Cullairbaun Estate

Ecological Impact Assessment

February 2025

Prepared for:

Paul Keogh Architects

www.jbaconsulting.ie

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Prepared by	Mia Heigh BSc Graduate Ecologist
Reviewed by	Patricia Byrne BSc, PhD, MCIEEM Principal Ecologist
Authorised by	Bernadette O'Connell Director

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Contract

JBA Project Manager	Conor O'Neill
Address	Second Floor, Lincoln House, Lincoln Ln, Arran Quay, Dublin, D07 Y75P
JBA Project Code	2024s1592

This report describes work commissioned by Ellen Mathews, on behalf of Paul Keogh Architects by an instruction dated 12/09/2024. The Client's representative for the contract was Ellen Mathews of Paul Keogh Architects. Johanna Healy and Mia Heigh of JBA Consulting carried out this work.

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The methodology adopted and the sources of information used by JBA in providing its services are outlined in this Report. The work described in this Report was undertaken in November 2024 and is based on the conditions encountered and the information available during the said period. The scope of this Report and the services are accordingly factually limited by these circumstances.

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Where field investigations are carried out, these have been restricted to a level of detail required to meet the stated objectives of the services. The results of any measurements taken may vary spatially or with time and further confirmatory measurements should be made after any significant delay in issuing this Report.

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Abbreviations

AA……..Appropriate Assessment

BAP……Biodiversity Action Plan

CIEEM……...Charted Institute of Environmental and Ecological Management

DEHLG……..Department of Environment, Heritage and Local Government

EC……..European Commission

EcIA……...Ecological Impact Assessment

ECoW……Ecological Clerk of Works

EEC……European Economic Community

EPA……Environmental Protection Agency

EU……..European Union

GSI……Geological Survey Ireland

IAQM……..Institute of Air Quality Management

IFI……...Inland Fisheries Ireland

IUCN……..International Union for Conservation of Nature

LA……...Local Authority

NBDC……National Biodiversity Data Centre

NHA……National Heritage Area

NPF……National Planning Framework

NPWS……National Parks and Wildlife Services

NRA……National Road Authority

OPR……Office of the Planning Regulator

pNHA……..Proposed National Heritage Area

RBMP……River Basin Management Plans

RSES……Regional Spatial and Economic Strategies

SAC……Special Area of Conservation

SEA……Strategic Environmental Assessment

SPA……Special Protection Area

WFD……...Water Framework Directive

WWTP……Waste Water Treatment Plant

ZoI……..Zone of Influence

1 Introduction

JBA Consulting Engineers and Scientists Ltd. (hereafter JBA) has been commissioned by Paul Keogh Architects to prepare an Ecological Impact Assessment (EcIA) for the construction of 16 houses total at Cullairbaun Estate in Athenry, Co. Galway.

A Screening for Appropriate Assessment has also been carried out for the proposed development (JBA Consulting, 2024).

1.1 Aims

The aims of this EcIA are to:

- Establish baseline ecology conditions to enable identification of potentially important ecological features within the Zone of Influence (ZoI) of the project,
- Determine the ecological value of identified ecological features,
- Assess the significance of impacts of the proposed project on ecological features of value,
- Identify avoidance, mitigation, or compensatory measures,
- Identify residual impacts after mitigation and the significance of their effect,
- Identify any in-combination impacts from other projects,
- Identify opportunities for ecological enhancement and net gain of biodiversity.

1.2 Site Location

The site is located within the existing Cullairbaun housing estate in Athenry, Co. Galway. The site is situated on the R347, close to the Athenry train station (Figure 1-1).

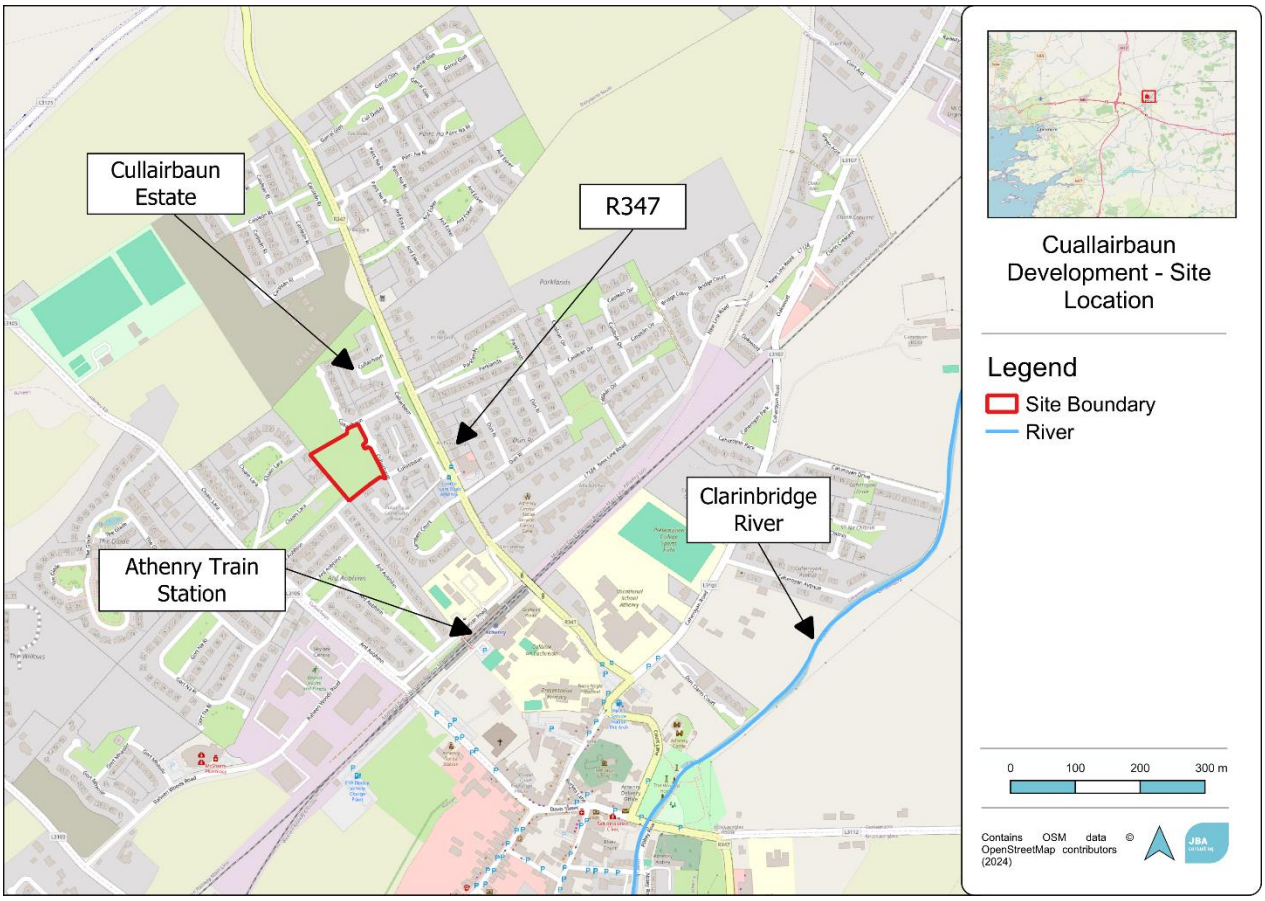

Figure 1-1 Site location.

1.3 Description of Works

The proposed development, which will be submitted to the Local Planning Authority (Galway County Council), includes:

(i) Construction of 16 no. new semi-detached dwellings including for all site development works, services, etc., within the curtilage of the site,

(ii) Construction of new footpaths to tie into the existing footpaths within the housing estate.

New foul water drainage, surface water drainage, water, landscaping, gas, electrical, telecom services and diversion of existing services is also to be included as required.

Site Drainage Design

The proposed drainage plans indicate that foul water will connect to the existing foul system to the west of the site; as will the stormwater. An attenuation tank is to be installed near the southern boundary of the site underlying an area of landscaping. A silt trap and petrol interceptor have been included within the design of the stormwater drainage design.

The proposed site layout, drainage design, and lighting can be seen in Appendix C.

All water infrastructure to be designed and constructed in accordance with Irish Water guidance:

- Code Of Practice For Water Infrastructure, Connections And Developer Services, Design And Construction Requirements For Self-Lay Developments; July 2020 (revision 2); IW-CDS-5020-03
- Water Infrastructure Standard Details, Connections And Developer Services, Construction Requirements For Self-Lay Developments; July 2020 (revision 04); IW-CDS-5020-01

Where the above documents are revised by Irish Water, the latest revision of the relevant document shall be used.

All pipe materials shall be in compliance with section 3.9 of the Irish Water Code Of Practice.

1.3.1 Landscape Plans

The proposed landscaping design for the development can be seen in Appendix C.

1.3.2 Duration of the Works

The expected duration of works is approximately 2 years.

1.3.3 Excavation requirements

The estimated maximum excavation depth for the proposed development will be 2.92m.

1.3.4 Lighting Plans

The proposed lighting plan has been supplied by the Client and has been reviewed by a suitably qualified Ecologist. Changes to lighting in order to minimise impact to bat populations in the local area have been made.

2 Methodology

2.1 The EcIA Team

The surveys for the baseline ecology were undertaken by JBA Graduate Ecologists Johanna Healy (BSc (Hons), MSc) and Mia Heigh (BSc (Hons)). The report has been reviewed by JBA Principal Ecologist Patricia Byrne (BSc (Hons), PhD, MCIEEM).

These staff members thus fulfil the Environmental Impact Assessment (EIA) Directive personnel requirements of 'competent persons'.

2.2 Policy and Legislation

Policy and legislation for nature conservation, protected and priority species relevant to the proposed project is provided in Appendix A.

2.3 Methods

This EcIA assesses the ecological features present within the site and its surrounding area (the Zone of Influence (ZoI)) in relation to the proposed works. This allows for identification of the potential impacts of the proposed works upon the ecological features of the site at an early stage, whilst identifying the potential ecological constraints upon the proposed works. The assessment is based on a desk-based assessment, which determines the baseline conditions at the site of the proposed works, as well as site surveys, which provided information on habitats and species present on the site and its surroundings.

The EcIA will outline the findings of the desk-based assessment and the surveys and identify any potential impacts of the proposed works on ecological features within the ZoI of the site and propose mitigation measures to avoid or reduce impacts where necessary.

2.4 Guidance

This assessment was conducted in accordance with the following guidance documents:

- Guidelines for Ecological Impact Assessment in the UK and Ireland. Terrestrial, Freshwater, Coastal and Marine (CIEEM, 2024)
- Guidelines for Assessment of Ecological Impacts of National Road Schemes (NRA, 2009c)
- On the Lifespan of Ecological Reports and Surveys (CIEEM, 2019)
- Guidelines on the information to be contained in Environmental Impact Assessment Reports (EPA, 2022)

2.5 Ecological Baseline

To determine the ecological baseline conditions at the site a review of all available information was made. When determining the pre-work conditions on-site, including the

presence or absence of protected habitats and/or species, the precautionary principle was used where limited information was available. This review included the following:

- A desk-based assessment was carried out to collate information regarding protected/notable species and statutorily designated nature conservation sites in, or within close proximity to, the study area.
- A data search for protected and notable species was conducted using the National Biodiversity Data Centre (NBDC) Mapping System (NBDC, 2025). A study area encompassing a 5km radius from the site was used.
- Information for statutory designated sites including Special Protection Areas (SPAs), Special Areas of Conservation (SACs), Ramsar Sites, National Heritage Areas (NHAs) and proposed NHAs (pNHAs) was collected from the online resources provided by the National Parks and Wildlife Service (NPWS).

Other information on the local area was obtained, including information from the following sources:

- NPWS (2019a). The Status of EU Protected Habitats and Species in Ireland. National Parks and Wildlife Service, Department of the Environment, Heritage and Local Government, Dublin, Ireland (NPWS, 2019a).
- NPWS (2019b). The Status of EU Protected Habitats and Species in Ireland. Habitats Assessment Volume 2. National Parks and Wildlife Service, Department of the Environment, Heritage and Local Government, Dublin, Ireland (NPWS, 2019b)
- NPWS (2019c). The Status of EU Protected Habitats and Species in Ireland. Species Assessment Volume 3. Habitats Assessment Volume 2. National Parks and Wildlife Service, Department of the Environment, Heritage and Local Government, Dublin, Ireland (NPWS, 2019c)
- Environmental Protection Agency online databases on water quality (Available online at https://gis.epa.ie/EPAMaps/).
- Aerial photography available from www.osi.ie and Google Maps http://maps.google.com/;
- All Ireland Red Data lists for vascular flora, mammals, butterflies, various invertebrate classes, amphibians and fish.
- Water Framework Directive water maps (available online at http://www.wfdireland.ie/maps.html and https://www.catchments.ie/); and
- International Union for Conservation of Nature and Natural Resources (IUCN) Red List of Threatened Species
- NPWS website (https://www.npws.ie/), for information about designated sites, along with Annex habitat and species distribution data and status reports
- National Biodiversity Data Centre (NBDC) Maps: data within 2 km of the site, within the past 10 years. (http://maps.biodiversityireland.ie/#/Map)
- Environmental Protection Agency (EPA) maps website (https://gis.epa.ie/EPAMaps/)
- Catchments (www.catchments.ie)

- Flora Protection Order Map Viewer (https://heritagedata.maps.arcgis.com/apps/webappviewer/index.html?id=a41ef4e10227499d8de17a8abe42bd1e)
- IFI: Water Framework Directive Rivers Fish Ecological Status 2008-2022 (https://opendata-ifigeo.hub.arcgis.com/datasets/0bbd4ae9a34b47dbb38d7b8a0bb7f52e_0/explore?location=52.675008%2C-8.523539%2C11.91)

2.5.1 Field Surveys

An ecological walkover of the site, including habitat mapping, mammal and preliminary bat roost surveys were conducted by Johanna Healy and Mia Heigh on 12th November.

Trail cameras were placed around the site from 12th to 27th November to monitor for fauna present on the site.

A bat static detector was placed within the site and recorded for 8 days from 12th to 19th November, outside of season for surveying of bats.

Aerial photographs and site maps assisted the habitat survey. Habitats have been named and described following 'A Guide to Habitats in Ireland' by Fossitt (2000).

The survey methods were in general accordance with those outlined in the following documents:

- Best Practice Guidance for Habitat Survey and Mapping. The Heritage Council. (Smith et al., 2011).
- Ecological Surveying Techniques for Protected Flora and Fauna during the Planning of National Road Schemes. National Road Authority (NRA, 2009a)
- Bat Surveys for professional Ecologists: Good Practice Guidelines (4th Edition). Bat Conservation Trust (Collins & Bat Conservation Trust., 2023).

  Bat Mitigation Guidelines for Ireland – V2 (Marnell et al., 2022)

2.6 Water Framework Directive

In response to the increasing threat of pollution and the increasing demand from the public for cleaner rivers, lakes and beaches, the EU developed the Water Framework Directive (WFD). This Directive is unique in that, for all the first time, it established a framework for the protection of all waters including rivers, lakes, estuaries, coastal waters and groundwater, and their dependent wildlife/habitats under one piece of environmental legislation for all European member states.

The WFD (Directive 2000/60/EC) is a substantial piece of EU water legislation that came into force in 2000. The overarching objective of the WFD is for the water bodies in Europe to attain Good or High Ecological Status. The Environment Protection Agency (EPA) is the competent authority in Ireland responsible for delivering the WFD. River

Basin Management Plans (RBMP) have been created which set out measures to ensure that water bodies in the country achieve 'Good Ecological Status'.

Good Ecological Quality will depend on the quality of the individual quality elements on which the Ecological status is scored; namely the biological, chemical and morphological condition in a particular water body. Any reduction in any of these elements will result in a reduction of the overall ecological status.

2.6.1 WFD Objectives

It is understood that the River Basin Management Plan (2022-2027) has been adopted by all local authorities in order to achieve the aims of the WFD (DHLGH, 2022). The Plan sets out the new approach that Ireland will take to enhance protection, prevention, and monitoring of Irish waterbodies. The main actions include:

- Improve wastewater treatment;
- Conservation of leakage reduction;
- Scientific assessment of waterbodies and implementation of local measures;
- A new collaborative Sustainability and Advisory Support Programme;
- Dairy Sustainability Initiative;
- Development of water and planning guidance for local authorities;
- Extension of Domestic Waste Water Treatment Systems grant schemes; and
- A new Community Water Development Fund.

Regardless of their current quality, surface water should be treated the same in terms of the level of protection and mitigation measures employed, i.e., there should be no negative change in status.

The third and current cycle aims to build particularly on the initiatives of the second cycle, particularly the governance and implementation structures, and to improve the establishment of Irish Water, An Fóram Uisce (The Water Forum), the Local Authority Waters Programme and the Agricultural Sustainability Support and Advisory Programme.

2.7 Screening of Ecological Features

The ecological features identified during the walkover survey and from desk-based assessments were reviewed. An informal screening process is presented at the start of the results section to ensure that the assessment focuses only on features where the impact could have important consequences for biodiversity (valued ecological features). Any features which are important beyond the site level were identified for further evaluation. Ecological features with little or no value beyond the site level were screened out and a short statement explaining this is given in the screening section.

2.8 Assessment of the Effects on Features

Ecological features include nature conservation sites, habitats, species assemblages/communities, populations, or groups of species. The assessment of the

significance of predicted impacts on ecological features is based on both the 'value' of a feature, and the nature and magnitude of the impact that the project will have on it.

2.9 Valuation of Ecological Features

The value of designated sites, habitats and species populations is assessed with reference to:

- Their importance in terms of 'biodiversity conservation' value (which relates to the need to conserve representative areas of different habitats and the genetic diversity of species populations).
- Any social benefits that habitats and species deliver (e.g., relating to the enjoyment of flora and fauna by the public).
- Any economic benefit that they provide.

The valuation of designated sites considers different levels of statutory and non-statutory protection. Assessment of habitat depends on several factors, including the size of the habitat, its conservation status and quality. This assessment also takes account of connected off-site habitat that may increase the value of the on-site habitat through association. Valuation of species depends on a number of factors including distribution, status, rarity, vulnerability, and the population size present.

Table 2-1 Examples of criteria used to define the value of ecological features (NRA, 2009).

Level of Value	Examples of Criteria
International	An internationally important site e.g., Special Protection Area (SPA), Special Area of Conservation (SAC), Ramsar (or a site considered worthy of such designation). A regularly occurring substantial population of an internationally important species (listed on Annex IV of the Habitats Directive). Designated shellfish waters. Major fisheries area.
National	A nationally designated site e.g., Natural Heritage Area (NHA), a proposed Natural Heritage Area (pNHA), statutory Nature Reserve, or a site considered worthy of such designation. A viable area of a habitat type listed in Annex I of the Habitats Directive or of smaller areas of such habitat which are essential to maintain the viability of a larger whole. A regularly occurring substantial population of a nationally important species, e.g., listed on The Wildlife Acts 1976-2021 or The Wildlife (Amendment) Act 2023. A species included in the Irish Red Data Lists/Books. Significant populations of breeding birds.
Regional/County	Species and habitats of special conservation significance within County Galway. An area subject to a project/initiative under the County's Biodiversity Action Plan.

Level of Value	Examples of Criteria
	A regularly occurring substantial population of a nationally scarce species.
Local (work site and its vicinity)	Areas of internationally or nationally important habitats which are degraded and have little or no potential for restoration. A good example of a common or widespread habitat in the local area. Species of national or local importance, but which are only present very infrequently or in very low numbers within site area.
Less than local	Areas of heavily modified or managed vegetation of low species diversity or low value as habitat to species of nature conservation interest. Common and widespread species.

Ecological valuation may also be considered of Local Importance (higher value) or Local Importance (lower value) (Table 2-2).

Table 2-2 Examples of criteria used to define the value of ecological features of local importance (NRA, 2009b).

Level of Value	Examples of Criteria
Local Importance (higher value)	Locally important populations of priority species or habitats or natural heritage features identified in the Local BAP, if this has been prepared. Resident or regularly occurring populations (assessed to be important at the Local level) of the following: *Species of bird, listed in Annex I and/or referred to in Article 4(2) of the Birds Directive: *Species of animal and plants listed in Annex II and/or IV of the Habitats Directive: *Species protected under the Wildlife Acts; and/or *Species listed on the relevant Red Data List. Sites containing semi-natural habitat types with high biodiversity in a local context and a high degree of naturalness, or populations of species that are uncommon in the locality Sites or features containing common or lower value habitats, including naturalised species that are nevertheless essential in maintaining links and ecological corridors between features of higher ecological value.
Local Importance (lower value)	Sites containing small areas of semi-natural habitat that are of some local importance for wildlife: Sites or features containing non-native species that are of some importance in maintaining habitat links.

2.10 Descriptive Terminology

Ecological effects or impacts can be described and categorized in a number of ways. Examples of relevant terms are listed in the table below (Table 2-3).

Table 2-3 Categories of Effects (EPA, 2022).

Effects	Categories of Effects
Quality of Effects	Positive Effects A change which improves the quality of the environment (for example, by increasing species diversity; or the improving reproductive capacity of an ecosystem, or by removing nuisances or improving amenities),
	Neutral Effects No effects or effects that are imperceptible, within normal bounds of variation or within the margin of forecasting error.
	Negative/adverse Effects A change which reduces the quality of the environment (for example, lessening species diversity or diminishing the reproductive capacity of an ecosystem; or damaging health or property or by causing nuisance).
Probability of Effects	Likely Effects The effects that can reasonably be expected to occur because of the planned project if all mitigation measures are properly implemented.
	Unlikely Effects The effects that can be reasonably expected not to occur because of the planned project if all mitigation measures are properly implemented.
Significance of Effects	Imperceptible An effect capable of measurement but without significant consequences.
	Not Significant An effect which causes noticeable changes in the character of the environment but without significant consequences.
	Slight Effects An effect which causes noticeable changes in the character of the environment without affecting its sensitivities.
	Moderate Effects An effect that alters the character of the environment in a manner that is consistent with existing and emerging baseline trends.
	Significant Effects An effect which, by its character, magnitude, duration or

Effects	Categories of Effects
	intensity, alters a sensitive aspect of the environment.
	Very Significant An effect which, by its character, magnitude, duration or intensity, significantly alters most of a sensitive aspect of the environment.
	Profound Effects An effect which obliterates sensitive characteristics.
Duration and Frequency of Effects	Temporary Effects Effects lasting less than a year.
	Short-term Effects Effects lasting one to seven years.
	Medium-term Effects Effects lasting seven to fifteen years.
	Long-term Effects Effects lasting fifteen to sixty years.
Types of Effects	Indirect Effects (a.k.a. Secondary Effects) Impacts on the environment, which are not a direct result of the project, often produced away from the project site or because of a complex pathway.
	Cumulative Effects The addition of many minor or significant effects, including effects of other projects, to create larger, more significant effects.
	'Do-Nothing' Effects The environment as it would be in the future should the subject project not be carried out.
	'Worst Case' Effects The effects arising from a project in the case where mitigation measures substantially fail.
	Residual Effects The degree of environmental change that will occur after the proposed mitigation measures have taken effect.
	Synergistic Effects Where the resultant effect is of greater significance than the sum of its constituents (e.g., combination of SOx and NOx to produce smog).

These factors are assessed together to determine the magnitude of the impact on the status of a habitat or species population, and on the integrity of the site that supports them. Professional judgement is then used to assign the impacts on the receptors to one of four classes of magnitude, detailed in Table 2-4.

2.10.1 Magnitude of Impacts

Ecological impacts can be categorised and assessed in a number of ways (Table 2-4). They can be considered to be:

Table 2-4 Definition of magnitude.

Level of Magnitude	Examples of Criteria
High	An irreversible or long-term impact on the integrity of a site or conservation status of a habitat, species assemblage/community, population or group. If adverse, this is likely to threaten its sustainability; if beneficial, this is likely to enhance its conservation status.
Medium	A medium to long-term impact on the integrity of a site or conservation status to a habitat, species assemblage/community, population or group, which if adverse, is unlikely to threaten its sustainability (or if beneficial, is likely to be sustainable but is unlikely to enhance its conservation status).
Low	A short-term but temporary impact on the integrity of a site or conservation status of a habitat, species assemblage/community, population or group that is within the range of variation normally experienced between years.
Negligible	A short-term but temporary impact on the integrity of a site or conservation status of a habitat, species assemblage/community, population or group that is within the normal range of annual variation.

2.10.2 Significance of Impacts

The overall significance of an impact can be derived from the total description of the effect compared against the sensitivity and significance (value) of the receptor as shown overleaf in Figure 2-1 which is taken from the EPAs EIAR Guidelines (EPA, 2022). The context and character of the receptor must also be assessed, such as its position in relation to the effect and its connectivity to the effect, however this should be determined before assessing the significance of the impact.

The total description of the effect includes the character, magnitude, probability and consequences of the effect as described in Figure 2-1 which are combined to give a general description of the effect on an ordinal scale from Negligible to High. The sensitivity and significance of the receptor is also described on an ordinal scale from Negligible to High.

The placement of the general description of the effect, and the sensitivity/significance of the receptor on this scale is determined by a Competent Person (a qualified ecologist in this case) as they interpret the qualities of the effect from the categories listed in Figure 2-1 and the receptors sensitivity and significance. Level of significance, also described as value of the receptor is previously set out in sub-section 2.9 above. Sensitivity of the receptor is assessed by the Competent Person based on the receptor's characteristics and how susceptible to impact they are from the type of effect.

The overall significance of an effect is then categorised into one of the following seven classifications:

- Imperceptible
- Not Significant
- Slight
- Moderate
- Significant
- Very Significant
- Profound

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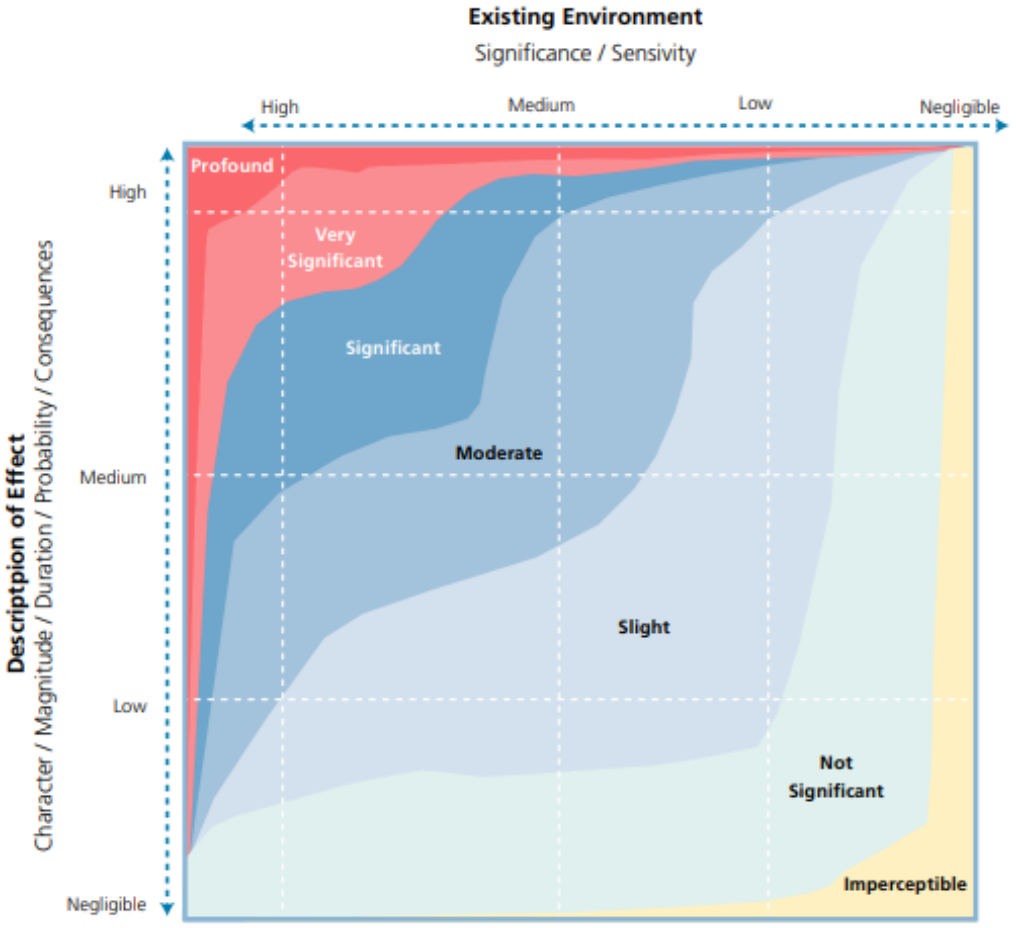


Figure 2-1 Chart showing typical classifications of the significance of effects (EPA, 2022).

2.10.3 Residual Impacts

Where significant residual impacts are still identified, further mitigation measures will be proposed as part of the Ecological Impact Assessment process to avoid, reduce, or minimise them. Each impact assessment section assigns a final significance level to the impact described, which considers and includes the implementation of any stated mitigation measures; these are the residual impacts.

2.11 Cumulative Impacts

Potential sources of cumulative impacts were identified based on the ecology of valued ecological features. Potential sources of cumulative impacts were sought within an area where there is potential for a significant impact on a site or species. A desk-based search was made to identify plans and projects that could be a potential source of cumulative impact. The plans and projects identified as potential sources of cumulative impacts are described in Section 6.4.

2.12 Limitations and Assumptions

This EcIA is based on site visits and existing data from the above-mentioned sources. The report relies on some assumptions and is subject to some limitations. These do not affect the conclusion, but the following points are recorded in order to ensure the basis of the assessment is clear:

- The walkover survey was carried out for the areas where works are proposed and within 100m. Field data from outside this area but within the zone of influence (e.g., grasslands) is limited and was not the subject of the walkover survey. Available desktop data compliments the survey data, and the gathered data is considered to be sufficient to carry out the assessment.
- Changes to the site since surveys were undertaken cannot be accounted for, however the site surveys have followed the CIEEM guidance provided on suitable lifespan for surveys (CIEEM, 2018). Significant changes to the site are unlikely in the time between the site visit (November 2024) and likely determination date.
- Any changes to the proposed works will require an assessment by a suitably qualified Ecologist to determine if re-assessment is required.
- Adverse weather can cause delays to the schedule and alter the timing of works. This has been accounted for using a worst-case scenario where possible.
- The site visit was carried out in November, which is outside of optimal surveying periods for flora and bats. Therefore, the data gathered may be limited and may not reflect the whole ecology of the site throughout the year. The precautionary principle is used at all times when determining potential ecological sensitivity of the site.

2.13 Zone of Influence

The zone of influence (ZoI) for the project is based on a judgement of the likely extent of the ecological impacts. This will vary for different ecological features, depending on their sensitivities to environmental change. Most impacts will occur within the immediate vicinity of the works (<10m). However, some effects may be transmitted further afield. The ZoI extends to 250m for air pollution (emissions and dust)(IAQM, 2024), up to 500m for noise disturbance (Goodship & Furness, 2022), groundwater (10km), and surface water (5km) pollution with an additional downstream buffer (15km) for hydrologically connected designated sites. The ZoI extends to associated habitats and species that may utilize associated habitats.

3 Desktop Study

3.1 Designated Sites

This section lists the designated sites of international and national importance which includes Special Protection Area (SPA), Special Area of Conservation (SAC), Ramsar sites, Natural Heritage Area (NHA), a proposed Natural Heritage Area (pNHA), and statutory Nature Reserves.

The Zone of Influence (ZoI) for this project is noise disturbance (500m), air pollution (250m), surface water (5km + 15 km with downstream hydrological connections), groundwater (5km + 10km within the same groundwater body) and any supporting habitat for SAC/SPA species (5km), and a general 5km radius for non-statutory sites.

3.1.1 Natura 2000 Sites

Natura 2000 sites within the project ZoI as identified in the AA Screening are listed in Table 3-1.

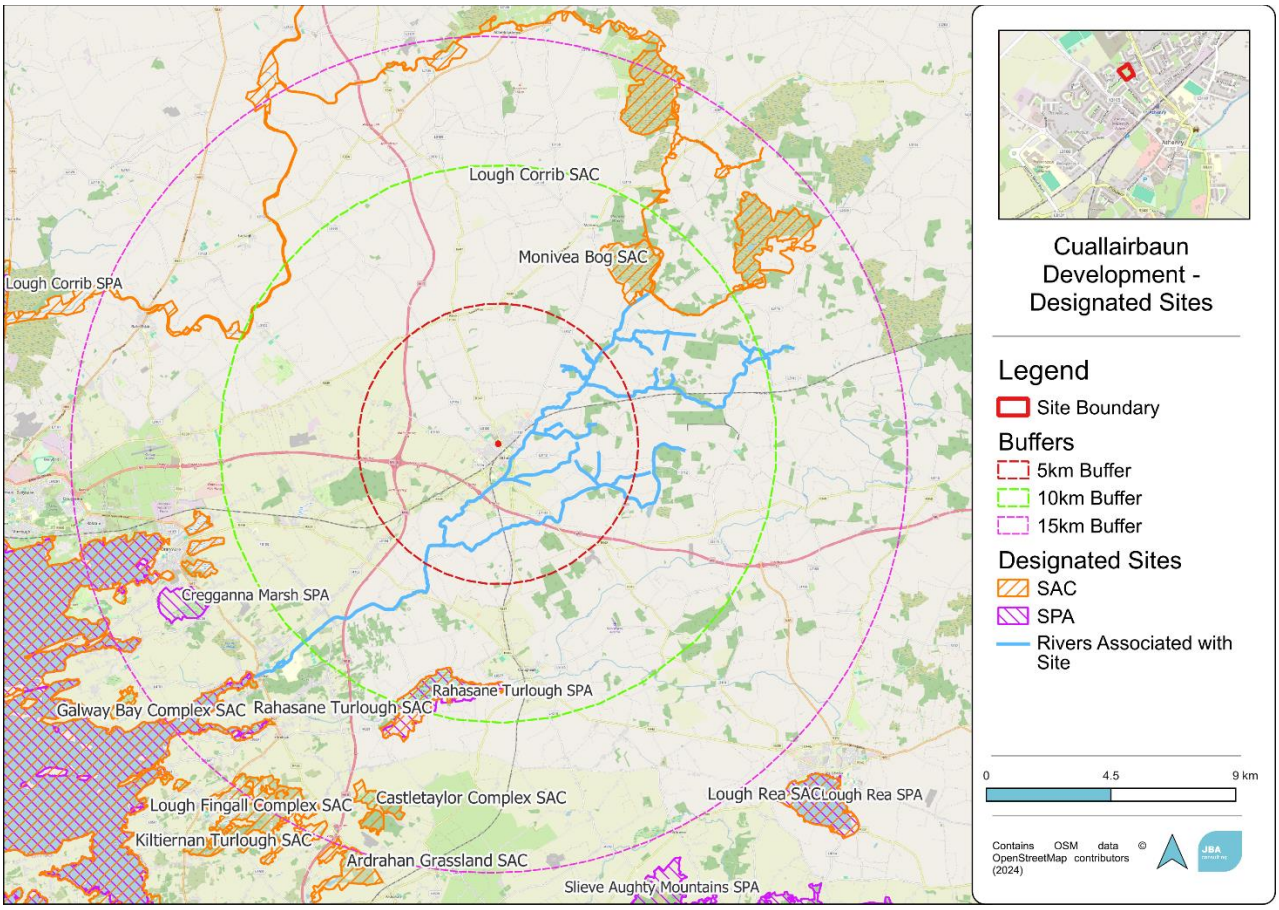


Figure 3-1: Designated sites within the ZoI of the proposed site.

Table 3-1 Natura 2000 sites within the ZoI

Natura 2000 site	Site Code	Approximate Distance from Site	Potential Hydrological Connection
Monivea Bog SAC	002352	6.9km	No connection present
Lough Corrib SAC	000297	7.8km	No connection present
Rahasane Turlough SAC	000322	8.2km	No connection present
Rahasane Turlough SPA	004089	8.2km	No connection present
Galway Bay Complex SAC	000268	10.4km	14.1km via Surface water
Cregganna Marsh SPA	004142	11.8km	11.9km Via Groundwater
Inner Galway Bay SPA	004031	12km	14.1km Via Surface water
Castletaylor Complex SAC	000242	13km	14.5km via Groundwater
Lough Finall Complex SAC	000606	14.2km	14.4km Via Groundwater
Kiltiernan Turlough SAC	001285	14.8km	14.8km Via Groundwater
Ardrahan Grassland SAC	002244	14.9km	No connection present

Appropriate Assessment Screening has been carried out for this project in a separate report and concluded there will be no likely significant effects to any of the designated sites within the ZoI.

3.1.2 Nationally Designated and Proposed Sites

In addition to the Natura 2000 sites, the non-statutory sites within the ZoI were examined. Non-statutory sites include proposed and existing Natural Heritage Areas, sites which are considered of significance for wildlife and habitats.

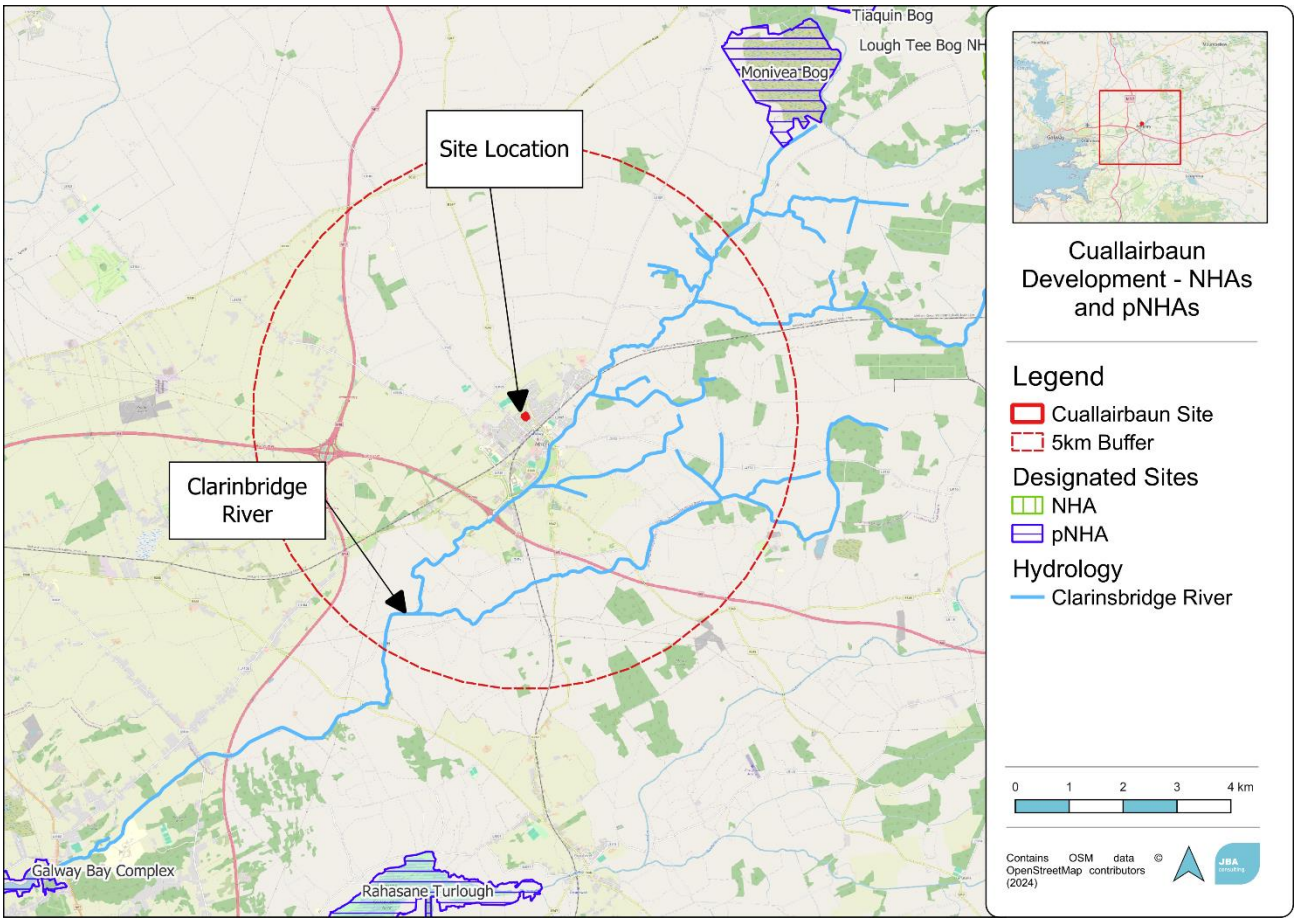


Figure 3-2: NHAs and pNHAs associated with the proposed site.

There are no Nationally designated sites occurring within the 5km ZoI.

3.1.3 Screening of Designated Sites

JBA carried out an AA screening for this proposed development on this site in December 2024. It was concluded that **significant effects are unlikely to occur** without any mitigation to any Natura 2000 designated sites within the ZoI.

3.2 Water Framework Directive

3.2.1 Surface Water Status

The site lies within the Clarinbridge_SC_010 subcatchment, which is part of the Galway Bay Southeast catchment. The Clarinbridge River (Waterbody code: IE_WE_29C020200) flows c. 650m from the proposed development, which enters Dunbulcaun Bay approximately 14.5km downstream (Figure 3-3).

At present, there is no connection from the site to the local waterbodies. However, many of the local drains have been culverted and outfall to the Clarinbridge River approximately 650m southeast of the proposed development is assumed. As the development proposes to connect into the existing foul water and storm water drainage networks, this provides a potential hydrological connection between the proposed project

and the greater Galway Bay. The river is classed as “At Risk” and has an overall status of “Moderate”.

Approximately 1.1km downstream of the proposed development lies the Athenry Wastewater Treatment Plant.

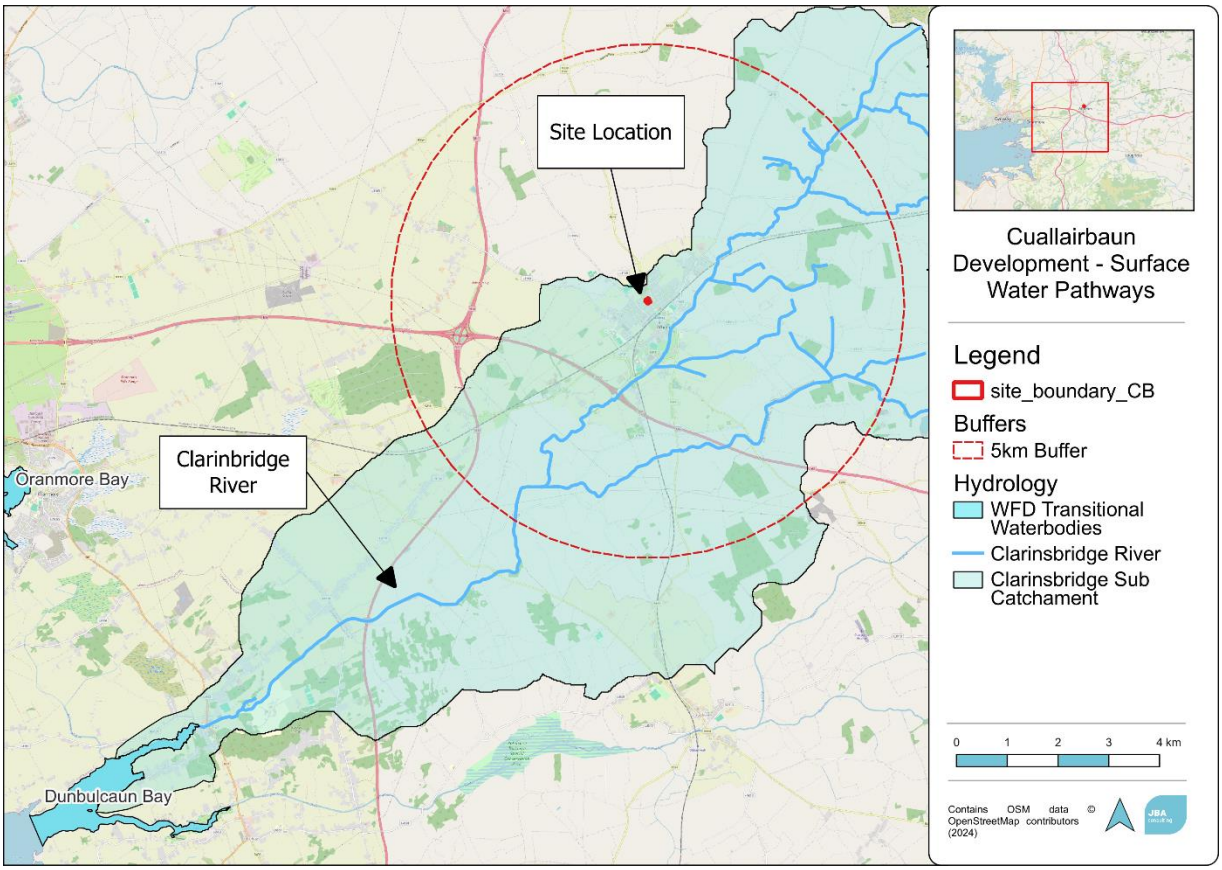


Figure 3-3: Surface water related to site.

3.3 Groundwater Bodies

The groundwater body which underlies the proposed site is the Tulla-Newmarket on Fergus (IE_SH_G_229) groundwater body (Figure 3-5). The WFD status for the groundwater body is currently marked as ‘Good’ and is currently considered ‘Not at Risk’.

The groundwater body the site is located in is the Clarinbridge IE_WE_G_0008 WFD groundwater body, which has overall status of ‘Good’ and is classed as ‘Not at risk’. Groundwater vulnerability on-site is ‘High’ (Figure 3-4) (EPA, 2024).

The bedrock underlying the site is comprised of pale grey clean skeletal limestone (GSI, 2024). The site occurs within a Regionally Important Aquifer - karstified which is generally moderately productive; an aquifer in which the network of fractures, fissures and joints through which groundwater flows is reasonably well-connected and dispersed throughout the rock, giving a moderate permeability and groundwater throughput. Aquifer storage is moderate and groundwater flow paths can be up to several kilometres in length; there is likely to be a substantial groundwater contribution to surface waters.

Therefore, there is strong interconnection between surface water and groundwater within the locality of the site (GSI, 2024).

3.3.1 Soils

Soil type underlying the site is made ground - the underlying soil type is urban, man-made surfaces; grassland is heavily managed. Subsoil permeability is classified as 'Moderate' (EPA, 2024).

No bedrock was noted to be visible at surface level during the site survey.

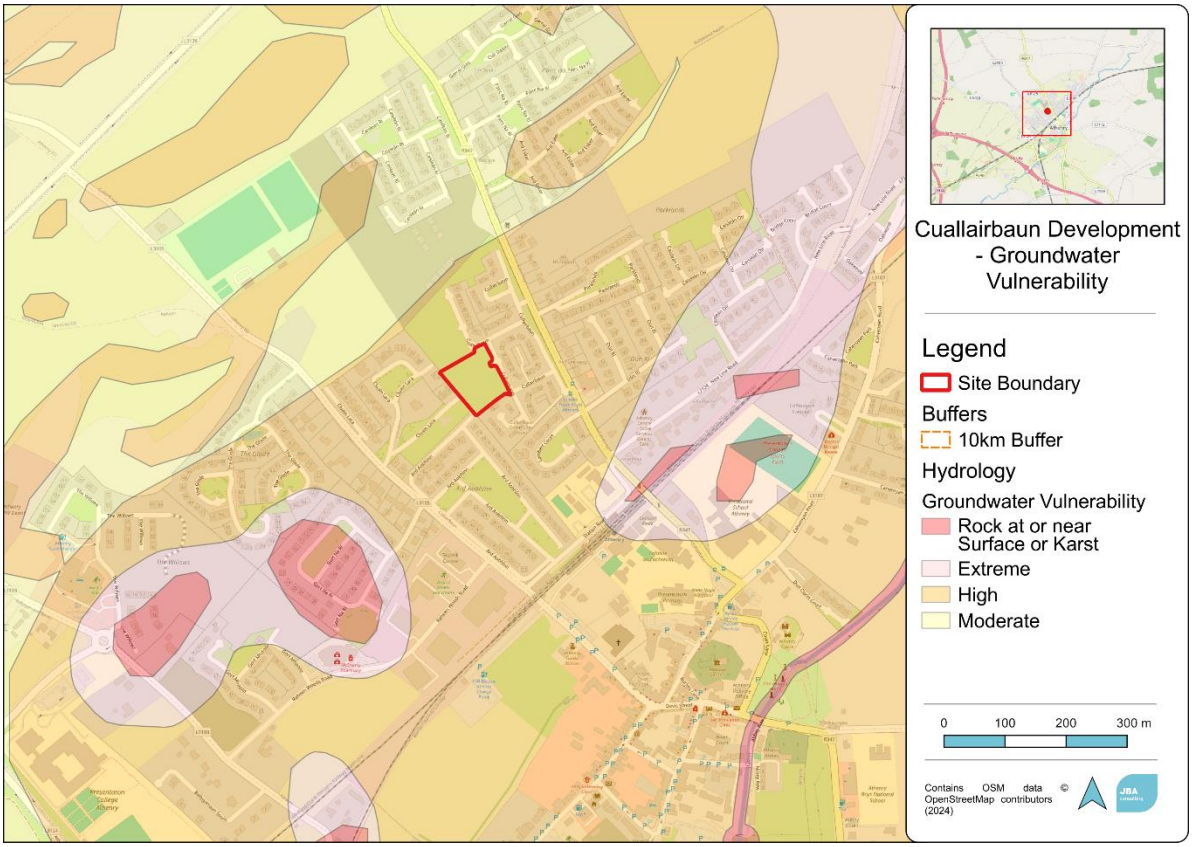


Figure 3-4: Groundwater vulnerability on site.

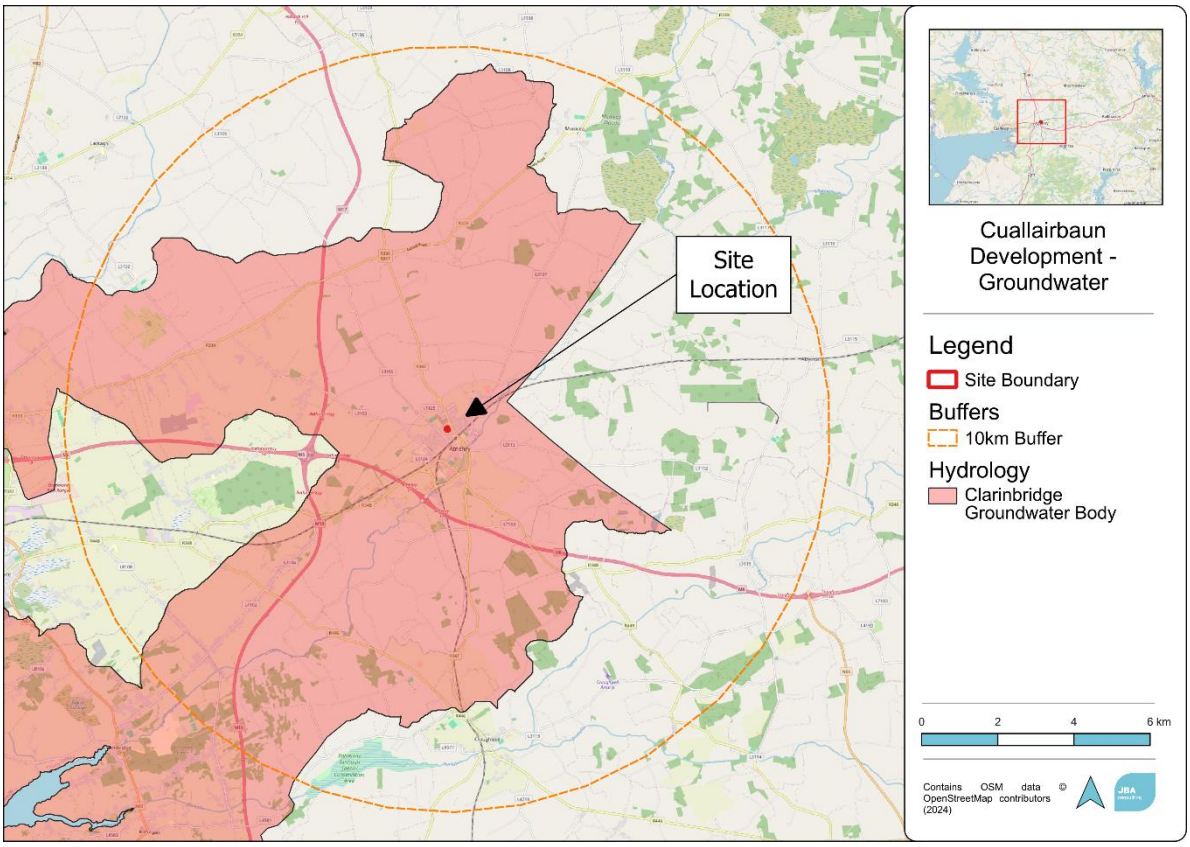


Figure 3-5: Groundwater body active on site.

3.4 Records of Protected/Threatened Species

Records of protected species including amphibians, bats, birds, invertebrates and mammals within the proposed site and a 5km buffer within the last 10 years were obtained from the NBDC database. The list (see Appendix B) includes their level of protection, if they are red or amber listed on the International Union for the Conservation of Nature and Natural Resources (IUCN) Red List and the date of the last record of this species at this location.

Information of fisheries data was obtained from Inland Fisheries Ireland (IFI) datasets (IFI, 2024).

3.5 Invasive Species

Records of invasive species within a 5km buffer of the proposed site within the last 10 years were obtained from the NBDC Database. Table XX includes the species, date of last record and level of impact.

Table 3-2: Invasive species records (NBDC, 2025).

Species	Date of last record	Designation
Flowering Plants		
Himalayan Honeysuckle *Leycesteria formosa*	27/07/2021	Medium Impact Invasive Species

Species	Date of last record	Designation
Sycamore *Acer pseudoplatanus*	25/07/2021	Medium Impact Invasive Species
Traveller's-joy *Clematis vitalba*	03/06/2019	Medium Impact Invasive Species
Invertebrates		
New Zealand Flatworm *Arthurdendyus triangulatus*	03/06/2019	High Impact Invasive Species
Jenkins' Spire Snail *Potamopyrgus antipodarum*	22/07/2015	Medium Impact Invasive Species
Mammals		
American Mink *Mustela vison*	01/08/2017	High Impact Invasive Species || Invasive Species: Invasive Species >> Regulation S.I. 477 (Ireland)
European Rabbit *Oryctolagus cuniculus*	16/06/2015	Medium Impact Invasive Species
Fallow Deer *Dama dama*	31/12/2008	High Impact Invasive Species || Invasive Species >> Regulation S.I. 477 (Ireland) || Protected Species: Wildlife Acts

4 Existing Environment

Designated sites, habitats, and species identified in the baseline conditions are presented in detail in the following sections.

The surveys for the baseline ecology were undertaken by JBA Ecologists Johanna Healy and Mia Heigh on the 12th November 2024. Habitats and species recorded are presented in detail in the following sections.

The ZoI for this project is dependent on the criteria assessed. This EcIA focuses on the proposed site in Cullairbaun, Athenry, Co. Galway and any ecological receptors that have a functional link with this site that lie within the ZoI of the works are described in Section 2.13.

4.1 Habitats

Habitats and species recorded at the site are presented in detail in the following sections. The value of each feature is based on recordings from the site visit, and following the criteria set out in the value of the designated sites, habitats and species populations are assessed.

The valuation of designated sites considers different levels of statutory and non-statutory protection. Assessment of habitat depends on several factors, including the size of the habitat, its conservation status and quality. The assessment also takes account of connected off-site habitat that may increase the value of on-site habitat through association. Valuation of species depends on a number of factors including distribution, status, rarity, vulnerability, and the population size present.

Habitats recorded during site visit are laid out in Table 4-1 and mapped in Figure 4-1. The main habitat is amenity grassland improved.

Table 4-1 Habitats recorded on site classified by Fossitt (2000).

Fossitt Code	Habitat
GA2	Amenity Grassland Improved
BL1	Stonewalls and other stonework
WL2	Treeline

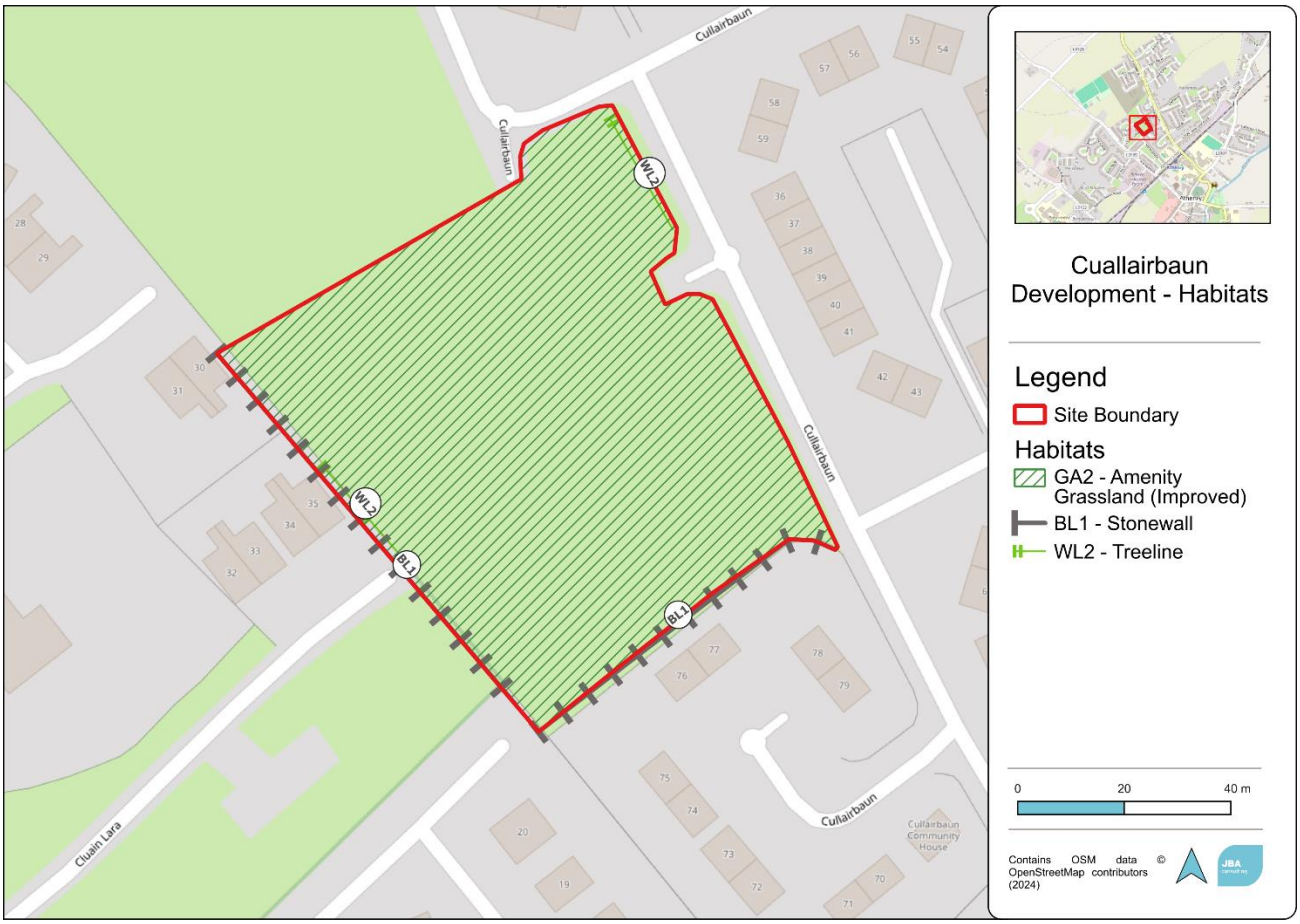


Figure 4-1 Habitats within the site boundary.

4.1.1 Amenity Grassland Improved

The site largely consists of this habitat. It is a heavily managed grassland and football field with local community value. The moss coverage was moderate, at least 40-50%. species recorded within the grassland consisted of Perennial Rye-grass *Lolium perenne*, Yorkshire Fog *Holcus lanatus*, Red Clover *Trifolium pratense*, White Clover *Trifolium repens,* Rough Hawkbit *Leontodon hispidus*, and Creeping Buttercup *Ranunculus repens*.

This habitat is considered to be of **Local Importance (Lower)**.

4.1.2 Stonewalls and other stone works

This habitat consists of brick boundary walls along the western and southern site boundary bordering existing housing. This habitat was not considered to be of ecological importance and is not likely to support local flora and fauna.

This habitat is considered to be of **Less than Local Importance**.

Figure 4-2: Example of brick wall bordering the site.

4.1.3 Treelines

The treeline to the west is made up of Sycamore *Acer pseudoplatanus*. The treeline to the east was Japanese Larch *Larix kaempferi*.

In the context of this site, this habitat is considered **Local Importance (Lower)**.

4.2 Protected Species

4.2.1 Mammals

During the walkover survey, no signs of mammal activity were noted.

4.2.1.1 Trail camera results

One trail camera was placed on site from 12th to 27th November 2024 (location shown in Figure 4-3). Only one mammal species was recorded by this camera, Fox.

Due to the urban location, size, nature of the site, and based on survey findings, it is unlikely that many other mammal species are using this site. Small mammals such as Wood Mouse and Hedgehog may use the site.

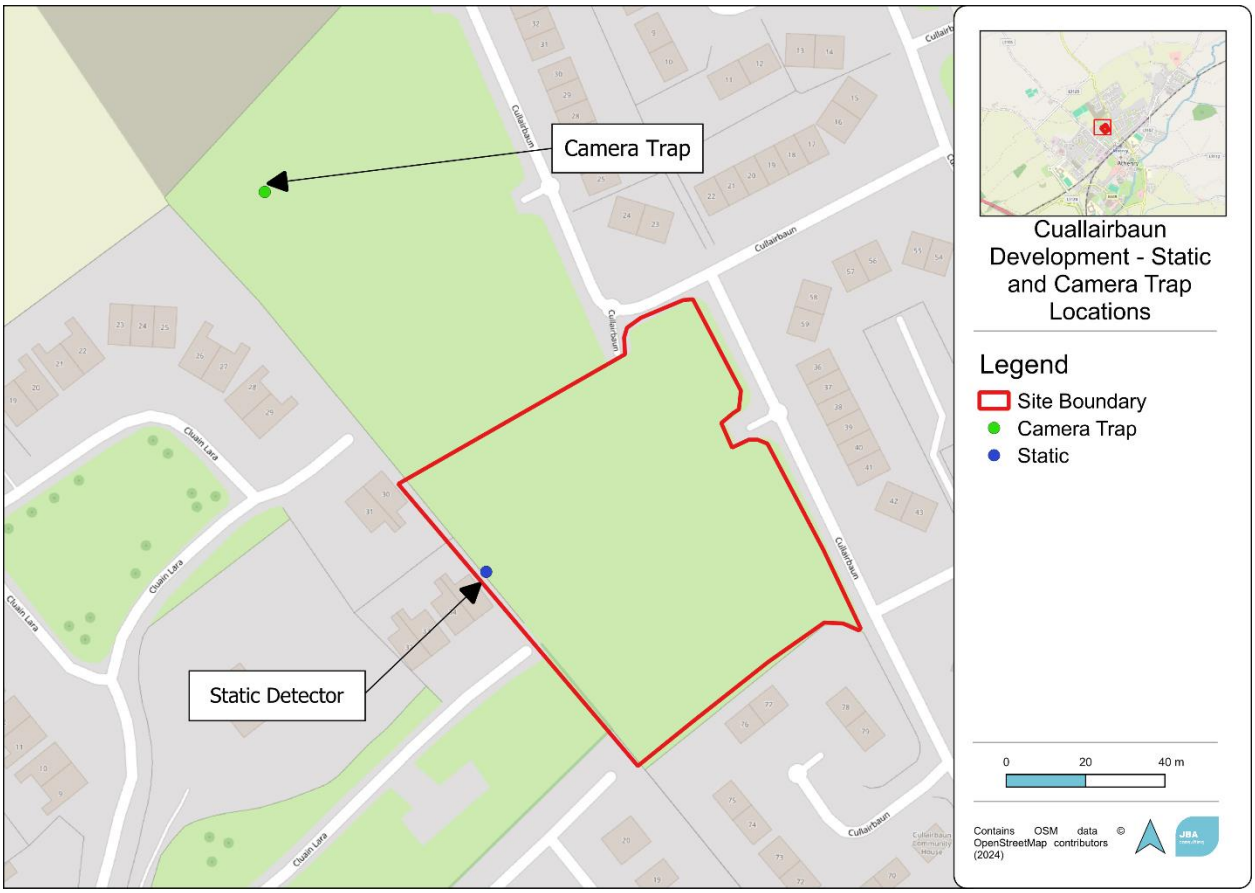


Figure 4-3: Locations of trail camera and bat static detector.

Due to the nature of the habitats found on site, limited use by local mammals, and the highly urbanised surrounding environment, this site is considered to be of **Local Importance (Lower)** for mammals.

4.2.2 Bats

A bat static detector was deployed on site (location shown in Figure 4-3) on the 12th November 2024 and it recorded data for 6 days. The site survey was undertaken outside the bat activity season (April to September inclusive) and hence no bat activity surveys were carried out for the site. Additionally, during the site visit a preliminary roost feature search was conducted and no suitable features were noted by surveyors. The site is of negligible suitability for roosting bats.

Despite the survey being outside the bat activity season, bat calls were recorded by the static detector on 6 nights, indicating that the site is likely of value for commuting bats.

Static bat detector results

Following data analysis, four species of bat were recorded using the site.

- Brown Long-eared Bat *Plecotus auritus*
- Common Pipistrelle *Pipistrellus pipistrellus*
- Soprano Pipistrelle *Pipistrellus pygmaeus*

- Leisler's Bat *Nyctalus leisleri*

It is likely that the bats recorded on the site were commuting to a feeding habitat, potentially the field to the north-west of the site, rather than using the site itself for feeding. The table below (Table 4-2) outlines the number of calls recorded by the detector, which is not equivalent to numbers of bats recorded and is merely an indicator of activity.

Table 4-2: Results of static recorder data from 12th to 19th November.

	13/11	14/11	15/11	16/11	17/11	19/11
Brown Long-eared	0	2	0	1	0	0
Common Pipistrelle	4	2	2	0	0	1
Soprano Pipistrelle	2	7	16	7	8	1
Leisler's	0	0	0	0	4	0

Summary

In the absence of dusk/dawn activity surveys, the use of the site by bats is not certain, but it is likely that usage is limited to travel along linear features of the site such as trees and brick walls. The open habitat across the site and existing lighting within Cullairbaun housing estate indicates that this site is of low value for commuting and/or foraging bats. It is unlikely there are any bats roosting on the site as there are no features to support a roost.

The site is assessed as being of **Local Importance (Higher)** for commuting and foraging bats.

4.2.3 Birds

Only one species of bird was recorded during the site walkover in casual observation, Rook. A Blackbird was also recorded by the trail camera on site. The small wooded/scrub area outside of the site boundary has potential to support the local garden bird population. No nests or nest sites were noted during the site visit, but the survey was conducted outside of the main breeding season for birds.

The site is assessed as **Local Importance (Lower)** for birds due to the limited but possible nesting and foraging opportunities present.

4.2.4 Amphibians and Reptiles

No amphibians were recorded on site during the site walkover survey. There is no suitable breeding habitat for amphibians or reptiles on site.

Given the lack of potential habitat, the site is assessed as being of **Less than Local Importance** for amphibians and reptiles.

4.2.5 Invertebrates

Given the largest habitat on site is amenity grassland, it is likely that more common and widespread invertebrate species occur within the site. Surveys were also conducted at suboptimal times for recording invertebrates (November 2024). Given the nature of habitats surrounding the site (i.e., urban built land) the site is assessed as **Local Importance (Lower)** for invertebrates.

4.2.6 Protected / Notable Flora

A search of the Flora Protection Order database revealed no recorded species for the site, nor the surrounding areas. Flora is likely to be under recorded, and therefore caution must be applied. Although, given the heavily managed nature of the site, it is highly unlikely that notable or protected flora would be found here.

The site is considered to be of **Less Than Local Importance** for protected flora.

4.3 Invasive Non-native Species

No Third Schedule invasive species were recorded during the site visit. As with most construction activities that require excavations and movement of plant and materials there is a risk of contamination if strict biosecurity measures are not implemented.

4.4 Ecological Features Considered for Further Assessment

The screening of designated sites and ecological features identified during the desktop study and ecological survey are given in Table 4-3. Sites and features screened out are not considered further in this assessment. Ecological features carried forward are assessed for potential impact during construction and operation in the following sections.

Table 4-3 Summary of ecological features and the screening assessment.

Ecological Feature	Value	Screening	Reasoning
Monivea Bog SAC 002352	International	Screened out	No connection
Lough Corrib SAC 000297	International	Screened out	No connection
Rahasane Turlough SAC 000322	International	Screened out	No connection
Rahasane Turlough SPA 004089	International	Screened out	No connection
Galway Bay Complex SAC 000268	International	Screened out	Distance
Cregganna Marsh SPA 004142	International	Screened out	No connection
Inner Galway Bay SPA 004031	International	Screened out	Distance
Castletaylor Complex SAC 000242	International	Screened out	Distance
Lough Finall Complex SAC	International	Screened out	Distance

Ecological Feature	Value	Screening	Reasoning
000606			
Kiltiernan Turlough SAC 001285	International	Screened out	Distance
Ardrahan Grassland SAC 002244	International	Screened out	Distance
Rahasane Turlough pNHA 000322	National	Screened out	No connection
Monivea Bog pNHA 000311	National	Screened out	No connection
Tiaquin Bog pNHA 001709	National	Screened out	No connection
Clarinbridge River	**Local Higher**	**Screened in**	**Potential connection via drainage**
BL1 Stonewalls and other stonework	Less than local	Screened out	Low value habitat
WL2 Treeline	Local Lower	Screened out	Low value habitat
GA2 Amenity grassland	Less than Local	Screened out	Low value habitat
Mammals	Local Lower	Screened out	Low potential for protected species on site
Bats	**Local Higher**	**Screened in**	**Locally important use of the site with presence of Annex IV species**
Birds	Local Lower	Screened out	Low potential for nesting and foraging
Reptiles and Amphibians	Less than Local	Screened out	Unsuitable habitats
Invertebrates	Local Lower	Screened out	Potential supporting habitat for local species only
Notable Flora	Less than Local	Screened out	Unsuitable habitat
Invasive Species	Less than Local	Screened out	No Scheduled invasive species present on site

5 Other Relevant Plans and Projects

5.1 Cumulative Effects

As part of the Ecological Impact Assessment, in addition to the proposed works, other relevant plans and projects in the region that may induce cumulative effects must also be considered at this stage.

5.2 Plans

The following projects or plans were identified as potential sources of cumulative effects:

- Third Cycle River Basin Management Plan for Ireland 2022-2027;
- Galway County Development Plan 2022 – 2028;
- Athenry Local Area Plan 2024-2030.

5.2.1 Third Cycle River Basin Management Plan for Ireland 2022-2027

The Third Cycle River Basin Management Plan (RBMP) for Ireland 2022-2027 outlines the strategies and actions Ireland will take to protect and improve its water resources. This plan is part of Ireland's commitment to the EU Water Framework Directive (WFD), which aims to achieve good water quality across Europe.

The plan aims to achieve good ecological status or potential for all water bodies, reduce pollution, and protect aquatic ecosystems.

In 2024, DHLGH published Water Action Plan 2024: A River Basin Management Plan for Ireland. This plan aims to accelerate the identification and implementation of the right measures in the right places both to restore and protect all waterbodies.

Measures include actions to address significant pressures on water bodies, such as agricultural runoff, wastewater discharges, and physical modifications to watercourses. The plan emphasizes the importance of involving local communities and stakeholders in water management decisions. Regular monitoring of water quality and progress reporting are essential components to ensure the plan's objectives are met (DHLGH, 2024).

The Third Cycle River Basin Management Plan for Ireland 2022-2027 is not anticipated to contribute to cumulative or in-combination effects.

5.2.2 Galway County Development Plan 2022 - 2028

The Galway County Development Plan 2022 – 2028 sets out a range of proposed policy objectives with supporting narrative for development up to 2028. In accordance with national policy, the plan is seeking to develop in a sustainable and environmentally sensitive manner. It promotes the climate change agenda, and it sets out the housing and economic priorities for the relevant period. The Galway County Development Plan 2022 – 2028 has been prepared in accordance with the provisions of the Planning and Development Act 2000 (as amended). Since the adoption of the existing Galway County

Development Plan 2015 – 2021, there has been a significant amount of planning related changes in Ireland. New National and Regional policy has been adopted since 2018 which sets out a clear growth agenda in accordance with sustainable development over the coming years. The overarching national framework now in place is the National Planning Framework (NPF) with three Regional Spatial and Economic Strategies (RSES) providing for the implementation and delivery of the NPF. The county now forms part of the Northwest Region and the RSES now includes a Galway Metropolitan Area Strategic Plan. This Plan has considered this policy framework, and it has been set out in accordance therewith.

The Galway County Development Plan is not anticipated to contribute to cumulative or in-combination effects.

5.2.3 Athenry Local Area Plan (LAP) 2024-2030

The Athenry Local Area Plan 2024-2030 was adopted by the Athenry/Oranmore Municipal district Members on the 9th of January 2024 and came into effect on the 20th of February 2024.

The successful implementation of the Plan intends to have a positive impact on Athenry ensuring that it develops in a sustainable manner and complements the implementation of the Galway County Development Plan. The plan also includes Strategic Environmental Assessment (SEA) Environmental Report, prepared in accordance with the Planning and Development (SEA) Regulations 2004 (as amended), an Appropriate Assessment (AA) Natura Impact Report, pursuant to Article 6 of the Habitats Directive 92/43/EEC.

Considering measures already in force through the Galway County Development Plan 2022-2028 and having incorporated mitigation measures into the Local Area Plan, it is concluded that the Athenry Local Area Plan 2024-2030 is not foreseen to give rise to any significant adverse effects to designated European sites, alone or in combination with other plans or projects. This evaluation was made in view of the conservation objectives of the habitats and/or species, for which these sites have been designated.

5.3 Other Projects

Recent developments or planning applications in the vicinity can have a cumulative impact with the proposed development. Larger development planning applications in the near vicinity from the last three years that have been granted permission were searched for (Table 5-1). Planning Applications were retrieved from Data.gov.ie - Planning Application Sites. Applications for home extensions, internal alterations and retention are not considered.

Table 5-1: Planning applications granted in the last three years within 2km of the site.

Planning Reference	Description of Proposed Development	Application Address	Decision Date
22368	The installation of an LPG safety installation in a caged enclosure 1.8m x 1.2m x 1.2 (LxWxH) servicing the existing LPG storage installation with all ancillary services and	Raheen	20/6/2022

Planning Reference	Description of Proposed Development	Application Address	Decision Date
	associated site works. Gross floor space of proposed works: 2.16 sqm		
22696	Retention of development and permission for development, to retain and complete amendments to a permitted (and under construction) residential housing development (Reg. Ref: 07/2196 as extended), the Proposed development comprises: 1. Revised elevational detailing and internal layout reconfiguration to (10 no.) three bed and (24.no) four bed dwellings including omission of habitable use of second/ dormer floor level. omission of internal and external chimney features, associated and ancillary modifications, including provision of 3.no four bed dwellings in lieu of 3 no. 3 bed dwellings, and 2. Revised landscaping scheme and all other associated and ancillary development and works above and below ground level. Gross floor space of works to be retained 4,127 sqm.	Ballydavid South, Co. Galway	7/11/2022
221098	A development consisting of: the demolition of the existing, vacated, two storey, former Clarin College school buildings, including all permanent and ancillary structures, existing footings and hardstanding within the site; as well as the removal of all disused on site drainage system and utility services, including any existing underground attenuation tanks. Gross floor space of any demolition: 4,450 sqm	Caheroyn, Caheroyn Road, Co Galway	6/3/2023
221211	The demolishment of an existing rear single storey building and to construct new single storey rear and side extension and associated services. Gross floor space of proposed works: 46sqm	Raheen, Athenry	27/3/2023
2360106	The construction of a dwelling house and all associated services on revised site boundaries from that previously granted under Planning Reference No. 96/529. Gross floor space of works to be retained 128sqm.	Athenry, Athenry, Co. Galway	15/5/2023
23196	The construction of a new educational campus that will comprise of two school buildings. Gaelscoil Riada a part one & two-storey, 16 classroom primary school with single class base SEN & ancillary spaces with total floor area of circa 2890sqm. Colaiste an Eachraidh a part one, two & three-storey post primary school with 17 general classrooms, 12 specialist classrooms, sports hall, single class base SEN & ancillary spaces with a total floor area of circa 6985sqm. Proposed site works to include the construction of standalone ESB substation & bin store, 2no. plant enclosures, all new hard play areas, shared central grass play area, general purpose external amenity spaces, access road with lay-by set down, 84no. carparking spaces, 48no. covered bicycle stands, ancillary infrastructure works, including new vehicular access points & new pedestrian access, together with new boundary treatments & landscaping works	Caheroyn Road, Athenry, Co. Galway	25/9/2023
2261321	The development will consist of: • the provision of a 2no. storey industrial warehousing unit & ancillary office space (8826.3sqm.). • the provision of a service yard plant & refuse area, distribution & circulation yard with 5no. level access loading bays. • the provision of solar PV panels; • the provision of 163no.	Moanbaun Raheen & CULLAIRBAUN, Athenry, County Galway	2/10/2023

Planning Reference	Description of Proposed Development	Application Address	Decision Date
	car parking spaces & 163no. bicycle parking spaces. • the provision of internal roadways, pedestrian footpaths & associated landscaping. • the provision of a new vehicular & pedestrian access from Ballydavid South Road. • the provision of signage & all other associated site development works intended to facilitate the proposed development		

5.3.1 Summary

The County and Local Development Plan; RBMP and projects within the locality of the proposed project are considered in combination with the currently proposed project in the Impact Assessment section below.

6 Impact Assessment

6.1 Introduction

The impacts on the valued ecological features are assessed here. The initial assessment considers the potential impact pathways and whether these apply to the ecological features. The impact assessment considered the scheme maintenance works and the anticipated effects in the absence of mitigation.

The potential impacts from the construction works and the site's operation following the works are assessed under the following:

- Habitat loss
- Lighting impacts on commuting and foraging bats
- Water quality of the Clarinbridge River

The following sections describe the nature of immediate/short-term impacts, as well as any medium- or long-term impacts, predicted for designated protected sites, habitats and species in the absence of implemented mitigation measures during the maintenance works.

6.2 Do Nothing Scenario

If the proposed works were not to go ahead, it is likely that no change will occur in the use of the site by fauna in the wider area around the site.

6.3 Impacts on Ecological Features

The following sections describe the nature of the construction phase impacts predicted for protected sites, habitats and species in the absence of implemented mitigation measures during the project's construction phase.

The following ecological features to be assessed include:

- Bats (Foraging and Commuting)
- Clarinbridge River water quality.

6.3.1 Bats (Foraging and Commuting)

Habitat Loss

The site provides low value foraging and commuting habitats for at least four species of bat in the local area. The extent of utilisation is uncertain as there have not been activity surveys undertaken at the site. However, bats were recorded as present on site, despite it being outside of the general bat activity season.

The amenity grassland habitat provides opportunistic foraging for bats as they feed on flying insects that live in this habitat. This will be lost to the proposed development which

will provide reduced foraging habitat for bats, therefore resulting in slight loss of potential foraging area for bats.

The habitats on site are of low value, as identified in Section 4.1, and therefore the loss of the potential foraging and commuting habitat for bats is anticipated to have a slight negative effect.

Lighting Impact

Placing artificial lights in proximity to bat foraging pathways can be highly disturbing to bats, may cause disorientation, and should be avoided where feasible. Artificial light spillage out onto or close to a bat foraging pathway can cause many problems for bats, by:

- Altering the feeding behaviour of bats away from their roost. Slower flying species tend to avoid illuminated areas and therefore lose foraging grounds if they are continuously or sporadically lit. This results in slower flying species having to use poorer quality foraging sites and losing out on prey, which are attracted to the surrounding lit areas, leading to a high-density insect population with a smaller focus area.
- Commuting and foraging routes, which will be avoided if there is artificial light spilling into these areas.

Installation of new lighting to accommodate the construction and operation of the site may impact foraging and commuting bats. As no dusk / dawn activity surveys have been carried out, it is not certain how much the lighting will impact upon bat activity. Once in operation, it is likely that the local bats will utilise alternative connectivity features of the landscape to avoid disturbance by new lighting. A lighting plan for the site in conjunction with bat-friendly lighting would help to avoid disturbance of bat activity.

Guidelines for bat-friendly lighting are provided in Section 7.

Disturbance Impact

Disturbance may be caused by an increase in human presence and increased noise/vibration created by machinery. However, bats are nocturnal, and the works will take place during daylight hours. Therefore, disturbance caused by the works is not anticipated to significantly impact on this species group.

Temporary impacts on commuting and foraging bats are anticipated via construction disturbance; medium-term slight impacts are expected with the proposed construction and operation likely to impact on commuting routes and foraging habitat. However, the overall significance of the impact in the context of the surrounding landscape is anticipated to be slight for commuting and foraging bats.

6.3.2 Clarinbridge River

Sedimentation and Pollution

The proposed construction activities will involve significant soil disruption and some vegetation removal, this could lead to increased sedimentation in the nearby Clarinbridge River (650m south) through the local storm water network as there is a hydrological connection. During rainfall events, loose soil and debris from construction can be transported into the river, elevating the load. This sedimentation can have several adverse effects on the river ecosystem. Increased turbidity can decrease light penetration, affecting photosynthesis of aquatic plants and disrupting the food web. Additionally, sediment can carry attached pollutants, such as heavy metals and nutrients, further degrading water quality.

The proposed works will require potential sources of various pollutants, including oil and petrol. During rainfall, these pollutants can be washed into the river through stormwater runoff and can introduce harmful substances into the aquatic environment.

Pollutants or sediment from construction site run-off is expected to be minimal as the proposed project is small in nature. Additionally, there is approximately 650m of urban built land between the proposed site and Clarinbridge River. In the event of pollutants or sediment entering the Clarinbridge River it would experience a high level of dilution before entering any Natura 2000 site. The majority of surface water being generated during construction (i.e. from rainfall) will soak away naturally through the overburden so no formal surface water construction plan is present, but best practice guidelines will be followed. The proposed design for drainage on the site is planned to include an attenuation tank, silt trap and petrol interceptor which will be installed during the construction process. This will act as a barrier for pollutants or sediment.

Temporary slight impacts on the Clarinbridge River are anticipated via construction; low-level impacts are expected with the proposed construction and operation likely to have a slight impact on water quality of the river. However, the overall significance of the impact in the context of the surrounding landscape is anticipated to be slight.

6.4 Cumulative Impacts

No other developments in the area were considered to possibly cause cumulative impacts in conjunction with the proposed project, and therefore no cumulative impact from the development can occur.

7 Mitigation

Section 6 identified the following impacts to the Screened-in Ecological Receptors.

Ecological Feature	Value	Impact
Watercourses	Local Higher	Slight Impact
Bats	Local Higher	Slight Impact

This section describes the mitigation that will be utilised to ensure that the proposed works do not adversely impact on the ecological receptors outlined in Section 6.

Mitigation measures for anticipated impacts on designated sites and ecological features are outlined below.

7.1 Clarinbridge River Water Quality

Precautions shall be put in place to avoid or minimise the generation and release of sediments into all watercourses. The site layout avoids natural watercourses. Work will not be in proximity to watercourses.

7.1.1 Groundwater treatment during construction

The following mitigation measures have been included in the project

- An appropriately sized settlement pond or tank will be utilised to treat pumped groundwater prior to its discharge to the stormwater system or to a soakaway. No water will be discharged directly to surface water systems.
- The quality of the water being discharged will be monitored by the Ecological Clerk of Works (ECoW).

7.1.2 Reduce volumes of operational stormwater discharge

The following measures should be embedded through the design of the project to reduce volumes of operation stormwater discharge.

- Attenuation of run-off from both the new housing units and the new carparking areas (permeable surfaces used where possible).
- Hydrobrake limiting flow in peak times and achievement of greenfield run-off rates as appropriate.
- Class 1 petrol interceptors at appropriate locations

7.1.3 General mitigation measures for construction phase

The mitigation measures outlined below will be implemented for the construction and decommissioning phase of the proposed development works.

1. An ECoW will be appointed to ensure the mitigation measures are implemented correctly and to ensure no impacts will occur by monitoring the site, weather and nearby waterbodies.
2. Construction method statements will be submitted to the ECoW for agreement prior to site works commencing
3. The main site compound will be sited within the works site
4. Only plant and materials necessary for the construction of the works will be permitted to be stored at the compound location
5. All refuelling of vehicles will be carried off site where possible, or within the main site compound and only trained personnel will be permitted to operate fuel bowsers.

7.1.4 Site Compound

Before works commence the contractor is to provide a site layout plan identifying the exact location of the site compound and a site establishment plan.

Typical site establishment by the contractor will likely include the following:

- Access route to the site;
- Construction traffic alert signage approaching the site entrance;
- Site offices;
- Site facilities (canteen, toilets, drying rooms, etc.);
- Office for construction management team;
- Secure compound for the storage of all on-site machinery and materials;
- Temporary car parking facilities;
- Permanent and temporary fencing;
- Site Security to restrict unauthorized entry;
- Bunded storage of fuels and refuelling area.
- Bunds shall be 110% capacity of the largest vessel contained within the bunded area.
- A separate container will be located in the contractors' compound to store absorbents used to contain spillages of hazardous materials. The container will be clearly labelled, and the contents of the container will be disposed of by a licensed waste contractor at a licensed site. Records will be maintained of material taken off site for disposal.
- The contents of any tank will be clearly marked on the tank, and a notice displayed requiring that valves and trigger guns be locked when not in use.
- Drainage collection system for washing area to prevent runoff into surface water system.

- All refuelling of vehicles will be carried out at the fuel stores within the main site compound and only appropriately trained personnel will be permitted to operate fuel bowsers.
- A drainage plan will be issued to the ECoW before works commence.
- A surface and foul water plan will be issued to the ECoW before works commence.
- The site environmental manager will be responsible for maintaining all training records and weekly environmental inspections.
- Drainage collection system for washing area to prevent run-off into surface water system.

7.1.5 Water Quality

The activities required for the proposed development's construction phase shall remain within the boundary of the proposed site, bar select compound areas, which will be located in adjacent lands for mitigation control reasons. The CEMP will also strictly adhere to best practice environmental guidance including but not limited to the following:

- CIRIA (C512): Environmental Handbook for Building and Civil Engineering Projects.
- CIRIA (C532): Control of water pollution from construction sites. Guidance for consultants and contractors.
- PUB C811 Environmental Good Practice on Site, 5th Edition (CIRIA, 2023);
- CIRIA (C750D): Groundwater control: design and practice.
- CIRIA (C753): The SuDS Manual.
- Inland Fisheries Ireland: Guidance on Protection of Fisheries During Construction Works in and Adjacent to Waters (IFI, 2016);
- Inland Fisheries Ireland: A Guide to the Protection of Watercourses through the use of Buffer Zones, Sustainable Drainage Systems, Instream Rehabilitation, Climate / Flood Risk and Recreational Planning (IFI, 2020)

In order to safeguard the local surface water network, and in turn the local groundwater network, from surface water-based pollution events, the following must be strictly adhered to:

- The contractor will ensure compliance with environmental quality standards specified in the relevant legislation, namely European Communities (Environmental Objectives (Surface Waters)) Regulations, 2009 (S.I. No. 272 of 2009 and amendments);
- Management of silt-laden water on-site, including procedures for accidental leaks / spills to ground, as well as water quality monitoring to ensure compliance with environmental quality standards specified above;
- At no point during the construction phase will untreated-water be discharged to local surface water drainage network without the water quality meeting the statutory limits

as set under the environmental quality standards specified above, or limits imposed by a relevant authority; and
- Temporary stockpiles will be monitored for leachate generation. These stockpiles will be placed within designated areas (C649 – CIRIA, 2006b).

Specific measures related to preventing impacts to water quality caused by Oil and fuel spills include:

- Oil soakage pads should be maintained on-site to enable a rapid and effective response to any accidental spillage or discharge. These shall be disposed of correctly and records will be maintained by appropriate trained personnel of the used booms and pads taken off site for disposal.
- Fail-safe site drainage and bunding through drip trays on plant and machinery will be provided to prevent discharge of chemical spillage from the sites to ground water/surface water.

7.1.6 Pollution Control and Spill Prevention

Spill kits containing absorbent pads, granules and booms will be stored in the site compound with easy access for delivery to site in the case of an emergency. A minimum stock of spill kits will be maintained at all times and site foreman vehicle will carry large spill kits at all times. Absorbent material will be used with pumps and generators at all times and used material disposed of in accordance with the Waste Management Plan. All used spill materials e.g. absorbent pads will be placed in a bunded container in the contractors' compound. The material will be disposed of by a licensed waste contractor at a licensed facility.

Regular inspections and maintenance of plant and machinery checking for leaks, damage or vandalism will be made on all plant and equipment.

In the event of a spill the Contractor will ensure that the following procedures are in place:

- Emergency response awareness training for all project personnel on-site works.
- Appropriate and sufficient spill control materials will be installed at strategic locations within the site. Spill kits for immediate use will be kept in the cab of mobile equipment.
- Spill kits will be stored in the site compound with easy access for delivery to site in the case of an emergency. A minimum stock of spill kits will be maintained at all times and site vehicles will carry spill kits at all times. Spill kits must include suitable spill control materials to deal with the type of spillage that may occur and where it may occur. Typical contents of an on-site spill kit will include the following as a minimum;
    - Absorbent granules;

- Absorbent mats/cushions;
- Absorbent booms.

- Spill kits will contain gloves to handle contaminated materials and sealable disposal sacks.
- Track mats, drain covers and geotextile material.
- All potentially polluting substances such as oils and chemicals used during construction will be stored in containers clearly labelled and stored with suitable precautionary measures, such as bunding, within the site compound.
- All tank and drum storage areas on the site will, as a minimum, be bunded to a volume not less than the following;
- 110% of the capacity of the largest tank or drum within the bunded area, or
- 25% of the total volume of substances which could be stored within the bunded area.
- The site compound fuel storage areas and cleaning areas will be rendered impervious and will be constructed to ensure no discharges will cause pollution to surface or ground waters.
- Designated locations for refuelling are within the Site Compound.
- Potentially contaminated run-off from plant and machinery maintenance areas will be managed within the site compound surface water collection system.
- Damaged or leaking containers will be removed from use and replaced immediately.

7.2 Retaining Commuting and Foraging for Bats

Areas of the site, within the site plan, have potential to allow bats to continue using the site when in operation. The proposed works should include landscaping on the western boundary that would support commuting and foraging bats. Green areas with dark corridors are particularly important in urban landscapes where much of the land is otherwise built on. Bat-friendly landscaping and planting would support invertebrates that local bats feed on. The landscaping plan has been reviewed by a suitably qualified Ecologist and bat-friendly and pollinator-friendly planting has been included.

Figure 7-1: Proposed area for landscaping to support local bats.

Recommendations for gardening and landscaping for bats are:

- Create a continuous line of planting along the western boundary that would allow bats to connect into the wider landscape.
- Plant Native Species: Native Irish species support a wider variety and abundance of native insects. In turn, this means that there are more foraging opportunities for bats.
- Grassland Management: Allow patches to grow tall and flower, improving habitat for night flying insects such as moths.

Bats are using the site as commuting routes and were recorded in low numbers on the western boundary of the site. Creating dark corridors and diverse green areas as suggested would enhance general biodiversity on site and support other local wildlife as well.

7.3 Lighting impacts Bats

The bat surveys found the site is regularly used by 4 species of bat. The increased lighting may disturb bats from commuting through the site.

Lighting (Operational Phase)

During the design phase of the project, the lighting plan will include directional lighting across the site to create dark corridors for commuting routes for bats. This will need to be reviewed by an Ecologist and this should follow the guidelines in Table 7-1.

The final lighting plan for the site should be signed off by a suitably qualified Ecologist.

Table 7-1 Evaluation of criteria for suggested lighting plan (Bat Conservation Trust & Institution of Lighting Professionals, 2023; Marnell et al., 2022; Trust & Professionals, 2018; Voigt, 2018).

Criteria	Guidelines	This project should be
Type of light	No UV component. Preferentially warm LED (>2700K) (Voigt, 2018). Light sources should feature peak wavelengths higher than 550nm to avoid the component of light most disturbing to bats (Stone, 2013).	Warm LED, <2700K, Higher than 550nm.
Height of lights	<6m	<6m
Directionality	Downwards focused to reduce spill. Minimise light spills using shields, masking & louvres. Light can be restricted and directed to below the horizontal plane, preferably at an angle of less than 70°	LED, downward focused. Minimise light spills using cowls. Light can be restricted and directed to below the horizontal plane, preferably at an angle of less than 70°
Timing of lights	Restrict lights to ensure that there are dark hours	Use of sensors, as standard.
Brightness	No specific guideline available – not as relevant for bats given spectral sensitivities. Lux values under 0.5 in the vertical plane are considered ideal for corridors for bats.	Lowest contour as possible of lighting

7.3.1 General Avoidance Measures

Although it has been identified that there will be no permanent impact through disturbance to wildlife during the work, it is advised that general avoidance measures be undertaken to protect wildlife such as small mammals while the works are being carried out.

General avoidance measures that should be incorporated by the contractors working on site include:

- Preparations of a toolbox talk for staff covering appropriate use of the area, i.e., not to be used as a smoking area, or waste storage facility. This toolbox talk would also cover the event of an unlikely bat occurrence during works, along with safety

aspects, i.e., who to contact, and not handling or harming the bat. This can be prepared by a suitably qualified Ecologist and can be delivered on site or to the Site Manager(s) online.

- The use of lighting at night on site should be avoided. If the use of lighting is essential, then a directional cowl should be fitted to all lights to prevent light spill and to be directed away from treelines and hedgerows, and away from any potential roost locations.
- Limit the hours of working to daylight hours, to limit disturbance to nocturnal and crepuscular animals.
- Contactors must ensure that no harm comes to wildlife by maintaining the site efficiently and clearing away materials which are not in use, such as wire or bags in which animals can become entangled.
- Any pipes should be capped when not in use (especially at night) to prevent animals becoming trapped. Any excavations should be covered overnight to prevent animals from falling and getting trapped. If that is not possible, a strategically placed plank should be placed to allow animals to escape.

7.4 Invasive Species Management

No invasives species were found on site. However, standard mitigation measures should be implemented to ensure that none are introduced to site, and appropriate biosecurity measures should be put in place.

8 Residual Impact

Residual ecological impacts are those that remain once the development proposals have been implemented. The main aim of ecological mitigation, compensation and enhancement is to minimise or eliminate residual impacts.

8.1 Construction Phase

Preparatory and construction works will result in disturbance to the foraging and commuting habitat for protected species such as ground-dwelling mammals, bats and birds.

Implementation of mitigation measures during the construction works phase, along with good site management and construction practices will help to minimise any significant and/or permanent impact on the environment. Included in this will be best practice measures to prevent disturbance, and accidental injury, as well as control of pollution, which will minimise any impact on local habitats and the species reliant on them.

With the proposed mitigation implemented the residual impact during the construction phase is assessed to be of temporary negative impact on account of the disturbance locally important protected species.

8.2 Operational Phase

The proposed lighting plan will have a slight impact of disrupting foraging and commuting activity of local bat species, and mitigation in the form of light cowling and orientation, will prevent the site from experiencing large scale light pollution. The inclusion of a dark corridor will allow bats to continue to use the site for commuting and foraging. Overall, the works will have a negligible residual impact on the biodiversity within and adjacent to the site.

9 Summary of Impact Assessment

9.1 EcIA Table

Table 9-1 below presents a summary of the EcIA assessment when mitigation approaches are considered and included. Residual impacts are also described.

Table 9-1 Summary of impacts.

Ecological Features	Importance of Feature	Impact and Significance of Impact	Mitigation	Residual Significance of Impacts
Bats (foraging and commuting)	Local Higher	Disturbance during operational phase with increased lighting along commuting corridors	Bat-friendly lighting mitigation guidelines and recommendations for planting and landscaping in Section 7.	Not Significant
Clarinbridge River	Local Higher	Pollution or sedimentation of river, slight impact	Water quality and pollution mitigation in Section 7	Not Significant

No additional operational impacts are anticipated from the project, and no additional emissions from the project will be generated.

9.1.1 Cumulative Impacts

As there are no significant residual impacts on ecological features (following mitigation measures) from this development, there is therefore no potential for other plans or projects identified in Section 5 to act in combination with it. Therefore, **significant cumulative impacts are not expected to occur on the ecological features within the proposed site.**

10 Concluding Statement

This EcIA examines the potential impacts from the proposed construction and operation of 16 housing units at Cullairbaun Estate.

The site is not in proximity to any Natura 2000 sites or nationally designated/proposed sites.

The proposed development has been shown to potentially impact a number of different habitats of local value for bats whose ecological importance is of high local level in the context of this proposed site.

Additionally, a range of mitigation and avoidance measures will be implemented to protect important ecological features within the footprint of the site itself. These measures include:

- Bat friendly lighting plan and landscaping
- Pollution control and spill prevention (standard controls)

No additional operational impacts are anticipated from the project, and no additional significant emissions from the project will be generated.

Based upon the information supplied and provided the works are carried out in accordance with the mitigation measures outlined above, there will be no significant impact, alone or in-combination with other plans and projects, as a result of the works on mammals, bats, birds, or the ecology of protected areas in the surrounding environs.

Appendices

A Relevant Policy and Legislation

The legislation discussed below is intended as a guide only and does not replace formal legal advice.

A.1 Biodiversity Policy Guidance

'Biodiversity: The National Biodiversity Action Plan 2023-2023' (NPWS, 2024) sets out actions through which a range of government, civil and private sectors will undertake to achieve Ireland's 'vision for Biodiversity' and has been developed in response to the Earth Summit, held in Rio de Janeiro in 1992 (UN Convention on Biological Diversity) and subsequent EU and International biodiversity strategies and policies.

As part of the action plan process Local Authorities (LA) must produce Biodiversity Action Plans (BAP). BAPs highlight local biodiversity issues and set out a series of objectives and action plans for the conservation of priority species and habitats where they occur in each district or county.

A.2 Designated Sites and Nature Conservation

A.2.1 Statutory Designated Nature Conservation Sites

Sites with statutory designations receive varying degrees of legal protection under Irish statute (i.e. Wildlife Act 1976 and Wildlife (Amendment) Act (2000) and European Directives (i.e. the EC Birds Directive (2009/147/EC) and EC Habitats Directive (92/43/EC). The EU directives were transposed into Irish national law and subsequent amendments were revised and consolidated in the European Communities (Birds and Natural Habitats) Regulations 2011 and Irish Statutory Instrument 477/2011.

There are a number of statutory designations used for sites of high nature conservation value in Ireland, which are applied depending upon the importance of the site in a local, regional, national, or international context. These include:

National

- Natural Heritage Area (NHA)
- Wildfowl Sanctuary
- Statutory Nature Reserve
- Refuge for Fauna

European

- Special Protection Area (SPA)
- Special Areas of Conservation (SAC)

International

- UNESCO Biosphere Reserve
- Ramsar Convention Site
- National Park (Category II) Sites

A.2.2 Non-Statutory Designations

Non-statutory sites are afforded no statutory legal protection, but are normally recognised by local planning authorities and statutory agencies as being of local nature conservation value.

A proposed National Heritage Area (pNHA) is an area deemed to be of special interest containing important wildlife habitat and often containing rare or threatened species. They may also be selected on the basis of geology or geomorphology.

A.2.3 Protected and Notable Species

A number of species are protected under Irish and international legislation. In Ireland, primary protection is provided under the 1976 Wildlife Act and Wildlife (Amendment) Acts 2000 & 2010 and revision 2018. Species of European importance receive additional protection in Ireland under the Birds and Natural Habitats Regulations 2011.

The Flora (Protection) Order 2015 makes it illegal to cut, uproot or damage a listed species in any way. It is illegal to alter, damage or interfere in any way with their habitats.

A.2.4 Birds

Almost all resident wild birds are protected under the 1976 Wildlife Act (and amendments). This makes it an offence to:

- Intentionally take, damage or destroy the nest of any wild bird whilst it is in use or being built;
- Take, destroy or possess the egg of any wild bird.

A.2.5 Badger

Badgers are protected under the 1976 Wildlife Act (and amendments), and it is illegal to intentionally kill, capture, injure or ill-threat any Badger. It is also an offence to obstruct, destroy or damage a Badger sett or disturb Badgers within a sett. Disturbance is defined, for development purposes, as any activity that could damage a sett or be a greater than what Badgers commonly tolerate.

A.2.6 Bats

All Irish bat species are European Protected Species (EPS), protected under the Wildlife Act (and amendments) and the Conservation of Habitat and Species Regulations 2017 (as amended). This makes it an offence to:

- Deliberately capture, injure or kill a bat,

- Intentionally or recklessly disturb a bat in its roost or deliberately disturb a group of bats,
- Damage or destroy a bat roosting place (even if bats are not occupying the roost at the time),
- Intentionally or recklessly obstruct access to any bat roost,
- It is also an offence to obstruct access to any bat roost, or to disturb a bat using such a place. Any identified roost(s) are, therefore, protected and any potentially disturbing or destructive works affecting a roost site will require a European Protected Species Licence (EPSL) from Natural England to avoid committing an offence.

A.2.7 Otter

The European Otter is an EPS protected under the Conservation of Habitats and Species Regulations 2017 (as amended), making it an offence to:

- Deliberately capture, injure or kill and Otter,
- Deliberately disturb an Otter such as to affect local populations or breeding success, damage or destroy an Otter holt,
- Possess or transport an Otter or any part of an Otter, sell or exchange an Otter.

Otters also receive protection under the Wildlife Act (and amendments), this makes it an offence to:

- Intentionally or recklessly disturb any Otter whilst within a holt, or
- Intentionally or recklessly obstruct access to a holt.

A.2.8 Reptiles and Amphibians

Common Frog, Natterjack Toad, Smooth Newt, and Common Lizard are all protected under the Wildlife Act 1976 (and amendments).

A.2.9 Invasive Non-native Species

Certain invasive non-native animals and plants are listed under the Third Schedule of S.I. No. 477/2011 - European Communities (Birds and Natural Habitats) Regulations 2011. This makes it an offence to:

- Release, plant them in the wild, or
- Cause them to disperse, spread or otherwise cause them to grow.

If these species occur on a site proposed for development or other work which may disturb the ground, control of these species is likely to be required.

European Council's Regulation on the prevention and management of the introduction and spread of invasive alien species [1143/2014] sets out to prevent, minimise and mitigate the adverse impacts of the introduction and spread, both intentional and unintentional, of invasive alien species on biodiversity and the related ecosystem services as well as on human health and the economy.

A.2.10 Fisheries Legislation

The primary legislation governing Inland Fisheries Sector are the Fisheries Consolidation Act 1959 (No. 14 of 1959) and the Inland Fisheries Act 2010 (No. 10 of 2010).

Fisheries Consolidation Act, 1959-2007

The Fisheries Consolidation Act, 1959, has been amended and extended a number of times (1962, 1964, 1976, 1980, 1987, 1991, 1994, 1994, 1997 and 1999). The Fisheries Consolidation Act makes provisions for the licences for sea and freshwater fishing.

Under the Fisheries Consolidation Act 1959, it is an offence to disturb the bed of a river. Section 171 of the Act creates the offence of throwing, emptying, permitting or casing to fall onto any waters deleterious matter. Deleterious matter is defined as any substance that is liable to injure fish; to damage their spawning grounds; or the food of any fish; or injure fish in their value as human food; or to impair the usefulness of the bed and soil of any waters as spawning grounds or other capacity to produce the food or fish.

Inland Fisheries Act 2010

An Act to establish Inland Fisheries Ireland and to define its functions, to dissolve the Central Fisheries Board and Regional Fisheries Boards, which had been established under the Fisheries Act, 1980 (amended 1999). The Inland Fisheries Act, 2010, also provides for other matters connected with the foregoing and to amend and extend the Fisheries Acts 1959 to 2007).

A.2.11 Salmonid Regulations

For the protection of fisheries, Ireland supports a network of Salmonid Waters designated by the Department of Environment, Heritage and Local Government under the EU Freshwater Fish Directive (78/659/EEC), S.I. No. 293/1988 - European Communities (Quality of Salmonid Waters) Regulations, 1988. These rivers, and a number of other non-designated waters, are important for salmonids (salmon and trout) and, accordingly, their water quality and fish habitat must be maintained (NRA, 2009c). These rivers must ensure to meet certain water quality standards as outlined in Schedule 2 of the legislation.

The regulations list particular rivers/waters which are to be protected under these regulations.

B Protected Species Recorded within 5km of the Proposed Site Since 01/01/2014.

These records correspond with the species covered by national legislation that are publicly available on the NBDC database with an online query (NBDC, 2024).

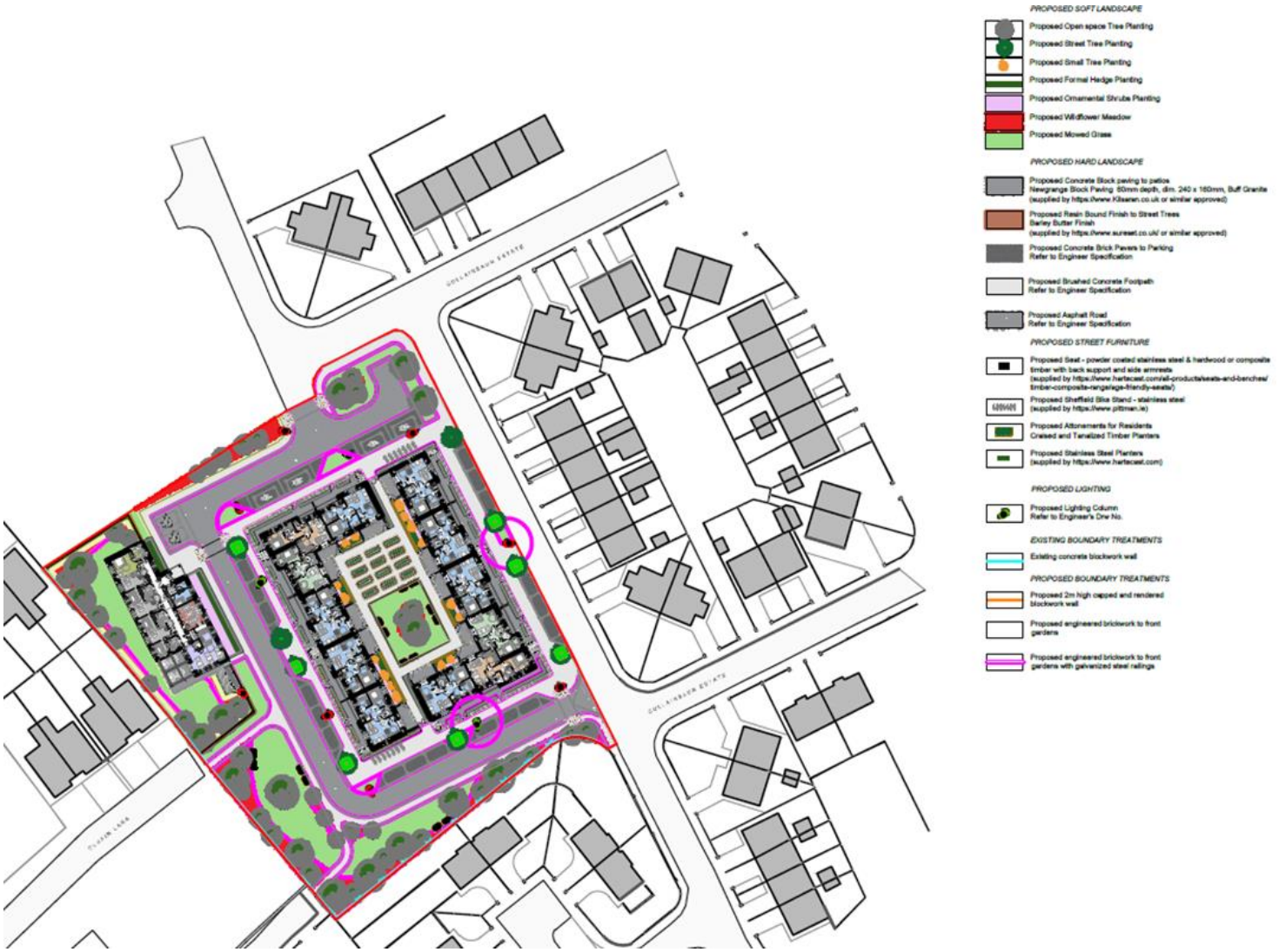
Species	Date of last record	Dataset	Designation
Amphibians			
Common Frog *Rana temporaria*	25/02/2023	Amphibians and reptiles of Ireland	Protected Species: EU Habitats Directive >> Annex V || Protected Species: Wildlife Acts
Smooth Newt *Lissotriton vulgaris*	26/07/2020	Amphibians and reptiles of Ireland	Protected Species: Wildlife Acts
Birds			
Barn Owl *Tyto alba*	24/06/2020	Birds of Ireland	Protected Species: Wildlife Acts || Threatened Species: Birds of Conservation Concern >> Red List
Barn Swallow *Hirundo rustica*	30/04/2023	Birds of Ireland	Protected Species: Wildlife Acts || Threatened Species: Birds of Conservation Concern >> Amber List
Common Coot *Fulica atra*	20/03/2022	Birds of Ireland	Protected Species: Wildlife Acts || Protected Species: EU Birds Directive >> Annex II, Section I & Annex III, Section II Bird Species || Threatened Species: Birds of Conservation Concern >> Amber List
Common Kestrel *Falco tinnunculus*	08/06/2022	Birds of Ireland	Protected Species: Wildlife Acts || Threatened Species: Birds of Conservation Concern >> Amber List
Common Linnet *Carduelis cannabina*	20/04/2021	Birds of Ireland	Protected Species: Wildlife Acts || Threatened Species: Birds of Conservation Concern >> Amber List
Common Pheasant *Phasianus colchicus*	28/11/2020	Birds of Ireland	Protected Species: Wildlife Acts || Protected Species: EU Birds Directive >> Annex II, Section I & Annex III, Section I Bird Species
Common Snipe *Gallinago gallinago*	12/04/2023	Birds of Ireland	Protected Species: Wildlife Acts || Protected Species: EU Birds Directive >> Annex II, Section I & Annex III, Section III Bird Species || Threatened Species: Birds of Conservation Concern >> Amber List
Common Starling *Sturnus vulgaris*	26/01/2023	Birds of Ireland	Protected Species: Wildlife Acts || Threatened Species: Birds of Conservation Concern >> Amber List
Common Swift *Apus apus*	22/07/2023	Swifts of Ireland	Protected Species: Wildlife Acts || Threatened Species: Birds of Conservation Concern >> Amber List
Common Wood Pigeon *Columba palumbus*	30/04/2023	Birds of Ireland	Protected Species: Wildlife Acts || Protected Species: EU Birds Directive >> Annex II, Section I & Annex III, Section I Bird Species
Eurasian Curlew *Numenius arquata*	10/12/2020	Birds of Ireland	Protected Species: Wildlife Acts || Protected Species: EU Birds Directive >> Annex II, Section II Bird Species || Threatened Species: Birds of Conservation Concern >> Red List
Eurasian Woodcock *Scolopax rusticola*	28/11/2020	Birds of Ireland	Protected Species: Wildlife Acts || Protected Species: EU Birds Directive >> Annex II, Section I & Annex III, Section III Bird Species || Threatened Species: Birds of Conservation Concern >> Amber List

Species	Date of last record	Dataset	Designation
European Golden Plover *Pluvialis apricaria*	22/04/2018	Birds of Ireland	Protected Species: Wildlife Acts || Protected Species: EU Birds Directive >> Annex I Bird Species || Protected Species: EU Birds Directive >> Annex II, Section II & Annex III, Section III Bird Species || Threatened Species: Birds of Conservation Concern >> Red List
European Greenfinch *Carduelis chloris*	26/01/2023	Birds of Ireland	Protected Species: Wildlife Acts || Threatened Species: Birds of Conservation Concern >> Amber List
Grey Wagtail *Motacilla cinerea*	05/06/2022	Birds of Ireland	Protected Species: Wildlife Acts || Threatened Species: Birds of Conservation Concern >> Red List
Hen Harrier *Circus cyaneus*	12/10/2021	Birds of Ireland	Protected Species: Wildlife Acts || Protected Species: EU Birds Directive >> Annex I Bird Species || Threatened Species: Birds of Conservation Concern >> Amber List
House Sparrow *Passer domesticus*	26/01/2023	Birds of Ireland	Protected Species: Wildlife Acts || Threatened Species: Birds of Conservation Concern >> Amber List
Little Egret *Egretta garzetta*	22/05/2017	Birds of Ireland	Protected Species: Wildlife Acts || Protected Species: EU Birds Directive >> Annex I Bird Species
Meadow Pipit *Anthus pratensis*	20/04/2021	Birds of Ireland	Protected Species: Wildlife Acts || Threatened Species: Birds of Conservation Concern >> Red List
Northern Lapwing *Vanellus vanellus*	29/12/2014	Birds of Ireland	Protected Species: Wildlife Acts || Protected Species: EU Birds Directive >> Annex II, Section II Bird Species || Threatened Species: Birds of Conservation Concern >> Red List
Northern Wheatear *Oenanthe oenanthe*	26/09/2017	Birds of Ireland	Protected Species: Wildlife Acts || Threatened Species: Birds of Conservation Concern >> Amber List
Peregrine Falcon *Falco peregrinus*	27/01/2021	Birds of Ireland	Protected Species: Wildlife Acts || Protected Species: EU Birds Directive >> Annex I Bird Species
Redwing *Turdus iliacus*	30/01/2023	Birds of Ireland	Protected Species: Wildlife Acts || Threatened Species: Birds of Conservation Concern >> Red List
Rock Pigeon *Columba livia*	26/01/2023	Birds of Ireland	Protected Species: Wildlife Acts || Protected Species: EU Birds Directive >> Annex II, Section I Bird Species
Whooper Swan *Cygnus cygnus*	20/11/2018	Birds of Ireland	Protected Species: Wildlife Acts || Protected Species: EU Birds Directive >> Annex I Bird Species || Threatened Species: Birds of Conservation Concern >> Amber List
Willow Warbler *Phylloscopus trochilus*	20/04/2021	Birds of Ireland	Protected Species: Wildlife Acts || Threatened Species: Birds of Conservation Concern >> Amber List
Crustaceans			
Freshwater White-clawed Crayfish *Austropotamobius pallipes*	31/12/2021	General Biodiversity Records from Ireland	Protected Species: EU Habitats Directive >> Annex II & V || Protected Species: Wildlife Acts
Flora			
Dense-flowered Orchid *Neotinea maculata*	20/04/2024	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	Threatened Species: Near threatened
Greater Knapweed *Centaurea scabiosa*	29/08/2023	Vascular plants: Online Atlas of	Threatened Species: Near threatened

Species	Date of last record	Dataset	Designation
		Vascular Plants 2012 Onwards	
Spring Gentian *Gentiana verna*	20/04/2024	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	Threatened Species: Near threatened
Insects			
Dark Green Fritillary *Argynnis aglaja*	26/06/2019	Butterflies of Ireland pre-2022	Threatened Species: Vulnerable
Dingy Skipper *Erynnis tages*	26/05/2023	Butterflies of Ireland post 2021	Threatened Species: Near threatened
Marsh Fritillary *Euphydryas aurinia*	18/06/2021	Butterflies of Ireland pre-2022	Protected Species: EU Habitats Directive >> Annex II || Threatened Species: Vulnerable
Small Blue *Cupido minimus*	11/06/2023	Butterflies of Ireland post 2021	Threatened Species: Endangered
Small Heath *Coenonympha pamphilus*	11/06/2023	Butterflies of Ireland post 2021	Threatened Species: Near threatened
Large Red Tailed Bumble Bee *Bombus (Melanobombus) lapidarius*	26/05/2023	Bees of Ireland	Threatened Species: Near threatened
Mammals			
Brown Long-eared Bat *Plecotus auritus*	05/07/2022	National Bat Database of Ireland	Protected Species: EU Habitats Directive >> Annex IV || Protected Species: Wildlife Acts
Eurasian Badger *Meles meles*	30/10/2022	Mammals of Ireland 2016-2025	Protected Species: Wildlife Acts
Eurasian Red Squirrel *Sciurus vulgaris*	10/04/2022	Mammals of Ireland 2016-2025	Protected Species: Wildlife Acts
Fallow Deer *Dama dama*	31/12/2008	Deer of Ireland Database	Invasive Species: Invasive Species >> High Impact Invasive Species || Invasive Species >> Regulation S.I. 477 (Ireland) || Protected Species: Wildlife Acts
Lesser Noctule *Nyctalus leisleri*	13/06/2022	National Bat Database of Ireland	Protected Species: EU Habitats Directive >> Annex IV || Protected Species: Wildlife Acts
Natterer's Bat *Myotis nattereri*	11/10/2021	National Bat Database of Ireland	Protected Species: EU Habitats Directive >> Annex IV || Protected Species: Wildlife Acts
Pine Marten *Martes martes*	05/01/2021	Mammals of Ireland 2016-2025	Protected Species: EU Habitats Directive >> Annex V || Protected Species: Wildlife Acts
Pipistrelle *Pipistrellus pipistrellus sensu lato*	11/10/2021	National Bat Database of Ireland	Protected Species: EU Habitats Directive >> Annex IV || Protected Species: Wildlife Acts

Species	Date of last record	Dataset	Designation
Soprano Pipistrelle *Pipistrellus pygmaeus*	13/06/2022	National Bat Database of Ireland	Protected Species: EU Habitats Directive >> Annex IV || Protected Species: Wildlife Acts
West European Hedgehog *Erinaceus europaeus*	10/12/2023	Hedgehogs of Ireland	Protected Species: Wildlife Acts

C Landscape Plan



PROPOSED SOFT LANDSCAPE
Proposed Open space Tree Planting
Proposed Street Tree Planting
Proposed Small Tree Planting
Proposed Formal Hedge Planting
Proposed Ornamental Shrubs Planting
Proposed Wildflower Meadow
Proposed Mowed Grass

PROPOSED HARD LANDSCAPE
Proposed Concrete Block paving to patios
Newgrange Block Paving 60mm depth, dim. 240 x 160mm, Buff Granite
(supplied by https://www.Kilsaran.co.uk or similar approved)
Proposed Resin Bound Finish to Street Trees
Barley Buttar Finish
(supplied by https://www.sureset.co.uk/ or similar approved)
Proposed Concrete Brick Pavers to Parking
Refer to Engineer Specification
Proposed Brushed Concrete Footpath
Refer to Engineer Specification
Proposed Asphalt Road
Refer to Engineer Specification

PROPOSED STREET FURNITURE
Proposed Seat - powder coated stainless steel & hardwood or composite timber with back support and side armrests
(supplied by https://www.hartecast.com/all-products/seats-and-benches/timber-composite-range/age-friendly-seats/)
Proposed Sheffield Bike Stand - stainless steel
(supplied by https://www.pittman.ie)
Proposed Attenuments for Residents
Craised and Tenalized Timber Planters
Proposed Stainless Steel Planters
(supplied by https://www.hartecast.com)

PROPOSED LIGHTING
Proposed Lighting Column
Refer to Engineer's Drw No.

EXISTING BOUNDARY TREATMENTS
Existing concrete blockwork wall

PROPOSED BOUNDARY TREATMENTS
Proposed 2m high capped and rendered blockwork wall
Proposed engineered brickwork to front gardens
Proposed engineered brickwork to front gardens with galvanized steel railings

D Drainage Plan

References (JBA Subheading)

Bat Conservation Trust, & Institution of Lighting Professionals. (2023). *Bats and Artificial Lighting at Night - Guidance Note*.

CIEEM. (2018). *Guidelines for Ecological Impact Assessment in the UK and Ireland; Terrestrial, Freshwater, Coastal and Marine*. https://cieem.net/wp-content/uploads/2019/02/Combined-EclA-guidelines-2018-compressed.pdf

CIEEM. (2019). *ADVICE NOTE: On the Lifespan of Ecological Reports and Surveys*. www.cieem.net

CIEEM. (2024). *Guidelines for Ecological Impact Assessment in the UK and Ireland - Terrestrial, Freshwater, Coastal and Marine*.

Collins, Jan., & Bat Conservation Trust. (2023). *Bat Surveys for Professional Ecologists: Good Practice Guidelines 4th Edition*. Bat Conversation Trust.

DHLGH. (2022). *Draft River Basin Management Plan for Ireland 2022-2027*. www.gov.ie/housing

DHLGH. (2024). *Water Action Plan 2024 A River Basin Management Plan for Ireland*.

EPA. (2022). *Guidelines on the information to be contained in Environmental Impact Assessment Reports (EIAR)*.

Goodship, N. M., & Furness, R. W. (2022). *NatureScot Research Report 1283 - Disturbance Distances Review: An updated literature review of disturbance distances of selected bird species | NatureScot*. https://www.nature.scot/doc/naturescot-research-report-1283-disturbance-distances-review-updated-literature-review-disturbance#Barn+owl,+Tyto+alba

IAQM. (2023). *Guidance on the assessment of dust from demolition and construction August 2023 (Version 2.1)*. www.iaqm.co.uk

Marnell, F., Kelleher, C., & Mullen, E. (2022). *BAT MITIGATION GUIDELINES FOR IRELAND-V2*.

NPWS. (2019a). *The Status of EU Protected Habitats and Species in Ireland*.

NPWS. (2019b). *The Status of EU Protected Habitats and Species in Ireland Vol2*. https://www.npws.ie/sites/default/files/publications/pdf/NPWS_2019_Vol1_Summary_Article17.pdf

NPWS. (2019c). *The Status of EU Protected Habitats and Species in Ireland. Volume 3: Species Assessments.* National Parks and Wildlife Service / Department of Culture, Heritage and the Gaeltacht, Dublin, Ireland. https://www.npws.ie/sites/default/files/publications/pdf/NPWS_2019_Vol3_Species_Article17.pdf

NPWS. (2024). *Ireland's 4th National Biodiversity Action Plan*. www.gov.ie

NRA. (2009a). *Ecological Surveying Techniques for Protected Flora and Fauna during the Planning of National Road Schemes*.

NRA. (2009b). *Ecological Surveying Techniques for Protected Flora and Fauna during the Planning of National Road Schemes*.

NRA. (2009c). *Guidelines for Assessment of Ecological Impacts of National Roads Schemes Guidelines for Assessment of Ecological Impacts of National Road Schemes*.

Smith, G. F., O'Donoghue, P., O'Hora, K., & Delaney, E. (2011). Best practice guidance for habitat survey and mapping. *The Heritage Council: Ireland*.

files/1021/best_practice_guidance_habitat_survey_mapping_onscreen_version_2011_8mb.pdf
Stone, E. L. (2013). *Bats and lighting: Overview of current evidence*. http://www.bats.org.uk/publications_download.php/1327/Bats_and_Lighting_EStone_2014.pdf
Trust, B. C., & Professionals, I. of L. (2018). *Bats and artificial lighting in the UK- Bats and the Built Environment series*. https://www.theilp.org.uk/documents/guidance-note-8-bats-and-artificial-lighting/
Voigt, C. (2018). *Guidelines for consideration of bats in lighting projects EUROBATS Publication Series No. 8. UNEP/EUROBATS Secretariat, Bonn, Germany, 62 pp*. files/5101/Voigt - 2018 - Guidelines for consideration of bats in lighting p.pdf

Offices at:

Dublin
Limerick

Registered Office
24 Grove Island
Corbally
Limerick
Ireland

t: +353 (0) 61 345463
e:info@jbaconsulting.ie

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