CHAPTER 6

BIODIVERSITY

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QUARRY CONSULTING

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CHAPTER 6: BIODIVERSITY

Introduction

Background

6.1 This chapter provides an Ecological Impact Assessment (EcIA) undertaken by Green and Blue Ecology acting on behalf of Quarry Consulting and Coshla Quarries to inform the wider Environmental Impact Assessment (EIA) process and preparation of the Environmental Impact Assessment Report (EIAR) on the likely significant impacts on biodiversity from the proposed continuation and extension of the existing limestone quarry and concrete manufacturing facility at Barrettspark, Athenry, Co. Galway.

Purpose of the Ecological Impact Assessment

6.2 The EcIA can be considered as having three main purposes:

- to provide an objective and transparent assessment of the ecological effects of the proposed development and the implications on biodiversity;
- to permit objective and transparent determination of the consequences of the proposed development in terms of national, regional and local policies relevant to nature conservation and biodiversity; and
- to demonstrate that the proposed development will meet the legal requirements relating to habitats and species.

6.3 This EcIA has been undertaken in accordance with the guidelines published by the Chartered Institute of Ecology and Environmental Management (CIEEM)[1] '*the CIEEM EcIA Guidelines*' and with respect to the Environmental Protection Agency's (EPA) guidelines for carrying out Environmental Impact Assessment Reports[2].

6.4 The assessment follows a standard approach based upon: the description of the existing baseline conditions within the application site; the determination of important ecological features; and the identification of all potentially significant ecological effects from the continuation and extension of the existing limestone quarry and concrete manufacturing facility at Barrettspark. The assessment also considers the likelihood of any cumulative effects, i.e. those resulting from the proposed development and other plans or projects on relevant ecological features.

6.5 Where a negative impact has been identified, suitable mitigation measures to prevent, reduce or offset the level of impact are provided, or where mitigation is not possible, enhancement and compensation measures are detailed to ensure compliance with nature conservation legislation and to address any potentially significant effects on biodiversity.

6.6 Where appropriate this Chapter also identifies how mitigation, enhancement and compensation measures will / could be delivered along with the requirements for post-construction monitoring, maintenance or management.

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[1] CIEEM (2018). *Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial , Freshwater and Coastal and Marine*. Version 1.3 updated September 2024. Chartered Institute of Ecology and Environmental Management, Winchester.

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

6.7 Any residual effects arising, following implementation of mitigation and enhancement measures, are then identified and assessed, with any significant effects clearly described.

Legislative and Policy Context

Legislation

6.8 Relevant legislation underpinning the conservation of designated sites, habitats and species is summarised in Table 6.1.

Table 6-1: Relevant Legislation

Legislation	Description
The Wildlife Act 1976 (as amended)	The Wildlife Act is the primary legislation in Ireland which protects animals, birds, plants and their habitats. The Act also allows the designation of Natural Heritage Areas (NHA) and statutory Nature Reserves and the regulation of hunting and controls in wildlife trading.
The Flora (Protection) Order 2022	The Flora (Protection) Order 2022 provides statutory protection to a number of rare plant species in Ireland from being wilfully cut, picked uprooted or damaged or part of the plants removed.
European Communities (Birds and Natural Habitats) Regulations 2011 (as amended)	The European Communities (Birds and Natural Habitats) Regulations 2011 transpose into national law European Council Directive 92/43/EEC on the Conservation of Natural Habitats and of Wild Fauna and Flora (Habitats Directive) and Directive 2009/147/EC on the Conservation of Wild Birds (The Birds Directive) that provides for the designation and protection of *'European sites'* including Special Areas of Conservation (SAC) and Special Protection Area (SPA), the protection of *'European Protected Species'*, and the adaptation of planning and other controls for the protection of European Sites. The regulations introduce a review procedure for plans and projects likely to significantly affect a European site, and licensing requirements for developments that may affect a European protected species

Planning Policy

National

6.9 The National Development Plan 2021-2030 sets out the infrastructure and investment priorities that underpin the implementation of the National Planning Framework. The National Development Plan details the main investment projects, programmes and priorities in Ireland during the lifetime of the Plan.

6.10 The National Planning Framework contains a set of national objectives and key principles as a framework to guide development and investment by empowering each region to lead in the sustainable planning and development of their communities.

Regional

6.11 The Regional Spatial and Economic Strategy 2020-2032 sets out the long-term spatial planning strategy for the Northern and Western Region, covering the counties of Cavan, Donegal, Galway, Leitrim, Mayo, Monaghan, Roscommon and Sligo.

Local

6.12 Planning policy at the local level is provided by the Galway County Development Plan 2022-2028 adopted on 28th September 2022. The Galway County Development Plan contains a number of policies relevant to biodiversity that are summarised at Appendix 6A.

Biodiversity Planning

6.13 Ireland's National Biodiversity Plan 2023-2030[3] identifies actions towards understanding and protecting biodiversity in Ireland with the vision "*that biodiversity and ecosystems in Ireland are conserved and restored, delivering benefits essential for all sectors of society and that Ireland contributes to efforts to halt the loss of biodiversity and the degradation of ecosystems in the EU and globally*".

6.14 Local Biodiversity Action Plans have been produced by some County Councils, among them the Galway County Heritage and Biodiversity Plan 2017-2022, which identify programmes of action to protect and enhance biodiversity at a local level.

Assessment Methodology and Significance Criteria

Area of Study

6.15 The area of study was defined on a spatial scale at which ecological features could be affected by the proposed continuation and extension of the existing limestone quarry at Barrettspark. This included all the land lying within the application site as well as ecologically sensitive features within the wider surrounding area with the potential to be directly or indirectly affected by the proposed development.

6.16 Based on size and nature of the proposed development and the local landscape it is considered that the maximum extent of any potential zone of influence over which ecological features may be affected by biophysical changes as a result of the proposed development and associated activities would not extend beyond 2km from the boundary of the application site. An Appropriate Assessment Screening Report has been prepared, which evaluates the potential impacts of the proposed development on European sites within the identified zone of influence.

Establishing Baseline Ecological Conditions

6.17 Baseline ecological data was collated through a combination of desk-based studies and field survey consistent with current standard methodologies and published guidelines. The scope of the ecological field surveys was defined on the basis of known and potential ecological interest within the area of study, and best practice[4].

6.18 Table 6.2 provides a summary of the ecological scope of works and the methods used to establish the ecological baseline conditions within the study area.

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[3] National Parks and Wildlife Service (2023). Ireland's 4th *National Biodiversity Plan 2023-2030*. Government of Ireland.

[4] Institute of Environmental Assessment (1995). *Guidelines for Baseline Ecological Assessment*. Chapman and Hall (E & F N Spon), London.

6.19 Over and above the scope of works in Table 6.2, it was deemed that no other specialist surveys were necessary in respect to the habitats present at the application site and their potential to support protected species.

Table 6.2: Ecological Scope of Works and Methodologies

Study / Survey	Scope of Works	Study Area	Methodology
Desk-based study	Statutory and non-statutory designated sites	All sites within a 2km radius of the application site	Web-search including the National Parks and Wildlife Service (NPWS) interactive mapping facility (https://www.npws.ie).
	Protected, rare and notable species	2km grid squares encompassing the application site (grid square M42J).	Web-search including information held by the NPWS and the National Biodiversity Data Centre (NBDC) (https://www.biodiversityireland.ie) on 20th July 2024 and 22nd November 2024.
Habitat Survey	To record and classify the habitat types and appraise on the likely presence / absence of protected species	Application site	A site visit and walkover survey by Steve Judge MCIEEM of Green & Blue Ecology on 22nd July 2024. Standard approach to the classification and mapping of habitats in accordance with Fossitt (2000)[5] to Level 3 and target notes where applicable to describe any feature of particular ecological interest. Extension of Habitat Survey method to include an assessment of habitats for evidence of, or their potential to support protected, rare or notable species (including mammals, birds, reptiles, amphibians and invertebrates) and any other important ecological feature that may require mitigation or an ecologically sensitive design in respect of the proposed development.

Uncertainty of Data and Limitations

6.20 The lack of evidence of any one particular protected species does not necessarily preclude its presence at the site either at this current time or in the future. It is considered however, that the timing of the site visit was suitable for protected species and their habitat-based

[5] Fossitt, J.A. (2000). *A Guide to Habitats in Ireland*. Reprint 2007. The Heritage Council, Kilkenny, Ireland.

assessment, as most species would have been active during this time and provided evidence of their presence.

Assessment Methodology

Determining Ecological Importance

6.21 In accordance with the CIEEM guidelines only ecological features (habitats, species, ecosystems and their functions/processes), which are considered to be important and potentially affected by the project should be subject to detailed assessment. It is not necessary to carry out detailed assessment of features that are sufficiently widespread, unthreatened and resilient to project impacts and will remain viable and sustainable.

6.22 CIEEM suggest that to ensure a consistency of approach, ecological features (designated sites, habitats and species) are valued in accordance with their geographical frame of reference. For the purpose of this assessment the geographical frame of reference defined by Transport Infrastructure Ireland[6] has been used, as detailed below:

- International;
- National;
- County;
- Local (higher); and
- Local (lower).

6.23 Some features can already be recognised as having ecological value, for example they may be designated as statutory or non-statutory nature conservation sites. Other ecological features may require an evaluation based upon their previously un-assessed biodiversity value and professional judgement. A summary of the criteria used in the evaluation of designated sites, habitats and species is provided in Table 6.3.

Table 6.3: Criteria for the Evaluation of Ecological Features

Value	Criteria
International	An internationally designated site or proposed site including SAC, Site of Community Importance (SCI), SPA, or Ramsar site, or an area which has been determined meets the published selection criteria for such designations, irrespective of whether or not it has yet been notified. World Heritage Sites, where the ecological feature assessed is an intrinsic part of the natural heritage value that led to the designation. An intrinsic part of the core area of a designated Biosphere Reserve. Undesignated sites containing 'best examples' of Annex I habitats under the EU Habitats Directive. Major designated salmonid waters.

[6] NRA (2009). *Guidelines for Assessment of Ecological Impacts of National Road Schemes*. Revision 2. National Roads Authority, Dublin.

Value	Criteria
	A resident or regularly occurring population of an internationally important bird species listed in Annex I and/or referred to in Article 4(2) of the EU Birds Directive and/or a species of animal or plant listed in Annex II and/or IV of the EU Habitats Directive and which is threatened or rare in and which is threatened or rare in Ireland or of uncertain conservation status or of global conservation in the National Biodiversity Plan. A resident or regularly occurring nationally significant population or of any internationally important species representing greater than 1% of its international population.
National	A nationally designated site or proposed as a National Heritage Area (NHA) or statutory Nature Reserve or Refuge for Flora and Fauna, or an area fulfilling the criteria for designations, irrespective of whether or not it has yet been notified. Undesignated sites containing good examples and viable areas of Annex I habitats under the EU Habitats Directive. A resident or regularly occurring population (>1% of the national population) of a nationally important species which is protected under the Wildlife Acts as amended or listed on a relevant Red Data list.
County	Areas identified as Areas of Special Amenity, subject to a Tree Preservation Order or Area of High Amenity where designated on the basis of their ecological value. Site containing area or areas of habitat types listed in Annex I of the EU Habitats Directive that do not fulfil the criteria for valuation of International or National importance. A resident or regularly occurring locally significant population (>1% of the county population) assessed of importance of a county important species and/or a species protected under the Wildlife Acts or listed in Annex I of the EU Birds Directive, Annex II and/or IV of the EU Habitats Directive or on a relevant Red Data list assessed to be important at County level. County important populations of species, or viable areas of semi-natural habitats or natural heritage features identified within the NBP and/or Local Biodiversity Action Plan. 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 (higher)	Locally important populations of priority species or habitats or natural heritage features identified in any Local Biodiversity Action Plan. A resident or regularly occurring locally significant population (>1% of the local population) and/or a species protected under the Wildlife Acts or listed in Annex I of the EU Birds Directive, Annex II and/or IV of the EU Habitats Directive or on a relevant Red Data list assessed to be important at the Local level. 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.

Value	Criteria
	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 (lower)	Sites containing small areas of semi-natural habitat or features that are of some local importance for wildlife.

Assessment of Potential Impacts

6.24 The assessment of potential ecological impacts has been carried out in accordance with the guidelines published by CIEEM and EPA and be summarised as:

- the identification of the range of potential impacts that may arise from the proposed development;
- the consideration of the systems and processes in place to avoid, reduce and mitigate the possible effects of these impacts;
- the identification of opportunities for ecological enhancement within the development;
- an assessment of the residual impacts, following consideration for the implementation of avoidance, mitigation and enhancement measures; and
- where necessary the identification of compensation required to offset any residual effects.

6.25 Table 6.4 provides a summary of the criteria used to evaluate the residual impacts and assess the significance of any such impact.

Table 6.4: Key Considerations when Characterising Impacts

Value	Criteria
Direction of impact	Positive (a change that improves the quality of the environment) or Negative (a change which reduces the quality of the environment)
Probability of occurring	Broadly defined on 4 levels: Certain (95% chance or higher), Probable (above 50% but below 95%), Unlikely (above 5% but less than 50%) and extremely unlikely (less than 5%)
Magnitude	Size, amount, intensity and volume of any impact on any particular feature including any severity of effect, based on EPA's guidance, as imperceptible, slight, moderate, significant and profound.
Duration	Effects may be described, based on EPA's measures, as short (1 to 7 year), medium (7 to 15 years) or long-term (15 to 60 years) and permanent or temporary in ecological terms (e.g. within the lifetime of the species affected).
Frequency of timing	The number of times an activity will occur and timing of an activity
Reversibility	Whether or not the effect can be reversed from spontaneous recovery or which may be counteracted by mitigation within a reasonable timescale

6.26 Impacts are defined as being negative or positive. The term '*significant*' is independent of the value of the receptor. A significant impact is defined as an impact on the integrity of a defined ecosystem, and/or an action that undermines the conservation objectives (either specific or broad) of an important ecological feature.

6.27 Where a potential negative impact has been identified, mitigation, enhancement and/or compensatory measures have been formulated using best practice techniques and guidance to prevent, reduce or offset a significant effect. The degree of confidence in the likely success of mitigation or compensation, based upon published studies and the experience of the assessor, is also made and any uncertainties are clearly expressed.

6.28 The final part of the assessment is to determine the significance of the residual ecological impacts of the proposed development and also describe the implications of these operations from a legal perspective.

Avoidance, Mitigation, Compensation and Enhancement

6.29 A sequential process has been adopted to avoid, mitigate and compensate for ecological impacts. This is often referred to as the '*mitigation hierarchy*'.

6.30 It is important for the EIAR to clearly differentiate between avoidance, mitigation, compensation and enhancement and these terms are defined here as follows:

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

Assessment of Cumulative Impacts

6.31 Cumulative effects can result from individually insignificant but collectively significant actions taking place over a period of time or concentrated in a particular location. This EcIA assesses the potential cumulative impacts from the proposed development with other projects which could include:

- proposals for which consent has been applied but which are awaiting determination;
- projects which have been granted consent but which have not yet been started or which have been started but are not yet completed (i.e. under construction);
- proposals which have been refused permission but which are subject to appeal and the appeal is undetermined;
- constructed developments whose full environmental effects are not yet felt and therefore cannot be accounted for in the baseline; or
- developments specifically referenced in a National Policy Statement, a National Plan or a Local Plan.

Baseline Conditions

6.32 This section provides an overview of the existing ecological baseline conditions at the application site of the proposed continuation and extension of the existing limestone quarry and continuance of use of the concrete manufacturing facility at Barrettspark and within the wider surrounding environment.

General Site Description

6.33 The application site is located in the townland Barrettspark, approximately 7.0km west of the town centre of Athenry and 8.0km east of the edge of Galway, Co. Galway.

6.34 The application site is comprised of an existing operational quarry, which is broadly rectangular in shape within an overall site area of c. 27.5 ha. The application site includes the existing operational quarry used for the extraction of limestone and its associated infrastructure.

6.35 The existing quarry void has faces rising up to a height of c.28m from a floor level of -5m ordnance datum (mOD) and is used for the extraction of limestone using blasting techniques. The limestone is then processed (crushing and screening) to produce aggregates for construction purposes. Existing manufacturing activities at the quarry include a concrete manufacturing facility.

6.36 The surrounding landscape is characterised by low-lying and relatively flat agricultural land comprised of small fields under permanent improved and semi-improved pasture bounded by some hedgerows and low level stone walls. A relatively large electrical sub-station is located immediately adjacent the north east corner of the quarry with a smaller excavated area adjacent to the eastern boundary.

6.37 The M6 running in an east-west direction approximately 155m south of the quarry and the M18 running in a north-south direction 3.4km east form significant landscape features. The largest local population is the town of Oranmore approx. 6km south west of the quarry with other smaller rural settlements and ribbon development along the roads and lanes that cross this area. The town of Athenry is situated approximately 7km to the east, while Galway City is 13km West of the site.

Designated Sites

6.38 The application site is not subject to any statutory or non-statutory nature conservation designations (SAC, SPA, NHA, Nature Reserve or pNHA) and there are no designated sites within a 2km radius of the application site.

Habitats

Application Site

6.39 The application site comprises an active quarry used for the extraction and processing of limestone which supports a range of sub-habitat types created through quarrying operations and its associated infrastructure.

6.40 The habitat types recorded within the application site based on the classification as defined by Fossitt (2000) are presented in Table 6.5.

Table 6.5: Habitat Types Recorded in the Application Site

Level 1 Habitat Hierarchy	Level 2 Habitat Hierarchy	Level 3 Habitat Hierarchy	Area / Length
E – Exposed rock and disturbed ground	ED – Disturbed ground	ED2 – Spoil and bare ground	12.21ha
		ED3 – Recolonising bare ground	1.23ha
		ED4 – Active quarries and mines	6.4ha
	ER – Exposed Rock	ER2 – Exposed calcareous rock	0.27ha
B – Cultivated and built land	BL – Built land	BL1 – Stone walls and other stonework	2055m
		BL3 – Buildings and artificial surfaces	2.69ha
G-- Grassland and marsh	GS – Semi-natural grassland	GS2 – Dry meadows and grassy verges	3.33ha
W – Woodland and scrub	WS – Scrub / transitional woodland	WS1 – Scrub	1.39ha
	WL – Linear woodland / scrub	WL1 - Hedgerows	263m
		WL2 - Treelines	565m
F – Freshwater	FP – Springs	FP1 – Calcareous springs	25m

6.41 Figure 6.1 shows the location and extent of the habitats recorded at the application site and important habitats and other features identified immediately adjacent the application site. A summary description and ecological evaluation of each habitat and other key features is provided in Table 6.6.

Table 6.6: Description and Evaluation of Habitats and Other Features

Habitat Feature	Description	Location	Level of Value	Rationale
Exposed Rock and Disturbed Ground				
ED2 – Spoil and bare ground / ED3 – Recolonising bare ground	*ED2 – Spoil and bare ground* and *ED3 – Recolonising bare ground* habitats are present throughout the application site in areas historically stripped of soils and overburden. The vegetation composition is similar in both the *ED2 – Spoil and bare ground* and *ED3 – Recolonising bare ground* habitats with only the percentage of bare ground the only distinguishing feature depending upon levels of disturbance. Species present typically includes: black knapweed (*Centaurea nigra)*, cock's-foot (*Dactylis glomerata*), wild carrot (*Daucus carota* spp *carota*), common ragwort (*Jacobaea vulgaris*), black medick (*Medicago lupulina*), mouse-ear hawkweed (*Pilosella officinarum*), ribwort plantain (*Plantago lanceolata*), greater plantain (*Plantago major*), self-heal (*Prunella vulgaris*), creeping buttercup (*Ranunculus repens*), weld (*Reseda luteola*), red clover (*Trifolium pratense*) and colt's-foot (*Tussilago farfara*). More localised species present include: yellow-wort (*Blackstonia perfoliata*), quaking-grass (*Briza media*), common sedge (*Carex nigra*), common centaury (*Centaurium e*rythraea), red valerian (*Centranthus ruber*), ivy-leaved toadflax (*Cymbalaria muralis*), common spotted-orchid (*Dactylorhiza fuchsii*), perforate St John's-wort (*Hypericum perforatum*), common bird's-foot-trefoil (*Lotus corniculatus*) and silverweed (*Potentilla anserina*) in the southeast of the application site and in a patch under the powerline in the central part of the site, and mossy saxifrage (*Saxifraga hypnoides*) on area bund of overburden on the northeast boundary of the application site. Also in the eastern part of the application site can be found some buddleja (*Buddleja davidii*) and the fern species of maidenhair spleenwort	Application Site	Local (Lower)	Areas of varying degrees of disturbance with limited botanical interest and offering very limited opportunities for wildlife.

Habitat Feature	Description	Location	Level of Value	Rationale
	(*Asplenium trichomanes*), rustyback (*Ceterach officinarum*), hart's-tongue (*Phyllitis scolpendrium*). Some damper areas and small ephemeral pools in the eastern part of the site support creeping bent (*Agrostis stolonifera*), yellow sedge (*Carex viridula*), common stonewort (*Chara vulgaris*), common spike-rush (*Eleocharis palustris*), great willowherb (*Epilobium hirsutum*), field horsetail (*Equisetum arvense*), jointed rush (*Juncus articulates*), water-mint (*Mentha aquatica*) and reedmace (*Typha latifolia*).			
ED4 – Active quarries and mines	The existing active quarry supports *ED4 – Active quarries and mines* habitat but which comprises a number of sub-habitat types created as a result of the quarrying operations including: *ER2 – exposed calcareous rock* forming the walls of the quarry and *ED2 - Spoil and bare ground* predominantly on the floor of the quarry. The active part of the quarry is largely devoid of vegetation due to high levels of disturbance however, in the northeast corner of the quarry water seeping into and flowing over the rock face has created *FP1 - Calcareous spring* type habitat with some moss formation extending for approximately 25m along and down the quarry wall.	Application site	Local (lower)	An anthropogenic habitat created through quarrying with limited botanical interest and offering limited opportunities for wildlife. The moss formation created as a result of quarrying operations does not qualify as Petrifying springs with tufa formation (*Cratoneurion*) under Annex I of the Habitats Directive as this is not a true spring, cannot be classified as a true groundwater dependent terrestrial ecosystem (GWDTE) and at this current time does not show precipitation of calcite.
ER2 – Exposed calcareous rock	An artificial area of *ER2 – Exposed calcareous rock* lies in the southwestern corner of the application site that is used for the infiltration area for the discharge of trade effluent to ground. Any vegetation forms an extension to the surrounding *ED2 – Spoil and bare ground* habitat.	Application site	Local (lower)	An anthropogenic habitat created as part of the quarry water management system with limited botanical interest and offering very limited opportunities for wildlife.

Habitat Feature	Description	Location	Level of Value	Rationale
Cultivated and Built Land				
BL1 – Stone walls and other stonework	*BL1 – Stone walls and other stonework* habitat is present along the boundaries of the application site in the western part of the application site. The walls are typically 0.5m to 1m high with some scattered hawthorn (Crataegus monogyna) present.	Application site	Local (lower)	A common and widespread habitat in Galway with limited botanical interest and offering limited opportunities for wildlife.
BL3 – Buildings and artificial surfaces	Buildings, structures and artificial surfaces are located at the entrance to the site including site office, weighbridge, wheel wash and workshop, and in the western part of the site including concrete ready-mix and block plant and other quarry associated infrastructure.	Application site	Local (lower)	Anthropogenic features that provide negligible opportunities for wildlife.
Grassland and Marsh				
GS2 - Dry meadows and grassy verges	*GS2 - Dry meadows and grassy verges* habitat is present on screening berms that run along the eastern and part of the northern and western boundaries, on overburden storage bunds and patches supporting electricity pylons in the eastern part of the application site and patches forming part of a linear strip of habitat through the central part of the site in a northeast-southwest direction below an overhead electricity powerline. The grassland areas typically have swards comprising of false oat-grass (*Arrhenatherum elatius*), sweet vernal-grass (*Anthoxanthum odoratum*), crested dog's-tail (*Cynosurus cristatus*), cock's-foot (*Dactylis glomerata*), common couch (*Elytrigia repens*), red fescue (*Festuca rubra*) and, Yorkshire-fog (*Holcus lanatus*) along with some localised glaucous sedge (*Carex flacca*) and common sedge (*Carex nigra*). The herbaceous component includes: yarrow (*Achillea millefolium*), black knapweed (*Centaurea nigra)*, rosebay willowherb (*Chamerion angustifolium*), creeping thistle (*Cirsium arvense*), spear thistle (*Cirsium vulgare*), wild carrot (*Daucus carota* spp *carota*); common ragwort (*Jacobaea vulgaris*), meadow vetchling (*Lathyrus pratensis*); rough hawkbit	Application site	Local (lower)	A typically common and widespread habitat of low ecological and conservation value, that due to the size of the patches provides limited opportunities wildlife.

Habitat Feature	Description	Location	Level of Value	Rationale
	(*Leontodon hispidus*), oxeye daisy (*Leucanthemum vulgare*), ribwort plantain (*Plantago lanceolata*); dandelion *(Taraxacum officinale agg.*); red clover (*Trifolium pratense*); white clover (*Trifolium repens*); colt's-foot (*Tussilago farfara*); common nettle (*Urtica dioica*) and tufted vetch (*Vicia cracca*) with bramble (*Rubus fruticosus* agg.) and gorse (*Ulex europaeus*) also present particularly along the screening berms and the areas under the powerline. Under the powerline one patch of *GS2 - Dry meadows and grassy verges* also has bracken (*Pteridium aquilinum*) as a prominent feature.			
Woodland and Scrub				
WS1 – Scrub	*WS1 – Scrub* habitat dominated by gorse and/or bramble is found along the southern boundary of the site and in an small isolated patch in the western part of the site on a pile of spoil.	Application site	Local (lower)	A typically common and widespread habitat of low ecological and conservation value but which provides some but limited opportunities wildlife.
WL1 – Hedgerows / WL2 - Treelines	*WL1 – Hedgerows* habitat dominated by hawthorn is present along part of the eastern boundary. This hedgerow is gappy in places. Another short section of hedgerow is on the southern boundary and connects two sections of *WL2 – Treelines* habitat of poplar *(Populus sp.*) planting for screening purposes on the southern boundary of the site. The hedgerow comprises of hazel (*Corylus avellana*) and blackthorn (*Prunus spinosa*).	Application site	Local (lower)	A typically common and widespread habitat, assessed as being of low conservation significance due to being species-poor and gappy, but which provide some opportunities for wildlife.

Surrounding Area

6.42 The area surrounding the application site comprises predominantly of GA1 Improved agricultural grassland of low ecological and biodiversity value. No significant areas of high ecological and biodiversity value have been identified within the immediate surrounding area.

Species

6.43 Details of protected, rare and notable species records within a 2km radius of the application site (encompassing grid square M42J) were obtained during the desk-based study and during the Habitat Survey, where general observations and searches were made for the presence, or potential presence of protected, rare and/or notable species for flora and fauna.

6.44 Table 6.7 provides a summary of species of importance and an evaluation of the site for these species.

Table 6.7: Identification and Evaluation of Species

Species	Desk-based Study	Description of Use or Likely Use of the Application Site	Level of Value	Rationale
Flora				
Protected, rare and notable species	No records of protected species of flora were returned by NBDC for the search area.	During the Habitat Survey no protected, rare or notable species of flora were recorded at, or immediately adjacent the application site.	Not applicable	All reasonable likelihood of absence.
Non-native invasive species	No non-native invasive species, as listed under either the Wildlife Act 1976 (as amended) or the European Communities (Birds and Natural Habitats) Regulations 2011 (as amended) were returned by NBDC for the search area.	During the Habitat Survey no non-native invasive species were recorded as present in the application site.	Not applicable	All reasonable likelihood of absence.
Mammals				
Badger	NBDC returned a solitary record for badger (*Meles meles*) within the search area. As far as can ascertained this record does not relate to the application site. Previous ecological surveys carried out at this site by MKO in November 2018 recorded badger prints, tracks and hairs in the southwest of the application site, but no setts.	During the Habitat Survey no evidence of badger setts or other signs of badger were found to indicate the presence of badger (i.e. tracks, latrines, snuffle holes or hairs) within the application site, or its immediate surrounding area.	Not applicable	Not present.

Species	Desk-based Study	Description of Use or Likely Use of the Application Site	Level of Value	Rationale
Bat assemblage	NBDC returned no records for any bat species within the search area. The application site and its immediate surrounding area lie in an identified with a low index suitability for all bat species with a score of 27.78.	The application site does not support any buildings, structures, trees or any other features (i.e. obvious fissures or crevices in the quarry walls) that are considered to offer potential and/or suitable bat roosting opportunities. The application site is assessed as providing low habitat suitability for commuting and foraging bats and which is poorly connected to the wider landscape.	Local (lower)	All bat species are fully protected under the Wildlife Act 1976 (as amended) and the EC (Birds and Natural Habitats) Regulations 2011 (as amended). Site provides negligible roosting opportunities for bats and all reasonable likelihood of absence of roosting bats. The application site is unlikely to be important or critical to any particular species of bat, or for the maintenance of the local population status of any bat species.
Other mammal species	NBDC returned one record for hedgehog (*Erinaceus europaeus*) recorded on the southern boundary of the application site in 2022 and one record for rabbit (*Oryctolagus cuniculus*) within the search area.	During the Habitat Survey no mammals were observed within the application site. Whilst the site has the potential to support a number of other small mammals, no evidence was found to indicate the presence of any protected species of mammal.	Local (lower)	Site provides some localised value to small mammals but the areas of habitat are relatively small and isolated. Therefore the site is not likely to be critical in maintaining the local population status of any particular species
Birds				
Bird assemblage	NBDC returned records for three species of birds for the search area. Previous ecological surveys carried out at this site by MKO in November 2018 recorded 12 species of birds at	The habitats present in the application site provide opportunities for bird species that utilised quarry sites.	Local (lower)	Protected under the Wildlife Act 1976 as amended by the Wildlife (Amendment) Act 2000. Peregrine falcon are breeding at the existing quarry as a result of the

Species	Desk-based Study	Description of Use or Likely Use of the Application Site	Level of Value	Rationale
	the application site including peregrine falcon (*Falco peregrinus*) a species listed under Annex I of the EU Birds Directive. Historically, peregrine falcon has been recorded at and breeding at the quarry on the southern rock face within the application site since 2016.	During the Habitat Survey a total of nine species of birds were recorded visually and/or aurally at and in the vicinity of the application site. Of the species recorded peregrine falcon is listed under Annex I of the EU Birds Directive. Of the bird species recorded none is red listed[7] and three are amber listed[8] Birds of Conservation Concern in Ireland (BoCCI)[9]. A full list of the birds recorded during the Habitat Survey and their conservation status is provided at Appendix 6B.		habitat created through quarrying operations. However this species has a widespread distribution in Ireland and is no longer a species of conservation concern. In 2018 it was estimated that there was over 400 breeding pairs of peregrine falcon in Ireland and the breeding pair at the quarry represents 0.5% of the national breeding population. The application site provides breeding and foraging opportunities for a range of typically common and widespread species associated with quarries and disturbed habitats but is not likely to be important or critical for any particular individual species or local populations of birds.
Reptiles				

[7] Red list species are those that are Globally Threatened according to IUCN criteria; those whose population or range has declined rapidly in recent years; and those that have declined historically and not shown a s substantial recovery

[8] Amber list species are those with an unfavourable conservation status in Europe; those whose population or range has declined moderately in recent years; those whose populations has declined historically but made a substantial recovery; rare breeders; and those with international important or localised populations.

[9] Gilbert G, Stanbury A and Lewis L. (2021). *Birds of Conservation Concern in Ireland 2020 –2026*. Irish Birds 43: 1–22

Species	Desk-based Study	Description of Use or Likely Use of the Application Site	Level of Value	Rationale
Common lizard	NBDC returned no records for common lizard (*Zootoca vivipara*) within the search area.	Although common lizard is a species that can be found in wide range of habitats, the application site provides sub-optimum habitat for this species. No common lizards were observed during the Habitat Survey and it is considered that this species is not likely to be present at this site.	Not applicable	All reasonable likelihood of absence
Amphibians				
Common Frog and	NBDC returned no records for common frog (*Rana temporaria*) within the search area.	The application site and the immediate surrounding area supports sub-optimal breeding and terrestrial habitat for common frog. During the Habitat Survey no evidence was found to indicate the presence of common frog in the application site.	Local (lower)	All reasonable likelihood of absence
Smooth Newt	NBDC returned no records for smooth newt (*Lissotriton vulgaris*) within the search area.	The application site and the immediate surrounding area supports sub-optimal breeding and terrestrial habitat for smooth newt. During the Habitat Survey no evidence was found to indicate the presence of smooth newt in the application site.	Not applicable	All reasonable likelihood of absence
Invertebrates				

Species	Desk-based Study	Description of Use or Likely Use of the Application Site	Level of Value	Rationale
Invertebrates	NBDC returned no records for any rare or notable species of invertebrate within the search area	During the Habitat Survey no rare or notable species of invertebrate were observed within the application. Whilst no site is without invertebrate interest, it is considered not likely, given the habitat types, that the application site would support any protected invertebrate species.	Local (lower)	The site provides potential habitat for a wide range of invertebrates but is unlikely to be important or critical to any particular species or taxonomic group.
Other Important Species				
Other species not identified above	NBDC did not return any records for any other rare or notable species within the search area	During the Habitat Survey, no other protected, rare or notable species were recorded. Though the application site may support low numbers of common and widespread species it is considered highly unlikely that any other specially protected species would be present based on the habitats present.	Not applicable	All reasonable likelihood of absence

Summary of Important Ecological Features

6.45 In accordance with the CIEEM guidelines only ecological features considered to be important should be carried forward to any detailed assessment. It is not necessary to carry out detailed assessment of features that are sufficiently widespread, unthreatened and resilient to project impacts and will remain viable and sustainable. Therefore where receptors have been evaluated at a value of '*Local (lower)*' no further assessment is deemed necessary as the impact on these receptors is not likely to be of significance. However, where protected species are present and there is a potential for a breach in wildlife legislation then these species are considered as important ecological features regardless at what level they have been evaluated.

6.46 Based on the above, the identified important ecological features with the potential to be affected by proposed continuation and extension of the existing limestone quarry at Barrettspark and carried forward for further ecological impact assessment are detailed in Table 6.8.

Table 6.8: Identified Important Ecological Features

Key Feature	Important Ecological Feature	Evaluation
Species	Bird assemblage (nesting)	Local (lower)

Potential Effects

6.47 This section assesses the ecological impacts from the proposed continuation and extension of the existing limestone quarry and continuance of use of the concrete manufacturing facility at Barrettspark on important ecological features identified from the preliminary desk-based study, baseline surveys and evaluation of the ecological features. Both qualitative and quantitative information has been used to identify likely significant ecological impacts, including the positive, negative, direct, indirect and the cumulative environmental effects.

6.48 To assess the effects of the proposed scheme it is essential that the impacts that could arise are identified and characterised. The impacts that require consideration in the EcIA are based upon knowledge of the proposed development and of the important ecological features. This can only be undertaken with a thorough understanding of ecological processes and how flora and fauna react to the range of impacts that could occur.

Proposed Development

6.49 A detailed description of the development is presented in Chapter 3 of the EIAR.

6.50 The proposed development comprises the following:

- Continued use of the existing quarry to the permitted depth of minus 5 mOD, including drilling, blasting, crushing, processing, stockpiling of materials, associated roads and ancillary services (granted under Planning Ref. File No.: 09/1958 and ABP Ref.: PL07.235821);
- Continued use of open storage areas;
- Continued use of existing permitted concrete manufacturing facility (granted under Planning Ref. File No. 09230 and 19/517: ABP-304769-19);
- Continued use of the existing office (granted under Planning Ref. File No.: 09/1958 and ABP Ref.: PL07.235821);

- Continued use of the existing maintenance shed (granted under Planning Ref. File No. 09610);
- Continued use of the existing water management system (including settlement lagoons), weighbridge and wheelwash;
- Lateral extension of the existing permitted quarry area over a previously permitted extraction area (granted under Planning Ref. File No. 06/4125) of c.4.6 ha. area to a final floor level of minus 5 mOD. The total quarry extraction area will be c. 13 Ha.;
- Restoration of the application area to natural habitat after uses following completion of extraction.

6.51 The proposed development is within an overall application area of c. 27.5 hectares and is for a total period of 22 years (comprising an operational period of 20 years followed by 2 years for restoration).

Identification and Characterisation of Potential Impacts

6.52 The potential ecological impacts from the proposed continuation and extension of the existing limestone quarry and continuance of use of the concrete manufacturing facility at Barrettspark fall into two main categories:

- impacts arising from the operation of the limestone (operational phase); and
- impacts arising from the restoration of the site (post-operational phase).

6.53 No distinction has been made between any preparation of the site (construction phase) and the operational phase as overburden has been largely removed from the proposed extension area. Where soils and overburden remain, these will be removed from the working area prior to any rock being extracted from the extension area and used for site restoration purposes.

Potential Impacts and Interaction with Important Ecological Features (Operational Phase)

6.54 The sources of potential impacts arising from the proposed continuation and extension of the existing limestone quarry and continuance of use of the concrete manufacturing facility at Barrettspark and the relevant important ecological features which are likely or have the potential to be directly or indirectly affected from any particular impact source based on the potential zone of influence of the development, in the absence of mitigation are outlined in Table 6.9.

Table 6.9: Sources of Potential Impacts and Important Ecological Potentially Affected

Impact Source	Nature of Impact	Important Ecological Feature Potentially Affected
Habitat loss, damage and fragmentation	Habitat loss involves the direct destruction or physical take-up of vegetation, or the removal of other structures with conservation interest. Habitat loss may also occur indirectly as a result of a change in land-use or water management, for instance the drying-up of ponds or through induced successional events leading to a change in habitat type. Habitat fragmentation is concerned with spatial processes, such as negative edge effects (e.g.	Bird assemblage

	colonisation by 'aggressive' species or successional changes) and dispersal problems that can become increasingly severe as habitat is lost and remaining habitat is divided into smaller units. Fragmented habitats are likely to be more vulnerable to external factors that may have a negative effect upon them; e.g. disturbance, and may be less resilient to change (including climate and management change) than connected habitats because colonising species may be unable to reach the habitat to re-colonise in the event of species loss. Habitat loss can have a direct impact on individual populations and assemblages of species result in the direct loss of individuals or populations of animal species, or indirectly by increasing levels of stress placed upon populations of some species through negative edge effects (e.g. predation pressure) and dispersal problems that can become increasingly severe as habitat is lost and remaining habitat is divided into smaller units. The zone of influence of the proposed development is assessed to be restricted to the application site and immediate adjacent areas only.	
Disturbance from human activity, noise and vibration	Increases in disturbance, as a result of human activity can have a range of impacts depending upon the sensitivity of the ecological receptor, the nature and duration of the disturbance and its timing. The response of individual species to increased levels of human disturbance will depend upon a number of factors including the sensitivity, reproductive status, previous exposure to human disturbance, behaviour during the event, species tolerance to disturbance, location in relation to the source, availability of alternative nearby habitat, and environmental factors (i.e. topography, vegetation and atmospheric conditions which can influence noise levels). The level of disturbance will also be dependent upon the existing ambient noise levels and maximum noise levels. <u>Noise</u> It is generally accepted that for noise, certain species or groups of species can be impacted upon up to a distance of up to 300m from its source for high level and discontinuous disturbance with these distances reducing for low level and/or continuous disturbance levels. Evidence suggests that in general wildlife, with the exception of the most sensitive species, will adjust	Bird assemblage

	and tolerate long-term increases in low-medium-level and continuous noises. Guidance published under AQTAG09[10] indicates that where noise levels are below 80dB LA_{max} and 55dB $LA_{eq,1hr}$ as measured at a nest site for birds or other feature used by wildlife it is considered unlikely that it will have an adverse impact on any such species. <u>Visual Disturbance</u> Visual disturbance from human activity can include the movement of people, machinery and plant and which can result in the disturbance of species by causing increased anxiety and flight due to perceived danger. The response to visual disturbance is highly variable between species, threat type and habituation to human contact and can typically range from 50 to 500m although for many species this is generally below 300m in open situations. <u>Vibration</u> Any blasting operations have the potential to generate vibration. Studies into the effects of blasting on nesting falcons indicate that quarry blasting initiated flight up to 500m from the point source of any blast. However, this did not result in the abandonment of nests. The maximum distances at which vibration from other operational sources may be just perceptible to humans is between 30 to 50m from its source and this is likely to be similar for most groups of species. Whilst it is generally recognised vibration can disrupt wildlife the effect of vibration are usually masked by other disturbance and noise. It is likely that any species sensitive to increase noise will also be sensitive to vibration whilst less sensitive species to noise are likely to tolerate levels of vibration.	

Potential Impacts and Interaction with Important Ecological Features (Post-Operational Phase)

6.55 No sources of potential significant adverse impacts are considered likely on important ecological features over and above those arising during the operational phase of the proposed development. The restoration of the site to natural habitats is likely to have a positive and beneficial effect on wildlife. The level and significance of any effects cannot be quantified at this current time for any individual or groups of species but are likely to be

[10] Ormerod, L., Goodlad, N. and Horton, K. (2005). A*QTAG09 – Guidance on the Effects of Industrial Noise on Wildlife*. Air Quality Technical Advisory Group

beneficial and positive at a Local (lower) value. As the effects from the restoration are considered likely to be generally positive, no further assessment is deemed necessary in respect of the post-operational phase.

Assessment of Effects and Mitigation Measures

6.56 Table 6.10 details the assessment of predicted effects on the identified and relevant important ecological features from the proposed continuation and extension of the existing limestone quarry and continuance of use of the concrete manufacturing facility at Barrettspark and mitigation measures to prevent, reduce or offset any potential effects.

Table 6.10: Assessment of Effects on Identified and Relevant Important Ecological Features (Operational Phase)

Impact	Assessment of Effects	Significance of Impact Before and After Mitigation (Residual Impact)
Bird assemblage (nesting)		
Habitat loss, damage and fragmentation	<u>Assessment of Effects</u> The extension of the quarry to the south has the potential to result in the loss of the ledge used for nesting purposes by peregrine falcon at this site. The proposed continuation and extension of the limestone quarry and continuance of use of the concrete manufacturing facility will not result in any significant loss of breeding habitat for any other species of birds based on the habitats currently present on site and with the surrounding area having sufficient carrying capacity to accommodate any displaced birds. It is therefore assessed that the loss of habitats is not likely to adversely affect the local population status of all other birds species as a direct or indirect result of the continuation and extension of the limestone quarry.	Significant at Local (lower) level
	<u>Mitigation:</u> To ensure the preservation of the peregrine falcon nesting ledge, that has been occupied consistently since 2016, the proposed extraction area has been designed to avoid the loss of this feature through any continuation and extension of quarrying operations – refer to Appendix 6C. To ensure compliance with Wildlife Act 1976 (as amended) prohibiting the killing, injuring or taking; the damage, destruction or taking of nests in use or being built; and the taking or destruction of eggs, all shrubs and ground vegetation with the potential to support nesting birds will be removed outside the bird breeding season wherever practically. However, if any vegetation clearance take place during the bird breeding season (March to the end of August) the area will be inspected for any evidence of nesting activity by an experienced ecologist / ornithologist. Any identified nest will be marked and an appropriately sized exclusion zone for the relevant species delineated around all such nest site(s). No vegetation clearance will be permitted within any exclusion zone until such time as the young have fledged and left the	Not significant

Impact	Assessment of Effects	Significance of Impact Before and After Mitigation (Residual Impact)
	nest. Given the likely nesting species at this site the exclusion zone is unlikely to exceed beyond a 20m radius of any nesting site.	
Disturbance from human activity, noise and vibration.	<u>Assessment of Effects:</u> The continuation and extension of the existing quarry **and continuance of use of the concrete manufacturing facility** is not anticipated to increase the overall levels of disturbance at this site with only the direction of disturbance changing as the quarry is extended. However, given that the species recorded as present in the application area are already likely to be habituated to noise, other human disturbance and vibration from the existing quarry, no likely significant effects on peregrine falcon or the overall population status of any other bird species at and within the local surrounding area from the proposed continuation of extension of quarrying operations are predicted.	Not significant
	<u>Mitigation:</u> A Peregrine Falcon Management Plan was prepared for this site in 2020 that included the establishment of 125m buffer around the nesting site, when the nest is active (March to June), excluding blasting within this area. This Management Plan has been revised as part of this planning application maintaining this buffer zone – refer to Appendix 6C.	

Ecosystem Services

6.57 The application site at this current time is not considered to provide any ecosystem services including supporting, provisioning, regulating and/or cultural services.

6.58 Through the restoration of the site to natural habitats, there is likely to be some influence on local water regulation. However, given the scale and nature of the site, this impact is expected to be limited, and the ecosystem services provided in terms of water regulation are unlikely to be significant or of notable importance within the quarry site or its immediate surroundings.

Cumulative Effects

6.59 There are no other known planning applications, activities, or proposed activities at or within close proximity to the application site that would be likely to result in any significant cumulative impacts on important ecological features or the biodiversity of the local area at this current time. The proposed development represents a continuation of existing quarrying and concrete manufacturing activities within an established and well-regulated site. Existing mitigation measures, including progressive restoration, water management systems, and pollution prevention measures, are designed to minimise potential environmental effects. Given the site's operational controls, compliance with environmental legislation, and absence of nearby developments with similar impacts, no significant cumulative ecological impacts are anticipated.

Ecological Enhancement and Compensation

6.60 No further recommendations for ecological enhance and/or compensation are deemed necessary as part of the proposed continuation and extension of the existing limestone quarry and continuance of use of the concrete manufacturing facility at Barrettspark.

Monitoring

6.61 No specific ecological monitoring is deemed necessary during the proposed continuation and extension of the existing limestone quarry and continuance of use of the concrete manufacturing facility at Barrettspark. However, in accordance with the Peregrine Falcon Management Plan breeding surveys will be conducted in years 1, 2, 3, 5, and 10 of the development.

Legal and Policy Implications

Legal Implications

6.62 The proposed continuation and extension of the existing limestone quarry and continuance of use of the concrete manufacturing facility at Barrettspark has no implications for any statutory designated nature conservation sites.

6.63 The only statutory protected species with relevance to the proposed continuation and extension of the existing limestone quarry and continuance of use of the concrete manufacturing facility at Barrettspark are breeding birds and in particular peregrine falcon. However, provided that appropriate mitigation strategies are put in place it will be possible for the proposed continuation and extension of the existing limestone quarry and continuance of use of the concrete manufacturing facility at Barrettspark to be carried out without the risk of breaching current wildlife legislation.

6.64 Hedgerows and stone walls are identified as features in the Galway County Development Plan under policies *NHB 5: Ecological Connectivity and Corridors* and *TWHS 1: Trees, Hedgerows, Natural Boundaries and Stone Walls*. However, all hedgerows and stonewalls along the boundaries of the quarry site will not be affected by the proposed continuation and extension of the existing limestone quarry and continuance of use of the concrete manufacturing facility at Barrettspark and therefore will be in compliance with current planning policies relating to biodiversity.

6.65 Provided all appropriate mitigation measures to ensure the compliance with the Wildlife Act 1976 (as amended) in respect to breeding birds it is considered that the continuation and extension of the existing limestone quarry and continuance of use of the concrete manufacturing facility at Barrettspark will comply with the requirements of current national, regional and local planning policies relating to protected species.

Residual Effects

6.66 The proposed continuation and extension of the existing limestone quarry and continuance of use of the concrete manufacturing facility at Barrettspark is not predicted to result in any residual effects.

FIGURES

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NOTES

LEGEND

- APPLICATION SITE
- BL1 - STONEWALLS
- FP1 - CALCAREOUS SPRINGS
- WL1 - HEDGEROWS
- WL2 - TREELINES

HABITATS

- ED4 - ACTIVE QUARRIES AND MINES
- ED3 - RECOLONISING BARE GROUND
- ED2 - SPOIL AND BARE GROUND
- ER4 - CALCAREOUS SCREE AND LOOSE ROCK
- BL3 - BUILDINGS AND ARTIFICIAL SURFACES
- GS2 - DRY MEADOWS AND GRASSY VERGES
- WS1 - SCRUB

QUARRY CONSULTING

PROPOSED CONTINUATION AND EXTENSION OF AN EXISTING LIMESTONE QUARRY AT BARRETTSPARK, ATHENRY, CO. GALWAY

HABITAT PLAN

FIGURE 6.1

QC-24.009

Scale 1:2,500 @ A3

Date NOVEMBER 2024

APPENDICES

APPENDIX 6A: LOCAL POLICIES RELEVANT TO BIODIVERSITY

Policy / Objective	Description
Natural Heritage and Biodiversity	
NHB 1: Natural Heritage and Biodiversity of Designated Sites, Habitats and Species	Protect and where possible enhance the natural heritage sites designated under EU Legislation and National Legislation (Habitats Directive, Birds Directive, European Communities (Birds and Natural Habitats) Regulations 2011 and Wildlife Acts) and extend to any additions or alterations to sites that may occur during the lifetime of this plan. Protect and, where possible, enhance the plant and animal species and their habitats that have been identified under European legislation (Habitats and Birds Directive) and protected under national Legislation (European Communities (Birds and Natural Habitats) Regulations 2011 (SI 477 of 2011), Wildlife Acts 1976-2010 and the Flora Protection Order (SI 94 of 1999). Support the protection, conservation and enhancement of natural heritage and biodiversity, including the protection of the integrity of European sites, that form part of the Natura 2000 network, the protection of Natural Heritage Areas, proposed Natural Heritage Areas, Ramsar Sites, Nature Reserves, Wild Fowl Sanctuaries (and other designated sites including any future designations) and the promotion of the development of a green/ ecological network.
NHB 2: European Sites and Appropriate Assessment	To implement Article 6 of the Habitats Directive and to ensure that Appropriate Assessment is carried out in relation to works, plans and projects likely to impact on European sites (SACs and SPAs), whether directly or indirectly or in combination with any other plan(s) or project(s). All assessments must be in compliance with the European Communities (Birds and Natural Habitats) Regulations 2011. All such projects and plans will also be required to comply with statutory Environmental Impact Assessment requirements where relevant.
NHB 3: Protection of European Sites	No plans, programmes, or projects etc. giving rise to significant cumulative, direct, indirect or secondary impacts on European sites arising from their size or scale, land take, proximity, resource requirements, emissions (disposal to land, water or air), transportation requirements, duration of construction, operation, decommissioning or from any other effects shall be permitted on the basis of this Plan (either individually or in combination with other plans, programmes, etc. or projects.
NHB 4: Ecological Appraisal of Biodiversity	Ensure, where appropriate, the protection and conservation of areas, sites, species and ecological/networks of biodiversity value outside designated sites. Where appropriate require an ecological appraisal, for development not directly connected with or necessary to the management of European Sites, or a proposed European Site and which are likely to have significant effects on that site either individually or cumulatively.

Policy / Objective	Description
NHB 5: Ecological Connectivity and Corridors	Support the protection and enhancement of biodiversity and ecological connectivity in non-designated sites, including woodlands, trees, hedgerows, semi-natural grasslands, rivers, streams, natural springs, wetlands, stonewalls, geological and geo-morphological systems, other landscape features and associated wildlife areas where these form part of the ecological network and/or may be considered as ecological corridors in the context of Article 10 of the Habitats Directive.
NHB 7: Mitigation Measures	Require mitigating measures in certain cases where it is evident that biodiversity is likely to be affected. These measures may, in association with other specified requirements, include establishment of wildlife areas/corridors/parks, hedgerow, tree planting, wildflower meadows/marshes and other areas. With regard to residential development, in certain cases, these measures may be carried out in conjunction with the provision of open space and/or play areas.
NHB 9: Protection of Bats and Bats Habitats	Seek to protect bats and their roosts, their feeding areas, flight paths and commuting routes. Ensure that development proposals in areas which are potentially important for bats, including areas of woodland, linear features such as hedgerows, stonewalls, watercourses and associated riparian vegetation which may provide migratory/foraging uses shall be subject to suitable assessment for potential impacts on bats. This will include an assessment of the cumulative loss of habitat or the impact on bat populations and activity in the area and may include a specific bat survey. Assessments shall be carried out by a suitably qualified professional and where development is likely to result in significant adverse effects on bat populations or activity in the area, development will be prohibited or require mitigation and/or compensatory measures, as appropriate. The impact of lighting on bats and their roosts and the lighting up of objects of cultural heritage must be adequately assessed in relation to new developments and the upgrading of existing lighting systems.
Water Resources	
WR1: Water Resources	Protect the water resources in the plan area, including rivers, streams, lakes, wetlands, springs, turloughs, surface water and groundwater quality, as well as surface waters, aquatic and wetland habitats and freshwater and water dependant species in accordance with the requirements and guidance in the EU Water Framework Directive 2000 (2000/60/EC), the European Union (Water Policy) Regulations 2003 (as amended), the River Basin District Management Plan 2018 – 2021 and other relevant EU Directives, including associated national legislation and policy guidance (including any superseding versions of same) and also have regard to the Freshwater Pearl Mussel Sub-Basin Management Plans.
Wetlands, Turloughs, Watercourses	

Policy / Objective	Description
WTWF 1: Wetland Sites	Protect and conserve the ecological and biodiversity heritage of the wetland sites in the County. Ensure that an appropriate level of assessment is completed in relation to wetland habitats that are subject to proposals which would involve drainage or reclamation that might destroy, fragment or degrade any wetland in the county. This includes lakes and ponds, turloughs, watercourses, springs and swamps, marshes, fens, heath, peatlands, some woodlands as well as some coastal and marine habitats. Protect Ramsar sites under The Convention on Wetlands of International Importance (especially as Waterfowl Habitat).
Peatlands	
P1: Protection of Peatlands	Ensure that peatland areas which are designated (or proposed for designation) as NHAs, SACs or SPAs are conserved for their ecological, climate regulation, education and culture, archaeological potential including any ancient walkways (toghers) through bogs.
P2: Best Practice in Peatland Conservation and Management	Work in partnership with relevant stakeholders on all suitable peatland sites to demonstrate best practice in sustainable peatland conservation, management and restoration techniques and to promote their heritage and educational value subject to Ecological Impact Assessment and Appropriate Assessment Screening, as appropriate.
Invasive Species	
IS 1: Control of Invasive Alien Invasive Species	It is a policy objective of the Planning Authority to support measures for the prevention and eradication of invasive species.
IS 2: Invasive Species Management Plan	Ensure that proposals for development do not lead to the spread or introduction of invasive species. If developments are proposed on sites where invasive species are currently or were previously present, an invasive species management plan will be required. A landscaping plan will be required for developments near water bodies and such plans must not include alien invasive species.
Trees, Woodlands, Hedgerows and Stone Walls	
TWHS 1: Trees, Hedgerows, Natural Boundaries and Stone Walls	Protect and seek to retain important trees, tree clusters and tree boundaries, ancient woodland, natural boundaries including stonewalls, existing hedgerows particularly species rich roadside and townland boundary hedgerows, where possible and replace with a boundary type similar to the existing boundary. Ensure that new development proposals take cognisance of significant trees/tree stands and that all planting schemes developed are suitable for the specific site and use suitable native variety of trees of Irish provenance and hedgerows of native species. Seek Tree Management Plans to ensure that trees are adequately protected during development and incorporated into the design of new developments.
TWHS 2: Protection of Forestry	Protect all substantial areas of deciduous forest, other than areas of commercial forestry. Proposals for development in these areas should seek to interact with the landscape character of the forested areas and its limits while also enhancing the forested areas so as to increase biodiversity value.

Policy / Objective	Description
Eskers	
ESK 1: Protection of Eskers	Protect and conserve the landscape, natural heritage and biodiversity value of esker systems in the county. Assess applications for quarrying and other proposed developments with reference to their status or relative importance, for example, amenity, landscape and scientific value in the context of the overall esker system.
Inland Lakes, Waterways	
IW 1: Inland Waterways	(a) Protect and conserve the quality, character and features of inland waterways by controlling developments close to navigable and non-navigable waterways in accordance with best practice guidelines. (b) Preserve, protect and enhance Galway's inland lakes and waterways for their amenity and recreational resource amenity. (c) Protect the riparian zones of watercourse systems throughout the County, recognising the benefits they provide in relation to flood risk management and their protection of the ecological integrity of watercourse systems and ensure they are considered in the land use zoning in Local Area Plans. (d) The Planning Authority will support in principle the development and upgrading of the Inland Waterways and their associated facilities in accordance with legislation, best practice and relevant management strategies, key stakeholders and bodies including Waterways Ireland. (e) Ensure all abstractions of water will be subject to assessment for compliance with the requirements of Article 6 of the Habitats Directive. (f) Seek to provide additional accesses to lake shores and rivers for public rights of way, parking and layby facilities, where appropriate. (g) Developments shall ensure that adequate soil protection measures are undertaken, where appropriate, including investigations into the nature and extent of any soil/groundwater contamination.
Green and Blue Infrastructure	
GBI 1: New Developments	Require all proposals for large scale development to contribute to the protection, management and enhancement of the existing green/blue infrastructure of the County and the delivery of new green/blue infrastructure, where appropriate by including a green/ blue infrastructure plan as an integral part of any planning application. This plan should identify environmental and ecological assets, constraints and opportunities and shall include proposals which protect, manage, and enhance the development of green infrastructure resources in a sustainable manner.

APPENDIX 6B: SUMMARY OF BIRDS RECORDED DURING THE HABITAT SURVEY (JULY 2024)

Scientific Name	Common Name	Annex I EU Birds Directive	Red List	Amber List
Columba livia	Feral Pigeon	-	-	-
Corvus cornix	Hooded Crow	-	-	-
Corvus monedula	Jackdaw	-	-	-
Delichon urbicum	House Martin	-	-	√
Falco peregrinus	Peregrine Falcon	√	-	-
Hirundo rustica	Swallow	-	-	√
Motachilla alba	Pied Wagtail	-	-	-
Pica pica	Magpie	-	-	-
Sturnus vulgaris	Starling	-	-	√

APPENDIX 6C: PEREGRINE MANAGEMENT PLAN

Peregrine Falcon Management Plan

PROPOSED CONTINUATION OF USE AND EXTENSION OF AN EXISTING LIMESTONE QUARRY AT BARRETTSPARK, ATHENRY, CO. GALWAY

CLIENT NAME: COSHLA QUARRIES LTD.

REFERENCE: 72.01

FEBRUARY 2025

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1. Introduction

1.1. The Peregrine Falcon Management Plan has been prepared to accompany a planning application and Environmental Impact Assessment Report (EIAR) for the continuation and extension of the existing limestone quarry and concrete manufacturing facility at Barrettspark, Athenry, Co. Galway. The plan outlines the measures incorporated into the proposed quarry development to safeguard breeding Peregrine Falcon (*Falco peregrinus*) when nesting on-site.

1.2. The Peregrine Falcon is a protected species under Irish and EU legislation, including the Wildlife Act 1976 (as amended) and under Annex I of the EU Birds Directive. This species, recognised for its ecological importance, has been recorded nesting within the quarry.

1.3. The plan aims to minimise potential impacts on the species while ensuring the sustainable operation of the quarry. It has been developed in accordance with national and local policy objectives, including the Galway County Development Plan 2022–2028, which prioritises biodiversity protection and ecological connectivity.

2. Ecological Context

2.1 The quarry provides ideal nesting habitat for Peregrine Falcons, with its high vertical rock faces offering secure and sheltered ledges for breeding. The nesting site identified during the visit is located on an elevated cliff face within the southern boundary of the quarry. This location provides a commanding view of the surrounding area, which is critical for detecting potential threats and foraging opportunities.

2.2 The surrounding quarry environment supports a diverse range of prey species, including small birds such as pigeons and starlings, and small mammals. The abundance of prey resources in proximity to the nesting site reinforces the suitability of the quarry as a breeding habitat. Additionally, the site's isolation from frequent human activity further enhances its viability as a Peregrine Falcon nesting location.

2.3 Peregrine falcon was recorded as present at the quarry in 2015 and a pair successfully bred for the first time in 2016 as confirmed by NPWS. Since this time the quarry has been consistently used for breeding purposes with the quarrying operations taking into consideration the protection of the nesting site and minimising disturbance to ensure the successful rearing and fledging of young.

2.4 As part of the ecological survey of the quarry site in July 2024, to inform Chapter 6 of the Biodiversity chapter of the accompanying EIAR, peregrine falcon were again confirmed as present. Although no young were observed at the nesting site and the adult did not display behaviour indicative of young being present, the nest site showed signs that it may have been recently in use.

3. Conservation Measures

Habitat Protection

3.1 To ensure the preservation of the confirmed breeding Peregrine Falcon nesting ledge, occupied consistently since 2016, the proposed extraction area has been designed to avoid impacting this feature. The surrounding area will remain undisturbed on a permanent basis (see Drawing 1).

Minimising Disturbance to Nesting Birds

3.2 To protect nesting peregrine falcons and minimise disturbance, there will be no blasting along the southern boundary of the quarry, on either side of the known nesting ledge whilst the nest is active, i.e. occupied by eggs and young birds (March to June).

3.3 A 125-metre buffer will be maintained around the Peregrine Falcon nesting site whilst the nest is active (March to June), within which no blasting will occur. Blasting within the quarry outside the buffer will be limited to twice per month during this period to further reduce potential disturbance. These measures ensure the quarry's activities are conducted in a manner that prioritises the protection of this protected species.

4. Monitoring

4.1 Subject to the grant of planning permission for the proposed continuation of use and extension, the following monitoring programme will be implemented during the operational phase of the development.

4.2 Dedicated breeding Peregrine Falcon surveys will be conducted in years 1, 2, 3, 5, and 10 of the development. These surveys will involve three visits during the breeding season to confirm nest occupancy, establish breeding activity, and assess productivity. This programme will ensure the development operates in full compliance with the requirements of this management plan.

4.3 Where blasting is required during the breeding season, a dedicated breeding Peregrine Falcon survey will be carried out prior to any blasting activity. The 125-metre buffer zone may be adjusted if the species changes its nesting location in any given year or if other variations occur.

4.4 The success of this management plan will be evaluated based on breeding productivity and fledging success, which will be monitored during the surveys.

4.5 Where it is established that a new nesting site is established in the quarry through any monitoring, the conservation management plan will be updated to take into account where quarrying operations may have to be modified to ensure the protection of Peregrine Falcon.

5. Provision of Artificial Nest Ledge

5.1 In addition to retaining the existing nesting area, an artificial nest ledge will be installed to increase the nesting opportunities for Peregrine Falcons at the quarry. Peregrine Falcons are known to adapt to artificial nesting platforms or boxes, which have been successfully used on structures such as quarries, industrial sites, and high-rise buildings.

5.2 The artificial ledge will be installed on a suitable cliff face along the southern boundary of the quarry. To maximise its success, local NPWS staff, who regularly monitor the species at the site, will be consulted prior to installation to ensure the structure is strategically positioned to encourage occupancy.

5.3 Installation of the artificial nest ledge will take place during the first year of operation, outside the breeding season, subject to the granting of planning permission.

6. Conclusion

6.1 The Peregrine Falcon Management Plan outlines measures to ensure that breeding Peregrine Falcons at Barrettspark Quarry are not significantly impacted by the proposed continuation of use and extension of the existing limestone quarry. Considering the established presence of breeding Peregrine Falcons at the site, the following key measures have been integrated into the proposed extraction plan to avoid and minimise potential impacts on the species:

- Designing the extraction area to preserve the existing Peregrine Falcon nesting ledge.
- Installing an artificial Peregrine Falcon nest box to enhance the availability of suitable nesting habitat within the quarry.
- Maintaining a protective 125-metre buffer around the nesting ledge during the breeding season (March to June), within which no blasting will occur.

- Limiting blasting to a maximum of two blasts per month during the breeding season (March to June).
- Implementing a monitoring programme during the operational phase of the development to assess breeding success and ensure compliance with the management plan.

6.2 Taking these measures into account, it is concluded that the continued operation and proposed extension of the quarry and concrete manufacturing facility will not result in any significant loss of Peregrine Falcon nesting habitat at the site.

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0 80m 200

Metres 1:2500

NOTES

LEGEND

Application Area

125m Buffer From Peregrine Falcon Nesting Site

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COSHLA QUARRIES LTD.

CONTINUATION OF USE & EXTENSION
COSHLA QUARRY, BARRETTSPARK
ATHENRY, CO.GALWAY

PEREGRINE FALCON MANAGEMENT PLAN

DRAWING 1

Scale 1:2,500 @A3

Date FEBRUARY 2025