



**Proposed Infilling and Restoration of
a Limestone Quarry at Ballynahallia,
Moycullen, Co. Galway**

Natura Impact Statement

February 2026

M&M Caireal Teoranta

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CONTRACT

This document has been prepared by Green & Blue Ecology for Quarry Consulting acting on behalf of M & M Caireal Teoranta to provide an Natura Impact Statement of the proposed infilling and restoration of a limestone quarry at Ballynahallia, Moycullen, Co. Galway.

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Date : February 2026

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1. INTRODUCTION

1.1. Background

M & M Caireal Teoranta is proposing to infill and restore a limestone quarry to a stable final landform that closely reflects the original ground levels, enabling its long-term use for agriculture and/or natural habitat in the townland of Ballynahallia, Moycullen, Co. Galway.

The restoration of the quarry builds upon the Substitute Consent granted by An Bord Pleanála in June 2015 (ABP Ref. 07.SU0084), which required that, following the completion of extraction, the worked-out quarry be reinstated in accordance with the submitted restoration plan. That plan included the partial infilling of the quarry void with inert material to facilitate its return to beneficial after-use. The current proposal enhances and extends that original restoration strategy by allowing for full restoration to near-original levels, while maintaining consistency with the overall intent of the ABP decision.

Under Article 33 of the Planning and Development Regulations 2001 (as amended) Galway County Council has requested further information is required in respect of the planning application (Planning Reference No. 25/61717) to submit a Stage 2 Natura Impact Statement (NIS) as detailed below:

“The proposed development comprises the backfilling of a former quarry void using Article 27 by-product material at the subject site which is located within very close proximity to Lough Corrib SAC. The planning authority has considered the submitted AA Screening report and findings of same. It is highlighted that ‘the lack of a protective overburden layer increases the vulnerability of the groundwater within the limestone quarry’. Having reviewed the documents as submitted and having regard to the content of the consultation response received from the Environment Section of Galway County Council, the Planning Authority cannot be satisfied that the proposal would not result in adverse impacts on the receiving environment.”

Therefore in accordance with Part XAB of the Planning and Development Act 2000 (as amended), the competent authority has determined that the proposed infilling and restoration of the limestone quarry at Ballynahallia cannot be excluded, on the basis of objective information, that this proposed development, will have a significant effect on the following on the Lough Corrib Special Area of Conservation (SAC) and Lough Corrib Special Protection Area (SPA), individually or in combination with other plans or projects,.

1.2. Purpose of this Report

This report has been produced to provide a NIS, as required under Part XAB of the Planning and Development Act 2000 (as amended). It assesses the implications of the proposed infilling and restoration of the limestone quarry at Ballynahallia on Lough Corrib SAC and Lough Corrib SPA, in view of the conservation objectives of these sites, and whether the proposed development will have an adverse effect on the integrity of these Natura 2000 sites, either alone or in combination with other plans and projects. It follows the Appropriate Assessment Screening Report dated October 2025 prepared by Green and Blue Ecology submitted under Planning Reference No. 25/61717 and by Galway County Council.

The NIS provides further information to the assist the Competent Authority (in this case Galway County Council), in carrying out its Appropriate Assessment as to whether or not the Proposed Development will adversely affect the integrity of any European sites, either alone or in combination with other plans and projects, taking into account their conservation objectives.

Where adverse effects are identified, appropriate mitigation measures are recommended to be implemented in order to avoid or reduce any potential negative impacts on the relevant Natura 2000 site, or sites.

1.3. Evidence of Technical Competence and Experience

This NIS has been undertaken by Steve Judge. Steve has over 25 years of experience in ecological and environmental consultancy and a full member of the Chartered Institute of Ecology and Environmental Management (MCIEEM).

Steve is highly experienced in the preparation of Appropriate Assessment Screening Reports and Natura Impact Statements for a wide range of projects and plans throughout Ireland and Habitat Regulations Assessments (HRA) in the United Kingdom.

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2. LEGISLATIVE CONTEXT

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2.1. Appropriate Assessment Overview

The Habitats Directive (Council Directive 92/43/EEC on the Conservation of Natural Habitats and of Wild Fauna and Flora) forms the basis for the designation SACs. Similarly, SPAs are classified under the Birds Directive (Council Directive 2009/147/EEC on the Conservation of Wild Birds). Collectively, SACs and SPAs are referred to as the Natura 2000 network and are considered to be of exceptional importance for rare, endangered or vulnerable habitats and species within the European Community.

Under Article 6(3) of the Habitats Directive an Appropriate Assessment must be undertaken for any plan or project that is likely to have a significant effect on the conservation objectives of a Natura 2000 site. An Appropriate Assessment is an evaluation of the potential impacts of a plan or project on the conservation objectives of a Natura 2000 site, and the development, where necessary, of mitigation or avoidance measures to preclude negative effects.

The requirements for an Appropriate Assessment are set out under Article 6 of the EU Habitats Directive (92/43/EEC) transposed into Irish law by Part XAB of the Planning and Development Acts 2000 to 2020 and through the European Communities (Birds and Natural Habitats) Regulations 2011 to 2015. This legislation requires a Competent Authority to make an Appropriate Assessment of the implications for a Natura 2000 site, or sites, in view of a site's conservation objectives, before deciding to undertake, or give consent, permission or other authorisation for, a plan or project which:

- a. is not directly connected with or necessary to the management of that site; and
- b. is likely to have a significant effect on a Natura 2000 site, either alone or in combination with other plans and projects.

The European Commission's methodological guidance¹ promotes a four-stage process, as set out below, to complete an Appropriate Assessment:

- Stage 1 – Screening for Appropriate Assessment;
- Stage 2 – Appropriate Assessment;
- Stage 3 – Alternative Solutions; and
- Stage 4 – The 'IROPI Test' (Imperative Reasons of Overriding Public Interest).

A person applying for any such consent, permission or other authorisation must provide such information, as the Competent Authority may reasonably require, for the purposes of the assessment or to enable them to determine whether an Appropriate Assessment is required.

In considering whether a plan or project will adversely affect the integrity of any European site or sites, the Competent Authority should consider whether the effects of the proposal on the site or sites, either individually or in combination with other plans or projects, is likely to be significant in terms of the conservation objectives and in respect of each interest feature for which the site was designated a SAC under the Council Directive 92/43/EEC on the Conservation of Natural Habitats and of Wild Fauna and Flora (Habitats Directive), or classified a SPA under Council Directive 2009/147/EC on the Conservation of Wild Birds (The Birds Directive) that codifies Directive 79/409/EEC.

In the light of the conclusions of the assessment, and in consideration of overriding public interest, the Competent Authority may agree to the plan or project only after having ascertained that it will not adversely affect the integrity of the Natura 2000 site.

¹ European Communities (2002). *Assessment of Plans and Projects Significantly Affecting Natura 2000 Sites. Methodological Guidance on the Provision of Article 6(3) and (4) of the Habitats Directive 92/43/EEC*. European Communities, Luxembourg.

2.2. Ascertaining the Threat to Site Integrity

The Competent Authority will be required to determine whether the proposed infilling and restoration of the limestone quarry at Ballynahallia would adversely affect the integrity of any Natura 2000 site, or sites in light of the conservation objectives for that particular site, or sites. The integrity of a site is defined as:

“The integrity of a site is the coherence of its ecological structure and function, across its whole area, which enables it to sustain the habitat, complex of habitats and/or the levels of populations of the species for which it was designated/classified.”

Further to the above, an adverse effect on integrity can also be defined as one that is likely to prevent a Natura 2000 site from making the same contribution to favourable conservation status of the habitats and species of community interest as it did at the time of its designation/classification.

2.3. Conservation Objectives

The overall aim of the Habitats Directive is to maintain or restore the favourable conservation status of habitats and species of community interest for which a site has been designated an SAC or classified an SPA respectively.

A site-specific conservation objective aims to define the favourable conservation condition for a particular habitat or species at the site level, and which through the maintenance of favourable conservation condition will contribute to the conservation status of these habitats and species at a national level through the network of Natura 2000 site.

Favourable conservation status of habitat is achieved when:

- its natural range, and area it covers within that range, are stable or increasing; and
- the specific structure and functions which are necessary for its long-term maintenance exist and are likely to continue to exist for the foreseeable future; and
- the conservation status of its typical species is favourable.

Favourable conservation status of habitat is achieved when:

Favourable conservation status of a species is achieved when:

- population dynamics data on the species concerned indicate that it is maintaining itself on a long-term basis as a viable component of its natural range; and
- the natural range of the species is neither being reduced nor is likely to be reduced for the foreseeable future; and
- there is, and will probably continue to be, a sufficiently large habitat to maintain its population on a long-term basis.

Site-specific conservation objectives prepared for any given Natura 2000 site include a series of specific attributes and targets against which effects on conservation status, or integrity, can be assessed.

3. METHODOLOGY

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3.1. Guidance and Approach

The following guidance documents have been considered in the preparation of this NIS, taking into account relevant Court of Justice of the European Union (CJEU) judgments and National Supreme and High Court decisions in respect to the appropriate assessment process:

- OPR (2021). *Appropriate Assessment Screening for Development Management - OPR Practice Note PN01* dated March 2021. Office of the Planning Regulator, Dublin;
- European Commission (2018). *Managing Natura 2000 Sites: The Provisions of Article 6 of the 'Habitats Directive' 92/43/EEC*;
- NPWS (2009 revised February 2010). *Appropriate Assessment of Plans and Projects in Ireland: Guidance for Planning Authorities*. National Parks and Wildlife Service, Department of the Environment, Heritage and Local Government. Dublin;
- DOEHLG (2010). *Appropriate Assessment under Article 6 of the Habitats Directive: Guidance for Planning Authorities. Circular NPWS 1/10 and PSSP 2/10*. Department of the Environment, Heritage and Local Government. Dublin; and
- European Commission (2001). *Assessment of Plans and Projects significantly affecting Natura 2000 Sites: Methodological guidance on the provisions of Article 6(3) and (4) of the Habitats Directive 92/43/EEC*.

3.2. Assessment Methodology

The NIS has been prepared in accordance with the requirements of Article 6(3) of the Habitats Directive and includes:

- a description of the baseline environment at the site of the proposed development;
- the identification of the relevant Natura 2000 sites that could be potentially affected by the proposed development, based on Appropriate Assessment Screening;
- the compilation and review of site-specific information for each relevant Natura 2000 site including: conservation interests; qualifying interests or special conservation interest species; site vulnerabilities; and ecological sensitivities;
- the identification of other relevant plans and projects for consideration of any in-combination effects with the proposed development;
- the identification of potential direct, indirect, and cumulative effects of the proposed development on the integrity of each relevant Natura 2000 site, with specific reference qualifying interests or special conservation interest species and site-specific conservation objectives;
- an assessment of the likelihood and significance of effects on each relevant Natura 2000 site, applying the precautionary principle and considering the potential for adverse effects on site integrity, either as a stand-alone project or in-combination with other plans or projects; and
- the identification and description of mitigation measures that are necessary to avoid or reduce adverse effects on the integrity of European sites, ensuring that such measures are enforceable and capable of being implemented in full.

3.3. Baseline Data Collection

Baseline information was gathered through a combination of desk-based study, site visit and inspection of the proposed project site on 6th May 2025, and technical assessments consistent with current standard methodologies and published best practice guidelines.

The principal source of information on Natura sites and key qualifying features has been data collected from publicly available information sources managed by the National Parks and Wildlife Service (NPWS)² and other relevant sources which provide current baseline conditions at the application site and within its potential zone of influence.

3.4. Assessment of Potential Impacts

The assessment of potential impacts is based on the Source-Pathway-Receptor (S-P-R) model, that identifies the impact source, the relevant Natura 2000 site or its qualifying interest or special conservation interest species and the pathway between the source and the receptor.

Potential impacts on the relevant Natura 2000 site(s) were identified during the Appropriate Assessment Screening. This assessment was undertaken in consideration of all potential impact sources and pathways connecting the proposed development to relevant Natura 2000 site(s) and its qualifying interests or special conservation interests of likely significant effects arising from the proposed development.

Through the Appropriate Assessment Screening process, the potential impact sources and pathways connecting the proposed infilling and restoration of the limestone quarry at Ballynahallia to Lough Corrib SAC and Lough Corrib SPA, in view of the conservation objectives for these Natura 2000 sites, requiring further consideration is changes in water quality and increased sedimentation via a potential ground and surface water hydraulic connectivity between the development site and Lough Corrib.

² <http://www.npws.ie>

4. DESCRIPTION OF THE PROJECT

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4.1. Location and Setting

The site of the limestone quarry is located in the townland of Ballynahallia approximately 2.7 kilometres (km) north of the village of Moycullen and 12.5km north west of the city centre of Galway, Co. Galway (please refer to Figure 1).

The application site comprises a quarry that was previously used for the extraction and processing of limestone to produce aggregates for the construction industry. The quarry sits within an area of exposed and wooded limestone pavement.

The surrounding landscape is characterised by agricultural land comprised of relatively small fields under permanent pasture with hedgerow / stonewall boundaries interspersed by blocks of semi-natural and plantation woodland, exposed limestone bedrock, bog and loughs of which Lough Corrib to the east and Ross Lake to the west are the most prominent of these.

The largest local population is the village of Moycullen with other smaller rural settlements and ribbon development along the roads and lanes that cross this area.

4.2. Outline Description of the Project

The project relates to a planning application for proposed infilling and restoration of the limestone quarry at Ballynahallia using imported uncontaminated and inert soil and stone material within an application area of c.5.6 hectares (ha).

Planning permission is specifically sought for the following:

- the importation of approximately 1.5 million tonnes of inert soil and stone that is classified as a by-product under Article 27 of the European Waste Framework Directive to facilitate the return of the site to agricultural use or natural habitat over an operational period of 20 years and a further 2 years to complete the final restoration of the site;
- the provision of welfare facilities comprising of a small portacabin office/canteen and chemical toilet; and
- the restoration of the site to natural habitat and agricultural use.

The limestone quarry will be backfilled on a phased approach using on average 75,000 tonnes per annum of Article 27 by-product. As an Article 27 by-product, the imported material is not classified as waste and does not require a separate waste permit.

The working hours at the site will be 08:00 hours to 19:00 hours Monday to Friday and 08:00 hours to 13:00 hours on Saturday. No operations will be carried out on Sundays or public holidays.

The importation of Article 27 by-product and backfilling of the quarry is anticipated to generate an annual average daily total (AADT) of 14 heavy duty vehicles (HDV) movements in and out of the site.

Refuelling of machinery will be carried out using a mobile tanker on an as needed basis. No fuel, oils or lubricants will be stored at the site.

A dust control system will be used to control fugitive dust from backfilling operations.

Sufficient lighting will be provided within the development area to operate machinery to ensure safe operations during winter periods.

There will be no requirement for any dewatering of the existing limestone quarry or for any discharge licence for the discharge to any surface waterbody or groundwater.

The restored site will be gently contoured to tie into the surrounding ground levels. This restoration will be phased progressing southwards creating an area of recreational grassland but with the creation of natural habitat around its margins including hedgerow and tree planting and species-rich grassland for biodiversity.

4.3. Article 27 By-product

The concept of a by-product was established by the European Waste Framework Directive enacted into Irish law through Regulation 27 of the European Communities (Waste Directive) Regulations 2011 (as amended). To qualify as a potential by-product it must be demonstrated with an appropriate level of rigor, that:

- the material can have a further use and will not be defined as waste;
- the material can be used as a secondary resource in place of and fulfilling the same role as a non-waste derived or virgin 'primary' resource; and
- the material can be used without causing overall adverse impacts to the environment or human health.

The by-product test is made up of four conditions that must all be met under the requirements of Regulation 27 including:

- i. Further use of the material is certain.
- ii. The material can be used directly without any further processing other than normal industrial practice.
- iii. The material is produced as an integral part of the production process.
- iv. Further use is lawful, in that the substance or object fulfils all relevant product, environmental and health protection requirements for the specific use and will not lead to overall adverse environmental or human health impacts.

Greenfield soil and stone from undeveloped land, destined for use at another development with granted planning permission or exemption has been given Article 27 By-product status where it fulfils the National By-Product Criteria BP-N002/2024^{3 4} and the following conditions are met:

- i. The production process which generates the greenfield soil and stone by-product complies with the criteria set out in Part 1 of Annex I;
- ii. The transfer of greenfield soil and stone by-product from the production process complies with the criteria set out in Part 2 of Annex I;
- iii. The quality of the greenfield soil and stone by-product from the production process complies with the criteria set out in Part 3 of Annex I;
- iv. The acceptance of greenfield soil and stone by-product at the use development complies with the criteria set out in Part 4 of Annex;
- v. The further use of the greenfield soil and stone by-product complies with the criteria set out in Part 5 of Annex I;
- vi. The submission of information is in a form and format as may be prescribed by the Agency through relevant explanatory note(s), guidance, a register, or by other means in order to establish that the criteria in the above paragraphs are met;
- vii. The producer and end user shall maintain documentary evidence, for assessment by the relevant competent authority which demonstrates compliance, where appropriate, with the provisions of the National criteria, Construction Products Regulations, relevant standards and any other legislation or technical guidance relevant to greenfield soil and stone by-product, as required;
- viii. The producer has satisfied requirements set out in Sections 4 to 6; and
- ix. The producer, holder and end user shall comply with the requirements set out in Section 8 (Compliance).

³ EPA (2024). *National By-product Criteria Reference Number: BP-N002/2024* dated 2nd July 2024. Environmental Protection Agency, Johnstown Castle Estate, Co. Wexford.

⁴ EPA (2023). *Explanatory Note on National By-product Criteria for Greenfield Soil and Stone that can be Regarded as a By-product under Regulation 27 of the European Union (Waste Directive) Regulations 2011 – 2020 Criteria Reference Number: BP-NP002/2024*. Version 1.4 dated 29th May 2025. Environmental Protection Agency, Johnstown Castle Estate, Co. Wexford.

All batches of greenfield soil and stone by-product shall be free of:

- i. Invasive alien plant species.
- ii. Anthropogenic material or substances including but not limited to:
 - a. man-made substances or objects such as concrete, bricks, metal, plastic, bituminous materials;
 - b. organic compounds such as BTEX, mineral oil, Total Petroleum Hydrocarbons (TPHs), PAHs, PCBs;
 - c. volatile Organic Compounds (VOCs); and
 - d. pesticides.
- iii. Perfluoroalkyl and Polyfluoroalkyl Substances (PFAS).
- iv. Made ground.
- v. Any other substance or material as may be prescribed by the EPA.

Further clarification of soil trigger levels used as a benchmark for equivalence to uncontaminated soil is provided in the Environmental Protection Agency (EPA) Soil Recovery Facility Guidance⁵. that includes maximum concentrations and trigger levels in soil and stone for:

- Metal (Arsenic, Cadmium, Total Chromium, Copper, Mercury, Nickel, Lead and Zinc);
- Total Organic Carbon (TOC);
- Total BTEX (benzene, toluene, ethylbenzene, xylenes);
- Mineral oil;
- Polycyclic Aromatic Hydrocarbons (PAHs);
- Polychlorinated Biphenyls (PCBs); and
- Asbestos.

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⁵ EPA (2020). *Guidance on Waste Acceptance Criteria at Authorised Soil Recovery Facilities*. Environmental Protection Agency, Johnstown Castle Estate, Co. Wexford.

5. NATURA IMPACT STATEMENT

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5.1. Potential Impacts

The following elements of the Proposed Development were identified and assessed for their potential to cause likely significant effects on Natura 2000 sites including Lough Corrib SAC and Lough Corrib SPA within the Appropriate Assessment Screening Report:

- Habitat loss, damage and disturbance and its effects on qualifying species;
- Disturbance (i.e. noise and visual disturbance);
- Lighting;
- Air quality;
- Dust deposition;
- Changes in air quality (traffic emissions); and
- Changes in water quality and increased sedimentation.

Of these the only likely significant effects is from changes in water quality through the deposition of Article 27 by-product within the existing limestone quarry and where the lack of protective overburden layer increases the vulnerability of the groundwater within the limestone quarry.

Although by legal definition, the Article 27 by-product material to be used to infill the limestone quarry will be inert, uncontaminated and not lead to overall adverse environmental or human health impacts a precautionary approach has been applied even though risk to Lough Corrib is perceived as a hypothetical risk rather than an actual risk.

5.2. Existing Environment

5.2.1. Hydrogeology and Groundwater Quality

The limestone quarry lies within an area of undifferentiated Visean limestones. Although Visean limestones are characterized by their susceptibility to karstification, no karst features have been identified by the Geological Survey Ireland (GSI) lying between the limestone quarry and Lough Corrib.

The limestone quarry is underlain by the Ross Lake Groundwater Body (GWB) as defined for the purposes of the Water Framework Directive (WFD) (2000/60/EC). The GWB is currently classified as being of 'Good' quality status (2019-2024). The Summary of Initial Characterisation for the Ross Lake GWB indicates that groundwater flows are likely to be in an epikarstic layer a couple of metres thick and in a zone of interconnected solutionally-enlarged fissures and conduits that extends approximately 30m below the surface and eastwards towards Lough Corrib⁶. The groundwater vulnerability is defined as 'X – Rock at or Near Surface'.

During quarrying operations no conduit karst feature was encountered at the limestone quarry to the bedrock level of circa 6m above Ordnance Datum (mOD). Although historically the quarry was '*worked dry*' and did not require any dewatering at the floor level of 6mOD, this level appears to correspond with a zone of limited drainage capacity within the surrounding karst system. The quarry floor can become partially inundated following periods of prolonged or intense rainfall, particularly when antecedent conditions or elevated groundwater levels reduce infiltration rates.

Lough Corrib lies above a number of groundwater bodies including: Oughterard Marbles GWB, Maam-Clonbur GWB; Cong-Robe GWB, Clare-Corrib GWB and Ross Lake GWB. The hydrogeology of Lough Corrib is complex through interactions between these groundwater bodies, subterranean inflows from Lough Mask and from other karst features i.e. springs and conduit flows.

⁶ <https://gsi.geodata.gov.ie/downloads/Groundwater/Reports/GWB/RossLakeGWB.pdf>

5.2.2. Hydrology and Water Quality

The limestone quarry lies within the sub-catchment of Lough Corrib (Corrib_SC_010). The surface waters of Lough Corrib are assessed as oligotrophic / mesotrophic and being of Good status under the WFD (2019-2024) and with 'high' water quality (2009).

Although there are no surface water bodies flowing adjacent the limestone quarry there is likely to be some hydrogeological interconnection to the Ballydotia Stream approximately 1.3km to the south east and which flows for a short distance (circa 1km) before discharging into Lough Corrib. The Ballydotia Stream (Corrib_010) is assessed under the WFD as being of Good quality status (2019-2024). The Ballydotia Stream is not monitored by the EPA for its water quality.

Lough Corrib is fed by numerous rivers and streams including the Clare, Grange, Abbert, Sinking, Dalgan and Black to the east, as well as the Cong, Bealanabrack, Failmore, Cornamona, Drimneen and Owenriff to the west all of which form part of Lough Corrib SAC, as well as numerous other surface waterbodies.

Flow within Lough Corrib is from the north to south that outflow to Galway Bay via the River Corrib. The River Corrib has a flow rate of approximately 105 cubic metres per second making it Ireland's second largest rivers by flow.

5.3. Lough Corrib SAC

5.3.1. Site Description

Lough Corrib is the second largest lake in Ireland. The SAC covers some 25,247.87ha, that not only includes Lough Corrib but also most of the main rivers and their tributaries that flow into the lake including the Clare, Grange, Abbert, Sinking, Dalgan and Black to the east, as well as the Cong, Bealanabrack, Failmore, Cornamona, Drimneen and Owenriff to the west. In addition to the rivers and lake basin, adjoining areas of raised bog, woodland, grassland and limestone pavement have also been incorporated into the site.

Lough Corrib is one the best examples of a large lacustrine catchment system in Ireland, with a range of habitats and species still well represented including 15 habitats which are listed on Annex I of the E.U. Habitats Directive, six of which are priority habitats, and nine species which are listed on Annex II.

5.3.2. Qualifying Interest and Conservation Objectives

The qualifying interests and conservation objectives⁷ for Lough Corrib SAC and whether there is any complete source-pathway-receptor chain, by which adverse effects may occur, are detailed in Table 1. Where a complete source-pathway-receptor link is identified, from changes in water quality and increased sedimentation via a potential ground and surface water hydraulic connectivity between the development site and Lough Corrib, these are highlighted in Table 1 and carried forward for further assessment against each of the individual attributes and targets associated with the conservation objectives for those highlighted individual qualifying interest.

⁷ NPWS (2017). *Conservation Objectives: Lough Corrib SAC 000297*. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage, Rural and Gaeltacht Affairs.

Table 1: Qualifying Interests and Conservation Objectives for Lough Corrib SAC with Identified Impact Pathways

Qualifying Feature	Conservation Objective	Impact Pathway	Potential for Adverse Effects Requiring Further Assessment
3110 Oligotrophic waters containing very few minerals of sandy plains (<i>Littorelletalia uniflorae</i>)	To restore the favourable conservation condition of this habitat in Lough Corrib SAC	No Pathway 3110 habitat is likely to be restricted to the 'western arm' (north western bay) of Lough Corrib. Any interaction between ground and surface waters in the vicinity of the proposed development will be to the south of this location with no linkages to this habitat due to southerly flow of water in Lough Corrib.	No No potential adverse effects in light of conservation objective or on the integrity of Lough Corrib SAC
3130 Oligotrophic to mesotrophic standing waters with vegetation of the <i>Littorelletea uniflorae</i> and/or <i>Isoeto-Nanojuncetea</i>	To restore the favourable conservation condition of this habitat in Lough Corrib SAC	No Pathway 3130 habitat is found towards the northern basin of Lough Corrib and potentially present in Ballycurke Lake (Loch Bhaile Ui Choira). Any interaction between ground and surface waters in the vicinity of the proposed development will be to the south of this location with no linkages to this habitat due to southerly flow of water in Lough Corrib. Ballycurke Lake lies c.2.75km to the south of the proposed development. Any groundwater flows at the proposed development site are expected to be in an easterly direction towards Lough Corrib and not south to Ballycurke Lake. Any groundwater flows from Ballycurke Lake would be expected to be in an easterly direction towards Lough Corrib.	No No potential adverse effects in light of conservation objective or on the integrity of Lough Corrib SAC
3140 Hard oligo-mesotrophic waters with benthic vegetation of <i>Chara</i> spp	To restore the favourable conservation condition of this habitat in Lough Corrib SAC	Potential Pathway 3140 habitat is notably present in the southern basin of Lough Corrib and likely to also likely to extend along the eastern side of the northern basin. Any changes in water quality or turbidity from the transportation of fine sediments through the limestone and the connectivity between ground and surface waters has the potential to result in some localised degradation of this habitat where there is interaction between ground flows from the proposed development and surface waters in Lough Corrib.	Yes Further assessment required on the individual attributes and targets for 3140 Hard oligo-mesotrophic waters with benthic vegetation of <i>Chara</i> spp habitat
3260 Water courses of plain to montane levels with the <i>Ranunculion fluitantis</i> and <i>Callitricho-Batrachion</i> vegetation	To maintain the favourable conservation condition of this habitat in Lough Corrib SAC	No Pathway 3260 is a riverine habitat located upstream of the proposed development with no risk of impacts arising from any changes in water quality in Lough Corrib.	No No potential adverse effects in light of conservation objective or on the integrity of Lough Corrib SAC

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Qualifying Feature	Conservation Objective	Impact Pathway	Potential for Adverse Effects Requiring Further Assessment
6210 Semi-natural dry grasslands and scrubland facies on calcareous substrates (<i>Festuco Brometalia</i>)(*important orchid sites)	To maintain the favourable conservation condition of this habitat in Lough Corrib SAC	No Pathway 6210 is a terrestrial habitat with no risk of impacts arising from any changes in water quality in Lough Corrib. 6210 habitat not downgradient of and no hydrogeological connection with the proposed development.	No No potential adverse effects in light of conservation objective or on the integrity of Lough Corrib SAC
6410 Molinia meadows on calcareous, peaty or clayey-silt-laden soils (<i>Molinion caeruleae</i>)	To maintain the favourable conservation condition of this habitat in Lough Corrib SAC	No Pathway 6410 is a terrestrial habitat with no risk of impacts arising from any changes in water quality in Lough Corrib. 6410 habitat not downgradient of and no hydrogeological connection with the proposed development.	No No potential adverse effects in light of conservation objective or on the integrity of Lough Corrib SAC
7110 Active raised bogs	To restore the favourable conservation condition of this habitat in Lough Corrib SAC	No Pathway 7110 is a terrestrial habitat with no risk of impacts arising from any changes in water quality in Lough Corrib. 7110 habitat not downgradient of and no hydrogeological connection with the proposed development.	No No potential adverse effects in light of conservation objective or on the integrity of Lough Corrib SAC
7120 Degraded raised bogs still capable of natural regeneration	The long-term aim for Degraded raised bogs still capable of natural regeneration is that its peat-forming capability is re-established; therefore, the conservation objective for this habitat is inherently linked to that of Active raised bogs (7110) and a separate conservation objective has not been set in Lough Corrib SAC	No Pathway 7120 is a terrestrial habitat with no risk of impacts arising from any changes in water quality in Lough Corrib. 7120 habitat not downgradient of and no hydrogeological connection with the proposed development.	No No potential adverse effects in light of conservation objective or on the integrity of Lough Corrib SAC

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Qualifying Feature	Conservation Objective	Impact Pathway	Potential for Adverse Effects Requiring Further Assessment
7150 Depressions on peat substrates of the <i>Rhynchosporion</i>	Depressions on peat substrates of the <i>Rhynchosporion</i> is an integral part of good quality Active raised bogs (7110) and thus a separate conservation objective has not been set for the habitat in Lough Corrib SAC	No Pathway 7150 is a terrestrial habitat with no risk of impacts arising from any changes in water quality in Lough Corrib. 7150 habitat not downgradient of and no hydrogeological connection with the proposed development.	No No potential adverse effects in light of conservation objective or on the integrity of Lough Corrib SAC
7210 Calcareous fens with <i>Cladium mariscus</i> and species of the <i>Caricion davallianae</i>	To maintain the favourable conservation condition of this habitat in Lough Corrib SAC	No Pathway 7210 habitat often occurs in association with the terrestrial habitats detailed above and with no risk of impacts arising from any changes in water quality in Lough Corrib. 7210 habitat not downgradient of and no hydrogeological connection with the proposed development.	No No potential adverse effects in light of conservation objective or on the integrity of Lough Corrib SAC
7220 Petrifying springs with tufa formation (<i>Cratoneurion</i>)	To maintain the favourable conservation condition of this habitat in Lough Corrib SAC	No Pathway 7220 habitat often occurs in association with the terrestrial habitats detailed above and with no risk of impacts arising from any changes in water quality in Lough Corrib. 7220 habitat not downgradient of and no hydrogeological connection with the proposed development.	No No potential adverse effects in light of conservation objective or on the integrity of Lough Corrib SAC
7230 Alkaline fens	To maintain the favourable conservation condition of this habitat in Lough Corrib SAC	No Pathway 7230 habitat often occurs in association with the terrestrial habitats detailed above and with no risk of impacts arising from any changes in water quality in Lough Corrib. 7230 habitat not downgradient of and no hydrogeological connection with the proposed development.	No No potential adverse effects in light of conservation objective or on the integrity of Lough Corrib SAC
8240 Limestone pavements	To maintain the favourable conservation condition of this habitat in Lough Corrib SAC	No Pathway 8240 is a terrestrial habitat with no risk of impacts arising from any changes in water quality in Lough Corrib. 8240 habitat is present immediately surrounding the proposed development is outside Lough Corrib SAC and well above the local groundwater table therefore has no hydrogeological connection with the proposed development.	No No potential adverse effects in light of conservation objective or on the integrity of Lough Corrib SAC

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Qualifying Feature	Conservation Objective	Impact Pathway	Potential for Adverse Effects Requiring Further Assessment
91A0 Old sessile oak woods with <i>Ilex</i> and <i>Blechnum</i> in British Isles	To maintain the favourable conservation condition of this habitat in Lough Corrib SAC	No Pathway 91A0 is a terrestrial habitat with no risk of impacts arising from any changes in water quality in Lough Corrib. 91A0 habitat not downgradient of and no hydrogeological connection with the proposed development.	No No potential adverse effects in light of conservation objective or on the integrity of Lough Corrib SAC
91D0 Bog woodland	To maintain the favourable conservation condition of this habitat in Lough Corrib SAC	No Pathway 91D0 is a terrestrial habitat with no risk of impacts arising from any changes in water quality in Lough Corrib. 91D0 habitat not downgradient of and no hydrogeological connection with the proposed development.	No No potential adverse effects in light of conservation objective or on the integrity of Lough Corrib SAC
1029 Freshwater Pearl Mussel (<i>Margaritifera margaritifera</i>)	To restore the favourable conservation condition of this species in Lough Corrib SAC	Potential Pathway The population of Freshwater Pearl Mussel is restricted to the Owenriff River, within the upper catchments of Lough Corrib with no direct risk of impacts arising from any changes in water quality in Lough Corrib. However, Freshwater Pearl Mussel are dependent upon salmonid fish, including Atlantic Salmon to host their larval stage and essential for the completion of their life cycle. Therefore where there is a risk of impacts on Atlantic Salmon this may indirectly impact Freshwater Pearl Mussel.	Yes Further assessment required on the individual attributes and targets for Freshwater Pearl Mussel
1092 White-clawed Crayfish (<i>Austropotamobius pallipes</i>)	To maintain the favourable conservation condition of this species in Lough Corrib SAC	Potential Pathway White-clawed Crayfish is recorded from the four main tributaries of the River Clare as well as the Abbert, Grange, Dalgan and Sinking Rivers and some minor lower order streams within the Clare catchment. There are also records for Lough Corrib in the northern part of the lower basin upstream of the proposed development, but its distribution in this waterbody is uncertain. Any changes in water quality or turbidity from the transportation of fine sediments through the limestone and the connectivity between ground and surface waters has the potential to impact White-clawed Crayfish in Lough Corrib.	Yes Further assessment required on the individual attributes and targets for White-clawed Crayfish

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Qualifying Feature	Conservation Objective	Impact Pathway	Potential for Adverse Effects Requiring Further Assessment
1095 Sea Lamprey (<i>Petromyzon marinus</i>)	To restore the favourable conservation condition of this species in Lough Corrib SAC	<p>Potential Pathway</p> <p>Sea Lamprey traditionally congregate and spawn in the River Corrib in Galway city, up- and downstream of the Salmon Weir Bridge. However, their further upstream passage is impeded by the regulating weir immediately upstream.</p> <p>Any changes in water quality or turbidity from the transportation of fine sediments through the limestone and the connectivity between ground and surface waters has the potential to impact Sea Lamprey through the outflow of water to the River Corrib.</p>	<p>Yes</p> <p>Further assessment required on the individual attributes and targets for Sea Lamprey</p>
1096 Brook Lamprey (<i>Lampetra planeri</i>)	To maintain the favourable conservation condition of this species in Lough Corrib SAC	<p>Potential Pathway</p> <p>Brook Lamprey is notably present in the southern basin of Lough Corrib and likely to also likely to extend along the eastern side of the northern basin.</p> <p>Any changes in water quality or turbidity from the transportation of fine sediments through the limestone and the connectivity between ground and surface waters has the potential to impact Brook Lamprey in Lough Corrib.</p>	<p>Yes</p> <p>Further assessment required on the individual attributes and targets for Brook Lamprey</p>
1106 Atlantic Salmon (<i>Salmo salar</i>)	To maintain the favourable conservation condition of this species in Lough Corrib SAC	<p>Potential Pathway</p> <p>Atlantic Salmon spawn in the headwaters of Lough Corrib tributaries migrating via the River Corrib.</p> <p>Any changes in water quality or turbidity from the transportation of fine sediments through the limestone and the connectivity between ground and surface waters has the potential to impact migrating Atlantic Salmon in Lough Corrib and through the outflow of water to the River Corrib.</p>	<p>Yes</p> <p>Further assessment required on the individual attributes and targets for Atlantic Salmon</p>
1303 Lesser Horseshoe Bat (<i>Rhinolophus hipposideros</i>)	To restore the favourable conservation condition of this species in Lough Corrib SAC	<p>No Pathway</p> <p>Lesser Horseshoe Bat is a terrestrial species with no risk of impacts arising from any changes in water quality in Lough Corrib.</p>	<p>No</p> <p>No potential adverse effects in light of conservation objective or on the integrity of Lough Corrib SAC</p>
1355 Otter (<i>Lutra lutra</i>)	To maintain the favourable conservation condition of this species in Lough Corrib SAC	<p>Potential Pathway</p> <p>Otter is found throughout Lough Corrib and whilst there is negligible direct risk of impacts arising from any changes in water quality in Lough Corrib, it may be indirectly impacted where its food sources may be more sensitive to changes in water quality.</p>	<p>Yes</p> <p>Further assessment required on the individual attributes and targets for Otter</p>

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Qualifying Feature	Conservation Objective	Impact Pathway	Potential for Adverse Effects Requiring Further Assessment
1393 Slender Green Feather-moss (<i>Hamatocaulis vernicosus</i>)	To maintain the favourable conservation condition of this species in Lough Corrib SAC	No Pathway Slender Green Feather-moss is a terrestrial species with no risk of impacts arising from any changes in water quality in Lough Corrib.	No No potential adverse effects in light of conservation objective or on the integrity of Lough Corrib SAC
1833 Slender Naiad (<i>Najas flexilis</i>)	To restore the favourable conservation condition of this species in Lough Corrib SAC	No Pathway Slender Naiad is typically associated with 3110 and 3130 habitats that lie in the norther part of Lough Corrib. Any interaction between ground and surface waters in the vicinity of the proposed development will be to the south of this location with no linkages to this habitat due to southerly flow of water in Lough Corrib.	No No potential adverse effects in light of conservation objective or on the integrity of Lough Corrib SAC

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5.4. Lough Corrib SPA

5.4.1. Site Description

Lough Corrib is the second largest lake in Ireland. The SPA covers some 17411.56 ha and can be divided into two parts: a relatively shallow basin, underlain by Carboniferous limestone, in the south and a larger, deeper basin, underlain by more acidic granite, schists, shales and sandstones, to the north. The site supports a wide range of habitat types and islands important for birds. Lough Corrib is classified as a mesotrophic system.

Lough Corrib qualifies under Article 4 of the EC Directive on the Conservation of Wild Birds (2009/147/EC) (Birds Directive) as a SPA because it regularly supports populations of European importance.

5.4.2. Qualifying Interest and Conservation Objectives

The special conservation interests and conservation objectives⁸ for Lough Corrib SPA and whether there is any complete source-pathway-receptor chain, by which adverse effects may occur, are detailed in Table 2 and highlighted where there is a complete source-pathway-receptor link, from changes in water quality and increased sedimentation via a potential ground and surface water hydraulic connectivity between the development site and Lough Corrib, has been identified to be carried forward for further assessment.

⁸ NPWS (2023). *Conservation Objectives: Lough Corrib SPA 004042*. Version 1. National Parks and Wildlife Service, Department of Housing, Local Government and Heritage.

Table 2: Special Conservation Interests and Conservation Objectives for Lough Corrib SPA with Identified Impact Pathways

Qualifying Feature	Conservation Objective	Impact Pathway	Potential for Adverse Effects Requiring Further Assessment
A051 Gadwall (<i>Anas strepera</i>)	To restore the favourable conservation condition of this species in Lough Corrib SPA	Potential Pathway Any changes in water quality or turbidity from the transportation of fine sediments through the limestone and the connectivity between ground and surface waters has the potential to impact the food source of over-wintering Gadwall at Lough Corrib.	Yes Further assessment required on the individual attributes and targets for Gadwall
A056 Shoveler (<i>Anas clypeata</i>)	To restore the favourable conservation condition of this species in Lough Corrib SPA	Potential Pathway Any changes in water quality or turbidity from the transportation of fine sediments through the limestone and the connectivity between ground and surface waters has the potential to impact the food source of over-wintering Shoveler at Lough Corrib.	Yes Further assessment required on the individual attributes and targets for Shoveler
A059 Pochard (<i>Aythya ferina</i>)	To restore the favourable conservation condition of this species in Lough Corrib SPA	Potential Pathway Any changes in water quality or turbidity from the transportation of fine sediments through the limestone and the connectivity between ground and surface waters has the potential to impact the food source of over-wintering Pochard at Lough Corrib.	Yes Further assessment required on the individual attributes and targets for Pochard
A061 Tufted Duck (<i>Aythya fuligula</i>)	To restore the favourable conservation condition of this species in Lough Corrib SPA	Potential Pathway Any changes in water quality or turbidity from the transportation of fine sediments through the limestone and the connectivity between ground and surface waters has the potential to impact the food source of over-wintering Tufted Duck at Lough Corrib.	Yes Further assessment required on the individual attributes and targets for Tufted Duck
A065 Common Scoter (<i>Melanitta nigra</i>)	To maintain the favourable conservation condition of this species in Lough Corrib SPA	Potential Pathway Any changes in water quality or turbidity from the transportation of fine sediments through the limestone and the connectivity between ground and surface waters has the potential to impact the food source of breeding Common Scoter at Lough Corrib.	Yes Further assessment required on the individual attributes and targets for Common Scoter
A082 Hen Harrier (<i>Circus cyaneus</i>)	To restore the favourable conservation condition of this species in Lough Corrib SPA	No Pathway Hen Harrier is a terrestrial species with no risk of impacts arising from any changes in water quality in Lough Corrib.	No No potential adverse effects in light of conservation objective or on the integrity of Lough Corrib SPA

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Qualifying Feature	Conservation Objective	Impact Pathway	Potential for Adverse Effects Requiring Further Assessment
A125 Coot (<i>Fulica atra</i>)	To restore the favourable conservation condition of this species in Lough Corrib SPA	Potential Pathway Any changes in water quality or turbidity from the transportation of fine sediments through the limestone and the connectivity between ground and surface waters has the potential to impact the food source of over-wintering Coot at Lough Corrib.	Yes Further assessment required on the individual attributes and targets for Coot
A140 Golden Plover (<i>Pluvialis apricaria</i>)	To maintain the favourable conservation condition of this species in Lough Corrib SPA	No Pathway Golden Plover is a terrestrial species with no risk of impacts arising from any changes in water quality in Lough Corrib.	No No potential adverse effects in light of conservation objective or on the integrity of Lough Corrib SPA
A179 Black-headed Gull (<i>Chroicocephalus ridibundus</i>)	To restore the favourable conservation condition of this species in Lough Corrib SPA	Potential Pathway Any changes in water quality or turbidity from the transportation of fine sediments through the limestone and the connectivity between ground and surface waters has the potential to impact the food source of breeding Black-headed Gull at Lough Corrib.	Yes Further assessment required on the individual attributes and targets for Black-headed Gull
A182 Common Gull (<i>Larus canus</i>)	To restore the favourable conservation condition of this species in Lough Corrib SPA	Potential Pathway Any changes in water quality or turbidity from the transportation of fine sediments through the limestone and the connectivity between ground and surface waters has the potential to impact the food source of breeding Common Gull at Lough Corrib.	Yes Further assessment required on the individual attributes and targets for Common Gull
A193 Common Tern (<i>Sterna hirundo</i>)	To restore the favourable conservation condition of this species in Lough Corrib SPA	Potential Pathway Any changes in water quality or turbidity from the transportation of fine sediments through the limestone and the connectivity between ground and surface waters has the potential to impact the food source of breeding Common Tern at Lough Corrib.	Yes Further assessment required on the individual attributes and targets for Common Tern
A194 Arctic Tern (<i>Sterna paradisaea</i>)	To restore the favourable conservation condition of this species in Lough Corrib SPA	Potential Pathway Any changes in water quality or turbidity from the transportation of fine sediments through the limestone and the connectivity between ground and surface waters has the potential to impact the food source of breeding Arctic Tern at Lough Corrib.	Yes Further assessment required on the individual attributes and targets for Arctic Tern
A395 Greenland White-fronted Goose (<i>Anser albifrons flavirostris</i>)	To restore the favourable conservation condition of this species in Lough Corrib SPA	No Pathway Greenland White-fronted Goose will use Lough Corrib for roosting purposes but will forage on arable and pastoral land with no risk of impacts arising from any changes in water quality in Lough Corrib.	No No potential adverse effects in light of conservation objective or on the integrity of Lough Corrib SPA

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Qualifying Feature	Conservation Objective	Impact Pathway	Potential for Adverse Effects Requiring Further Assessment
A999 Wetlands	To maintain the favourable conservation condition of wetlands in Lough Corrib SPA	<p style="text-align: center;">Potential Pathway</p> Any changes in water quality or turbidity from the transportation of fine sediments through the limestone and the connectivity between ground and surface waters has the potential to impact functioning of the wetland habitats at Lough Corrib.	<p style="text-align: center;">Yes</p> Further assessment required on the individual attributes and targets for wetland habitats

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5.5. Assessment of Potential Effects and Mitigation

5.5.1. Changes in Water Quality and Increased Sedimentation

The proposed infilling and restoration of the limestone quarry at Ballynahallia will not require any dewatering of the existing limestone quarry or will require any licence for the discharge of wastewater/effluent to any surface waterbody or groundwater.

By the legal definition, any Article 27 by-product material to be used for the infilling of the limestone quarry can only be termed as 'Article 27 by-product' if this material will not cause an adverse impact to the environment. By its very nature, any batch of soil and stone classified as Article 27 by-product to be used for the infilling of the limestone quarry will be inert and uncontaminated and generated from greenfield sites.

For the purpose of establish of the maximum concentrations of metals in any batch of soil and stone, the limestone quarry sits in Geochemical Domain 2: Carboniferous limestone, shales and related rocks which is used as a benchmark for equivalence to uncontaminated soil. A summary of the maximum concentrations for metals in Geochemical Domain 2 is provided in Table 3 and other compounds in Table 4, as taken from the EPA's Soil Recovery Facility Guidance, to which all soil and stone used to infill the limestone quarry have a requirement to comply with.

Table 3: Maximum Concentrations for Metals for Domain 2 (mg/kg)

Arsenic	Cadmium	Total Chromium	Copper	Mercury	Nickel	Lead	Zinc
24.9	3.28	50.3	63.5	0.360	61.9	86.1	197

Table 4: Maximum Concentrations and/or Trigger Levels for Other Compounds for Domain 2 (mg/kg)

TOC	Total BTEX	Mineral Oil	Total PAHs	Total PCBs	Asbestos
3%	0.05	50	1	0.05	No Asbestos Detected (NAD)

Although the lack of a protective overburden layer within the limestone quarry void increases the potential vulnerability of the groundwater, the risk of contamination or deterioration of groundwater from the proposed infilling using material classified as Article 27 by-product is assessed as negligible. The groundwater vulnerability classification of "Rock at or Near Surface (X)" reflects the existing baseline condition of exposed limestone within the quarry void. At present, precipitation falling within the quarry infiltrates directly to bedrock with no intervening filtration layer. The proposed infilling will introduce a continuous layer of clean, inert soil and stone above the limestone bedrock, thereby creating a free-draining subsoil profile that will act as a physical attenuation and filtration medium. This will increase the residence time of infiltrating water and reduce direct infiltration to the karstified bedrock relative to the current exposed condition. Accordingly, the proposed development represents an improvement in groundwater protection compared to the existing baseline scenario.

The permeability of the limestone bedrock and the potential groundwater transportation of sediments to Lough Corrib will be dependent upon the presence of joints and fractures underlying the limestone quarry and intervening bedrock between the proposed development and Lough Corrib. There is no evidence that the quarry has intercepted any significant karst conduit, with no visible inflows or active seepages observed along the quarry faces. In the absence of identified conduit features beneath the site, the potential for rapid, unattenuated transport of sediments or contaminants via groundwater is considered low.

Furthermore, Lough Corrib is a large lacustrine system (c. 25,000 hectares) with substantial hydrological turnover, discharging via the River Corrib at an average flow of approximately 105 cubic metres per second. Even in the highly unlikely event of trace migration of fine particles through groundwater, any such input would be subject to significant dilution within both the intervening groundwater system and the receiving surface

waters. No measurable alteration to baseline water quality parameters within Lough Corrib SAC or SPA is predicted as a result of the proposed development.

It is therefore assessed that given the surface area of the quarry void to be infilled that the risk of transportation sediments in groundwater and any interaction in Lough Corrib will be negligible.

5.5.2. Mitigation

Mitigation and environmental control measures have been taken from the Construction Environmental Management Plan (CEMP) for proposed infilling and restoration of the limestone quarry at Ballynahallia. These measures form part of the requirements to ensure any batch of Article 27 by-product to be used for the infilling of the limestone quarry complies with Regulation 27 of the European Communities (Waste Directive) Regulations 2011 (as amended):

- material acceptance:
 - only clean, uncontaminated soils and stone will be used in the filling operation, with each batch having the appropriate Statement of Conformity and End User's Declaration of BP-N002/2024;
 - no contaminated soils will be accepted at the site;
 - on arrival at site, all Heavy Goods Vehicles (HGVs) will report at the site / weighbridge office before proceeding to the active infilling area where:
 - staff will take a copy of the delivery docket;
 - record the time and date of arrival;
 - the nature, origin and weight of the imported by-product;
 - the customer / client name;
 - the truck licence plate number, and
 - any further details required by an acceptance protocol for the proposed development.
 - all records of material intake will be maintained on site for material tracking and auditing purposes in accordance with the Record Keeping of BP-N002/2024;
 - only approved vehicles will be directed to the appropriate deposition area;
 - Any materials that are deemed to be unsuitable for acceptance onto the site on the basis of a visual inspection at the weighbridge will be rejected and will be directed away from the site to an appropriate disposal facility;
- infilling operations:
 - a site operative will be on duty at the deposition area to direct and control the deposition of the material;
 - material will be deposited in the active deposition area except where inclement weather or ground conditions would require that the material is temporarily stockpiled until conditions improve and the materials can then be deposited in the active deposition area;
 - as materials are tipped they will be given a visual inspection by the site operative. Should any non-conforming materials be tipped, the site Manager will be informed;
 - any non-compliant material will be transferred to a material inspection area for closer inspection and classification, where if subsequent testing indicate that the materials are non-inert and cannot be accepted and used for restoration purposes at the site, they will be removed off-site by permitted waste collectors to an appropriate waste disposal facility; and
 - the site will require all soil and stones forwarded for infilling purposes to be free of construction or demolition waste or any non-hazardous /hazardous domestic, commercial or industrial wastes and invasive species.
- water management:
 - quarry infilling and phased restoration:
 - progressive placement of clean, inert soil and stone to create a free-draining subsoil layer that serves as a protective cover over the karstified aquifer and will intercept and filter

- incident water prior to infiltration, thereby reducing the potential for contaminant migration to groundwater;
- infill will involve uncontaminated inert soil and stone, placed in phases to raise the quarry floor and restore it for future agricultural / natural habitat use
- wheel wash and traffic management:
 - a bath-type wheel wash will be installed and topped up with harvested rainwater, ensuring vehicles are cleaned before leaving;
 - a traffic management system and enforced speed limits will lower collision risks, helping to prevent spills or accidental damage;
- fuel handling and spill control:
 - no 'dangerous' substances or technologies are used on-site, and no oils or lubricants will be stored at the site;
 - refuelling will be carried out at a proposed dedicated fuelling area within the quarry void, with spill kits (booms and absorbent materials) readily available for rapid response;
- refuelling will be carried out at a proposed dedicated fuelling area within the quarry void, with spill kits (booms and absorbent materials) readily available for rapid response;
- surface water and infiltration:
 - surface water will be allowed to percolate naturally to the ground due to the permeable nature of the soil and stone used to infill the site;
- site welfare and amenities:
 - the proposed welfare facilities will include a small portacabin office/canteen and chemical toilet that will be emptied by an approved contractor as part of a maintenance contract in accordance with relevant legislation;
- groundwater protection:
 - a verification testing programme will be implemented for imported soil and stone, where for every 5,000 tonnes of material imported to the Site, a representative sample will be collected and submitted to an accredited laboratory for analysis to confirm that the material is consistent with greenfield soil and stone.
- Emergency Response Plan (ERP):
 - a site ERP includes details on the response required and the responsibilities of all personnel in the event of an emergency.

5.6. Assessment of Effects on Relevant Qualifying Interests / Special Conservation Interests

The relevant qualifying interests / special conservation interests of Lough Corrib SAC and Lough Corrib SPA where a potential pathway for effects as a result of changes in water quality and increased sedimentation via a potential ground and surface water hydraulic connectivity between the development site and Lough Corrib and carried forward for further assessment against individual attributes and targets include:

- Lough Corrib SAC:
 - 3140 Hard oligo-mesotrophic waters with benthic vegetation of *Chara* spp;
 - 1029 Freshwater Pearl Mussel (*Margaritifera margaritifera*);
 - 1092 White-clawed Crayfish (*Austropotamobius pallipes*);
 - 1095 Sea Lamprey (*Petromyzon marinus*);
 - 1096 Brook Lamprey (*Lampetra planeri*);
 - 1106 Atlantic Salmon (*Salmo salar*);
 - 1355 Otter (*Lutra lutra*);
- Lough Corrib SPA

- A051 Gadwall (*Anas strepera*);
- A056 Shoveler (*Anas clypeata*);
- A059 Pochard (*Aythya ferina*);
- A061 Tufted Duck (*Aythya fuligula*);
- A065 Common Scoter (*Melanitta nigra*);
- A125 Coot (*Fulica atra*);
- A179 Black-headed Gull (*Chroicocephalus ridibundus*);
- A182 Common Gull (*Larus canus*);
- A193 Common Tern (*Sterna hirundo*);
- A194 Arctic Tern (*Sterna paradisaea*);
- A999 Wetlands.

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Table 5 and Table 6 presents an assessment of effects on the relevant qualifying interests / special conservation interests against the individual conservation objectives attributes and targets of Lough Corrib SAC and Lough Corrib SPA respectively.

Table 5: Assessment of Effects on Relevant Qualifying Interests of Lough Corrib SAC

Conservation Objectives Attributes (Measure) Target	Pathway (Yes / No)	Potential Effects	Mitigation Measures	Residual Adverse Effects (Yes / No)
3140 - Hard oligo-mesotrophic waters with benthic vegetation of <i>Chara</i> spp.				
Conservation Objective: To restore the favourable conservation condition of this habitat in Lough Corrib SAC				
Habitat area (ha) with area stable or increasing subject to natural processes.	No			
Habitat distribution (occurrence) with no decline, subject to natural processes.	No			
Typical species (occurrence) present, in good condition, and demonstrating typical abundances and distribution.	Yes	No baseline changes are predicted to occur in the WFD status and where there would be any loss of species typically associated with marl lakes from the proposed infilling and restoration of the limestone quarry at Ballynahalia.	No further mitigation measures required over those detailed in Section 5.5.2.	No
Vegetation composition: characteristic zonation (occurrence) with all characteristic zones should be present, correctly distributed and in good condition.	Yes	No baseline changes are predicted to occur in the WFD status and where there would be any alterations to the composition of species and/or to the zonation of species in Lough Corrib from the proposed infilling and restoration of the limestone quarry at Ballynahalia.	No further mitigation measures required over those detailed in Section 5.5.2.	No
Vegetation distribution: maximum depth (m) to restore maximum depth of vegetation, subject to natural processes.	No			
Hydrological regime: water level fluctuations (m) to maintain appropriate natural hydrological regime necessary to support the habitat.	No			
Lake substratum (various) to restore appropriate substratum type, extent and chemistry to support the vegetation.	Yes	No baseline changes are predicted to the lake substratum of Lough Corrib from the proposed infilling and restoration of the limestone quarry at Ballynahalia.	No further mitigation measures required over those detailed in Section 5.5.2.	No
Water quality: transparency (m) to restore appropriate Secchi transparency with no decline in Secchi depth/transparency.	Yes	No changes in the baseline transparency of water in Lough Corrib are predicted from the proposed infilling and restoration of the limestone quarry at Ballynahalia.	No further mitigation measures required over those detailed in Section 5.5.2.	No

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Conservation Objectives Attributes (Measure) Target	Pathway (Yes / No)	Potential Effects	Mitigation Measures	Residual Adverse Effects (Yes / No)
Water quality: nutrients ($\mu\text{g/l P}$; mg/l N) to restore the concentration of nutrients in the water column to sufficiently low levels to support the habitat and its typical species.	Yes	No increase in nutrient inputs are predicted to occur from the proposed infilling and restoration of the limestone quarry at Ballynahallia where the WFD status of Lough Corrib would deteriorate and increase baseline levels of eutrophication.	No further mitigation measures required over those detailed in Section 5.5.2.	No
Water quality: phytoplankton biomass ($\mu\text{g/l Chlorophyll } a$) to restore appropriate water quality to support the habitat, including high chlorophyll <i>a</i> status.	Yes	No changes predicted to occur to the phytoplankton biomass from the proposed infilling and restoration of the limestone quarry at Ballynahallia.	No further mitigation measures required over those detailed in Section 5.5.2.	No
Water quality: phytoplankton composition (EPA phytoplankton composition metric) to maintain appropriate water quality to support the habitat, including high phytoplankton composition status.	Yes	No changes predicted to occur to the phytoplankton composition from the proposed infilling and restoration of the limestone quarry at Ballynahallia.	No further mitigation measures required over those detailed in Section 5.5.2.	No
Water quality: attached algal biomass (Algal cover and EPA phytobenthos metric) to restore/maintain trace/absent attached algal biomass (<5% cover) and high phytobenthos status.	Yes	No increase in nutrient inputs are predicted to occur from the proposed infilling and restoration of the limestone quarry at Ballynahallia with the potential to alter algal biomass.	No further mitigation measures required over those detailed in Section 5.5.2.	No
Water quality: macrophyte status (EPA macrophyte metric) to maintain high macrophyte status.	Yes	No increase in nutrient inputs are predicted to occur from the proposed infilling and restoration of the limestone quarry at Ballynahallia with the potential to alter the status of macrophytes in Lough Corrib.	No further mitigation measures required over those detailed in Section 5.5.2.	No
Acidification status (pH units; mg/l) to maintain appropriate water and sediment pH, alkalinity and cation concentrations to support the habitat subject to natural processes.	No			
Water colour (mg/l PtCo) to restore/maintain appropriate water colour to support the habitat.	No			

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Conservation Objectives Attributes (Measure) Target	Pathway (Yes / No)	Potential Effects	Mitigation Measures	Residual Adverse Effects (Yes / No)
Dissolved organic carbon (mg/l DOC) to restore/maintain appropriate organic carbon levels to support the habitat.	Yes	No changes predicted to occur to baseline DOC levels in Lough Corrib from the proposed infilling and restoration of the limestone quarry at Ballynahallia.	No further mitigation measures required over those detailed in Section 5.5.2.	No
Turbidity (nephelometric turbidity units/ mg/l/SS/other appropriate units) to restore/maintain appropriate turbidity to support the habitat.	Yes	No increase in sediment loading to Lough Corrib from the proposed infilling and restoration of the limestone quarry at Ballynahallia where there would be any changes in baseline turbidity levels.	No further mitigation measures required over those detailed in Section 5.5.2.	No
Fringing habitat: area and condition (ha) to maintain the area and condition of fringing habitats necessary to support the natural structure and functioning of habitat 3140.	No			
1029 – Freshwater Pearl Mussel				
Conservation Objective: To restore the favourable conservation condition of this species in Lough Corrib SAC				
Distribution (km) to maintain at 9.1km.	No			
Population size (number of adult mussels) to restore Owenriff population to at least one million adult mussels.	No			
Population structure: recruitment (% per size class) to restore to at least 20% of population no more than 65mm in length; and at least 5% of population no more than 30mm in length.	No			
Population structure: adult mortality (%) no more than 5% decline from previous number of live adults counted; dead shells less than 1% of the adult population and scattered in distribution.	No			
Suitable habitat extent (km) to restore suitable habitat in more than 8.3km in the Owenriff and Glenawbeg rivers and any additional stretches	No			

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Conservation Objectives Attributes (Measure) Target	Pathway (Yes / No)	Potential Effects	Mitigation Measures	Residual Adverse Effects (Yes / No)
necessary for salmonid spawning.				
Suitable habitat condition (km) to restore condition of suitable habitat.	No			
Water quality: macroinvertebrate and phytobenthos (diatoms) (Ecological Quality Ratio (EQR)) to restore water quality - macroinvertebrates: EQR greater than 0.90 (Q4-5 or Q5); phytobenthos: EQR greater than 0.93	No			
Substratum quality: filamentous algae (macroalgae); macrophytes (rooted higher plants) (%) to restore substratum quality - filamentous algae: absent or trace (less than 5%); macrophytes: absent or trace (less than 5%).	No			
Substratum quality: sediment (occurrence) to restore substratum quality - stable cobble and gravel substrate with very little fine material; no artificially elevated levels of fine sediment.	No			
Substratum quality: oxygen availability (Redox potential) to restore to no more than 20% decline from water column to 5cm depth in substrate.	No			
Hydrological regime: flow variability (m/s) to restore appropriate hydrological regimes.	No			
Host fish (number) to maintain sufficient juvenile salmonids to host glochidial larvae.	Yes	No changes in the chemical status of water in Lough Corrib and no potential disruption to olfactory cues that could affect the ability of Atlantic Salmon to migrate through Lough Corrib to any spawning grounds in the Owenriff and Glenawbeg rivers.	No further mitigation measures required over those detailed in Section 5.5.2.	No

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Conservation Objectives Attributes (Measure) Target	Pathway (Yes / No)	Potential Effects	Mitigation Measures	Residual Adverse Effects (Yes / No)
Fringing habitat area and condition (ha) to maintain the area and condition of fringing habitats necessary to support the population.	No			
1092 White-clawed Crayfish				
Conservation Objective: To maintain the favourable conservation condition of this species in Lough Corrib SAC				
Distribution: rivers (occurrence) with no reduction from baseline.	No			
Distribution: Lough Corrib (occurrence) with no reduction from baseline.	No			
Population structure: recruitment (occurrence of juveniles and females with eggs) with juveniles and/or females with eggs in all occupied tributaries and occupied parts of Lough Corrib.	No			
Negative indicator species (occurrence) with no alien crayfish species.	No			
Disease (occurrence) with no instances of disease.	No			
Water quality (EPA Q value) with at least Q3-4 at all sites sampled by EPA.	No			
Habitat quality: heterogeneity (occurrence of positive habitat features) with no decline in heterogeneity or habitat quality.	Yes	No baseline changes predicted to occur to the heterogeneity of habitat in Lough Corrib for White-clawed Crayfish from the proposed infilling and restoration of the limestone quarry at Ballynahallia.	No further mitigation measures required over those detailed in Section 5.5.2.	No
1095 Sea Lamprey				
Conservation Objective: To restore the favourable conservation condition of this species in Lough Corrib SAC				
Distribution: extent of anadromy (% of river accessible) with greater than 75% of main stem length of rivers accessible from estuary.	No			

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Conservation Objectives Attributes (Measure) Target	Pathway (Yes / No)	Potential Effects	Mitigation Measures	Residual Adverse Effects (Yes / No)
Population structure of juveniles (number of age/size groups) with at least three age/size groups present.	Yes	No baseline changes in environmental conditions of the River Corrib predicted to occur from the proposed infilling and restoration of the limestone quarry at Ballynahallia that would affect spawning, egg development and juvenile development of Sea Lamprey.	No further mitigation measures required over those detailed in Section 5.5.2.	No
Juvenile density in fine sediment (juveniles/m ²) with mean catchment juvenile density at least 1/m ² .	Yes			
Extent and distribution of spawning habitat (m ² and occurrence) with no decline in extent and distribution of spawning beds.	Yes			
Availability of juvenile habitat (number of positive sites in 3 rd order channels (and greater), downstream of spawning areas) with more than 50% of sample sites positive, with a minimum of four positive sites in a catchment, which are at least 5km apart.	No			
1096 Brook Lamprey				
Conservation Objective: To maintain the favourable conservation condition of this species in Lough Corrib SAC				
Distribution (% of river accessible) with access to all watercourses down to first order streams.	No			
Population structure of juveniles (number of age/size groups) with at least three age/size groups of brook/river lamprey present.	Yes	No baseline changes in environmental conditions of Lough Corrib predicted to occur from the proposed infilling and restoration of the limestone quarry at Ballynahallia that would affect spawning, egg development and juvenile development of Brook Lamprey.	No further mitigation measures required over those detailed in Section 5.5.2.	No
Juvenile density in fine sediment (ammocoetes/m ²) with mean catchment ammocoetes density of brook/river lamprey at least 5/m ² .	Yes			
Extent and distribution of spawning habitat (m ² and occurrence) with no	Yes			

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Conservation Objectives Attributes (Measure) Target	Pathway (Yes / No)	Potential Effects	Mitigation Measures	Residual Adverse Effects (Yes / No)
decline in extent and distribution of spawning beds.				
Availability of juvenile habitat (number of positive sites in 2 nd order channels (and greater), downstream of spawning areas) with more than 50% of sample sites positive.	No			
1106 Atlantic Salmon				
Conservation Objective: To maintain the favourable conservation condition of this species in Lough Corrib SAC				
Distribution: extent of anadromy (% of river accessible) with 100% of river channels down to second order accessible from estuary.	No			
Adult spawning fish (number) with conservation limited for each system consistently exceeded.	Yes			
Salmon fry abundance (number of fry/5 minutes electrofishing) to maintain or exceed 0+ fry mean catchment-wide abundance threshold value. Currently set at 17 salmon fry/5 minutes sampling.	No			
Out migrating smolt abundance (number) with no significant decline.	No			
Number and distribution of redds (number and occurrence) with no decline in number and distribution of spawning redds due to anthropogenic causes.	No			
Water quality (EPA Q value) with at least Q4 at all sites sampled by EPA.	No	No changes in the chemical status of water in Lough Corrib and no potential disruption to olfactory cues that could affect the ability of Atlantic Salmon to migrate through Lough Corrib to any spawning grounds in the rivers and tributaries flowing into Lough Corrib.	No further mitigation measures required over those detailed in Section 5.5.2.	No

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Conservation Objectives Attributes (Measure) Target	Pathway (Yes / No)	Potential Effects	Mitigation Measures	Residual Adverse Effects (Yes / No)
1355 Otter				
Conservation Objective: To maintain the favourable conservation condition of this species in Lough Corrib SAC				
Distribution (% positive survey sites) with no significant decline.	No			
Extent of terrestrial habitat (ha) with no significant decline. Area mapped and calculated as 1,054ha along river banks/ lake shoreline/around ponds.	No			
Extent of freshwater (river) habitat (km) with no significant decline. Length mapped and calculated as 314.2km.	No			
Extent of freshwater (lake) habitat (ha) with no significant decline. Area mapped and calculated as 4,178ha	No			
Crouching sites and holts (number) with no significant decline.	No			
Fish biomass available (kg) with no significant decline.	Yes	No baseline changes in environmental conditions of Lough Corrib predicted to occur from the proposed infilling and restoration of the limestone quarry at Ballynahallia where there would be a reduction in fish biomass.	No further mitigation measures required over those detailed in Section 5.5.2.	No
Barriers to connectivity (number) with no significant increase.	No			

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Table 6: Assessment of Effects on Relevant Special Conservation Interests of Lough Corrib SPA

Conservation Objectives Attributes (Measure) Target	Pathway (Yes / No)	Potential Effects	Mitigation Measures	Residual Adverse Effects (Yes / No)
A051 Gadwall				
Conservation Objective: To restore the favourable conservation condition of this species in Lough Corrib SPA				
Winter population trend (% change in number of individuals) with long term winter population trend stable or increasing.	No			
Winter spatial distribution (ha, time and intensity of use) with sufficient number of locations, area, and availability (in terms of timing and intensity of use) of suitable habitat to support the population target.	No			
Disturbance at wintering site (intensity, frequency, timing and duration) with disturbance at levels that do not significantly impact the achievement of targets for population trend and spatial distribution.	No			
Barrier to connectivity and site use (number, location, shape and ha) with barriers do not significantly impact the wintering population's access to the SPA or other ecologically important sites outside the SPA.	No			
Forage spatial distribution, extent and abundance (location, ha and forage biomass) with sufficient number of locations, area of suitable habitat and available forage biomass to support the population target.		No baseline changes in environmental conditions of Lough Corrib predicted to occur from the proposed infilling and restoration of the limestone quarry at Ballynahallia where the distribution and availability of food sources for Gadwall will be affected.	No further mitigation measures required over those detailed in Section 5.5.2.	No
Roost spatial distribution and extent (location and ha of roosting habitat) with	No			

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Conservation Objectives Attributes (Measure) Target	Pathway (Yes / No)	Potential Effects	Mitigation Measures	Residual Adverse Effects (Yes / No)
sufficient number of locations, area and availability of suitable roosting habitat to support the population target.				
A056 Shoveler				
Conservation Objective: To restore the favourable conservation condition of this species in Lough Corrib SPA				
Winter population trend (% change in number of individuals) with long term winter population trend stable or increasing.	No			
Winter spatial distribution (ha, time and intensity of use) with sufficient number of locations, area, and availability (in terms of timing and intensity of use) of suitable habitat to support the population target.	No			
Disturbance at wintering site (intensity, frequency, timing and duration) with disturbance at levels that do not significantly impact the achievement of targets for population trend and spatial distribution.	No			
Barrier to connectivity and site use (number, location, shape and ha) with barriers do not significantly impact the wintering population's access to the SPA or other ecologically important sites outside the SPA.	No			
Forage spatial distribution, extent and abundance (location, ha and forage biomass) with sufficient number of locations, area of suitable habitat and available forage biomass to support the population target.	Yes	No baseline changes in environmental conditions of Lough Corrib predicted to occur from the proposed infilling and restoration of the limestone quarry at Ballynahallia where the distribution and availability of food sources for Shoveler will be affected.	No further mitigation measures required over those detailed in Section 5.5.2.	No

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Conservation Objectives Attributes (Measure) Target	Pathway (Yes / No)	Potential Effects	Mitigation Measures	Residual Adverse Effects (Yes / No)
Roost spatial distribution and extent (location and ha of roosting habitat) with sufficient number of locations, area and availability of suitable roosting habitat to support the population target.	No			
A059 Pochard				
Conservation Objective: To restore the favourable conservation condition of this species in Lough Corrib SPA				
Winter population trend (% change in number of individuals) with long term winter population trend stable or increasing.	No			
Winter spatial distribution (ha, time and intensity of use) with sufficient number of locations, area, and availability (in terms of timing and intensity of use) of suitable habitat to support the population target.	No			
Disturbance at wintering site (intensity, frequency, timing and duration) with disturbance at levels that do not significantly impact the achievement of targets for population trend and spatial distribution.	No			
Barrier to connectivity and site use (number, location, shape and ha) with barriers do not significantly impact the wintering population's access to the SPA or other ecologically important sites outside the SPA.	No			
Forage spatial distribution, extent and abundance (location, ha and forage biomass) with sufficient number of locations, area of suitable habitat and	Yes	No baseline changes in environmental conditions of Lough Corrib predicted to occur from the proposed infilling and restoration of the limestone quarry at Ballynahallia where the	No further mitigation measures required over those detailed in Section 5.5.2.	No

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Conservation Objectives Attributes (Measure) Target	Pathway (Yes / No)	Potential Effects	Mitigation Measures	Residual Adverse Effects (Yes / No)
available forage biomass to support the population target.		distribution and availability of food sources for Pochard will be affected.		
Roost spatial distribution and extent (location and ha of roosting habitat) with sufficient number of locations, area and availability of suitable roosting habitat to support the population target.	No			
A061 Tufted Duck				
Conservation Objective: To restore the favourable conservation condition of this species in Lough Corrib SPA				
Winter population trend (% change in number of individuals) with long term winter population trend stable or increasing.	No			
Winter spatial distribution (ha, time and intensity of use) with sufficient number of locations, area, and availability (in terms of timing and intensity of use) of suitable habitat to support the population target.	No			
Disturbance at wintering site (intensity, frequency, timing and duration) with disturbance at levels that do not significantly impact the achievement of targets for population trend and spatial distribution.	No			
Barrier to connectivity and site use (number, location, shape and ha) with barriers do not significantly impact the wintering population's access to the SPA or other ecologically important sites outside the SPA.	No			
Forage spatial distribution, extent and abundance (location, ha and forage	Yes	No baseline changes in environmental conditions of Lough Corrib predicted to occur from the proposed infilling and	No further mitigation measures required over those detailed in Section 5.5.2.	No

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Conservation Objectives Attributes (Measure) Target	Pathway (Yes / No)	Potential Effects	Mitigation Measures	Residual Adverse Effects (Yes / No)
biomass) with sufficient number of locations, area of suitable habitat and available forage biomass to support the population target.		restoration of the limestone quarry at Ballynahallia where the distribution and availability of food sources for Tufted Duck will be affected.		
Roost spatial distribution and extent (location and ha of roosting habitat) with sufficient number of locations, area and availability of suitable roosting habitat to support the population target.	No			
A065 Common Scoter				
Conservation Objective: To maintain the favourable conservation condition of this species in Lough Corrib SPA				
Breeding population trend (% change in number of potential breeding pairs) with long term trend stable or increasing.	No			
Productivity rate (number of young fledged per potential breeding pair) with Sufficient productivity to maintain the population trend as stable or increasing.	Yes	No baseline changes in environmental conditions of Lough Corrib predicted to occur from the proposed infilling and restoration of the limestone quarry at Ballynahallia where the distribution and availability of food sources for Common Scoter would alter and could affected the ability of this species to successfully rear young.	No further mitigation measures required over those detailed in Section 5.5.2.	No
Distribution of nesting habitat (spatial distribution) with significant loss of distribution in the long term, other than that occurring due to natural patterns of variation.	No			
Extent and condition of nesting habitat (ha of high quality nesting habitat) with sufficient area of high quality habitat to support the population target.	No			
Disturbance at breeding site (intensity, frequency, timing and duration) where disturbance occurs at levels that do not significantly impact the achievement of	No			

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Conservation Objectives Attributes (Measure) Target	Pathway (Yes / No)	Potential Effects	Mitigation Measures	Residual Adverse Effects (Yes / No)
targets for breeding population trend and spatial distribution of nesting habitat.				
Barriers to connectivity and site use (number, location, shape and ha) where Barriers do not significantly impact the breeding population's access to the SPA or other ecologically important sites outside the SPA.	No			
Forage spatial distribution, extent and abundance (location, ha, and forage biomass) with sufficient number of locations, area of suitable habitat, and available forage biomass to support the population target.	Yes	No baseline changes in environmental conditions of Lough Corrib predicted to occur from the proposed infilling and restoration of the limestone quarry at Ballynahalia where the distribution and availability of food sources for Common Scoterl will be affected.	No further mitigation measures required over those detailed in Section 5.5.2.	No
A125 Coot				
Conservation Objective: To restore the favourable conservation condition of this species in Lough Corrib SPA				
Winter population trend (% change in number of individuals) with long term winter population trend stable or increasing.	No			
Winter spatial distribution (ha, time and intensity of use) with sufficient number of locations, area, and availability (in terms of timing and intensity of use) of suitable habitat to support the population target.	No			
Disturbance at wintering site (intensity, frequency, timing and duration) with disturbance at levels that do not significantly impact the achievement of targets for population trend and spatial distribution.	No			

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Conservation Objectives Attributes (Measure) Target	Pathway (Yes / No)	Potential Effects	Mitigation Measures	Residual Adverse Effects (Yes / No)
Barrier to connectivity and site use (number, location, shape and ha) with barriers do not significantly impact the wintering population's access to the SPA or other ecologically important sites outside the SPA.	No			
Forage spatial distribution, extent and abundance (location, ha and forage biomass) with sufficient number of locations, area of suitable habitat and available forage biomass to support the population target.	Yes	No baseline changes in environmental conditions of Lough Corrib predicted to occur from the proposed infilling and restoration of the limestone quarry at Ballynahalia where the distribution and availability of food sources for Coot will be affected.	No further mitigation measures required over those detailed in Section 5.5.2.	No
Roost spatial distribution and extent (location and ha of roosting habitat) with sufficient number of locations, area and availability of suitable roosting habitat to support the population target.	No			
A179 Black-headed Gull				
Conservation Objective: To restore the favourable conservation condition of this species in Lough Corrib SPA				
Breeding population trend (number of apparently occupied nests (AON)) with long term trend stable or increasing.	No			
Productivity rate (number of young fledged young per AON) with sufficient productivity to maintain the population.	Yes	No baseline changes in environmental conditions of Lough Corrib predicted to occur from the proposed infilling and restoration of the limestone quarry at Ballynahalia where the distribution and availability of food sources for Black-headed Gull would alter and could affected the ability of this species to successfully rear young.	No further mitigation measures required over those detailed in Section 5.5.2.	No
Distribution: extent of available nesting options within the SPA (numbers and spatial distribution) with sufficient availability of suitable nesting sites	No			

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Conservation Objectives Attributes (Measure) Target	Pathway (Yes / No)	Potential Effects	Mitigation Measures	Residual Adverse Effects (Yes / No)
throughout the SPA to maintain the population.				
Prey biomass available (kg) with sufficient extent of biomass of available prey items across the site to help support the population.	Yes	No baseline changes in environmental conditions of Lough Corrib predicted to occur from the proposed infilling and restoration of the limestone quarry at Ballynahallia where there would be a reduction in fish biomass.	No further mitigation measures required over those detailed in Section 5.5.2.	No
Disturbance at the breeding site (level of impact where disturbance occurs at levels that do not significantly impact on black-headed gull at the breeding site.	No			
Disturbance at areas ecologically connected to the colony (level of impact) where disturbance occurs at levels that do not significantly impact on black-headed gull at the breeding site.	No			
Barriers to connectivity (number, location, shape area (ha)) with no significant increase.	No			
A182 Common Gull				
Conservation Objective: To restore the favourable conservation condition of this species in Lough Corrib SPA				
Breeding population trend (number of apparently occupied nests (AON)) with long term trend stable or increasing.	No			
Productivity rate (number of young fledged young per AON) with sufficient productivity to maintain the population.	Yes	No baseline changes in environmental conditions of Lough Corrib predicted to occur from the proposed infilling and restoration of the limestone quarry at Ballynahallia where the distribution and availability of food sources for Common Gull would alter and could affected the ability of this species to successfully rear young.	No further mitigation measures required over those detailed in Section 5.5.2.	No
Distribution: extent of available nesting options within the SPA (numbers and spatial distribution) with sufficient availability of suitable nesting sites	No			

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Conservation Objectives Attributes (Measure) Target	Pathway (Yes / No)	Potential Effects	Mitigation Measures	Residual Adverse Effects (Yes / No)
throughout the SPA to maintain the population.				
Prey biomass available (kg) with sufficient extent of biomass of available prey items across the site to help support the population.	Yes	No baseline changes in environmental conditions of Lough Corrib predicted to occur from the proposed infilling and restoration of the limestone quarry at Ballynahallia where there would be a reduction in fish biomass.	No further mitigation measures required over those detailed in Section 5.5.2.	No
Disturbance at the breeding site (level of impact where disturbance occurs at levels that do not significantly impact on black-headed gull at the breeding site.	No			
Disturbance at areas ecologically connected to the colony (level of impact) where disturbance occurs at levels that do not significantly impact on black-headed gull at the breeding site.	No			
Barriers to connectivity (number, location, shape area (ha)) with no significant increase.	No			
A193 Common Tern				
Conservation Objective: To restore the favourable conservation condition of this species in Lough Corrib SPA				
Breeding population trend (number of apparently occupied nests (AON)) with long term trend stable or increasing.	No			
Productivity rate (number of young fledged young per AON) with sufficient productivity to maintain the population.	Yes	No baseline changes in environmental conditions of Lough Corrib predicted to occur from the proposed infilling and restoration of the limestone quarry at Ballynahallia where the distribution and availability of food sources for Common Tern would alter and could affected the ability of this species to successfully rear young.	No further mitigation measures required over those detailed in Section 5.5.2.	No
Distribution: extent of available nesting options within the SPA (numbers and spatial distribution) with sufficient availability of suitable nesting sites	No			

Conservation Objectives Attributes (Measure) Target	Pathway (Yes / No)	Potential Effects	Mitigation Measures	Residual Adverse Effects (Yes / No)
throughout the SPA to maintain the population.				
Prey biomass available (kg) with sufficient extent of biomass of available prey items across the site to help support the population.	Yes	No baseline changes in environmental conditions of Lough Corrib predicted to occur from the proposed infilling and restoration of the limestone quarry at Ballynahallia where there would be a reduction in fish biomass.	No further mitigation measures required over those detailed in Section 5.5.2.	No
Disturbance at the breeding site (level of impact where disturbance occurs at levels that do not significantly impact on black-headed gull at the breeding site.	No			
Disturbance at areas ecologically connected to the colony (level of impact) where disturbance occurs at levels that do not significantly impact on black-headed gull at the breeding site.	No			
Barriers to connectivity (number, location, shape area (ha)) with no significant increase.	No			
A194 Arctic Tern				
Conservation Objective: To restore the favourable conservation condition of this species in Lough Corrib SPA				
Breeding population trend (number of apparently occupied nests (AON)) with long term trend stable or increasing.	No			
Productivity rate (number of young fledged young per AON) with sufficient productivity to maintain the population.	Yes	No baseline changes in environmental conditions of Lough Corrib predicted to occur from the proposed infilling and restoration of the limestone quarry at Ballynahallia where the distribution and availability of food sources for Arctic Tern would alter and could affected the ability of this species to successfully rear young.	No further mitigation measures required over those detailed in Section 5.5.2.	No
Distribution: extent of available nesting options within the SPA (numbers and spatial distribution) with sufficient availability of suitable nesting sites	No			

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Conservation Objectives Attributes (Measure) Target	Pathway (Yes / No)	Potential Effects	Mitigation Measures	Residual Adverse Effects (Yes / No)
throughout the SPA to maintain the population.				
Prey biomass available (kg) with sufficient extent of biomass of available prey items across the site to help support the population.	Yes	No baseline changes in environmental conditions of Lough Corrib predicted to occur from the proposed infilling and restoration of the limestone quarry at Ballynahallia where there would be a reduction in fish biomass.	No further mitigation measures required over those detailed in Section 5.5.2.	No
Disturbance at the breeding site (level of impact where disturbance occurs at levels that do not significantly impact on black-headed gull at the breeding site.	No			
Disturbance at areas ecologically connected to the colony (level of impact) where disturbance occurs at levels that do not significantly impact on black-headed gull at the breeding site.	No			
Barriers to connectivity (number, location, shape area (ha)) with no significant increase.	No			
A999 Wetlands				
Conservation Objective: To maintain the favourable conservation condition of wetlands in Lough Corrib SPA				
Wetland habitat area (ha) with no significant loss to wetland habitat within the SPA, other than that occurring from natural patterns of variation.	No			
Wetland habitat quality and functioning (quality and function of the wetland habitat) with no significant impact on the quality or functioning of the wetland habitat within the SPA, other than that occurring from natural patterns of variation.	YES	No baseline changes in environmental conditions of Lough Corrib predicted to occur from the proposed infilling and restoration of the limestone quarry at Ballynahallia where the functioning of the wetland habitats would be altered.	No further mitigation measures required over those detailed in Section 5.5.2.	No

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5.7. Residual Adverse Effects

Based on the best available scientific information, the proposed infilling and restoration of the limestone quarry at Ballynahallia is not predicted to adversely affect the integrity of Lough Corrib SAC and/or Lough Corrib SPA, in light of the conservation objectives for these Natura 2000 sites, as a stand-alone project.

5.8. Potential for In-combination Effects

5.8.1. Plans

For the purposes of this assessment, consideration was given to those plans where foreseeable impacts on water quality of Lough Corrib and where this may adversely affect Lough Corrib SAC and/or Lough Corrib SPA were likely and included:

- regional, county and Local development plans delivering planned spatial growth i.e. Galway County Development Plan 2022-2028 and Regional Spatial & Economic Strategy- Northern and Western Region 2020-2032 (RSES); and
- proposed major development schemes i.e. transport plans.

Whilst a number of plans have been identified with the potential to affect the European site these documents only form policy documents that typically provide strategic guidance on actions and measures in order to achieve strategic outcomes. Where such actions and measures are turned into specific projects then these are likely to be subject to separate assessments and may require further appropriate assessment under Article 6(3) of the Habitats Directive. Potential impacts and mitigation will be identified in any subsequent assessments of detailed proposal before these developments can proceed. It is also reasonable to assume schemes will only go ahead where it has been demonstrated that they will not have adverse effects upon any Natura 2000 sites either alone or in combination. Therefore although the identified relevant plans have the potential to have significant effects on Lough Corrib SAC and/or Lough Corrib SPA it is considered that an assessment of the in-combination effects from these plans can be screened out of this assessment.

5.8.2. Projects

Other projects considered in establishing potential cumulative effects were deemed those in close proximity to the proposed development with the potential to cause changes in water quality in Lough Corrib and downgradient of the proposed infilling and restoration of the limestone quarry at Ballynahallia where:

- 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; and
- constructed developments whose full environmental effects are not yet felt and therefore cannot be accounted for in the baseline.

Where projects were not subject to any appropriate assessment screening, NIS or environmental/ecological impact assessment these were excluded as these were expected to have no effects at all on Lough Corrib SAC and/or Lough Corrib SPA.

Table 7 provides an assessment of in-combination effects of the proposed development with other identified relevant projects.

Table 7: In-combination Assessment of Other Projects

Planning Application and Status	Potential for In-combination Effects
<p><u>Planning Reference: 2560672</u> Application for the development of a new GAA Pitch and a car park in the townland of Cloonabinnia, Moycullen. Located approximately 100m south of the proposed development. Granted 26th August 2025</p>	<p>The NIS identified a potential pathway for a potential pathway for indirect effects on groundwater reliant qualifying interests of Lough Corrib SAC and Lough Corrib SPA via deterioration of water quality arising from the runoff or percolation of polluting materials to ground waters during the construction and operational phases of the development.</p> <p>The assessment found that there is no potential for adverse effect on the identified qualifying interests / special conservation interests and their associated targets and attributes for Lough Corrib SAC and/or Lough Corrib SPA.</p> <p>The project will not adversely affect the integrity of Lough Corrib SAC and/or Lough Corrib SPA as a stand-alone project or in-combination with other projects, including the proposed infilling and restoration of the limestone quarry at Ballynahallia.</p>

6. CONCLUSIONS

This NIS has assessed the implications of the proposed infilling and restoration of the limestone quarry at Ballynahallia, Moycullen, Co. Galway. The assessment has considered:

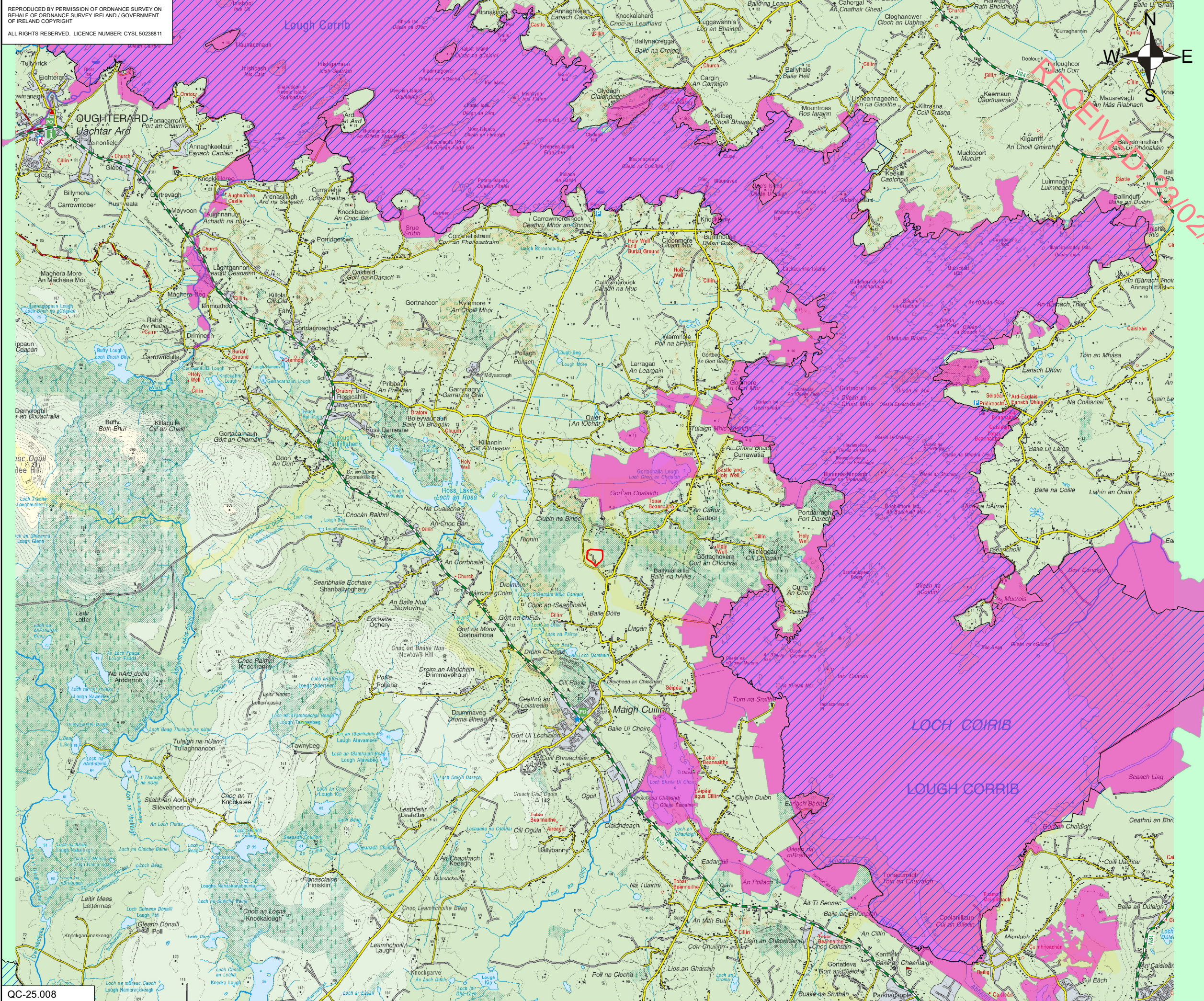
- the potential impact sources from changes in water quality and increased sedimentation via a potential ground and surface water hydraulic connectivity between the development site and Lough Corrib;
- the pathways that may affect the qualifying interests and special conservation interests of Lough Corrib SAC and Lough Corrib SPA respectively; and
- whether the proposed development, based on best available scientific information and incorporation of appropriate mitigation measures, would adversely affect the integrity of Lough Corrib SAC and/or Lough Corrib SPA, in light of the conservation objectives for these Natura 2000 sites.

It has been objectively concluded, beyond reasonable scientific doubt, that the proposed infilling and restoration of the limestone quarry at Ballynahallia, individually or in combination with other plans or projects, will not adversely affect the integrity of Lough Corrib SAC and/or Lough Corrib SPA, in light of the conservation objectives for these Natura 2000 sites.

FIGURES




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NOTES

LEGEND

-  APPLICATION SITE
-  LOUGH CORRIB SAC
-  LOUGH CORRIB SPA



PROPOSED INFILLING AND RESTORATION OF A LIMESTONE QUARRY AT BALLYNAHALLIA, MOYCULLEN, CO. MAYO

LOCATION OF PROPOSED DEVELOPMENT SITE

FIGURE 1

Scale 1:62,500 @ A3 Date FEBRUARY 2026

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