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INTRODUCTION

- 5.1 This biodiversity chapter forms part of the Environmental Impact Assessment Report (EIAR) which considers the likelihood and significance of potential impacts on designated sites, habitats and species arising from the proposed development at Kilrainy & Kilrathmurry townlands, Co. Kildare of the existing hard rock quarry and all existing processing, manufacturing and welfare facilities associated with this and the existing sand and gravel pit at the site. The application also provides for the importation of up to 35,000 tonnes per annum of processed fine aggregate, principally sand for use in readymix concrete production on site.

General Description of the Site

- 5.2 The overall land interest is located on the eastern side, and with access onto the L5002 local road in Co. Kildare. The R401 regional road connecting Edenderry (Co. Offaly) to Kinnegad (Co. Westmeath) is located southwest of the site entrance, whilst the M4 motorway and R148 regional road (former N4 national route) are located to the northeast. The overall planning application area extends to c. 51.7 hectares. The existing sand and gravel pit and the site entrance are located within the townland of Kilrathmurry, while the existing quarry site is located within the townland of Kilrainy.
- 5.3 The Site is located within a generally flat to gently undulating farmed landscape, with small to medium sized fields and generally defined by mature dense hedgerow vegetation, as well as several woodlands/mixed forests, equestrian activities and aggregate extraction developments.
- 5.4 The River Boyne delineates the boundary between counties Kildare and Meath and is located to the west of the site and flows in a northerly direction from the southwest to the northeast. The river is c. 380m from the site entrance at its closest point to the site.
- 5.5 There are several former sand and gravel extraction sites within c. 1km of the site, one immediately west of the site in the townland of Ballycowan, one directly east of the application site, and one 850m to the southwest in the townland of Brackagh.

Existing Sand and Gravel Pit

- 5.6 Within the existing sand and gravel pit area, the main site ancillary and employee facilities are located, which include the site office and weighbridge, parking area, workshop with concrete lab and fuel storage, readymix plant and aggregate processing plant. Also located to the southern side of sand and gravel site area are the closed system silt settlement ponds associated with the existing washing plant, along with stockpiles of processed aggregates awaiting haulage off-site or for use in the on-site concrete plant.
- 5.7 The existing planning permission **03/2754** (ABP Ref. **PL09.209480**), at Condition 5, restricts extraction taking place below a maximum depth of 68m AOD. Levels across the existing sand and gravel extraction area located to the north of the ancillary / processing area vary between c. 68m and c. 80m AOD. The existing permission also permits extraction up to a rate of 250,000 tonnes per annum.
- 5.8 There is an area (c. 5.2 hectares) of the former extraction area which was restored in c. 2020 to an agricultural use and is located between the existing sand and gravel extraction area and the public road. Planning permission **03/2754** is due to expire in January 2024.

Hardrock Quarry

5.9 The quarry area occupies a low hill, rising to c. 120m AOD (Above Ordnance Datum), and is located immediately east of the sand and gravel pit through which quarry access is gained from the main site entrance. The existing sand and gravel site facilities (i.e., office, weighbridge, wheelwash, canteen, toilets and effluent treatment system) also serve the quarry personnel when it's operational.

Brief Project Description

5.10 The development being applied for in this application consists of the following:

- Quarry development and associated processing previously permitted under P. Reg. Ref. No. 99/2042 and ABP Ref. PL09.123207) to include drilling, blasting, crushing and screening of rock; and lateral extension to same, with an overall extraction area of c. 6.2 hectares with no vertical deepening below the existing quarry floor. The appropriate period of planning register reference 99/2042 was extended by order dated 03/02/2017 by P. Reg. Ref. No. 16/1246;
- Importation of up to 35,000 tonnes per annum of processed fine aggregate, principally sand for use in readymix concrete production on site;
- Use of buildings and structures associated with the sand and gravel pit previously granted planning permission under P. Reg. Ref. No. 03/2754 comprising of the crushing, washing and screening plant with associated silt disposal lagoons; readymix concrete batching plant including powerhouse; prefabricated office; weighbridge; workshop building with concrete laboratory and bunded fuel tanks; aggregate storage bays; and one liquid effluent treatment system unit;
- Closure of the existing site entrance with provision of a new site entrance located to the north of the existing entrance; realignment of the main internal site access road from the new site entrance to the central processing area with provision of a new wheelwash system; acoustic fence screening (c.2m in height x 170m in length); and a new screening berm along the western site boundary;
- Restoration of the site lands will be to a combination of beneficial agricultural and ecological after-uses;
- All associated site works within an overall application area of c. 51.7 hectares. The proposed operational period is for 10 years plus 2 years to complete restoration (total duration sought 12 years); and,
- Provision is also made for 3 no. sections of road improvements (widening) along the haul route between the site entrance and the R148 regional road. The proposals at the identified locations include for works in the public road and verge that aim to achieve a consistent carriageway width of 6.0m along with provision of verge widening on the inside of the three bends to improve forward visibility and intervisibility for all opposed traffic including traffic generated by the proposed development.

5.11 A full project description can be found in **Chapter 2** of this EIAR.

Purpose of this Report

5.12 The purpose of this biodiversity chapter is to describe the baseline ecological conditions at the Site and to identify potential significant effects associated with the proposed development.

Where necessary appropriate mitigation measures will be set out to reduce residual effects to a suitable level.

- 5.13 This chapter forms part of the EIAR that will be submitted with the application for permission to assist the competent authority, in this case Kildare County Council, to carry out an Environmental Impact Assessment (EIA) of the proposed development.

Evidence of Technical Competence and Experience

- 5.14 The habitat survey was carried out by SLR Associate ecologist Michael Bailey.
- 5.15 This report was prepared by Brogan Costello and the technical review was carried out by SLR associate ecologist Michael Bailey.
- 5.16 Brogan holds a B.Sc. (Botany) from the National University of Ireland Galway and a M.Sc. in Global Change: Ecosystem Science and Policy from University College Dublin. She has previously completed traineeships with Galway County Council and the European Commission. She is a qualifying member of CIEEM.
- 5.17 Michael Bailey holds a BSc. in Biology and Ecology from the University of Ulster and an MSc. in Quantitative Conservation Biology from the University of the Witwatersrand in Johannesburg. He has extensive experience in ecological studies and assessments across a range of sectors in Ireland and of agricultural, mining and renewable energy projects across Africa. He is a full member of the Chartered Institute of Ecology and Environmental Management (MCIEEM).

Legislation and Policy

Legislation

- 5.18 The following legislation are relevant to this report:
- The EIA Directive (2014/52/EU);
 - The Habitats Directive (92/43/EEC);
 - The Birds Directive (2009/147/EC);
 - European Communities (Birds and Natural Habitats) Regulations, 2011 - 2015.
 - The Wildlife Acts 1976 as amended;
 - Wildlife (Amendment) Act, 2000, 2010, 2012;
 - The Flora (Protection) Order 2015.
 - The Planning and Development Acts 2000 to 2020 - PART XAB.
- 5.19 The details of these legislation are summarised in **Appendix 5-A** of this report.

Relevant Planning Policy

- 5.20 The relevant local planning policies have been extracted from the Kildare County Development Plan (CDP) 2023-2029 and are presented in **Appendix 5-A** of this Chapter. These policies are specific to "Chapter 9: Rural Economy" and "Chapter 12: Biodiversity and Green Infrastructure" and are concerned with the policies and objectives relating to biodiversity and designated sites.

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Biodiversity Planning

- 5.21 Ireland's National Biodiversity Plan 2017–2021¹ identifies actions towards understanding and protecting biodiversity in Ireland with the vision *“that biodiversity and ecosystems in Ireland are conserved and restored, delivering benefits essential for all sectors of society and that Ireland contributes to efforts to halt the loss of biodiversity and the degradation of ecosystems in the EU and globally”*.
- 5.22 Local Biodiversity Action Plans have been produced by some County Councils. This includes the County Kildare Biodiversity Plan 2009–2014 that identifies a programme of actions to protect and enhance biodiversity at the local level.

¹ Department of Culture, Heritage and the Gaeltacht (2017). National Biodiversity Plan 2017-2021. Department of Culture, Heritage and the Gaeltacht, Dublin.

METHODOLOGY

5.23 The methods used to carry out the survey of the Site, to evaluate the ecological value and to prepare the biodiversity chapter is outlined in this section. The assessment methodology for this proposal was developed using the standard professional impact assessment guidance published in 2018 by the Chartered Institute of Ecology and Environmental Management (CIEEM).

Scope of the Chapter

5.24 The scope of this Biodiversity Chapter is to identify potential impacts likely to occur as a result of the proposed quarry and associated processing and concrete production activities, and to determine if the effects on biodiversity are significant. The scope of the report includes the provision of mitigation, compensation and enhancement measures as required.

Zone of Influence

5.25 The 'zone of influence' for a project is the area over which ecological features may be subject to significant effects because of the proposed development and associated activities. This is likely to extend beyond the project site, for example where there are ecological or hydrological links beyond the site boundaries. The zone of influence will vary for different ecological features depending on their sensitivity to an environmental change (CIEEM, 2018).

5.26 The 'zone of influence' for the project can be identified through review of the nature of the proposed development / works, the presence / absence of surface water receptors, the presence of ecological connectivity to the wider landscape and distance from known ecologically sensitive sites.

Desk Study

5.27 An initial desk study was carried out in September 2021 to collate the available existing ecological information within 2 km of the Site. The Site and the surrounding area were viewed using existing available satellite imagery (Google and Bing). A subsequent desk study was conducted in April 2023 to note any changes that may have occurred on site since the previous desk study.

5.28 For both desk studies the National Parks and Wildlife Service (NPWS) and National Biodiversity Data Centre (NBDC) online resources were accessed for information on sites designated for nature conservation and on protected habitats and species. Only records for the past 10 years are considered within this report as older records are unlikely to still be relevant given their age and the changes in land management that may have occurred in the intervening period. Environmental Protection Agency (EPA) Maps was accessed for other environmental information, such as surface water features, relevant to the preparation of this report.

5.29 Kildare County Council's website² was accessed for information on relevant planning policy, while the planning portal³ was accessed for information on other proposed or permitted developments within the Site and immediate surrounding area.

5.30 Birds of Conservation Concern in Ireland (BoCCI) 2020-2026 (Gilbert et al 2021), published by BirdWatch Ireland and the RSPB NI, is a list of priority bird species for conservation action on the island of Ireland. The BoCCI lists birds which breed and/or winter in Ireland and classifies

² <https://www.kildarecoco.ie/> (last accessed August 2023)

³ <https://www.eplanning.ie/KildareCC/searchexact> (last accessed August 2023)

them into three separate lists; Red, Amber and Green; based on the conservation status of the bird and hence their conservation priority. Birds on the Red List are those of highest conservation concern, Amber List are of medium conservation concern and Green List are not considered threatened. The BirdWatch Ireland website⁴ was accessed for information on birds of conservation concern.

- 5.31 All bird species are protected under the Wildlife Acts 1976 - 2018 but for the purposes of this report only records of species within the last 10 years that are Red or Amber-listed on BoCCI or listed on Annex 1 of the Birds Directive are included from records held by the NBDC and NPWS web searches (see **Table 5-1**).
- 5.32 The conservation status of mammals, amphibians, reptiles, fish and protected flora within Ireland and Europe was determined using one or more of the following documents: Wildlife Acts (1976 - 2012), the Red List of Terrestrial Mammals (Marnell et al., 2009), Ireland Red Lists No.5: Amphibians, Reptiles and Freshwater Fish (King et al. 2011), The Flora (Protection) Order, 2015 (S.I. No. 356 of 2015) and the EU Habitats Directive 92/43/EEC.
- 5.33 The documents reviewed to assist the preparation of this chapter of the EIAR included the Appropriate Assessment / Natura Impact Statement for the project (SLR, 2023).

Field Surveys

Habitat Survey

- 5.34 The fieldwork carried out to inform the preparation of this report is discussed in the following sections. It is worth noting that the initial field surveys were undertaken by SLR ecologist in July 2021 and consisted of a full suite of biodiversity surveys including targeted habitats, hedgerows and searches for the presence of any protected species.
- 5.35 A follow-up biodiversity survey was conducted on 26 May 2023 by SLR Associate Ecologist Michael Bailey. The purpose of this survey was to note any changes in the habitats on site or species which may be utilising the site since the previous site visit. This is in line with CIEEM guidance for ecological site surveys (CIEEM 2018) which recommends that field data should not be more than 12 months old.
- 5.36 Habitats were identified and classified using 'A Guide to Habitats in Ireland' (Fossitt, 2000) during the visit. Any Annex I habitats and the dominant plant species present in each habitat type were recorded. Species nomenclature follows Parnell & Curtis (2012) for scientific and English names of vascular plants.
- 5.37 Incidental sightings or evidence of birds, mammals or amphibians were also noted during the habitat survey and the habitats evaluated for their suitability to support such species.

Limitations

Desk Study

- 5.38 Desk study data is unlikely to be exhaustive, especially in respect of species, and is intended mainly to set a context for the study. It is therefore possible that important habitats or protected species not identified during the data search do in fact occur within the vicinity of the site but have not been previously recorded. Interpretation of maps and aerial photography has been carried out using recent imagery, but it has not been possible to verify the accuracy of any statements relating to land use and habitat context outside of the field study area.

⁴ <https://birdwatchireland.ie> (last accessed August 2023)

Field Surveys

- 5.39 There were no limitations encountered during the field survey. The surveys were carried out in suitable weather conditions and during the optimal season for terrestrial habitat surveys (July 2021 and May 2023). All areas of the Site and survey area were easily accessible.

ASSESSMENT APPROACH

- 5.40 The ecological evaluation and assessment within this chapter has been undertaken with reference to relevant parts of the 2018 Guidelines for Ecological Impact Assessment in the UK and Ireland developed by the Chartered Institute of Ecology and Environmental Management (CIEEM, September 2018). Although this is recognised as current good practice for ecological assessment, the guidance itself recognises that it is not a prescription about exactly how to undertake an ecological impact assessment (EIA); rather, they “provide guidance to practitioners for refining their own methodologies”. For the full guidance, refer to <https://www.cieem.net/data/files/EIA%20Guidelines.pdf>. The approach to impact assessment also has regard to advice set out in the EPA guidelines on the information to be contained in Environmental Impact Assessment Reports (EIAR) published in 2022.

Important Ecological Features

- 5.41 Ecological features can be important for a variety of reasons and the rationale used to identify them is explained in the text. Importance may relate, for example, to the quality or extent of the site or habitats therein; habitat and / or species rarity; the extent to which such habitats and / or species are threatened throughout their range, or to their rate of decline.

Determining Importance

- 5.42 The importance of an ecological feature should be considered within a defined geographical context. The following frame of reference has been used in this case, relying on known/ published accounts of distribution and rarity where available, and professional experience:
- International (European).
 - National (Ireland).
 - Regional (Leinster).
 - County (Kildare).
 - Townland (Kilrainy & Kilrathmurry).
 - Local (intermediate area between Site and Townland), and
 - Site (the red line boundary of the development).
- 5.43 The above frame of reference is applied to the ecological features identified during the desk study and surveys to inform this report.
- 5.44 In assigning a level of value to a species, it is necessary to consider its distribution and status, including a consideration of trends based on available historical records. Examples of relevant lists and criteria include species of European conservation importance (as listed on Annexes II, IV and V of the Habitats Directive or Annex 1 of the Birds Directive), species protected under the Wildlife Acts 1976 - 2020 and Birds of Conservation Concern in Ireland 4 (Gilbert *et al.* 2021).
- 5.45 The approach to impact assessment, as set out in CIEEM guidelines, only requires that ecological features (habitats, species, ecosystems and their functions/processes), that are considered to be important and potentially affected by the proposed development are carried forward to

detailed assessment. It is not necessary to carry out detailed assessment of receptors that are sufficiently widespread, unthreatened and resilient to impacts from the proposed development and will remain viable and sustainable. Therefore, for the purposes of this report, only ecological features of Local importance or greater and/or subject to legal protection have been subject to detailed assessment.

Impact Assessment

5.46 Where appropriate, the impact assessment process involves the following steps:

- identifying and characterising potential impacts;
- incorporating measures to avoid and mitigate (reduce) these impacts;
- assessing the significance of any residual effects after mitigation;
- identifying appropriate compensation measures to offset significant residual effects (if required); and
- identifying opportunities for ecological enhancement.

5.47 When describing impacts, reference has been made to the following characteristics, as appropriate:

- Positive or negative;
- Extent;
- Magnitude;
- Duration;
- Timing;
- Frequency; and
- Reversibility.

5.48 The impact assessment process considers both direct and indirect impacts: direct ecological impacts are changes that are directly attributable to a defined action, e.g. the physical loss of habitat occupied by a species during the construction process. Indirect ecological impacts are attributable to an action, but which affect ecological resources through effects on an intermediary ecosystem, process or feature, e.g. the creation of roads which cause hydrological changes, which, in the absence of mitigation, could lead to the drying out of wet grassland.

5.49 Consideration of conservation status is important for evaluating the effects of impacts on individual habitats and species and assessing their significance:

- Habitats – conservation status is determined by the sum of the influences acting on the habitat that may affect its extent, structure and functions as well as its distribution and its typical species within a given geographical area.
- Species – conservation status is determined by the sum of influences acting on the species concerned that may affect its abundance and distribution within a given geographical area.

Significant Effects

5.50 The 2018 CIEEM guidance sets out information in paragraphs 5.24 through to 5.28 of the guidance document which describes the concept of ecological significance. Significant effects are qualified with reference to an appropriate geographic scale, and the scale of significance of

an effect may or may not be the same as the geographic context in which the feature is considered important.

- 5.51 A significant effect, for the purposes of EclA, is defined as an effect that either supports or undermines biodiversity conservation objectives for 'important ecological features' or for biodiversity in general. Conservation objectives may be specific (e.g. for a designated site) or broad (e.g. national/local nature conservation policy) or more wide-ranging (enhancement of biodiversity). Effects can be considered significant at a wide range of scales from international to local.
- 5.52 The nature of the identified effects on each assessed feature is characterised. This is considered, along with available research, professional judgement about the sensitivity of the feature affected, and professional judgement about how the impact is likely to affect the site, habitat, or population's structure and continued function. Where it is concluded that an effect would be likely to reduce the importance of an assessed feature, it is described as significant. The degree of significance of the effect takes into account the geographic context of the feature's importance and the degree to which its interest is judged to be affected.

Cumulative Effects

- 5.53 Cumulative effects can result from individually insignificant but collectively significant actions taking place over a period of time or concentrated in a location. Cumulative effects can occur where a proposed development results in individually insignificant impacts that, when considered in-combination with impacts of other proposed or permitted plans and projects, can result in significant effects.
- 5.54 Other plans and projects that should be considered when establishing cumulative effects are:
- proposals for which consent has been applied but which are awaiting determination;
 - projects which have been granted consent, but which have not yet been started or which have been started but are not yet completed (i.e. under construction);
 - proposals which have been refused permission, but which are subject to appeal, and the appeal is undetermined;
 - constructed developments whose full environmental effects are not yet felt and therefore cannot be accounted for in the baseline; or
 - developments specifically referenced in a National Policy Statement, a National Plan or a Local Plan.

Avoidance, Mitigation, Compensation & Enhancement

- 5.55 Where potentially significant effects have been identified, the mitigation hierarchy has been applied, as recommended in the CIEEM Guidelines. The mitigation hierarchy sets out a sequential approach beginning with the avoidance of impacts where possible, the application of mitigation measures to minimise unavoidable impacts and then compensation for any remaining impacts. Once avoidance and mitigation measures have been applied, residual effects are then identified along with any necessary compensation measures, and incorporation of opportunities for enhancement.
- 5.56 It is important to clearly differentiate between avoidance mitigation, compensation and enhancement and these terms are defined here as follows:
- Avoidance is used where an impact has been avoided, e.g. through changes in scheme design;

- Mitigation is used to refer to measures to reduce or remedy a specific negative impact in situ;
- Compensation describes measures taken to offset residual effects, i.e. where mitigation in situ is not possible; and
- Enhancement is the provision of new benefits for biodiversity that are additional to those provided as part of mitigation or compensation measures, although they can be complementary.

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BASELINE ECOLOGICAL CONDITIONS

5.57 This section sets out the current baseline conditions for the ecological features considered within the Site and provides a clear description of the changes that would occur as a result of the new consent using the findings of the desk study and field survey. The current baseline includes the ecological features created by quarrying under the existing consent and features that would have been lost under the existing consents had they been fully implemented.

Sites Designated for Nature Conservation

5.58 Sites which have been designated for nature conservation are discussed in this section. These designations may include; Natura 2000 sites, Natural Heritage Areas, National Parks, Nature Reserves, Wildfowl Sanctuaries and Ramsar Sites.

5.59 The proposed development area is not within or adjacent to any site designated for nature conservation or subject to any nature conservation designations (**Figure 5-1**).

Natura 2000 Sites

5.60 There are no internationally important Natura 2000 sites within the Site. The closest Natura 2000 site to the Site is River Boyne and River Blackwater SAC (002299) and River Boyne and River Blackwater SPA (004232) c. 5.6 km north-east of the Site at the closest point when measured in a straight line. Mount Hevey SAC (002342) c. 6.3 km north-west of the Site (**Figure 5-1**).

5.61 An existing surface water stream flows along part of the western landholding boundary in the vicinity of the existing site entrance and wheelwash area. There is no surface water drainage infrastructure within the Site. Rain falling across the Site percolates down through the existing ground surface as recharge to groundwater.

5.62 The existing quarry was previously worked dry above the underlying groundwater table. There is no proposed deepening of the quarry as part of this planning application and all rock extraction operations will remain above the water table for the duration of Project. Therefore, there will be no likely significant effects on water quality.

5.63 There is the possibility that kingfisher found in the sections of the River Boyne close to the quarry and sand and gravel pit (ca. 400m) are part of the River Boyne and River Blackwater SPA population, therefore could be impacted by noise or vibration as a result of the extraction and processing operations carried out within the application site. None of the Natura 2000 sites are directly connected via ecological features such as hedgerows or treelines and are sufficiently distant from the site to not be affected by dust from the project construction or operational phases.

5.64 The NIS report prepared in support of this application has identified a potential indirect link with the River Boyne and River Blackwater SPA and found that, with mitigation, significant effects on Natura 2000 sites are not likely. Natura 2000 sites are therefore scoped out and excluded from any further consideration in this biodiversity chapter.

Proposed Natural Heritage Areas / Natural Heritage Areas

- 5.65 The descriptions of the Natural Heritage Areas (NHA) and proposed Natural Heritage Areas (pNHA) have been extracted from information available through National Parks and Wildlife Service (NPWS) website⁵.
- 5.66 There are five NHA or pNHA sites within 7 km of the proposed development. The closest is the Ballina Bog pNHA (000390) c. 3.7 km east of the Site. Carbury Bog NHA (001388) is c. 5 km south-east, Molerick Bog NHA (001582) is c. 4.9 km north, the Royal Canal pNHA (002103) is c. 5.0 km north-east and Mount Hevey Bog pNHA is c. 6.3 km north-west of the Site.
- 5.67 Both Carbury Bog NHA and Ballina Bog pNHA are wetland systems on raised ground that are dependent on rainfall. Due to peat cutting the hydrology of the bogs has been disrupted but important bog habitats still remain.
- 5.68 As there is no direct water discharge from the project Site and as these bogs are on raised ground and are not fed by rivers or streams, neither of these bogs will be affected by the Project. All the other NHAs and pNHAs are sufficiently distant from the Site not to be impacted by the proposed development.
- 5.69 Therefore, proposed Natural Heritage Areas/Natural Heritage Areas are scoped out and excluded from any further consideration in this biodiversity chapter.

Rare and Protected Flora and Fauna

- 5.70 The NBDC database was searched for records within the 2 km grid square N64K within which the Site is located. The records returned are of varying ages so for the purposes of preparing this report only the relevant records dated within the last 10 years, are listed in **Table 5-1** below.
- 5.71 The absence of recent (within 15 years) records of species from the NBDC database does not necessarily imply that a species does not occur within the search area rather it has not formally been recorded as present. Similarly, the presence of a record for a protected species within the 2 km grid squares does not mean that the species is present within the Site.

Field Survey

- 5.72 The habitats and species recorded within the application site are described, classified and evaluated in this section of the report, and described further in the sections below.

Habitats

- 5.73 Habitats present within the Site, as recorded during the walkover survey, are described in this section. Habitat classification follows that of 'A Guide to Habitats in Ireland' (Fossitt, 2000). A habitat map for the site is provided as **Figure 5-2** at the end of this report.
- 5.74 **Figure 5-2** shows the habitats recorded during the ecological surveys carried out on 27 July 2021 and 26 May 2023. The habitats are discussed in detail below and their ecological importance assessed.

Wet grassland GS4

- 5.75 There is a limited area of this habitat type, located within low-lying fields in the north-east corner of the site planning application area (**Figure 5-2**). The natural drainage from the field,

⁵ NPWS (2020) National Parks and Wildlife Service, information on designated areas [Online] Available at: <https://www.npws.ie/protected-sites> [Last accessed May 2023]

flows down towards the hollows, creating the damp areas. These areas have been separated from the main fields by wire to prevent access by cows (**Photograph 5-1**). The area is comprised of soft rush *Juncus effusus*, with an outside boundary layer of Yorkshire fog grass *Hoicus lunatus* between the rushes and the fields. Some willow *Salix* spp. and small clumps of rosebay willowherb *Epilobium angustifolium* are also growing in these wetland areas.

- 5.76 The species recorded in the limited area of wet grassland are commonly occurring and found within a range of damper habitats. This habitat is common and widespread throughout Ireland and is common in the lands surrounding the site. This habitat is evaluated as important at a Site level only and is scoped out of further consideration in this report.

Exposed sand, gravel or till ED1

- 5.77 The northern section of the active Site is dominated by the sand and gravel extraction operation (**Photograph 5-2**) with various piles of stored sand and gravel ready to be moved off site.
- 5.78 This habitat is evaluated as not important as it provides very limited, if any, biodiversity value, and is scoped out of further consideration in this report.

Recolonising bare ground ED3

- 5.79 There is also a large number of areas of disturbed ground throughout the active quarry area or in areas which have been cleared as part of the quarrying and sand and gravel works, and which have started to be recolonised by pioneer vegetation species such as colt's foot *Tussilago farfara*, cats-ear *Hypochaeris radicata*, gorse *Ulex europaeus*, cleavers *Gallium aparine*, bush vetch *Vicia sepium* common knapweed *Centaurea nigra*, ribwort plantain, common field speedwell *Veronica persica*, creeping buttercup, daisy *Bellis perennis*, primrose *Primula vulgaris*, wild strawberry *Fragaria vesca*, and creeping cinquefoil *Potentilla reptans*.
- 5.80 This habitat is evaluated as important at a Site level as it is very poorly vegetated and provides animals or invertebrates with very limited opportunities to feed or shelter and is scoped out of further consideration in this report.

Active quarries and mines ED4

- 5.81 A majority of the Site is comprised of the areas cleared for rock quarrying and sand and gravel extraction (**Photograph 5-3**). These areas are clear of any vegetation and provide no areas of biodiversity for consideration.
- 5.82 This habitat is evaluated as not important as this is in an active area and so provides very limited, if any, biodiversity value and is scoped out of further consideration in this report.

Scrub WS1

- 5.83 This habitat within the Site is dominated by bramble with other species such as dog-rose *Rosa canina* agg., hawthorn and nettle *Urtica dioica* also abundant.
- 5.84 The development will result in the loss of ca. 3200m² of scrub vegetation to the south and east of the existing quarry void.
- 5.85 However, within the Site this habitat is species poor and forms a relatively small, isolated area. This type of species poor scrub habitat is common and widespread throughout Ireland. This habitat is evaluated as important at the Site level only and is scoped out of further consideration in this report.

Other artificial lakes and ponds FL8

- 5.86 There are a number of ponds within the survey area (**Photograph 5-4**). These ponds are in the active quarry areas and are used to capture surface water run-off from the current quarrying activities and recycling water back for use in the concrete plant and do not contain any vegetation or are suitable for any aquatic invertebrate or amphibian species.
- 5.87 These ponds are evaluated to be important at a Site level only and so are scoped out from further consideration in this report.

Hedgerow WL1 and Treelines WL2

- 5.88 The boundaries of the site are comprised of tree-lined hedgerows and are dominated by hawthorn *Crataegus monogyna*, with sycamore *Acer pseudoplatanus* and ash *Fraxinus excelsior* present. Holly *Ilex aquifolium* is present on some of the trees in this habitat (**Photograph 5-5**). Other woody species present include dog-rose and bramble *Rubus fruticosus* agg. and elder *Sambucus nigra*. Less common species include pedunculate oak *Quercus robur*; blackthorn *Prunus spinosa* and gorse.
- 5.89 The ground flora forms an extension of the grassland habitat although where present the earth bank base of the hedgerow supports a number of species such as lords-and-ladies *Arum maculatum*; hairy brome *Bromus ramosa*, herb-Robert *Geranium robertianum*; rosebay willowherb; wood avens *Geum urbanum*; barren strawberry *Potentilla sterilis*, primrose, wood dock *Rumex sanguineus*; and include ivy *Hedera helix*.
- 5.90 There are short and densely packed sections of hedgerow along the roadside near the proposed new entry and approach road to the Site. These hedgerows are comprised of dominant hawthorn with some blackthorn and bramble. They have been heavily managed and frequently cut and cropped to maintain road safety and visibility as they are bordering the roadside.
- 5.91 The development will result in the loss of ca. 310m of hedgerow of which 215m will be along the public road at the site of the new entrance to allow for safe sightlines and another 15m will be lost to facilitate the new internal access road.
- 5.92 Hedgerows within the Site provide ecological connectivity to the larger hedgerow network in the surrounding area as well as to the mixed broadleaved/conifer woodland area which is located to the east and just outside the Site. Hedgerows within the Site are evaluated as important at the Townland level.
- 5.93 Treelines provide many of the same ecological functions as hedgerows but are less abundant within the Site. Treelines within the Site are evaluated as important at the Local level.

Mixed broadleaved/conifer woodland WD2

- 5.94 There is a large broadleaved/conifer woodland to the southeast and outside the Site. This woodland is dominated by beech *Fagus sylvatica* but with some mature ash on the boundary of the Site. Between the Site and the woodland there is also a layer of dense vegetation comprised predominately of gorse and honeysuckle *Lonicera periclymenum* with an understorey of rosebay willowherb, bramble and nettle *Urtica dioica*.
- 5.95 The overall woodland will not be impacted by the proposed development, hence it is scoped out from further consideration in this report.

Photograph 5-1: The wet grassland area on the Site.



Photograph 5-2: Exposed sand and gravel areas on the Site.



Photograph 5-3: Active quarry/sand & gravel area on Site.



Photograph 5-4: Example of an artificial pond (FL8) found on Site.



Photograph 5-5: Typical treeline/hedgerow found of Site.



Faunal Species

Rare and/or Protected Species

5.96 As noted above, the NBDC database was searched for records of rare and/or protected faunal species from the 2km grid square N64K within which the Site is located. The records returned are presented in **Table 5-1** below.

Table 5-1 Rare and/or Protected Species Previously Recorded in Grid Square N64K (2km Grid Square)

Species recorded	Date of last record	No. of records	Protected / Conservation Status	Source / dataset
Badger <i>Meles meles</i>	31/12/2014	7	Wildlife Acts	Badger Setts of Ireland Database
Pine Marten <i>Martes martes</i>	30/05/2021	1	EU Protected Species: Wildlife Acts	Mammals of Ireland 2016-2025
West European Hedgehog <i>Erinaceus europaeus</i>	10/10/2020	1	Wildlife Acts	Hedgehogs of Ireland
Common Starling <i>Sturnus vulgaris</i>	31/12/2011	1	Protected Species: Wildlife Acts, and BoCCI - Amber List	Bird Atlas 2007 – 2011 & BoCCI
House Sparrow <i>Passer domesticus</i>	31/12/2011	1	Protected Species: Wildlife Acts, and BoCCI - Amber List	Bird Atlas 2007 – 2011 & BoCCI
Eurasian Badger <i>Meles meles</i>	31/12/2014	7	Protected Species: Wildlife Acts	Badger Setts of Ireland Database
Eurasian Red ⁶ Squirrel <i>Sciurus vulgaris</i>	01/10/2014	2	Protect Species: Wildlife Acts	Atlas of Mammals in Ireland 2010-2015

5.97 The species records for badger and hedgehog within **Table 5-1** are not from the Site and were not recorded during the survey of the Site. The record for hedgehog was recorded in Kilrathmurry as a roadkill on the L5002 road. There are three badger records from the 1 km square in which the Site falls.

5.98 The records for starling and house sparrow are not sufficiently detailed to isolate the exact location they were observed but both species were observed during the site visits in July 2021 and May 2023.

Amphibians

5.99 There are no records for amphibian from the 2km grid square N64K within which the Site is located.

5.100 Common frog *Rana temporaria* was not recorded during the site visits in 2021 and 2023. No smooth newt *Lissotriton vulgaris* was recorded during the same site visits.

5.101 Common frog and smooth newt and their breeding places are protected under the Wildlife Acts 1976 - 2018. Additionally, common frog is listed under Annex V of the Habitats Directive.

5.102 The ponds found in the current quarry and sand and gravel extraction areas are ephemeral in nature and may dry during warm weather conditions or moved as part of the quarry operations.

⁶ Listed in the NBDC square for 10km (N64), but not the 2km square (N64K)

Also, they do not have any vegetation to provide suitable breeding habitat for smooth newts who need aquatic vegetation to lay their eggs on.

5.103 The area that will be affected by expansion works, does not contain any wetland grass areas and there will be no loss or effect on foraging habitat for the local amphibian population, and would not impact any potential amphibian breeding habitat. The Site is evaluated to be of Site level importance to the local amphibian population, and amphibians are therefore scoped out and not considered further in this report.

Birds

5.104 The habitats present in the Site provide opportunities for an assemblage of birds associated with quarry feature (sand banks), permanent pastures, wet grassland areas, hedgerows and treelines.

5.105 Eighteen species of birds were recorded visually and / or aurally within the survey area in the 2021 and 2023 surveys. None of the species recorded are listed on Annex I of the EU Birds Directive or red listed by BoCCI but five species are amber listed. A full list of the birds recorded during the site visits and their conservation status is provided in **Table 5-2**.

Table 5-2 List of bird species recorded during Site surveys

Scientific Name	Common Name	Annex I EU Birds Directive	Red List	Amber List
<i>Columba palumbus</i>	Woodpigeon	-	-	-
<i>Riparia riparia</i>	Sand martin	-	-	✓
<i>Cyanistes caeruleus</i>	Blue Tit	-	-	-
<i>Erithacus rubecula</i>	Robin	-	-	✓
<i>Fringilla coelebs</i>	Chaffinch	-	-	-
<i>Carduelis carduelis</i>	Goldfinch	-	-	-
<i>Carduelis chloris</i>	Greenfinch	-	-	-
<i>Parus major</i>	Great tit	-	-	-
<i>Passer domesticus</i>	House Sparrow	-	-	✓
<i>Prunella modularis</i>	Dunnock	-	-	-
<i>Pyrrhula phyrhula</i>	Bullfinch	-	-	-
<i>Sturnus vulgaris</i>	Starling	-	-	✓
<i>Troglodytes troglodytes</i>	Wren	-	-	-
<i>Turdus merula</i>	Blackbird	-	-	-
<i>Hirundo rustica</i>	Swallow	-	-	✓
<i>Corvus frugilegus</i>	Rook	-	-	-
<i>Pica pica</i>	Magpie	-	-	-
<i>Buteo buteo</i>	Buzzard	-	-	-

5.106 Sand martin nests were located in a number of places within the existing pit area but primarily in the exposed sand faces in the sandy pit on the eastern boundary of the current active Site (**Photograph 5-6**). During the May 2023 survey there were many sand martin seen flying over the site and some of the holes in the sand bank looked like they had been recently excavated

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for the new breeding season and many were in use. Sand martins are Amber listed on the BoCCI list.

Photograph 5-6: Sand martin nests on eastern side of current sand and gravel area (May 2023)



5.107 As there is an active breeding population of sand martin on site, the bird assemblage of the Site is evaluated as important at the Local level and is assessed further in this report.

Mammals

Bats

5.108 There are no records in the NBDC of any bat species from the 2km grid squares in which the Site is located (N64K).

5.109 All species of bat occurring in Ireland are protected under the Annex IV of EU Habitats Directive, which is transposed into Irish law through the EC (Birds and Natural Habitats) Regulations 2011. Bats are also protected under the Wildlife Acts 1976 - 2018. Under this legislation it is an offence to intentionally kill or injure a bat or intentionally destroy or disturb a breeding place or resting place.

5.110 Hedgerows and treelines surrounding and within the Site provide commuting and / or foraging habitat for bats. These linear features are connected to the surrounding hedgerow network and neighbouring woodlands such as the broadleaved/conifer woodland to the east of the Site.

5.111 There are no large trees, buildings or other structures within the Site that were considered suitable for use by bats for roosting purposes. Most of the buildings on Site are metal portacabins or storage sheds and processing infrastructure made of steel beams and covered with metal sheeting.

5.112 Habitats within the site were evaluated for bat foraging, commuting and roosting suitability using criteria developed by the BCT (See **Appendix 5-B**).

5.113 Trees within the proposed site were also evaluated for their potential to support roosting bats. There are few trees of sufficient size and age within the existing quarry area to contain potential roost features (PRFs) such as cracks, holes and crevices, and none of these sorts of PRFs could be seen from the ground.

- 5.114 There were a number of trees in the hedgerow lines which were partially covered in ivy; ivy is occasionally used by bats as a very temporary roost, for example, in times of heavy rain or other bad weather.
- 5.115 The hedgerows and treelines within the Site were evaluated as having low suitability to support commuting and foraging bats, and the trees and buildings were assessed as having negligible or no suitability for roosting bats.
- 5.116 Notwithstanding the low suitability of the Site to support commuting and foraging bats, for completeness they are assessed further in this report.

Badger

- 5.117 There was no evidence of badger activity within the project site itself. All hedgerows and some of the broadleaved/conifer woodland was searched for badger as they are known to exist in the 2km square within which the Site falls (see **Table 5-1** above).
- 5.118 A single entrance, dis-used badger sett was observed in the beech woodland to the east of and outside of the Site, located >60m from the Site boundary (**Photograph 5-7**).

Photograph 5-7: Dis-used badger sett in beech woodland adjacent to the Site



- 5.119 Badger *Meles meles* is legally protected under the Wildlife Acts 1976 – 2018. Under this legislation it is an offence to intentionally kill or injure a badger or intentionally destroy or disturb a breeding place or resting place.
- 5.120 While the Site provides suitable habitat for badger no setts or foraging evidence was found. Badger is a relatively widespread species, occurring throughout the habitats adjacent to the site and the island of Ireland.
- 5.121 The Site provides potential suitable habitat for badger in the form of hedgerows along the site boundary which could be used, so is evaluated as important at a Local level and is brought forward for further consideration as it is a protected species.

Other Mammals

- 5.122 Pine marten *Martes martes* and red squirrel *Sciurus vulgaris* have been historically recorded in the area (**Table 5-1**). These are both woodland dependant species that are not likely to be present within the Site on a permanent basis, as the habitats present are not suitable for breeding, but may provide limited foraging opportunities for these species as they may be

present in the mixed broadleaved/ conifer woodland near the Site and can move between other woods in the area.

5.123 The population of pine marten and red squirrel using the Site would be evaluated as important only at the Site level and do not require further detailed assessment. Pine marten and red squirrel are scoped out of further consideration in this report.

Invasive Species

5.124 The NBDC database showed no records of invasive species within the 2 km grid square N64K within which the Site is located.

5.125 Butterfly-bush *Buddleja davidii*, was observed on Site but this species is not listed under the Third Schedule of the EC Birds and Natural Habitats Regulations 2011.

5.126 No plant or animal invasive species listed under the Third Schedule of the Habitats Directive and subject to restrictions under Regulations 49 and 50 were observed during the ecological site walkovers in July 2021 or May 2023.

5.127 Invasive species are scoped out of further consideration in this report.

Summary of Important Ecological Features

5.128 **Table 5-3** summarises all important ecological features for which detailed assessment is required. The geographical scale of importance for the ecological features within the Site are summarised along with their legal status and a rationale, where appropriate, for not carrying forward any features for detailed assessment.

Table 5-3 Summary of Important Ecological Features Subject to Detailed Assessment

Ecological Feature		Scale of importance	Comments on Legal Status and/or Importance
Habitats	WL1 – Hedgerows	Townland	Referenced in several policies, objectives and goals of Kildare County Development plan under Policies: Trees, Woodlands and Hedgerow.
	WL2 - Treelines	Local	Referenced in several policies, objectives and goals of Kildare County Development plan under Policies: Trees, Woodlands and Hedgerow.
Species	Badger	Local	Wildlife Acts 1976-2018 confers protection of badgers and their setts. Badger are not directly referenced in the policies and objectives of the Kildare County Development Plan. There are records of badger from the areas surrounding the Site and they are likely to utilise the area as there are suitable foraging habitats to support this species are present on Site.
	Birds	Local	Wildlife Acts 1976 – 2018 confers protection on breeding birds. Referenced also in several policies, objectives and goals of Kildare County Development Plan relating to protected habitats and species.

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			Five amber listed species have been recorded within the Site.
	Bats	Local	Wildlife Acts 1976 – 2018 confers protection on all bat species. Referenced also in several policies, objectives and goals of Kildare County Development Plan relating to protected habitats and species.

ASSESSMENT OF EFFECTS AND MITIGATION MEASURES

5.129 This section sets out the potential impacts and their effects on important ecological features. The information available from the desk study and fieldwork has been used to identify impacts and the significant effects including positive, negative, direct, indirect and cumulative effects. The following design principles and “designed-in” mitigation have informed the assessment of impacts and effects.

- Within the design of the proposal good practice environmental and pollution control measures are employed with regard to current best practice guidance such as, but not limited to, the following:
 - EPA Environmental Management Guidelines (2006): Environmental Management in the Extractive Industry (Non-Scheduled Minerals); and
 - DoEHLG (Department of the Environment, Heritage and Local Government) April 2004: Quarries and Ancillary Activities Guidelines for Planning Authorities.
- Landscaping and restoration measures are proposed within the design of the development. These are listed in full in Chapter 2 – Project Description and Chapter 13 – Landscape of the EIAR and include features to minimise loss of and enhance the biodiversity on-site. Such measures include the proposed planting of trees for screening purposes and hedgerows to replace those removed during the proposed new site access construction operations, essentially increasing the vegetation cover on site.

5.130 Taking the above into account, the potential impacts of the proposed development are outlined in the following sections.

Do Nothing Impact

5.131 In a ‘do-nothing scenario’, the development at the existing sand and gravel pit and ancillary manufacturing facilities, currently permitted would continue to operate within the extant planning permission until January 2024 and thereafter be restored in a similar fashion to what is proposed in this planning application, i.e., a mix of agricultural use and beneficial habitat area. The hard rock quarry would remain inactive with rock previously permitted for extraction under P. Ref. 99/2042 remaining in-situ and the quarry void being restored in line with what was proposed previously.

Potential Impacts and Effects

Hedgerows – WL1 and Treelines - WL2

Potential Impacts

- 5.132 It is proposed to remove 310m of internal hedgerows and tree lines within the site to facilitate the proposed development works at the new site entrance and internal access road (230m) and to facilitate the quarry extraction expansion (80m).
- 5.133 The scrub area to the south and east of the quarry void which will be lost will total 3,200m² comprising of individual and small groups of hawthorn and scrub.
- 5.134 The removal of hedgerows and treelines will be a significant effect at the Townland level.

Proposed Mitigation Measures

- 5.135 The proposed replacement plan detailed in Chapter 2 – Project Description includes measures that will mitigate the loss of hedgerows including the planting of 215 m of replacement native hedgerows which will be planted at the earliest opportunity behind the new boundary line. The new hedgerow will include feathered trees at 200-250cm height, for some immediate impact and will be planted at 5m centres. There are no further specific mitigation measures required.
- 5.136 All hedges planted as part of the project will be comprised of native and typically occurring species present in the local vegetation and/or hedgerows in Co. Kildare. Hawthorn and blackthorn will be the most common species used with hazel *Corylus avellana*, holly, crab apple *Malus sylvestris* and elder also being present. These species have been chosen as they will be beneficial for wildlife, for example, berries for birds and nuts for squirrel.
- 5.137 All of the hedgerow/tree/shrub planting would be carried out on commencement of the proposed development.
- 5.138 The proposed planting consists of diverse native hedgerow and tree/shrub mixes, which will be of interest to pollinators and birds and will increase the habitat linkages within the site and with surrounding hedgerows and woodland areas.
- 5.139 In addition, some blocks of native trees will be planted along the access road, in the vicinity of the proposed new site entrance to provide additional screening and further compensate for the existing trees and hedgerows that will be removed. The area of scrub and native tree planting to be provided is greater than twice the area than that which is to be lost, with 7,280m² being planted to replace 3,200m².
- 5.140 Planting will be carried out in the appropriate season by a suitably qualified landscape contractor. All plants will be protected with spiral guards or alternatively with rabbit proof fencing.
- 5.141 Aftercare will consist of establishment maintenance for 2 years following the planting works (minimum 3 maintenance visits per year). This will include weed control, replacement planting where required and the adjustment/removal of tree ties and spiral guards.

Significance of Residual Effects

- 5.142 There will be a combination of hedgerow and treeline removal and planting carried out on commencement of the proposed development. There will be a residual effect due to the loss of this habitat until the hedgerows and treelines are sufficiently mature to adequately mitigate those lost during development. However, it is considered that while there will be a temporary residual effect on hedgerows and treelines within the Site, this effect would not be significant.

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Badger

Potential Impacts

5.143 The proposed development will result in the direct loss of 310 m of hedgerow, some of which may be suitable for badger to build setts.

5.144 Potential impacts on badger will be significant at the Local level.

Proposed Mitigation Measures

5.145 Badgers are not currently known to exist within the application Site boundary, but they are known in areas close to the Site and are mobile species, and can establish setts or create new setts, as the clan expands, or if non-dominant females become pregnant.

5.146 At the time of the surveys no badger activity was observed in the hedgerows which will need to be removed along the public road, or within the site itself. However, prior to any vegetation clearance and ground-breaking works on the Site, a suitably qualified ecologist will carry out a check for active badger setts within the Site. If an active sett is found, then appropriate mitigation measures, such as standoff distances for earth moving works or sett closure will be implemented.

5.147 If occupied setts are found within the site (and adjacent survey area), but which will not be directly impacted by the Project activities, the following good practice will be implemented.

5.148 Irish guidance on badger⁷ sets out the following measures to protect active setts during works:

- 30 metres minimum standoff for very heavy machinery (generally tracked vehicles);
- 20 metres minimum standoff when using lighter machinery (generally wheeled vehicles), particularly for any digging operation; and
- 10 metres minimum standoff when light work such as hand digging, or scrub clearance is required.
- During the breeding season (December to June inclusive) none of the above works should be undertaken within 50 metres of active setts, nor blasting or pile driving within 150 metres of active setts. Please note that no blasting or piling activities are currently proposed for this project.

5.149 The proposed restoration plan will revert all lands within the Site to agricultural and ecological habitat use. This will represent a replacement (like for like) of potential breeding and foraging habitat for badger.

Significance of Residual Effects

5.150 The residual effect will not be significant.

Birds

Potential Impacts

5.151 The proposed development will result in the temporary loss of 310m of hedgerows within the Site and along the boundary with the public road. This represents loss of potential nesting and foraging habitat for commonly occurring bird species.

⁷ Guidelines for the Treatment of Badgers Prior to the Construction of National Road Schemes <https://www.tii.ie/technical-services/environment/construction/Guidelines-for-the-Treatment-of-Badgers-prior-to-the-Construction-of-a-National-Road-Scheme.pdf>

- 5.152 Sand martin were observed nesting in exposed sand faces to the west of the Site and these are considered as breeding areas. There is the possibility that sand martins will return to these exposed area during the breeding season.
- 5.153 The effect of the loss of habitat within the Site will result in displacement of the bird populations using these habitats. The effect of the loss of habitat on the bird population would be significant at the Local level.

Proposed Mitigation Measures

- 5.154 The proposed replacement planting, including the planting of 215 m of replacement native hedgerows behind the new boundary line, will mitigate the loss of hedgerows.
- 5.155 The planting of the 7,280m² area of scrub and native trees will mitigate for the 3,200m² which is to be lost at an early stage in the proposed development.
- 5.156 Where possible, the exposed sand faces should be retained for sand martin breeding or alternative exposed sand faces should be provided on other quite areas of the Site.
- 5.157 If sand martin start breeding in areas required for infrastructure construction, within redundant pit faces or processed sand stockpiles, then prior to the commencement of any works a qualified ecologist should visit the site to determine the presence/absence of breeding sand martin and provide suitable advise to avoid any disturbance to breeding birds or damage to any nests present.
- 5.158 All proposed vegetation clearance, or sand removal potentially impacting sand martin, will be carried out outside of the bird nesting season (1st March - 31st August inclusive), unless a suitably qualified ecologist has first certified the vegetation (to be cleared) free of nesting birds.
- 5.159 There is the possibility that sand martins returning to the site during the breeding season may create new nest sites within the application site. If nest sites are observed there must be no extraction works conducted until the end of the breeding season and the sand martins have left.
- 5.160 Prior to the commencement of any extraction works a qualified ecologist should visit the site to determine the presence/absence of breeding sand martin and provide suitable advise to avoid any disturbance to breeding birds or damage to any nests present.
- 5.161 The proposed replanting will have a positive benefit for birds once implemented, as it will provide reinstatement of lost hedgerows and treelines, and additional hedge habitat, which will become suitable for foraging and nesting bird species. This would have a positive benefit to bird populations within the Site.

Significance of Residual Effects

- 5.162 The residual effect on the bird assemblage within the Site would not be significant.

Bats

Potential Impacts

- 5.163 The proposed development will result in the direct loss of 310m of hedgerow, some of which may be suitable for foraging and commuting bats. These habitats have been evaluated as low suitability for roosting.
- 5.164 The hedgerows bordering the Site are of greater value to commuting and foraging bats (they contain more trees and are adjacent to woodland) and they are linked to other biodiversity areas within the locality. Any effect on commuting and / or foraging bats as a result of the proposed development would be significant at the Local level.

Proposed Mitigation Measures

- 5.165 The proposed replacement planting, including the planting of 215m of replacement native hedgerows behind the new boundary line, will mitigate the loss of hedgerows and treelines within the Site, and will when re-grown act as commuting corridors between this Site and the surrounding habitats.
- 5.166 In addition, the planting of the 7,280m² area of scrub and native trees will mitigate for the 3,200m² which is to be lost at an early stage in the proposed development. This area will provide additional foraging habitat for bats in the area when it has re-established.

Significance of Residual Effects

- 5.167 The residual effect will not be significant.

Cumulative Effects

- 5.168 Cumulative effects can result from individually insignificant but collectively significant actions taking place over a period of time or concentrated in a location. Cumulative effects can occur where a project results in individually insignificant impacts that, when considered in-combination with impacts of other proposed or permitted plans and projects, can result in significant effects (CIEEM, 2018).
- 5.169 The Kildare County Development Plan 2023-2029 was reviewed for strategies and objectives that may act in-combination with the project.
- 5.170 There are no strategies or objectives in the Kildare County Development Plan 2023-2029 that are likely to result in significant effects when considered in-combination with the proposed development.
- 5.171 Kildare County Council planning portal was accessed to examine recent planning applications within 5 years in the vicinity of the Site for potential to act in-combination with the project. The recent planning applications found in the vicinity of the Site consist of small-scale domestic and agricultural construction projects. The major proposals within a 5km radius of the proposed development are described in detail in Chapter 4 of this EIAR and the Planning Report accompanying the planning application. The proposed developments in the vicinity of the Site are sufficiently distant from the Site. Therefore, there is no potential for cumulative or in-combination effects with these developments.

Proposed Monitoring

- 5.172 General aftercare monitoring of newly created habitats will be undertaken as set out in Chapter 2.
- 5.173 An Ecological Management and Monitoring Plan should be prepared for the Site which will cover Site clearance, operation and restoration for all the ecological features on Site.
- 5.174 The proposed development is not likely to result in significant residual effects on the biodiversity of the Site; the only monitoring will be the use of the redundant sand faces by breeding sand martins. As mentioned above, should sand martins start to build nests in other parts of the site, for example in any other exposed sand faces or stockpiles within the Site, then these features cannot be removed or touched during the bird breeding season (1st March to 31st August).

CONCLUSIONS

- 5.175 The proposed extraction, processing and concrete manufacturing activities, and all existing associated processing and welfare facilities at the site will result in localised effects on the ecology of the Site.
- 5.176 There will be no effect on sites designated for nature conservation as a result of the proposed development. There will be some loss of hedgerows and treelines within the site as a result of the proposed development. These habitats will be restored at an early stage as part of the Landscape plan of the proposed development. The plan will result in a direct replacement of hedgerow length along with an increase in the amount of trees and scrub habitat on the Site. The habitats within the Site are commonly occurring, widespread and resilient.
- 5.177 Five amber listed bird species were recorded within the Site, and one, sand martin were observed breeding on Site. No badger were observed on Site, but some activity and one disused sett was noted close to the Site boundary. However, the badger sett is sufficiently distant from the Site boundary such that it will not be affected by the proposed development.
- 5.178 Mitigation measures for hedgerow, treeline, birds, bats and badger have been recommended as part of the proposed development.
- 5.179 The residual effects on the overall biodiversity of the Site after mitigation would not be significant.

REFERENCES

CIRIA (2001). *Control of water pollution from construction sites*. Construction Industry Research and Information Association.

CIRIA (2015). *Environmental Good Practice on Site Guide (Fourth Edition)*. Construction Industry Research and Information Association.

CIEEM (2018). *Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater and Coastal*. Chartered Institute of Ecology and Environmental Management.

Collins, J. (Ed.). (2016). *Bat surveys for professional ecologists: good practice guidelines*. Bat Conservation Trust.

Department of Culture, Heritage and the Gaeltacht (2017). National Biodiversity Plan 2017-2021.

European Union Habitats Directive, (1992). *Council Directives 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora*.

European Union Birds Directive (2009). *Directive 2009/147/EC of the European Parliament and of the Council of 30 November 2009 on the conservation of wild birds (codified version)*.

Fossitt J.A. (2000). *A Guide to Habitats in Ireland*. Published by The Heritage Council, Kilkenny.

Gilbert, G., Stanbury, A. & Lewis, L. (2021) *Birds of Conservation Concern in Ireland 4: 2020 – 2026*. Irish Birds 43: 1-22, 2021.

Kildare County Council (2023) *Kildare County Development Plan 2023-2029*.

Marnell, F., N. Kingston & D. Looney (2009) *Ireland Red List No. 3: Terrestrial Mammals*. National Parks and Wildlife Service.

NPWS (2009) *Threat Response Plan Otter Lutra lutra 2009 – 2011*. Department of the Environment, Heritage and Local Government.

Parnell J. and Curtis T. (2012). *Webb's An Irish Flora (8th edition)*. Cork University Press

Websites

<https://www.kildarecoco.ie/> (last accessed August 2023)

<https://www.eplanning.ie/KildareCC/searchexact> (last accessed August 2023)

<https://birdwatchireland.ie/> (last accessed August 2023)

NPWS (2020) National Parks and Wildlife Service, information on designated areas [Online] Available at: <https://www.npws.ie/protected-sites> [Last accessed August 2023]

Guidelines for the Treatment of Badgers Prior to the Construction of National Road Schemes <https://www.tii.ie/technical-services/environment/construction/Guidelines-for-the-Treatment-of-Badgers-prior-to-the-Construction-of-a-National-Road-Scheme.pdf>

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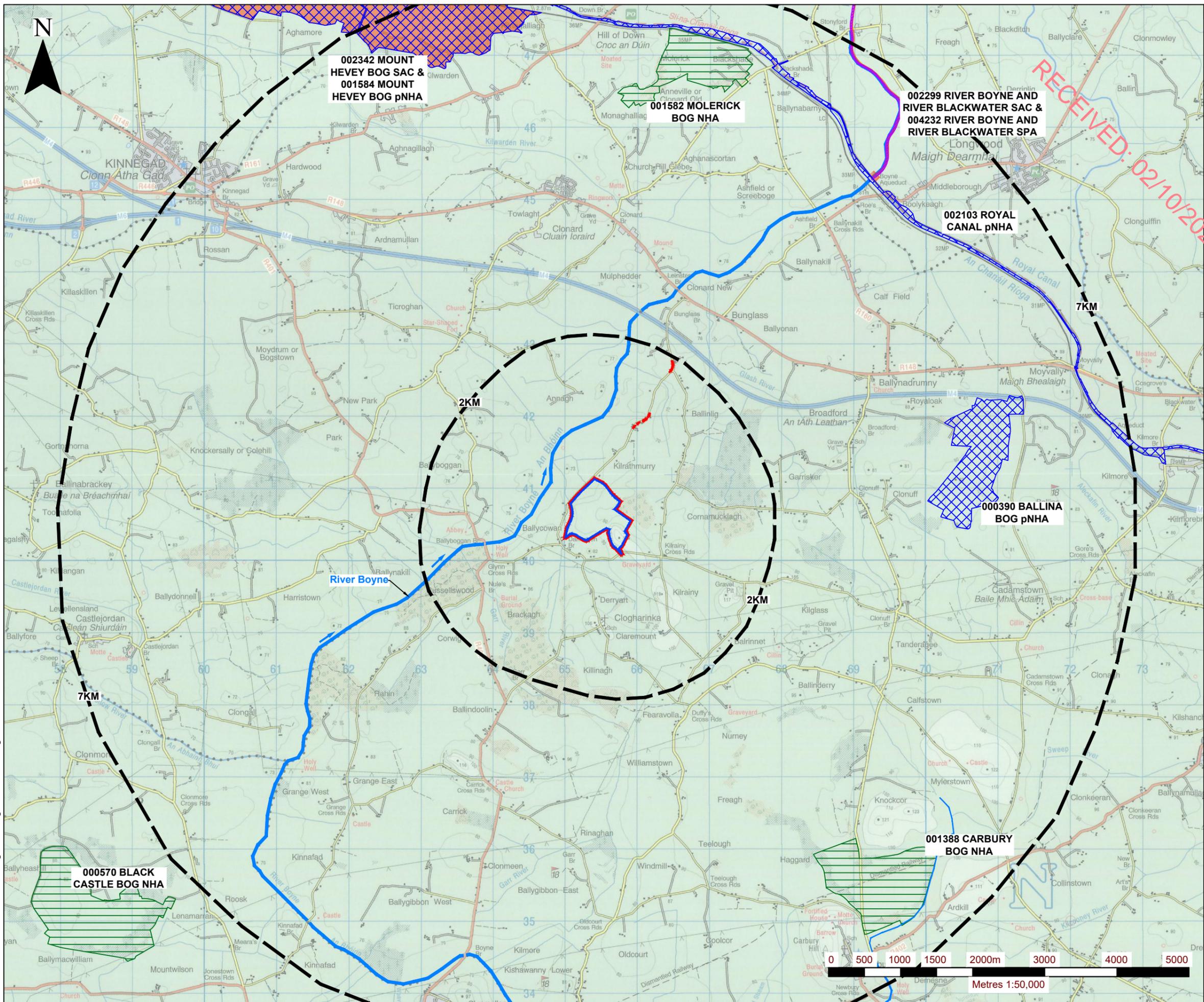
FIGURES

Figure 5-1: Natura 2000 Sites within 7km of the Site

Figure 5-2: Habitat Map

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00036.065251 Clonard EIA Fig 5-1 Designated Sites.dwg



NOTES

1. Extract from Ordnance Survey Discovery Series Mapping 49
2. Ordnance Survey Ireland Licence No. CYAL50316488 (c) Ordnance Survey Ireland and Government of Ireland

LEGEND

- APPLICANTS LAND INTEREST BOUNDARY (c. 51.6 ha)
- SITE APPLICATION AREA c.51.6 ha
- TOTAL APPLICATION AREA c.51.7 ha (Site & Road Works)
- 2KM & 7KM RADIUS FROM SITE APPLICATION AREA BOUNDARY
- SPECIAL AREA OF CONSERVATION (SAC)
- SPECIAL PROTECTION AREA (SPA)
- NATURAL HERITAGE AREA (NHA)
- PROPOSED NATURAL HERITAGE AREA (pNHA)

Kilsaran
ideas taking shape

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KILSARAN CONCRETE UNLIMITED COMPANY
ENVIRONMENTAL IMPACT ASSESSMENT REPORT

**QUARRY DEVELOPMENT AT
KILRATHMURRY & KILRAINY
TOWNLANDS, CO. KILDARE**

DESIGNATED SITES

FIGURE 5-1

Scale: 1:50,000 @ A3 Date: SEPTEMBER 2023



NOTES

Extract from Ordnance Survey 1:5000 Sheets 3119 & 3051
 Extract from Ordnance Survey 6 Inch Raster Map Sheets
 No. KE002, KE003, MH046+046A, MH047

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LEGEND

LANDS UNDER THE CONTROL OF THE APPLICANT

SITE PLANNING APPLICATION AREA

FOSSITT HABITAT CLASSIFICATION

ED1 - EXPOSED SAND, GRAVEL OR TILL

ED3 - RECOLONISING BARE GROUND

ED4 - ACTIVE QUARRIES AND MINES

FL8 - OTHER ARTIFICIAL LAKES AND PONDS

GS4 - WET GRASSLAND

WS1 - SCRUB AREA

WD2 - MIXED BROADLEAVED/CONIFER WOODLAND

WL1 - HEDGEROWS

WL2 - TREELINES



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HABITAT PLAN

FIGURE 5-2

Scale 1:4000 @ A3 Date SEPTEMBER 2023

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APPENDICES

Appendix 5-A

Relevant Legislation and Planning Policy

Appendix 5-B

Guidelines for assessing the potential suitability of proposed development sites for bats

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APPENDIX 5-A: RELEVANT LEGISLATION AND PLANNING POLICY

Relevant Legislation⁸

EIA Directive

The EIA Directive, Council Directive 85/337/EEC of 27 June 1985 on the assessment of the effects of certain public and private projects on the environment as amended by Council Directive 97/11/EC of 3 March 1997, Directive 2003/35/EC of 26 May 2003 and Directive 2009/31/EC of 23 April 2009, now codified in Directive 2011/92/EU of 13 December 2011 and amended in Directive 2014/52/EU of 16 April 2014, is designed to ensure that projects likely to have significant effects on the environment are subject to a comprehensive assessment of environmental effects prior to development consent being given. The EIA Directive was first transposed into Irish law by the European Communities (Environmental Impact Assessment) Regulations, 1989 (S.I. No. 349 of 1989) which amended the Local Government (Planning and Development) Act, 1963 (and other legislation) to provide for environmental impact assessment.

Habitats and Birds Directive

The Habitats Directive ensures the conservation of a wide range of rare, threatened or endemic animal and plant species. Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora was adopted in 1992 and aims to promote the maintenance of biodiversity, taking account of economic, social, cultural and regional requirements. It forms the cornerstone of Europe's nature conservation policy with the Birds Directive and establishes the EU wide Natura 2000 ecological network of protected areas, safeguarded against potentially damaging developments.

The Natura 2000 network of protected areas is known as Special Areas of Conservation (SAC) and Special Protection Areas (SPA). In general terms, they are considered to be of exceptional importance in terms of rare, endangered or vulnerable habitats and species within the European Community. The requirements of the Habitats Directive have been transposed into Irish law through the European Communities (Birds and Natural Habitats) Regulations 2011 [S.I. No. 477/2011]. This legislation affords protection to both Special Protection Areas and Special Areas of Conservation.

Special Areas of Conservation (SAC) are designated under the Conservation of Natural Habitats and of Wild Fauna and Flora Directive 92/43/EEC (Habitats Directive) which is transposed into Irish law by the EC (Birds and Natural Habitats) Regulations 2011 (S.I. 477 of 2011). Special Protection Areas (SPA) are classified under the Birds Directive (2009/147/EC on the Conservation of Wild Birds). Article 6(3) of the Habitats Directive requires an 'appropriate assessment' to be undertaken for any plan or project that is likely to have a significant effect on the conservation objectives of a Natura 2000 site. An 'appropriate assessment' is an evaluation of the potential impacts of a plan or project on the integrity of a Natura 2000 site, and the incorporation, where necessary, of measures to mitigate or avoid negative effects.

National Legislation

Flora and fauna in Ireland are protected at a national level by the Wildlife Acts 1976 to 2018 and the Floral (Protection) Order 2015. Natural Heritage Areas (NHA) are areas that are considered to be important for the habitats present or for the species of plants and animals supported by those habitats. Under the Wildlife Amendment Act 2000, NHAs are legally protected from damage from the date they were formally proposed for designation. Section 19(1) of the Act states that 'Where there is a subsisting natural heritage area order in respect of any land, no person shall carry out, or cause or permit to be carried out, on that land any works

⁸ Please note that the summary of relevant legislation provided here is intended for general guidance only. The original legislation should be consulted for definitive information.

specified in the order or any works which are liable to destroy or to significantly alter, damage or interfere with the features by reason of which the designation order was made’.

In addition, a list of proposed NHAs (pNHAs) was published in 1995 but to date these have not had their status confirmed. Prior to statutory designation, pNHAs are subject to limited protection under various agri-environment and forestry schemes and under local authority planning strategies such as County Development Plans.

Relevant Planning Policy

The planning policy and legislation that is relevant to the development.

Kildare County Development Plan

The relevant planning policies and objectives as extracted from Volume 1 of the Kildare County Development Plan 2023-2029 (Chapter 6 – Infrastructure & Environmental Services, and Chapter 12 – Biodiversity & Green Infrastructure) are set out below:

Policy	Description
Chapter 6 - IN O23	Require new developments to reduce the generation of storm water runoff and ensure all storm water generated is disposed of on-site OR attenuated and treated prior to discharge to an approved water system, with consideration for the following: • The infiltration into the ground through the provision of porous pavement such as permeable paving, swales, and detention basins. • The holding of water in storage areas through the construction of green roofs, rainwater harvesting, detention basins, ponds, and wetlands. • The slow-down in the movement of water.
Chapter 12 BI P1 (Policy)	Integrate in the development management process the protection and enhancement of biodiversity and landscape features wherever possible, by minimising adverse impacts on existing habitats (whether designated or not) and by including mitigation and/or compensation measures, as appropriate
BI O1 (Objectives)	Require, as part of the Development Management Process, the preparation of Ecological Impact Assessments that adequately assess the biodiversity resource within proposed development sites, to avoid habitat loss and fragmentation and to integrate this biodiversity resource into the design and layout of new development and to increase biodiversity within the proposed development.
BI O2	Encourage and promote the retention and creation of green corridors within and between built up urban areas and industrial scale developments to protect wildlife habitat value including areas that are not subject to public access.
BI O3	Actively support the implementation of national biodiversity initiatives such as the All-Ireland Pollinator Plan 2021-2026
BI O4	Promote increased public participation in biodiversity conservation by supporting and encouraging community-led initiatives such as native tree planting, the removal of invasive species and the continued preparation of Local Biodiversity Actions Plans for settlements in County Kildare
BI O5	Avoid development that would adversely affect the integrity of any Natura 2000 site located within and immediately adjacent to the county and promote favourable conservation status of habitats and protected species including those listed under the Birds Directive, the Wildlife Acts and the Habitats Directive, to support the conservation and enhancement of Natura 2000 Sites including any additional sites that may be proposed for designation during the

	period of this Plan and protect the Natura 2000 network from any plans and projects that are likely to have a significant effect on the coherence or integrity of a Natura 2000 Site.
BI O6	Ensure an Appropriate Assessment, in accordance with Article 6(3) and Article 6(4) of the Habitats Directive and with DEHLG guidance (2009), is carried out in respect of any plan or project not directly connected with or necessary to the management of a Natura 2000 site to determine the likelihood of the plan or project having a significant effect on a Natura 2000 site, either individually or in combination with other plans or projects and to ensure that projects which may give rise to significant cumulative, direct, indirect or secondary impacts on Natura 2000 sites will not be permitted (either individually or in combination with other plans or projects) unless for reasons of overriding public interest.
BI O7	Support the establishment of conservation measures and the preparation and implementation of management plans for the conservation of Natura 2000 sites by NPWS, as required by Article 6(1) of the Habitats Directive. 12.6.2 Natural Heritage Areas (NHAs) and Nature Reserves Under the Wildlife (Amendment) Act 2000, Natural Heritage Areas (NHAs) are designated to conserve species and habitats of national importance and sites of geological interest. The designation of these sites is the responsibility of the National Parks and Wildlife Division of the Department of Housing, Local Government and Heritage and is an ongoing process as boundaries are revised and adjusted and new sites added. A nature reserve is an area of importance to wildlife, which is protected under Ministerial Order under Irish Legislation. Biogenetic Reserves, as designated by the Council of Europe, are protected areas characterised by one or more typical, unique, endangered or rare habitats, biocenoses or ecosystems.
BI O9	Avoid development that would adversely affect the integrity of any Natura 2000 site and promote favourable conservation status of habitats and protected species including those listed under the Birds Directive, the Wildlife Acts and the Habitats Directive, to support the conservation and enhancement of Natura 2000 Sites including any additional sites that may be proposed for designation during the period of this Plan and protect the Natura 2000 network from any plans and projects that are likely to have a significant effect on the coherence or integrity of a Natura 2000 Site.
BI O18	Require all applications for new developments to identify, protect and sensitively enhance the most important ecological features and habitats, and incorporate these into the overall open space network, keeping free from development and to provide links to the wider Green Infrastructure network as an essential part of the design process and by making 394 provision for local biodiversity (e.g. through provision of swift boxes or towers, bat roost sites, hedgehog highways ² , green roofs, etc.).
BI O20	Conserve and protect habitats and species listed in the Annexes of the EU Habitats Directive (92/143/EEC) (as amended), the Birds Directive (2009/147/EC), Directive Annex 2, the Wildlife Acts 1976 to 2000, The Wildlife Acts 1976 (as amended) and the Flora Protection Order No 94 of 1999.
BI O22	Identify and protect areas of high nature conservation value (including but not limited to SAC/SPA/pNHA) and support the landscape features which act as ecological corridors/networks and stepping-stones, such as river corridors, hedgerows, and road verges so as to minimise the loss of habitats and features of the wider countryside which are of major importance for wild fauna and flora in accordance with Article 10 of the Habitats Directive.
BI O24	Identify biodiversity corridors, watercourses, significant as well as native and indigenous hedgerows, or marginal habitat, between County Biodiversity Sites in order to appropriately

	landscape same in order to ensure population recovery and survival, abundance, productivity, genetic diversity and species richness.
BI O26	Prevent, in the first instance, the removal of hedgerows to facilitate development. Where their removal is unavoidable, same must be clearly and satisfactorily demonstrated to the Planning Authority. In any event, removal shall be kept to an absolute minimum and there shall be a requirement for mitigation planting comprising a hedge of similar length and species composition to the original, established as close as is practicable to the original and where possible linking to existing adjacent hedges. Ideally, native plants of a local provenance and origin should be used for any such planting. Removal of hedgerows and trees prior to submitting a planning application will be viewed negatively by the planning authority and may result in an outright refusal.
BI O27	Require the retention and appropriate management of hedgerows and to require infill or suitably sized transplanted planting where possible in order to ensure an uninterrupted green infrastructure network.
BI O28	Promote the integration of boundary hedges within and along development sites into development design so as to avoid “trapped hedges” located to the boundary of houses within the development layout. Encourage the planting of woodlands, trees and hedgerows as part of new developments and as part of the Council’s own landscaping works ideally using native plants of local provenance and origin
BI O31	Restrict the cutting of hedges during the bird-nesting season (1st March until 31st August), except in certain legally defined circumstances, in accordance with the provisions of the Wildlife (Amendment) Act 2000.
BI O38	Require the preparation and submission of an Ecological Impact Assessment (EclA) including, but not limited to, bat and otter surveys for developments along river or canal corridors.
BI O76	Promote and support the development of Sustainable Urban Drainage Systems (SuDS) such as integrated constructed wetlands, permeable surfaces, filter strips, ponds, swales and basins at a site, district and county level and to maximise the amenity and bio-diversity value of these systems.
BI P6	Recognise the important contribution trees and hedgerows make to the county biodiversity resource climate mitigation, resilience and adaptation.
BI P13	Recognise the importance of Urban Green Infrastructure in addressing a broad range of urban challenges, such as connecting people with nature, adapting to climate change, supporting the green economy and improving social cohesion and to seek to protect and enhance this resource, particularly existing semi-natural areas, or habitats (such as hedgerows, canals, rivers, ponds).
BI A14	Carry out a survey of trees within the main urban settlements as part of the preparation of Habitat Mapping for local area plans and to include policies for the protection of trees and hedgerows within local area plans where appropriate.

Appendix 5-B

BCT Guidelines for assessing the potential suitability of proposed development sites for bats

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Suitability	Description of Roosting Habitats	Description of Communing and Foraging Habitats
Negligible	A building, structure, tree or other feature with negligible habitat features likely to be used by bats.	Negligible habitat features on site likely to be used by commuting or foraging bats.
Low	<p>A building or structure with one or more potential roost features that could be used by individual bats opportunistically, but do not provide enough space, shelter, protection or appropriate conditions (for example temperature, humidity, height above ground, light levels, levels of disturbance) and/or suitable surrounding habitat to be used on a regular basis, or by larger numbers of bats. Buildings in this category are unlikely to support a maternity colony or be used by hibernating bats.</p> <p>A tree of sufficient size and age to contain potential roost features but with none seen from the ground, or features seen with only very limited roosting potential (i.e. some small cracks or crevices, low ivy cover).</p>	<p>Habitat that could be used by small numbers of commuting bats such as a gappy hedgerow or un-vegetated stream, but isolated and not very well connected to the surrounding landscape by other habitat and/or features.</p> <p>Suitable but isolated habitat that could be used by small numbers of foraging bats.</p>
Moderate	<p>A building, structure, tree or other feature with one or more potential roost sites that could be used by bats due to their size, shelter, protection or appropriate conditions (for example temperature, humidity, height above ground, light levels, levels of disturbance) and surrounding habitat but unlikely to support a roost of high conservation value status.</p> <p>Buildings, structures and trees falling into this category would not be expected to support a maternity colony, or significant hibernation or transitory roost.</p>	<p>Continuous habitat connected to the wider landscape that could be used by bats for commuting such as lines of trees and scrub or linked back gardens.</p> <p>Habitat that is connected to the wider landscape that could be used by bats for foraging such as trees, scrub, grassland or water.</p>

Suitability	Description of Roosting Habitats	Description of Communing and Foraging Habitats
High	<p>A building, structure, tree or other feature with one or more potential roost sites that are obviously suitable for use by large numbers of bats on a more regular basis and potentially for longer periods of time due to their size, shelter, protection or appropriate conditions (for example temperature, humidity, height above ground, light levels, levels of disturbance) and surrounding habitat.</p> <p>Buildings, structures and trees falling into this category may be expected to support a maternity colony, or significant hibernation or a significant transitory roost.</p>	<p>Continuous high-quality habitat that is well connected to the wider landscape that is likely to be used regularly by commuting bats such as river valleys, streams, hedgerows, lines of trees and woodland edge.</p> <p>High-quality habitat that is well connected to the wider landscape that is likely to be used regularly by foraging bats such a broadleaved woodland, tree-lined watercourses and grazed parkland.</p> <p>Site is close to and connected to known roost.</p>

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