Ecological Impact Assessment

Ummera Gravel Pit Application
for Further Development

Case Number: ABP-308194-20

Prepared for:

Drimoleague Concrete Works Ltd

Prepared by:

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1. Introduction

1.1. Background

JKW Environmental Ltd. was appointed by Drimoleague Concrete Works Ltd. (DCWL) to undertake this Ecological Impact Assessment (EcIA) for the proposed further development of Ummera Gravel Pit, Ummera, County Cork, herein referred to as "the proposed development".

Ummera Gravel Pit occupies a landholding extending to approximately 20.22 hectares. The current planning application relates to the further development of the existing quarry within an application area of approximately 15.5 hectares, where gravel extraction has been undertaken since the 1940s. The quarry has been operated by DCWL, through its affiliated company Murnane & O'Shea Ltd., since the late 1970s and the site was purchased by DCWL in 2004. A detailed description of the proposed development is provided in Section 2 of this EcIA.

Following its review of the planning application, An Coimisiún Pleanála issued a Request for Further Information requiring, amongst other matters, the submission of a standalone Ecological Impact Assessment to assess the likely ecological effects of the proposed further development and to update the ecological baseline for the site. This report has therefore been prepared in response to that request and accompanies the Further Information submission.

The purpose of the report is to:

- Establish and evaluate the baseline ecological environment, as relevant to the proposed development;
- Identify, describe and assess all potentially significant ecological effects associated with the proposed development;
- Set out the mitigation measures required to address any potentially significant ecological effects and ensure compliance with relevant nature conservation legislation;
- Provide an assessment of the significance of any residual ecological effects; and
- Identify any appropriate compensation, enhancement or post-construction monitoring requirements.

The layout and structure of this Ecological Impact Assessment follows the most recent guidance provided by the Chartered Institute of Ecology and Environmental Management "CIEEM" outlined in the document Guidelines for Ecological Impact Assessment in the UK and Ireland – Terrestrial, Freshwater, Coastal and Marine (2024)[1].

As stated in this guidance "EcIA can be applied to projects of widely varying scales. The EcIA principles and process outlined are relevant to all developments that may impact on ecological features - this term is used throughout to cover 'habitats, species and ecosystems'. However, the level of detail required in an EcIA will inevitably be proportionate to the scale of the development and complexity of its potential impacts."

[1] CIEEM (2024) Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine version 1.3. Chartered Institute of Ecology and Environmental Management, Winchester.

Given the size, location and nature of this proposed development, the following EcIA has been adapted so that it is proportional to the scale of the proposed development, in accordance with the CIEEM guidelines.

In addition, as stated in these guidelines, the emphasis in EcIA is on 'significant effects' rather than all ecological effects. The relevant legislation, regulations, plans and policies are considered within this assessment to ensure that this EcIA takes account of all relevant Ecological Features within the scoping process for this report.

A separate stand-alone Appropriate Assessment Screening (JKW Environmental Ltd.,2026) has been prepared is being submitted as part of the planning application documentation. The AA Screening contains information to inform the competent authority's assessment of potential impacts on European sites as a result of the proposed development either alone or in combination with other plans/projects.

2. Description of the Proposed Development

2.1 Proposed Development

The proposed development relates to the further development of Ummera Gravel Pit, located in the townland of Ummera, approximately 2.5 km northeast of Macroom, County Cork. The quarry occupies a landholding extending to approximately 20.22 hectares, with the current application relating to a 15.5-hectare area of the site. Gravel extraction has been undertaken at Ummera since the 1940s. Drimoleague Concrete Works Ltd. (DCWL), through its affiliated company Murnane & O'Shea Ltd., has operated the quarry under lease arrangements since the late 1970s and purchased the lands in 2004.

The further development area includes the lands covered by the substitute consent application, the original settlement ponds and land along the eastern, southern and south-western boundaries of the holding. Extraction will continue within the existing quarry footprint and extend into areas to the south and along the eastern margins of the pit. These additional extraction areas cover approximately 1.8 hectares and are currently occupied mainly by grazing land and temporary screening berms. The old farm buildings in the south-western corner of the landholding and the southernmost grazing field containing the standing stone are excluded from the application area. Surrounding land use is predominantly agricultural.

The quarry is accessed from regional road R584 (formerly N22) via the R618 and local roads L-3423-0 and L-3423-20, with the site entrance located on L-3423-20. Ground levels across the site range from approximately 85 mOD at the entrance to around 115 mOD along the eastern boundary, while the quarry floor lies at approximately 91 mOD.

The proposed development will involve the continued extraction and processing of sand and gravel. Topsoil and overburden will be stripped from extraction areas and used to form temporary screening around the active working area. Owing to the variable nature of the gravel deposit, extraction will continue in different parts of the quarry to achieve the required blend of aggregate sizes, with silt and clay layers separated during excavation. Extracted material will be processed through the existing washing plant to produce sand together with 6–10 mm, 10–20 mm, 20–50 mm and 50 mm+ aggregate. Silts and fines generated during washing will continue to be directed to the settlement ponds, where they will be allowed to settle before being removed periodically. The recovered silt will be stored adjacent to the ponds to dry before being used in the restoration of the site or, where required, as bedding sand for underground utilities.

In addition to the extraction activities, the proposed development includes the provision of perimeter screening berms and planting, a fuel storage shed, a concrete refuelling pad and paving of the site access road.

The proposed layout is shown below in Figure 2.2.

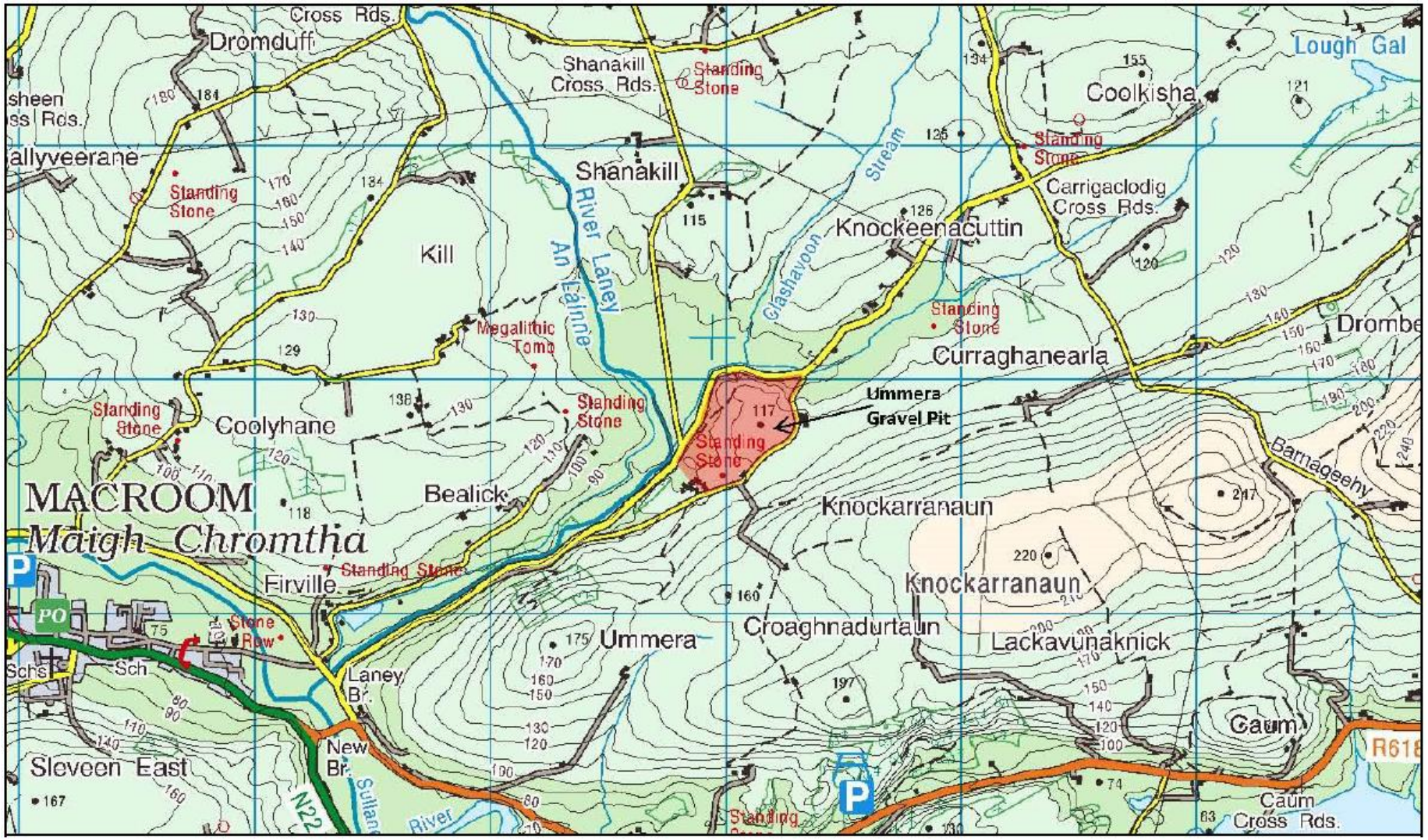


Figure 2.1: Site Location

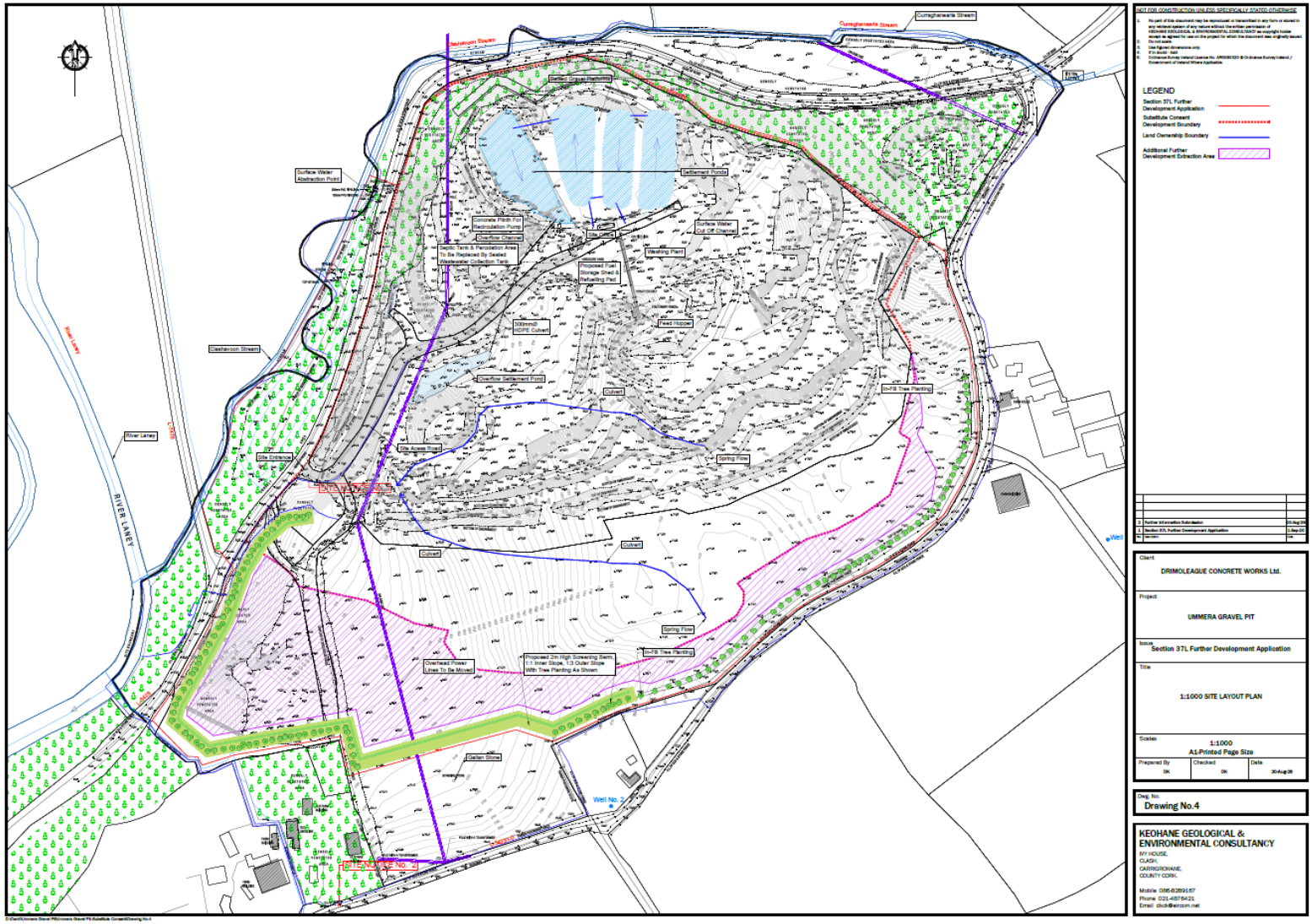


Figure 2.2: Site Layout

2.1.1 Surface Water Management

Surface water management at Ummera Gravel Pit has been designed to minimise the risk of impacts on the surrounding water environment while supporting the continued operation of the quarry. Water used within the aggregate washing process is recirculated through a series of on-site settlement ponds. The settlement pond network allows suspended solids to settle before the water is reused within the washing process, substantially reducing the requirement for top-up water from the stream.

Rainfall runoff from the eastern side of the quarry yard drains to the settlement ponds and is incorporated into the recirculation system. On occasion, water abstracted from the Bealick / Clashavoon Stream is used to top-up the ponds. Runoff from the western side of the yard, together with overflow from the settlement ponds during periods of heavy rainfall, is directed through an overflow settlement pond before discharging to the roadside drainage network. Groundwater springs encountered within the southern part of the extraction area either infiltrate back into the gravel deposits or flow through a series of small ponds before discharging to the roadside drain south of the site entrance.

A number of improvements to the site's surface water management have already been implemented, including the use of a closed-loop wash-water recirculation system, the decommissioning of the original settlement pond adjacent to the Bealick / Clashavoon Stream, and the construction of an additional settlement pond to treat runoff from the western yard area. Further measures proposed as part of the development include the construction of a concrete refuelling pad, relocation of fuel storage to a bunded storage shed, paving of the site access road with associated roadside drainage, replacement of the existing septic tank with a sealed underground holding tank, and continued surface water quality monitoring.

Following consultation with Inland Fisheries Ireland (IFI), a number of additional measures will also be implemented. These include modification of the existing rock weir at the water abstraction point to allow the free passage of fish, installation of a permanent level gauge to identify the dry weather flow (95 percentile flow), and the cessation of water abstraction from the Bealick / Clashavoon Stream when stream levels are at or below this marked level.

2.1.2 Wastewater Management

The site is not served by the public foul sewer network. Domestic wastewater generated by the existing site facilities is currently treated by an on-site septic tank and percolation area. As part of the proposed development, the existing system will be replaced with a sealed 2.2 m^3 underground holding tank located at the site of the existing septic tank. Due to the low volume of wastewater generated at the quarry, the holding tank will be emptied at regular intervals by a licensed waste contractor.

2.1.3 Restoration

The proposed development has an anticipated operational lifespan of approximately 15 years, after which the site will be restored in accordance with the restoration plan prepared for the development.

The majority of the worked area will be restored to agricultural use following completion of extraction, with a number of features retained or established for biodiversity. Given the heterogeneous nature of the gravel deposit, it has not been practicable to restore the site in a simple sequential manner during its operation. Going forward, phased restoration will be undertaken

where practicable to assist with the management and reuse of silt recovered from the settlement ponds and to reduce the extent of exposed ground within the site.

Restoration will start at the north-eastern corner of the quarry and will follow extraction in a southerly direction. The pit floor will be restored through the placement of silt, subsoil and topsoil, followed by grass seeding. Overburden and topsoil stored on site will be reused as part of the restoration works, with clean soil imported where there is a deficit. Silt recovered during the periodic cleaning of the settlement ponds will also be retained for use in restoration.

Existing perimeter screen planting will be retained throughout the operational life of the gravel pit. Infill planting will be undertaken where required as part of the current landscape proposals. All new tree and shrub planting will comprise species native to Ireland. The proposed planting mix will comprise European Aspen (*Populus tremula*) (10%), Elder (*Sambucus nigra*) (15%), Scots Pine (*Pinus sylvestris*) (15%), Downy Birch (*Betula pubescens*) (10%), Sessile Oak (*Quercus petraea*) (25%) and Hawthorn (*Crataegus monogyna*) (25%). This planting will be maintained during the operational phase and retained as part of the final restoration of the site.

The settlement pond system will remain operational until the final stages of restoration so that surface water can continue to be managed while restoration works are ongoing. Wash water will continue to be managed within the closed recirculation system. Runoff from the western side of the yard and any overflow from the settlement pond system during periods of heavy rainfall will continue to pass through the overflow settlement pond before entering the roadside drainage network.

The original settlement pond located between the road and the Clashavoon Stream will be retained as part of the final restoration to provide an area of aquatic habitat. The remaining unlined settlement ponds will not be retained as they are not expected to hold water over the long term.

A suitable exposed quarry face will also be retained as part of the final restoration to provide nesting habitat for Sand Martin. The final restoration will therefore return the majority of the worked area to agricultural use, while retaining the established perimeter planting, the original settlement pond and a suitable Sand Martin nesting face.

2.1.4 Lighting

There is no floodlighting at Ummera Gravel Pit. The only artificial lighting on site is associated with the front-end loader. Quarry operations are generally not undertaken after nightfall.

3. Planning, Policy and Legislation

The collation of ecological baseline data and the preparation of this assessment have had regard to the following legislation and policy documents. This is not an exhaustive list but the most relevant legislative and policy basis for the purposes of preparing this EcIA.

The following international legislation is relevant to the proposed development:

- Council Directive 92/43/EEC on the Conservation of Natural Habitats and of Wild Fauna and Flora; hereafter, referred to as the 'Habitats Directive'. The Habitats Directive is the legislation under which the Natura 2000 network[2] was established and special areas of conservation (SACs) are designated for the protection of natural habitat types listed in Annex I, and habitats of the species listed in Annex II, of that directive.
- Directive 2009/147/EEC of the European Parliament and of the Council of 30 November 2009 on the conservation of wild birds; hereafter, referred to as the 'Birds Directive'. The Birds Directive is the legislation under which special protection areas are designated for the protection of endangered species of wild birds listed in Annex I of that directive.
- Directive 2000/60/EC of the European Parliament and of the Council of 23 October 2000 establishing a framework for Community action in the field of water policy hereafter, referred to as the 'Water Framework Directive'. The Water Framework Directive' is the legislation requiring the protection and improvement of water quality in all waters (rivers, lakes, groundwater, and transitional coastal waters) with the aim of achieving good ecological status by 2015 or, at the latest, by 2027.

The following national legislation is relevant to the proposed development:

- Wildlife Acts 1976 to 2022; hereafter collectively referred to as the 'Wildlife Acts'. The Wildlife Acts are the principal pieces of legislation at national level for the protection of wildlife and for the control of activities that may harm wildlife. All bird species, 22 other animal species or groups of species, and 86 species of flora are protected under this legislation.
- Planning and Development Acts 2000 to 2022; hereafter collectively referred to as the 'Planning and Development Acts'. This piece of legislation is the basis for Irish planning. Under the legislation, development plans (usually implemented at local authority level) must include mandatory objectives for the conservation of natural heritage and for the conservation of European Sites. It also sets out the requirements in relation to environmental assessment with respect to planning matters, including transposition of the Habitats and Birds Directive into Irish law.

[2] The Natura 2000 network is a European network of important ecological sites, as defined under Article 3 of the Habitats Directive 92/43/EEC, which comprises both special areas of conservation and special protection areas. Special Areas of Conservation are sites hosting the natural habitat types listed in Annex I, and habitats of the species listed in Annex II, of the Habitats Directive, and are established under the Habitats Directive itself. Special Protection Areas are established under Article 4 of the Birds Directive 2009/147/EC for the protection of endangered species of wild birds. The aim of the network is to aid the long-term survival of Europe's most valuable and threatened species and habitats. In Ireland these sites are designed as European sites - defined under the Planning Acts and/or the Birds and Habitats Regulations as (a) a candidate site of Community importance, (b) a site of Community importance, (c) a candidate Special Area of Conservation, (d) a Special Area of Conservation, (e) a candidate Special Protection Area, or (f) a Special Protection Area. They are commonly referred to in Ireland as Special Areas of Conservation (SACs) and Special Protection Areas (SPAs).

- European Communities (EC) (Birds and Natural Habitats) Regulations 2011 to 2015; hereafter the 'Birds and Habitats Regulations'. This legislation transposes the Habitats and Birds Directives into Irish law. It also contains regulations (49 and 50) that deal with invasive species (those included within the Third Schedule of the regulations).
- European Communities (Water Policy) Regulations 2003 (S.I. No. 722 of 2003). This legislation transposes the Water Framework Directive into Irish Law.
- Flora (Protection) Order, 2022. This lists species of plant protected under Section 21 of the Wildlife Acts.

The assessment had regard to the following guidance documents and sources of information:

- Guidelines for Ecological Impact Assessment in the UK and Ireland. Terrestrial, Freshwater, Coastal and Marine Version 1.3 (CIEEM, 2018) (amended 2024).
- Guidelines for assessment of Ecological Impacts of National Road Schemes, (NRA, 2009).
- CIEEM (2017) Guidelines on Ecological Report Writing. Chartered Institute of Ecology and Environmental Management, Winchester).
- Ecological Surveying Techniques for Protected Flora and Fauna During the Planning of National Road Schemes (NRA, 2008).
- Environmental Impact Assessment of National Road Schemes –A Practical Guide (NRA, 2009);
- Environmental Assessment and Construction Guidelines (NRA, 2006).
- Bat Mitigation Guidelines for Ireland – V2. Irish Wildlife Manuals, No. 134. (Marnell, Kelleher & Mullen 2022).
- Bat Surveys for Professional Ecologists – Good Practice Guidelines (3rd edn.) (Collins, 2016).
- Guidelines for the Treatment of Bats during the Construction of National Road Schemes (NRA, 2006b).
- The Status of EU Protected Habitats and Species in Ireland. Volume 2: Habitat Assessments, Unpublished NPWS report (NPWS, 2019).
- The Status of EU Protected Habitats and Species in Ireland. Volume 3: Species Assessments, Unpublished NPWS report (NPWS, 2019).
- Guidelines for the Protection and Preservation of Trees, Hedgerows and Scrub prior to, during and Post Construction of National Road Schemes (NRA, 2008).

The following plans and policies are relevant to the proposed development:

- National Biodiversity Action Plan 2023-2030 (NPWS, 2023).
- Cork County Development Plan 2022-2028.
- All-Ireland Pollinator Plan 2026-2030.

4. Methodology

This study involved undertaking a desktop review and a baseline field assessment, which are described in the relevant sections below.

4.1 Desk Study

A comprehensive desk study was undertaken to collate available information on the local ecological environment. The following resources were used to inform the assessment presented in this report:

- Flora Protection Order 2022 Map Viewer[3]
- Data on European sites, Natural Heritage Areas (NHAs) or proposed Natural Heritage Areas (pNHAs) as held by the National Parks and Wildlife Service (NPWS)[4]- Figure 5.1 & 5.2 for locations of protected sites in the vicinity of the proposed development
- Records of rare and protected species as held by the National Biodiversity Data Centre[5]
- Spatial information relevant to the planning process including land zoning and planning applications from Department of Housing Planning, Community and Local Government web map portal[6]
- Information on local biodiversity policies and objectives within the Cork County Development Plan 2022-2028.
- Ordnance Survey Ireland mapping and aerial photography[7]
- Data on waterbodies, available for download from the Environmental Protection Agency (EPA) web map service[8]
- Information on soils, geology and hydrogeology in the area available from the Geological Survey Ireland (GSI) online Spatial Resources service. [9]
- Information on the conservation status of birds in Ireland from Birds of Conservation Concern in Ireland
- Information on the location, nature and design of the proposed development supplied by the applicant's design team.

4.2 Field Surveys

4.2.1 Multi-Disciplinary Ecological Walkover

A multi-disciplinary ecological walkover survey was undertaken in accordance with NRA Guidelines on Ecological Surveying Techniques for Protected Flora and Fauna on National Road Schemes (NRA, 2009) on the 21st of April 2026 and the 12th of August 2026. This survey provided baseline data on the ecology of the study area and assessed whether further detailed habitat or

[3] https://heritagedata.maps.arcgis.com/apps/webappviewer/index.html?id=a41ef4e10227499d8de17a8abe42bd1e

[4] https://www.npws.ie/protected-sites and https://www.npws.ie/maps-and-data

[5] www.biodiversityireland.ie

[6] https://myplan.ie/

[7] http://map.geohive.ie/

[8] https://gis.epa.ie/EPAMaps/

[9] https://dcenr.maps.arcgis.com/apps/MapSeries/index.html?appid=a30af518e87a4c0ab2fbde2aaac3c228

species-specific ecological surveys were required. The multi-disciplinary ecological walkover surveys comprehensively covered the entire study area.

Prior to the field survey, a desktop review of botanical data available for the study area was undertaken. The previous 2020 Environmental Impact Assessment Report (EIAR) prepared for the site was also reviewed to inform the baseline ecological assessment. In addition, the National Biodiversity Data Centre (NBDC), Botanical Society of Britain and Ireland (BSBI) and National Parks and Wildlife Service (NPWS) Floral Protection Order bryophyte and vascular plant mapping and online databases were consulted to identify any rare or protected botanical species recorded within the relevant national 2 km grid squares (i.e. W37R & W37S) surrounding the proposed development site.

Habitats were classified in accordance with the Heritage Council's 'Guide to Habitats in Ireland' (Fossitt, 2000). Habitat mapping was undertaken with regard to guidance set out in 'Best Practice Guidance for Habitat Survey and Mapping' (Smith et al., 2011). Vascular and bryophyte plant nomenclature generally follow that of The National Vegetation Database[10], having regard to more recent taxonomic changes to species names after the New Flora of the British Isles[11] and the British Bryological Society's Mosses and Liverworts of Britain and Ireland: A Field Guide[12]. Annex I habitat types were classified after the Interpretation manual of European Union Habitats EUR28[13] with reference to the corresponding national habitat survey reports and NPWS wildlife manuals, as applicable. The nomenclature for Annex I habitats follows that of the Interpretation manual of European Union Habitats EUR28 with abbreviated names after those used in The Status of EU Protected Habitats and Species in Ireland. Volume 1: Summary Overview[14].

The walkover survey was designed to detect the presence, or suitable habitat for a range of protected faunal species or protected habitats that may occur in the vicinity of the proposed development.

During the multidisciplinary surveys, a search for Invasive Alien Species (IAS), with a focus on those listed under the Third Schedule of the European Communities Regulations 2011 (S.I. 477 of 2011), was also conducted.

A badger survey was conducted within the proposed site boundary. The badger survey was conducted in accordance with Ecological Surveying Techniques for Protected Flora and Fauna during the Planning of National Road Schemes (NRA, 2009).

Field signs of badger activity are characteristic and sometimes quite obvious and can include tufts of hair caught on barbed wire fences and scrub, conspicuous badger paths, footprints, small excavated pits or latrines in which droppings are deposited, scratch marks on trees, and snuffle holes, which are small scrapes where badgers have searched for insects and plant tubers (NRA, 2009).

[10] Weekes, L.C. & FitzPatrick, Ú. (2010) The National Vegetation Database: Guidelines and Standards for the Collection and Storage of Vegetation Data in Ireland. Version 1.0. Irish Wildlife Manuals, No. 49. National Parks and Wildlife Service, Department of Environment, Heritage and Local Government, Dublin, Ireland.

[11] Stace, C. (2019) New Flora of the British Isles. 4 th Edition. C&M Floristics.

[12] Atherton, I., Bosanquet, S. & Lawley, M. (2010) Mosses and Liverworts of Britain and Ireland: A Field Guide. Latimer Trend & Co., Plymouth.

[13] CEC. (Commission of the European Communities) (2013) Interpretation manual of European Union Habitats EUR28. European Commission, DG Environment.

[14] NPWS (2019). The Status of EU Protected Habitats and Species in Ireland. Volume 1: Summary Overview. Unpublished NPWS report

Notes were made on signs of other mammals in order to deduce the likelihood of faint tracks and/or feeding signs belonging to badgers. The objectives of the badger survey were to:

- Confirm whether or not badger setts occur within the area surveyed.
- Confirm where possible the status of any setts identified in survey.
- Describe field signs of badger activity.

Bat survey was undertaken in accordance with the following guidelines:

- Andrews, H. (2018) Bat Roosts in Trees. A guide to identification and assessment for tree-care and ecology professionals. Pelagic Publishing.
- Collins, J. (ed.) (2023) Bat Surveys for Professional ecologists: Good Practice Guidelines (4th ed.). The Bat Conservation Trust, London; and
- Marnell, F., Kelleher, C. & Mullen, E. (2022) Bat mitigation guidelines for Ireland v2. Irish Wildlife Manuals, No. 134. National Parks and Wildlife Service, Department of Housing, Local Government and Heritage, Ireland.

As part of the ecological assessment, a daytime bat walkover survey was undertaken during daylight hours. Habitats within the proposed development site were assessed for their suitability to support roosting, foraging and commuting bats. Connectivity with the wider landscape was also considered.

Structure and trees within the proposed site were surveyed in conjunction with the site walkover for potential roost sites and signs of bats. A detailed inspection of the identified structures and trees was undertaken to look for features that bats could use for roosting (Potential Roost Features (PRFs)) from ground level. The aim of the survey was to determine the actual or potential presence of bats and the need for further survey and/or mitigation.

Suitability was assessed for potential use as bat roosting habitats and commuting/ foraging habitats using a protocol set out in BCT Bat Surveys for Professional Ecologists: Good Practice Guidelines (4th edn.) (Collins, 2023). The protocol is divided into five Suitability Categories: High, Moderate, Low, Negligible and None.

Table 4.1: Guidelines for assessing the potential suitability of proposed development sites for bats, based on the presence of habitat features within the landscape, applied according to professional judgement. This table is from Collins (2023)

Potential suitability	Description	
	Roosting habitats in structures	**Potential flight-paths and foraging habitats**
None	No habitat features on site likely to be used by any roosting bats at any time of the year (i.e. a complete absence of crevices/suitable shelter at all ground/underground levels).	No habitat features on site likely to be used by any commuting or foraging bats at any time of the year (i.e. no habitats that provide continuous lines of shade/protection for flight-lines, or generate/shelter insect populations available to foraging bats).
Negligible[a]	No obvious habitat features on site likely to be used by roosting bats; however, a small element of uncertainty remains as bats can use small and apparently unsuitable features on occasion.	No obvious habitat features on site likely to be used as flight-paths or by foraging bats; however, a small element of uncertainty remains in order to account for non-standard bat behaviour.
Low	A structure with one or more potential roost sites that could be used by individual bats opportunistically at any time of the year. However, these potential roost sites do not provide enough space, shelter, protection, appropriate conditions[b] and/or suitable surrounding habitat to be used on a regular basis or by larger numbers of bats (i.e. unlikely to be suitable for maternity and not a classic cool/stable hibernation site, but could be used by individual hibernating bats[c]).	Habitat that could be used by small numbers of bats as flight-paths such as a gappy hedgerow or unvegetated stream, but isolated, i.e. not very well connected to the surrounding landscape by other habitat. Suitable, but isolated habitat that could be used by small numbers of foraging bats such as a lone tree (not in a parkland situation) or a patch of scrub.
Moderate	A structure with one or more potential roost sites that could be used by bats due to their size, shelter, protection, conditions[b] and surrounding habitat but unlikely to support a roost of high conservation status (with respect to roost type only, such as maternity and hibernation – the categorisation described in this table is made irrespective of species conservation status, which is established after presence is confirmed).	Continuous habitat connected to the wider landscape that could be used by bats for flight-paths such as lines of trees and scrub or linked back gardens. Habitat that is connected to the wider landscape that could be used by bats for foraging such as trees, scrub, grassland or water.
High	A structure with one or more potential roost sites that are obviously suitable for use by larger numbers of bats on a more regular basis and potentially for longer periods of time due to their size, shelter, protection, conditions[b] and surrounding habitat. These structures have the potential to support high conservation status roosts, e.g. maternity or classic cool/stable hibernation site.	Continuous, high-quality habitat that is well connected to the wider landscape that is likely to be used regularly by bats for flight-paths such as river valleys, streams, hedgerows, lines of trees and woodland edge. High-quality habitat that is well connected to the wider landscape that is likely to be used regularly by foraging bats such as broadleaved woodland, tree-lined watercourses and grazed parkland. Site is close to and connected to known roosts.

a Negligible is defined as 'so small or unimportant as to be not worth considering, insignificant'. This category may be used where there are places that a bat could roost or forage (due to one attribute) but it is unlikely that they actually would (due to another attribute).

b For example, in terms of temperature, humidity, height above ground level, light levels or levels of disturbance.

c Evidence from the Netherlands shows mass swarming events of common pipistrelle bats in the autumn followed by mass hibernation in a diverse range of building types in urban environments (Korsten *et al.*, 2016 and Jansen *et al.*, 2022). Common pipistrelle swarming has been observed in the UK (Bell, 2022 and Tomlinson, 2020) and winter hibernation of numbers of this species has been detected at Seaton Delaval Hall in Northumberland (National Trust, 2018). This phenomenon requires some research in the UK, but ecologists should be aware of the potential for larger numbers of this species to be present during the autumn and winter in prominent buildings in the landscape, urban or otherwise.

During site visits all birds observed and heard were recorded.

The suitability of habitats located within the proposed development boundary survey were assessed for breeding and/or hibernating reptile species such as common lizard *Lacerta vivipara*, amphibian species such as common frog *Rana temporaria* and smooth newt *Lissotriton vulgaris,* as part of the multi-disciplinary walkover surveys.

4.3 Impact Assessment Methodology

The impact assessment methodology applied follows the Chartered Institute of Ecology and Environmental Management 'CIEEM' guidance (CIEEM 2024). The following list provides a useful summary of the process for undertaking an EcIA, as detailed in the CIEEM guidance document. This EcIA is based upon a source-pathway-receptor model, where the source is defined as the individual elements of the proposed development that have the potential to affect identified ecological features. The pathway is defined as the means or route by which a source can affect the ecological features. An ecological feature is defined as the species, habitat or ecologically functioning unit of natural heritage importance. Each element can exist independently however an effect is created where there is a linkage between the source, pathway and feature.

Table 4.2: Impact Assessment Process

Task	Description
➢ Scoping	• Determining the matters to be addressed in the EcIA, including consultation to ensure the most effective input to defining the scope.
➢ Establishing the baseline	• Collecting information and describing the ecological conditions in the absence of the proposed project, to inform the assessment of impacts.
➢ Important ecological features	• Identifying important ecological features (habitats and species) that may be affected, with reference to a geographical context in which they are considered important.
➢ Impact assessment	• An assessment of whether important ecological features may be subject to potential impacts and characterisation of these impacts and their effects. • Assessment of potential residual ecological impacts of the project remaining after mitigation and the significance of their effects, including cumulative effects.
➢ Avoidance, mitigation, compensation & enhancement	• Incorporating measures to avoid, reduce and/or compensate potential ecological impacts, and the provision of ecological enhancements.
➢ Monitoring	• Monitoring impacts of the development and evaluation of the success of proposed mitigation, compensation and enhancement measures.

4.3.1 Identifying Ecological Features within the Zone of Influence

Information acquired during the desk-study and field surveys, determines the Ecological Features potentially affected by the proposed development, and which occur within its Zone of Influence (ZoI). In establishing the ZoI of a proposed development, any potential source-pathway-receptor connections to European and nationally designated sites are screened in relation to

their potential impacts. The potential impacts on sites are dependent on the nature of the pressures, the sensitivity of receptors, and the causal links and conduits, rather than distance. In many cases the potential ZoI can occur relatively close to its source (for example when considering noise or dust) while in other cases the potential ZoI could be much greater, for example if there is a direct hydrological connection. Further information on this is available within the Office of the Planning Regulator (OPR) (2021) *OPR Practice Note PN01 Appropriate Assessment Screening for Development Management*.

4.3.2 Evaluating Ecological Features within the Zone of Influence

Those Ecological Features which occur within the ZoI, such as nature conservation sites, habitats or species, are evaluated in geographic hierarchy of importance. Table 4.4 below shows the frame of reference and criteria used for valuation. The approach employed for this generally follows that set out in a guidance document on EcIA produced by the National Roads Authority (NRA, 2009).

Table 4.3: Criteria for evaluating ecological features within the ZoI (NRA, 2009)

Importance	Criteria
International Importance	• 'European Site' including Special Area of Conservation (SAC), Site of Community Importance (SCI), Special Protection Area (SPA) or proposed Special Area of Conservation. • Proposed Special Protection Area (pSPA). • Site that fulfils the criteria for designation as a 'European Site' (see Annex III of the Habitats Directive, as amended). • Features essential to maintaining the coherence of the Natura 2000 Network[15]. • Site containing 'best examples' of the habitat types listed in Annex I of the Habitats Directive. • Resident or regularly occurring populations (assessed to be important at the national level)[16] of the following: - Species of bird, listed in Annex I and/or referred to in Article 4(2) of the Birds Directive; and/or - Species of animal and plants listed in Annex II and/or IV of the Habitats Directive. • Ramsar Site (Convention on Wetlands of International Importance Especially Waterfowl Habitat 1971). • World Heritage Site (Convention for the Protection of World Cultural & Natural Heritage, 1972). • Biosphere Reserve (UNESCO Man & The Biosphere Programme).

[15] See Articles 3 and 10 of the Habitats Directive

[16] It is suggested that, in general, 1% of the national population of such species qualifies as an internationally important population. However, a smaller population may qualify as internationally important where the population forms a critical part of a wider population or the species is at a critical phase of its life cycle

	• Site hosting significant species populations under the Bonn Convention (Convention on the Conservation of Migratory Species of Wild Animals, 1979). • Site hosting significant populations under the Berne Convention (Convention on the Conservation of European Wildlife and Natural Habitats, 1979). • Biogenetic Reserve under the Council of Europe. • European Diploma Site under the Council of Europe. • Salmonid water designated pursuant to the European Communities (Quality of Salmonid Waters) Regulations, 1988, (S.I. No. 293 of 1988)[17].
National Importance	• Site designated or proposed as a Natural Heritage Area (NHA). • Statutory Nature Reserve. • Refuge for Fauna and Flora protected under the Wildlife Acts. • National Park. • Undesignated site fulfilling the criteria for designation as a Natural Heritage Area (NHA); Statutory Nature Reserve; Refuge for Fauna and Flora protected under the Wildlife Act; and/or a National Park. • Resident or regularly occurring populations (assessed to be important at the national level)[18] of the following: - Species protected under the Wildlife Acts; and/or - Species listed on the relevant Red Data list. - Site containing 'viable areas' of the habitat types listed in Annex I of the Habitats Directive.
County Importance	• Area of Special Amenity. • Area subject to a Tree Preservation Order. • Area of High Amenity, or equivalent, designated under the County Development Plan. • Resident or regularly occurring populations (assessed to be important at the County level) of the following: - Species of bird, listed in Annex I and/or referred to in Article 4(2) of the Birds Directive; - Species of animal and plants listed in Annex II and/or IV of the Habitats Directive; - Species protected under the Wildlife Acts; and/or - Species listed on the relevant Red Data list.

[17] Note that such waters are designated based on these waters' capabilities of supporting salmon (*Salmo salar*), trout (*Salmo trutta*), char (*Salvelinus*) and whitefish (*Coregonus*)

[18] It is suggested that, in general, 1% of the national population of such species qualifies as a nationally important population. However, a smaller population may qualify as nationally important where the population forms a critical part of a wider population or the species is at a critical phase of its life cycle.

	- Site containing area or areas of the habitat types listed in Annex I of the Habitats Directive that do not fulfil the criteria for valuation as of International or National importance. • County important populations of species; or viable areas of semi-natural habitats; or natural heritage features identified in the National or Local BAP; if this has been prepared. • Sites containing semi-natural habitat types with high biodiversity in a county context and a high degree of naturalness, or populations of species that are uncommon within the county. • Sites containing habitats and species that are rare or are undergoing a decline in quality or extent at a national level.
Local Importance (Higher Value)	• Locally important populations of priority species or habitats or natural heritage features identified in the Local BAP, if this has been prepared; • Resident or regularly occurring populations (assessed to be important at the Local level) of the following: - Species of bird, listed in Annex I and/or referred to in Article 4(2) of the Birds Directive; - Species of animal and plants listed in Annex II and/or IV of the Habitats Directive; - Species protected under the Wildlife Acts; and/or - Species listed on the relevant Red Data list. • Sites containing semi-natural habitat types with high biodiversity in a local context and a high degree of naturalness, or populations of species that are uncommon in the locality; • Sites or features containing common or lower value habitats, including naturalised species that are nevertheless essential in maintaining links and ecological corridors between features of higher ecological value.
Local Importance (Lower Value)	• Sites containing small areas of semi-natural habitat that are of some local importance for wildlife; • Sites or features containing non-native species that are of some importance in maintaining habitat links.

4.3.3 Identification and Characterisation of Impacts

When describing ecological impacts reference is made to the following characteristics;

- positive or negative;
- extent;

- magnitude;
- duration;
- timing;
- frequency; and,
- reversibility.

However, the assessment only needs to describe those characteristics relevant to understanding the ecological effect and determining the significance and as such does not need to incorporate all stated characteristics (CIEEM, 2024).

4.3.4 Significant Effects on Important Ecological Features

For the purpose of the EcIA, significant effect is an effect that either supports or undermines biodiversity conservation objectives for those ecological features which have been identified as being an important feature of the site (Important Ecological Features). Conservation objectives may be specific (e.g. for a designated site) or broad (e.g. national/local nature conservation policy). As such effects can be considered significant in a wide range of geographic scales from international to local. Consequently, significant effects are qualified with reference to the appropriate geographic scale (CIEEM, 2024).

4.3.5 Assessment of Residual Impacts and Effects

After characterising the potential impacts of the development and assessing the potential effects of these impact on the Important Ecological Features, mitigation measures are proposed to avoid and/or mitigate the identified ecological effects. Once measures to avoid and mitigate ecological effects have been finalised, assessment of the residual impacts and effects is undertaken to determine the significance of their effects on the Important Ecological Features.

4.3.6 Assessment of Cumulative Impacts and Effects

Cumulative effects can result from individually insignificant but collectively significant actions taking place over a period of time or concentrated in a location (CIEEM, 2024). Different types of actions can cause cumulative impacts and effects. As such, these types of impacts may be characterised as:

- Additive/incremental – in which multiple activities/projects (each with potentially insignificant effects) add together to contribute to a significant effect due to their proximity in time and space.
- Associated/connected – a development activity enables another development activity e.g. phased development as part of separate planning applications. Associated developments may include different aspects of the project which may be authorised under different consent processes. It is important to assess impacts of the project as a whole and not ignore impacts that fall under a separate consent process.

4.4 Limitations

Access to some parts of the gravel pit was restricted during the multidisciplinary ecological walkover survey undertaken on the 21st of April 2026. In particular, areas containing deep and heavily saturated silt could not be safely accessed on foot. Some areas of woodland were also inaccessible due to dense vegetation growth. Where access was restricted, these areas were assessed from accessible locations where possible.

As a result, it was not possible to physically walk over every part of the application site. However, the accessible areas of the site were surveyed and the habitats present within the application area were mapped and assessed based on the conditions observed during the survey. The desk study and review of the previous 2020 EIAR also provided additional information on the ecological baseline of the site.

These access restrictions have been taken into account in the preparation of this EcIA. Overall, the limitations identified do not undermine the conclusions of this EcIA. The scope, timing and findings of the surveys undertaken are considered sufficient to support a robust assessment of ecological effects for the proposed residential development.

5. Baseline Ecological Environment

5.1 Designated Sites

European designated sites comprise of Special Areas of Conservation (SAC) and Special Protection Areas (SPAs). This network of European designated sites is referred to as the Natura 2000 network. SACs are designated for their biodiversity value based on the presence of Annex I habitats and Annex II species listed under the EU Habitats Directive (92/43/EEC). SPAs are designated for the protection of bird species listed on Annex I of the Bird Directive (2009/147/EC).

The Ummera gravel pit is not located within, or directly adjacent to any designated nature conservation areas.

There are 3 no. Natura 2000 sites within 15km of the study site; The Gearagh SAC (000108) (c. 3.5km south west), The Gearagh SPA (004019) (4.6km southwest) and Mullaghanish to Musheramore Mountains SPA (004162) (c. 6.9km northwest) (Figure 5.1).

There is no direct hydrological link to the Gearagh SAC and the Gearagh SPA.

The groundwater flow beneath the gravel pit is not directly connected to the Gearagh SAC / SPA, nor any of the other Natura 2000 Sites within 15km.

The Mullaghanish to Musheramore Mountains SPA is located to the northwest of Ummera. Watercourses draining off the SPA join the Lee west of Macroom and the River Laney upstream of the gravel pit. Groundwater flow is anticipated to follow a similar pattern; no impacts to Mullaghanish to Musheramore Mountains SPA are expected.

Natural Heritage Areas (NHAs) are nationally designated sites, which are considered important for the habitat, species or geological heritage. NHAs are legally protected under the Wildlife Amendment Act 2000. Proposed Natural Heritage Areas (pNHAs) are sites that are of significance for wildlife and habitats, but which have not, as yet, been statutorily designated; however, their ecological value is recognised by Planning and Licencing Authorities.

There is one NHA within 15km of Ummera gravel pit, Boggeragh Mountains NHA. There are six pNHAs are located within 15km. The closest pNHA (Lough Gal pNHA) is located ca. 2.3km northeast of the Site. None of the pNHA sites within 15km share connectivity with the gravel pit

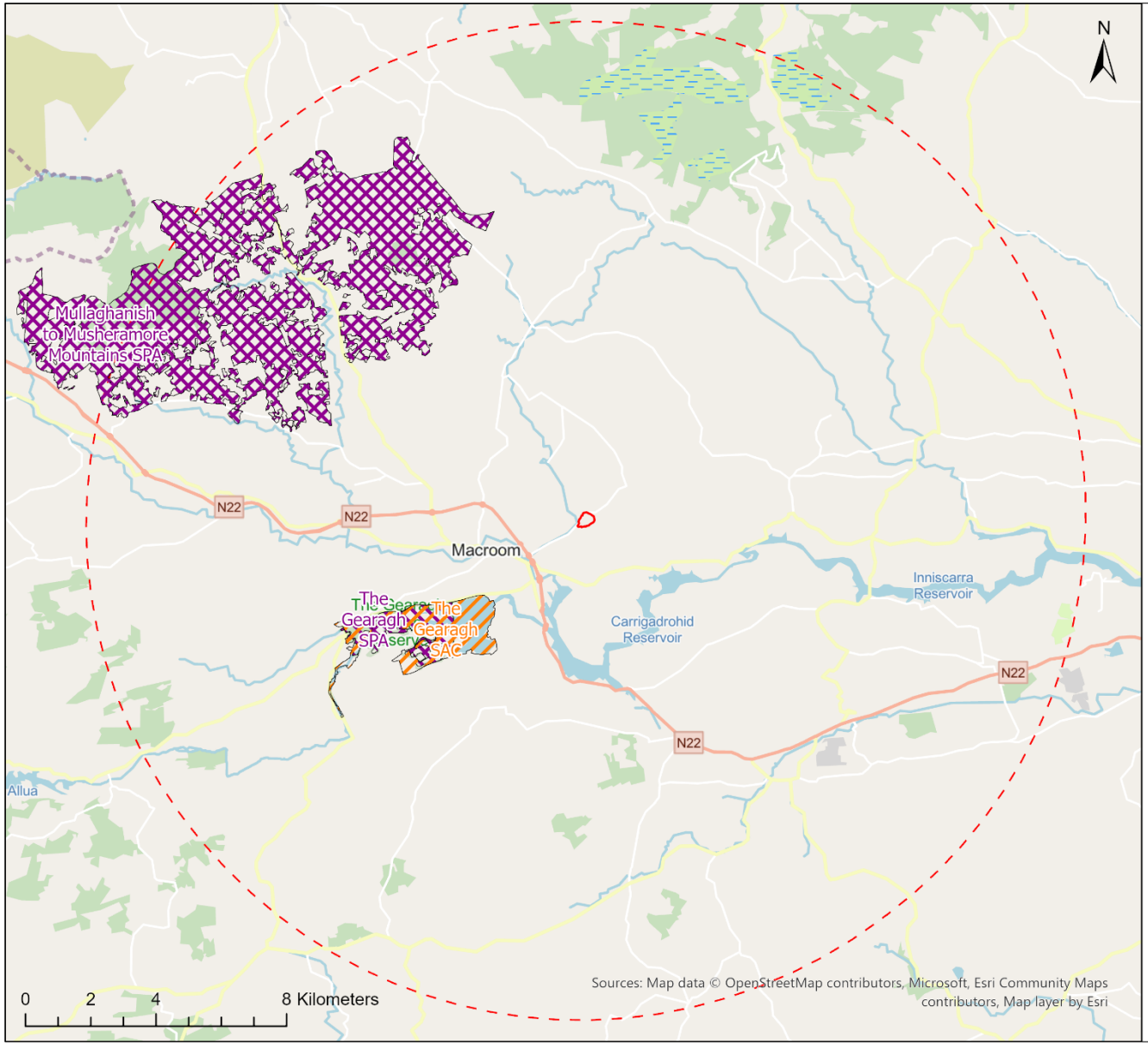
Table 5.1: European Sites within 15km of Proposed Development Site

Site	Site no.	Distance	Qualifying Interests	Connectivity
The Gearagh SAC	000108	3.5km southwest	Water courses of plain to montane levels with the *Ranunculion fluitantis* and *Callitricho-Batrachion* vegetation [3260] Rivers with muddy banks with *Chenopodion rubri* p.p. and *Bidention* p.p. vegetation [3270] Old sessile oak woods with *Ilex* and *Blechnum* in the British Isles [91A0] Alluvial forests with *Alnus glutinosa* and *Fraxinus excelsior* (*Alno-Padion*, *Alnion incanae*, *Salicion albae*) [91E0] *Lutra lutra* (Otter) [1355]	**No** There is no spatial overlap and no hydrological link between the gravel pit and the Gearagh SAC. This site is screened out and not considered further.
The Gearagh SPA	004019	4.6km southwest	Wigeon (*Anas penelope*) [A050] Teal (*Anas crecca*) [A052] Mallard (*Anas platyrhynchos*) [A053] Coot (*Fulica atra*) [A125] Wetland and Waterbirds [A999]	**No** There is no spatial overlap and no hydrological link between the gravel pit and the Gearagh SPA. Furthermore, the SPA is too remote from the quarry operation at Ummera for there to be negative impacts to birds using the SPA. This site is screened out and not considered further.
Mullaghanish to Musheramore Mountains SPA	004162	6.9km northwest	Hen Harrier (*Circus cyaneus*) [A082]	**No** There is no hydrological link between the gravel pit and Mullaghanish to Musheramore Mountains SPA. Furthermore, the SPA is too remote from the quarry operation at Ummera for there to be negative impacts to Hen Harrier in the SPA. This site is screened out and not considered further.

Table 5.2: Nationally Designated Sites within 15km of Proposed Development Site

Site	Site Code	Approximate distance	Features of Interest	Connectivity
Lough Gal pNHA	001067	2.3km	The present Natural Heritage Area includes an extensive area of freshwater marsh with abundant willow (*Salix* spp.) scrub invasion. Lesser Marshwort (*Apium inundatum*) and several pondweeds (*Potamogeton* spp.) occur on the lake. Reported a good site for wildfowl, ducks, geese and swans.	**No** No hydrological connectivity or connectivity via land and air pathways. This site is screened out and not considered further.
The Gearagh pNHA	000108	3.5km	Encompassed within The Gearagh SAC and SPA (see Table 10-2).	**No** No hydrological connectivity or connectivity via land and air pathways. This site is screened out and not considered further.
Lough Allua pNHA	001065	14.4km	Areas of alluvial woodland occur to the east of Inchigeelagh. Small islands in the braided river channel support Alder (*Alnus glutinosa*), birch (*Betula* spp.), willow, Hazel (*Corylus avellana*), Ash (*Fraxinus excelsior*), occasional oak, Ivy (*Hedera helix*) and Ramsons (*Allium ursinum*). A small population of Freshwater Pearl Mussels occurs in the permanent channels between these islands.	**No** No hydrological connectivity or connectivity via land and air pathways. This site is screened out and not considered further.
Prohus Wood pNHA	001248	9.7km	This site is a very young wood derived from widespread clearance about forty years ago (1986). The site has not developed much habitat diversity but is developing quite naturally and is of local importance. Birch (*Betula* sp.), Oak (*Querus* sp.) and Holly (*Ilex aquifolium*) are frequent, with some Willows (*Salix* sp.) and Alder (*Alnus glutinosa*) beside streams. At the lower edge thickets of Blackthorn (*Prunus spinosa*) and Hawthorn (*Crateagus monogyna*) occur with some Hazel (*Corylus avellana*).	**No** No hydrological connectivity or connectivity via land and air pathways. This site is screened out and not considered further.
Glashgarriff River pNHA	001055	4.9km	Otters use this site, a species listed under Annex II of the E.U. Habitats Directive as it is threatened in the E.U. Badgers also occur here – this species is internationally important and is listed in the Irish Red Data Book. This site includes one of the few waterfalls in the county. The flora of ferns and nonflowering plants in the glen are of interest. The	**No** No hydrological connectivity or connectivity via land and air pathways. This site is screened out and not considered further.

			presence of two protected mammal species adds further importance to the site.	

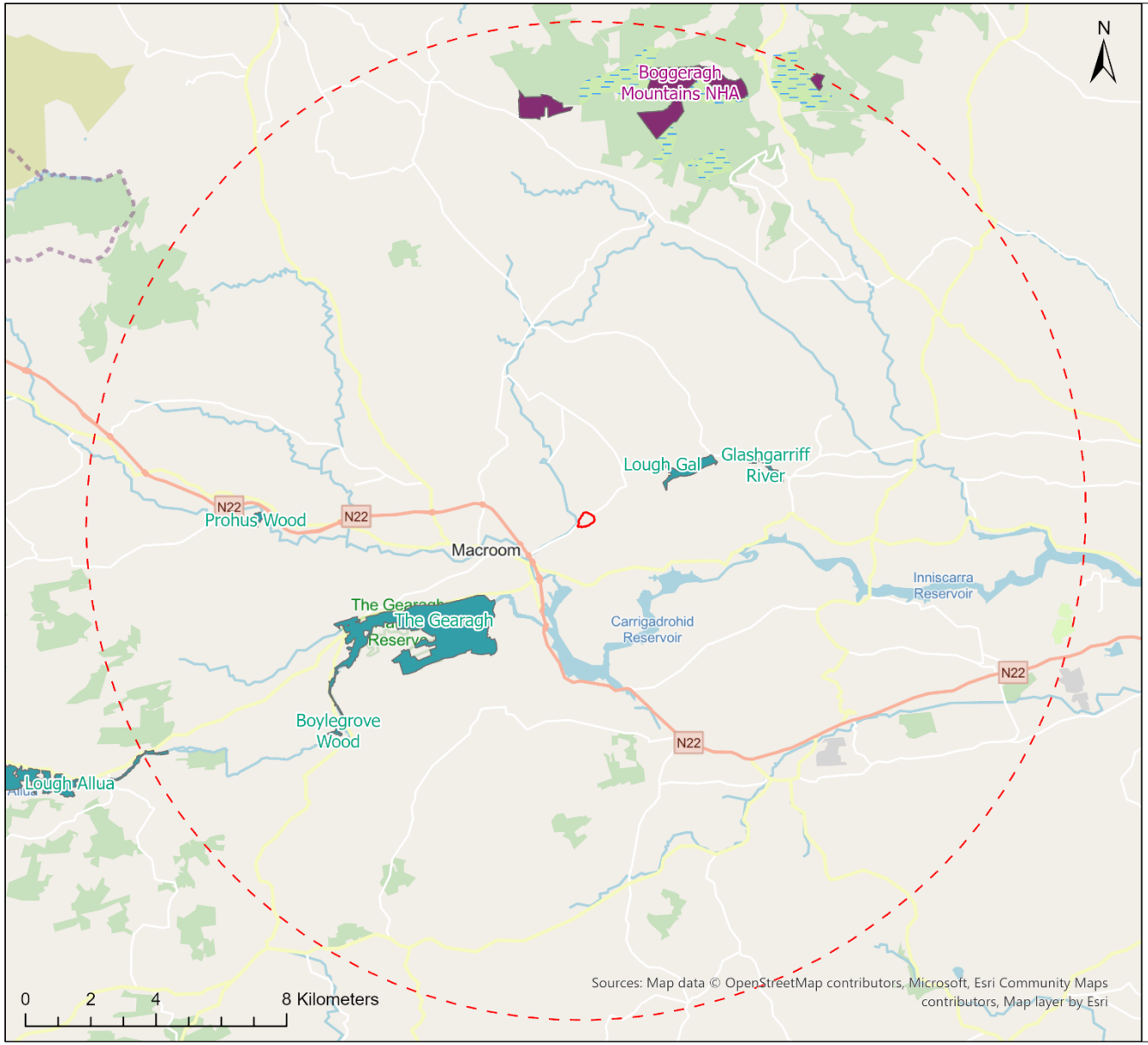


Ummera Gravel Pit

Figure 5.1
Natura 2000 Sites within 15km of Ummera Gravel Pit

- Site Boundary
- 15km Buffer
- SACs
- SPAs

Date: 27/07/2026	**Drawn by: KN**
Data Sources: Base Map ©Open Street Maps.	



Ummera Gravel Pit

Figure 5.2
Nationally Designated Sites within 15km of Ummera Gravel Pit

- Site Boundary
- 15km Buffer
- pNHAs
- NHAs

Date: 27/07/2026	**Drawn by: KN**
Data Sources: Base Map ©Open Street Maps.	

5.2 Ecology

5.2.1 NPWS & NBDC Records

National Parks and Wildlife Service (NPWS) records indicate that Barn Owl (*Tyto alba*) and Common Frog (*Rana temporaria*) have been recorded within the 10 km grid square W37, in which Ummera Gravel Pit is located. In addition, Mudwort (*Limosella aquatica*) has been recorded within the adjacent 10 km grid square W47. Mudwort is afforded legal protection in Ireland under the Flora (Protection) Order, 2015 and is classified as Least Concern in Ireland (Wyse-Jackson et al., 2016).

No legally protected or red-listed plant species have previously been recorded on the NBDC databases for the grid squares within which the proposed development is located.

With regard to non-native invasive species, the NBDC database hold records for two non-native invasive plant species within the 2km grid squares W37R & W37S

Table 5.3: Invasive Species Records W37R & W37S

Species	Grid Square	Last Record	Third Schedule
House Mouse *(Mus musculus)*	W37R	18/07/2015	No
Rabbit (*Oryctolagus cuniculus*)	W37R & W37S	09/07/2015	No

5.2.2 Habitats

A habitat survey of the site was undertaken in April 2026 in accordance with the Heritage Council's A Guide to Habitats in Ireland (Fossitt, 2000). The habitats recorded within the application site are illustrated in Figure 5.3 and comprise active quarries and mines (ED4), recolonising bare ground (ED3), spoil and bare ground (ED2), mosaics of spoil and recolonising bare ground (ED2/ED3), other artificial lakes and ponds (FL8), mixed broadleaved woodland (WD1), scrub (WS1), buildings and artificial surfaces (BL3) and (semi-)improved agricultural grassland (GA1).

Active Quarries and Mines (ED4)

Active Quarries and Mines (ED4) was the dominant habitat recorded within the site and occupied the majority of the central quarry floor where active extraction, processing and stockpiling operations are undertaken. This habitat comprised actively worked gravel extraction faces, haul roads, stockpiles of processed aggregate, loading areas and operational infrastructure associated with the quarry. Ongoing extraction activities result in regular disturbance, preventing the establishment of vegetation across much of the habitat.

The habitat supports little or no vegetation due to the continual movement of machinery and regular disturbance of the substrate. However, exposed quarry faces within the active workings continue to provide suitable nesting habitat for Sand Martin (*Riparia riparia*), with several active and inactive nesting colonies recorded during the 2026 bird survey.

The active quarry habitat is a highly modified environment with negligible ecological value, as such it is classified as Local Importance (Lower Value). Nevertheless, the exposed quarry faces provide an important breeding resource for Sand Martin.



Plate 5.1 Active Quarry Habitat

Spoil and Bare Ground (ED2)

Spoil and Bare Ground (ED2) was recorded within the application site in the form of the main access road to the gravel pit from the public road together with discrete areas of exposed spoil and bare ground associated with the ongoing operation of the quarry. The access road is approximately 4 m wide and comprises a compacted gravel surface. Additional areas of this habitat were recorded adjacent to the active extraction areas, around stockpiles of processed aggregate and spoil, and surrounding sections of the settlement pond complex where recently deposited gravel and exposed substrates remain largely unvegetated. The habitat was largely devoid of vegetation due to the regular movement of vehicles and quarry machinery and the continual disturbance associated with quarry operations.

In the southern part of the site, Spoil and Bare Ground (ED2) occurs in mosaic with Recolonising Bare Ground (ED3), where areas of exposed gravel and spoil are interspersed with naturally established vegetation.

Spoil and Bare Ground (ED2) is a recently disturbed, man-made habitat that supports little vegetation due to the continual disturbance associated with quarry operations. Although the habitat is of limited botanical value, it contributes to the overall habitat mosaic within the site and has the potential to undergo natural succession where disturbance ceases. It is therefore considered to be of Local Importance (Lower Value).



Plate 5.2 ED2 habitat

Recolonising Bare Ground (ED3)

Recolonising Bare Ground (ED3) was recorded throughout previously worked areas of the application site where natural vegetation has become established on disturbed quarry substrates. The habitat occurs principally within inactive areas of the quarry where disturbance has reduced, allowing pioneer and early successional vegetation to develop.

Vegetation varied depending on substrate conditions and the stage of succession. Frequently recorded species included Creeping Thistle (*Cirsium arvense*), Common Ramping-fumitory (*Fumaria muralis*), Curled Dock (*Rumex crispus*), False Oat-grass (*Arrhenatherum elatius*), Fat Hen (*Chenopodium album*), Common Ragwort (*Jacobaea vulgaris*), Heath Speedwell (*Veronica officinalis*), Yorkshire Fog (*Holcus lanatus*), Sweet Vernal-grass (*Anthoxanthum odoratum*), Common Bent (*Agrostis capillaris*), St. John's-wort (*Hypericum* spp.), White Clover (*Trifolium repens*), Selfheal (*Prunella vulgaris*), Common Centaury (*Centaurium erythraea*), Greater Bird's-foot-trefoil (*Lotus pedunculatus*), Common Nettle (*Urtica dioica*), Creeping Buttercup (*Ranunculus repens*), Prickly Sow-thistle (*Sonchus asper*), Redshank (*Persicaria maculosa*), Spear Thistle (*Cirsium vulgare*), Thyme-leaved Speedwell (*Veronica serpyllifolia*), Heartsease (*Viola tricolor*), Common Chickweed (*Stellaria media*), Common Mouse-ear (*Cerastium fontanum*), Black Bindweed (*Fallopia convolvulus*) and Knotgrass (*Polygonum aviculare*). Rosebay Willowherb (*Chamerion angustifolium*) and Sheep's Sorrel (*Rumex acetosella*) were recorded occasionally. Springy Turf-moss (*Rhytidiadelphus squarrosus*) and various lichen species were abundant in places.

This habitat represents an early stage in the natural succession of previously disturbed quarry ground and contributes to the diversity of habitats present within the application site. In the absence of continued disturbance, these areas are likely to continue develop into scrub and woodland habitats. It is therefore considered to be of Local Importance (Lower Value).



Plate 5.3 ED3 Habitat with encroaching scrub

Other Artificial Lakes and Ponds (FL8)

Other Artificial Lakes and Ponds (FL8) were recorded within the application site and comprised the settlement pond complex associated with the gravel washing operations in the northern part of the site together with an additional artificial pond located adjacent to the site access road. These ponds form part of the quarry's surface water management system and vary in size and water level depending on operational requirements.

The ponds are characterised by areas of open water with exposed gravel, sand and fine sediment around their margins. The banks are generally steep and sparsely vegetated due to fluctuating water levels and periodic disturbance associated with the operation of the quarry. Limited areas of marginal vegetation have established around parts of the ponds, while recently exposed substrates support only scattered pioneer vegetation. Mallard (*Anas platyrhynchos*) was recorded utilising the ponds during the ecological surveys.

Although artificial in origin, the ponds increase habitat diversity within the application site by providing permanent aquatic habitat and supporting common waterbirds. They also provide suitable habitat for aquatic invertebrates and other common fauna associated with standing water. They are therefore considered to be of Local Importance (Lower Value).



Plate 5.4 Settlement ponds – FL8

Mixed Broadleaved Woodland (WD1)

Two areas of Mixed Broadleaved Woodland (WD1) were recorded within the application site.

A small pocket of woodland occurs in the northern section of the site. This woodland extends beyond the site boundary and adjoins the public road. Downy Birch (*Betula pubescens*) and Sycamore (*Acer pseudoplatanus*) were the principal tree species recorded, with occasional Grey Willow (*Salix cinerea*) and Ash (*Fraxinus excelsior*). Mature Oak (*Quercus sp.*) was also recorded growing alongside the public road.

A second area of Mixed Broadleaved Woodland occurs in the southern section of the site. This woodland is dominated by Sycamore, with occasional Elder occurring within the understorey. The ground layer included Bramble, Common Nettle, abundant Lesser Celandine, Bluebell, Speedwell, Ground-ivy, Herb-Robert and Common Hogweed.

A derelict stone farm building and associated outbuildings are located within this woodland area but outside the red-line boundary of the application site.

The woodland areas comprise predominantly common tree, shrub and ground-flora species and provide habitat for birds, mammals and invertebrates. They are considered to be of Local Importance (Higher Value).



Plate 5.5 WD1 Habitat

Semi-natural Woodland (WN)

Semi-natural Woodland (WN) was recorded within the western part of the application site, where it forms a broad belt along the quarry boundary and extends into adjacent woodland beyond the site boundary. This woodland is dominated by Grey Willow (*Salix cinerea*) in many areas, with Downy Birch (*Betula pubescens*) and Alder (*Alnus glutinosa*) also occurring throughout the woodland. Occasional Hawthorn (*Crataegus monogyna*), Elder (*Sambucus nigra*) and immature Ash (*Fraxinus excelsior*) were also recorded.

The ground flora varied throughout the woodland depending on local conditions but was generally characterised by ferns, Horsetail (*Equisetum* spp.), Common Nettle (*Urtica dioica*), Greater Wood-rush (*Luzula sylvatica*), Creeping Buttercup (*Ranunculus repens*) and Wood Avens (*Geum urbanum*).

This habitat provides structurally diverse woodland comprising predominantly native tree and shrub species and supports a range of birds, mammals and invertebrates. It also contributes to the ecological connectivity of the application site with the surrounding woodland network. It is therefore considered to be of Local Importance (Higher Value).



Plate 5.6 Semi natural woodland in background

Scrub WS1

Scrub (WS1) was recorded throughout the application site, occurring principally along quarry margins, disturbed ground and transitional areas between woodland and open habitats. The scrub is dominated by Gorse (*Ulex europaeus*), with Grey Willow (*Salix cinerea*) forming dense stands in places. Downy Birch (*Betula pubescens*) and Alder (*Alnus glutinosa*) occur frequently as immature or stunted trees throughout the scrub, together with abundant Bramble (*Rubus fruticosus* agg.).

This habitat represents an early successional community comprising predominantly native species and provides valuable nesting, foraging and sheltering habitat for birds, mammals and invertebrates. It also contributes to habitat connectivity throughout the application site. It is therefore considered to be of Local Importance (Higher Value).



Plate 5.7 Scrub habitat in background

Dry Meadows and Grassy Verges (GS2)

Dry Meadows and Grassy Verges (GS2) were recorded within the southern part of the application site where they comprise a managed agricultural field. The field is cut annually for hay/silage and receives fertiliser inputs but retains a moderately diverse grassland sward.

The grassland is dominated by Common Bent (*Agrostis capillaris*) and Yorkshire Fog (*Holcus lanatus*). Common Ragwort (*Jacobaea vulgaris*), Creeping Buttercup (*Ranunculus repens*), Common Mouse-ear (*Cerastium fontanum*) and patches of Cut-leaved Crane's-bill (*Geranium dissectum*) were recorded occasionally. Sweet Vernal-grass (*Anthoxanthum odoratum*), Germander Speedwell (*Veronica chamaedrys*), Cocksfoot (*Dactylis glomerata*), Common Hogweed (*Heracleum sphondylium*), White Clover (*Trifolium repens*) and Tufted Vetch (*Vicia cracca*) were recorded rarely.

Although managed for agricultural production, the grassland supports a range of common grasses and herbaceous species and provides habitat for invertebrates and foraging birds. It is therefore considered to be of Local Importance (Higher Value).



Plate 5.8 GS2 habitat

Drainage Ditch (FW4)

A drainage ditch (FW4) was recorded along the edge of the public road southwest of the gravel pit entrance and extending along the main site access road. During the 2026 survey, the ditch was dry and heavily vegetated for much of its length.

The drainage ditch is a shallow, man-made feature which conveys surface water during periods of rainfall. At the time of the survey, no standing or flowing water was present. The ditch supported common ruderal and grassland vegetation typical of roadside drainage features and provides limited ecological value. However, it may provide temporary habitat for common invertebrates and amphibians during wetter periods.

The drainage ditch is considered to be of Local Importance (Lower Value).



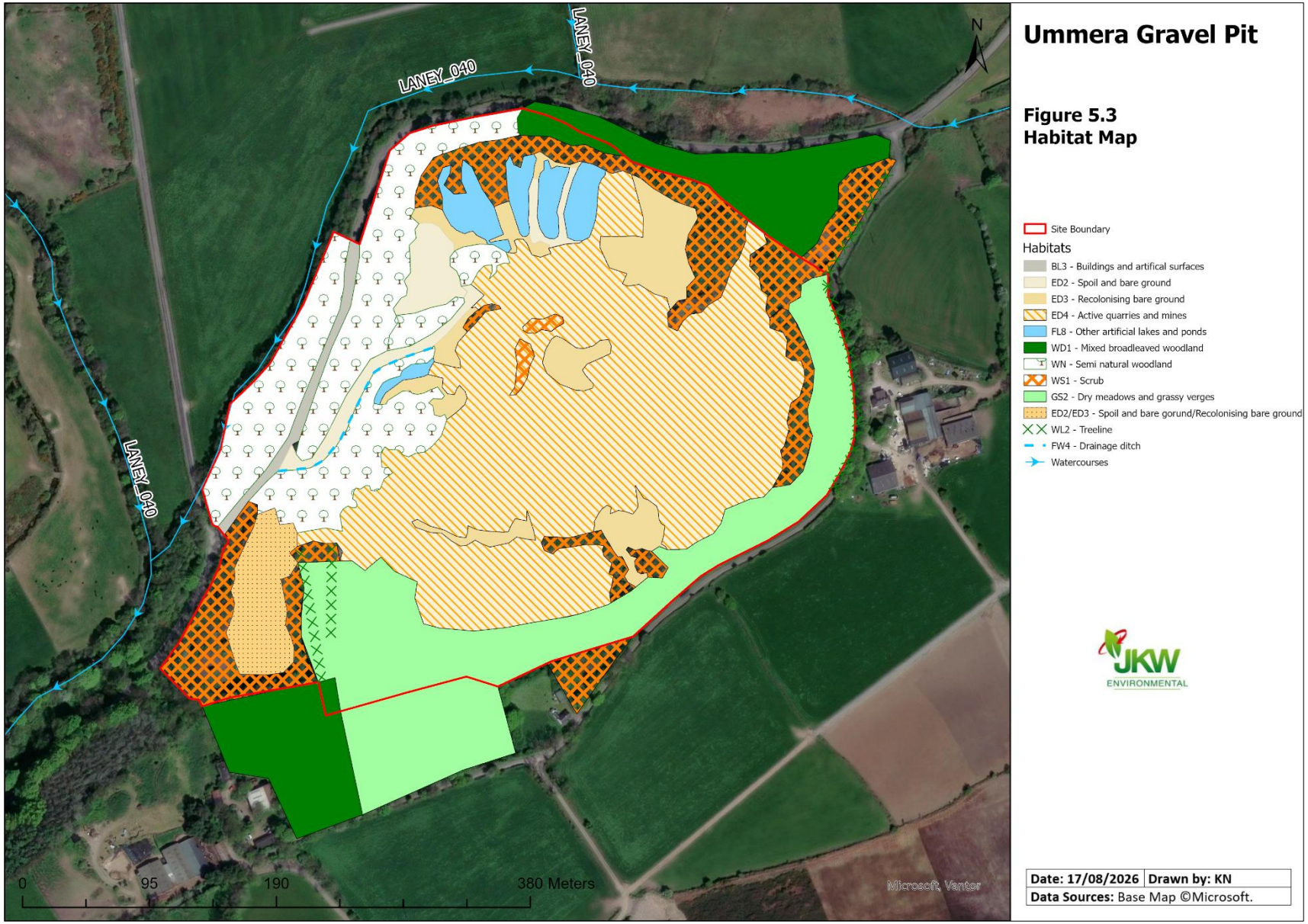
Plate 5.9 Drain along access road

Treeline (WL2)

A treeline (WL2) was recorded in the southern section of the application site, where it extends into an adjoining area of Mixed Broadleaved Woodland (WD1). The treeline is dominated by mature Sycamore (*Acer pseudoplatanus*) and forms a well-established linear landscape feature.

A further treeline (WL2) occurs along the north-eastern boundary of the application site.

The treelines provide habitat for birds, bats and other fauna and contribute to ecological connectivity within the site. The treeline habitat is therefore considered to be of Local Importance (Higher Value).



Ummera Gravel Pit

Figure 5.3
Habitat Map

Site Boundary

Habitats

- BL3 - Buildings and artifical surfaces
- ED2 - Spoil and bare ground
- ED3 - Recolonising bare ground
- ED4 - Active quarries and mines
- FL8 - Other artificial lakes and ponds
- WD1 - Mixed broadleaved woodland
- WN - Semi natural woodland
- WS1 - Scrub
- GS2 - Dry meadows and grassy verges
- ED2/ED3 - Spoil and bare gorund/Recolonising bare ground
- WL2 - Treeline
- FW4 - Drainage ditch
- Watercourses

Date: 17/08/2026	Drawn by: KN
Data Sources: Base Map ©Microsoft.	

5.2.3 Fauna

5.2.3.1 Non-volant Mammals

Seven mammal species have been recorded on the NBDC database for the 2km grid squares W37R & W37S.

Table 5.4: NBDC Records of Protected Species W37R & W37S

Species Name	Grid Square	Last Record	Legal Protection
Badger (*Meles meles*)	W37S	31/12/2006	Wildlife Acts
Badger (*Meles meles*)	W37R	02/06/2016	Wildlife Acts
Irish Stoat (*Mustela erminea subsp. hibernica*)	W37S	20/09/2020	Wildlife Acts
Hedgehog (*Erinaceus europaeus*)	W37S	03/05/2016	Wildlife Acts
Red Squirrel (*Sciurus vulgaris*)	W37S	31/12/2012	Wildlife Acts

As part of the habitat survey, the site was assessed for evidence of mammal activity, with particular attention given to protected species. Particular attention was given to identifying evidence of badger (*Meles meles*) and otter (*Lutra lutra*), including setts, holts, footprints, feeding remains, spraints and other field signs.

The stretches of watercourse adjacent to the site were surveyed for evidence of otter. No otter holts or other signs of otter activity were recorded during the surveys. However, the watercourses provide suitable habitat for commuting and foraging, and it is considered likely that otter utilise these sections of the watercourse for these purposes. The riparian corridor provides a continuous linear habitat linking the site with the wider River Laney catchment and has the potential to facilitate movement of otter through the area.

No badger setts or other evidence of badger activity were recorded during the surveys. Although suitable foraging habitat is present within parts of the site and the surrounding agricultural landscape, there was no evidence to indicate that the site is currently used by badger.

Evidence of rabbit (*Oryctolagus cuniculus*) was widespread throughout the site. Rabbit burrows were recorded within the southern section of the gravel pit, while rabbit droppings were recorded across the site, indicating that rabbits are common throughout the site. Fox (Vulpes vulpes) activity was also recorded, with fox scat identified within the grassland habitat in the southern section of the site.

The site is considered to be of local importance (lower value) for terrestrial mammals.

5.2.3.2 Bats

The on-line mapping resource of the NBDC, allows users to search almost 2 million records available across 80 datasets. Data analysis tools enable users to refine data base searches by selecting 1km, 2km or 10km grid squares on the interactive map. All species records for the selected grid square are then available for download. The overall study area, encompassing the proposed development site is situated within the W37 10km grid square. The results of a search of the area within the W37 10km grid square, is outlined in Table 5.5 below and shows the species present and the date of the last record.

Table 5.5: NBDC bat records W37

Species	Last record
Brown Long-eared Bat (*Plecotus auritus*)	10/09/2018
Common Pipistrelle (*Pipistrellus pipistrellus*)	23/06/2022
Daubenton's Bat (*Myotis daubentonii*)	23/08/2021
Leisler's bat (*Nyctalus leisleri*)	23/06/2022
Lesser Horseshoe Bat (*Rhinolophus hipposideros*)	10/09/2018
Soprano Pipistrelle (*Pipistrellus pygmaeus*)	23/06/2022
Natterer's Bat (*Myotis nattereri*)	10/09/2018
Whiskered Bat (*Myotis mystacinus*)	10/09/2018

The NBDC online map viewer includes an interactive layer which displays geographical areas in terms of a 'habitat suitability' index for bats. The bat suitability index ranges from 0 to 100, with 0 indicating areas considered least favourable for bats and 100 indicating areas considered most favourable for bats, in terms of habitats present. Several factors are incorporated into the model to give an overall estimate of the suitability of an area for bats, including land cover, topography, climate, soil pH and riparian habitat (Lundy, et al., 2011). The suitability index is presented for all bat species overall, as well as by individual species. The results, outlined in Table 5.6 below, indicate that the habitats within the majority of the overall site are of moderate to high value to bats in general.

Table 5.6 Bat Habitat Suitability Index for the study area

Species	Bat Suitability Index
All bats	37.11
Soprano Pipistrelle	46
Leisler's bat	45
Common Pipistrelle	43
Daubenton's bat	35
Natterer's bat	47
Brown long-eared bat	54
Whiskered bat	33
Nathusius' Pipistrelle	8
Lesser Horseshoe bat	23

Bat surveys undertaken in 2019 included dusk emergence surveys, dawn surveys, walked transects and overnight static bat monitoring. Five bat species were recorded during the surveys, namely Common Pipistrelle (*Pipistrellus pipistrellus*), Soprano Pipistrelle (*Pipistrellus*

pygmaeus), Brown Long-eared Bat (*Plecotus auritus*), Leisler's Bat (*Nyctalus leisleri*) and Whiskered/Daubenton's Bat (*Myotis mystacinus/M. daubentonii*). Activity levels were generally low across the site, with the highest levels of activity recorded in the vicinity of the settlement pond and along the mature treeline on the south-western boundary. Very little bat activity was recorded within the active extraction area, with Common Pipistrelle recorded most frequently.

During the 2019 surveys, dusk emergence surveys confirmed that no bats emerged from the on-site site office building, while no bats were recorded commuting from the nearby derelict farm buildings located immediately south of the quarry. Dawn surveys also found no evidence of bats returning to roost within the mature treeline.

The 2026 daytime bat assessment classified the on-site buildings as having negligible suitability for roosting bats. No bat roosts were identified during either the 2019 or 2026 surveys.

Bat activity surveys were undertaken in 2026 using a static bat detector deployed on a fence post located on a quarry mound adjacent to the settlement ponds. The detector was operational for 63 consecutive nights, from the 21st of April 2026 to the 23rd of June 2026, providing a comprehensive assessment of bat activity during this period.

A total of 2,790 bat passes were recorded during the survey period, representing six bat species. The most frequently recorded species were Common Pipistrelle (*Pipistrellus pipistrellus*) and Leisler's Bat (*Nyctalus leisleri*), accounting for approximately 45% and 38% of all bat passes, respectively. Soprano Pipistrelle (*Pipistrellus pygmaeus*) was also regularly recorded. Lower levels of activity were recorded for Brown Long-eared Bat (*Plecotus auritus*), Nathusius' Pipistrelle (*Pipistrellus nathusii*) and Daubenton's Bat (*Myotis daubentonii*).

It is important to note that the results of the static detector survey represent the number of bat passes recorded and not the number of individual bats using the site. A single bat may pass the detector repeatedly while foraging or commuting and each pass may be recorded as a separate bat pass. It is therefore not possible to determine the number of individual bats present from the static detector data. While the number of bat passes recorded in 2026 was higher than during the earlier surveys, the 2019 surveys recorded relatively low levels of activity across the site and indicated that activity was concentrated around particular features, particularly the settlement pond and south-western treeline. The higher number of passes recorded by the static detector in 2026 may therefore reflect repeated activity by a relatively small number of bats using the area around the settlement ponds, rather than a correspondingly high number of individual bats.

The results indicate that the site is used predominantly by Common Pipistrelle and Leisler's Bat, with both species recorded consistently throughout the survey period. Soprano Pipistrelle was also regularly recorded, while Daubenton's Bat, Nathusius' Pipistrelle and Brown Long-eared Bat were recorded at comparatively low levels of activity.

The site is considered to be of Local Importance (Higher Value) for bats.

Table 5.7 Results of Bat Activity Survey

Species	Total Bat Passes	Bat Passes per Night
Daubenton's Bat (*Myotis daubentonii*)	27	0.43
Leisler's Bat (*Nyctalus leisleri*)	1,046	16.60
Nathusius' Pipistrelle (*Pipistrellus nathusii*)	33	0.52
Common Pipistrelle (*Pipistrellus pipistrellus*)	1,268	20.13
Soprano Pipistrelle (*Pipistrellus pygmaeus*)	361	5.73

Brown Long-eared Bat (*Plecotus auritus*)	55	0.87
Total	**2,790**	**44.29**

5.2.3.3 Birds

The NBDC database was searched for avian records within grid squares W37R & W37S within the last 2 years (Table 5.8).

Table 5.8: NBDC Records of Avian Species within N55 within the last 10 years

Species	Grid Square	Last Record	Status
Kestrel (*Falco tinnunculus*)	W37S	17/05/2020	Protected Species: Wildlife Acts || Threatened Species: Birds of Conservation Concern || Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Red List
Blackcap (*Sylvia atricapilla*)	W37R	31/12/2011	Protected Species: Wildlife Acts
Blue Tit (*Cyanistes caeruleus*)	W37R	28/02/2021	Protected Species: Wildlife Acts
Bullfinch (*Pyrrhula pyrrhula*)	W37R	08/01/2018	Protected Species: Wildlife Acts
Coal Tit (*Periparus ater*)	W37R	28/02/2021	Protected Species: Wildlife Acts
Hooded Crow (*Corvus cornix)*	W37R	08/01/2018	Protected Species: Wildlife Acts
Jay (*Garrulus glandarius*)	W37R	21/11/2016	Protected Species: Wildlife Acts
Long-eared Owl (*Asio otus)*	W37R	27/07/2016	Protected Species: Wildlife Acts
Song Thrush (*Turdus philomelos)*	W37R	28/02/2021	Protected Species: Wildlife Acts

Birds seen or heard during the walkover survey in April 2026 were noted. The diversity of bird species on both survey days was good. The bird species observed on site are listed in Table 5.9.

Table 5.9: Birds recorded during survey

Species	BoCCI Status
Wren	Green
Willow Warbler	Amber
Pied Wagtail	Green
Swallow	Amber
Blackcap	Green
Rook	Green
Robin	Green
Linnet	Amber
Chiffchaff	Green
Blackbird	Green

Sand Martin	Green
Chaffinch	Green
Meadow Pipit	Red
Jackdaw	Green
Dunnock	Green
Hooded Crow	Green
Blue Tit	Green
Woodpigeon	Green
Mallard	Amber
Magpie	Green
Great Tit	Green
Goldcrest	Amber

A total of 22 bird species were recorded during the breeding bird surveys undertaken at the site. Of these, 16 species are Green-listed, five are Amber-listed (Willow Warbler, Swallow, Linnet, Mallard and Goldcrest) and one species is Red-listed (Meadow Pipit) under the Birds of Conservation Concern in Ireland (BoCCI) classification.

Evidence of breeding birds was recorded throughout the site. The most significant breeding feature comprised Sand Martin colonies, which were recorded at several locations within the gravel pit. Both active breeding colonies, containing occupied nest burrows, and older colonies of nest burrows that appeared inactive at the time of survey were recorded. These colonies were associated with exposed vertical quarry faces created during aggregate extraction.



Plate 5.10: Sand Martin colonies

Meadow Pipit, a Red-listed species, was recorded within the grassland habitat in the southern part of the site. The observations made during the survey were considered indicative of likely breeding within this area. Mallard, an Amber-listed species, was recorded on the settlement ponds within the site.

The remaining species recorded comprised common woodland, scrub and farmland birds including Wren, Willow Warbler, Pied Wagtail, Swallow, Blackcap, Rook, Robin, Linnet, Chiffchaff, Blackbird, Chaffinch, Jackdaw, Dunnock, Hooded Crow, Blue Tit, Woodpigeon, Magpie, Great Tit and Goldcrest. These species were recorded using the various habitats across the site for

foraging, commuting and breeding, with suitable nesting habitat provided by grassland, scrub, woodland, hedgerows and quarry faces.

The site is considered to be of local importance (higher value) for birds.

5.2.3.4 Amphibians and Reptiles

As part of the ecological surveys, the site was assessed for its potential to support amphibians, with particular attention given to the suitability of on-site waterbodies for breeding. The settlement ponds and other areas of standing water within the site were inspected and assessed for habitat suitability.

The settlement ponds within the gravel pit were considered to provide poor breeding habitat for Smooth Newt (*Lissotriton vulgaris*). The ponds contain very little to no emergent aquatic vegetation, which is required by Smooth Newts for egg laying, and therefore are unlikely to support breeding populations of this species. The ponds are also relatively deep, further reducing their suitability for Smooth Newt.

The settlement ponds may provide some suitable breeding habitat for Common Frog (*Rana temporaria*), particularly around the shallow margins. In addition, several smaller areas of ponded water were recorded elsewhere within the site. While these areas may provide suitable breeding habitat for Common Frog, they are likely to be ephemeral in nature and therefore only provide temporary breeding opportunities during favourable conditions.

Common Frog has previously been recorded within the 2 km grid square surrounding the site. Common Frog is widespread throughout Ireland and, based on the habitat available within the site, amphibians are considered to be of Local Importance (Lower Value).

5.2.4 Aquatic Ecology

5.2.4.1 Surface Water/Water Quality

On viewing the EPA map view, there are no flowing watercourses running through the active gravel pit. The Curraghanearla Stream (EPA Code: 19C86) flows in a westerly direction to the north of the site, parallel with the local road bounding the active gravel pit. The Curraghanearla stream joins the Clashavoon Stream (EPA name – Bealick Stream) at the northern boundary of the gravel pit. After this confluence the Clashovoon Stream flows in a southerly direction along the western boundary of the site.

A small unnamed stream flows north from the elevated farmland to the south of the gravel pit. It flows through the old farmyard at the south-western corner of the landholding and then follows along the proposed S37L site boundary to the southwestern, under the L-3423, discharging to the Laney River. This stream is not registered on EPA mapping.

The Clashavoon Stream is a 3rd order stream and lies in the Sullane Water Framework Directive (WFD) sub catchment (Sullane_SC_020). The watercourse flows in a south-westerly direction, flowing under a local road, before joining the Laney River (EPA Seg Code: 19_1880) and subsequently the Sullane River. The Sullane then flows into the Carrigadrohid Reservoir meeting waters flowing out from the Gearagh SAC and SPA / the River Lee. The River Lee flows in an eastward direction through the Inniscarra Reservoir, before finally entering transitional waters at Cork City and flowing out into Cork Harbour.

The Clashavoon Stream is not sampled under the EPA's national river monitoring programme. However, the River Laney is sampled by the EPA at monitoring stations located upstream and downstream of the confluence with the Clashavoon Stream. The upstream station has

consistently recorded High Ecological Status (Q4-5 to Q5) between 2008 and 2021, with no survey undertaken in 2023. The downstream station has also consistently recorded High Ecological Status, with Q-values ranging from Q4-5 to Q5 between 2008 and 2023. These results indicate that the River Laney has maintained High Ecological Status throughout the monitoring period. Approximately 1.2 km upstream of the Laney–Clashavoon confluence, the River Laney has been sampled by the EPA for Water Framework Directive (WFD) assessment. WFD monitoring indicates that the upstream waterbody (LANEY_030) has maintained High Ecological Status throughout all assessment cycles (2007–2024), while the downstream waterbody (LANEY_040) was assigned Good Ecological Status during the 2013–2018 assessment cycle before returning to High Ecological Status in the 2019–2024 cycle.

Table 5.10: WFD SW Monitoring of Waterbodies within Area (2007-2024)

Waterbody	Waterbody Code	WFD Status 2007-2009	WFD Status 2010-2012	WFD Status 2010-2015	WFD Status 2013-2018	WFD Status 2019-2024
LANEY_030	IE_SW_19L010400	High	High	High	High	High
LANEY_040	IE_SW_19L010500	High	High	High	Good	High
Carrigdrohid Lake	IE_SW_19_139	Good	Moderate	Poor	Moderate	Good

Table 5.11: Q-Value recorded on River Laney – 2008-2023

Year	Q-Value	Status	Q-Value	Status
	Station Code: RS19L010400 upstream of Clashavoon confluence		Station Code: RS19L010500 downstream of site	
2008	4-5	High	4-5	High
2011	4-5	High	4-5	High
2014	4-5	High	4-5	High
2017	5	High	5	High
2018	4-5	High	4-5	High
2019	4-5	High	4-5	High
2020	5	High	5	High
2021	5	High	5	High
2023	-	-	4-5	High

The aquatic ecology baseline is informed by the aquatic surveys undertaken in 2019 for the previous EIAR, together with the updated hydrological assessment and surface water quality monitoring undertaken between 2022 and 2026.

Aquatic macroinvertebrate surveys were undertaken at two locations on the Bealick/Clashavoon Stream using standard kick sampling techniques. Site 1 was located approximately 30 m upstream of the bridge over the Clashavoon Stream, downstream of the surface water abstraction point, while Site 2 was located approximately 200 m upstream of the abstraction point to avoid any influence from the impoundment created by the abstraction weir. Both sites comprised shallow, fast-flowing channels characterised by riffle and glide habitats with predominantly sand, fine gravel, gravel and cobble substrates. Moderate levels of fine sediment were present, particularly at the downstream sampling location.

Macroinvertebrate communities recorded at both sampling locations were typical of a fast-flowing upland stream and were broadly similar in composition. Small Stream Risk Score (SSRS) assessments produced identical scores of 6.4 for both sites, categorising both reaches as "Stream at Risk" of not achieving their Water Framework Directive objective. The similarity of macroinvertebrate assemblages and SSRS scores upstream and downstream of the abstraction point indicates that the pressures affecting the stream originate more broadly within the catchment and are not attributable solely to quarry operations.

The 2019 survey concluded that the Bealick/Clashavoon Stream provides limited suitable habitat for salmonids, lamprey and Freshwater Pearl Mussel. The presence of a man-made weir restricts upstream fish passage, while the predominance of fine gravels, sand and moderate siltation limits the availability of suitable spawning and nursery habitat. No evidence of Freshwater Pearl Mussel was recorded within the Bealick/Clashavoon Stream during the survey, although the species is known to occur within the downstream River Laney catchment.

More recent hydrological monitoring demonstrates that the River Laney upstream and downstream of the gravel pit continues to achieve High ecological status (Q4–5) and that routine surface water monitoring undertaken between 2022 and 2026 has not identified deterioration in downstream water quality attributable to quarry operations.

5.2.4.2 Groundwater/ Groundwater Quality

The site is located within the Ballinhassig West groundwater body. The site is located within an area of 'High Vulnerability'. On review of the WFD Groundwater designation presented by the EPA the waterbody was found to be Good status . Groundwater monitoring results provided by the EPA found the waterbody to be Good status. Groundwater seepage from the existing gravel pit drains through the central area of the extraction void. It percolates back into the gravel deposit or site, passes through a series of small ponds before discharging to a roadside drain. This drain is culverted under the public road and discharges to the Laney River.

Groundwater within the wider Ballinhassig West groundwater body has been classified as being of good status since 2007.

Table 5.12: WFD Groundwater Monitoring

Groundwater Body	WFD Status 2007-2012	WFD Status 2010-2015	WFD Status 2013-2018	WFD Status 2019-2024
Ballinhassig West	Good	Good	Good	Good

5.2.4.3 Aquatic Habitats and Species

Settlement ponds are located within the northern section of the site. Amphibians such as common frog (*Rana temporaria*) and smooth newt (*Lissotriton vulgaris*) are known to use quarry ponds (Meehan, 2013); while ponds such as those on-site can provide suitable habitat for these species, silt levels are such that they are unlikely to be currently used. A small unnamed stream flows along the south-western boundary; this stream is not mapped due to its limited potential to host aquatic species.

As noted above the Clashavoon Stream is partial situated along the northern / western site boundary. Within the project zone of influence, the Clashavoon Stream and connected waterbodies hold the greatest potential to host surface water dependant habitats and species. The Sullane, of which the River Laney is a tributary, is located within the River Lee catchment and is under the management of the ESB. The establishment of two dams downstream of Macroom at Carraigadrohid and Inniscarra in the 1950's resulted in salmon stocks reducing significantly.

The impact of the scheme was immediate and was related to water quality (large quantities of decomposing vegetation causing deoxygenation), discharging to the lower river from the newly flooded reservoirs upstream of Carrigadrohid and Inniscarra. Within five years of construction, the River Lee stock of salmon had collapsed (ESB, 2013). A hatchery has operated at Carrigadrohid since 1956 releasing smolt and parr downstream of Inniscarra dam.

The River Laney was noted to support good stocks of brown trout (*Salmo trutta*) and with high levels of biodiversity noted in the N22 Baile Bhuirne – Macroom EIS (McCarty Hyder, 2009). The Laney is not sampled for fish species under IFI WFD monitoring. A 2014 IFI report describes the Sullane as a riffle and glide dominated habitat, over a substrate of cobble and gravel. Brown trout was the most abundant species recorded, with salmon the second most frequently encountered; minnow, stone loach and 3-spined stickleback were also recorded during electro-fishing at the Sullane Bridge (125926 074028). The Sullane River scored Good for ecological status for 2014 WFD monitoring (Kelly *et al*., 2014).

In 2005, IFI found that fish stocks in the Inniscarra Reservoir were dominated by a large population of small to medium sized bream (*Abramis brama*), with healthy stocks of perch (*Perca fluviatilis*), roach x bream hybrids (*Abramis brama* x *Rutilus rutilus*), with rudd (*Scardinius erythrophthalmus*) and pike (*Esox lucius*) also present. IFI sampling carried out at the Inniscarra Reservoir in August 2015 found Perch was the most abundant fish species recorded, followed by roach, roach x bream hybrids, bream, gudgeon (*Gobio gobio*), eels (*Anguilla anguilla*), brown trout, pike and small numbers of salmon (*Salmo salar*) (Kelly *et al*., 2015). Brook lamprey (*Lampetra planeri*) has been recorded as spawning in the Sullane (Kurz and Costello, 1999).

There are no records for Freshwater White-clawed Crayfish (*Austropotamobius pallipes*) from the Sullane catchment. Crayfish tend to occupy river systems located in limestone catchments; due to the bedrock at Ummera it is very unlikely populations of crayfish occur here (Demers *et al*. 2005).

5.2.4.4 Small Stream Risk Assessment

Site 1 is located downstream of the surface water abstraction point, approximately 10 m upstream of the bridge over the Clashavoon Stream. The left (eastern) bank is steep and forms part of an area of broadleaved woodland. The woodland is dominated by Willow and Alder, with an understorey comprising ferns, Bramble and Ivy. The right (western) bank adjoins an agricultural field used for grazing. Fencing is present along the top of the bank, with little to no riparian margin. Vegetation along this bank comprised grasses, Nettle and Bramble.

The channel was approximately 3 m wide, with a sampling depth of between 10 and 30 cm. The substrate was comprised of fine gravel, sand, gravel, cobble and silt. Slight siltation was recorded within the main channel, increasing to moderate levels along the channel margins.

The flow regime at Site 1 was characterised by a riffle-glide sequence. No filamentous algae were recorded.

All taxa recorded at Site 1, together with their abundances as defined under the SSRS methodology, are presented in Table 5.13.

Site 1 had an SSR score of 4 – Stream at Risk.

Table 5.13: Macroinvertebrates present at Site 1

Group	Taxon	Number Present	Total Relative Abundance
Group 1	Heptagenia	5	2
	Ecdyonunus	3	
Group 2	None	-	-
Group 3	Hydropsychidae	1	2
	Rhyacophila	3	
	Sericostomatidae	6	
	Glossosomatidae	7	
Group 4	Ancylus	1	3
	Lumbriculus	2	
	Chironomidae	2	
	Simulidae	5	
	Gammarus	34	
Group 5	Asellus	3	-

Site 2 is located upstream of the surface water abstraction point, approximately 85 m upstream of the weir. The surrounding environment is broadly similar to that recorded at Site 1.

The left bank comprises a stone wall which acts as a retaining wall for the adjacent road. The right bank adjoins an agricultural field used for grazing, which is the same field adjoining Site 1. Fencing is present along the top of the bank, with little to no riparian margin.

The channel was approximately 2.5 m wide, with a sampling depth of between 20 and 30 cm. The substrate, in order of dominance, comprised sand, fine gravel, gravel, cobble and silt. Some cobbles were embedded within the substrate. Slight siltation was recorded within the channel.

The flow regime at Site 2 was characterised by a riffle-glide sequence. No filamentous algae were recorded at the site.

All taxa recorded at Site 2, together with their abundances as defined under the SSRS methodology, are presented in Table 5.14.

Site 2 had an SSR score of 5.6 – Stream at Risk.

Table 5.14: Macroinvertebrates present at Site 2

Group	Taxon	Number Present	Total Relative Abundance
Group 1	Heptagenia	4	2
	Ecdyonunus	2	
Group 2	None	-	-
Group 3	Hydropsychidae	2	2
	Rhyacophila	1	
	Sericostomatidae	10	
	Glossosomatidae	4	
	Goeridae	1	
Group 4	Ancylus	2	3
	Lumbriculus	1	
	Chironomidae	4	
	Simulidae	10	
	Gammarus	30	
Group 5	Asellus	3	-

5.2.4.5 Salmonids

The 2019 aquatic ecology survey concluded that the Bealick/Clashavoon Stream provides limited suitable habitat for salmonids. The stream is characterised predominantly by fine gravels, sand and areas of moderate siltation, with few accumulations of clean spawning gravels. While some moderate juvenile habitat occurs downstream of the abstraction weir, the stream is dominated by fast glides and riffles with a moderate gradient. The man-made weir immediately downstream of the abstraction point is also considered likely to restrict upstream fish movement, thereby limiting the availability of habitat within the upper reaches of the stream.

Brown Trout are known to occur within the downstream River Laney and salmonids may occasionally utilise the lower reaches of the Bealick/Clashavoon Stream. However, the stream is considered to provide only limited spawning and nursery habitat. Recent surface water monitoring and EPA water quality data indicate that water quality has been maintained within the catchment and there is no evidence that the continued operation of the quarry is adversely affecting downstream water quality.

5.2.4.6 Lamprey

The 2019 aquatic ecology survey concluded that the Bealick/Clashavoon Stream provides poor habitat for lamprey. The absence of extensive slow-flowing depositional areas with fine silty substrates limits the availability of suitable nursery habitat for juvenile lamprey, while the limited availability of clean gravel substrates reduces the suitability of the stream for spawning. In addition, the presence of the man-made weir downstream of the abstraction point is considered likely to restrict upstream movement by migratory adults and juveniles.

Although Brook Lamprey are known to occur within the wider catchment, the Bealick/Clashavoon Stream is considered to provide only limited habitat for the species. Ongoing surface water monitoring demonstrates that quarry operations are not resulting in deterioration of downstream water quality, and no evidence has been identified to indicate adverse effects on lamprey habitat.

5.2.4.7 Freshwater Pearl Mussel

The waterbodies draining the Proposed Development are located within the Lee Lower *Margaritifera* Sensitive Area, designated by the National Parks and Wildlife Service (NPWS) as a catchment of other extant Freshwater Pearl Mussel (*Margaritifera margaritifera*) populations, meaning there are known records of the species within the catchment. Freshwater Pearl Mussel is protected under the Wildlife Acts 1976–2023 and is listed on Annexes II and V of the Habitats Directive. The species is extremely vulnerable to deterioration in water quality.

NPWS records indicate a small population of Freshwater Pearl Mussel downstream of the gravel pit on the main channel of the River Laney (Segment Code: 19_1880), immediately downstream of the Clashavoon Stream–River Laney confluence. No Freshwater Pearl Mussel were recorded within the section of the Clashavoon Stream forming the western and northern boundary of the gravel pit during the site surveys undertaken for the previous Ummera EIAR.

Downstream, live populations of Freshwater Pearl Mussel were recorded at the Laney–Sullane confluence between 1987 and 2006 (NPWS dataset). However, surveys undertaken by E. Moorkens in 2007 recorded only dead shells at this location. A subsequent survey undertaken in 2018 along the proposed N22 corridor included the Laney–Sullane confluence but recorded no mussels. The survey effort terminated at Laney Bridge and did not extend into the upper reaches of the River Laney where live mussels had previously been recorded.

5.3 Summary of Key Ecological Receptors

Table 5.10 below summarises the ecological evaluation of all receptors taking into consideration legal protection, conservation status and local abundance, and identifies the Key Ecological Receptors (KERs). Species, habitats and features not qualifying as KERs are not subjected to impact assessment in line with current best practice of assessing the impacts on what are determined to be important ecological or biodiversity features: CIEEM and TII guidelines (CIEEM, 2024 and National Roads Authority, 2009).

Table 5.15: Identification of Key Ecological Receptors within the ZoI of the Proposed Development

Ecological Receptor	KER
European Site Sites	No
Nationally Designated Sites	No
Active Quarries and Mines (ED4)	No
Spoil and bare ground ED2	No
Recolonising Bare Ground (ED3)	No
Other Artificial Lakes and Ponds (FL8)	No
Mixed Broadleaved Woodland (WD1)	Yes
Semi-natural Woodland (WN)	Yes
Scrub WS1	Yes
Dry Meadows and Grassy Verges (GS2)	Yes
Treeline WL2	Yes
Drainage ditch FW4	No
Bats	Yes
Non-volant Mammals	No
Birds	Yes
Reptiles and Amphibians	No
Freshwater Pearl Mussel	Yes

6. Potential Impacts

The Ecological Impact Assessment is undertaken in this section. The methodology set out in Section 4.3 is applied to the Key Ecological Receptors (KERs) identified and described in Section 5. The assessment takes into account standard good practice measures and embedded design features that have been incorporated into the layout and construction methodology of the proposed development from the outset. Additional project-specific mitigation and enhancement measures are set out in Section 7.

6.1 Do Nothing Scenario

In the absence of existing site management and mitigation measures the proposed project could have a range of potential impacts on the ecological receptors within the zone of influence due to further operation at the gravel pit. The following are examples of categories of impacts generally caused during gravel extraction activities.

6.2 Potential Effects on Habitats

The continued operation and further development of Ummera Gravel Pit will give rise to a range of direct and indirect effects on habitats within the application boundary. The principal impacts will comprise the permanent loss of habitats within the proposed extraction footprint, together with temporary and ongoing disturbance to habitats associated with active quarry operations.

The most significant direct impact will arise from the permanent removal of vegetation and overburden within the proposed extraction areas located along the eastern, southern and south-western margins of the existing quarry. These areas support dry meadows and grassy verges (GS2), scrub (WS1), mixed broadleaved woodland (WD1), treelines (WL2), spoil and bare ground (ED2), and recolonising bare ground (ED3). Progressive stripping of vegetation and excavation of sand and gravel deposits will result in the permanent and irreversible loss of these habitats within the extraction footprint.

The permanent loss of mixed broadleaved woodland (WD1), treeline (WL2) and scrub (WS1) will reduce the extent of woody vegetation within the site and remove locally important habitat structure. These habitats currently contribute to habitat connectivity around the margins of the quarry and provide transitional habitat between the operational quarry and the surrounding agricultural landscape. Their removal will result in habitat loss and localised fragmentation of these habitats within the site.

The loss of dry meadows and grassy verges (GS2) will permanently reduce the extent of semi-improved grassland available within the development area.

Spoil and bare ground (ED2), recolonising bare ground (ED3) and active quarry (ED4) represent habitats that are continually created, modified and removed as extraction progresses. Continued quarry operations will result in the ongoing disturbance, displacement and periodic loss of these habitats as extraction advances through the permitted working areas. Newly exposed substrates and restored quarry faces will continue to create replacement areas of early successional habitat elsewhere within the operational quarry. While the location and extent of these habitats will change throughout the operational life of the development, these changes reflect the normal progression of quarrying activities.

The continued operation of the settlement pond network (FL8) will result in periodic disturbance associated with routine maintenance, including the removal of accumulated silt to maintain treatment capacity. These works may temporarily disturb aquatic and marginal vegetation within

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individual ponds; however, the overall settlement pond network will remain in operation throughout the life of the quarry.

Indirect effects on retained habitats may arise through dust deposition associated with soil stripping, excavation, aggregate processing and haulage traffic. Dust deposition has the potential to temporarily affect vegetation adjacent to active working areas by coating leaf surfaces and reducing photosynthetic efficiency. There is also potential for accidental releases of hydrocarbons or sediment-laden runoff during quarry operations to adversely affect adjacent terrestrial and aquatic habitats if uncontrolled. These represent indirect impact pathways associated with the operational phase of the development and are considered further in the following sections.

6.3 Potential Effects on Fauna

The continued operation and further development of Ummera Gravel Pit have the potential to affect fauna primarily through the loss and modification of habitats within the proposed extraction areas, together with disturbance and potential mortality associated with vegetation clearance, soil stripping and quarry operations.

Further extraction along the eastern, southern and south-western margins of the quarry will result in the loss of dry meadows and grassy verges (GS2), scrub (WS1), treeline (WL2), a small area of mixed broadleaved woodland (WD1), and areas of spoil and bare ground (ED2) and recolonising bare ground (ED3). These habitats provide breeding, foraging, shelter and commuting habitat for a range of fauna and their removal will result in the displacement of species using the affected areas.

The loss of grassland is of particular relevance to Meadow Pipit, which was recorded using the grassland habitat during the field surveys. Further extraction will result in a reduction in the extent of suitable breeding and foraging habitat for this species within the site. Vegetation clearance and soil stripping within grassland also have the potential to result in the destruction of active nests, eggs or dependent young where works are undertaken during the breeding season.

The removal of scrub, treelines and woodland will similarly reduce the availability of nesting and foraging habitat for birds associated with woody vegetation. Clearance of these habitats during the breeding season has the potential to damage or destroy active nests. The effect will be localised to those habitats occurring within the proposed extraction areas, with woodland, treelines, scrub and other vegetated habitats outside the extraction footprint remaining available.

Sand Martin regularly breeds within exposed quarry faces at Ummera Gravel Pit. Continued extraction has the potential to affect active nesting faces through excavation or alteration of the face during the breeding season. As quarrying progresses, previously occupied nesting faces may become unsuitable or be removed, while newly exposed faces may become available, resulting in the continual relocation of Sand Martin breeding colonies within the operational quarry. In the absence of appropriate controls, works to an occupied face could result in disturbance of breeding birds or the destruction of active nests, eggs or dependent young.

Bats may be affected through the removal of woodland, scrub and treelines within the extraction footprint. These habitats provide potential foraging and commuting habitat and their loss will result in a localised reduction in the availability and connectivity of suitable habitat around the quarry. No bat roosts were identified during the surveys undertaken for the previous EIAR, and no bats were recorded emerging from the buildings or trees surveyed in 2019. No bat roosts were identified within the red line boundary during the 2020–2026 surveys, and the buildings assessed

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during the 2026 daytime bat assessment were classified as not suitable for roosting bats. No lighting is currently present within the quarry and no external lighting is proposed as part of the further development.

Terrestrial mammals may experience localised disturbance and displacement during vegetation clearance, soil stripping and extraction. The removal of grassland, scrub, woodland and treeline habitat will also reduce the availability of foraging and sheltering habitat within the areas subject to further extraction. Habitats outside the extraction footprint will remain available throughout the operational period.

Aquatic fauna within the Bealick/Clashavoon Stream and downstream watercourses could be indirectly affected by deterioration in water quality. Existing drainage pathways from the gravel pit provide potential routes for sediment or other contaminants to reach the downstream aquatic environment. Potential effects on water quality, aquatic receptors and Freshwater Pearl Mussel are considered separately in Section 6.4.

Noise, vehicle movements and human activity associated with quarrying will continue throughout the operational period. These are existing sources of disturbance at Ummera Gravel Pit and are not new features associated with the proposed further development. The principal additional effects on fauna are therefore associated with the progressive loss and modification of habitats as extraction extends into previously unworked areas.

6.4 Potential Effects on Water Quality and Freshwater Pearl Mussel

Surface water quality and Freshwater Pearl Mussel (*Margaritifera margaritifera*) are considered Key Ecological Receptors due to the hydrological connectivity between the gravel pit and the downstream aquatic environment and the known occurrence of Freshwater Pearl Mussel within the River Laney. The watercourses draining the site are within the Lee Lower *Margaritifera* Sensitive Area. NPWS records indicate a small population of Freshwater Pearl Mussel within the River Laney immediately downstream of the confluence with the Clashavoon Stream. No Freshwater Pearl Mussel were recorded within the Clashavoon Stream during the surveys undertaken for the previous EIAR.

There will be no direct loss or disturbance of Freshwater Pearl Mussel habitat as a result of the proposed further extraction, as the extraction works do not extend into the Clashavoon Stream or River Laney. Potential effects are therefore indirect and relate to the potential for deterioration in water quality and changes in flow conditions within the downstream surface water environment.

There are existing drainage pathways between the gravel pit and the downstream surface water network. Rainfall runoff from the eastern side of the quarry yard drains to the settlement ponds and is incorporated into the wash-water recirculation system. Runoff from the western side of the yard, together with overflow from the settlement ponds during periods of heavy rainfall, is directed through an overflow settlement pond before entering the roadside drainage network. Groundwater springs encountered within the southern part of the extraction area either infiltrate back into the gravel deposits or flow through a series of small ponds before discharging to the roadside drain on the L-3423, south of the site entrance. The roadside drainage provides a pathway towards the River Laney.

These drainage pathways provide a potential route by which sediment or other contaminants arising within the gravel pit could reach the downstream aquatic environment. The potential for sediment mobilisation is associated with the stripping and handling of overburden and topsoil,

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extraction and processing of aggregate, exposed ground, vehicle movements and the generation and management of silt within the site. If sediment-laden runoff enters the surface water drainage network, this has the potential to result in increased suspended solids and sediment deposition downstream.

This is of particular relevance to Freshwater Pearl Mussel, which is sensitive to deterioration in water quality and increased levels of fine sediment. Fine sediment entering the River Laney has the potential to settle within riverbed gravels and reduce the quality of habitat available to Freshwater Pearl Mussel, particularly juvenile mussels.

Hydrocarbons associated with the operation and maintenance of plant and machinery, fuel storage and refuelling represent a further potential source of contamination. An accidental spill or leak has the potential to enter surface water runoff or groundwater and, through the identified drainage pathways, reach the downstream aquatic environment.

Domestic wastewater generated by the site welfare facilities also represents a potential source of contamination. The site is not connected to the public foul sewer network and wastewater is currently treated by an on-site septic tank and percolation area. In the absence of appropriate wastewater management, foul wastewater has the potential to affect groundwater or surface water quality, with consequent potential for indirect effects on the downstream aquatic environment.

Water is also abstracted from the Bealick/Clashavoon Stream for use within the gravel washing process. Abstraction has the potential to reduce downstream flows, particularly during periods of low flow. Reduced flows could affect downstream aquatic habitat and reduce the capacity of the watercourse to dilute suspended sediment or other contaminants.

The existing rock weir associated with the abstraction point also extends across the stream. Inland Fisheries Ireland has identified the need to modify the weir to allow the free passage of fish. While this is not a direct effect on Freshwater Pearl Mussel, maintaining fish passage is relevant to the wider ecological functioning of the watercourse.

Potential effects on water quality and Freshwater Pearl Mussel could therefore arise through the mobilisation and downstream transport of suspended sediment, accidental release of hydrocarbons or other pollutants, wastewater, and changes in stream flow associated with abstraction. Given the identified hydrological pathways and the sensitivity of the downstream aquatic environment, mitigation is required. The measures to protect water quality and Freshwater Pearl Mussel are set out in Section 7.3.

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7. Proposed Mitigation Measures

7.1 Mitigation Measures for Habitats

The further development of the gravel pit will result in the direct loss of habitats within the proposed extraction areas, including dry meadows and grassy verges (GS2), scrub (WS1), a mosaic of spoil and bare ground (ED2) and recolonising bare ground (ED3), a treeline (WL2) and a small area of mixed broadleaved woodland (WD1). As these habitats occur within the proposed extraction footprint, their loss cannot be avoided. Mitigation will therefore focus on limiting habitat loss to the proposed extraction areas, protecting retained habitats and restoring and enhancing habitats as extraction progresses and following completion of quarrying.

Vegetation clearance and topsoil stripping will be confined to the areas required for extraction. Existing woodland, treelines, scrub and other boundary vegetation outside the extraction footprint will be retained. Existing perimeter screen planting will also be maintained for the duration of the development and retained as part of the final restoration of the site.

Dust suppression measures will be maintained throughout the continued operation of the gravel pit to minimise dust deposition on retained habitats. Aggregate processing will continue to be undertaken as a wet process, limiting the generation of dust from the fixed processing plant. Stripped soil stored at the top of working faces will be allowed to vegetate, reducing the potential for wind erosion, while existing perimeter planting and mature boundary trees will continue to provide shelter around the working areas. Silt removed from the settlement ponds will also be seeded with grass to limit the potential for wind erosion.

A speed limit of 15 km/h will continue to apply to HGVs within the site. The existing unpaved access road will be paved from the public road to the yard area and will be kept clean to reduce dust generation and the tracking of soil onto the public road. The existing dust monitoring programme will continue throughout the further development of the gravel pit. Site inspections will also be undertaken to identify any areas of excessive dust staining. Where this occurs, the source or activity responsible will be identified and remedial measures implemented.

Where practicable, exhausted extraction areas will be restored on an ongoing basis. The heterogeneous nature of the gravel deposit means that extraction does not progress sequentially across the site and it is therefore not practicable to establish a fixed programme of progressive restoration. However, phased restoration will be undertaken as areas become available. This will also facilitate the reuse and management of silt removed from the settlement ponds and reduce the extent of exposed ground within the site.

Temporary screening berms will be seeded with grass following construction. These berms will not be planted with trees as the material will subsequently be reused during restoration. Establishment of grass cover will stabilise the berms and reduce the potential for erosion of exposed soils.

Following completion of extraction, the pit floor will be restored through the placement of silt, subsoil and topsoil, followed by grass seeding. Overburden and topsoil stored within the site will be reused for restoration, with clean soil imported where there is a deficit. The majority of the restored extraction area will subsequently be returned to agricultural grassland and will form part of the wider farmed landholding.

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Existing planting on the perimeter berms will be retained and infill planting will be undertaken where required. All new tree and shrub planting will comprise species native to Ireland. The proposed planting mix will comprise:

- European Aspen (Populus tremula) – 10%;
- Elder (Sambucus nigra) – 15%;
- Scots Pine (Pinus sylvestris) – 15%;
- Downy Birch (Betula pubescens) – 10%;
- Sessile Oak (Quercus petraea) – 25%; and
- Hawthorn (Crataegus monogyna) – 25%.

This planting will provide replacement native woody habitat and strengthen the retained vegetated boundaries of the site as the planting establishes.

The original settlement pond located between the road and the Clashavoon Stream will be retained as part of the final restoration of the site, providing an area of aquatic habitat and contributing to habitat diversity. The remaining unlined settlement ponds will not be retained in the final restoration as they are not expected to hold water over the long term.

A quarry face will also be retained as part of the final restoration to maintain suitable nesting habitat for Sand Martin. Specific measures relating to the protection of Sand Martins during quarry operations and the management of the retained nesting face are provided under the fauna mitigation measures.

7.2 Mitigation Measures for Fauna

The principal potential effects on fauna are associated with the loss and disturbance of habitats within the proposed extraction areas, vegetation clearance, ongoing quarrying activities and the potential for disturbance or mortality of animals occupying these habitats. The following measures will be implemented to avoid or reduce effects on fauna during the continued operation and further development of the gravel pit.

Vegetation clearance, including the removal of scrub, treelines and woodland, will be undertaken outside the main bird breeding season, which generally extends from 1st of March to 31st of August inclusive. Where vegetation clearance is required during this period, the area to be cleared will first be inspected by a suitably qualified ecologist for evidence of active nests. Where an active nest is identified, an appropriate exclusion area will be established and maintained until the ecologist confirms that the nest is no longer active.

Sand Martins are known to nest within exposed faces within the existing gravel pit. Prior to works affecting any exposed face during the breeding season, the face will be checked for evidence of active Sand Martin nesting. No excavation or other works will be undertaken that could damage or disturb an active nesting colony. Where an active colony is present, the occupied section of the face will be retained and left undisturbed until breeding has finished and the birds have vacated the nests. A suitable exposed face will be retained as part of the final restoration of the gravel pit to provide continued nesting opportunities for Sand Martin.

The loss of scrub, treeline and woodland within the proposed extraction footprint will result in the removal of habitat used by birds and other fauna. Habitat loss will be partly addressed through the retention of existing boundary vegetation and perimeter planting and through the native planting described in Section 7.1. The proposed planting will increase in ecological value as it establishes and will provide additional cover, nesting and foraging habitat.

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No bat roosts were identified within the application site during the surveys undertaken for the previous EIAR or during the 2026 surveys. The buildings assessed in 2026 were classified as not suitable for roosting bats. Nevertheless, retained woodland, treelines and other boundary vegetation provide foraging and commuting habitat for bats. Vegetation clearance will therefore be confined to the proposed extraction footprint, with retained woody vegetation protected from unnecessary disturbance. The native perimeter planting described in Section 7.1 will also provide additional linear habitat as it establishes.

Prior to vegetation clearance and topsoil stripping within areas of suitable terrestrial habitat, the working area will be checked for evidence of protected mammals. Should a protected mammal resting or breeding site be identified, works within the immediate area will cease and the advice of a suitably qualified ecologist will be sought before works proceed. Where required, the appropriate licence will be obtained from the NPWS before any works affecting a protected resting or breeding site are undertaken.

The settlement ponds provide aquatic habitat within the operational gravel pit. Where pond maintenance or desilting is required, works will be undertaken in a manner that minimises unnecessary disturbance to aquatic fauna. The original settlement pond between the road and the Clashavoon Stream will be retained as part of the final restoration of the site.

Measures relating to the protection of aquatic fauna from sediment, hydrocarbons and other potential pollutants are addressed separately under the surface water and aquatic ecology mitigation measures. Specific mitigation relating to Freshwater Pearl Mussel is provided in Section 7.3.

7.3 Mitigation Measures for Water Quality and Freshwater Pearl Mussel

The potential effects identified in Section 6.4 relate to the mobilisation of sediment, accidental release of hydrocarbons or other pollutants, wastewater management and the abstraction of water from the Bealick/Clashavoon Stream. The following measures will be implemented to protect surface water quality and downstream aquatic receptors, including Freshwater Pearl Mussel (*Margaritifera margaritifera*).

Wash water from the gravel washing process will continue to be managed through the existing closed recirculation system. Water passes through the settlement ponds to allow suspended material to settle before being recirculated and reused in the washing plant. There will be no direct discharge of process water from the settlement ponds to the Bealick/Clashavoon Stream.

Rainfall runoff from the western side of the yard, together with overflow from the settlement ponds during periods of heavy rainfall, will pass through the overflow settlement pond before entering the roadside drainage network. This provides additional settlement before water can leave the site by this route. The updated hydrological assessment notes that no discharge from the overflow pond has been observed to date.

Groundwater springs encountered within the southern part of the extraction area will continue to be directed away from trafficked areas. Water from these springs either infiltrates back into the gravel deposits or passes through a series of small ponds before reaching the roadside drain on the L-3423, south of the site entrance. Keeping this water away from trafficked areas will reduce the potential for it to become contaminated with sediment.

Measures will also be implemented to reduce the risk of hydrocarbon contamination. A concrete refuelling pad will be installed and a bunded storage shed will be constructed adjacent to it. The

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existing self-bunded diesel storage tank will be relocated to this shed, together with stored oils. Maintenance and repairs to mobile plant will be undertaken on the concrete pad and a spill kit will be maintained in the front-end loader.

The site access road will be paved as far as the yard area and a concrete drainage channel will be provided alongside it. The access road will be kept clean to reduce the potential for silt-laden runoff to enter the roadside drainage network.

The existing septic tank and percolation area serving the site welfare facilities will be replaced by a sealed 2.2 m^3 underground holding tank. The holding tank will be emptied at regular intervals by a licensed waste contractor. This will replace the existing arrangement whereby treated domestic wastewater is discharged to ground through the percolation area.

Surface water quality monitoring will continue in accordance with the monitoring programme set out in the Hydrology and Hydrogeology Chapter of the EIAR. This will provide ongoing monitoring of water quality during the continued operation of the gravel pit.

Measures will also be implemented in relation to the existing abstraction from the Bealick/Clashavoon Stream. In consultation with Inland Fisheries Ireland, the existing rock weir at the abstraction point will be modified during the July to September period to allow the free passage of fish. The boulders forming the weir will be repositioned so that they no longer extend across the stream, while continuing to direct flow towards the abstraction pump.

A permanent level gauge will be installed at the abstraction point and the dry weather flow, defined as the 95%ile flow, will be clearly marked on the gauge. Water will not be abstracted when stream levels are at or below the marked dry weather flow level. This will prevent abstraction from further reducing flows during low-flow conditions and will help to maintain downstream aquatic habitat.

Water quality protection measures will remain in place during restoration of the gravel pit. Restoration will be undertaken on a phased basis and the settlement pond system will remain in place until the final stages of restoration so that surface water can continue to be managed while restoration works are ongoing.

The measures outlined above will reduce the potential for sediment, hydrocarbons, wastewater or other contaminants associated with the operation and restoration of the gravel pit to reach the downstream aquatic environment. The controls on abstraction will also protect flows within the Bealick/Clashavoon Stream during periods of low flow. With these measures in place, no significant adverse effects on surface water quality or downstream Freshwater Pearl Mussel habitat are anticipated.

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8. Cumulative Impacts

The potential for cumulative ecological effects arising from the proposed further development of Ummera Gravel Pit in combination with other plans and projects in the surrounding area has been considered.

There are no known developments in the immediate surrounding area which, in combination with the continued operation and further development of Ummera Gravel Pit, are considered likely to result in significant cumulative ecological effects.

A small rock borrow pit is located to the south of Ummera Gravel Pit. Having regard to the nature and scale of the borrow pit, no significant cumulative effects on the ecological receptors identified in this EcIA are anticipated.

On this basis, no significant cumulative ecological effects are predicted as a result of the proposed development in combination with other plans or projects.

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9. Residual Effects and Conclusion

Following implementation of the mitigation measures set out in Section 7, the proposed further development of Ummera Gravel Pit is not expected to result in any significant adverse residual ecological effects.

The principal unavoidable effect of the proposed development will be the loss of habitats within the further extraction areas along the eastern, southern and south-western margins of the existing gravel pit. These include dry meadows and grassy verges (GS2), scrub (WS1), a small area of mixed broadleaved woodland (WD1), treeline (WL2), and areas of spoil and bare ground (ED2) and recolonising bare ground (ED3). The loss of these habitats cannot be avoided where they occur within the proposed extraction footprint.

Habitat removal will, however, be confined to the areas required for extraction, with woodland, treelines, scrub and other boundary vegetation outside the extraction footprint retained. Existing perimeter planting will also be maintained. Dust suppression measures, including wet processing, management of exposed soils, paving and cleaning of the access road and continued dust monitoring, will minimise the potential for dust deposition on retained habitats. Where practicable, exhausted extraction areas will be restored as extraction progresses, with the majority of the worked area ultimately returned to agricultural grassland. New perimeter planting will comprise native species, including European Aspen, Elder, Scots Pine, Downy Birch, Sessile Oak and Hawthorn. The original settlement pond between the road and the Clashavoon Stream will also be retained as part of the final restoration.

While there will therefore be a permanent loss of locally important habitats within the extraction footprint, this loss will be partly offset over time through restoration, retention of existing boundary habitats and establishment of new native planting. The residual effect on habitats is considered to be adverse at the local level but not significant.

Potential effects on fauna are primarily associated with habitat loss and the potential for disturbance or mortality during vegetation clearance and extraction. Vegetation clearance will be undertaken outside the main bird breeding season or, where this cannot be avoided, following inspection by a suitably qualified ecologist. These measures will avoid effects on active bird nests.

Sand Martins currently use exposed faces within the gravel pit for nesting. Active nesting areas will be protected from disturbance during the breeding season, and a suitable pit face will be retained as part of the final restoration to provide continued nesting habitat for the species. No significant residual effect on Sand Martin is therefore anticipated.

No bat roosts were identified during the surveys undertaken for the previous EIAR or during the 2026 surveys. Bat activity within the site is primarily associated with foraging and commuting. Some localised loss of suitable foraging and commuting habitat will occur through the removal of woodland, treeline and scrub within the extraction footprint. However, boundary vegetation outside the extraction area will be retained and additional native planting will be established as part of the restoration proposals. No significant residual effect on the local bat population is anticipated.

Measures relating to protected mammals and other fauna will also reduce the potential for direct mortality or disturbance during vegetation clearance and extraction. Taking account of the

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habitat retained within and around the site, together with the mitigation and restoration measures proposed, no significant residual effects on other faunal receptors are anticipated.

Freshwater Pearl Mussel occurs within the River Laney downstream of the site and potential indirect effects have been identified through the surface-water drainage network. Runoff from the western side of the yard, together with overflow from the settlement pond system during periods of heavy rainfall, passes through an overflow settlement pond before entering the roadside drainage network. Groundwater springs within the southern extraction area either infiltrate back into the gravel deposits or pass through a series of small ponds before reaching the roadside drain. These drainage routes provide potential pathways between the gravel pit and the downstream aquatic environment.

The water management and pollution prevention measures set out in Section 7.3 will reduce the potential for sediment, hydrocarbons or other contaminants to enter these drainage pathways. Wash water will continue to be managed through the closed recirculation system, with water passing through the settlement ponds before being reused in the gravel washing process. There will be no direct discharge of process water from the settlement ponds to the Bealick/Clashavoon Stream. Runoff from the western yard and any rainfall-related overflow from the settlement pond system will pass through the overflow settlement pond before entering the roadside drainage network. Measures relating to fuel storage, refuelling, road drainage, management of groundwater springs and continued surface water monitoring will provide further protection to downstream water quality.

The proposed controls on abstraction from the Bealick/Clashavoon Stream will also protect downstream flow conditions. A permanent level gauge will be installed at the abstraction point, with the dry weather flow level marked, and abstraction will not take place when stream levels are at or below this level. The existing rock weir will also be modified in consultation with Inland Fisheries Ireland to provide free passage for fish.

With these measures in place, no significant deterioration in downstream water quality or flow conditions is anticipated as a result of the continued operation and further development of the gravel pit. No significant residual effect on Freshwater Pearl Mussel is therefore predicted.

No significant cumulative ecological effects have been identified in combination with other plans or projects, including the small rock borrow pit located to the south of Ummera Gravel Pit.

Overall, the further development of Ummera Gravel Pit will result in some unavoidable, localised habitat loss associated with the extension of extraction into previously unworked areas. However, following implementation of the mitigation measures set out in this EcIA, retention of habitats outside the extraction footprint, phased restoration where practicable and implementation of the final restoration proposals, no significant adverse residual effects are predicted for the Key Ecological Receptors identified within the zone of influence of the proposed development.

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