13.143 There are a number of existing sand and gravel pits within the local area, including a disused pit to the immediate west of the application area (across the local road) and a second disused pit within 1km to the south-west, as well as a number of other pits between 2-4km to the south-east. Further to that Kilsaran have recently been granted permission for a sand and gravel pit in the townland of Brackagh, approximately 1km to the south-west (Pl. Ref. 20/1409; ABP Ref. PL09.311677). There is no intervisibility between the application area, the two nearby disused pits, the pits further afield and the proposed site at Brackagh, due to dense roadside and intervening vegetation, as well as intervening topography. Further to that, the two disused pits are in the process of being re-colonised by naturally occurring grass and shrub species, so that they have become largely integrated into the local landscape and views. It is therefore highly unlikely that significant cumulative landscape or visual impacts would arise should the proposed development go ahead, in particular when considering the proposed phased full restoration of the development site.

13.144 A planning search revealed one other planned development with the potential for cumulative landscape and visual effects, i.e. a proposed solar farm, in the townlands of Castlejordan, Harristown & Clongall (Co. Meath), c. 3km to the west of the application area. This development was granted planning permission in January 2020 by Meath County Council under planning file reference number TA/181225 for:

"a ten-year planning permission for a solar farm and the construction, operation and decommissioning of a photovoltaic solar farm comprising photovoltaic panels on ground mounted frames, inverter stations, customer substation, switchgear substations, field transformers, monitoring house, communications building, single storey storage shed, battery containers, WC, fencing, temporary construction compounds, internal access tracks, CCTV cameras, improvements

to existing entrance, cabling, landscaping and all associated ancillary development works. Environmental Impact Assessment submitted as part of the Further Information. Significant further information/revised plans submitted on this application at Castlejordan, Harristown & Clongall, Co. Meath."

13.145 Due to its distance and visual separation from the proposed development (i.e. no inter-visibility, due to intervening woodlands), as well as the differences in the type of development, significant adverse cumulative impacts on landscape and visual receptors are highly unlikely.

13.146 Further to the above there are no know other existing developments or developments currently in the planning process that would result cumulative landscape or visual impacts in combination with the proposed development.

Transboundary Impacts

13.147 The proposed application area is not located in the vicinity of a national boundary. Therefore, transboundary landscape or visual impacts would not arise.

Interaction with Other Impacts

13.148 There are no known interactions with other impacts.

'Do-nothing Scenario'

13.149 If the proposed development is not carried out, the extraction works within the existing site, would be completed, in line with the existing planning permission and will be restored to a mix of agricultural land and natural habitat, similar to what is proposed, as part of this planning application, albeit at an earlier stage.

MITIGATION MEASURES

Operational Stage

13.150 The proposed development is largely screened in views from the surrounding area, by existing vegetation and topography. The only visible elements, i.e. the existing quarry and the site entrance, are difficult to screen, due to their elevation and proximity to a local road, respectively. A berm along the western boundary, which would be planted with a tree mix is integrated into the extraction design to provide additional screening from nearby properties at all times. The full restoration of the site to an agricultural and natural habitat afteruse, on a phased basis, further ensures that the landscape and visual impacts are kept to a minimum at all times. Considering the assessed low level landscape and visual effects, no further mitigation measures are considered necessary during the operational stage of the proposed development.

Post – Operational Stage

13.151 While the landform within the site would remain altered, the application area would have a similar appearance to the surrounding agricultural land, on completion of all extraction and restoration works. Further to that, the topography surrounding the quarry void would tie in with the adjoining linear ridgeline, leaving no obvious visible elements / effects, associated with the proposed development. The predicted landscape and visual effects would reduce to negligible, and further

mitigation measures are therefore not considered necessary for the post-operational stage of the proposed development.

RESIDUAL IMPACT ASSESSMENT

Operational Stage

13.152 As no additional mitigation measures are proposed during the operational stage, the residual levels of landscape and visual impact would be as per the assessment above. In summary, the assessment has found that the proposed development would have a minor-negligible landscape impact on the affected individual landscape elements and on the general landscape character within the study area (i.e. a level of impact not considered to be significant). The visual impact on views ranges from none for the majority of locations within the study area to minor to negligible (i.e. impacts not regarded as significant) for a limited number of viewpoints within 1km surrounding and up to 2.5km to the south-west and north-west of the development site.

Post – Operational Stage

13.153 As no additional mitigation measures are proposed during the post-operational stage, the residual levels of landscape and visual impact would be as per the assessment above. In summary, on completion of all extraction and restoration the predicted landscape and visual impacts would reduce to negligible for all identified landscape / visual receptors.

MONITORING

13.154 Apart from the proposed 2-year aftercare period, as part of the Restoration Proposals (refer to **Figure 2-5**), to ensure the successful establishment of the agricultural grassland and native hedges, there are no monitoring requirements, arising from this landscape and visual assessment.

REFERENCES

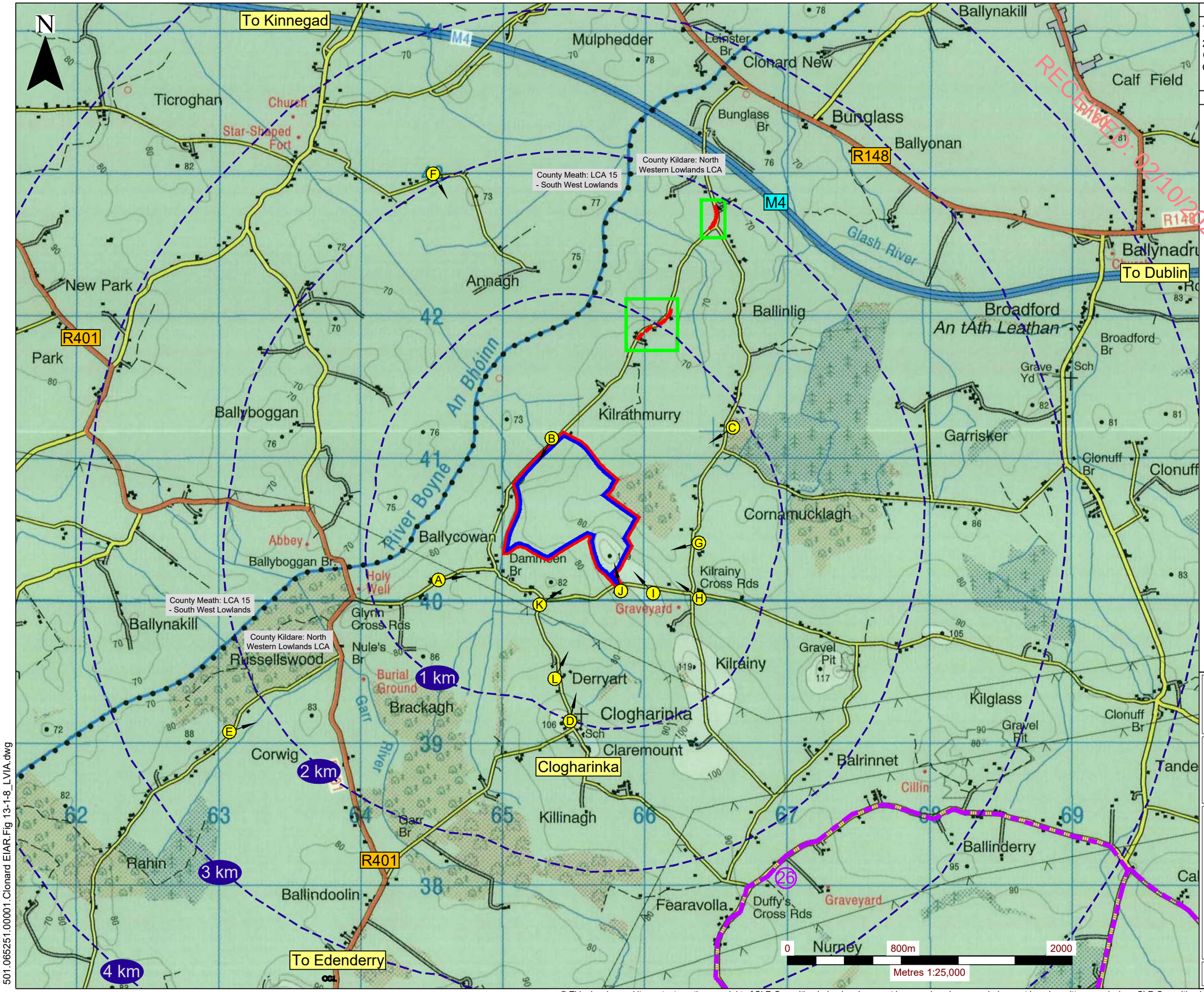
Environmental Protection Agency (May 2022) Guidelines on the Information to be contained in Environmental Impact Assessment Reports, EPA Ireland

The Landscape Institute with the Institute of Environmental Management and Assessment (2013) Guidelines for Landscape and Visual Impact Assessment, Third Edition, Routledge

The Landscape Institute (2019) Technical Guidance Note 06/19: Visual Representation of Development Proposals, Landscape Institute

The Landscape Institute (2021) Technical Guidance Note 02/21: Assessing landscape value outside national designations, Landscape Institute

FIGURES



RECEIVED: 02/10/2023

NOTES

1. Extract from Ordnance Survey Map No. 49
2. Ordnance Survey Ireland Licence No. **CYAL50316488 (C)** Ordnance Survey Ireland and Government of Ireland

LEGEND

- APPLICANTS LAND INTEREST BOUNDARY
- PLANNING APPLICATION AREA
- LOCATION OF PROPOSED ROAD IMPROVEMENT WORKS
- VIEWPOINT LOCATIONS
- DISTANCE FROM THE APPLICATION AREA

LANDSCAPE / VISUAL DESIGNATIONS:

- SCENIC ROUTE (KILDARE COUNTY DEVELOPMENT PLAN 2023-2029)

Kilsaran
ideas taking shape

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KILSARAN CONCRETE UNLIMITED COMPANY
ENVIRONMENTAL IMPACT ASSESSMENT REPORT

QUARRY DEVELOPMENT AT KILRATHMURRY & KILRAINY TOWNLANDS, CO. KILDARE

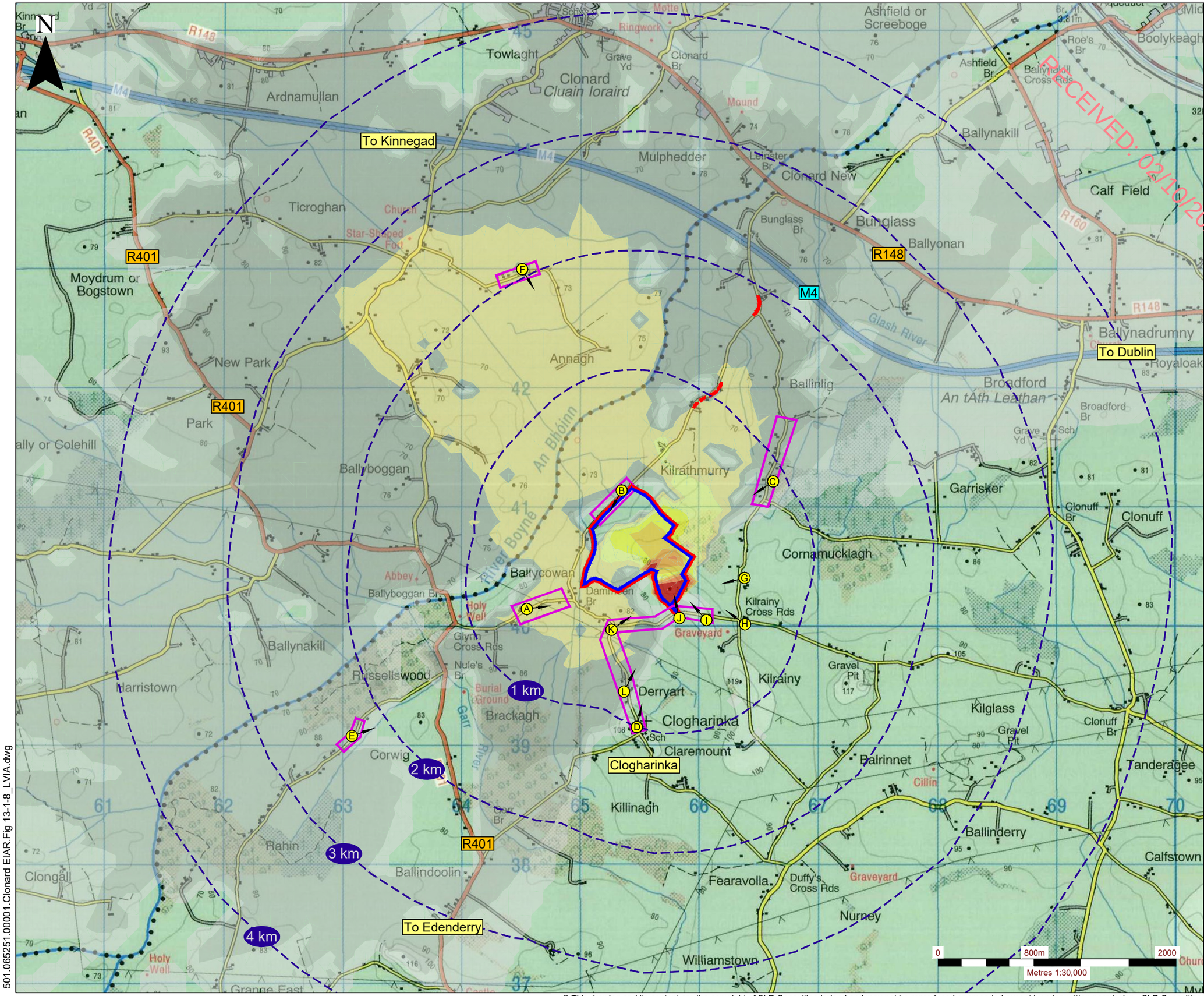
LANDSCAPE BASELINE AND VIEWPOINT LOCATIONS

FIGURE 13-1

Scale: 1:25,000 @ A3

Date: SEPTEMBER 2023

501.065251.00001.Clonard EIAR.Fig 13-1-8_LVIA.dwg



NOTES

1. Extract from Ordnance Survey Map No. 49
2. Ordnance Survey Ireland Licence No. **CYAL50316488 (C)** Ordnance Survey Ireland and Government of Ireland

LEGEND

- APPLICANTS LAND INTEREST BOUNDARY
- PLANNING APPLICATION AREA
- LANDS SUBJECT TO PURCHASE
- VIEWPOINT LOCATIONS
- DISTANCE FROM THE APPLICATION AREA
- SECTIONS OF ROAD / AREAS CONTAINING VISUAL RECEPTORS FROM WHERE SIMILAR VIEWS OF THE APPLICATION AREA CAN BE GAINED

VERTICAL SUBTENDED ANGLES VISIBLE (OF THE PROPOSED EXTRACTION AREAS):

- SUBTENDED VERTICAL ANGLE GREATER THAN **25.6** DEGREES
- SUBTENDED VERTICAL ANGLE **12.8** TO **25.6** DEGREES
- SUBTENDED VERTICAL ANGLE **6.4** TO **12.8** DEGREES
- SUBTENDED VERTICAL ANGLE **3.2** TO **6.4** DEGREES
- SUBTENDED VERTICAL ANGLE **1.6** TO **3.2** DEGREES
- SUBTENDED VERTICAL ANGLE **0.8** TO **1.6** DEGREES
- SUBTENDED VERTICAL ANGLE **0.4** TO **0.8** DEGREES
- SUBTENDED VERTICAL ANGLE **0.2** TO **0.4** DEGREES
- SUBTENDED VERTICAL ANGLE **0.1** TO **0.2** DEGREES
- SUBTENDED VERTICAL ANGLE LESS THAN **0.1** DEGREES
- NO THEORETICAL VISIBILITY

NOTE: Vegetation cover and built structures were not taken into account as part of the calculation process for this ZTV. This ZTV therefore represents a worst case scenario. In SLR's experience, areas in grey (i.e. less than 0.4 degrees) tend to be screened by hedgerows and other vegetation, if present. Please refer to Appendix 13-A of the EIAR for the ZTV methodology.

Kilsaran
ideas taking shape

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ZONE OF THEORETICAL VISIBILITY (ZTV) MAP

FIGURE 13-2

Scale: 1:30,000 @ A3
Date: SEPTEMBER 2023

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