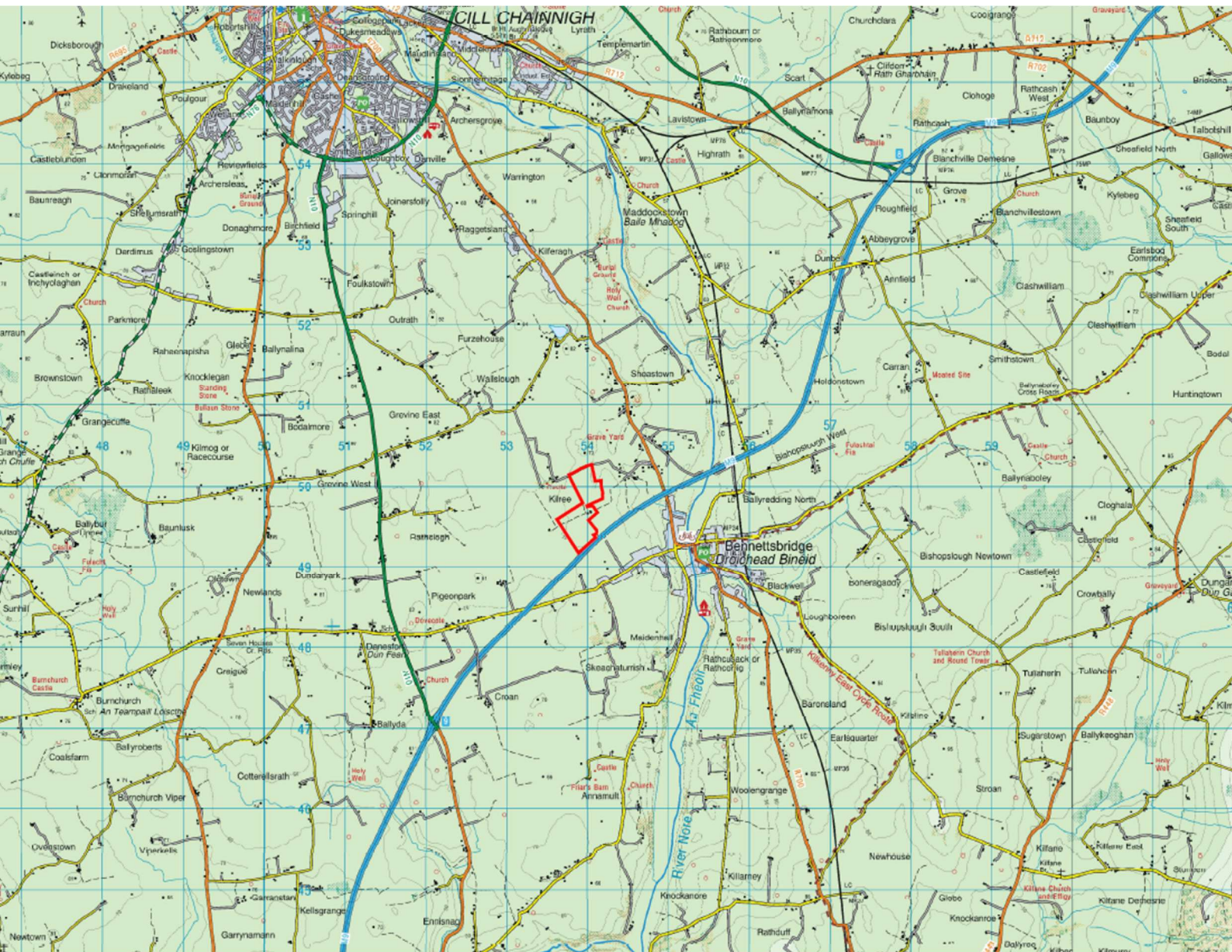


CHAPTER 12

LANDSCAPE AND VISUAL

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CHAPTER 12: LANDSCAPE AND VISUAL

Introduction

- 1.1 This Landscape and Visual Assessment (LVIA) has been prepared to accompany a planning application for a Proposed Lateral Extension to a Limestone Quarry at Kilree, Bennettsbridge, Co. Kilkenny.
- 1.2 This LVIA describes the landscape context of the proposed development and assesses the likely landscape and visual impacts of the scheme on the receiving environment. Although closely linked, landscape and visual impacts are assessed separately.
 - Landscape Impact Assessment (LIA) relates to assessing effects of a development on the landscape as a resource in its own right and is concerned with how the proposal will affect the elements that make up the landscape, the aesthetic and perceptual aspects of the landscape and its distinctive character.
 - Visual Impact Assessment (VIA) relates to assessing effects of a development on specific views and on the general visual amenity experienced by people. This deals with how the surroundings of individuals or groups of people may be specifically affected by changes in the content and character of views as a result of the change or loss of existing elements of the landscape and/or introduction of new elements. Visual impacts may occur from; Visual Obstruction (blocking of a view, be it full, partial or intermittent) or; Visual Intrusion (interruption of a view without blocking).

Approach and Statement of Authority

- 1.3 This LVIA adopts an approach that is founded in the following best practice guidance documents:
 - Landscape Institute and the Institute of Environmental Management and Assessment (IEMA) publication entitled Guidelines for Landscape and Visual Impact Assessment, 2013 (GLVIA3);
 - Environmental Protection Agency (EPA) publication 'Guidelines on the Information to be contained in Environmental Impact Statements (2022); and
 - 'Photography and Photomontage in Landscape and Visual Impact Assessment', Landscape Institute Technical Guidance Note 06/2019.
- 1.4 This LVIA was prepared by Jorden Derecourt, Landscape Architect at Macro Works Ltd of Cherrywood Business Park, Loughlinstown, Dublin 18; a consultancy firm specialising in Landscape and Visual Assessment and associated maps and graphics. Macro Works' relevant experience includes a broad range of infrastructural, renewable energy, industrial and commercial projects since 1999, including numerous urban, residential, and mixed use development projects.

Description of the Proposed Development

- 1.5 The proposed development is described in Chapter 3, the key elements relating to landscape and visual include;
 - The continued extraction of rock — including periodic blasting to fragment the rock prior to excavation — from the existing permitted quarry area (Plan File Ref. No. 18/858) beyond the current permission expiry date;
 - The continued use of existing quarry infrastructure (including crushing, screening and lime processing plant), existing pre-cast manufacturing facility (including associated ancillary works for manufacturing of concrete products), batching of lime products, workshop,

canteen, toilet facilities, weighbridges, wheelwash, fuel storage area and switch room, settlement lagoons, haul roads, ESB substation, plant and product storage areas and all other ancillary facilities as permitted under Plan File Ref. No. 18/858;

- The continued use of site offices authorised under Plan File Ref. No. 20/891;
- A lateral extension of the existing limestone quarry, within an area of approx. 24.5 Ha., comprising:
 - approximately 18.2 hectares of extraction, including blasting, over 2 no. c 19 metre high benches to a final floor level ranging from 25 to 30m OD; and
 - overburden storage areas and landscaped screening berms (6.3 Ha).
- To access the extension lands rock will be extracted - including by controlled blasting - from under:
 - approx. 1.4 hectare of land that is currently under landscaping measures authorised under Plan File Ref. No. 18/858;
 - approx. 2.1 hectare of land that is currently in use as an access ramp authorised under Plan File Ref. No. 18/858.
- The removal of topsoil and overburden, construction of landscaped screening berms, and provision of an overburden storage area;
- Demolition of an existing farmyard and associated buildings and structures, permitted under Plan File Ref. No. 15/595, and removal of approximately 6.81 hectares of commercial forestry within the proposed extension area to allow for the proposed quarry development;
- All associated ancillary site facilities/works, including surface water management, internal haul roads, phased restoration, and landscaping.
- The applicant is seeking a 25-year permission for extraction and associated activities, with an additional 2 years for final site restoration.

Methodology

- 1.6 This document uses methodology as prescribed in the previously mentioned GLVIA3, which follows the European Landscape Convention (ELC) definition of landscape:

'Landscape is an area, as perceived by people, whose character is the result of the action and interaction of natural and/or human factors' (Council of Europe, 2000). Thus, GLVIA-2013 covers all landscapes from "high mountains and wild countryside to urban and fringe farmland (rural landscapes), marine and coastal landscapes (seascapes) and the landscapes of villages towns and cities (townscapes)" - whether protected or degraded.

Scope of the Assessment

- 1.7 GLVIA3 establishes guidelines and not a specific methodology. The preface recognises that:

'This edition concentrates on principles and processes. It does not provide a detailed or formulaic 'recipe' that can be followed in every situation – it remains the responsibility of the professional to ensure that the approach and methodology adopted are appropriate to the task in hand.'

- 1.8 The LVIA Methodology can be summarised as undertaking the following key tasks:

- Desk study and site visits in November 2024;
- Defining the Baseline Landscape setting and conditions;
- Identification and Evaluation of key components of the proposed development;
- Consideration of Mitigation Measures;
- Assessment of Landscape Effects;
- Assessment of Visual Effects; and
- Summary Statement of Significance.

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Study Area

- 1.9 Based on experience from similar studies of this type and scale, it is anticipated that the proposed development is likely to be difficult to discern beyond approximately 3km and is not likely to give rise to significant landscape or visual impacts beyond approximately 1km. In the interests of a comprehensive appraisal, a 3km radius study area is used in this instance. However, there will be a particular focus on receptors contained within 1km, except where iconic or designated scenic viewpoints exist at greater distances out to 3km (refer to Figure 12.1). A study area of 3km has typically been used for similar projects in Ireland, Northern Ireland and Great Britain and this approach has been deemed acceptable by multiple planning authorities including Kilkenny County Council.

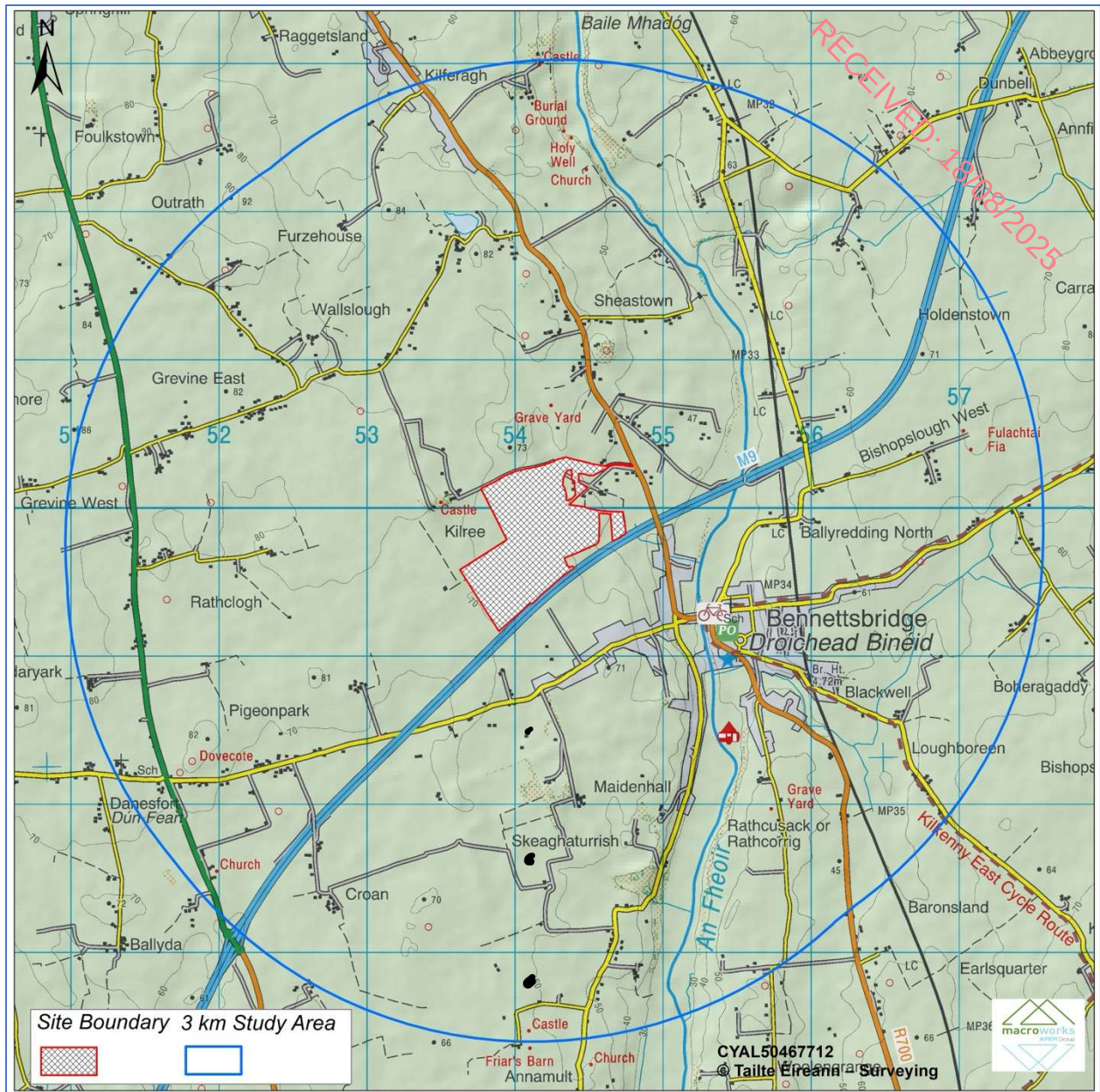


Figure 12.1 3km Extent of the Study Area

Landscape Impact Assessment Criteria

- 1.10 This part of the LVIA provides an assessment of how the introduction of the proposed development will affect the physical features and fabric of the landscape, and then how the proposals influence landscape character with reference to published descriptions of character and an understanding of the contemporary character of the landscape as informed through desktop and site studies.
- 1.11 When assessing the potential landscape effects of the development, the value and sensitivity of the landscape receptor is weighed against the magnitude of impact to determine the significance of the landscape effect. Criteria outlined below are used to guide these judgements.

Landscape Sensitivity

- 1.12 The sensitivity of the landscape to change is the degree to which a particular setting can accommodate changes or new elements without unacceptable detrimental effects to its essential characteristics. In accordance with GLVIA3, the sensitivity of a landscape receptor (Landscape Character Area or feature) is derived from combining judgements in relation to its susceptibility to change and its value. The judgement reflects such factors as its quality, value, contribution to landscape character and the degree to which the particular element or characteristic can be replaced or substituted. Landscape Sensitivity is classified using the following criteria set out in Table 12.1.

Table 12.1 Landscape Value and Sensitivity

Sensitivity	Description
Very High	Areas where the landscape character exhibits a very low capacity for change in the form of development. Examples of which are high value landscapes, protected at an international or national level (World Heritage Site/National Park), where the principal management objectives are likely to be protection of the existing character.
High	Areas where the landscape character exhibits a low capacity for change in the form of development. Examples of which are high value landscapes, protected at a national or regional level (Area of Outstanding Natural Beauty), where the principal management objectives are likely to be considered conservation of the existing character.
Medium	Areas where the landscape character exhibits some capacity and scope for development. Examples of which are landscapes, which have a designation of protection at a county level or at non-designated local level where there is evidence of local value and use.
Low	Areas where the landscape character exhibits a higher capacity for change from development. Typically, this would include lower value, non-designated landscapes that may also have some elements or features of recognisable quality, where landscape management objectives include, enhancement, repair and restoration.
Negligible	Areas of landscape character that include derelict, mining, industrial land or are part of the urban fringe where there would be a reasonable capacity to embrace change or the capacity to include the development proposals. Management objectives in such areas could be focused on change, creation of landscape improvements and/or restoration to realise a higher landscape value.

Magnitude of Change – Landscape

- 1.13 The magnitude of change is a product of the scale, extent or degree of change that is likely to be experienced as a result of the proposed development and to a lesser extent the duration and reversibility of that effect. The magnitude takes into account whether there is a direct physical impact resulting from the loss of landscape components and/or a change that extends beyond the immediate setting that may have an effect on the landscape character. Table 12.2 outlines criteria used to inform this judgement.

Table 12.2 Magnitude of Change – Landscape

Criteria	Description
Very High	Change that would be large in extent and scale with the loss of critically important landscape elements and features, that may also involve the introduction of new uncharacteristic elements or features that contribute to an extensive change of the landscape in terms of character, value and quality.
High	Change that would be more limited in extent and scale with the loss of important landscape elements and features, that may also involve the introduction of new uncharacteristic elements or features that contribute to a considerable change of the landscape in terms of character, value and quality.
Medium	Changes that are modest in extent and scale involving the loss of landscape characteristics or elements that may also involve the introduction of new uncharacteristic elements or features that would lead to noticeable changes in landscape character, and quality.
Low	Changes affecting small areas of landscape character and quality, together with the loss of some less characteristic landscape elements or the addition of new features or elements that would lead to discernible changes in landscape character, and quality.
Negligible	Changes affecting small or very restricted areas of landscape character. This may include the limited loss of some elements or the addition of some new features or elements that are characteristic of the existing landscape or are hardly perceivable leading to no material change to landscape character, and quality.

Visual Impact Assessment Criteria

1.14 This part of the LVIA provides an assessment of how the introduction of the proposed development will affect views within the landscape. It therefore needs to consider:

- Direct impacts of the proposed development upon views through intrusion or obstruction;
- The reaction of viewers who may be affected, e.g. residents, walkers, road users; and
- The overall impact on visual amenity.

1.15 It has been deemed appropriate to structure the assessment around a series of representative viewpoint locations. All viewpoints are located within the publicly accessible areas and are representative of views available from main thoroughfares and pedestrian areas within the vicinity of the proposed development. The selected viewpoints are considered to be comprehensive in communicating the variable nature of the visual effects.

1.16 When assessing the potential visual effects of the development, the sensitivity of the visual receptor is weighed against the magnitude of the visual impact to determine the significance of the visual effect. Criteria outlined below are used to guide these judgements.

Sensitivity of Visual Receptors

1.17 As with landscape sensitivity, the sensitivity of a visual receptor is categorised as Very High, High, Medium, Low, and Negligible. Unlike landscape sensitivity however, the sensitivity of

visual receptors has an anthropocentric (human) basis. It considers factors such as the perceived quality and values associated with the view, the landscape context of the viewer, the likely activity the viewer is engaged in and whether this heightens their awareness of the surrounding environment.

- 1.18 A list of the factors considered by the assessor in estimating the level of sensitivity for a particular visual receptor is outlined below to establish visual receptor sensitivity at each viewpoint location.

Susceptibility of Visual Receptors to Change

- 1.19 In accordance with GLVIA3, visual receptors most susceptible to changes in views and visual amenity are:

- Residents at home;
- People, whether residents or visitors, who are engaged in outdoor recreation, including use of public rights of way, whose attention or interest is likely to be focussed on the landscape and on particular views;
- Visitors to heritage assets, or to other attractions, where views of the surroundings are an important contributor to the experience;
- Communities where views contribute to the landscape setting enjoyed by residents in the area;
- Travellers on road rail or other transport routes where such travel involves recognised scenic routes and awareness of views is likely to be heightened.
- Visual receptors that are less susceptible to changes in views and visual amenity include;
 - People engaged in outdoor sport or recreation, which does not involve or depend upon appreciation of views of the landscape;
 - People at their place of work whose attention may be focussed on their work or activity, not their surroundings and where the setting is not important to the quality of working life.

Values attached to Views

- 1.20 The value attached to a view is determined by considering the following:

- Recognised scenic value of the view (Development Plan designations, guidebooks, touring maps, postcards etc). These represent a consensus in terms of which scenic views and routes within an area are strongly valued by the population because in the case of County Developments Plans, for example, a public consultation process is required;
- Views from within highly sensitive landscape areas. These are likely to be in the form of Architectural Conservation Areas, which are incorporated within the Development Plan and therefore subject to the public consultation process. Viewers within such areas are likely to be highly attuned to the landscape around them;
- Primary views from residential receptors. Even within a dynamic city context, views from residential properties are an important consideration in respect of residential amenity;
- Intensity of use, popularity. This relates to the number of viewers likely to experience a view on a regular basis and whether this is significant at a national or regional scale;
- Provision of vast, elevated panoramic views. This relates to the extent of the view on offer and the tendency for receptors to become more attuned to the surrounding landscape at locations that afford broad vistas;

- Sense of remoteness and/or tranquillity. Receptors taking in a remote and tranquil scene, which is likely to be fairly static, are likely to be more receptive to changes in the view than those taking in the view of a busy street scene, for example;
 - Degree of perceived naturalness. Where a view is valued for the sense of naturalness of the surrounding landscape it is likely to be highly sensitive to visual intrusion by distinctly manmade features;
 - Presence of striking or noteworthy features. A view might be strongly valued because it contains a distinctive and memorable landscape / townscape feature such as a cathedral or castle;
 - Historical, cultural and / or spiritual significance. Such attributes may be evident or sensed by receptors at certain viewing locations, which may attract visitors for the purposes of contemplation or reflection heightening the sense of their surroundings;
 - Rarity or uniqueness of the view. This might include the noteworthy representativeness of a certain landscape type and considers whether the receptor could take in similar views anywhere in the broader region or the country;
 - Integrity of the landscape character. This looks at the condition and intactness of the landscape in view and whether the landscape pattern is a regular one of few strongly related components or an irregular one containing a variety of disparate components;
 - Sense of place. This considers whether there is special sense of wholeness and harmony at the viewing location;
 - Sense of awe. This considers whether the view inspires an overwhelming sense of scale or the power of nature.
- 1.21 Those locations which are deemed to satisfy many of the above criteria are likely to be of higher sensitivity, and no relative importance is inferred by the order of listing.
- 1.22 It is recognised that a viewer's interpretation and experience of the landscape can have preferential and subjective components. Where relevant, judgements are made on those elements of the landscape that are considered to contribute more prominently and positively to the visual landscape resource as well as those elements that contribute negatively. Overall sensitivity may be a result of a number of these factors or, alternatively, a strong association with one or two in particular.

Magnitude of Change – Visual

- 1.23 The magnitude of change is again a product of the scale, extent, or degree of change that is likely to be experienced as a result of the proposed development. This is directly influenced by its 'visual presence / prominence', as experienced by visual receptors in the landscape. These terms are somewhat quantitative in nature, and essentially relate to how noticeable or 'dominant' the proposal is within a particular view. Aside from the obvious influence of scale and distance, a development's visual presence is influenced by the extent and complexity of the view, contextual movement in the landscape, the nature of its backdrop, and its relationship with other focal points or prominent features within the view. It is often, though not always, expressed using one of the following terms: Minimal; Sub-dominant; Co-dominant; Dominant; Highly dominant. Criteria used to inform judgements are provided in Table 12.3.

Table 12.3 Magnitude of Change – Visual

Criteria	Description
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Very High	Complete or very substantial change in view, dominant, involving complete or very substantial obstruction of existing view or complete change in character and composition of baseline, e.g., through removal of key elements.
High	A major change in the view that is highly prominent and has a strong influence on the overall view. This may involve the substantial obstruction of existing views or a complete change in character and composition of baseline, e.g. through removal of key elements or the introduction of new features that would heavily influence key elements.
Medium	Moderate change in view: which may involve partial obstruction of existing view or partial change in character and composition of baseline, i.e., pre-development view through the introduction of new elements or removal of existing elements. Change may be prominent but would not substantially alter scale and character of the surroundings and the wider setting. View character may be partially changed through the introduction of features which, though uncharacteristic, may not necessarily be visually discordant.
Low	Minor change in baseline, i.e. pre-development view - change would be distinguishable from the surroundings whilst composition and character would be similar to the pre change circumstances.
Negligible	Very slight change in baseline, i.e. pre-development view - change would be barely discernible. Composition and character of view substantially unaltered.

Significance of Effect

- 1.24 The significance of a landscape or visual effect is based on a balance between the sensitivity of the receptor and the magnitude of change, and is categorised as Profound, Substantial, Moderate, Slight, or Imperceptible. Intermediate judgements are also provided to enable an effect to be more accurately described where relevant. 'No Effect' may also be recorded as appropriate where the effect is so negligible it is not noteworthy.
- 1.25 The significance category judgement is arrived at using the Significance Matrix at Table 12.4 as a guide. This applies the principle of significance being a function of magnitude weighed against sensitivity, but employs slightly different terminology that avoids the potentially confusing use of the term 'significant' (as recommended by GLVIA3 Statement of Clarification 1/13 (Landscape institute, 10th June 2013)).
- 1.26 Indicative criteria descriptions used in relation to the significance of effect category are presented at Table 12.5.

Table 12.4 Significance Matrix

Sensitivity of Receptor					
Magnitude	Very High	High	Medium	Low	Negligible

Very High	Profound	Profound-substantial	Substantial	Moderate	Slight
High	Profound-substantial	Substantial	Substantial-moderate	Moderate-slight	Slight-imperceptible
Medium	Substantial	Substantial-moderate	Moderate	Slight	Imperceptible
Low	Moderate	Moderate-slight	Slight	Slight-imperceptible	Imperceptible
Negligible	Slight	Slight-imperceptible	Imperceptible	Imperceptible	Imperceptible

Table 12.5 Indicative significance of effect criteria descriptions

Landscape		Visual
Profound	There are notable changes in landscape characteristics over an extensive area or a very intensive change over a more limited area.	The view is entirely altered, obscured or affected.
Substantial	An effect which, by its character, magnitude, duration or intensity alters a sensitive aspect of the landscape. There are notable changes in landscape characteristics over a substantial area or an intensive change over a more limited area.	An effect which, by its character, magnitude, duration or intensity alters a sensitive aspect of the visual environment. The proposal affects a large proportion of the overall visual composition, or views are so affected that they form a new element in the physical landscape.
Moderate	An effect that alters the character of the environment in a manner that is consistent with existing and emerging baseline trends. There are minor changes over some of the area or moderate changes in a localised area.	An effect that alters the character of the visual environment in a manner that is consistent with existing and emerging trends. The proposal affects an appreciable segment of the overall visual composition, or there is an intrusion in the foreground of a view.
Slight	An effect which causes noticeable changes in the character of the landscape without affecting its sensitivities. There are minor changes over a small proportion of the area or moderate changes in a localised area or changes that are reparable over time.	An effect which causes noticeable changes in the character of the visual environment without affecting its sensitivities. The affected view forms only a small element in the overall visual composition or changes the view in a marginal manner.

Imperceptible	An effect capable of measurement but without noticeable consequences. There are no noticeable changes to landscape context, character or features.	An effect capable of measurement but without noticeable consequences. Although the development may be visible, it would be difficult to discern resulting in minimal change to views.
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1.27 It is important that the likely effects of the proposals are transparently assessed and understood in order that the determining authority can bring a balanced, well-informed judgement to bear when making a planning decision.

1.28 As such, whilst the significance matrix and criteria provide a useful guide, the significance of an effect is ultimately determined by the landscape specialist using professional judgement, and also in the context of occasionally using hybrid judgements to account for nuance.

1.29 Effects assessed as 'Substantial' or greater (shaded cells) are considered to be the most notable in landscape and visual terms, and may be regarded as 'Significant', albeit it is important to note that this is not a reflection on their acceptability in planning terms.

Quality of Effects

1.30 In addition to assessing the significance of landscape and visual effects, the quality of the effects is also determined. Within this LVIA, effects are described as negative/adverse, neutral, or positive/beneficial, and the following criteria has been used to guide these judgements.

- Positive/beneficial - A change which improves the quality of the environment, enhancing the existing view/landscape;
- Neutral - No effects or effects that are imperceptible, within normal bounds of variation e.g. will neither detract from nor enhance the existing view/landscape;
- Negative/adverse - A change which reduces the quality of the environment, detracting from the existing view/landscape.

1.31 In the case of new extractive developments within rural and semi-rural settings, the landscape and visual change brought about by an increased scale and intensity of extraction and activity is seldom considered to be positive / beneficial. Effects in these contexts are generally considered to be adverse in nature, or neutral, where the effect has little influence on the landscape/views.

Duration

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

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

Landscape and Visual Policy Context and Designations

Kilkenny County Development Plan 2021 – 2027

1.33 The current Kilkenny County Development Plan (CDP) incorporates a Landscape Character Assessment for the County, which divides the landscapes of Country Kilkenny into four generic

Landscape Character Types (LCTs), and subsequently, the LCTs are sub-divided into 14 geographically specific Landscape Character Areas (LCAs). LCTs and LCAs are identified in Figure 9.2 of the Landscape Character Assessment, which formed Appendix C to the 2008 C. According to Figure 9.2 of the CDP (**Figure 12.2** refers), the proposed site is situated within the western extents of the 'Lowland' landscape character type immediately adjacent to the 'River Valley' character type. The respective LCAs, which are geographically distinct portions of the more generic character types, include; 'F2-Kilkenny Western Basin' in which the site is situated. East of the site is the landscape type 'H-Nore Valley South', which has been designated as 'highly scenic/visually pleasing' and divides the study area east to west as it runs south from Kilkenny City. The landscape character type 'F3-Kilkenny Eastern Basin' is situated at the eastern periphery of the study area.

- 1.34 Figure 9.3 of the CDP (**Figure 12.3** refers) - 'landscape sensitivity' identifies features and land cover types that contribute to landscape sensitivity, such as steep topography, principal ridge lines, broadleaf forests and natural grassland. Aside from a small area of steep topography located along the River Nore in the eastern study area, none of these features or areas are located within immediate vicinity or wider study area.
- 1.35 The only objective relating to landscape character is; *"The Council will protect and sustainably manage the landscape character of County Kilkenny, having regard to the findings of the landscape character assessment and the Development Management Requirements as set out in this chapter for the sustainable development of the county and appropriate conservation of its landscape character"*.

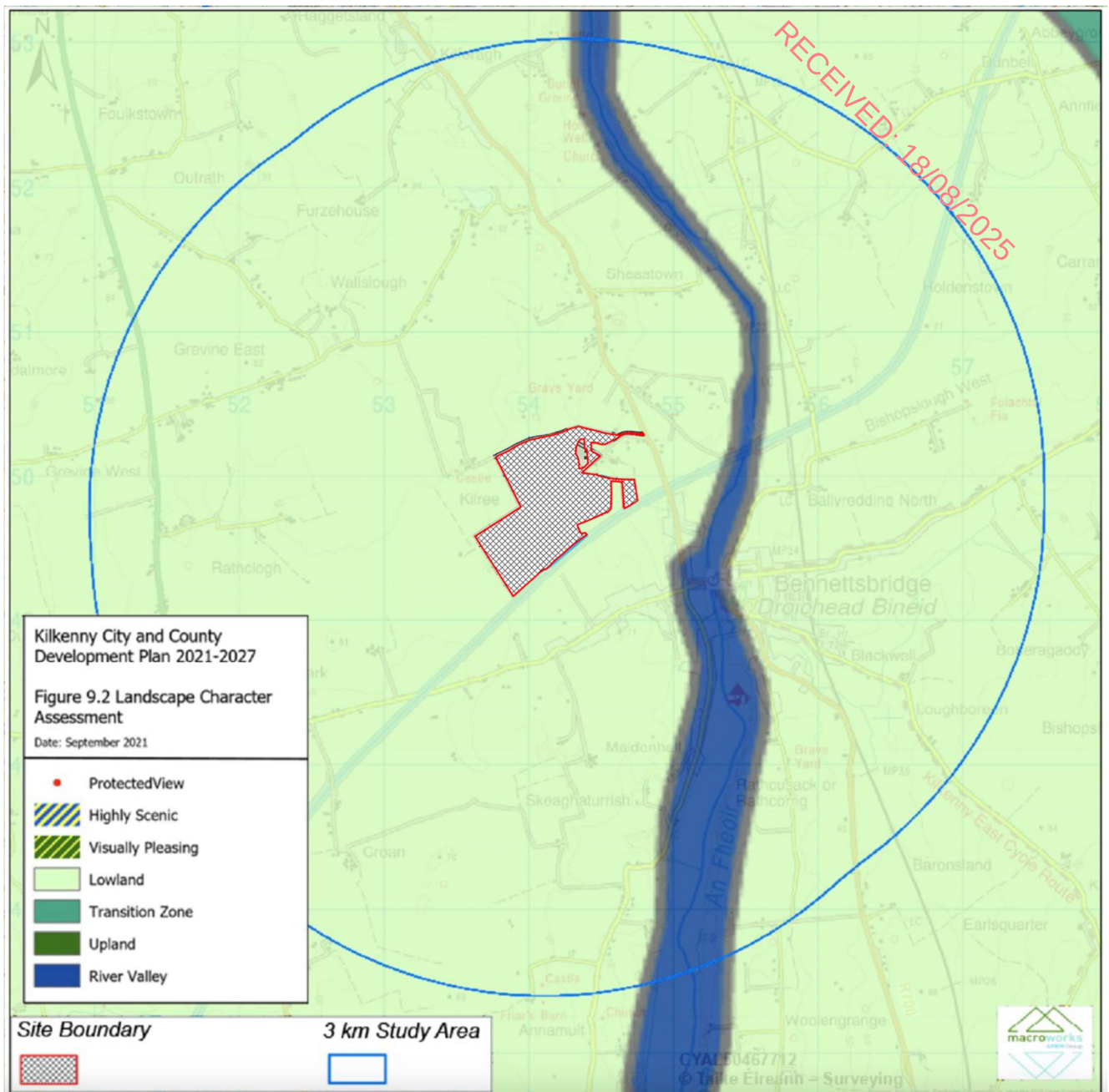


Figure 12.2 Excerpt from Figure 9.2 of the current Kilkenny County Development Plan 2021-2027 showing landscape character types in relation to the proposed development.

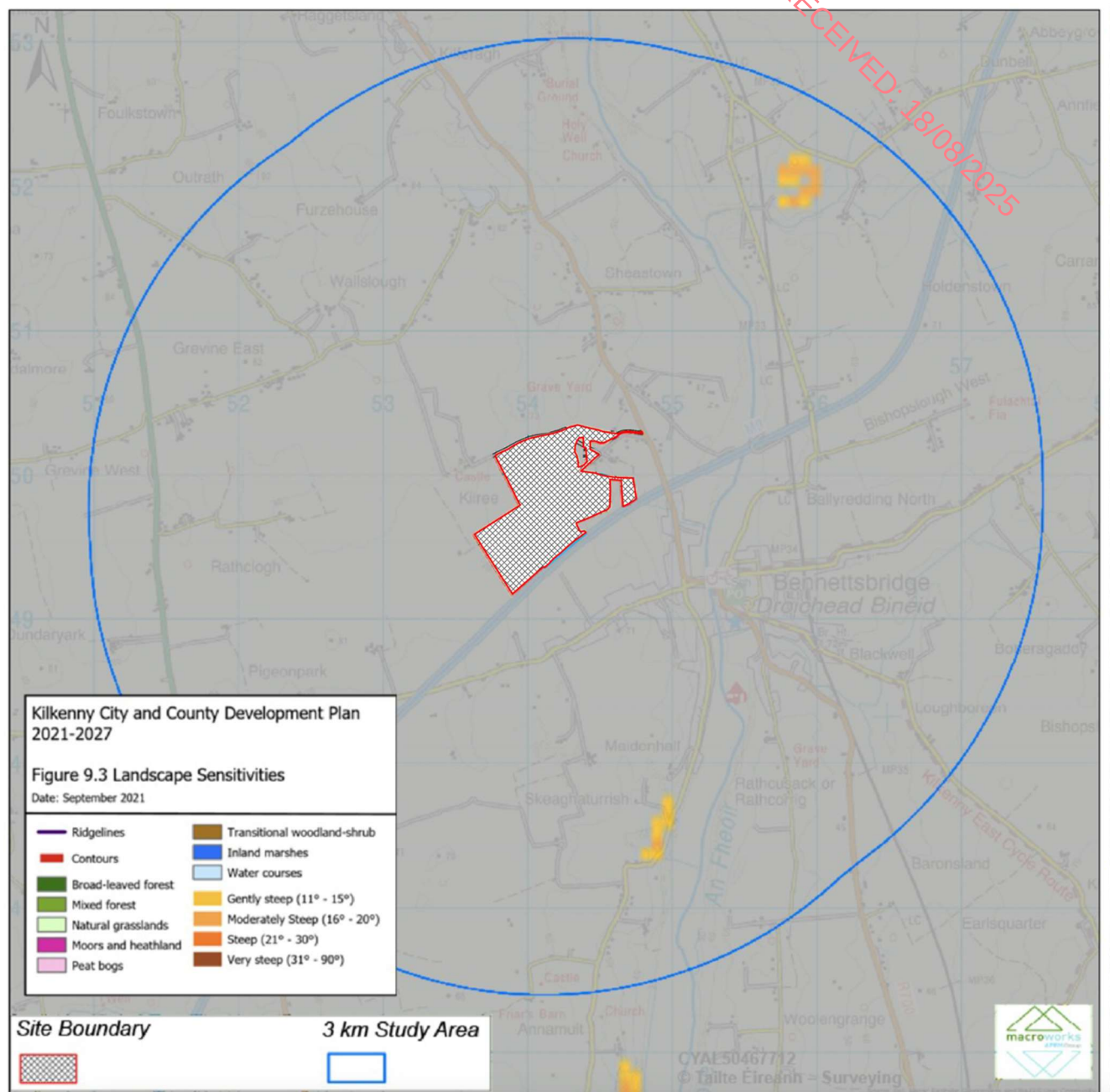


Figure 12.3 Excerpt from Figure 9.3 the current Kilkenny County Development Plan 2021-2027 showing landscape sensitivities in relation to the proposed development.

Views of Recognised Scenic Value – Kilkenny County Development Plan 2021-2027

- 1.36 Views of recognised scenic value are primarily indicated within the current and draft Development Plans in the context of scenic views/routes designations, but they might also be indicated on touring maps, guide books, road side rest stops or on post cards that represent the area.
- 1.37 The Kilkenny County Development Plan 2021-2027 identifies scenic designations within the county on Figure 9.2 (**Figure 12.2** above refers). There are no scenic designations located within the immediate site surrounds or wider study area.

Existing Environment

Landscape Baseline

- 1.38 The landscape baseline represents the existing landscape context and is the scenario against which any changes to the landscape brought about by the proposed development will be assessed. A description of the landscape context of the proposed application site and wider study area is provided below under the headings of landform and drainage, vegetation and land use, centres of population and houses, transport routes and public amenities and facilities. Although this description forms part of the landscape baseline, many of the landscape elements identified also relate to visual receptors i.e. places and transport routes from which viewers can potentially see the proposed development. The visual resource will be described in greater detail below.

Landform and Drainage

- 1.39 As indicated in the Kilkenny Landscape Character Assessment, the majority of the study area comprises flat to low-rolling terrain lowland terrain, divided by the Nore River Valley. The site and immediate surroundings are located within a rolling lowland setting, with a subtle slope towards the southwest. The most notable watercourse within the study area is that of the River Nore, which traverses through the eastern half of the 3km study radius and is situated just over c. 1km from the site at its nearest point. The river valley is incised below the terraces of the surrounding lowland basin, which characterises much of the central and wider study area. Some of the steeper sections of topography lining the river and within the study areas as a whole are located to the southeast of the proposed development, near the settlement of Bennettsbridge.

Vegetation and Land Use

- 1.40 The most notable land use within the central study area is that of medium-large scale pastoral fields that are typically bound by a mix of clipped hedgerows and dense mature tree-lined hedgerows. Denser vegetation occurs in isolated broadleaf woodland or conifer forest plantations, which are also located throughout the study area, whilst the River Nore is typically bound by linear swathes of riparian vegetation. In terms of highly anthropogenic land use patterns, several operational quarries are located to the northeast of the site, including the existing quarry subject to this assessment. The busy transport corridors of the M9 motorway and national railway line also pass through the southern and eastern extent of the study area, as does the N10 to the west.



Figure 12.4 Land use mix of the study area

Centres of Population and Houses

1.41 The most notable centre of population in relation to the proposed development is Kilkenny City, which is located beyond the 3km study area and is situated over 5km northwest of the site at its nearest point. Bennettsbridge village is the largest settlement within the study area, a modest-sized settlement along the opposite (eastern) bank of the Nore intersection where the R700 crosses the river. In terms of the local population, a number of isolated farmsteads and small linear clusters of dwellings occur along the local roads in the immediate surrounds of the site. Aside from Bennettsbridge village, within the study area, the settlement pattern typically consists of linear clusters of housing along local and regional roads as well as more isolated farmsteads. Cross-road clusters include Wallslough Village to the north and Grevine to the northwest.

Transport Routes

1.42 The most notable transport route in relation to the proposed development is that of the M9 motorway, which traverses the southern and eastern extents of the study area and is located

along the southern boundary of the proposed development at its nearest point. The N10 links the M9 and Kilkenny City and is situated just under 2.5km west of the site. Regional roads within the study area include the R700, located to the east of the proposed lateral extension and are the primary access to the current entrance to the site, following the Nore Valley north to Kilkenny and heading to Bennettsbridge and southeast out of the study area. The only other regional road is the southwestern periphery of the study area, where the N10 terminates at the M9 ramp. A dense network of local roads also crisscross the study area, the nearest of which occurs immediately to the north of the proposal site. However, the site itself is bracketed by the M9 to the south, R700 to the east, and N10 to the west. The N10 and the nearest local road to the north are set back from the site. The area west of the site is contained by main roads, featuring multiple cul de sacs lined with residences and farmsteads. The Dublin-Waterford national railway line also passes through the northern and eastern extent of the study area and is situated just under 3km east of the site at its nearest point.

Tourism, Heritage and Public Amenities

- 1.43 The key recreation receptor within the study area is the Nore Valley Walk - Kilkenny to Bennettsbridge Section. This walking trail is located along the eastern (distant) bank of the River Nore corridor in the eastern half of the study area and connects Kilkenny City to the settlement of Bennettsbridge. The Kilkenny Cycle Loop passes through the eastern study area, the nearest of which is located at the junction of the R700 and Chapel Street in Bennettsbridge. From Bennettsbridge, the East Kilkenny Cycle Route runs east out of the study area and south from Bennettsbridge along the River Nore, 1km east of the site at its nearest point. Looped cycling routes are concentrated along Bennettsbridge and the River Nore, pass through the eastern half of the study area adjacent to the River Nore. Across the wider study area is a scattered collection of stately houses within demesne landscapes. The nearest to the site is a Kilkenny Protected Structure, (RPS code: C839) the 19th Century Kilree House. Others across the study area, at greater distance from the site, include Kilfera (Kilferagh) House (RPS code: C355), to the northeast, Pigeon Park House to the west, Burnchurch House (includes RPS C365, C420, and C327) and Maidenhall House (RPS code: C365) to the south. The stone walled gateways and large established trees in avenue or parkland are typically the most visible from road corridors, with the houses themselves are screened by surrounding trees. Otherwise, heritage features are minor National Monuments Service and OSI Discovery Series points. The nearest of these is a castle and graveyard to the north of the proposed development, while churches and graveyard points line the River Nore. Finally, while tourist attractions are limited, the town of Bennettsbridge has a strong artisan presence.

Visual Baseline

Analysis of ZTV (Zone of Theoretic Visibility) Mapping

- 1.44 Only those parts of the receiving environment that potentially afford views of the proposed development are of concern to this section of the assessment. A computer-generated Zone of Theoretical Visibility (ZTV) map has been prepared to illustrate where the proposed development is potentially visible from. The ZTV map is based solely on terrain data (bare ground visibility), and ignores features such as trees, hedges or buildings, which may screen views. Given the complex vegetation patterns within this landscape, the main value of this form of ZTV mapping is to determine those parts of the landscape from which the proposed development will definitely not be visible, due to terrain screening within the 5km study area.

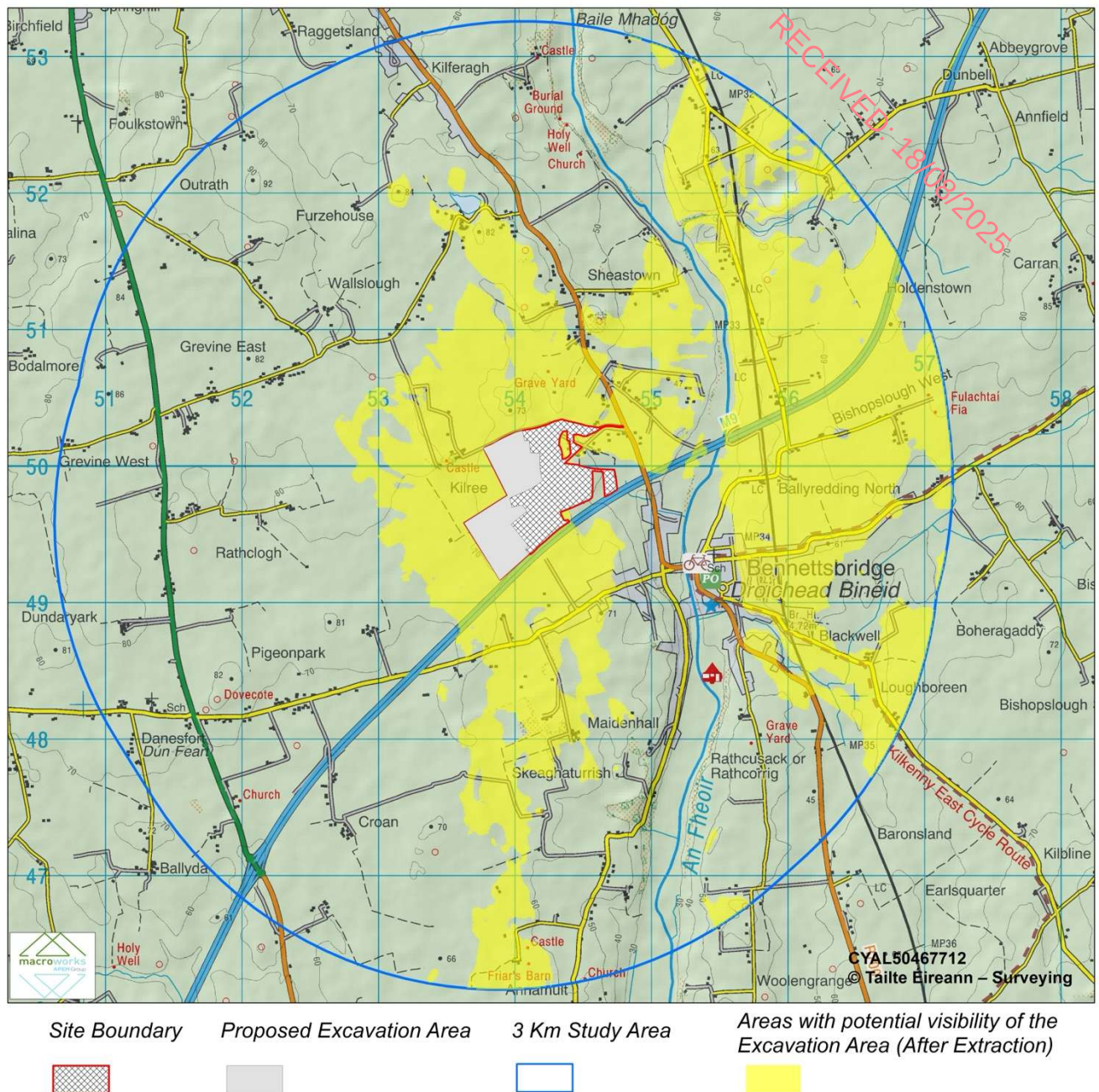


Figure 12.5 Standard (bare-ground) ZTV map (Refer to Appendix A for larger scale version)

1.45 The following key points are illustrated by the 'bare-ground' ZTV map (see Figure 12.5 above):

- The area immediately surrounding the proposed development to the north south and west shows potential for visibility between 500m to 1km. This uniform visibility is more extensive to the north, and there is a small section which crosses the R700 to the River Nore corridor.
- The wider western study area is clear of visibility, screened by terrain to the west of the site. The entirety of the N10 within the study area as is the southern and western extent of the M9 show no potential for visibility. The majority of the R700 with the study area is screened as a result of being located at slightly lower elevation than the proposed development, along the River Nore Corridor. The only section which features potential visibility is the section closest to the east of the site.

- The wider eastern study area features a large flare pattern of potential visibility to the edge of the study area. This shows a widening section of visibility with increasing distance from the site, with partial visibility increasing to the east over rolling pasture, and north and south along the eastern side of the River Nore Valley.
- 1.46 Additionally, a secondary analysis was completed, identifying the variation in theoretical visibility between the permitted and proposed extraction areas. This analysis also shows the parts of the study area where both are theoretically visible in a bare-ground scenario. It should be noted that the 'permitted area' visibility shown below is representative of all parts within the redline which are not the 'proposed extraction area'. This includes the access road and settlement pond and therefore presents as a 'worst case' scenario.

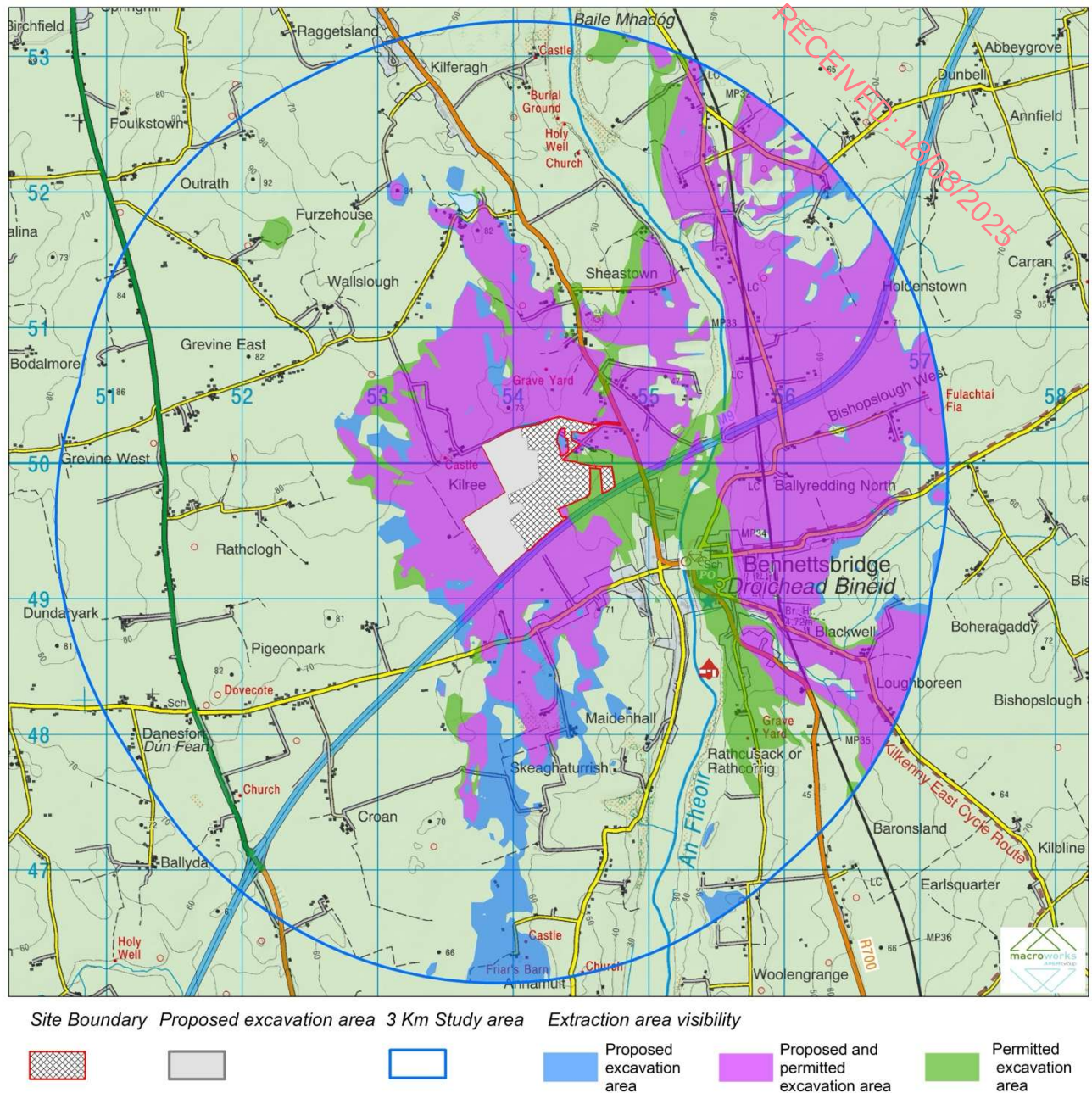


Figure 12.6 Standard (bare-ground) ZTV map of combined site area (Refer to Appendix A for larger scale version)

1.47 The following key points are illustrated by the combined 'bare-ground' ZTV map (see Figure 12.6 above):

- The primary visibility pattern is similar to that of Figure 12.5 above. However, shows the existing and permitted development has higher potential visibility to the east of the study area and along the River Nore Corridor.
- The River Nore features limited theoretic visibility pattern, which is principally contained between the corridors of the M9 and R700.

1.48 The most important point to make in respect of this 'bare-ground' ZTV map is that it is theoretical. The proposed development will be cut into the underlying terrain and will

therefore be considerably screened by surrounding and intervening hedgerow vegetation, trees and numerous buildings, walls and embankments scattered throughout the study area, resulting in a much lesser degree of actual visibility.

- 1.49 The second form of ZTV mapping relies on a Digital Surface Model ("DSM"), which also accounts for terrestrial land cover elements, such as hedgerows and buildings. This is of far more value in determining the likely visibility of the proposed development. For this finer grain of visibility analysis, a more consolidated area incorporating the surrounding network of roads and dwellings within approximately 1km of the application site boundary is used.

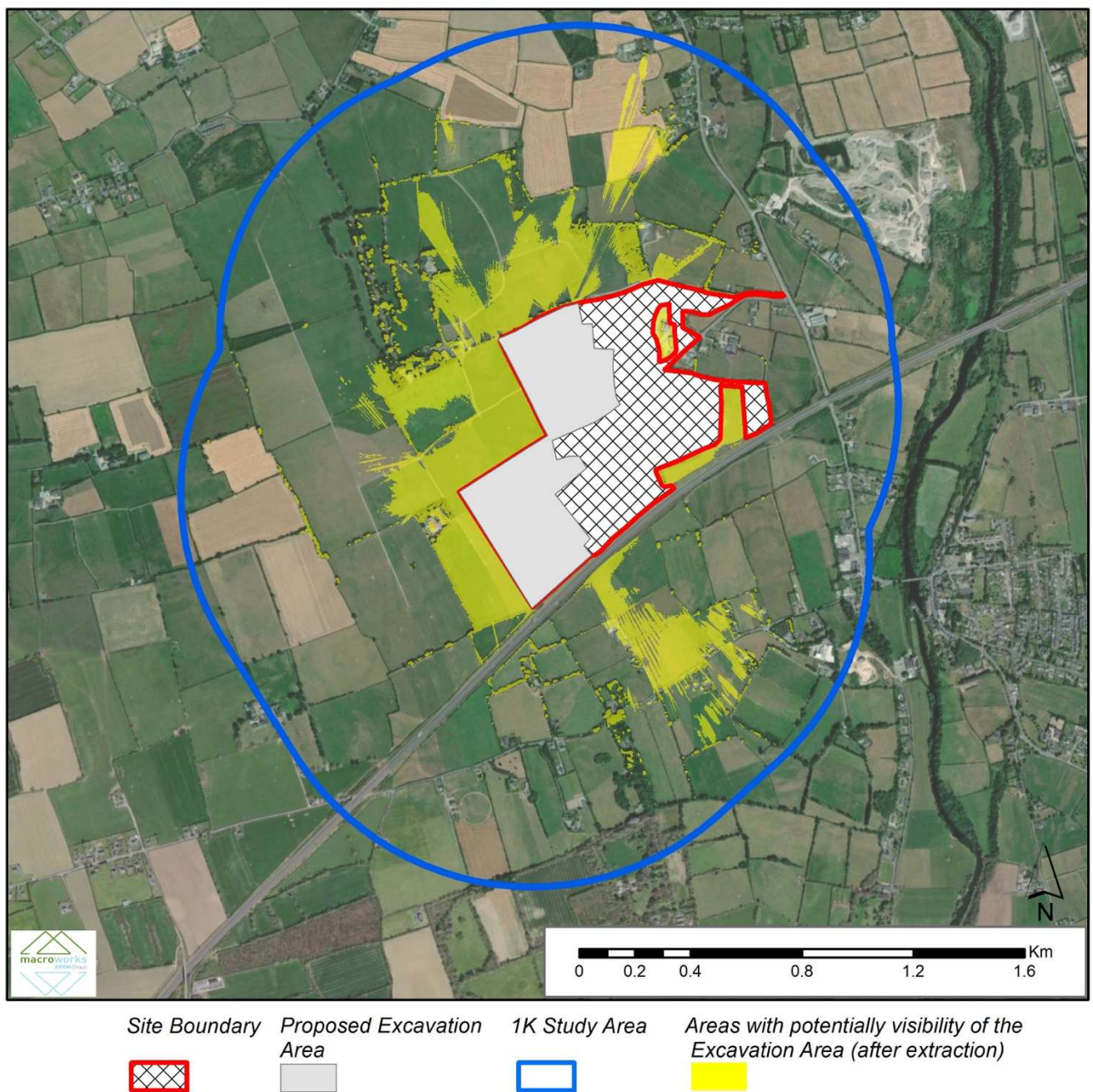


Figure 12.7 DSM ZTV map of proposed extraction area

- 1.50 As can be seen from the comparison of the 'bare-ground' ZTV map (Figure 12.5) and the Digital Surface Model (DSM) based ZTV map (Figure 12.7):

- There is a notable reduction in the potential for actual visibility of the proposed extraction area once the existing vegetation is accounted for. The majority of the landscape in the immediate surrounds of the site is screened, including the M9 corridor.
- The open pasture to the west features the highest potential for visibility, while there are filtered views to the north and south over the settled rural surrounds. Similarly, the R700 and associated residences show a notable reduction in potential visibility, with the closest sections to the proposed development fully screened.

Identification of Viewshed Reference Points as a Basis for Assessment

1.51 Viewshed Reference Points (VRP's) are the locations used to study the visual impacts of a proposed development in detail. It is not warranted to include each and every location that provides a view of a development as this would result in an unwieldy report and make it extremely difficult to draw out the key impacts arising from the proposed development. Instead, the selected viewpoints are intended to reflect a range of different receptor types, distances and angles. The visual impact of a proposed development is assessed by Macro Works using up to 6 no. categories of receptor type as listed below:

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

1.52 VRP's might be relevant to more than one category and this makes them even more valid for inclusion in the assessment. The receptors that are intended to be represented by a particular VRP are listed at the beginning of each viewpoint appraisal. The Viewshed Reference Points selected in this instance are set out in the Table 12.6 and Figure 12.8 below.

Table 12.6 Outline Description of Selected Viewshed Reference Points (VRPs)

VRP No.	Location	Representative of	Direction of view
VP1	Lane north of the site at Sheastown	LCV	S
VP2	M9 at Bennettsbridge	MR	W
VP3	R700 east of site	MR, LCV	W
VP4	Local Road north of Bennettsbridge	LCV	W
VP5	M9 south of site	MR	N
VP6	Chapel Street/ Gowran Road, Bennettsbridge	CP, AH	NW
VP7	L4200 south of site	LCV	N



Figure 12.8 Viewpoint location map

Mitigation and Restoration Measures

- 1.53 The main mitigation by avoidance measure employed in this instance is the siting of the proposed development adjacent to existing, similar land use and the highly modified setting of the M9. Peripheral field boundaries are retained, and woodland planting is proposed along proposed berms. This proposed native thicket/woodland mix will be provided in the form of high canopy (dominants) species, low canopy (sub-dominant) species, understory and fringe (higher shrubs) species and understory and edge (lower shrub) species and will comprise a mix of advanced nursery stock and whip planting of local provenance. The proposed planting will be allowed to grow out to reach maturity.
- 1.54 Following the establishment of mitigation, visibility is reduced, as showing in Figure 12.9, below.

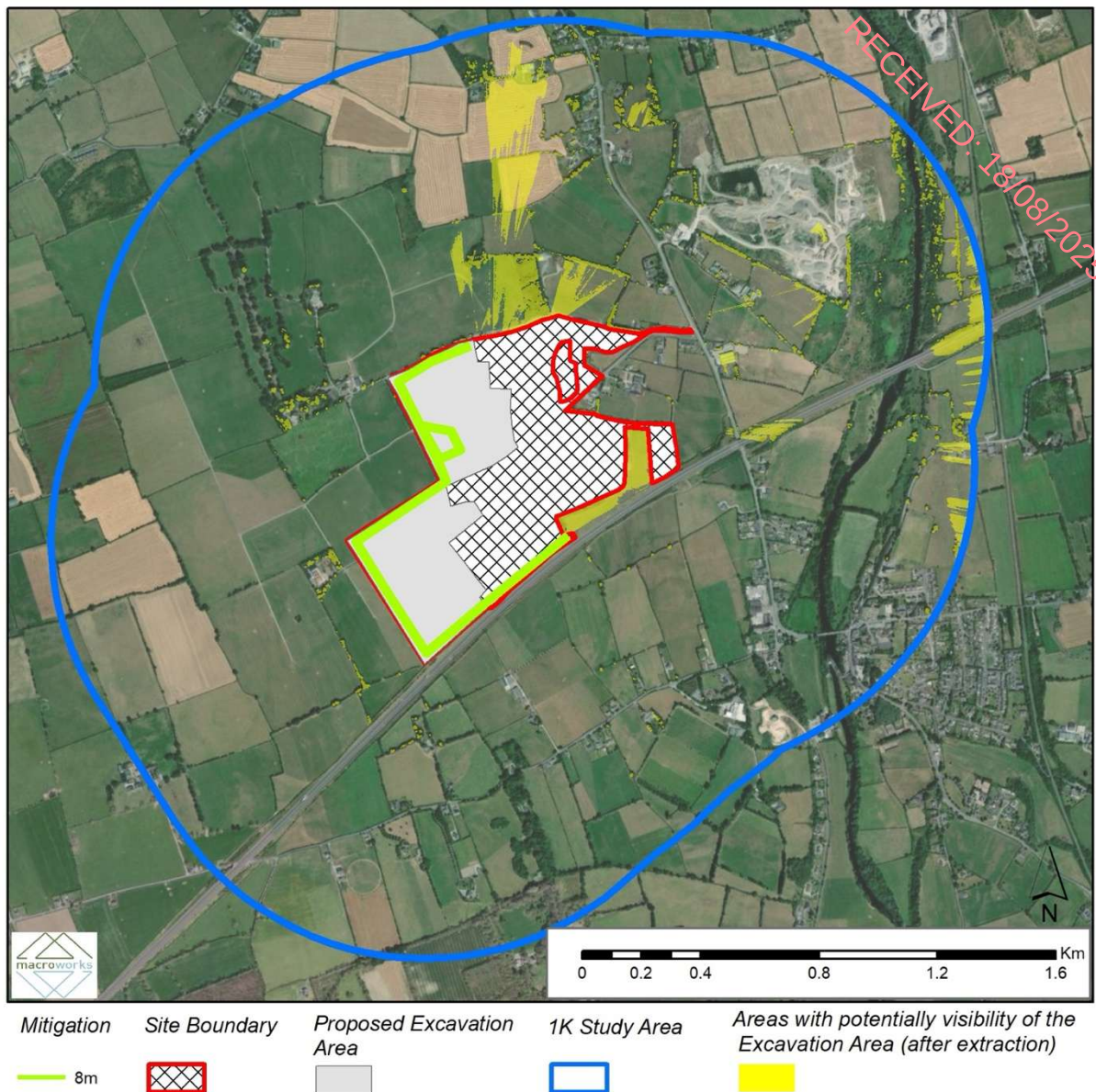


Figure 12.9 DSM ZTV map of combined site area with mitigation established.

Impact Assessment

Do-nothing scenario

- 1.55 The *'do-nothing'* impact refers to the non-implementation of the proposed development. The primary effect of this would be that the impacts and effects identified would not directly occur. In this regard the following issues are relevant. The site, which is currently contained in pastoral farmland and forestry, would likely be managed for typical agricultural practices, whilst the surrounding perimeter vegetation would continue to grow out, some of which would be maintained by the current landowners. The existing permission for Bennettsbridge would be continued with extraction to the expiry of the permission, followed by the restoration measures, which form part of the existing permission (Planning ref: 18/858).

Assessment of Receptor Sensitivity – Landscape

- 1.56 Landscape value and sensitivity are considered in relation to a number of factors highlighted in the Guidelines for Landscape and Visual Impact Assessment 2013, which are set out below and discussed relative to the proposed development site and wider study area.
- 1.57 The study area presents with a clear contrast in complexity of character and land use between the western and eastern study areas. The central northern, western, and southern study area and wider half of the wider study area is a typical lowland rural landscape where the primary land use is that of pastoral farmland comprising of small to medium sized geometric fields. These fields are typically bound by dense mature tree-lined hedgerows, which often truncate any notable sense of openness. While there are sections of larger scale agriculture and low field boundaries, the level landform results in stacking of distant vegetation, effectively screening longer distance views. The western study area has a strong degree of integrity within the rural setting, interrupted only by the major route corridors of the M9 to the south and N10 to the west. This is reflected in the current Kilkenny County Development Plan which identifies on Figure 9.3 that there are no features of particular sensitivity within the immediate surrounds of the site or wider western study area.
- 1.58 In contrast, the eastern study area features a complex transition of land uses on either side of the River Nore, hemmed by the R700 and National Rail Line. The River Nore is identified as 'high scenic/visually pleasing', within the Kilkenny Landscape Character Assessment. The River Nore is the most designated feature within the study area, with the Kilkenny LCA designation, combined with the presence of the River Nore SPA, and River Barrow and River Nore SAC. It should be noted that the classification of the River Nore is only associated within the immediate surrounds of the river corridor, and is separated from the site by the existing Bennettsbridge Limestone Quarry, Hennessy Quarry, the elevation change between the surrounding rural setting, a distance of c.600m, and the R700 corridor.
- 1.59 Additionally, the overlay of the M9 and settlement of Bennettsbridge across the River Nore corridor, creates a complex knot of features in a localised area. As well as the M9 and Bennettsbridge settlement, there are three existing quarry's (in addition to the existing Bennettsbridge Limestone Quarry) on either side of the river corridor to the east and north of the site. Within Figure 9.3 of the Kilkenny County Development Plan, the only feature identified as sensitive within the study area relates to small areas of steeper topography situated to the east in the wider study area, including within existing quarries - such as at Dunbell Big. These are all within 500m of the River Nore.
- 1.60 The combination of existing quarrying activity, multiple transport routes and a population centre within and adjacent to the higher sensitivity river valley result in contrasting sensitivities across short distances compared to the relatively uniform western study area. However, the influence of the knot of features at Bennettsbridge dissipates across the wider eastern study area, which becomes more cohesive, reflecting the rural character of the western study area.
- 1.61 Distributed through the wider rural productive landscape, the presence of stately houses and historic demesne landscapes create localised areas of higher sensitivity, such as established trees and stone gateways. The nearest to the site is a Kilkenny Protected Structure, (RPS code: C839) the 19th Century Kilree House. As listed above, others at greater distance from the site, include Kilfera (Kilferagh) House (RPS code: C355), to the northeast, Pigeon Park House to the west, Burnchurch House (includes RPS C365, C420, and C327) and Maidenhall House (RPS code: C365) to the south. There is a denser concentration of the heritage features and stately houses where views or proximity to the River Nore are possible, adding to the sensitivity of the River Nore corridor.

- 1.62 Across the northern study area is a proliferation of clustered residential housing, due to proximity to Kilkenny City. While these are typically contained along road corridors, the increase in built form adds intensity to the surrounding land uses, and increases enclosure along the road corridors, interrupting the wider field pattern.
- 1.63 Overall, this is an evolving rural landscape, and the contrast from west to east is the most notable aspect, enhanced primarily by the natural character values of the River Nore, and heritage structures within the wider study area and settlement of Bennettsbridge. Rather than scenic or naturalistic values, the landscape of the study area has landscape values associated with rural productivity and subsistence for the local population, featuring a combination of modern and historic landscape patterns, features and uses. Therefore, on balance of these factors and in accordance with the criteria outlined in Table 12.1, the landscape sensitivity is deemed to be Medium-Low, with localised areas of higher and lower sensitivity. The wider rural setting is typically Medium-Low, in particular surrounding the M9, while the River Nore and Bennettsbridge are High and High-Medium respectively with consideration of both the character and designation at a county level. This is otherwise a typical lowland landscape context, heavily influenced by mineral extraction, major routes and rural land uses

Assessment of Receptor Sensitivity – Visual

- 1.64 The study area generally presents a typical rural landscape, differentiated from the wider lowlands of Kilkenny by the presence of the River Nore and the M9. The River Nore corridor presents some locally susceptible areas that are afforded a strong sense of containment and are noted for their naturalistic values. These parts of the landscape are typically highly susceptible to change and range in sensitivity between Medium to High-medium depending on their influence from other surrounding landscape areas.
- 1.65 Views of the working agricultural landscape are generally pleasant in terms of its rolling pastoral aesthetic and 'green', settled working character. The network of hedgerows and vegetation throughout it contributes to some sense of naturalness, and, combined with its low undulating topography, vegetation is the primary source of containment in many locations. The pattern of typical pastoral views is contained in the western and peripheral eastern study area of a typical rural setting. Similar to the pattern of landscape character, the River Nore corridor itself is high sensitivity, while selected views from the nearest roads with potential to overlook the river itself are also higher than typical rural views. The exception to this is where the view overlooks fragmented landscape characters, such as the periphery of Bennettsbridge and the existing quarries in the northern study area.
- 1.66 However, whilst a pleasant pastoral aesthetic is noted throughout some parts of the study area, as noted above, the surrounding local and wider landscape is also influenced by an array of anthropogenic features such as major transport routes, urban settlements, and industrial development. Overall, the sensitivity of visual receptors within the more typical working landscape context tends to range between Medium and Medium-low, with those of a Medium sensitivity representing more open expansive views across the wider landscape.
- 1.67 Key differentials in terms of visual receptor sensitivity relate to the occupation of the visual receptor and whether views of the surrounding landscape are an inherent part of the experience. Static residential receptors are considered generally more susceptible to changes in views over those where views are experienced transiently by those travelling through the landscape, particularly on major transport routes where road infrastructure and traffic volume draw from visual amenity. Likewise, stationary receptors located in closer proximity to the site are considered more susceptible to changes in views over those where views are experienced at a distance.

- 1.68 The highest sensitivity and scenic parts of a study area are typically identified by the presence of scenic routes and view designations. As noted in the baseline, there are no scenic designations within the study area.
- 1.69 On the basis of the site-specific factors outlined above and in accordance with the general visual receptor sensitivity considerations contained in the methodology Section, visual receptor sensitivity judgements are provided for each representative viewpoint in the table below.

Magnitude of Landscape Effects – Construction Stage

- 1.70 The construction phase in this instance refers to the required site clearance and preparation work prior to extraction beginning, specifically vegetation clearance, building removal and construction of the screening berms. During the construction phase there will be a far higher intensity of activity around the new borders of the site than during the operational phase. This will consist of heavy vehicle movement to and from the site, topsoil / overburden stripping, vegetation removal, berm earthworks and associated ground disturbance.
- 1.71 While this will occur within the context of an existing quarry, the removal of a small patch of woodland vegetation and rural buildings reduces the landscape integrity of the excavation area, while the disturbance and reforming of earth above the existing ground level (opposed to within a quarry void) increases the influence of the large-scale extractive activity into the surrounding rural setting.
- 1.72 The effects on the eastern study area and more sensitive receptors are buffered from the construction stage effects primarily by the existing quarry extent. Similarly, the northern study area is buffered by Kilree Estate and to the south by the M9. As such the majority of construction stage landscape character effects are experienced to the west and immediate surrounds. The construction stage effects as a result of woodland, hedgerow and agricultural grassland vegetation clearance, building removal, and berm construction are deemed to be High-medium within the bounds of the site, reducing to Medium west and north of the site within 500m. To the east, construction stage effects are deemed Low, and Medium-Low in the surrounds of the M9 and wider study area. Outside of 500m, the magnitude of effect reduces to Low and negligible due to the proximity to and association with an existing area of extraction.
- 1.73 Construction stage effects are limited to a medium-term duration, proposed to be completed within 7-15 years of permission.
- 1.74 With reference to the significance matrix (Table 12.4) above, the **Medium-low** landscape sensitivity judgement attributed to the study area, coupled with a **High-Medium** magnitude of landscape effect within the site itself, and **Medium** within the immediate vicinity (<500m) to the west, the proposed development is considered to result in an overall significance of no greater than **Moderate**, within the immediate vicinity and **Moderate-slight** to the west of the site with the remainder of the 3km radius study area likely to experience **Slight** or **Imperceptible** landscape effects at construction stage.
- 1.75 As a result, construction stage landscape effects are considered to be not significant.

Magnitude of Visual Effects – Construction Stage

- 1.76 During construction, the main visual impacts will arise from the activity across the proposed extension area where vegetation removal is proposed. In addition, there will be construction machinery on site, which may rise above intervening vegetation and buildings. There will also be stockpiles of stripped topsoil and vegetation materials awaiting use or removal. However, aside from the site's immediate vicinity, a large part of this temporary activity within the site will remain screened and partially screened from view of the surrounding mature layers of

intervening vegetation across the low landform. Furthermore, construction-related activity is temporary in nature and will cease once the development becomes fully operational. Thus, construction stage impacts are like to result in a visual effect of Medium and Medium-Low in the immediate surroundings of the site, over a 'Short-term' duration.

- 1.77 Coupled with the generally Medium-Low visual receptor sensitivities in the near surrounds of the site, the construction stage visual effects in the immediate vicinity of the site will be no greater than **Moderate-slight** and will reduce considerably beyond 500m-1000m from the site, where the proposed development will be heavily screened and as the proposed development becomes a smaller component of the view.
- 1.78 As a result, construction stage visual effects are considered to be not significant.

Magnitude of Landscape Effects – Operational Phase

- 1.79 In terms of physical landscape effects, the extraction area will, in combination with the permitted area within App. No. 18/858, expand the existing quarry void within the Site from an area of ca. c.25.4 ha, including approximately 18.2 hectares of extraction over 2 no. c 19 metre high benches to a final floor level ranging from 25 to 30m OD; and overburden storage areas and landscaped screening berms (6.3 Ha).
- 1.80 Quarrying activities generally result in permanent landscape changes; however, the decommissioning and restoration phases include measures to reduce these. As the Proposed Development is an extension of both time period and lateral extent, the ancillary features such as the weighbridge, wheel wash, wash plant, shed, screening plant, and settlement pond are utilised from the existing operation. As described in the construction stage, there will be screening berms around the boundary of the site, with a height of 5-8m. The top and side faces of these berms will be planted with a native woodland mix comprising whips and advanced nursery stock (standard trees and feathered trees 200-300cm) to further screen and soften the development from surrounding visual receptors, which reduces the potential for the proposed development to notably alter the surrounding landscape character.
- 1.81 In terms of the duration, the landscape impacts associated with the Proposed Development are considered 'permanent' as the proposed quarry void will not be filled in during the restoration phase of the development. The primary decommissioning and restoration measures proposed involve the removal of all structures, removing water pumps and allowing natural regeneration of the site as the quarry void fills with water.
- 1.82 The proposed new screening planting and berms will increase enclosure for the immediately adjacent section of the M9 road corridor, but their presence is not inconsistent with the surrounding motorway context which is cut into the surrounding landform, and within the wider setting where a mix of shrubby and taller vegetation is consistent with the adjacent river corridor and taller, well-treed hedgerows are common in the wider rural setting.
- 1.83 This is a productive rural landscape containing several other small quarries, including the existing extent of the Bennettsbridge Limestone Quarry. As a result, the Proposed Development will increase the extent and duration of extractive industry within the local landscape, but it will not appear as an incongruous development type in the surrounding local landscape. Within the site's immediate surroundings, the Proposed Development will reduce the proportion of pastoral land cover across the section of landform bracketed by the M9 to the south and the R700 and Nore River corridor to the east.
- 1.84 While the landscape immediately west of the site remains in pasture, the proposed development extends the proportion of landform which will be occupied by one connected area of operational and historic quarrying. Furthermore, quarry-related activities, such as the movement of heavy vehicles within, to and from the surrounding sites, are already

commonplace in the local landscape context, given the influence of the extractive industry on this local landscape, in particular the northern study area, and the location of numerous major routes, including traffic to Kilkenny, to the north of the study area. As this development is an expansion of an existing operation, it is an extension of the time period in which heavy vehicle movements will occur within the local road network as a result of the Proposed Development rather than the introduction of more vehicles from a new location. The level of heavy vehicle activity within the boundaries of the site will be consistent with what is currently experienced.

- 1.85 While the proposed development and described impacts will occur within the context of an existing quarry, the scale of the combined permitted and proposed extension reduces the landscape integrity of the rural western study area, increasing the influence of the large-scale extractive activity in the surrounding rural setting.
- 1.86 Similarly to the construction effects, the eastern study area and more sensitive receptors are buffered from the operational stage effects primarily by the existing quarry extent. Similarly, the influence of landscape character effects on the northern study area is contained by Kilree Estate and to the south by the M9. As such, the majority of operational stage landscape character effects are experienced across the rural landscape to the west of the site. Both the surrounding rural setting and motorway are separated from the proposed extraction by the proposed berms and woodland, which defines the extent of the proposed development. The proposed development reduces the proportion of the study area which is utilised for agriculture, extending the existing influence of quarries and extractive industry marginally southwest.
- 1.87 On the basis of the factors discussed above, it is considered that the magnitude of landscape effect for the Proposed Development within the immediate vicinity, being those lands contained within approximately 500m of the Proposed Development, is High-medium to the west and north. To the south and east, the magnitude of effect is deemed Medium within 500m. Thereafter, the magnitude of landscape impact is deemed to be reduced to Low and Negligible, as the Proposed Development becomes a progressively smaller component of the overall landscape fabric and is heavily screened from surrounding receptors, which limits its potential to alter the landscape character notably.
- 1.88 With reference to the significance matrix (Table 12.4) above, the **Medium-Low** landscape sensitivity judgement attributed to the study area, coupled with a **High-Medium** magnitude of landscape effect to the north and west, and **Medium** in the east and south in the immediate vicinity (<500m) of the proposed development is considered to result in an overall significance of effect of no greater than **Moderate** to the west and north, **Moderate-slight** to the east and south, with the remainder of the 3km radius study area likely to experience **Slight** or **Imperceptible** landscape effects.
- 1.89 As a result, operational stage landscape effects are considered to be not significant.

Magnitude of Visual Effects – Operational Stage

- 1.90 The assessment of visual impacts at each of the selected viewpoints is aided by photomontages of the proposed development.
- 1.91 As the proposed development will establish berms and plant mitigation screen planting prior to the extraction, the timeline for vegetation establishment and the full extraction period (highest potential for landscape and visual effects) are parallel. Therefore, the photomontages present both the fully extracted quarry void and the established mitigation planting.
- 1.92 Photomontages are a 'photo-real' depiction of the scheme within the view utilising a rendered three-dimensional model of the development, which has been geo-referenced to allow accurate placement and scale. For each viewpoint, the following images have been produced:

a) Existing view;

b) Montage view

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Table 12.7: Assessment of Magnitude of Visual Effects – Operational Stage

VP NO.	EXISTING VIEW	VP SENSITIVITY	MAGNITUDE OF VISUAL EFFECT	POST MITIGATION SIGNIFICANCE / QUALITY / DURATION OF EFFECT
VP1	Lane north of the site at Sheastown – This is an open sloping view across the rural surrounding area north of the site. This viewpoint is 800m to the north of the redline boundary and existing operation, 900m north of the proposed extension area. The foreground features scattered residences and farm buildings, which this location represents. There are longer distance views southeast towards the River Nore (not visible) and south to the existing extraction area, the existing benches of which are visible across the midground.	Medium-Low	The Proposed Development is clearly visible as a westward extension of the existing quarry. The Proposed Development presents as a narrow band of exposed earth which is visible across the midground of the overall view. Visibility of the proposed development is afforded between vegetation and sloping landform, in the same context as the existing extraction operation. The scale and intensity of the Proposed Development will detract from the wider rural setting. However, while the Proposed Development represents a visual intrusion on the view and will increase the extent of development in the surrounding landscape context, the Proposed Development does not change the horizon or obscure views of the wider setting. While there are existing land uses with similar characteristics, the proposed development is both a physical and duration extension of the presence of extractive land uses within this setting. The proposed native screening planting will be marginally discernible from here above the distant upper edge of the quarry void. However, the mitigation does not reduce the visible extent of the proposed development from this location. Thus, the residual magnitude of the effect is Medium.	Moderate Negative Permanent /

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VP NO.	EXISTING VIEW	VP SENSITIVITY	MAGNITUDE OF VISUAL EFFECT	POST MITIGATION SIGNIFICANCE / QUALITY / DURATION OF EFFECT
VP2	M9 at Bennettsbridge – This is a wide, elevated view along the M9, 1.5km to the existing extraction area and 1.9km east of the proposed extension. The view is located at the crest of the slope down into the bridge over the River Nore of the site, allowing long-distance views over the surrounding landscape, much of which is screened by layered vegetation. This viewpoint is representative of motorway users, who are typically not a highly sensitive receptor however in this case, the pleasant open nature of the view is taken into consideration. <i>NOTE: This viewpoint is assessed using streetview photography as a representative view due to safety concerns and restrictions on public access to the motorway.</i>	Medium	The proposed development is partially visible as a narrow band of disturbed earth / rock over the distant slope over the opposite side of the River Nore, behind the existing extraction area. The proposed development is set within a mix of land uses, including the motorway, which is visible across the wide view from this generally rural setting. The proposed development is contained within the existing extent of extraction to the north of the M9. The combination of the proposed development and the existing extraction area will result in the scale of the extraction area being notable within the view. The combination of the deep-cut motorway and extraction adds an overlay of large-scale formed landscapes to that section of the landscape. Following mitigation, the vegetated berms do not screen the proposed development, as they are set back from the proposed extraction area from the viewer. Instead, the proposed woodland planting softens the horizon. Therefore, the magnitude of effect is deemed Medium-Low.	Slight / Negative / Permanent
VP3	R700 east of site – This is a mixed rural view along the R700, 400m east of the existing extraction area and 800m east of the proposed extension. Within the view and this section of the road corridor, there are standalone residences, agricultural buildings, and glimpses	Medium-Low	The Proposed Development and mitigation planting etc. will not be clearly visible from here due to the high degree of existing intervening vegetation in the direction of the Proposed Development. The only visible section of the proposed development is a subtle increase in the height of screening to the	Imperceptible / Neutral / Permanent

VP NO.	EXISTING VIEW	VP SENSITIVITY	MAGNITUDE OF VISUAL EFFECT	POST MITIGATION SIGNIFICANCE / QUALITY / DURATION OF EFFECT
	of quarry plant. The combination of the M9 embankment and mixed vegetation screen has longer distance views. This viewpoint is primarily representative of road users travelling between Kilkenny City and Bennettsbridge town, as well as the local community.		southwest. This is not easily discernible and will not impact the character of the view. Thus, the residual magnitude of effect is deemed Negligible by default.	
VP4	Local Road north of Bennettsbridge – This is a relatively enclosed rural view from a local road leading to Bennettsbridge along the eastern side of the River Nore. This viewpoint is representative of the local community and road users, as well as the nearby rail line. The viewpoint is located 1km east of the existing extraction area and 1.5km from the proposed extension. The banks of the River Nore and the associated River Nore Walk are visible downhill to the viewer across fields and intervening vegetation. Mature trees and vegetation screen much of the surrounding landscape, but filtered views to the upper sections of the existing quarry wall are visible along the distant horizon. While this is a relatively typical view, it is peripheral to a higher sensitivity landscape and features views of key landscape features (the River Nore), primarily representing the local community and those who are familiar	Medium	The proposed development is partially visible in the distance, between foreground vegetation. The main change is the subtle increase in height of the perimeter berm. Due to the separation by both the river corridor and the M9 embankments, the influence of the proposed development on this location and receptors is limited. Mitigation softens the engineered form of the berms. Therefore, the magnitude of effect is deemed Low.	Slight / Negative / Permanent

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VP NO.	EXISTING VIEW	VP SENSITIVITY	MAGNITUDE OF VISUAL EFFECT	POST MITIGATION SIGNIFICANCE / QUALITY / DURATION OF EFFECT
	with the surrounding setting – including the higher intensity land uses.			
VP5	M9 south of site – This is an enclosed view along the M9, immediately south of the existing extraction area and 200m east of the proposed extension area boundary. This viewpoint represents the users of the motorway at the closest point to the proposed development. The viewpoint is framed in either direction by the incised M9 corridor, which channel views along the road corridor. Unlike VP2, this section of the motorway has little appreciation or opportunity to view the wider landscape, in particular, viewers travelling from the west, who are travelling uphill and exclusively have views of the road corridor. <i>NOTE: This viewpoint is assessed using streetview photography as a representative view due to safety concerns and restrictions on public access to the motorway.</i>	Medium-Low	The primary visual effect is the increased sense of enclosure through the berms and woodland planting. However, this is in keeping with the engineered forms of the motorway. Following mitigation establishment, the road corridor will be further enclosed. However, vegetation screening softens the skyline and is a typical feature of roadways in rural settings. Therefore, the magnitude of effect is deemed Low. Due to the softening of the engineered berm form, and increase of natural amenity values by the proposed screening planting, the quality of effect is deemed Neutral.	Slight / Neutral / Permanent
VP6	Chapel Street/ Gowran Road, Bennettsbridge – This is an elevated, cluttered from the eastern, primarily residential area of Bennettsbridge. This viewpoint is also representative of the East Kilkenny Cycle Loop and the local community receptor of East End	Medium	The proposed development is partially visible in the distance, with the removal of vegetation and subtle increase in height the most prominent features. Due to the separation by both the river corridor and the M9 embankments, the influence of the proposed development on this location and its receptors is	Slight-imperceptible / Negative-neutral / Permanent

VP NO.	EXISTING VIEW	VP SENSITIVITY	MAGNITUDE OF VISUAL EFFECT	POST MITIGATION SIGNIFICANCE / QUALITY / DURATION OF EFFECT
	Football Club. This is a typical view over a small settlement dominated by houses and powerlines. The key source of visual amenity is the elevated location, allowing views of the vegetated River Nore corridor and rolling rural horizon. This viewpoint is primarily representative of local residences; however, it also represents the recreational cycle users and road users from further afield. The existing extraction area is generally screened by vegetation, and the M9 corridor, which is visible to the north, is peripheral to the primary view along the road corridor.		limited. Following mitigation, the engineered form of the berms is softened. However, the increase in height remains legible. Therefore, the magnitude of effect remains Low-negligible.	
VP7	L4200 south of site – This is an open rural view typical of the wider western study area. The road corridor is lined by a low-trimmed hedge, with a mix of trees and boundary treatments in either direction. This viewpoint is located 500m to the south of the proposed extraction area, representing the rural residences along the road corridor and the local community, which use the L4200 to connect Bennettsbridge and the N10 further west.	Medium-Low	The most visible change is the removal of vegetation along the horizon and the introduction of the smooth, engineered form of the berms. The proposed development occupies a limited extent of the horizon and does not obscure views of any key landscape features; instead, it represents a reduction of the rural amenity value of the wider landscape within the view. As this is separated from the viewer context by the M9, the primary visual change is the re-introduction of a vegetated skyline. Therefore, the magnitude of effect is reduced to Low-negligible.	Slight-imperceptible / Negative-neutral / Permanent

Cumulative Impact Assessment

- 1.93 The potential for cumulative effects is primarily derived from the existing extractive development within the study area, which has been addressed and included within the landscape and visual assessments above.
- 1.94 There are applications for extension of time and expansion at the Hennesy site to the east of the proposed development (Planning ref: 21362). There are no extraction-type applications at greenfield locations that are not attached to existing quarries or sand pits.
- 1.95 The Proposed Bennettsbridge Lateral Extension area is located c.800m to the west of the permitted Hennesy site. The R700 road corridor separates the two developments, but both are contained on the same side of the Nore Corridor. Intervisibility between the two is restricted, as shown in the DSM ZTV for the proposed Bennettsbridge Extension. However, combined views of the two are likely to be possible from the eastern study area. The cumulative landscape and visual impacts of the Proposed Development with Hennesy Quarry is somewhat mitigated by the generally screened nature of the Bennettsbridge development. However, where the two are visible from the same context, such as very filtered potential for views along the local road at Dunbell Big in the east of the study area or residences at Whitestown Upper in the east of the study area, the more open visibility of Bennettsbridge will add context to partial or sequential views of the Hennesy site. While both of the proposed developments are generally screened and, therefore, limit visual effects to lower magnitudes, there will be a change in the wider landscape character to feature a higher proportion of large-scale extractive industries.
- 1.96 Overall, there is potential for cumulative effects relating to the increased extent of quarry development, albeit, limited impacts on the character due to the limited visibility. As such, the cumulative landscape and visual impact of the Proposed Development is considered to be not significant.

Monitoring

Construction Phase

- 1.97 Landscape tender drawings and specifications will be produced to ensure that the landscape work is implemented and maintained in accordance with best practice. This document will include tree work procedures, soil handling, planting and maintenance. The contract works will be supervised by a suitably qualified landscape architect.
- 1.98 The planting works will be undertaken in the next available planting season after completion of the main civil engineering and building work.
- 1.99 All tree protection requirements will be installed on commencement of the development and removed on a phased basis as stages of the development are completed.

Operational Phase

- 1.100 This will consist of weed control, replacement planting, pruning etc. All landscape works will be in an establishment phase for the initial three years from planting. All works will be monitored on an ongoing basis to ensure the quality of the development is maintained.

Conclusions

- 1.101 In terms of Landscape Impacts, both construction and operational stage effects, the eastern study area and more sensitive receptors are buffered primarily by the existing quarry extent and separation by the landscape change and linear features of the River Nore Corridor. Similarly, the influence of landscape character effects on the northern study area is contained by Kilree Estate and to the south by the M9. Both of these are contrasting land uses with the

proposed development, and therefore, the extent of the development is clearly defined within the wider land use patterns, with no ambiguity as to the extent of extraction. Following construction, these boundaries are reinforced by the planted berms surrounding the proposed extension. As such, the majority of operational stage landscape character effects are experienced across the rural landscape to the west of the site. The proposed development reduces the extent of this area of cohesive rural character, drawing the existing extent of quarries and extractive industry marginally southwest from the existing extent across the northern and eastern study area.

- 1.102 With reference to the significance matrix (Table 12.4) above, the **Medium-low** landscape sensitivity judgement attributed to the study area, coupled with a **High-Medium** magnitude of landscape impact to the north and west, and **Medium** in the east and south in the immediate vicinity (<500m) of the proposed development is considered to result in an overall significance of no greater than **Moderate** to the west and north, **Moderate-slight** to the east and south, with the remainder of the 3km radius study area likely to experience **Slight** or **Imperceptible** landscape impacts.
- 1.103 In terms of Visual Impacts, the highest magnitude is experienced at VP1, where the proposed development is visible at close proximity and in a relatively elevated location. While this is not the closest viewpoint, it is one of the few places within the study area that feature clear visibility of the proposed development from within the same landscape context. As such, the significance of visual effect is deemed Moderate.
- 1.104 Viewpoint 2, the magnitude of effect is deemed Medium-low, due to the elevated view from the M9 Motorway, while Viewpoints 4 and 5 feature a Low magnitude of effect with partial visibility of the proposed development possible, primarily the screening berms. Viewpoint 2, 4, and 5 have a final significance of Slight visual effect. At Viewpoint 5, the quality of effect is deemed Neutral as the proposed screening planting softens the form of the berms. VP7 experiences Slight-imperceptible significance as mitigation softens the engineered forms of the proposed development within the rural setting. The remainder of views experience Low-negligible or Negligible effects. Viewpoint 6 features a Slight-imperceptible significance of effect, and Viewpoint 3 is deemed Imperceptible.
- 1.105 Screening is primarily provided by landform. In this instance, vegetative screening is secondary to the limited visibility allowed by the surrounding terrain. Where vegetative screening obscures views of the development, the level of visual effect and mitigation is deemed to be comparable in winter vegetation or full leaf due to the density of vegetation across the study area, particularly across layered field boundaries and the Nore River Corridor.
- 1.106 With regard to cumulative effects, the only development of a similar character as the proposed development, which is not accounted for within the assessment baseline, is the expansion of the Hennesy site to the east of the proposed development. Due to screening and limited visibility of both developments, cumulative effects are deemed not significant.

Overall Significance of Effect

- 1.107 Based on the landscape and visual effect judgements provided throughout this LVIA, the proposed Bennettsbridge lateral extension is not considered to give rise to any significant residual effect. Instead, landscape effects are not considered to exceed 'Moderate' significance, even in the immediate context of the site and residual visual effects are not considered to exceed 'Moderate' significance. In the context of this development, it is deemed these moderate to low level residual effects are not significant.

References

- Landscape Institute and the Institute of Environmental Management and Assessment (IEMA) publication entitled Guidelines for Landscape and Visual Impact Assessment, 2013 (GLVIA3);
- Environmental Protection Agency (EPA) publication 'Guidelines on the Information to be contained in Environmental Impact Statements (2022); and
- 'Photography and Photomontage in Landscape and Visual Impact Assessment', Landscape Institute Technical Guidance Note 06/2019.

Figures

Figure 12.1 3km Extent of the Study Area

Figure 12.2 Excerpt from Figure 9.2 of the current Kilkenny County Development Plan 2021-2027 showing landscape character types in relation to the proposed development.

Figure 12.3 Excerpt from Figure 9.3 the current Kilkenny County Development Plan 2021-2027 showing landscape sensitivities in relation to the proposed development.

Figure 12.4 Land use mix of the study area

Figure 12.5 Standard (bare-ground) ZTV map (Refer to Appendix A for larger scale version)

Figure 12.6 Standard (bare-ground) ZTV map of combined site area (Refer to Appendix A for larger scale version)

Figure 12.7 DSM ZTV map of proposed extraction area

Figure 12.8 Viewpoint location map

Figure 12.9 DSM ZTV map of combined site area with mitigation established.