



DESIGNING AND DELIVERING
A SUSTAINABLE FUTURE

ATHY TRAILHEAD

Ecological Impact Assessment (EclA)

Prepared for:
Kildare County Council



Kildare County Council
Comhairle Condae Chill Dara

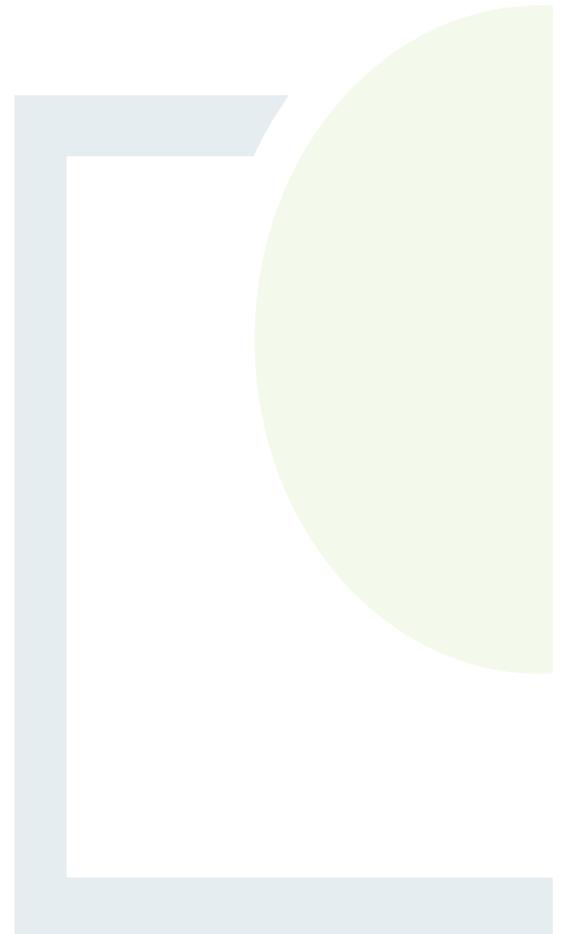
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BARROW BLUEWAY - ATHY TRAILHEAD ECOLOGICAL IMPACT ASSESSMENT

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1. INTRODUCTION

This assessment is an Ecological Impact Assessment (EclA) which examines the potential effects of the proposed Athy Trailhead development in Co. Kildare on biodiversity. This EclA has been prepared in accordance with CIEEM (2018) Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine Version 1.3 (Updated September 2024). An EclA is not a statutory requirement, however, it is a requirement under Chapter 15 - Development Management Standards of the Kildare County Development Plan 2023-2029 that *"In order to comply with European and National legislation on nature conservation, and to ensure that areas of biodiversity value are adequately protected, an Ecological Impact Assessment will be required, as well as the provision of mitigation measures to address the proposals that have the potential to impact on environmentally sensitive sites"*. This EclA is provided to assist the Competent Authority with its decision-making in respect of the Proposed Development.

The purpose of this EclA is to:

- Establish an understanding of the baseline ecological conditions at the Proposed Development site;
- Identify, quantify, and evaluate potential effects of development-related actions on habitats, species, and ecosystems;
- Identify flora and fauna (and/or their breeding and resting places) of ecological value, including those protected under the Wildlife Act (and under Flora Protection Order) or the European Communities (Birds and Natural Habitats) Regulations 2011 (as amended) which could be impacted by the Proposed Development;
- Evaluate the ecological significance of the receiving environment Botanical species were assessed in accordance with their occurrence on the Flora Protection Order (2022) and The Ireland Red List No. 10: Vascular Plants (Wyse et al. 2016). Other species records were assessed according to the Irish Red Data Lists);
- Consider measures to mitigate the potential negative impact(s) of the Proposed Development on the ecology of the receiving environment.
- Clearly and concisely present the findings of the assessment.

1.1 Statement of Authority

Table 1-1: Statement of Authority

Surveyor	Surveys Completed	Biography
Orla Commins	Report Author	Orla Commins is a Graduate Ecologist with Fehily Timoney and Company. She holds a first-class BSc in Ecology and Environmental Biology from University College Cork. Since joining Fehily Timoney, she has prepared comprehensive Appropriate Assessments, Ecological Impact Assessments and has completed ornithological reports, field work, mapping and data management.



Surveyor	Surveys Completed	Biography
Donna O'Halloran	Report Reviewer	<p>Donna holds a MSc. (Hons) in Ecological Assessment, a MSc. (Hons) in Environmental Resource Management, a BSc (Hons) in Landscape Horticulture and a National Diploma in Horticulture. Donna is a Senior Ecologist with 9 years postgraduate experience as an ecologist, working on energy, circular economy, infrastructure and planning projects. Donna has undertaken a wide range of ecological field assessments including habitat, invasive species, mammal, and bird assessments. Donna has experience undertaking Appropriate Assessments, Ecological Impact Assessments and Invasive Species Management Plans. Donna also has experience in Air and Climate chapters for Environmental Impact Assessment Reports (EIAR) including the preparation of associated carbon calculations and DMRB traffic emissions models; and has particular experience in Landscape Design/Landscape Ecology, preparing small scale ecologically conscious Master Plans and Landscape Statements for planning applications, Biodiversity Enhancement Plans for planning applications, and habitat restoration for woodlands. Most recently Donna was responsible for a team of ecologists who assisted the Forest Service (Department of Agriculture, Food and the Marine) in undertaking Appropriate Assessment for afforestation, felling and forest road applications.</p>



2. PROJECT OVERVIEW

The Athy Trailhead development is located within a suburban setting at the town of Athy, Co. Kildare (Figure 1-1). The development lands comprise a greenfield site on the eastern bank of the Grand Canal Barrow Line and is located approx. 115m from the River Barrow. The proposed trailhead location and the existing Barrow Blueway route are highlighted in Figure 1-1. Blueway users will utilise existing infrastructure between the proposed trailhead and the Barrow Blueway, over a distance of approx. 300m (note yellow dashed access routes below).

The proposed development lands extend from the Cluid Housing Development Junction (Figure 2-2) in a southerly direction and will parallel the existing footway/towpath along the Grand Canal for a short distance before turning into the proposed trail head lands which currently comprise a mosaic of improved grassland and wet grassland bounded by hedgerows and stone walls with intermittent trees. A shallow land drain runs along the western field boundary, parallelling the hedgerow/stone wall. Kildare County Council commissioned a survey of this drain and adjacent lands in April 2024 and October 2025 to determine connectivity to the Grand Canal, and concluded that the drain percolates to ground, with no direct path to the canal.

The Grand Canal is located c. 8m west of the proposed development lands at its closest point (see Figure 2-3). The Grand Canal is a pNHA (Site Code: 002104).

The River Barrow and River Nore SAC (Site Code: 002162) is located 115m east of the proposed development boundary at its closest point.

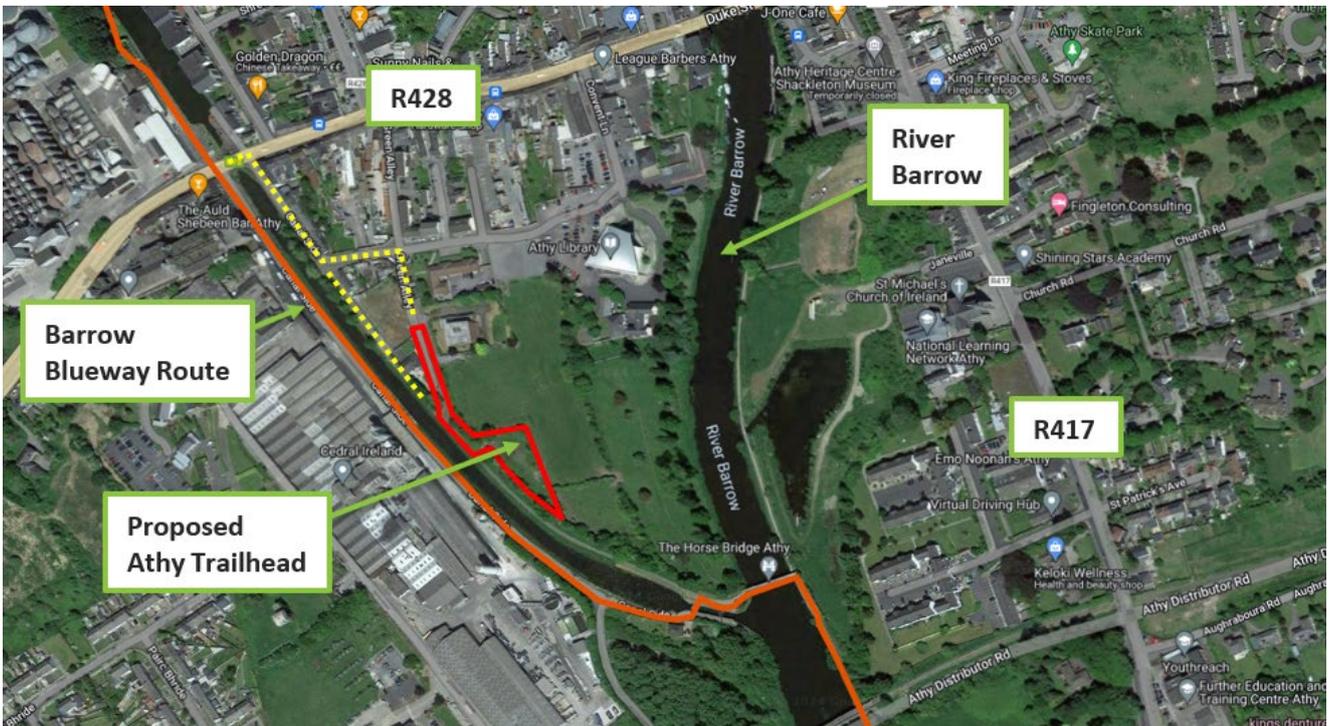


Figure 1-1: Proposed Location of Athy Trailhead



Figure 2-2: Cluid Housing Development Junction



Figure 2-3: Location of Proposed Development Relative to the Grand Canal



The proposed trailhead development will provide the following, as shown on Layout Drawings P20-249-0100-CP01 and P20-249-0100-CP02 (cross-section details are presented in P20-249-0100-CP03):

- 15x standard car parking spaces.
- 2x accessibility car spaces.
- 14x standard bicycle parking spaces.
- 2x accessibility bicycle parking spaces.
- 3x bike storage lockers.
- 1nr. access point to the existing canal towpath via unbound path.
- Ancillary public amenities such as play area, benches, picnic tables, bins and route maps/signage.
- SUDs elements such as a sunken rain garden, permeable pavement/porous asphalt under car and bike parking spaces, and a drainage/storage basin.
- Retention of existing boundary hedgerows/trees to maintain the site's biodiversity and natural habitat. Vegetation clearance is required everywhere else (2211m²).
- Traffic bollards and buff tactile paving near accessibility spaces to prevent vehicle encroachment onto footways.
- Permeable footways (total area 265m²), precast kerbs, tactile paving, and road markings to aid pedestrian navigation.
- Impermeable road surfacing in car park entrance/exit and along proposed access road (700m²).
- A 5m wide shared space access road for car, cyclist and pedestrian traffic, with over the edge drainage to min. 0.5m wide grass verges, and a 2.1m wide drainage swale along the east side of entrance road.
- Speed control measures to access road including localised narrowing and landscaped buildouts, as well as colour contrast surfacing and road markings on approaches to shared space to highlight to all trailhead users;
- Timber post and rail fence to trailhead boundary and access control barrier at entrance.
- Planting to landscaped areas, any replacement planting to match existing. Full planting plan to be developed at Detailed Design stage. To enhance biodiversity, replacement planting will be in accordance with the pollinator friendly planting code¹.

2.1.1 Construction Phase

It is expected that the construction sequence for the proposed Trailhead will take place as follows:

- Utility Services: location, diversion and protection of existing services on site;
- Site and Vegetation Clearance;
- Earthworks: re-grade trailhead site with longitudinal fall towards proposed drainage basin/storage to south of the site. Import and compaction of acceptable fill material likely to be required;
- Drainage: installation of SuDS measures;

¹ All-Ireland Pollinator Plan, Guidelines 4. National Biodiversity Data Centre Series No.12, Waterford. November, 2016. Updated October 2022.



- Fencing & Kerbs: install precast concrete kerbs, precast dropped kerbs, tactile paving, and boundary fencing;
- Pavement: installation of 804 subbase with asphalt paving to access road, and installation of permeable pavement/porous asphalt to parking area, concrete footways to be constructed;
- Landscaping: top soiling and planting; and
- Ancillary Works: install public lighting columns at road crossings if required, road signage, access control, road markings, colour contrast surfacing, trailhead amenities (benches, bins, etc.), bollards, bike stands and bike storage lockers.

The proposed development will have a requirement for imported materials, primarily, stone and asphalt. The volumes required will be informed by inter alia the ground conditions at the Site. The majority of new materials brought to site will be used immediately. The remainder will be stored within the red line boundary until required for construction.

Excavation of subsoil layers will be required in order to allow car park construction, drainage and utility installation. Material excavated on the site will be used in construction as feasible. However, where there is excess soil, this will be removed from the site to a licenced waste facility.

A list of typical plant that will be utilised on-site is provided below:

- Tracked excavators
- Mobile crane
- Grader
- Front loader
- Dumper
- Ride-on roller
- Tipper lorry

Construction hours expected: Normal working hours on site shall be 07:00 to 19:00 Mon to Fri and 08:00 to 16:30 on Sat.



3. RELEVANT LEGISLATION AND POLICY

3.1.1 National Biodiversity Action Plan

Ireland's 4th National Biodiversity Action Plan 2023-2030, in accordance with the Convention on Biological Diversity, is a framework for the conservation and protection of Ireland's biodiversity, with an overall objective to secure the conservation, including, where possible, the enhancement and sustainable use of biological diversity in Ireland and to contribute to collective efforts for conservation of biodiversity globally. The Plan is implemented through legislation and statutory instruments concerned with nature conservation.

The proposed development aligns with the National Biodiversity Action Plan's objective to 'restore and protect' in order to achieve a healthy and resilient ecosystem. The design of the proposed development is such that it allows for the retention of higher value habitat on site i.e. hedgerows/treelines, stone walls and drains. While there will be loss of grassland and scrub due to the proposed development, the design includes landscape planting aimed at supporting pollinators and providing cover for mammals and birds. Additionally, the project includes SuDS measures which will add a wetland habitat to the site.

3.1.2 Wildlife Act 1976 as amended

The Wildlife Act 1976 is the principal national legislation that aims to protect and conserve wild fauna and flora, regulate the exploitation of game resources, and afford protection to all wild species of fauna. The Wildlife Act 1976 as amended addresses various aspects of wildlife protection and conservation, including the regulation of hunting, the protection of habitats, and the enforcement of wildlife regulations.

The Wildlife Act protects species from injury, disturbance and damage to breeding and resting sites. All species listed in the Wildlife Acts must, therefore, be a material consideration in the planning process.

The Flora (Protection) Order, (2022) gives legal protection to certain species of wild flora, i.e., vascular plants, mosses, liverworts, lichens and stoneworts. Under the Order, it is an offence to uproot, damage, alter, or interfere with any species listed species listed within the Order, or to damage or alter their supporting habitats.

Sites of national importance for nature conservation are afforded protection under planning policy and the Wildlife Acts, 1976–2012. NHAs are sites that are designated under statute for the protection of flora, fauna, habitats and geological interest. Proposed NHAs (pNHAs) are published sites identified as of similar conservation interest but have not been statutorily proposed or designated.

The desktop assessment and field surveys which inform this EclA have been carried out having regard to the habitats and species protected under the Wildlife Act.



3.1.3 European Communities (Birds and Natural Habitats) Regulations 2011 as amended

The Habitats Directive 1992 has been transposed into Irish law, for the purposes of this application for permission by Part XAB of the Planning and Development Act 2000, as inserted. In addition, certain other obligations of the Habitat Directive have been transposed by the European Communities (Birds and Natural Habitats) Regulations 2011, as amended. This protection is afforded in part through the designation of areas that represent significant populations of listed species within a European context, i.e., Natura 2000 sites. An area designated for bird species is classed as a Special Protection Area (SPA), and an area designated for other protected species and habitats is classed as a Special Area of Conservation (SAC). Birds listed in Annex I of the Birds Directive in SPAs and habitats and species listed in Annexes I and II, respectively, of the Habitats Directive in SACs in which they are designated features have full European protection. Species listed on Annex IV of the Habitats Directive are strictly protected wherever they occur, whether inside or outside European sites. Annex I habitats outside of SACs are still considered to be of national and international importance and, under Article 27(4)(b) of the European Communities (Birds and Natural Habitats) Regulations, 2011, public authorities have a duty to strive to avoid the pollution or deterioration of Annex I habitats and habitats integral to the functioning of SPAs.

Invasive species subject to restrictions (Third Schedule) under Regulation 49 of the European Communities (Birds and Natural Habitats) Regulations, 2011.

The International Union for the Conservation of Nature and Natural Resources (IUCN) provides a global approach for evaluating the conservation status of species to inform and catalyse action for biodiversity conservation through the Red List of Threatened Species.

The desktop assessment and field surveys which inform this EclA have been carried out having regard to the habitats and species protected under the Birds and Habitats Regulations and the invasive species listed under the Third Schedule.

3.1.4 Fisheries (Consolidation) act 1959 and the Local Government (Water Pollution) Act 1977

Section 171 of the Fisheries (Consolidation) Act 1959 creates the offence of throwing, emptying, permitting or causing to fall onto any waters deleterious matter. Deleterious matter is defined as not only as any substance that is liable to injure fish but is also liable to damage their spawning grounds or the food of any fish or to 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 of fish.

Under Section 3 of the Local Government (Water Pollution) Act, 1977 (as amended by Sections 3 and 24 of the 1990 Act) it is an offence to cause or permit any polluting matter to enter waters.

The proposed development includes SuDs measures.

3.1.5 Athy Local Area Plan (2021-2027)

The Athy LAP includes policy objective GI1.3 to 'ensure the key green infrastructure and habitat features identified in Map 4: Green Infrastructure Map, and the linkages they provide to larger areas of green infrastructure and the wider countryside are retained and integrated into the design of new developments as far as practicable'. The approximate location of the proposed trailhead development is shown on Figure 1-1. The Grand Canal-Barrow Line is located adjacent to the proposed trail head and is identified as a 'key feature' of green infrastructure to be retained. Additionally, the hedgerows/treelines within the proposed development lands are identified as green infrastructure for retention where practicable.



As set out in this report and the planning documents, the proposed trailhead design has been developed so as to align with the Athy green infrastructure protection policies. The development will have no interaction with the Barrow Blueway other than to provide access to the existing towpath, and as such is integrated into the design. The existing boundary hedgerows/trees at the proposed development lands will be retained.

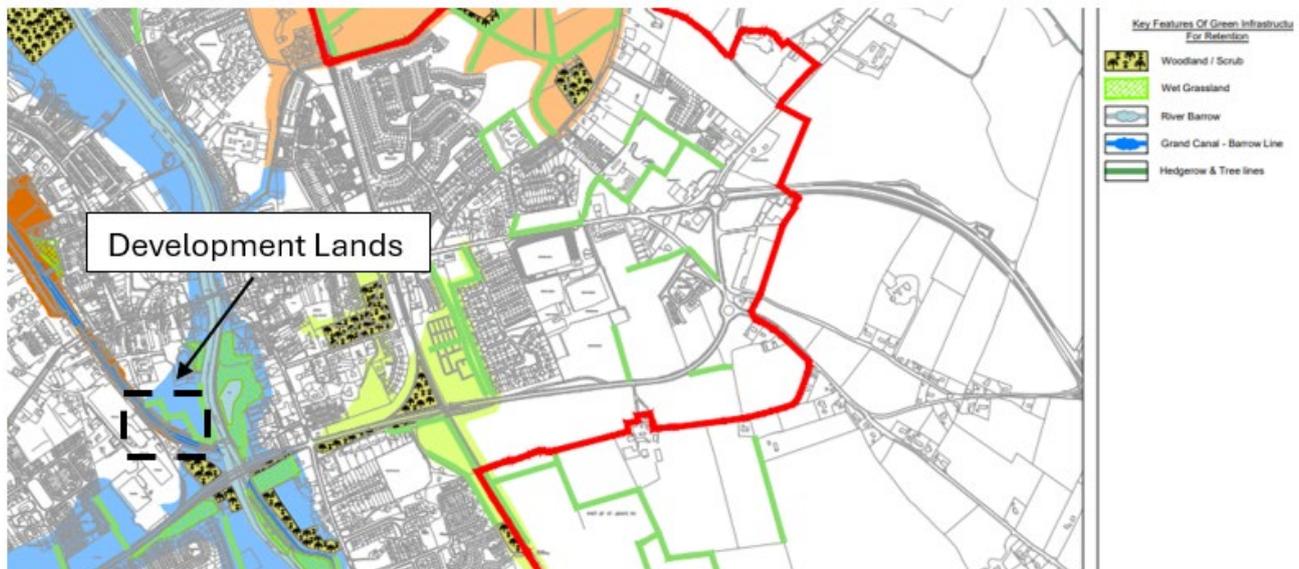


Figure 1-1: Extract from Athy Green Infrastructure map showing approximate location of the proposed trailhead

3.1.6 Kildare County Development Plan (2023-2029)

The Kildare County Development Plan (2023-2029) includes several policies relevant to biodiversity which include, but are not limited to the following:

- BI P1: Integrate in the development management process the protection and enhancement of biodiversity and landscape features by applying the mitigation hierarchy to potential adverse impacts on important ecological features (whether designated or not), i.e. avoiding impacts where possible, minimising adverse impacts, and if significant effects are unavoidable by including mitigation and/or compensation measures, as appropriate. Opportunities for biodiversity net gain are encouraged.
- BI P2: Seek to contribute to maintaining or restoring the conservation status of all sites designated for nature conservation or proposed for designation in accordance with European and national legislation and agreements. These include Special Areas of Conservation (SACs), Special Protection Areas (SPAs), Natural Heritage Areas (NHAs), Ramsar Sites and Statutory Nature Reserves.
- BI P5: Identify and conserve locally important biodiversity sites in the county which contribute to the overall ecological network of County Kildare.
- BI P6: Recognise the important contribution trees and hedgerows make to the county biodiversity resource climate mitigation, resilience and adaptation
- BI P7: Recognise and promote inland waters, natural environmental assets and to protect rivers, streams and other watercourses and, wherever possible, maintain them in an open state capable of providing suitable habitats for fauna and flora while discouraging culverting or realignment.



- BI P13: Recognising the importance of Urban Green Infrastructure in addressing a broad range of urban challenges, such as connecting people with nature, adapting to climate change, supporting the green economy and improving social cohesion and to seek to protect and enhance this resource, particularly existing semi-natural areas, or habitats (such as hedgerows, canals, rivers, ponds).
- BI P15: Promote and support the development of Sustainable Urban Drainage Systems (SuDS) to ensure surface water is drained in an environmentally friendly way by replicating natural systems.

The proposed trail head development had been designed having regard to all biodiversity-specific policies set out under the Kildare CDP, and the County Kildare Biodiversity Plan 2009 - 2014 along with the draft Biodiversity Action Plan for County Kildare 2026 - 2031.

The proposed development has adopted the mitigation hierarchy and includes for habitat retention and enhancement.

The Kildare County Development Plan 2023-2029 includes objective IN O23 to " *Require the implementation of Sustainable Urban Drainage Systems (SuDS) and other nature-based surface water drainage as an integral part of all new development proposals*". This is echoed in ' Policy I2 – Surface Water and Groundwater' of the Athy Local Area Plan 2021-2027. As such, the drainage strategy for the site integrates nature-based sustainable drainage solutions, such as a swale along the access road verge, a sunken rain garden to the north of the site, permeable pavement/porous asphalt to the car parking area, and a drainage basin to the south of the site. Infiltration is the intended drainage strategy for the scheme, and the proposed SuDS features, as well as the area of permeable pavement/porous asphalt, is sufficient for a 1:100-year rainfall event. It is proposed that surface water run-off from the proposed impermeable access road will collect in a drainage swale provided in the grass verge. The drainage system shall be designed to manage surface water run-off from the site in a way that mimics the existing hydrology of the site in so far as is practical.

No outfalls to nearby watercourses, i.e. the Grand Canal Barrow Line or River Barrow are proposed.

A detailed public lighting design shall be prepared for the project as part of the detailed design phase. All lighting designs shall be in accordance with the Kildare County Council Public Lighting Specification. Detailed plans and lighting report shall be submitted for approval in advance of construction. Public lighting shall be provided in accordance with the recommendations of BS5489 Part 1, Lighting of Roads and Public Amenity Areas and BS EN 13201:2003. In particular, public lighting will be considered at crossing points within the car park area. Additionally, the lighting will be designed so as to conform with the requirements for bat-friendly lighting as set out in Policy NH1.7 of the Athy Local Area Plan 2021-2027: "NH1.7 Ensure that any proposals for the lighting/flood lighting of waterways infrastructure, buildings or pedestrian/cycling routes along waterways within the Plan area incorporate bat friendly lighting schemes as set out in 'Bats and Lighting, Guidance Notes for: Planners, engineers, architects, and developers' (Bat Conservation Ireland, December 2010). It is noted that Bat Conservation trust Guidance Note GN08/23 on 'Bats and Artificial Lighting At Night' was published in 2023 which post-dated the publication of the Athy LAP. Where requirements are more stringent, these guidelines will be adopted in addition to the BCI guidelines.



4. METHODOLOGY

4.1 Scale of EclA and Zone of Influence

CIEEM guidelines on EclA recognises the requirement for a proportionate approach to the ecological assessment for a proposed project, noting that "*the level of detail required in an EclA will inevitably be proportionate to the scale of the development and complexity of its potential impacts*". In this regard the guidelines prescribe that the zone of influence (Zoi) of the proposed project should be established i.e. the area(s) over which ecological features may be affected by the biophysical changes caused by the proposed project and associated activities. The guidelines also state that "*ecologists undertaking EclAs should determine whether an ecological feature within the zone of influence of a development should be 'scoped out' (excluded) and justify the reasons for doing so*".

Each ecological feature will have different zones of influence, depending on its ecological characteristics and sensitivity to an environmental change.

Consideration is given to the following in determining the spatial and temporal scale of potential biophysical changes in the environment which might occur as a result of the development:

- The characteristics, size and location of the Proposed Project; and
- whether there could be landscape² or ecological connectivity³ to any ecological receptor.

² Landscape connectivity is a combined product of structural and functional connectivity, i.e. the effect of physical landscape structure and the actual species use of the landscape.

³ Ecological connectivity is defined as a measure of the functional availability of the habitats needed for a particular species to move through a given area. Examples include the flight lines used by bats to travel between roosts and foraging areas or the corridors of appropriate habitat needed by some slow colonising species if they are to spread.



From this, the key ecological receptors (KER)⁴ are identified and are considered further in terms of their Zones of Influence (Zoi) i.e. the pathway for an effect on the KER (as determined through source-pathway-receptor model⁵) and the sensitivity of the KER to the effect as informed by best available guidance / data. In this regard, the following is noted:

- In determining potential for impacts on surface waters, regard is had to IFI (2020) guidelines which states that in order to protect the ecological integrity of a river, a riparian buffer zone width for larger river channels (>10m) of 35m to 60m should be maintained and for smaller channels (<10m) a 20m or greater buffer maintained. The adjacent Grand Canal is c.10m to 15m in width in Athy and is located c. 8m from the proposed development at its closest point. As such, the Grand Canal is considered to be located within the Zoi of the proposed development. The River Barrow is located a distance from the proposed development such that its ecological integrity would not be affected.
- The Institute of Air Quality Management 'Guidance on the Assessment of dust from demolition and construction' (Holman et al, 2024)⁸ states that ecological receptors should be considered within 50m of the project. As such a 50m Zoi is adopted.
- For groundwater dependant terrestrial ecosystems (GWDTE), regard is had to SEPA guidelines¹⁰ which prescribes the following buffer zones around proposed infrastructure in order to prevent risks to GWDTE: 10m for all activities, 100m for subsurface activities <1m deep and 250m for subsurface activities >1m depth. As such a Zoi of 250m has been adopted when assessing the potential for impacts on GWDTE.
- The potential disturbance zone for birds is considered as 200m beyond the footprint of onsite activities having regard Goodship (2022)¹¹.
- The general disturbance zone for mammals adopted for this assessment is 50m beyond the footprint of onsite activities having regard to Guidelines for the Treatment of Badgers prior to the Construction of National Road Schemes (CC-ENV-01103) (TII, 2006 republished 2025) and Guidelines for the Treatment of Otters prior to the Construction of National Road Schemes (CC-ENV-01104) (TII, 2006 republished 2025). Note that this Zoi is extended to 150m to account for any breeding places of protected mammals.
- For bats, a Zoi of 50m has been adopted having regard to the UK Bat Mitigation Guidelines (Reason, P.F. and Wray, S., 2025) and a core sustenance zone of 2km has been considered having regard to Bat Conservation Trust.

⁴ According to the National Roads Authority guidelines (NRA 2009), key ecological receptors are features of sufficient value to be material in the decision-making process for which potential effects are likely. According to the NRA Guidelines, key ecological receptors are therefore defined as features of Local (Higher Value), County, National, or International Importance.

⁵ Based on the guidance provided in the Office of the Planning Regulator: Office of the Planning Regulator (OPR) (2021) Practice Note PN01 Appropriate Assessment Screening for Development Management and Office of the Planning Regulator (OPR) (2021) Practice Note PN02 Environmental Impact Assessment Screening.

⁷ Inland Fisheries Ireland (2020) A Guide to the Protection of Watercourses through the use of Buffer Zones, Sustainable Drainage Systems, Instream Rehabilitation, Climate / Flood Risk and Recreational Planning.

⁸ Holman et al (2014). IAQM Guidance on the assessment of dust from demolition and construction, Institute of Air Quality Management, London.

¹⁰ Scottish Environment Protection Agency (2014) Land Use Planning System SEPA Guidance Note 31. Guidance on Assessing the Impacts of Development Proposals on Groundwater Abstractions and groundwater Dependent Terrestrial Ecosystems.

¹¹ Goodship, N.M. and Furness, R.W. (MacArthur Green) (2022) Disturbance Distances Review: An updated literature review of disturbance distances of selected bird species. NatureScot Research Report 1283.



4.2 Desktop Study

A desktop study undertaken in January 2026 for this assessment included a thorough review of the available ecological data pertaining to the site's natural environment, including the following:

- OSI Aerial photography and 1:50000 mapping;
- National Parks and Wildlife Service (NPWS) Floral Protection Order (FPO) map viewer - Bryophytes (<http://dahg.maps.arcgis.com/apps/webappviewer/index.html?id=71f8df33693f48eddbb70369d7fb26b7e>);
- NPWS FPO map viewer - Vascular Plants (<https://heritagedata.maps.arcgis.com/apps/webappviewer/index.html?id=a41ef4e10227499d8de17a8abe42bd1e>);
- NPWS Habitats Directive - Article 17 GIS and Metadata map viewer (<https://storymaps.arcgis.com/collections/1a721520030d404f899d658d5b6e159a>);
- NPWS Birds Directive - Article 12 GIS and Metadata map viewer (https://www.npws.ie/maps-and-data/habitat-and-species-data/article-12-data_a);
- Geological Survey Ireland (GSI) area maps (<https://www.gsi.ie/en-ie/data-and-maps/Pages/default.aspx>);
- EPA website datasets (soil, surface water quality, ground water quality, designated sites) (<https://gis.epa.ie/EPAMaps/>);
- National Biodiversity Data Centre (NBDC) maps ([Maps - Biodiversity Maps](#));
- Inland Fisheries Ireland Data hub: <https://opendata-ifigeo.hub.arcgis.com/>
- European Breeding Bird Atlas (<https://ebba2.info/>);
- Map of Irish Wetlands (<https://www.wetlandsurveys.ie/miw-intro>);
- Botanical Society of Britain and Ireland 10 square hectares (<https://bsbi.org/maps>)
- Information on landscape suitability for bats was obtained from the NBDC at [www.maps.biodiversityireland.ie](http://maps.biodiversityireland.ie) and [http://maps.biodiversityireland.ie/metadata/Landscape_Conservation_for_Irish_Bats_metadata\(v.3\).pdf](http://maps.biodiversityireland.ie/metadata/Landscape_Conservation_for_Irish_Bats_metadata(v.3).pdf)

The following records were excluded:

- Records more than 20 years old (i.e., earlier than 2004) were considered to be historical and discarded from the assessment; and
- Records of species identified as Regionally Extinct in national red lists.



4.3 Field Assessment Methodology

4.3.1 Habitats

The habitats within and surrounding the site of the proposed project were identified and classified according to 'A Guide to Habitats in Ireland' (Fossitt, 2000). Field survey was carried out by a FT ecologists on 07th February 2024, 7th and 8th July 2025 and 09th October 2025. Habitats were mapped and species documented using the DAFOR scale (a system used to assess the abundance of plant species in a given area. The initials stand for: Dominant, Abundant, Frequent, Occasional and Rare).

The habitat mapping is in accordance with 'Best Practice Guidance for Habitat Survey and Mapping' (Smith et al., 2011) published by the Heritage Council. FieldMaps GIS app was used for mapping habitats. Scientific and common names for plants follow Stace (2010). In addition to habitat identification, each habitat was assessed for its ecological significance, based on CIEEM, 2018. Habitats were appraised and evaluated according to their occurrence as protected habitats under Annex I of the EU Habitats Directive (92/43/EEC) and for their ecological value.

4.3.2 Mammals

Mammal walkover surveys was also undertaken within the 150m ZoI on 09th July 2025 and 10th October 2025. Particular focus was placed on areas with high suitability for mammals such as treelines, riparian areas, scrubland etc. All field sightings and field signs observed were recorded using FieldMaps, such as tracks, trails, droppings, resting places or other marking signs. Survey techniques followed the following best practice guidance:

- NRA (2009) 'Ecological Surveying Techniques for Protected Flora and Fauna During the Planning of National Road Schemes'
- JNCC (2004) 'Common Standards Monitoring Guidance for Mammals'
- Scottish Badgers (2018). Surveying for Badgers: Good Practice Guidelines. Version 1
- Reid (2013) National Otter Survey of Ireland 2010/12. Irish Wildlife Manuals No. 76

4.3.3 Bats

Bat Surveys were carried out in accordance with Collins (2023) and Bat Tree Roost ID Key (Rotherham, 2018).

Bat habitat suitability assessment and daytime bat walkovers were undertaken on the same dates as the habitat surveys carried out for the proposed development. All trees and structures (stone walls) within the site were subjected to preliminary roost assessment and included examination using endoscope.

A night-time walkover bat activity survey was carried out within the proposed development lands on 11th and 17th September 2025 to establish species and level of bat activity within the site. The walkover included all treelines/hedgerows within the site as well as open areas and was carried out using a Magenta Bat 5 Digital Bat Detector.

4.3.4 Avifauna

Transect surveys of the proposed development lands plus 200m were undertaken on the same dates at the habitat surveys and were carried out during early morning to maximise bird sounds heard.



4.4 Ecological Evaluation Process

The value of the ecological resources and features or receptors was determined using the ecological evaluation guidance given in the CIEEM Guidelines for Ecological Impact Assessment in the UK and Ireland (CIEEM, 2018). This evaluation scheme seeks to provide value ratings for ecological receptors, with values ranging from internationally to locally important.

Internationally important receptors would include Special Areas of Conservation (SAC) or Special Protected Areas (SPA) while those of national importance would include Natural Heritage Areas (NHA).

This evaluation scheme is aimed at assessing the ecological value of sites focusing on habitats, flora and fauna within the site. The value of habitats is assessed based on condition, size, rarity, conservation and legal status. The value of flora and fauna are assessed on its national distribution, abundance or rarity, and associated trends (biodiversity value), legal status and conservation status.

The NRA (NRA, 2009) refer to key ecological receptors as those ecological features which are evaluated as Locally Important (higher value) or higher and are likely to be impacted significantly by the proposed project. The features evaluated as being of Local Importance (higher value) and higher are selected as key ecological features and the impact significance on each of these features is assessed.

4.4.1 Ecological Resource Evaluation

Ecological resources are evaluated using the criteria outlined in Appendix 1.

4.5 Process for Assessing Impact Significance

Once the value of the identified key ecological receptors (species, habitats, features and resources) was determined, the next step is to assess the potential effect or impact of the proposed works on the identified key ecological receptors with regard to the criteria outlined in numerous impact assessment guidelines (NRA, 2009; CIEEM, 2018 and revisions (latest 2024)). The impacts are assessed under a number of parameters such as magnitude, extent, duration and reversibility. The EPA (2022) evaluation criteria utilised in this appraisal of the Environmental Factor, Biodiversity. These criteria are included in the Guidelines on the Information to be contained in Environmental Impact Assessment Reports (EPA, 2022).

Where impacts are assessed to be significant, mitigation measures have been incorporated into the project design to remove or reduce these impacts.



5. EXISTING ENVIRONMENT

The following sections describe the results of the assessment of available published material that was carried out as part of the desk study coupled with the findings of ecological field surveys which were conducted to establish the current state of the environment (baseline scenario). The ecological value of the habitats and species within the study area were evaluated and Key Ecological Receptors identified, which are subject to impact assessment.

5.1 Designated Areas

European Sites

Special Areas of Conservation (SAC and cSAC) are protected under the European Union (EU) 'Habitats Directive' (92/43/EEC), as implemented in Ireland by S.I. No. 477/2011 - European Communities (Birds and Natural Habitats) Regulations 2011 (as amended). Special Protection Areas (SPA and cSPA) are designated under the EU Birds Directive (2009/147/EC) ('The Birds Directive').

In establishing the study area to assess the baseline scenario for designated sites regard was had to Office of the Planning Regulator (OPR) (2021) Practice Note PN01 Appropriate Assessment Screening for Development Management (OPR, 2021) and the source-pathway-receptor approach was adopted. A stand-alone Appropriate Assessment screening report has been prepared for the proposed development which has determined no potential for significant effects on the conservation objectives of any European site.

Sites of National Importance

Sites of National Importance in the Republic of Ireland are termed Natural Heritage Areas (NHAs) and proposed Natural Heritage Areas (pNHAs). While the Wildlife (Amendment) Act 2000 has been passed into law, pNHAs will not have legal protection until the consultative process with landowners has been completed; this process is currently ongoing. However, they have been treated as fully designated sites for the purposes of this assessment.

The Grand Canal pNHA (Site Code: 002104) is located c. 8m from the closest extent of the western boundary of the proposed development. The site synopsis for the pNHA (dated February 13th 1995), states that the Grand Canal consists of hedgerow, tall herbs, calcareous grassland, reed fringe, open water, scrub and woodland and has diverse aquatic flora.

No RAMSAR sites, Statutory Nature Reserves, Wildfowl Reserves or National Parks were identified within the ZoI of the Proposed Development.

5.2 Habitats and Flora

5.2.1 Habitats

The habitats within the proposed development (Figure 4-1 and Figure 4-2) consist of Improved Agricultural Grassland (GA1), Wet Grassland (GS4), Hedgerows (WL1), Treelines (WL2), Drainage Ditches (FW4) and Stone walls and Other Stonework (BL1). The locations of these habitats are shown on the habitat map in Figure 4-5.



5.2.1.1 Improved Grassland (GA1) / Wet Grassland (GS4) Mosaic

The Improved Grassland (GA1)/ Wet Grassland (GS4) Mosaic is largely rank, nutrient rich and species poor. The grassland comprises abundant Yorkshire-fog (*Holcus lanatus*), common couch (*Elytrigia repens*), redshank (*Persicaria maculosa*) and Common Nettle (*Urtica dioica*); frequent Hedge Bindweed (*Calystegia sepium*) Great Willowherb (*Epilobium hirsutum*) and Common Bent (*Agrostis capillaris*); occasional Broad-leaved Dock (*Rumex obtusifolius*) and Russian Comfrey (*Symphytum officinale*). Encroaching bramble is present throughout from hedgerows.

5.2.1.2 Hedgerows and Treelines (WL1/WL2)

The site is bounded by a combination of Hedgerows (WL1). The hedgerows are thick and unmanaged, with Brambles (*Rubus fruticosus*) as the dominant species while Grey Willow (*Salix cinerea s.lat.*), White Poplar (*Populus alba*) and Beech (*Fagus sylvatica*) were present but rare.

5.2.1.3 Scrub (WS1)

Scrub (WS1) was recorded where the hedgerow along the western boundary has spread onto the grassland habitat where Bramble (*Rubus fruticosus*) was the dominant species. Hedge bindweed (*Calystegia sepium*) was recorded as abundant within the site. Both Ash (*Fraxinus excelsior*) and Hawthorn (*Crataegus monogyna*) were recorded to be occasional, while Grey Willow (*Salix cinerea*) was frequent within the site.



Figure 4-1: The Athy Trailhead - View towards the western boundary



Figure 4-2: The Athy Trailhead - View towards the eastern boundary

5.2.1.4 Drainage Ditch (FW4)

Land drains (FW4), observed to be shallow and with a large amount of detritus along their length flow along the western and eastern boundary of the proposed development lands. These were observed to be dry during the summer season, with intermittent ponding of water along the drains during winter. The ditches are overgrown with bramble and hydrophobic species were absent indicating limited water flows.



Figure 4-3: Drainage ditch (winter 2025)

5.2.2 Stone walls and Other Stonework (BL1)

Running along the western and eastern site boundaries are old stone walls which are surrounded by hedgerow. The eastern wall is a remnant of an old Abbey (Figure 4-4), while the western wall is a lower height boundary wall of a more recent heritage paralleled by ash trees.



Figure 4-4: Stone Wall (eastern boundary)

5.2.3 Protected or Rare Flora

NBDC datasets recorded no protected flora within the site boundary when analysing 1km grid squares S6893 & S6793 which the site is located within. There are no vascular or non-vascular FPO species recorded on BSBI or NPWS maps (Accessed January 2026), therefore habitat surveys carried out by an FT ecologist was used to gather further information on habitats and flora present.

The NPWS holds an historic record from the 1890's for Opposite-Leaved Pondweed, located in the River Barrow, below Athy town. This FPO species has been documented to no longer be present at this location.

No protected, rare or threatened flora and no Annex I type habitats were identified during habitat surveys for the proposed development.

5.2.4 Invasive Non-Native Flora

Both Japanese knotweed (*Reynoutria japonica*) and Himalayan honeysuckle (*Leycesteria formosa*) are recorded within 1km grid squares (S6893 & S6793) (Accessed January 2026). However, these species were not observed within or immediately adjacent to the development lands during field survey, nor were any other Third Schedule invasive species.

The Environmental Constraints Report for the Athy Flood Relief Scheme (October 2024) prepared by RPS on behalf of Kildare County Council includes the proposed trail head development lands. An extract from this report is presented in Figure 5-6, which shows the prevalence of the invasive species Spanish Bluebell in the locality, none however occurring within the proposed trail head lands.



- Legend**
- Habitats**
- FW3 - Canals
 - FW4 - Drainage ditches
 - WL1 - Hedgerows
 - BL1 - Stone walls and other stonework
 - GA1 - Improved agricultural grassland
 - WS1 - Scrub

TITLE:	Habitat Map	
PROJECT:	Barrow Blueway	
FIGURE NO:	INFO	
CLIENT:	Kildare County Council	
SCALE:	1:1,000	REVISION: 0
DATE:	19/01/2026	PAGE SIZE: A3

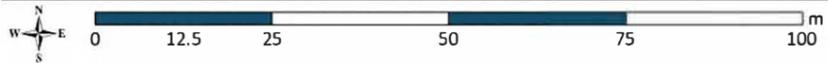




Figure 5-6: Extract from Environmental Constraints Report for the Athy Flood Relief Scheme (Source Kildare County Council, 2024)

5.3 Fauna

5.3.1 Bats

The NBDC bat landscape suitability mapping (based on Lundy et al., (2011)) provides an overall bat suitability score of 28.56 (moderate suitability) within the 10km grid square in which the proposed development is located (see Figure 5-6).

Bat species documented in NBDC mapping for 1km grid square S6893 (see Figure 5-8) are Daubenton's Bat (*Myotis daubentonii*), Leisler's Bat (*Nyctalus leisleri*), Common Pipistrelle (*Pipistrellus pipistrellus sensu stricto*), and Soprano Pipistrelle (*Pipistrellus pygmaeus*).

Leisler's bats are generalist species, found foraging in a variety of habitat including grassland, woodland, riparian areas, scrub and conifer forestry. They can be found roosting in trees and buildings.

Bat Pipistrelle bats tend to be associated with woodland and riparian habitats, favouring sites with robust/higher quality riparian zones. They are typically found roosting in buildings.

The preferred foraging habitat for Daubenton's bat is over open watercourses, and they are known to use the Grand Canal and the River Barrow for foraging. Daubenton's bat have a strong association in Ireland of roosting in bridges, but can also be found in trees and buildings located near water. The Horse Bridge in Athy (see Figure 5-9) is included as part of the 'All Ireland Daubenton's Bat Survey' and is a known roost. This bridge is located c. 165m south east of the proposed development lands. The Bat Conservation Trust identifies the Core Sustainance Zone (CSZ) for Daubenton's bat as generally 2km from their roost. As such the proposed development lands are considered to be within the CSZ for this roost.

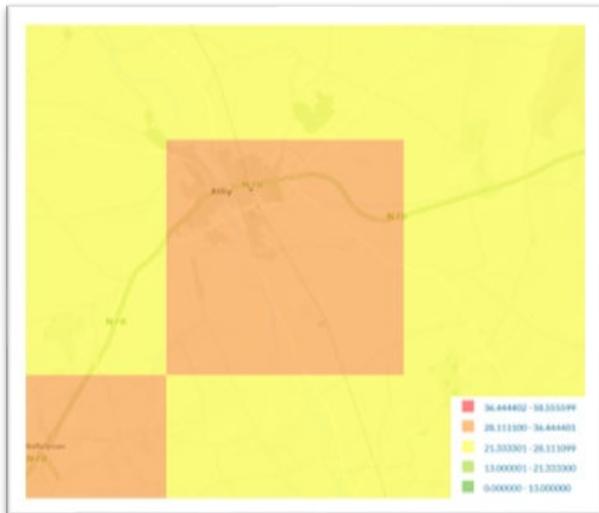


Figure 5-7: Extract from NBDC Bat Landscapes Mapping



Figure 5-8: 1 km Grid Square S6893



Figure 5-9: Daubenton's Bat Roost Record at Horse Bridge in Athy

The proposed development lands were assessed for bat habitat suitability during habitat surveys and daytime bat walkovers. The treelines/hedgerows and stone walls around the project site are of moderate suitability for foraging and commuting bats, providing habitat continuity to the wider landscape including to the riparian habitat on the Grand Canal and River Barrow. The trees on site do not however provide any suitable roosting features, many of them comprising scrubby willow and hawthorn. There are four larger ash trees on the western boundary of the site which were examined in detail for potential roost features and found to have negligible suitability for roosting. The old stone wall on the eastern side of the site has low roost potential, providing a small number of potentially suitable roost features, however these were generally unsheltered and damp, and might only be used opportunistically by bats. Examination of the wall using endoscope found no evidence of bats.

The night-time bat activity surveys carried out on 11th and 17th September 2025 were conducted during dry weather conditions, with nighttime temperatures ranging from 10°C and 12°C, and light south-westerly wind. The surveys commenced at 19:23 and 19:35 in the evening respectively, and were completed within 2 hours of sunset. Bat activity at the proposed site was generally low (see Table 5-1).



Table 5-1: Bat Activity within the Site

Total Bat Passes During Transect		
Species	11th September 2025	17th September 2025
Common pipistrelle	1	2
Soprano pipistrelle	4	7
Leisler's bat	0	0
Daubenton's Bat		1
Brown long-eared bat	0	0

5.3.2 Mammals

Mammal Species (both native and invasive excluding bats) recorded in the 1km grid squares (S6893 & S6793) from the NBDC (Accessed February 2025) are detailed below.

Table 5-2: Mammal records within the NBDC Grid Squares (S6893 & S6793) overlapping the proposed development site.

Species	Year of Last Record	Conservation Status
Greater White-toothed Shrew (<i>Crocidura russula</i>)	2020	Medium Impact Invasive Species
West European Hedgehog (<i>Erinaceus europaeus</i>)	2023	Wildlife Act
European Otter (<i>Lutra lutra</i>)	2018	Wildlife Act, and Habitats Directive Annex II, Annex IV
Pine Marten (<i>Martes martes</i>)	2020	Wildlife Act, EU Habitats Directive Annex V
Wood Mouse (<i>Apodemus sylvaticus</i>)	2018	

The hedgerows, scrub and stone walls within the proposed development lands provide suitable habitat for mammals. However, mammal survey did not identify any mammals to be using the site.

Pine marten often use old stone walls, these were surveyed for signs of use and the site was searched for scats etc. which might indicate pine marten. However, no evidence was found. Additionally, a camera trap (Licence no: 008/2025) was placed within the site on 11th September (along the stone wall at the eastern boundary) which documented only brown rat at this location. It is however assumed that hedgehog and wood mouse could be present within the site given the habitats present.



Otter are prevalent in the locality, with multiple records documented along the River Barrow including upstream, downstream and within Athy town. Most recent records were captured as part of the Environmental Constraints Report for the Athy Flood Relief Scheme (October 2024) prepared by RPS on behalf of Kildare County Council. The locations of these records are shown in Figure 5-10 and are associated with the riparian zone of the River Barrow. Otter survey carried out to inform the proposed trail head development similarly found no otter holts or couches within the ZOI of the proposed development. Otter are likely also to commute and feed along the Grand Canal, however the riparian area of the canal is more exposed and modified making it less attractive than the River Barrow.



Figure 5-10: Extract of the Otter Records from the Athy Flood Relief Scheme (October 2024)

5.3.3 Aquatic Fauna

The Grand Canal, located c. 8m from the nearest boundary of the proposed development is documented as supporting several coarse fish species such as Perch, Pike, Roach and Bream. Other species include Stone loach Dace, Gudgeon, Minnow, Brown Trout and European Eel. These species are also present in the nearby River Barrow, which also supports the protected species Atlantic Salmon and Lamprey species.

The River Barrow catchment is identified as supporting Pear Mussel, although the species is extinct from the main channel of the Barrow for several years, with the known populations confined to the Mountain and Ballymurphy rivers, located several kilometres downstream of Athy. There are no pearl mussels in the Grand Canal, with no suitable habitat present in this heavily modified watercourse.

White-clawed Crayfish are present within the Grand Canal and the River Barrow, although this protected species has experienced a substantial decline in population since the documented outbreak of crayfish plague in the Barrow catchment (including the Grand Canal) in 2017. Crayfish are also subject to the threat of poaching, with particular hot spots for same near Athy.

The drains within the proposed development lands are not of fishery value, and are dry for the most part of the year. They do not support the aquatic species which are present in the wider catchments of the Grand Canal and River Barrow and indeed do not flow into or receive flow from these watercourses. The drains on site percolate to ground and have no direct connectivity to the Grand Canal or River Barrow. As such they provide no ecological habitat continuity for the aquatic species recorded in the wider environment.

The drains within the site are likely to support common frog, and there are multiple records held by NBDC for this species in the locality, however no frog spawn was seen on site during survey in February 2024.



5.3.4 Avifauna

In the 1km grid squares (S6893 & S6793) a total of 29 species have been recorded on the NBDC databases in the previous 10 years and can be seen in Table 3.4 below (Accessed February 2025). A total of three red listed species were recorded in the grid squares: Common Swift, Grey Wagtail and Yellowhammer. A total of 12 amber listed species were recorded: Barn Swallow, Black-headed Gull, Coot, Kingfisher, Linnet, Starling, Greenfinch, Cormorant, House Martin, Mallard, Mute Swan, Sand Martin.

Table 5-3: Bird records within the NBDC grid squares (S6893 & S6793) surrounding the proposed development

Species	Dataset	Conservation Status
Barn Swallow (<i>Hirundo rustica</i>)	Birds of Ireland	Wildlife Act, Amber List
Black-headed Gull (<i>Chroicocephalus ridibundus</i>)	Kingfisher Survey 2010	Wildlife Act, Red List
Common Coot (<i>Fulica atra</i>)	Birds of Ireland	Wildlife Act, Amber List
Common Blackbird (<i>Turdus merula</i>)	Birds of Ireland	Wildlife Act
Common Kingfisher (<i>Alcedo atthis</i>)	Birds of Ireland	Wildlife Act, Amber List
Common Linnet (<i>Linaria</i>)	Birds of Ireland	Wildlife Act, Amber List
Common Moorhen (<i>Gallinula chloropus</i>)	Birds of Ireland	Wildlife Act
Common Starling (<i>Sturnus vulgaris</i>)	Birds of Ireland	Wildlife Act, Amber List
Common Swift (<i>Apus apus</i>)	Birds of Ireland	Wildlife Act, Red List
Common Wood Pigeon (<i>Columba palumbus</i>)	Birds of Ireland	Wildlife Act
Eurasian Collared Dove (<i>Streptopelia Decaocto</i>)	Birds of Ireland	Wildlife Act
Eurasian Sparrowhawk (<i>Accipiter Nisus</i>)	Birds of Ireland	Wildlife Act, Amber List
Eurasian Jackdaw (<i>Coloeus monedula</i>)	Birds of Ireland	Wildlife Act
European Greenfinch (<i>Chloris chloris</i>)	Birds of Ireland	Wildlife Act, Amber List
Great Cormorant (<i>Phalacrocorax carbo</i>)	Birds of Ireland	Wildlife Act, Amber List
Grey Heron (<i>Ardea cinerea</i>)	Birds of Ireland	Wildlife Act
Grey Wagtail (<i>Motacilla cinerea</i>)	Birds of Ireland	Wildlife Act, Red List
House Martin (<i>Delichon</i>)	Birds of Ireland	Wildlife Act, Amber List
Dunnock (<i>Prunella modularis</i>)	Birds of Ireland	Wildlife Act
Little Egret (<i>Egretta garzetta</i>)	Birds of Ireland	Wildlife Act



Species	Dataset	Conservation Status
Long-tailed Tit (<i>Aegithalos caudatus</i>)	Birds of Ireland	Wildlife Act
Mallard (<i>Anas platyrhynchos</i>)	Birds of Ireland	Wildlife Act, Amber List
Mute Swan (<i>Cygnus olor</i>)	Birds of Ireland	Wildlife Act, Amber List
Peregrine Falcon (<i>Peregrinus</i>)	Birds of Ireland	Wildlife Act
Rook (<i>Corvus frugilegus</i>)	Birds of Ireland	Wildlife Act
Sand Martin (<i>Riparia riparia</i>)	Birds of Ireland	Wildlife Act, Amber List
Stock Pigeon (<i>Columba oenas</i>)	Birds of Ireland	Wildlife Act, Amber List
Winter Wren (<i>Troglodytes hiemalis</i>)	Birds of Ireland	Wildlife Act
Yellowhammer (<i>Emberiza citrinella</i>)	Birds of Ireland	Wildlife Act, Red List

During field survey there were five amber list species recorded: Willow Warbler, Linnet, Goldcrest, House sparrow, Greenfinch; one red List species: Grey Wagtail and one species of least concern Woodpigeon which were recorded nesting. Most observations were made along the hedgerow located along the western boundary of the site, with Greenfinch and Wood pigeon observed along other perimeter boundaries, and the Grey Wagtail was observed at the Grand Canal. Mallard, grey heron, and Black-headed gull were observed in the wider environment, but were not documented using the site.

5.4 Ecological Evaluation

The ecological value of habitats in accordance with the National Roads Authority (NRA) Ecological Assessment Guidelines as outlined in Appendix I (NRA, 2009) is given in Table 3.1.



Table 5-4: Evaluation of Ecological Features within the study area

Ecological Feature	Evaluation	Rationale	Selection as Key Ecological Receptor (KER)
River Barrow and River Nore SAC	International Importance	The proposed development is located fully outside of all European designated sites. The drains on site have limited seasonal flow and percolate to ground, and do not therefore flow to the SAC. The is only one conservation interest of the SAC that is located within the study area, namely otter. However, field survey has confirmed that the predominant activity occurs along the River Barrow (c. 115m away from the project) and that there are no otter breeding or resting places identified within the 50m disturbance zone for the development, or the 150m breeding disturbance zone.	No
Grand Canal pNHA	National Importance	The pNHA is located adjacent to western boundary of the Site, separated by a hedgerow. The proposed Development includes the removal of c. 30m of hedgerow parallel to the towpath along the Grand Canal.	Yes
Improved Agricultural Grassland (GA1)/Wet Grassland (WS4)	Local (Lower Value)	This habitat comprises a mosaic of Improved Agricultural Grassland (GA1)/Wet Grassland (WS4), comprises rank grassland of low flora diversity, containing very common species, and is not considered a KER.	No
Hedgerows (WL1)	Local (Higher Value)	While the hedgerows within the boundaries of the project are generally of low diversity and poor structure, they are confirmed to support bats and birds (and likely small mammals) and can act as ecological corridor.	Yes
Stone walls and Other Stonework (BL1)	Local (Higher Value)	Stone walls provide valuable habitat for mosses, lichens, insects, and small mammals, supporting local biodiversity.	Yes
Drainage Ditches (FW4)	Local (Lower Value)	Intensively modified shallow land drain, with any collecting water permeating to ground, providing negligible fishery habitat, however the drains are likely to be used by common frog, which are prevalent in the study area.. .	Yes



Ecological Feature	Evaluation	Rationale	Selection as Key Ecological Receptor (KER)
Avifauna	Local (Higher Value)	The hedgerows within the site support birds. The Grand canal and its margins are likely to provide foraging habitat for species such as the Red listed Grey Wagtail and Amber listed Mute Swan and Mallards.	Yes
Otter	National	There were no signs or sightings of mammals during the ecological walkover. Field survey has confirmed that the predominant activity occurs along the River Barrow (c. 115m away from the project) and that there are no otter breeding or resting places identified within the 50m disturbance zone for the development, or the 150m breeding disturbance zone.	No
Bats	Local (Higher Value)	The hedgerows provide negligible suitability for roosting bats and moderate suitability for commuting / foraging bats with small numbers of pipistrelle recorded using the site during field survey. The Grand Canal located 8 m from the western boundary of the site also supports foraging and commuting bats.	Yes
Common Frog	Local (Lower Value)	There will be no hydrological connectivity to the watercourses in the locality. However the drains on site have suitable habitat to support common frog and they are assumed likely to opportunistically use the site.	Yes



6. POTENTIAL IMPACTS

6.1 Impacts During Construction

6.1.1 Designated Sites

None of the elements of the proposed development are located within the boundaries of any Nationally or European designated sites.

In relation to European sites, an Appropriate Assessment Screening Report have been prepared to provide the competent authority with the information necessary to carry out their functions in compliance with Article 6(3) of the Habitats Directive. The Screening for Appropriate Assessment concluded that it can be excluded beyond reasonable scientific doubt, in view of best scientific knowledge, on the basis of objective information and in light of the conservation objectives of the European sites that the proposed development, individually or in combination with other plans and projects, would be unlikely to have a significant effect on European sites. The Grand Canal pNHA is located c. 8m from the western boundary of the proposed development lands at its closest point. The Grand Canal pNHA will not be subject to habitat loss due to the proposed development, given that all works will be undertaken outside the of pNHA and there is no hydrological connection between the pNAH and the development lands.

The land drain, stone walls and hedgerows within the main area of the development boundary will be retained and will act as a natural barrier and swale to site runoff, noting that the drain has no direct connection to the Canal. As such the potential pathway for runoff beyond the project boundary is limited to the works north of the access control barrier at the car park entrance, which will directly abut the existing footway along the Canal. These works comprise removal of 30 m of hedgerow and construction of a new section of roadway and footpath to tie into the existing footway along the Canal. The development area has a longitudinal slope towards a proposed drainage basin located to the south. Consequently, any runoff generated from site clearance and construction activities will flow in a south-easterly direction, parallel to the Canal. Given the short duration and scale of the proposed activities, coupled with the minimal amount of sediment anticipated to reach the canal, effects on the water quality of Grand Canal pNHA will be **not significant**. There will be no concrete works associated with the proposed development.

The construction stage of the proposed development will generate dust. The pNHA is within the ZoI for dust deposition. Having regard to IAQM (2024) 'Guidance on the assessment of dust from demolition and construction', the habitats of Grand Canal pNHA would likely have low sensitivity to dust deposition. The guidelines note likely effects to include reduced photosynthesis, respiration and transpiration through smothering. However, that "plant communities near short-term works are likely to recover within a year of the dust soiling stress ceasing". As such any effects of dust deposition within the pNHA are likely to be **not significant**.



6.1.2 Habitats and Flora

6.1.2.1 *Habitats*

No Annex I habitats are present within the proposed development site. Hedgerows within the site have been identified as a key ecological receptor. Approximately 30 m of hedgerow will be removed to facilitate the proposed works, while the remaining hedgerows within the site will be retained. Considering the limited length of hedgerow loss, its assessed ecological value (Local, Higher Value), and the availability of extensive hedgerow and treeline networks in the surrounding landscape, the proposed removal is expected to result in a **slight, permanent negative effect**.

6.1.2.2 *Protected or Rare Flora*

There are no rare or protected flora species recorded within or adjacent to the site, thus there are no impacts for this criterion.

6.1.2.3 *Invasive Non-native Flora*

No Schedule III invasive flora was recorded within the Site, thus there are no impacts for this criterion.

6.1.3 Fauna

6.1.3.1 *Non-volant Mammals*

There were no signs or sightings of mammals during the ecological walkover, and given the improved nature of the Site, direct impacts on mammals are unlikely. Smaller mammals such as hedgehog and wood mouse are likely to use the site on occasion. However, the site is not an important part of any mammal territory as evidenced by the lack of mammal activity recorded through field survey. The stone walls and hedgerows provide ecological connectivity and continuity with the wider environment. These features will be retained as part of the proposed development, and as such the ecological continuity of the development lands will be maintained.

Otter survey indicated the presence of otter mainly along the River Barrow, and beyond the ZoI of the project with no holts or couches present.

6.1.3.2 *Bats*

No confirmed bat roost features were identified during the bat survey, and bat survey ss data indicate that the hedgerow associated with the project site provides and commuting habitat. The dominant habitats of the Site (improved/wet grassland mosaic) were deemed low suitability for foraging bats and no roosts were identified within the ZoI for bats. Given the limited scale of the Site, clearance of the main habitat (grassland mosaic) in terms of foraging habitat for bats with regards to Collins Guidelines 2023, impact to bats is likely to be **imperceptible**.

The removal of 30m length of hedgerow is not expected to result in a significant effect on bats. Given the limited scale and location of the hedgerow, situated at the edge of Athy Town, adjacent to existing industrial development and associated disturbance, and considering the availability of higher value foraging habitats and established commuting corridors to the south of the site, the effect on foraging and commuting bats will be **imperceptible**.



In terms of artificial lighting used during the construction phase and disturbance of foraging and commuting bats (including Daubentons Bat), given the location of works and presence of existing disturbances, lighting cowed away from the canal and hedgerows alongside the presence of more valuable foraging and commuting habitat south of the site on the river Barrow, effects on bats will be **Negligible**.

6.1.3.3 Avifauna

Green listed /local population of birds have been identified as key ecological receptors. These species are likely to forage, and breed within the hedgerows associated with the Site. A 30 m length of hedgerow (containing a single tree) is to be removed. Given the scale of the hedgerow removal and the presence of suitable habitat within the larger landscape **no significant effects are likely**.

In terms of disturbance, the hedgerows of the Site are deemed important to local birds and the adjacent Grand Canal pNHA have been deemed important for foraging Amber and Red listed birds. Due to the short duration and scale of the proposed activities, alongside the presence of suitable habitat within the larger landscape **no significant effects are likely**.

6.1.3.4 Other Fauna

No other protected fauna has been identified within the site boundary or 1km grid squares overlapping the site, thus there are no impacts for this criterion. Common frog are deemed likely to use the drains within the site intermittently. Site clearance has the potential to disturb these drains, which could have a moderate effect on frog if this was to occur when spawning.

6.2 Impacts During Operation

6.2.1 Designated Sites

The River Barrow SAC is located ca. 115 m from the Site, at this distance **no/neutral effects are likely**.

The project area is located adjacent to the Grand Canal pNHA, views of Site and noise from the site will largely be buffered by hedgerows of the site. A certain level of disturbance is already associated with the general area; a pathway is located within the pNHA and an existing road leads to the Site, **no/neutral effects are likely**.

6.2.2 Habitat and Flora

No further excavation or habitat loss will occur during the operational phase. Once operational the Site will include a sunken rain garden (20m²) and landscape planting. Effects in terms of biodiversity loss will be neutral.

6.2.3 Fauna

6.2.3.1 Avifauna

As no further excavation or construction works shall be undertaken during the operational phase of the proposed development, **no/neutral effects are likely** on avifauna

6.2.3.2 Aquatic Fauna

There is no hydrological connectivity to the canal or the river barrow from the site during operation.



6.2.3.3 *Non-volant Mammals*

As no further excavation or construction works shall be undertaken during the operational phase of the proposed development, **no/neutral effects are likely** on Otter or any other mammal species.

6.2.3.4 *Bats*

Lighting is proposed at crossing points within the proposed carpark. Given that lighting will be largely buffered by existing hedgerows and the presence of existing disturbances (the Site is located South of Athy Town, building area located north of the Site, an existing footpath is located within the PNHA, and an industrial area is located west of the Grand Canal) **no/neutral effects are likely** on Bats.

6.2.3.5 *Other Fauna*

No further impacts are envisaged to other species of fauna during the operational phase of the proposed trailhead development.

6.3 Cumulative Impacts

Cumulative impacts will depend on species present, number and frequency of occurrence of fauna observed at the proposed development and at adjacent proposed and existing developments. The timing of the construction phase can also have a bearing on the magnitude of the impact. It is also dependent on distance from the proposed works to other existing and proposed developments and habitats present between.

6.3.1 Agriculture

Agriculture is widespread within the greater area with potential impacts from the proposed development being areas located downstream from the Grand Canal and the River Barrow. As the project area is not hydrologically connected to the Grand Canal or the River Barrow a cumulative impact can be ruled out.

6.3.2 Other Developments

A planning search was carried out within the previous five years using the Kildare County Council Planning Application Database. A search of small-scale developments within 1km of the proposed development site was carried out. The small-scale projects include single dwelling houses and extensions to agricultural buildings and none of these projects have any notable environmental effects beyond standard construction work.



7. MITIGATION MEASURES

Most of the environmental impacts identified relate to the construction phase which will be temporary in nature - these relate to loss of habitat and disturbance. These impacts would be as a result of impacts from vegetation removal and presence of staff/machinery on site. The operational phase will not cause significant negative effects with human disturbance being the only impact during operation. The following mitigation measures are to be implemented in order to minimise the potential impacts on the existing ecology which are discussed below.

7.1 Mitigation by Avoidance and Design

Further mitigation measures prescribed to reduce and/or avoid the potential for the proposed development to have significant effects on the existing ecology are described below.

7.2 Construction stage mitigation

7.2.1 Site Supervision

An Ecologist/Ecological Clerk of Works (ECoW) with appropriate experience and expertise will be employed to supervise vegetation clearance and to perform pre-works surveys for mammals and birds.

The Ecologist/ECoW will be awarded the authority to stop construction activity if there is potential for adverse ecological effects to occur.

7.2.2 Control of Dust

A site-specific dust management plan shall be prepared by the Contractor in accordance with Holman et al (2024) Guidance on the assessment of dust from demolition and construction, Institute of Air Quality Management which shall be designed so as to protect the nearby pNHA from dust emissions.

7.2.3 Control of Lighting and Bats

Lighting on site during construction will be temporary and cowled away from the Grand Canal pNHA. At the end of each working day (07:00-19:00), all lighting will be switched off within the site during the construction phase. This shall be done to reduce the potential disturbance to bats and other species utilising the riparian zone.

7.2.4 Avifauna

Any removal or cutting back of vegetation will aim to be conducted outside of the breeding bird season (March 1st - August 31st). In the event that vegetation clearance during the bird breeding season is unavoidable, an ECoW will be appointed to examine the area of construction/clearance for nests no more than 48 hours in advance of works. They will have the authority to include a buffer zone if needed until birds have fledged or breeding has been confirmed as failed as stated in Article 19 of the Wildlife Act 1976 which states the following:

Article 19 of the Wildlife Act 1976 (as amended) provides for the protection of wild birds, their nests and eggs.



It is an offence to wilfully take or remove the eggs or nest of a protected wild bird; to wilfully destroy, injure or mutilate the eggs or nest of a protected wild bird; and to wilfully disturb a protected wild bird on or near a nest containing eggs or unflown young. The nesting season for breeding birds in Ireland is between the 1st of March and 31st of August.

Under Article 22 of the Wildlife Act, 1976 (as amended) it is not an offense to unintentionally to kill or to injure a protected wild bird or to destroy, injure or mutilate the eggs or nest of a protected wild bird while carrying out building/construction works. As such, in the event that site clearance is required during the breeding bird season, a pre-site clearance ornithology survey will be carried out immediately prior to any vegetation clearing during the nesting season to identify any active nests within the site and avoid any contraventions of the Wildlife Act.

In the event that a nest or suspected nest is observed, a nest buffer where no site clearance is permitted must be established. A minimum 30m buffer will be established. However, there may be cause to increase the size and shape of the buffer depending on type and amount of surrounding vegetation cover, species' sensitivity to disturbance, rareness of the species in the local/regional area, site topography, and the type and extent of clearing activities that will be occurring next to the buffer. This will be determined and instructed by the ornithologist. No clearing activities within the established buffer areas should occur until after the Ornithologist has determined that nesting and fledging are complete, or if the status of the nest has been changed from active to inactive.

7.3 Operation Stage Mitigation

7.3.1 Mammals

As the field survey revealed no signs of mammals and the Grand Canal was class as being suboptimal for otter due to the tow line and high levels of disturbance, there is no impact and therefore no requirement for mitigation measures for mammals.

7.3.2 Bats

The detailed public lighting design which shall be prepared for the project as part of the detailed design phase (in particular, public lighting at crossing points within the car park) shall consider and include bat friendly lighting options as per 'Bats and Artificial Lighting at Night' (BCT & ILP, 2023¹⁶).

7.3.3 Aquatic/ Other taxa

As there is no hydrological connectivity, there is no impact on aquatic flora or fauna and therefore, no need for mitigation.

7.3.4 Avifauna

There will be no impacts during the operational phase to avifauna as there will be no habitat loss or increased disturbance to birds in the area and therefore, no need for mitigation measures.

¹⁶ BCT & ILP (2023) Bats and Artificial Lighting at Night; Guidance note 08/23. Bats Conservation Trust and Institution Lighting Professionals.



8. ECOLOGY ENHANCEMENT MEASURES

Best practice seeks to 'optimise biodiversity enhancements' (BRE, 2014). The proposed development seeks to enhance biodiversity where opportunity presents itself. The following enhancement measures have been included in the design of the trailhead car park:

- Planting of wildflower meadow strips and shrubbery.

Full planting plan to be developed at Detailed Design stage.

Ecologist will decide on location of each enhancement measure to ensure all features are placed in locations which are most suitable for each feature to maximise benefit to local wildlife.

Herbicides and insecticides will not be used for the purpose of maintenance of the amenity area.

Hedgerow management should be limited to every three to four years in order for establishment of the habitat and optimal production of flowers and fruit.

Meadow cutting can occur at the end of summer in September. Cuttings should be left in situ for 2-3 days to allow seeds to drop but should be removed from site after no more than two weeks to prevent nutrient enrichment and grasses taking over. No area of wildflower planting will be cut more than once a year.

8.1 Monitoring Plan

Commencing in year 1 of operation the status of the habitats created, enhanced hedgerows and the species enhancement measures will be monitored by a qualified ecologist appointed by the developer of the proposed development. This will follow implementation of the plan to confirm whether habitats have successfully established and to identify any issues that need to be addressed. Following these monitoring visits, a short status report will be prepared. This will identify any necessary actions to ensure the success of the ecology enhancement measures, which will be implemented on foot of the report findings.



9. RESIDUAL IMPACTS

Following implementation of the mitigation measures detailed in the preceding section, residual negative impacts for all ecological receptors will be reduced below significant levels.

There will be a **slight permanent negative effect is likely** from the loss of hedgerow during clearance works at the construction stage.

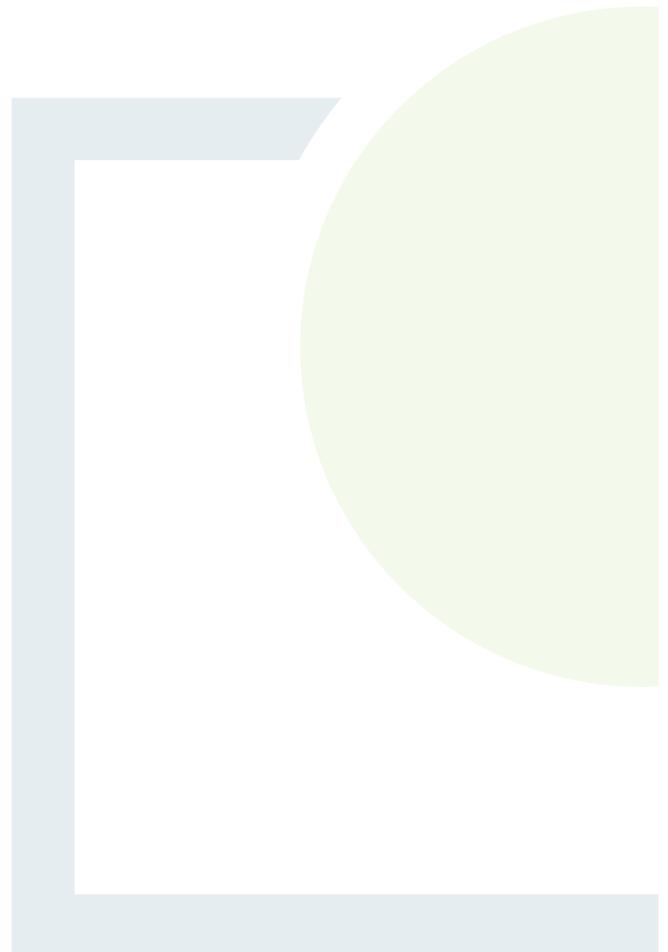
During the operational phase, there will be a **slight localised positive residual impact** on local biodiversity is associated with the sunken rain garden and landscape planting.



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APPENDIX 1

Ecological Resource
Evaluation Criteria



NRA (2009a)	CIEEM (2018)	Defining Criteria
International Importance	International and European	<ul style="list-style-type: none"> • ‘European Site’ including Special Area of Conservation (SAC), Site of Community Importance (SCI), Special Protection Area (SPA), candidate Special Area of Conservation (cSAC) or proposed Special Protection Area (pSPA). • Sites that fulfil the criteria for designation as a ‘European Site’ (see Annex III of the Habitats Directive, as amended). Features essential to maintaining the coherence of the Natura 2000 Network. • Site containing ‘best examples’ of the habitat types listed in Annex I of the Habitats Directive.¹⁷ • Resident or regularly occurring populations (assessed to be important at the national level)¹⁸ of the following: Species of bird, listed in Annex I and/or referred to in Article 4(2) of the Birds Directive; and/or Species of animal and plants listed in Annex II and/or IV of the Habitats Directive. • Ramsar Site (Convention on Wetlands of International Importance Especially Waterfowl Habitat 1971). • World Heritage Site (Convention for the Protection of World Cultural and Natural Heritage, 1972). • Biosphere Reserve (UNESCO Man and The Biosphere Programme). • Site hosting significant species populations under the Bonn Convention (Convention on the Conservation of Migratory Species of Wild Animals, 1979). • Site hosting significant populations under the Berne Convention (Convention on the Conservation of European Wildlife and Natural Habitats, 1979). • Biogenetic Reserve under the Council of Europe. European Diploma Site under the Council of Europe. • Salmonid water designated pursuant to the European Communities (Quality of Salmonid Waters) Regulations, 1988, (S.I. No. 293 of 1988).¹⁹
National Importance	National	<ul style="list-style-type: none"> • Site designated or proposed as a Natural Heritage Area (NHA). • Statutory Nature Reserve. • Refuge for Fauna and Flora protected under the Wildlife Acts. • National Park. • Undesignated site fulfilling the criteria for designation as a Natural Heritage Area (NHA) • Statutory Nature Reserve • Refuge for Fauna and Flora protected under the Wildlife Act; and/or a National Park

¹⁷ See Articles 3 and 10 of the Habitats Directive

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

¹⁹ Note that such waters are designated based on these waters’ capabilities of supporting salmon (*Salmo salar*), trout (*Salmo trutta*), char (*Salvelinus*) and whitefish (*Coregonus*).

NRA (2009a)	CIEEM (2018)	Defining Criteria
		<ul style="list-style-type: none"> Resident or regularly occurring populations (assessed to be important at the national level)²⁰ of the following: Species protected under the Wildlife Acts; and/or Species listed on the relevant Red Data list. Site containing 'viable areas'²¹ of the habitat types listed in Annex I of the Habitats Directive.
County Importance	County (or other local authority-wide area)	<ul style="list-style-type: none"> Area of Special Amenity²². Area subject to a Tree Preservation Order. Area of High Amenity, or equivalent, designated under the County Development Plan. Resident or regularly occurring populations (assessed to be important at the County level)²³ 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. Site containing area or areas of the habitat types listed in Annex I of the Habitats Directive that do not fulfil the criteria for valuation as of International or National importance. County important populations of species, or viable areas of semi-natural habitats or natural heritage features identified in the National or Local BAP²⁴, if this has been prepared. Sites containing semi-natural habitat types with high biodiversity in a county context and a high degree of naturalness, or populations of species that are uncommon within the county. Sites containing habitats and species that are rare or are undergoing a decline in quality or extent at a national level.
N/A	River Basin District	<ul style="list-style-type: none"> Hydrological Catchment Area Connectivity to downstream waterbodies
N/A	Estuarine system/ coastal cell	<ul style="list-style-type: none"> Estuary of river system or shoreline

²⁰ It is suggested that, in general, 1% of the national population of such species qualifies as a nationally important population. However, a smaller population may qualify as nationally important where the population forms a critical part of a wider population or the species is at a critical phase of its life cycle.

²¹ A 'viable area' is defined as an area of a habitat that, given the particular characteristics of that habitat, was of a sufficient size and shape, such that its integrity (in terms of species composition, and ecological processes and function) would be maintained in the face of stochastic change (for example, as a result of climatic variation).

²² It should be noted that whilst areas such as Areas of Special Amenity, areas subject to a Tree Preservation Order and Areas of High Amenity are often designated on the basis of their ecological value, they may also be designated for other reasons, such as their amenity or recreational value. Therefore, it should not be automatically assumed that such sites are of County importance from an ecological perspective.

²³ It is suggested that, in general, 1% of the County population of such species qualifies as a County important population. However, a smaller population may qualify as County important where the population forms a critical part of a wider population or the species is at a critical phase of its life cycle.

²⁴ BAP: Biodiversity Action Plan.

NRA (2009a)	CIEEM (2018)	Defining Criteria
Local Importance (Higher Value)	Local	<ul style="list-style-type: none"> • 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)²⁵ 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)	Site	<ul style="list-style-type: none"> • 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.

²⁵ It is suggested that, in general, 1% of the local population of such species qualifies as a locally important population. However, a smaller population may qualify as locally important where the population forms a critical part of a wider population or the species is at a critical phase of its life cycle.



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