ECOLOGICAL IMPACT ASSESSMENT OF A PROPOSED STRATEGIC HOUSING DEVELOPMENT (SHD) AT CARTRONTROY, KILNAFADDOGE, LISSYWOLLEN AND ARDNAGLUG (TOWNLANDS), ATHLONE, CO. WESTMEATH.

Prepared for:

On behalf of Avenir Homes Limited.

Prepared by:

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Executive Summary

This report presents the outcome of an ecological impact assessment of a proposed Strategic Housing Development (SHD) at Cartrontroy, Kilnafaddoge, Lissywollen and Ardnaglug (townlands), Athlone, Co. Westmeath. Avenir Homes Limited is seeking planning permission for the construction of a mixed-use SHD at a site of 4.1ha at the aforementioned address. This report details the results of field surveys and a desktop study which have informed this ecological impact assessment of the proposed development. With the application of the proposed mitigation measures it is concluded that there is negligible risk of any significant impact on the local flora and fauna as a result of the proposed development. A Screening Report in support of the Appropriate Assessment process has also been prepared and accompanies the planning application.

1. Introduction

Ecology Ireland Ltd. were commissioned by Avenir Homes Limited to undertake an Ecological Impact Assessment (EcIA) of a proposed Strategic Housing Development (SHD) at Cartrontroy, Kilnafaddoge, Lissywollen and Ardnaglug (townlands), Athlone, Co. Westmeath.

The main objectives of this study were to:

- undertake a desktop review of available ecological data of the study area (*i.e.* development study site and surrounding area), including a review of designated nature conservation sites within the wider hinterland of the development site and the completion of an Appropriate Assessment (AA).
- complete a baseline ecological field assessment of the study area in order to describe the existing flora and fauna;
- evaluate the ecological significance of the study area;
- assess potential impacts on existing ecology that could arise from the proposed development;
- consider environmental control measures to reduce potential negative effect(s) on the existing ecology and sensitive habitats and species in the wider area arising from the proposed development where relevant.

1.1. Proposed Development Site

The study site is located approximately 1.2km to the northeast of Athlone town centre (See Figure 1-1). The site is bounded to the south by the Old Rail Trail greenway, to the southeast by Garrycastle Spar Shop and to the northeast, north and west by a local link road (permitted Lissywollen Avenue) and "Blackberry Lane". The site is undeveloped, greenfield and is currently used primarily for agricultural purposes. Vehicular access to the proposed development will be provided via the east-west link road (known as Lissywollen Avenue) permitted under An Bord Pleanála Reference 309513-21 which neighbours the proposed development to the west beyond Blackberry Lane. The total site area of the SHD application site is approximately 4.1 hectares.

The closest Natura 2000 site; Crosswood Bog SAC is located c. 1.6km southeast from the proposed site boundary. The site is located within the Upper Shannon Catchment, Hydrometric Area 26, and the Shannon River Basin District.

There are no watercourses within the proposed site. The closest waterbody is the Shannon (Upper)_120, (named on the EPA Database as IE_SH_26S021800), which is located approximately 904m south of the proposed site boundary. It is a tributary of the River Shannon. It has been given a River Waterbody Framework Directive (WFD) Status (2013-2018) of "Poor" and a WFD Risk Status of "At Risk".

The study site lies within the 2km Grid Square "N04Q" of the Biodiversity Ireland Database. This grid square contained 2 records of the high impact invasive species Japanese Knotweed (*Fallopia japonica*). An invasive species and ecological walkover was undertaken in July 2021. No species listed on the Third Schedule of the 2011 European Communities (Birds and Natural Habitats) Regulations (i.e. species of which it is an offense to disperse, spread or otherwise cause to grow in any place) were recorded within the proposed development site boundary.

Residential developments lie to the south of the study site and the Athlone Bypass Road lies to the north. The proposed site is made up of a number of fields, with one large field to the north of the development site consisting of semi-improved grassland. There are a further three small fields within the ownership boundary, the easternmost of which is outside the application site. Parts of the central and the westernmost of the small fields are within the application site. These fields consist of improved agricultural grassland and dry meadows and grassy verges.

1.2. Proposed Development

Avenir Homes Limited. intend to apply to An Bord Pleanála for permission for a strategic housing development at Cartrontroy, Kilnafaddoge, Lissywollen and Ardnaglug (townlands), Athlone, Co. Westmeath.

The development will consist of:

- The construction of a mixed use residential development of 122 no. residential units with ancillary creche, 46 no. student apartments consisting of 283 bed spaces, and all associated site development works.

- The proposed development makes provision for 60 no. dwelling houses comprising 38 no. 2-storey 3-bed townhouses, 7 no. 2-storey 4-bed townhouses, 7 no. 3-storey 4-bed townhouses, 6 no. 2 storey 4-bed semi-detached and 2 no. 2 storey 4-bed detached.

- The proposed development includes 62 no. apartments / duplexes to be provided as follows: Block R1 containing 38 no. apartments (16 no. 1 bed units and 22 no. 2 bed units) in a 3-6 storey building, and Block R2 containing 20 no. duplex units (10 no. 2 bed units and 10 no. 3 bed units) over 4 storeys with 4 no. apartments (4 no. 2 bed units) in one 5th storey feature area.

- The proposed student accommodation makes provision for 283 no. bed spaces in 3 no. blocks to be provided as follows: Block S1 containing 18 apartments with 117 bed spaces over 5-6 storeys, Block S2 containing 16 apartments with 107 bed spaces over 6-7 storeys, and Block S3 containing 12 apartments with 59 bed spaces over 4-5 storeys.

In addition to the above specified works within the red-line boundary, Westmeath County Council are facilitating some offsite works to support the project for which the applicant has confirmed written consent. These include:

- Resurfacing Blackberry Lane along the western extent of the site. A special development contribution has been agreed with the applicant for such purposes.

- Facilitating works to complete connections to the Old Rail Trail Greenway, including

- Completion of pedestrian/cycle path between Blocks R1 and S1 to the surfaced area of the greenway to the south, and;

    - Replacement of existing gated access between the greenway and Blackberry Lane (southwest of the site) with a revised arrangement with dedicated cycle/pedestrian access. Final works to be agreed with Westmeath County Council.

The proposed development will provide for two new vehicular accesses as well as pedestrian entrances onto Lissywollen Avenue east-west access road (as permitted under An Bord Pleanála Reference ABP-309513-21). Minor modifications to ABP-309513-21 are proposed to cater for these access points, alterations to cycle/pedestrian paths, the removal of a central island to facilitate the south-eastern entrance, and provision of bus stop infrastructure. Ancillary site works include public and communal open spaces, hard and soft landscaping, pedestrian / cycleways, car parking, cycle parking, bin storage, public lighting, solar panels, ESB substation and supporting distribution kiosks, and all other ancillary works above and below ground. The proposal includes pedestrian and cycle linkages onto the Old Rail Trail Greenway to the south and Blackberry Lane (L40061) to the west.

The application contains a statement setting out how the proposal will be consistent with the objectives of the Westmeath County Development Plan 2021-2027, the Athlone Town Development Plan 2014-2020 and the Lissywollen South Framework Plan 2018-2024. The application contains a statement indicating why permission should be granted for the proposed development, having regard to a consideration specified in section 37(2)(b) of the Planning and Development Act 2000, as amended, notwithstanding that the proposed development materially contravenes a relevant development plan or local area plan other than in relation to the zoning of the land. The application may be inspected,or purchased at a fee not exceeding the reasonable cost of making a copy, during public opening hours at the offices of An Bord Pleanála and Westmeath County Council. The application may also be inspected online at the following website set up by the applicant: www.thegreenquartershd.ie**.**

Some vegetation removal will be required to facilitate the development. A Landscape Management Plan was produced by Forestbird Design (2021; see Drawing L206). The proposed landscape scheme will see the extensive planting of approximately 277 native and non-native trees around the boundary of the proposed SHD. It will see the creation of areas of damp and wildflower meadows for the benefit of local biodiversity. It will also see the retention of large sections of hedgerow, particularly to the south and southeast of the application site. The field boundaries and trees of note were graded and 100% of 'trees of merit' are being retained, 98% of 'priority hedgerow' is being preserved and 75% of the 'high-quality' hedgerow is being retained.

A biodiversity and public foraging corridor is proposed along the western boundary of site. This will consist of native species, eg; Hazel, Elder and Currants. Green buffers will be provided along the eastern boundary which will include a verge of avenue tree planting and a gentle swale for stormwater collection in accordance with SuDS best practice. The trees will act as a commuting corridor for wildlife (including foraging and commuting bats) and the biodiverse swale will also have some biodiversity potential (e.g. Common Frog). Every 8m along the eastern boundary within a newly established hedgerow a tree will be planted (e.g. Lime and Oak). There will also be a native damp meadow/wildflowers 3-6m wide area and a section of verge with mown grass established as part of the landscaping plan. Vegetation will be retained (apart from 2 access points) along the southern boundary of the proposed site.

The site slopes gradually upwards from north to south with a level difference of approximately 2.5m between the northern boundary and southern boundary of the proposed development. There is also a slope across the site in an east to west direction with a level difference of approximately 5m.

The proposed site will be served via below ground gravity pipework which predominately runs below the proposed internal roads within the development. The surface water network will be fed via road gullies and

rainwater from building roofs via guttering and downpipes. The surface water network will be attenuated in the north of the site and flow controlled at greenfield runoff rates prior to outfall into the diverted 1050mm diameter surface water drainage sewer to the north.

The surface water catchment will have a gravity surface water drainage network which will outfall into a dedicated attenuation tank to the north of the site. The attenuation tank has been sized to store the runoff from a 1:30 year storm of critical duration below ground, with the additional storage required for a storm event greater than 1:30 and up to 1:100 year to be stored above ground within a depressed area (detention basin) in the public open space. The depressed area has been sized such that the maximum water level in the public open space for a 1:100 year storm event of critical duration will be 300mm in depth. Full details can be found in the Civil Engineering Report by ORS.

Sustainable Urban Drainage Systems (SuDS) will be utilised throughout the site where practical to help mitigate the adverse effects of urban stormwater runoff on the environment by reducing runoff rates, volumes and frequencies and reducing pollutant concentrations in stormwater runoff. SuDS measures which have been incorporated include green roofs, rain gardens, permeable paving and attenuation systems which promote infiltration.

The site is divided into two main catchments. The first catchment includes runoff from all individual houses, block R2 apartment/duplexes, roads and paved areas directed into below ground drainage which outfalls to an attenuation system to the north of the site. The second catchment includes the collection of roof runoff from R1 apartment block and S1-S3 student accommodation blocks which will be collected locally and directed into rain gardens for treatment and infiltration.

The Engineering report by ORS included a Flood Risk section which outlines that the area is not in an area of defined flood risk under the OPW mapping and there is no indication of any likely past of future incidences in the vicinity of the site.

From mobilisation, the site works (construction and landscaping) are estimated to take 24-36 months. A planning phase Construction Environmental Management Plan (CEMP) has been completed for the proposed development describing the standard good housekeeping management (*e.g.* spill kits, bunded oil containers, plant/machinery maintenance) that will be applied throughout the construction phase.

Wastes associated with construction will be managed and removed from site by approved/licensed operators as required during construction (*e.g.* as per standard waste regulations, see CEMP submitted as part of this application). The construction works will not require any further resources (*i.e.* land-take, water abstraction) from the surrounding environment.

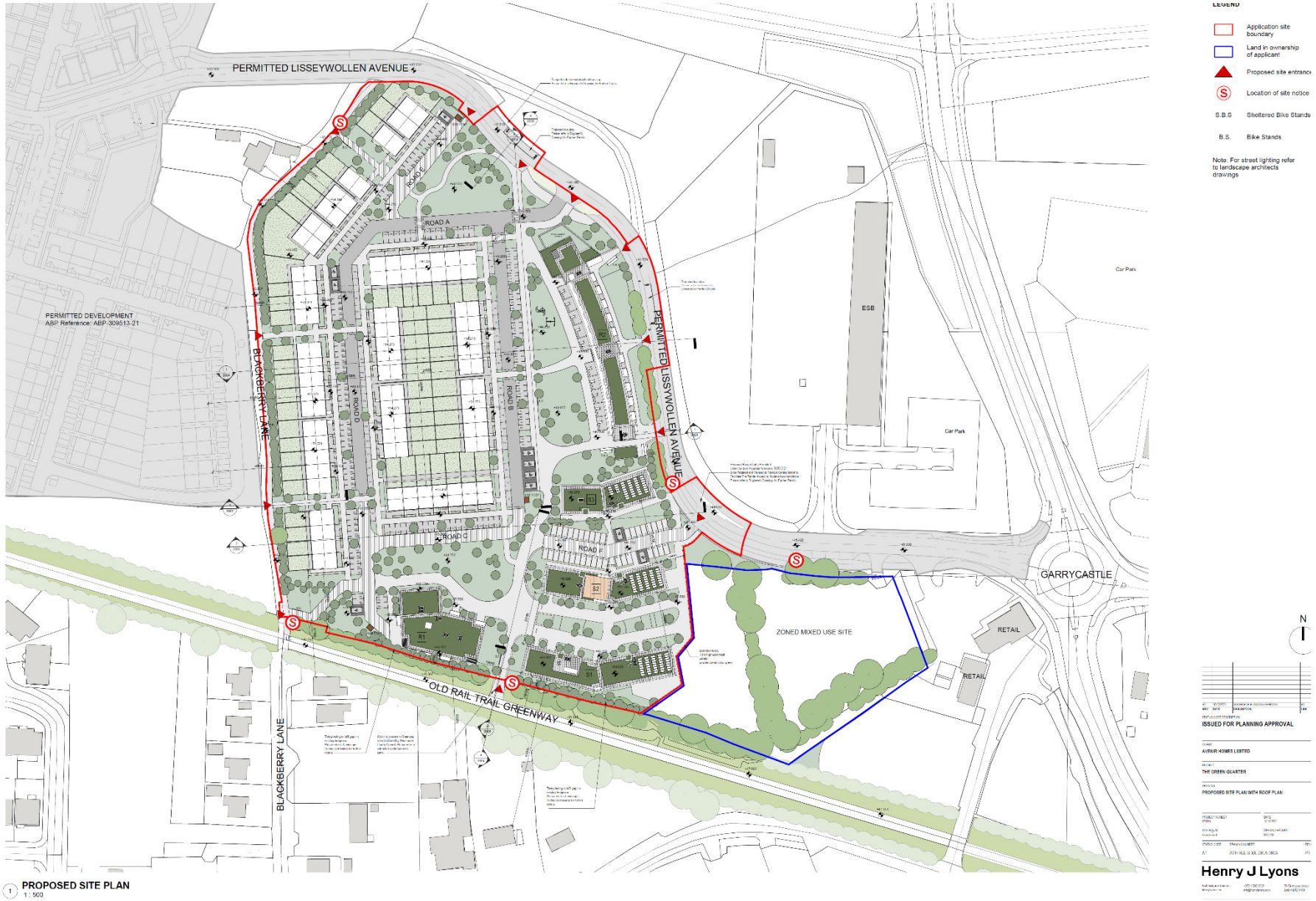
Post construction, the site will consist of an occupied residential development. While there will be additional human activity at the proposed development site during the operational phase, there will be no additional resource requirements from the surrounding environment, with the exception of water supply and surface/storm water and foul/effluent drainage to and from the operational site as described in detail in the Civil Engineers Report (ORS 2021).

Athlone agglomeration is served by Athlone WWTP which has a capacity of PE 36,000 using a tertiary type of treatment with N&P removal. There are two discharge points, one upstream and one downstream on

the Shannon, south of Athlone town. The WWTP discharge is compliant with the ELV's set in the wastewater discharge licence (Irish Water Annual Environmental Report 2020 – Athlone D0007-01).

Figure 1-1 Site Location Map

Figure 1-2 Proposed site layout



1 PROPOSED SITE PLAN
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2. Methods

This ecological impact assessment was completed through a combination of detailed desktop reviews and baseline field assessments which are described in the following sections.

Baseline field surveys were undertaken in July 2021 during suitable weather conditions (see Table 2-1) and with reference to standard ecology survey methodologies. Surveys were carried out by Dr. Gavin Fennessy and John Deasy, an experienced field ecologist with a decade of experience in professional consultancy. Analysis of bat sonograms was carried out by Dr. Fennessy of Ecology Ireland. Gavin has over 20 years of experience as an ecological consultant. The EcIA was compiled by Athena Michaelides, BSc in Zoology with specilaist inputs from Dr. Fennessy and John Deasy.

A desktop review of available data for the study site was completed by referring to relevant online databases such as The National Parks and Wildlife Services (NPWS), The National Biodiversity Data Centre (NBDC) and The Environmental Protection Agency (EPA). Relevant planning supporting documents, including, landscaping, drainage and flood risk reports and planning phase CEMP (ORS, 2021) were also reviewed as part of this ecological impact assessment.

The overall ecological evaluation of the study site follows amended criteria as set out by NRA (2009) and Nairn & Fossitt (2004; see Appendix A). The description and evaluation of potential, cumulative and residual impacts associated with the proposed development on the existing biodiversity of the study site and immediate locality follows guidelines published by the EPA (2017).

Table 2-1 Baseline field assessment details.

Date	Time	Weather	Ecologist	Task
08.07.2021	14:30 – 19:00	Dry, Mostly overcast, threatening rain after 18:00. Wind F0-2, Cloud 4-7/8, Visibility Good	Dr Gavin Fennessy	Baseline ecology walkover, including bird and mammal surveys, deployment of trail cameras and passive bat detectors.
16.07.2021	11.00 - 16.30	Sunny, 23 Deg C, Dry, Wind F1 W, Visibility Good	John Deasy	Baseline ecological survey including habitats and botanical survey. Collection of remote cameras and bat detectors

2.1. Designated Nature Conservation Sites Assessment

Designated nature conservation sites within 15km of the study site were identified through a desktop review of the NPWS online database. Designated nature conservation sites include; Natural Heritage Areas (NHAs), proposed Natural Heritage Areas (pNHAs), Special Areas of Conservation (SACs), Special Protection Areas (SPAs), Nature Reserves and other Refuges for Fauna. NHAs are legally protected by the Irish Wildlife Acts (1976 - 2012), however, pNHAs are not and as such are only given limited protection through acknowledgement by planning, licensing and/or forestry authorities and through Agri-environmental schemes. Nature Reserves and Refuges for Fauna are protected under the Irish Wildlife Acts (1976 - 2012). SACs and SPAs are European designated nature conservation sites that have been designated under the EU Habitats Directive (92/43/EEC) and the EU Birds Directive (2009/147/EC), respectively. SACs and SPAs are collectively known as Natura 2000 sites and are legally protected by Irish law. Many designated conservation sites overlap for example an area can be designated as both an NHA and as a SAC and/or SPA or both.

In the subsequent analysis of designated sites, particular attention was made on sites where a potential receptor zone of influence exists with the proposed development site. In other words, designated sites that may have a link to the development site (e.g. through hydrological link, overlapping, proximity) were focused on in this assessment.

A Screening Report in support of the Appropriate Assessment process was prepared by Ecology Ireland and accompanies this planning application.

2.2. Habitat & Flora Assessment

Prior to the field survey, a desktop review of botanical data available for the study area was undertaken. The National Parks and Wildlife Service (NPWS), National Biodiversity Data Centre (NBDC) and Botanical Society of Britain and Ireland (BSBI) online databases were consulted to identify any rare or legally protected botanical species located within the relevant national 10km and 2km grid squares (i.e. N04; N704Q) surrounding the proposed development site.

The habitat site and flora assessment was carried out in accordance with best practice guidance (Smith *et al.* 2011). This involved a walkover of the proposed development site where the habitats present were classified to level three using the classification scheme presented in *A Guide to Habitats of Ireland* (Fossitt, 2000). The extent of habitats was recorded on a field map along with notes of species present and their relative abundance described using the DAFOR scale. In addition, any other observations of interest (e.g. invasive plant species, etc.) were recorded using a Garmin eTrex10 GPS handheld unit. Evaluation of the habitats present in terms of their ecological value was assessed using the Biodiversity Evaluation Scheme presented in Appendix A (amended National Roads Authority 2009 scheme to include watercourse/aquatic evaluation elements from Nairn and Fossit, 2004)

The conservation status of habitats and botanical species was also considered. The conservation status of habitats and botanical species within Ireland and Europe is indicated by inclusion in one or more of the following: Irish Red Data Book for Vascular Plants (Wyse Jackson *et al.* 2016); Flora (Protection) Order 2015 and the EU Habitats Directive (92/43/EEC).

2.3. Birds

An initial desktop review of available data for bird species was completed through consulting relevant online databases, with the aim of identifying species of conservation interest (e.g. rare, protected), previously recorded for the relevant national grid squares overlapping the study site. In relation to the study site at Lissywollen a review was undertaken of N04Q (2km) national grid squares from the NBDC online database.

During the walkovers which were conducted in July 2021 all birds seen and/or heard from the surveyor were recorded. Any birds seen or heard were all included as casual observations during each site visit. Observations of birds were noted as occurring within 100m or greater than 100m from the observer. Numbers of each species observed were noted, particularly in the case of species of high conservation value. Birds noted during the analysis of the digital trail camera record were also included in the bird site usage record.

The conservation status of bird species recorded during the survey and as part of the online desktop review was assessed with reference to; the EU Birds Directive (2009/147/EC) Annex I list and Birds of Conservation Concern in Ireland; (BoCCI, Gilbert *et al*., 2020-2026). For the BoCCI list, Red-listed species are of high conservation concern in Ireland, Amber-listed species are considered of medium conservation concern, while Green-listed species are not of conservation concern in Ireland at present. Bird species listed on Annex I of the EU Birds Directive are considered of high conservation concern across Europe.

2.4. Mammals (non-volant)

An initial desktop review for available data on mammal (non-volant) species for the study site was completed through consulting online databases to identify species of conservation interest (e.g. rare, protected) previously recorded for the relevant national grid squares. In relation to the study site at Lissywollen a review of N04Q (2km) national grid squares from the NBDC online database was completed.

The mammal (non-volant) assessment was undertaken on the survey visits with additional data collected by deployment of wildlife trail cameras on the initial vist on 8th July 2021. The field element of the assessment involved a walkover of the study site, where direct and/or indirect observations were noted (e.g. breeding sites, droppings, prints) in accordance with standard guidelines (e.g. Hundt 2012, JNCC 2004, Sutherland 1996).

In addition to the walkovers, three digital trail cameras (Camera-traps) which take photographs and/or video when triggered by heat or motion, were also deployed to record mammal activity within the study site. The cameras were deployed on the eastern, southern side and middle of the site. The three cameras were in place from the 8th – 16th July 2021. Evidence of mammal activity observed during other aspects of the biodiversity field studies but outside of the dedicated mammal walkover were also noted as casual species.

The conservation status of mammals was assessed with reference to the following: the Irish Wildlife Acts (1976 - 2012); the Red List of Terrestrial Mammals (Marnell *et al*. 2019); the EU Habitats Directive.

2.5. Bats

A desktop review of data available on bat occurrence in proximity to the study site was undertaken by consulting online databases. Records of bats previously noted within the relevant national grid squares that overlap the study site were collated. A review was undertaken of N04Q (2km) national grid squares from the NBDC online database. The NBDC online database also hosts the Model of Bat Landscapes for Ireland, which has assessed the relative importance of landscape and habitat associations for bat species across Ireland (see Lundy *et al*. 2011); therefore, the landscape resource value for bats in the relevant national N04 (10km) square overlapping the study site was also included in the assessment.

A baseline bat study of the usage of the study site was achieved by undertaking a passive bat detector study in accordance with current best practice guidelines (Collins 2016, Kelleher & Marnell 2006). Bat call registrations were recorded from sunset to sunrise on each night. The deployment ran through the nights of 8th–15th July 2021. All recorded bat registrations were analysed using Wildlife Acoustics Kaleidoscope Professional sound analysis software to confirm bat species, times of activity and behaviour where possible.

The conservation status of bats was considered in respect of the following: Irish Wildlife Acts (1976 - 2018); Red List of Terrestrial Mammals (Marnell et al. 2009); EU Habitats Directive.

2.6. Other Taxa

An initial review for available data for other taxa (e.g. amphibians, invertebrates) was completed through consulting online databases to identify other taxa species of conservation interest (e.g. rare, protected) previously recorded for the relevant national grid squares overlapping the study site. In relation to the study site at Lissywollen a review of N04Q (2km) national grid squares from the NBDC online database was completed.

Other taxa encountered during the habitat and botanical, general breeding bird transect and mammal walkovers were casually recorded.

The conservation status of other taxa recorded during the field surveys was assessed with reference to; The Irish Wildlife Acts (1976 - 2012), EU Habitats Directive (92/43/EEC); Irish Red List for Butterfly (Regan *et al*. 2010); Irish Red List for Damselflies & Dragonflies (Nelson *et al*. 2011); Irish Red List for Amphibians, Reptiles & Freshwater Fish (King *et al*. 2011) and Regional Red List of Irish Bees (Fitzpatrick *et al*. 2006).

2.7. Overall Ecological Site Evaluation & Impact Assessment

An overall ecological evaluation of the proposed development site follows the criteria set out in Appendix A (amended NRA 2009 & Nairn & Fossitt 2004). The description and evaluation of potential and residual impacts associated with the proposed development on the existing ecology of the study site and surrounding area follows guidelines published by the EPA (2017).

3. Ecology in the Existing Environment

3.1. Designated Nature Conservation Sites

The proposed development site is not located within or near to any designated wildlife conservation site (see Figure 3-1). The nearest designated site: Crosswood Bog SAC is located 1.6 km from the study site boundary.

There are three NHAs within 15km of the study site; Carrickynaghtan Bog NHA (3.9km), Clonydonnin Bog NHA (8.8km) and Ballygrenia & Ballinderry Bog NHA (12.9km). There is a total of ten SACs, three SPAs and fourteen pNHAs located within 15km of the study site as listed below (in order of increasing distance from the proposed development site boundary (See Table 3.1, Figure 3.1 and Figure 3.2).

Table 3-1 Distance of designated sites from the proposed development.

Site Name	Site Code	Minimum Distance (km)
Natura 2000 sites		
Crosswood Bog SAC	002337	1.6
Middle Shannon Callows SPA	004096	2.0
River Shannon Callows SAC	000216	2.0
Lough Ree SAC	000440	2.5
Lough Ree SPA	004064	2.5
Carn Park Bog SAC	002336	3.9
Pilgrim's Rd. Esker SAC	001776	9.8
Mongan Bog SAC	000580	10.2
Mongan Bog SPA	004017	10.4
Castlesampson Esker SAC	001625	11.0
Ballynamona Bog & Corkip Lough SAC	002339	11.4
Fin Lough SAC	000576	11.9
Lough Funshinagh SAC	000611	14.3
Nationally Designated Sites		
Crosswood Bog pNHA	000678	1.6
River Shannon Callows pNHA	000216	2.0
Lough Ree pNHA	000440	2.5
Carrickynaghtan Bog NHA	001623	3.9
Carn Park Bog pNHA	000676	3.9
Waterstown Lake pNHA	001732	4.9
Clonydonnin Bog NHA	000565	8.8
Mongan Bog pNHA	000580	10.2
Doon Esker Wood pNHA	001830	10.2
Pilgrim's Rd. Esker pNHA	001776	10.3
Castlesampson Esker pNHA	001625	10.7

Site Name	Site Code	Minimum Distance (km)
Ballynagarbry pNHA	001713	11.0
Clonfinlough Esker pNHA	000892	11.5
Fin Lough pNHA	000526	11.8
Ballygrenia & Ballinderry Bog NHA	000674	12.9
Clonlyon Glebe Bog pNHA	000893	13.0
Lough Nanag Esker pNHA	000910	13.5
Lough Funshinagh pNHA	000611	14.3
Feacle Turlough pNHA	001634	14.9

3.2. Potential Impact-Receptor Pathways

Potential Hydrological Links- Surface Water Run-off

There are no watercourses on or adjacent to the proposed development site. The closest watercourse; The Shannon (Upper)_020 (IE_SH_26S021800) to the proposed site boundary is located approximately 904m south. The site is not considered to be at risk of flooding.

The closest designated Natura 2000 sites to the proposed development are Crosswood Bog SAC, Middle Shannon Callows SPA and River Shannon Calllows SAC. After construction surface water from the site will be attenuated before connecting with the municpal system. Sustainable Urban Drainage Systems (SuDS) will be utilised throughout the site where practical to help mitigate the adverse effects of urban stormwater runoff on the environment by reducing runoff rates, volumes and frequencies and reducing pollutant concentrations in stormwater runoff. SuDS measures which have been incorporated include green roofs, rain gardens, permeable paving and attenuation systems which promote infiltration.

The proposed site will be served via below ground gravity pipework which predominately runs below the proposed internal roads within the development. The surface water network will be fed via road gullies and rainwater from building roofs via guttering and downpipes. The surface water network will be attenuated in the north of the site and flow controlled at greenfield runoff rates prior to outfall into the diverted 1050mm diameter surface water drainage sewer to the north.

The surface water catchment will have a gravity surface water drainage network which will outfall into a dedicated attenuation tank to the north of the site. The attenuation tank has been sized to store the runoff from a 1:30 year storm of critical duration below ground, with the additional storage required for a storm event greater than 1:30 and up to 1:100 year to be stored above ground within a depressed area (detention basin) in the public open space. The depressed area has been sized such that the maximum water level in the public open space for a 1:100 year storm event of critical duration will be 300mm in depth. Full details can be found in the Civil Engineering Report by ORS.

Sustainable Urban Drainage Systems (SuDS) will be utilised throughout the site where practical to help mitigate the adverse effects of urban stormwater runoff on the environment by reducing runoff rates, volumes and frequencies and reducing pollutant concentrations in stormwater runoff. SuDS measures which

have been incorporated include green roofs, rain gardens, permeable paving and attenuation systems which promote infiltration.

The site is divided into two main catchments. The first catchment includes runoff from all individual houses, block R2 apartment/duplexes, roads and paved areas directed into below ground drainage which outfalls to the attenuation system to the north of the site. The second catchment includes the collection of roof runoff from R1 apartment block and S1-S3 student accommodation blocks which will be collected locally and directed into rain gardens for treatment and infiltration.

Athlone agglomeration within which the proposed development is located is served by Athlone WWTP which discharges treated wastewater to the River Shannon. This WWTP has adequate spare capacity (design PE 36,000) and is currently compliant with the ELV's in the wastewater discharge licence (Irish Water Annual Environmental Report 2020 Athlon D0007-01).

Crosswood Bog is located at significantly higher elevation than the proposed development site and not at risk from any hydrologically mediated impacts. Similarly, Lough Ree SPA and SAC are located upstream of the proposed development site. There is no concern in relation to hydrologically mediated effects on any of the other nationally or European designated conservation sites in the wider hinterland area.

<u>Disturbance/Displacement of Fauna</u>

Consideration needs to be given to the potential for disturbance/displacement impacts of fauna through noise and/or visual cues arising from the proposed development. Crosswood Bog SAC lies 1.6km southeast of the proposed works and is not designated for the protection of any qualifying interest faunal species. The study site does not overlook any of the designated sites and given the distances between the proposed development and even the most proximate of designated sites (>1.6km away) there is no concern in realtion to potential direct impacts upon these sites, in relation to disturbance or displacement effects.

The special conservation interests of the Middle Shannon Callows SPA are:

- Whooper Swan (*Cygnus cygnus*) [A038]
- Wigeon (*Anas penelope*) [A050]
- Corncrake (*Crex crex*) [A122]
- Golden Plover (*Pluvialis apricaria*) [A140]
- Lapwing (*Vanellus vanellus*) [A142]
- Black-tailed Godwit (*Limosa limosa*) [A156]
- Black-headed Gull (*Chroicocephalus ridibundus*) [A179]
- Wetland and Waterbirds [A999]

These are waders and waterbirds species very unlikely to occur, with any regularity, or in any significant numbers, within the agricultural fields in the suburban part of Athlone. Similarly, Otter, Lutra lura, the only Qualifying Interest of the River Shannon Callows SAC, is very unlikely to occur within or near the proposed development site due to the nature of the habitats present.

The conservation objectives/interests of the remaining designated sites in the wider hinterland of the proposed development site relate to habitats and/or flora that have no likelihood of being subject to disturbance/displacement impacts as a result of the construction of the proposed development.

Impacts on qualifying interests present in this area as a result of the proposed development can be ruled out.

3.2.1. Potential Impact-Receptor Pathway Summary

In summary, there is a potential link between the study site and the River Shannon through post-construction connection to municipal drainage and wastewater connection. Neither, has the potential for likely significant effects upon these designated sites due to the design of the drainage system and operational performance of the WWTP.

Figure 3-1 Map of Natura 2000 Sites in the Vicinity of the Proposed Works

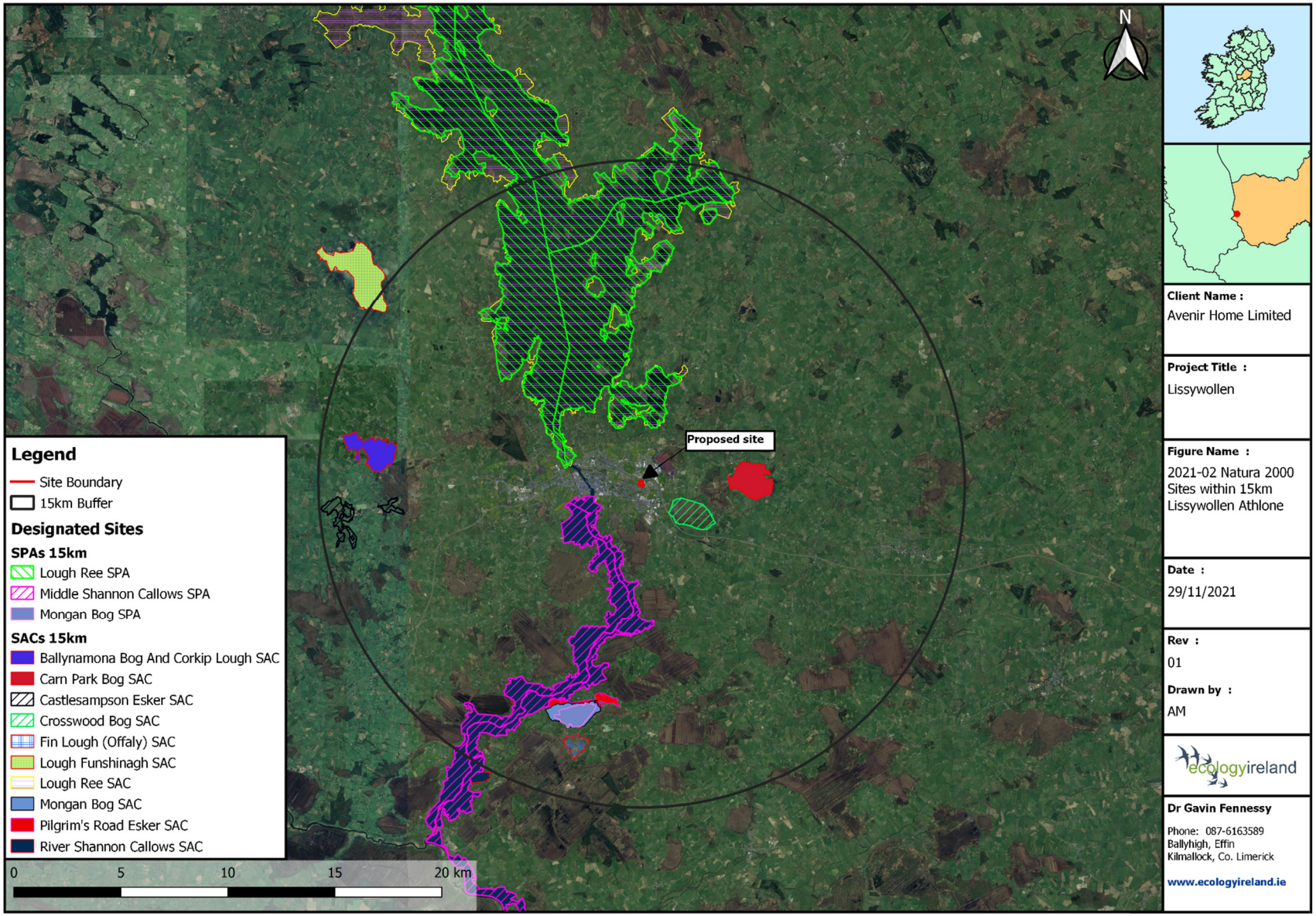
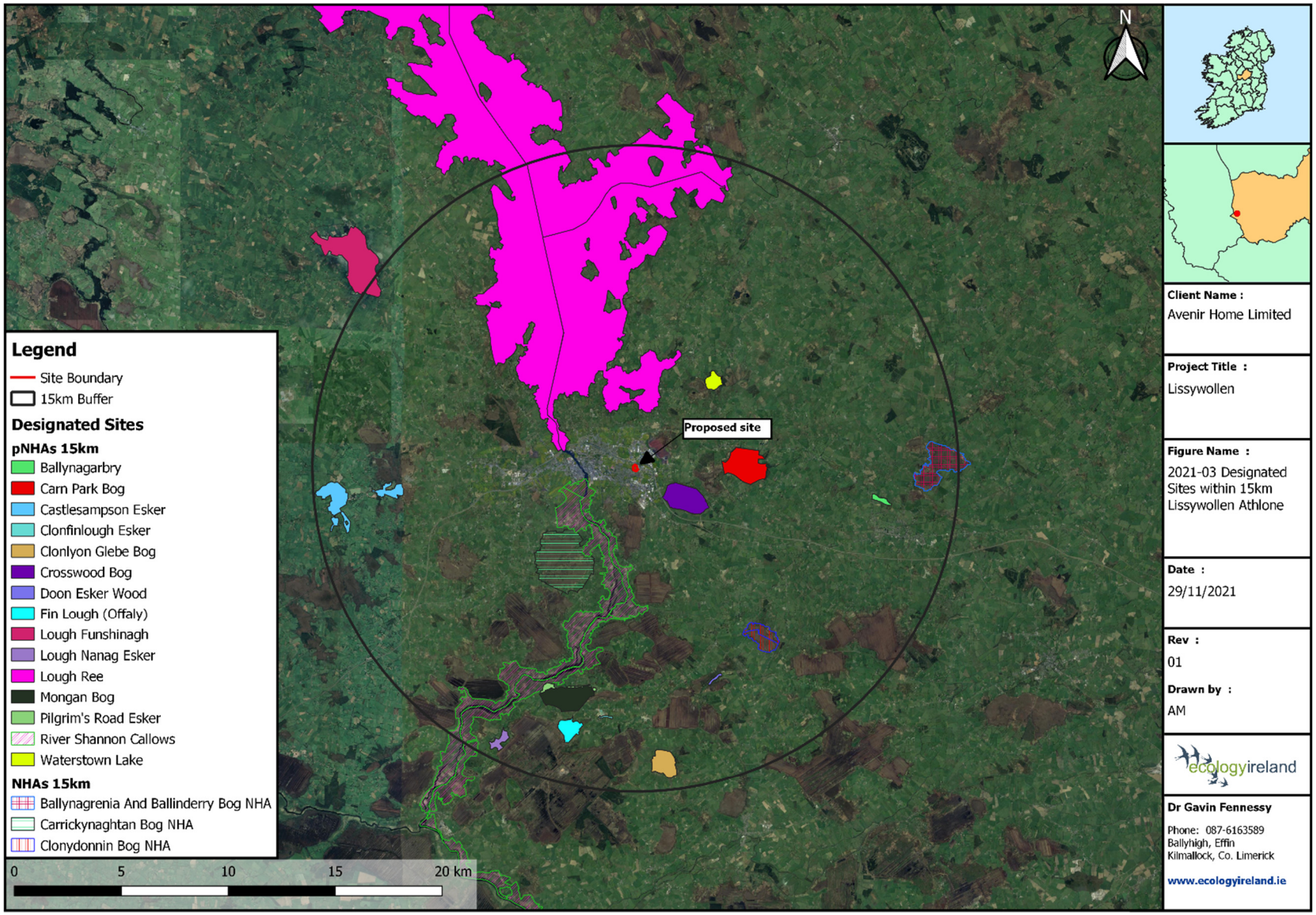


Figure 3-2 Nationally designated sites within 15km of Proposed Works



3.3. Habitats & Flora in the Existing Environment

3.3.1. Desktop Study

Protected Flora

No legally protected plant species have been previously recorded in the NBDC or BSBI[1] databases for the 2-km grid squares (N04Q) within which the proposed development is located. The BSBI[2] database holds a historic records for the following species listed on the Flora (Protection) Order, 2015. A record for Basil Thyme (*Acinos arvensis*) from pre-1930 from the 10-km grid square N04 is held on the BSBI database. The BSBI database also holds nine records of Narrow-leaved helliborine (*Cephalanthera longifolia*) from the 10-km grid square N04, the most recent being from the period 2010-2019. The NBDC database also holds records for this species with the records being from 2 km grid square N04N around Coosan Point on the eastern shore of Lough Ree, north of Athlone. The BSBI database holds recent (2020 onward) records of Short-leaved Starwort (*Callitriche truncata*) from 2 km grid squares N04F and N04K, in the River Shannon area of Athlone. The BSBI database holds two records for Red hemp nettle (*Galeopsis angustifolia*) for the 10-km grid square N04 with one record from the 2 km grid squares N04F, west of the River Shannon, from the period 1987-1999. The BSBI database holds a record of Betony (*Betonica officinalis*) from the 10-km grid square N04 from the period 1987-1999.

Furthermore, species classified as threatened (Critical, Endangered and Vulnerable) and so included on the Ireland red list of vascular plants (Wyse Jackson *et al*., 2016) have not been recorded in the 2 km grid squares (N04Q) on the NBDC database within which the proposed development is located.

No records for bryophyte species listed on the Flora (Protection) Order, 2015 were found in the 10-km grid square N04 on the NPWS webmapping facility for legally protected bryophytes[3].

Invasive Species

Two records for Japanese knotweed (*Reynoutria japonica*) are held on the NBDC database for 2 km grid square N04Q. These records are from 2012 and are located on the R446 road around the Garrycastle bridge area, south of the study site (N068404 and N066406). This species is listed on the Third Schedule of the 2011 European Communities (Birds and Natural Habitats) Regulations (i.e. species of which it is an offense to disperse, spread or otherwise cause to grow in any place) and classified as a 'risk of high impact' invasive species (Kelly *et al*, 2013). Traveller's Joy (*Clematis vitalba*) which has been classified as a 'risk of medium impact' invasive species (Kelly *et al.*, 2013) has also previously been recorded in the 2 km grid square N04Q.

[1] https://maps.biodiversityireland.ie/ (Accessed 29/10/2021)

[2] https://bsbi.org/maps (Accessed 29/10/2021)

[3] https://dahg.maps.arcgis.com/apps/webappviewer/index.html?id=71f8df33693f48edbb70369d7fb26b7e (accessed 29/10/2021)

3.2 Habitats & Flora in the Existing Environment

Habitats within the proposed development site boundary

Habitats listed on Annex I of the EU Habitats Directive were not recorded within the proposed development site boundary.

Botanical species protected under the Flora (Protection) Order 2015, listed in Annex II or IV of the EU Habitats Directive (92/43/EEC), or Red listed in Ireland (Wyse Jackson *et al.*, 2016) were not recorded during the site visits.

The study site consisted of one large semi-improved neutral grassland (GS1N) field on the northern side of the study site which has previously been grazed by sheep and horses. South of this large field, there are two smaller fields. The western field was classified as semi-improved agricultural grassland (GA1S). The western side of the adjacent field within the study site boundary was classified as dry meadow and grassy verge (GS2) although there is no evidence for recent mowing or grazing of this field as the sward was dominated by coarse, tussocky species growing up to c.0.75-1 m high and was rank. Smaller patches of this grassy verge habitat was recorded along the eastern and north eastern boundary, next to a gravel access track. A small area of dry calcareous grassland (GS1) was recorded associated with the margins of a depression feature on the southeastern boundary of the proposed development site. This habitat was surrounded by the dry meadow and grassy verge (GS2) and a lone hawthorn tree within the field.

The fields within the proposed development site were separated by mature, well-developed hedgerows (WL1) with intermittent semi mature trees. A small area of Bramble dominated scrub was located at the northeastern side of the study site and another small area of recolonising disturbed ground was in the process of forming a semi-natural grassland habitat (ED3/GS) that was located behind a grassy bank (GS2) along the access track.

The following habitats (with Fossitt codes, as outlined in Section 2.2 above) were recorded within the proposed development site. (see Figure 3.1):

- Agricultural grassland (Semi-improved) (GA1S)
- Neutral grassland (GS1N)
- Dry calcareous and neutral grassland (GS1)
- Dry meadows and grassy verges (GS2)
- Recolonising bare ground/Semi-natural grassland (ED3/GS)
- Hedgerows (WL1)
- Scrub (WS1)

Agricultural Grassland (Semi-improved) (GA1S)

This habitat was recorded in the smaller field in the southwest corner of the study site. Species present included abundant Perennial rye grass (*Lolium perenne*) along with frequent Broad-leaved dock (*Rumex obtusifolius*), Creeping thistle (*Cirsium arvense*) and White clover (*Trifolium repens*). Yorkshire fog (*Holcus lanatus*), Creeping buttercup (*Ranunculus repens*), Cocksfoot (*Dactylis glomerata*), Smooth meadow-grass (*Poa pratensis*), Yarrow (*Achillea millefolium*), Redshank (*Persicaria maculosa*) and Red bartsia (*Odontites vernus*) were occasionally recorded. Common couch (*Elymus repens*), Meadow foxtail (*Alopecurus*

pratensis), Timothy (*Phleum pratensis*), Silverweed (*Argentina anserina*), Red clover (*Trifolium pratense*) and Nettle (*Urtica dioica*) were rarely recorded. There was evidence of recent grazing and topping.

The ecological valuation of the semi-improved agricultural grassland habitat is considered to be of local (lower value) importance.

Plate 1: Agricultural grassland (semi-improved) habitat within the study site.

Neutral grassland (GS1N)

This habitat was recorded in the main large field within the study site. Species present included abundant Common bent, Yorkshire fog and Creeping buttercup along with frequent Perennial rye grass, Common mouse ear (*Cerastium fontanum*), Common sorrel (*Rumex acetosa*), Common ragwort (*Jacobaea vulgaris*) and False oat grass (*Arrhenatherum elatius*) (in patches). White clover, Cocksfoot, Red clover, Nettle, Broad-leaved dock, Creeping bent (*Agrostis stolonifera*), Red fescue (*Festuca rubra*), Meadow foxtail, Sweet vernal grass (*Anthoxanthum odoratum*) and Meadow buttercup (*Ranunculus acris*) were occasionally recorded. Meadowsweet (*Filipendula ulmaria*) (in patches), Marsh thistle (*Cirsium palustre*), Spear thistle (*Cirsium vulgare*), Creeping thistle, Curled dock (*Rumex crispus*) and Selfheal (*Prunella vulgaris*) were rarely recorded. There was evidence of past grazing by sheep and horses. The sward was c. 5-8 cm high with higher patches of Nettle, Meadowsweet and Dock. The habitat showed evidence of past improvement and included a number of species indicative of improvement such as Perennial rye grass, White clover and Common mouse ear. In addition, a large portion of the forb diversity was due to the presence of a number of common weed species typical of improved agricultural grassland.

The ecological valuation of the neutral grassland habitat is considered to be of local (lower value) importance.

Plate 2: Neutral grassland habitat within the study site.

Dry calcareous and neutral grassland (GS1)

A small area of dry calcareous and neutral grassland (GS1) habitat was recorded associated with a depression feature in the southeastern corner of the proposed development site. This habitat contained abundant Red fescue along with frequent Common knapweed, Ribwort plantain, Red clover and Lady's bedstraw (*Galium verum*). Common sorrel, Yorkshire fog, Common hogweed, Sweet vernal grass, Cocksfoot, Common bent and White clover were occasionally recorded. False oat grass, Silverweed (*Argentina anserina*), Common ragwort, Bulbous buttercup (*Ranunculus bulbosus*) and Birds-foot-trefoil (*Lotus corniculatus*) were rarely recorded.

There was no evidence of recent management (i.e. grazing or mowing) in this habitat. In addition, part of the habitat had been damaged by a bonfire with a fire scar and the remains of a burnt chair observed.

The small area of dry calcareous and neutral grassland habitat within the proposed development site does not correspond to EU Habitats Directive Annex I habitat type 'Semi-natural dry grasslands on calcareous substrates' (6210) (Priority habitat if an important orchid site) due insufficient numbers of high quality/positive indicator species and the presence of negative indicator species as outlined in the monitoring guidance for these habitats (Martin, J.R. *et al*, 2018) .

The ecological valuation of the dry calcareous and neutral grassland habitat is considered to be of local (higher value) importance.

Plate 3: Dry calcareous and neutral grassland habitat within the study site.

Dry meadows and grassy verges (GS2)

This habitat was recorded on the western side of the eastern smaller field on the southern side of the study site.

False oat grass was abundant along with frequent Yorkshire fog, Creeping thistle, Creeping buttercup and Common hogweed (*Heracleum sphondylium*). Common mouse ear, Rosebay willowherb (*Chamaenerion angustifolium*), Silverweed, Common couch, Meadow vetchling (*Lathyrus pratensis*), Creeping bent and Dock (*Rumex* sp.) were recorded occasionally. Cocksfoot, Nettle,. Lesser stitchwort (*Stellaria graminea*), Red clover and Germander speedwell (*Veronica chamaedrys*) were rarely recorded. There was no evidence of recent management, either mowing or grazing with a tall (0.75 to 1.0 m), coarse, rank sward.

These fields were recorded as dry meadows and grassy verges (GS2) due to the dominance of tall, coarse and tussocky grasses described in Fossitt (2000). However, there was no evidence of recent mowing and it is suspected that annual mowing has not been feature of recent management (i.e. little or no management).

The habitat was also recorded on a grassy bank and at the margins of the access track on the northeastern side of the study site. Species at these locations included abundant False oat grass along with frequent Meadowsweet. Meadow vetchling, Cocksfoot, Common couch, Creeping bent, Sweet vernal grass were recorded occasionally. Bush vetch (*Vicia sepium*), Silverweed, Compact rush (*Juncus conglomeratus*), Lesser stitchwort, Red clover and Timothy were rarely recorded.

A similar False oat grass dominated tall, coarse grassland habitat was recorded on the grassy bank along the access track. Additional species included Field horsetail (*Equisetum arvense*), Common hogweed, Bramble (*Rubus fruticosus* agg.), Willow (*Salix* sp.), Rosebay willowherb, Coltsfoot (*Tussilago farfara*), Hedge woundwort (*Stachys sylvatica*), Great willowherb (*Epilobium hirsutum*), Creeping thistle, Nettle and Bindweed (*Convolvulus* sp.). No evidence of mowing or grazing was recorded on the bank.

The dry meadows and grassy verges habitat within the proposed development site does not correspond to EU Habitats Directive Annex I habitat type 'Lowland hay meadows (*Alopecurus pratensis*, *Sanguisorba officinalis*) (6510)' due to insufficient numbers of high quality/positive indicator species and an over

abundance of negative indicator species for the habitat as outlined in the monitoring guidance for these habitats (Martin, J.R. *et al*, 2018) .

The ecological valuation of the neutral grassland habitat is considered to be of local (lower value) importance.

Plate 4: Dry meadows and grassy verges habitat within the study site.

Recolonising bare ground (ED3)/Semi-natural grassland (GS) mosaic

This habitat was recorded behind a grassy bank at the margin of the access road running along the eastern side of the study site and consisted of recolonising previously disturbed soil and gravel.

Species present included frequent Pointed Spear-moss (*Calliergonella cuspidata), Coltsfoot, Selfheal, Birds foot trefoil (Lotus corniculatus) and sedge (Carex sp). Hard rush, Willow, Creeping thistle and* Square-stalked St John's-wort (*Hypericum tetrapterum*) were occasionally recorded. Daisy (*Bellis perennis*) and Common spotted orchid (*Dactylorhiza fuchsii*) (single spike) were rarely recorded.

The ecological valuation of the recolonising bare ground/semi-natural grassland mosaic habitat is considered to be of local (lower value) importance.

Plate 5: Recolonising bare ground (ED3) habitat within the study site.

Hedgerows (WL1)

This habitat was recorded around the boundary of the study site and as field boundaries within the study site.

The hedgerow habitat contained a range of species including abundant Hawthorn (*Crataegus monogyna*) along with occasional Elder (*Sambucus nigra*), Hazel (*Corylus avellana*), Ash (*Fraxinus excelsior*) and Blackthorn (*Prunus spinosa*). Bramble, Ivy (*Hedera hibernica*) and Nettle were frequently recorded growing beneath along with occasional Spear thistle, Dock, Common dog violet (*Viola riviniana*), Nipplewort (*Lapsana communis*), False brome (*Brachypodium sylvaticum*), Common hogweed, Dog rose (*Rosa canina*), Primrose (*Primula vulgaris*), Male fern (*Dryopteris filix-mas*), Nettle and Ground Ivy (*Glechoma hederacea*). Lords and ladies (*Arum maculatum*) and Common figwort (*Scrophularia nodosa*) were rarely recorded. The hedgerows grew to c. 6-8 m high with occasional mature/semi mature trees (mainly Ash) at intervals.

The ecological valuation of the hedgerows habitat is considered to be of local (higher value) importance.

Plate 6: Hedgerows (WL1) habitat within the study site.

Scrub (WS1)

This habitat was recorded adjacent to the access road on the northeastern side of the study site and consisted of a Bramble dominated scrub with occasional Dogwood (*Cornus* sp.) and frequent Nettle. Hawthorn and Elder bushes were rarely recorded.

The ecological valuation of the scrub habitat is considered to be of local (lower value) importance.

Plate 7: Scrub (WS1) habitat within the study site.

Protected and Threatened Flora

No legally protected or species classified as threatened (Critical, Endangered and Vulnerable) and so included on the Ireland red list of vascular plants (Wyse Jackson *et al*, 2016) were recorded within the boundary of the proposed development site during the baseline survey.

Non-native Invasive Species

No species listed on the Third Schedule of the 2011 European Communities (Birds and Natural Habitats) Regulations (i.e. species of which it is an offense to disperse, spread or otherwise cause to grow in any place) were recorded within the proposed development site boundary.

Invasive alien plant species of European Union concern[4] (IAS Regulation 1143/2014) were not recorded within the proposed development site boundary.

Traveller's Joy (*Clematis vitalba*) was recorded at three locations around the margins of the smaller southern fields, scrambling over the existing hedgerow vegetation. This species is classified as 'risk of medium impact' invasive species (Kelly *et al*, 2013).

Montbretia (*Crocosmia x crocosmiiflora*) was recorded growing on the grassy bank close to the proposed entrance location for the proposed development. This species has not been risk assessed but has the potential to spread into habitats such as grasslands, roadsides, forests and riparian areas, where it can compete with native understory or ground vegetation[5].

[4] http://www.biodiversityireland.ie/projects/invasive-species/union-concern-ias/ (accessed 14/10/2021)

[5] https://invasivespeciesireland.com/species-accounts/established/terrestrial/montbretia (accessed 01/12/2021)

Snowberry was recorded along the laneway which runs adjacent to the eastern side of the proposed development site. This species has not been risk assessed but can displace native species by forming dense thickets by suckering[6].

[6] https://invasivespeciesireland.com/species-accounts/established/terrestrial/snowberry (accessed 01/12/2021)

Figure 3-3 Habitats within the Site Boundary.

3.4. Fauna in the Existing Environment

3.4.1. Birds

A total of 29 bird species were recorded during the baseline walkover surveys completed at the study site (Table 3-2).

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

Three *Red-listed* species (of high conservation concern in Ireland) were recorded for during the site visit and transect surveys; Swift (*Apus apus)*, Herring Gull (*Larus argentatus)* and Kestrel (*Falco tinnunculus)*. These species are on the Red List due to recent breeding population and range declines. Herring Gull was observed flying over the site during the walkover. Six Swifts were observed during the transects and Kestrel was spotted over 100m off site.

Amber-list species are those with an unfavourable conservation status in Europe; those whose population or range has declined moderately in recent years; those whose population has declined historically but made a substantial recent recovery; rare breeders; and those with internationally important or localised populations. Five Amber-listed species (of medium conservation concern in Ireland) were recorded for the study site (Table 3-2). Starling (*Sturnus vulgaris*), Linnet (*Linaria cannabina*), Swallow (*Hirundo rustica*), Lesser Black Backed Gull (*Larus fuscus)* and House Sparrow (*Passer domesticus)* are of European Conservation concern (SPEC 3), where the global population is concentrated outside of Europe (Gilbert *et al*. 2021).

The remaining species recorded for the study site are considered of no particular conservation concern in Ireland at present and are considered typical for the habitats present at, and/or in the immediate vicinity of the study site.

Overall, the diversity and abundance of bird species recorded is considered typical of the habitats present on the study site and in the immediate vicinity of the study site. Similar habitats are also present to a much greater extent in the wider landscape (*e.g.* hedgerows/wooded areas, arable crop, pastures, buildings and artificial surfaces and mature suburban gardens/amenity spaces).

Table 3-2 Avian Species recorded for the Study Site (using BoCCI 2020-2026 data).

Species Common/Scientific Name	*BoCCI Status
Robin *Erithacus rubecula*	Green
Blackbird *Turdus merula*	Green
Chaffinch *Fringilla coelebs*	Green
Wood Pigeon *Columba palumbus*	Green
Jackdaw *Corvus monedula*	Green
Starling *Sturnus vulgaris*	Amber
Wren *Troglodytes troglodytes*	Green
Rook *Corvus frugilegus*	Green
Hooded Crow *Corvus cornix*	Green
Buzzard *Buteo buteo*	Green
Dunnock *Prunella modularis*	Green
Blue Tit *Cyanistes caeruleus*	Green
Great Tit *Parus major*	Green
Song Thrush *Turdus philomelos*	Green
Linnet *Linaria cannabina*	Amber
Magpie *Pica pica*	Green
Swallow *Hirundo rustica*	Amber
Goldfinch *Carduelis carduelis*	Green
Willow Warbler *Phylloscopus trochilus*	Green
Greenfinch *Carduelis chloris*	Green
Lesser Black Backed Gull (F) *Larus fuscus*	Amber
Chiffchaff *Phylloscopus collybita*	Green
Swift *Apus apus*	Red

Species Common/Scientific Name	*BoCCI Status
Herring Gull (F) *Larus argentatus*	Red
House Martin *Delichon urbicum*	Amber
Bullfinch *Pyrrhula pyrrhula*	Green
Pheasant *Phasianus colchicus*	Green
Hooded Crow *Corvus cornix*	Green
Kestrel *Falco tinnunculus*	Red

*Species highlighted in orange are Amber-Listed and species in red are Red-Listed on the Birds of Conservation Concern in Ireland List (BoCCI List, Gilbert *et al.,* 2020-2026). (F) Flying over site

No bird species are listed on Annex I of the EU Birds Directive for the 2km grid square N04Q (NBDC online database). One *Red-listed* species of high conservation concern in Ireland was listed for the 2km grid square, Kestrel. No *Amber-listed* species of Conservation Concern were listed for the 2km grid square.

The bird species are recorded for the 2km grid square N04Q are listed below in Table 3-3 (NBDC online database). Kestrel have recently moved from the Amber list to the Red list of species due to changes in land use and in farming practices which has affected their prey, illegal shooting and poisoning and secondary poisoning via rodenticides. Once the most common and well-known bird of prey in the countryside Kestrel are now at high risk.

One Kestrel was recorded during the site walkover. However, it was spotted over 100m from the study site.

Table 3-3 Bird species and species of conservation concern recorded for the relevant 2km grid square overlapping the study site

Species	No. of Records	Last known Record	*BoCCI Conservation Status
Kestrel *Falco tinnunculus*	1	2011	Red
Buzzard *Buteo buteo*	3	2017	Green

*Birds of Conservation Concern in Ireland 2020-2026 Gilbert *et al.,*

Wild bird species are protected under the Irish Wildlife Acts (1976 - 2012), where it is an offence to hunt, interfere with or destroy their breeding or resting places (unless under statutory licence/permission).

In general, the study site contains limited foraging, commuting, breeding and resting habitats for any of the listed bird species. The open nature and regularly disturbed, rank, bare substrates, with limited woody

vegetation and/or linear features, is such that the site study is of low local importance for the local avian community.

3.4.2. Terrestrial Mammals

There were few direct sightings or signs of any mammal species made during the baseline site surveys undertaken for the study site. An adult Fox was seen on the visit on 8th July and there were frequent observations of Rabbit made during both site visits, particularly in the small fields at the south of the proposed development site.

The analysis of the trail cameras deployed at the site recorded relatively limited mammal activity during the period of deployment.

Three trail cameras were placed on site. Their locations can be seen in Figure 3-4. All three cameras had records of Fox, *Vulpes vulpes*. Fox are of Least Concern in Ireland (Marnell *et al*. 2019) and are offered no legal protection here. The two subsequent cameras recorded one domestic cat, three accounts of brown rat, four wood mice and two domestic dogs.

Badger *Meles meles* have been recorded for the 2km grid square; N04Q overlapping the study site. Badger are of Least Concern in Ireland at present (Marnell et al. 2009). Badger are protected under the Irish Wildlife Acts (1976 – 2000). Further species recorded in the 2km grid square NBDC corresponding with the site are listed below in Table 3-4.

No Badger *Meles meles* or signs of Badger were recorded during field assessments undertaken at the study site (*e.g.* setts, latrines, feeding signs *etc*.). The nature of the proposed site is such that it provides extremely limited foraging (*e.g.* earthworms and other invertebrates, see Byrne *et al.* 2012) and no suitable breeding habitat for Badger at present. Ongoing/regular human disturbance (*e.g.* residential and nearby construction activity) may deter mammals such as Badger for using the site on a regular basis.

The study site contains extremely limited foraging, commuting, breeding and resting habitats for the mammal species recorded in general. The mammal fauna recorded for the study site are terrestrial species listed of 'Least Concern' in the Irish Red Data Book of Mammals (Marnell *et al*., 2019) and the proposed site is of low local importance for mammal (non-volant) species.

Breeding fox and cubs were noted close to the study site on the trail camera on the eastern hedge, but no den was found on-site. The cubs were several months old, and they are commonly observed a good distance from the natal site at that age (G. Fennessy pers obs).

Figure 3-4 Trail Camera Locations

Table 3-4 Overall summary of mammals (non-volant) listed for the 2km grid (N04Q) square overlapping the study site.

Species	No. of Records 2km Grid Square N04Q	Last known Record	Conservation Status (after Marnell *et al* 2019)
Badger *Meles meles*	1	2013	Least Concern
Red Squirrel *Sciurus vulgaris*	2	2017	Least Concern
Rabbit *Oryctolagus cuniculus*	3	2018	Least Concern
Irish Hare *Lepus timidus subsp. hibernicus*	2	2017	Least Concern
Pine Marten *Martes martes*	1	2014	Least Concern
Red Fox *Vulpes vulpes*	4	2018	Least Concern
Hedgehog *Erinaceus europaeus*	1	2010	Least Concern

3.4.3. Bats

The vegetation along the field boundaries was visually assessed as having low potential for roosting bats and no Potential Roost Features (PRFs) were identified. As the study site also does not have any buildings/structures attractive to roosting bats, an active emergence/return study was not undertaken. Two passive bat detectors (Wildlife Acoustics SM4) were deployed within the study site.

The deployment of the passive bat detectors at the site recorded relatively limited activity for foraging and commuting bats. In all five species were confirmed present, three of which are the most common and widespread of the Irish bat species: Common Pipistrelle, *Pipistrellus pipistrellus*, Soprano Pipistrelle,

Pipistrellus pygmaeus and Leisler's Bat, *Nyctalus leisleri* which made up the majority of registrations detected. There were also a limited number of records of a 40/50kHZ Pipistrelle and Brown Long Eared Bat *Plecotus auritus.*

No bat species have been historically recorded in the wider overlapping area (2km N04Q after NBDC database), which is more likely due to a lack of historical survey effort at the wider area rather than an actual absence of bats. Lundy *et al.* (2011) suggests that the study site is part of a landscape that has a low-moderate resource value for bat species.

There are no permanent/transient roosting opportunities for bats at the study site due to the lack of suitable structures *(i.e.* metal sheds and buildings and lack of mature trees).

The bat species identified at the study site are considered to be relatively widespread and common nationally (Lysaght & Marnell 2016, Roche *et al.* 2014, Marnell *et al*. 2019) and are largely considered to be of least concern in terms of conservation status. All bat species occurring in Ireland are legally protected under the Irish Wildlife Acts (1976 - 2018), where it is an offence to hunt or interfere with or destroy their breeding or resting places (unless under statutory licence / permission). Furthermore, all bat species are listed on Annex IV of the EU Habitats Directive as species requiring strict protection.

The study site currently provides some feeding opportunities for bats through the presence of linear/edge hedgerow habitat features on the southern boundary of the study site. While the study site does not currently support roosting opportunities for bats, such existing linear/edge features will support commuting/feeding bats associated with roosts in the wider area also. The study site is therefore considered to be of low-moderate local value for bats overall.

Table 3-5 Overall summary of Bat species recorded during site surveys

Species	No. of Records at Location 1	No. of Records at Location 2	Conservation Status (after Marnell *et al* 2019)
Leisler's Bat	205	124	Least Concern
Common Pipistrelle	1739	1334	Least Concern
Soprano Pipistrelle	73	12	Least Concern
Brown Long Eared Bat	1	0	Least Concern
40/50 kHz Pipistrelle	26	14	Least Concern

3.4.4. Other Taxa

Other taxa recorded for the study site include butterfly species Meadow Brown *Maniola jurtina*, Small Tortoiseshell *Aglais urticae*, Green-veined White *Pieris napi* and Ringlet *Aphantopus hyperantus*. Bumblebee species found during the site walkover included Red-tailed bumblebee *Bombus (Melanobombus) lapidarius,* Common Carder bee *Bombus pascuorum* and *Bombus lucorum agg*.

Ringlet and Green-veined White are of least concern in Ireland at present (Regan *et al*. 2010). Red Tailed Bumble Bee is listed as Near-Threatened, while Common Carder Bee and *Bombus lucorum agg*. are of least concern in Ireland at present (Fitzpatrick *et al*. 2006).

Other species documented for the 2km grid square N04Q overlapping the study site are listed below in Table 3-6.

In general, recolonising bareground (ED3), improved agricultural grassland (GA1) and small areas of dry calcareous and neutral grassland (GS1) present at the study site provides a limited source of food for invertebrates such as butterflies and bees. Overall, due to the modified, disturbed and/or transient nature of the habitats present, they are considered of lower local value for most other taxa species at present.

Table 3-6 Summary of other taxa species, recorded as during the site assessments and/or listed for the 2k grid square that overlap the study site (after NBDC online database)

Species	No. of Records N04Q	Last known Record	Conservation Status (after Regan *et al* 2009, Fitzpatrick *et al* 2006).)
Green-veined White *Pieris napi*	10	2018	Least Concern
Speckled Wood *Pararge aegeria*	11	2018	Least Concern
Holly Blue *Celastrina argiolus*	2	2017	Least Concern
Large White *Pieris brassicae*	1	2017	Least Concern
Orange-tip *Anthocharis cardamines*	9	2018	Least Concern
Small Tortoiseshell *Aglais urticae*	7	2017	Least Concern
Brimstone *Gonepteryx rhamni*	13	2020	Least Concern

Species	No. of Records N04Q	Last known Record	Conservation Status (after Regan *et al* 2009, Fitzpatrick *et al* 2006).)
Common Blue *Polyommatus icarus*	5	2017	Least Concern
Green Hairstreak *Callophrys rubi*	1	2017	Least Concern
Painted Lady *Vanessa cardui*	1	2017	Least Concern
Peacock *Inachis io*	16	2020	Least Concern
Red Admiral *Vanessa atalanta*	5	2017	Least Concern
Silver-washed Fritillary *Argynnis paphia*	2	2018	Least Concern
Wood White *Leptidea sp.*	3	2017	Near Threatened
Early Bumble Bee *Bombus Pyrobombus pratorum*	1	2014	Least Concern

3.5. Overall Site Evaluation

Overall based on this current assessment, the study site is of lower local importance to biodiversity. The main habitats which will be directly impacted by the proposed development included Dry calcareous and neutral grassland (GS1), Improved agricultural grassland (GA1) and Dry meadows and grassy verges (GS2).

Given the habitats present the study site is of lower local importance for general birds, mammals (non-volant), bats and other taxa overall.

Potential impacts arising from the proposed development on existing biodiversity of the site and wider locality, which may arise during construction and/or operation, are considered further below.

4. Potential Impacts

Potential impacts of the proposed residential development on ecology are discussed below.

4.1. Potential Effects on Designated Sites

The study site is not part of any designated wildlife conservation site. A Screening Report in support of the Appropriate Assessment (AA) process has concluded that there is no likelihood of significant effects on any Natura 2000 site as a result of the proposed development.

Construction Phase

Indirect habitat loss or deterioration of designated sites within the surrounding area can occur from the effects of run-off or discharge into the aquatic environment through impacts such as increased siltation, nutrient release and/or contamination. Given the nature of the habitats present, the absence of any watercourses on site, the use of SuDS and that surface water from the site will be attenuated before connecting with the municipal system and the standard construction management that will be employed at the site (as described in the CEMP) there is no concern in relation to run-off or pollution from the construction site.

Operational Phase

Indirect habitat loss or deterioration of designated sites within the surrounding area can occur from the effects of run-off or discharge into the aquatic environment through impacts such as increased siltation, nutrient release and/or contamination. Mitigation measures shall be implemented during the operational phase of the works to prevent any impacts on the surrounding sites.

4.2 Potential Effects on Habitats and Flora

Habitats listed on Annex I of the EU Habitats Directive were not recorded within the proposed development site boundary. Botanical species protected under the Flora (Protection) Order 2015, listed in the EU Habitats Directive (92/43/EEC) or species classified as threatened (Critical, Endangered and Vulnerable) and so included on the Ireland red list of vascular plants (Wyse Jackson *et al*, 2016) were not recorded during the site survey.

The habitats present within the proposed development site boundary are considered to be of local importance (lower value) (e.g. semi-improved agricultural grassland, neutral grassland, dry meadows and grassy verges and bramble scrub) and local importance (higher value) (e.g. hedgerows and dry calcareous and neutral grassland)

The main area of the proposed development will result in the permanent loss of grassland habitats that have been modified for agricultural land use value (i.e. northern and southwestern fields) and/or have subsequently been abandoned with no evidence of recent management (western side of eastern small field). These habitats have been evaluated as being of lower local value. The small area of dry calcareous grassland has been evaluated as higher local value will also be permanently lost due to the proposed development.

Existing hedgerow habitat along the western, northern and eastern boundary along with much of the internal field boundaries will be permanently removed to facilitate the proposed development. This habitat has been evaluated as being of higher local value.

The permanent loss of these habitats as a result of the proposed development will result in a moderate, negative effect.

The southern boundary hedgerow will be retained along the greenway, apart for 2 access points. In addition, part of the central hedgerow separating the large field from the smaller southern fields will also be retained. An existing Ash tree in the western boundary is also to be retained.

The proposed development includes a landscaping master plan (Forest Bird Design Drawing L101 to L103). The plan outlines a number of measures that will be undertaken in the landscaping of the proposed development to mitigate for the impact of the proposed development and provide opportunities within the proposed development for native wildlife including birds and pollinating insects.

The proposed landscaping plan includes the following elements; A biodiversity and public foraging corridor is proposed along the western boundary of site (c. 240 m). This will consist of native species for example Hazel, Crab apple and Elder along with currant species. Green buffers will be provided along the eastern boundary which will include a verge of avenue tree planting and a gentle swale for stormwater collection in accordance with SuDS best practice. The trees will act as a commuting corridor and the biodiverse swale will provide rich linking habitat. Trees such as Maple, Lime and Oak will be planted at 8 m intervals. The proposed urban tree planting schedule will result in the establishment of c. 275 no. trees. There will also be a 3-6 m wide native damp meadow/wildflowers area and a section of verge with mown grass. On the east boundary of the proposed site a native hedgerow will be planted to bound the gravel overflow car park near the Greenway. The proposed planting of treelines in the landscaping plan will provide linear habitats and connectivity around and through the site (for e.g. bats and birds) and will link up with existing linear habitats in the surrounding area in line with Article 10 of the EU Habitats Directive.

In addition to the tree planting elements, the landscaping plan was developed with cognisance of the recommendations of the All-Ireland Pollinator Plan 2021-2025 (and associated guidance documents) both in terms of retention of some pollinator-friendly features currently on site (i.e. southern boundary and part of the internal hedgerow, etc.) as well as the selection of native species, where possible, for the planting scheme as well as pollinator friendly non-natives where required. Furthermore, the plan proposes suitable ongoing management for elements of the landscaping to provide gains for pollinating insects and wildlife generally across the site.

Overall, the predicted impact on habitats as a result of the proposed development is a moderate, negative effect. With the successful implantation of the proposed landscaping plan including (tree planting, wildflower meadows, pollinator friendly landscaping measures, etc) the predicted impact on habitats as a result of the proposed development is a slight, negative effect; in particular as the proposed landscaping measures mature within the site.

Non-native, potentially invasive plant species were recorded within the proposed development site, notably 'risk of medium impact' Traveller's Joy as well as Snowberry and Montbretia. It is recommended that a suitably experienced contractor is employed to undertake an invasive species eradication

programme at the site in line with best available methods of control and eradication (e.g. NRA Guidelines (2010); Fennell *et al*. (2018) to ensure that non-native, potentially invasive plant species are not spread across the site during development and/or to surrounding areas due to construction activities.

4.2. Potential Effects on Fauna

The study site is of lower local importance for most fauna overall. While there are no suitable buildings or mature trees for roosting bat species, sections of the study site boundaries to the east and south *i.e.* hedgerows (WL1; some with a good proportion of mature trees) are of some local importance for commuting/foraging bat species in general. The largely modified habitats of the study site also provide some (albeit) extremely limited commuting, roosting, breeding and feeding opportunities for fauna in general. The extent of these habitats is relatively limited, given the overall size of the study site and considering that most of the study site area (*i.e.* proposed development footprint) is comprised of Dry calcareous and neutral grassland (GS1), Improved agricultural grassland (GA1) and Dry meadows and grassy verges (GS2) of negligible ecological value or lower local importance at present.

There will be a slight permanent increase in modified habitat; buildings and artificial surfaces (BL3; of no appreciable ecological value), as a result of the proposed development. This increase will have a imperceptible-neutral impact on general fauna, where the extent of suitable habitat is already relatively limited, given the overall size of the study site and that most of the study site area (*i.e.* proposed development footprint) in question is already comprised of similar modified habitats. Similar habitats are also available in the surrounding suburban/rural/agricultural environment in the wider area (to the south, west and north) such that any affected fauna can move into the hinterland.

The study site currently provides some commuting and feeding opportunities for bats through the presence of linear/edge habitat features i.e. hedgerow (WL1) to the south of the study site. While the study site does not currently support roosting opportunities for bats, existing linear/edge features will support commuting/feeding bats associated with roosts in the wider area. However, the linear habitats present will be maintained as is such that impacts on bat species are not anticipated.

Works and associated activities arising from construction of the proposed development may lead to a disturbance of fauna through displacement at and close to the study site in general. However, the study site is already comprised/adjacent to a modified and/or built environment and as such fauna may already be relatively tolerant of human disturbance. As previously mentioned, similar and potentially more suitable habitats are available in the surrounding landscape so that affected fauna, including bats, can disperse into the wider area if disturbed/displaced during the construction phase.

For some fauna (*i.e.* active at dusk/night/early dawn), in particular bats, disturbance displacement can also arise as a result of artificial lighting, where most bat species are negatively affected by artificial light in general (see Bat Conservation Ireland 2010, Stone 2013). With the exception of health and safety lighting, during the construction phase of the proposed development the construction site will not be lit at night (with the exception of low-level switchable safety lighting). Pole mounted lighting will be provided in the site to cater for the access road, parking areas and shared walkways. Lighting will also be provided to the pedestrian links at the western environs road on western site boundary. Lighting will be focussed on the access roads and pathways and away from neighbouring sites. During the operation phase of the proposed development all additional lighting systems have been designed to minimise nuisance through light spillage. There will be

minimal light spill onto adjoining areas. Lights will be controlled via light sensors and will be turned off at a pre-determined time using photocell and time clock control.

Operational Phase Impacts

There will be ongoing human activity/vehicular disturbance during the operational phase of the proposed development which may lead to a slight increase in noise and night-time lighting levels at the site (due to the proposed increase in residential occupancy). However, fauna species confirmed present at the site are likely to be already relatively tolerant of noise and other human disturbances as the proposed development site is already immediately adjacent to operational developments and as such there is no predicted significant effect on faunal species as a result of disturbance associated with the operational phase of the proposed development.

The planting described in the Landscaping Masterplan will lead to a neutral impact on existing semi-natural habitat and flora present at the site and surrounding locality and may lead to a slight positive or net gain in biodiversity in the longer term. A variety of planting techniques will be utilised including a biodiversity and public foraging corridor, green buffers, native hedgerows and wildflower meadows. A variety of tree and flowering shrubs species will provide significant ecological benefits.

5. Mitigation Measures

The following mitigation measures will be implemented as part of the proposed project in order to minimise the potential effects on the existing ecology as discussed above. No bespoke mitigation measures are required for the protection of designated sites. The environmental management commitments provided in the planning phase Construction and Environmental Plan (CEMP) that accompanies this planning application (ORS, 2021) will be fully implemented.

5.1. Mitigation Measures for Habitats and Flora

- No permanent removal/damage of habitats or movement of construction machinery will occur outside of the development works area/footprint during the construction phase, where the development site works area/footprint will be clearly marked for associated site staff.

- Trees and hedgerows that have been identified for retention will be protected in line with current guidelines (*e.g*. NRA 2006).

- As outlined above, the proposed landscaping plan for the proposed development has been developed in cognisance of the recommendations of the All-Ireland Pollinator Plan 2021-2025 (and associated guidance documents) both in terms of native species selection, where possible, and pollinator friendly non-natives where required and the ongoing management of elements of the landscaping to provide gains for pollinating insects and wildlife generally across the site.

- A suitably experienced ecologist will undertake an invasive species survey prior to the commencement of works to update the current survey results and if any changes to the species present has occurred, update the outline invasive species management plan accordingly.

- A suitably experienced contractor is employed to undertake an invasive species eradication programme at the site in line with best available methods of control and eradication (e.g. Maguire et al, 2008; NRA Guidelines (2010); Fennell *et al*. (2018) to ensure that non-native, potentially invasive plant species are not spread across the site during development and/or to surrounding areas due to construction activities.

5.2. Mitigation Measures for Fauna

- All excavations/trenches should be covered at night or a suitable means of escape provided for nocturnal mammals such as Badger.

- Light spill into possible bat foraging areas will be minimised into the adjacent tree areas to lower potential effects on foraging/commuting bats by utilising asymmetric flat glass directional LED fittings.

- Construction works will be carried out according to standard environmental controls and according the commitments provided in the CEMP (e.g. dust suppression, run-off control; see CIRIA 2001 & 2010).

- For instance, the management of edible and putrescible waste will be according to the measures outlined in the CEWMP. Waste will be stored appropriately in covered and segregated bins for disposal at approved licensed facilities.

- Any excavations that become inundated will be checked daily for the presence of Frog (and/or if in the early part of the year, Frog Spawn). If Frogs, or their spawn, are discovered these will be translocated under licence to a suitable site by a qualified ecologist

- A pre-works walkover will be carried out by a qualified ecologist to identify the presence of any protected fauna on-site. In the event that protected fauna are found actively using the site for breeding/roosting (*e.g.* bird nest, bat roost) at any stage during the construction phase, works will cease immediately and the area will be cordoned off until advice is sought from a suitably qualified/experienced ecologist.

5.3. Cumulative Effects

Cumulative & in combination Effects

In order to fully assess the potential impact of the proposed development on Natura 2000 sites, the project must be assessed alone or in combination with existing activities and proposed plans for the region. A separate planning applicant had been submitted for a further SHD of 576 no. residential dwellings at a site adjacent to the proposed development. This is summarised below in Table 5-1.

Potential cumulative effects in relation to other developments include construction related surface-water run-off, where qualifying interests associated with the nearby Natura 2000 sites could be subject to cumulative impact through hydrological or water quality impacts such as increased siltation, nutrient release and contaminated run-off arising from other developments. This project has been considered on its own and in relation to the potential for any cumulative or in combination impacts arising from any combination of the project proceeding in the future.

Taking the above into consideration, along with the proposed environmental management and controls integrated into the project design here and for other projects planned or proposed in the area cumulative and in-combination effects relating to other developments are not considered to be relevant in this case.

Table 5-1 Planning Applications in the vicinity of the proposed works.

Name of Plan/Project	Ref.Number	Address	Description of proposed development	Hyperlink to application on Planning Authority website
An Bord Pleanála	309513	Townlands of Lissywollen, Kilnafaddoge and Retreat, and partially traversing the townlands of Curragh, Cloghanboy (Strain) and Cloghanboy (Homan), Athlone, Co. Westmeath	576 no. residential dwellings (285 no. houses, 291 no. apartments), creche and associated works.	https://www.pleanala.ie/en-ie/case/309513

5.4. Do nothing scenario

With regard to the 'do-nothing' scenario, it is assumed that, without permission, the site will continue to operate as is permitted to do so at present. Therefore, improved agricultural grassland (GA1) will remain the dominant habitat and tend towards rank grassland. Semi-natural grassland (GS1), hedgerows (WL1) and recolonising bareground (ED2) will also persist as they are now.

6. Residual Effects and Conclusion

The study site under consideration is of low local importance overall, in relation to biodiversity. Along with the successful implementation of the mitigation measures and the Landscaping Plan as outlined in this EcIA and the accompanying documents will minimise the potential impacts of the proposed development on local biodiversity such that its residual impact on habitats, flora and fauna will be imperceptible neutral overall.

Potential impacts on ecology as a result of the proposed development are largely confined to the construction phase, (approx. 24-36 months) and will be localised and short-term in nature due to the low value of the habitats present and the design and site management commitments presented. No significant negative impacts have been identified on designated sites, habitats, flora or fauna as a result of the proposed development and the associated landscape plan (that will result in a net-gain of new native hedgerow and treeline in the longer term). This will in time enhance the ecological connectivity of the site with the surrounding area.

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Appendix A

Biodiversity Evaluation Criteria (after Nairn & Fossitt, 2004).

Biodiversity Evaluation Criteria
International Importance: ▪ 'European Site 'including Special Area of Conservation (SAC), Site of Community Importance (SCI), Special Protection Area (SPA) or proposed Special Area of Conservation. ▪ Proposed Special Protection Area (pSPA). ▪ Site that fulfils the criteria for designation as a 'European Site' (see Annex III of the Habitats Directive, as amended). ▪ Features essential to maintaining the coherence of the Natura 2000 Network. ▪ Site containing 'best examples' of the habitat types listed in Annex I of the Habitats Directive. ▪ Resident or regularly occurring populations (assessed to be important at the national level*) of the following: - Species of bird listed in Annex I and/or referred to in Article 4(2) of the Birds Directive and/or; - Species of animal and plants listed in Annex II and/or IV of the Habitats Directive. ▪ Ramsar Site (Convention on Wetlands of International Importance Especially Waterfowl Habitat 1971). ▪ World Heritage Site (Convention for the Protection of World Cultural & Natural Heritage, 1972). ▪ Biosphere Reserve (UNESCO Man & The Biosphere Programme). ▪ 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). ▪ Major salmon river fisheries.
National Importance: ▪ Site designated or proposed as a Natural Heritage Area (NHA). ▪ Statutory Nature Reserve. ▪ Refuge for Fauna and Flora protected under the Wildlife Acts. ▪ National Park. ▪ Undesignated site fulfilling the criteria for designation as a Natural Heritage Area (NHA); Statutory Nature Reserve; Refuge for Fauna and Flora protected under the Wildlife Act; and/or a National Park. ▪ Resident or regularly occurring populations (assessed to be important at the national level*) of the following: - Species protected under the Wildlife Acts; and/or - Species listed on the relevant Red Data list. ▪ Site containing 'viable areas'** of the habitat types listed in Annex I of the Habitats Directive. ▪ Major trout river fisheries. ▪ Commercially important coarse fisheries. ▪ Waterbodies with major amenity fishery value.
County Importance: ▪ Area of Special Amenity^. ▪ Area subject to a Tree Preservation Order^. ▪ Area of High Amenity^, or equivalent, designated under the County Development Plan.

Biodiversity Evaluation Criteria
▪ Resident or regularly occurring populations (assessed to be important at the County level*) of the following: - Species of bird listed in Annex I and/or referred to in Article 4(2) of the Birds Directive; - Species of animal and plants listed in Annex II and/or IV of the Habitats Directive; - Species protected under the Wildlife Acts; and/or - Species listed on the relevant Red Data list. ▪ 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 Biodiversity Action Plan (BAP) if this has been prepared. ▪ Sites containing semi-natural habitat types with high biodiversity in a county context and a high degree of naturalness, or populations of species that are uncommon within the county. ▪ Sites containing habitats and species that are rare or are undergoing a decline in quality or extent at a national level. ▪ Small waterbodies with known salmonid populations or with good potential salmonid habitat. ▪ Large waterbodies with some coarse fisheries value.
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. ▪ Small waterbodies with some coarse fisheries value or some potential salmonid habitat. ▪ Waterbodies with unpolluted 'High' water quality status (Q4-5, Q5).
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. ▪ Waterbodies with no current fisheries value, no significant potential fisheries value, poor fisheries habitat.