Canal Extension Clonburris

Residential Development

Ecological Impact Assessment




Prepared By:

Moore Group -
Environmental Services

On behalf of:
South Dublin County Council

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Project	Canal Extension Clonburris Residential Development
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1. INTRODUCTION

Moore Group was commissioned by South Dublin County Council (SDCC) to undertake a Habitat Survey and EcIA of the site of a proposed Residential Development; Canal Extension at Clonburris, referred to as the 'Proposed Development' (see Figure 1 for the site location).

The existing habitats in the site location (see Figure 2 for a recent aerial view) comprise an area if grassland that has been historically managed by SDCC as a mixture of amenity grassland and more recently with unmown areas reverting to semi-natural grassland with a meadow type habitat developing. The area is bounded by the green corridor of the Grand Canal to the north and by the existing Ashwood Estates to the south. The proposed development would be an extension of this residential area. There is a area of mown amenity grassland to the east adjacent to the R113 and the managed grassland continues to the west adjacent to the Lindisfarne Estates.

The habitat of greatest Ecological Value in the area is the Grand Canal which is designated as a proposed Natural Heritage Area (pNHA). The section of canal adjacent stretches from the 10th to 11th Locks for a distance of just under 300m.

This report provides information on ecological features if present within the potential Zone of Influence of the Proposed Development, of particular significance, primarily designated habitats and species, including habitats/species listed in Annex I, II and IV of the EU Habitats Directive, rare flora listed in the Flora Protection Order along with other semi-natural habitats of conservational value.

This report was compiled by Ger O'Donohoe M.Sc. of Moore Group providing information on habitats in the study area. Ger is the principal ecologist with Moore Group and has over 27 years' experience in ecological impact assessment. He graduated from GMIT in 1993 with a B.Sc. in Applied Freshwater & Marine Biology and subsequently worked in environmental consultancy while completing an M.Sc. in Environmental Sciences, graduating from Trinity College, Dublin in 1999. (He also has over 15 years' experience of carrying out bat surveys and has completed the Bat Conservation Ireland, Bat Detector Workshop which is the standard training for the carrying out of bat surveys in Ireland and follows the Bat Conservation Ireland 'Bat Survey Guidelines' (Aughney et al., 2008). In addition, Ger is an active member of the Galway Bat Group and Bat Conservation Ireland, which monitors bat populations in Ireland, and facilitates the education of bat communities to the public.)

The interpretation of Bat Survey results was undertaken by John Curtin or Éire Ecology. John is a member of the Bat Conservation Ireland Committee and an experienced bat specialist.

The following important ecological receptors were considered in planning and designing the project, and in assessing its likely ecological effects:

- Sites with nature conservation designations, including proposed NHAs, the reasons for their designation, and their conservation objectives, where available;
- Annex IV (Habitats Directive) species of fauna and flora, and their breeding sites and resting places, which are strictly protected under the European Communities (Birds and Natural Habitats) Regulations, 2011;
- Other species of fauna and flora which are protected under the Wildlife Acts, 1976-2012;
- *'Protected species and natural habitats'*, as defined in the Environmental Liability Directive (2004/35/EC) and European Communities (Environmental Liability) Regulations, 2008, including:
    - Birds Directive – Annex I species and other regularly occurring migratory species, and their habitats (wherever they occur);
    - Habitats Directive – Annex I habitats, Annex II species and their habitats, and Annex IV species and their breeding sites and resting places (wherever they occur);
- Other habitats of ecological value in a national to local context, including rocky habitats in the general area;
- Stepping stones and ecological corridors encapsulated by Article 10 of the Habitats Directive.

The report has been compiled in compliance with the European Communities Legal requirements and follows EPA Draft Guidelines on Information to be contained in an EIAR (EPA, 2017) and on Transport Infrastructure Ireland TII policy and guidance outlined in Section 2.

The European Habitats Directive 92/43/EEC (Article 6) indicates the need for plans and projects to be subject to Habitats Directive Assessment (also known as Appropriate Assessment) if the plan or project not directly connected with or necessary to the management of a Natura 2000 site (which includes SACs and SPAs) but which has the potential to have implications on a site's conservation objectives. These implications can be significant effects either individually or in combination with other plans or projects.

As such, a report for the purposes of Appropriate Assessment Screening was undertaken by Moore Group for the proposed development in support of the application. This stand-alone report is presented separately as part of the design package for the Project.

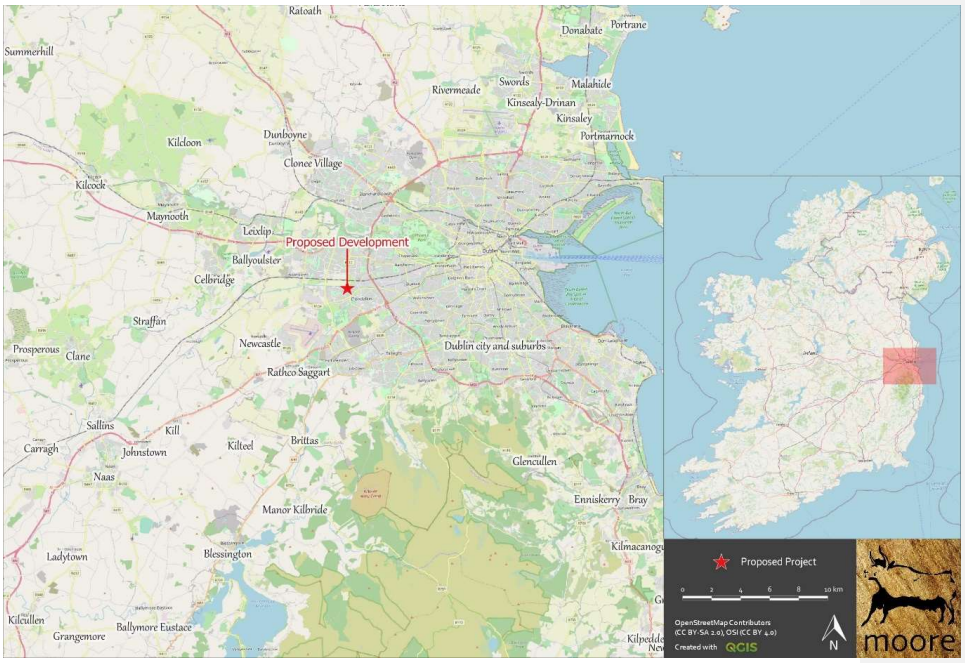

Figure 1. Showing the site location at Clonburris, South County Dublin.

Figure 2. Showing the site boundary on aerial photography.

2. ASSESSMENT METHODOLOGY

2.1. POLICY & LEGISLATION

2.1.1. EU Habitats Directive

The "*Habitats Directive*" (Council Directive 92/43/EEC on the Conservation of Natural Habitats and of Wild Flora and Fauna) is the main legislative instrument for the protection and conservation of biodiversity within the European Union and lists certain habitats and species that must be protected within wildlife conservation areas, considered to be important at a European as well as at a national level. A "*Special Conservation Area*" or SAC is a designation under the Habitats Directive. The Habitats Directive sets out the protocol for the protection and management of SACs.

The Directive sets out key elements of the system of protection including the requirement for "*Appropriate Assessment*" of plans and projects. The requirements for an Appropriate Assessment are set out in the EU Habitats Directive. Articles 6(3) and 6(4) of the Directive.

2.1.2. EU Birds Directive

The "*Birds Directive*" (Council Directive 79/409/EEC as amended by Directive 2009/147/EC) provides for a network of sites in all member states to protect birds at their breeding, feeding, roosting and wintering areas. This directive identifies species that are rare, in danger of extinction or vulnerable to changes in habitat and which need protection (Annex I species). Appendix I indicates Annex I bird species as listed on the Birds Directive. A "*Special Protection Area*" or SPA, is a designation under The Birds Directive.

Special Areas of Conservation and Special Protection Areas form a pan-European network of protected sites known as Natura 2000 sites and any plan or project that has the potential to impact upon a Natura 2000 site requires appropriate assessment.

2.1.3. Wildlife Acts 1976 - 2012

The primary domestic legislation providing for the protection of wildlife in general, and the control of some activities adversely impacting upon wildlife is the Wildlife Act of 1976. The aims of the wildlife act according to the National Parks and Wildlife Service are "... *to provide for the protection and conservation of wild fauna and flora, to conserve a representative sample of important ecosystems, to provide for the development and protection of game resources and to regulate their exploitation, and to provide the services necessary to accomplish such aims*." All bird species are protected under the act. The Wildlife (Amendment) Act of 2000 amended the original Act to improve the effectiveness of the Act to achieve its aims.

2.1.4. South Dublin County Council Planning Policies & Objectives

This EcIA was prepared with consideration of the following policies and objectives of the South Dublin County Development Plan (2022-2028):

IE2 Objective 9: To protect water bodies and watercourses, including rivers, streams, associated undeveloped riparian strips, wetlands and natural floodplains, within the County from inappropriate development. This will include protection buffers in riverine and wetland areas as appropriate (see also Objective G3 Objective 2 – Biodiversity Protection Zone).

G1 Objective 1: To establish a coherent, integrated and evolving Green Infrastructure network across South Dublin County with parks, open spaces, hedgerows, grasslands, protected areas, and rivers and streams forming the strategic links and to integrate the objectives of the Green Infrastructure Strategy throughout all relevant Council plans, such as Local Area Plans and other approved plans.

G2 Objective 2:To protect and enhance the biodiversity value and ecological function of the Green Infrastructure network.

G2 Objective 8: To provide for the incorporation of Eco-ducts and/or Green Bridges at ecologically sensitive locations on the County's road and rail corridors that will facilitate the free movement of people and species through the urban and rural environment.

G2 Objective 9: To preserve, protect and augment trees, groups of trees, woodlands and hedgerows within the County by increasing tree canopy coverage using locally native species and by incorporating them within design proposals and supporting their integration into the Green Infrastructure network.

G2 Objective 11: To incorporate appropriate elements of Green Infrastructure e.g. new tree planting, grass verges, planters etc. into existing areas of hard infrastructure wherever possible, thereby integrating these areas of existing urban environment into the overall Green Infrastructure network.

G2 Objective 12: To seek to control and manage non-native invasive species and to develop strategies with relevant stakeholders to assist in the control of these species throughout the County.

G3 Objective 2: To maintain a biodiversity protection zone of not less than 10 metres from the top of the bank of all watercourses in the County, with the full extent of the protection zone to be determined on a case by case basis by the Planning Authority, based on site specific characteristics and sensitivities. Strategic Green Routes and Trails identified in the South Dublin Tourism Strategy, 2015; the Greater Dublin Area Strategic Cycle Network; and other government plans or programmes will be open for consideration within the biodiversity protection zone, subject to appropriate safeguards and assessments, as these routes increase the accessibility of the Green Infrastructure network.

G3 Objective 5: To restrict the encroachment of development on watercourses, and provide for protection measures to watercourses and their banks, including but not limited to: the prevention of pollution of the watercourse, the protection of the river bank from erosion, the retention and/or provision of wildlife corridors and the protection from light spill in sensitive locations, including during construction of permitted development.

G4 Objective 4: To minimise the environmental impact of external lighting at sensitive locations within the Green Infrastructure network to achieve a sustainable balance between the recreational needs of an area, the safety of walking and cycling routes and the protection of light sensitive species such as bats.

G4 Objective 5: To promote the planting of woodlands, forestry, community gardens, allotments and parkland meadows within the County's open spaces and parks.

G4 Objective 7: To avoid the cumulative fragmentation and loss of ecologically sensitive areas of the Green Infrastructure network to artificial surfaces and to position recreational facilities that incorporate artificial surfaces at appropriate community-based locations.

G6 Objective 1: To protect and enhance existing ecological features including tree stands, woodlands, hedgerows and watercourses in all new developments as an essential part of the design process.

G6 Objective 2: To require new development to provide links into the wider Green Infrastructure network, in particular where similar features exist on adjoining sites.

HCL11 Objective 5: To ensure that development along and adjacent to the Grand Canal protects and incorporates high value natural heritage features including watercourses, wetlands, grasslands, woodlands, mature trees, hedgerows and ditches and includes for an appropriate set-back distance or buffer area from the pNHA boundary to facilitate protected species, biodiversity, and a fully functioning Green Infrastructure network.

HCL12 Objective 1: To prevent development that would adversely affect the integrity of any Natura 2000 site located within and immediately adjacent to the County and promote favourable conservation status of habitats and protected species including those listed under the Birds Directive, the Wildlife Acts and the Habitats Directive.

HCL12 Objective 2: To ensure that projects that give rise to significant direct, indirect or secondary impacts on Natura 2000 sites, either individually or in combination with other plans or projects, will not be permitted unless the following is robustly demonstrated in accordance with Article 6(4) of the Habitats Directive and S.177AA of the Planning and Development Act (2000 – 2010) or any superseding legislation:

1. There are no less damaging alternative solutions available; and

2. There are imperative reasons of overriding public interest (as defined in the Habitats Directive) requiring the project to proceed; and

3. Adequate compensatory measures have been identified that can be put in place.

HCL13 Objective 1: To ensure that any proposal for development within or adjacent to a proposed Natural Heritage Area (pNHA) is designed and sited to minimise its impact on the biodiversity, ecological, geological and landscape value of the pNHA particularly plant and animal species listed under the Wildlife Acts and the Habitats and Birds Directive including their habitats.

HCL15 Objective 1: To ensure that development does not have a significant adverse impact on rare and threatened species, including those protected under the Wildlife Acts 1976 and 2000, the Birds Directive 1979 and the Habitats Directive 1992.

HCL15 Objective 2: To ensure that, where evidence of species that are protected under the Wildlife Acts 1976 and 2000, the Birds Directive 1979 and the Habitats Directive 1992 exists, appropriate avoidance and mitigation measures are incorporated into development proposals as part of any ecological impact assessment.

HCL15 Objective 3: To protect existing trees, hedgerows, and woodlands which are of amenity or biodiversity value and/ or contribute to landscape character and ensure that proper provision is made for their protection and management in accordance with Living with Trees: South Dublin County Council's Tree Management Policy 2015-2020.

2.1.5. Clonburris Strategic Development Zone Planning Policies & Objectives

This EcIA was prepared with consideration of the policies and objectives of the Clonburris Strategic Development Zone (SDZ) Planning Scheme (May 2019) and valuable information on overall Ecology, Flora and Fauna presented in the Clonburris Strategic Development Zone (SDZ) Draft Planning Scheme Chief Executive's Report Appendix E: Ecological Surveys, December 2017. An Bord Pleanála decided under the provisions of section 169 (7) of the Planning and Development Act, 2000, as amended, to APPROVE the making of the Balgaddy-Clonburris SDZ Planning Scheme.

The consideration of Biodiversity and Natural Heritage is set out in Section 2.11 of the Planning Scheme Framework and includes several Key Principles:

- To seek to protect and enhance natural, built and cultural heritage features, where appropriate, such as the Grand Canal, streams, Protected Structures and barony and townland boundary hedgerows;
- To improve the quality, character and continuity of the Grand Canal (pNHA);
- To avoid or minimise the impact on protected species and their habitats;

- To promote local heritage, the naming of any new residential development should reflect the local and historical context of its siting, and may include the use of the Irish language; and
- Incorporate biodiversity and heritage into new developments.

2.2. SURVEY METHODOLOGY

2.2.1. Desk Study

The assessment was carried out in three stages, firstly through desktop assessment to determine existing records in relation to habitats and species present in the potential Zone of Influence of the Proposed Development. This included research on the NPWS metadata website, the National Biodiversity Data Centre (NBDC) database and a literature review of published information on flora and fauna occurring in the development area.

Sources of information that were used to collate data on biodiversity in the potential Zone of Influence are listed below:

- The following mapping and Geographical Information Systems (GIS) data sources, as required:
  - National Parks & Wildlife (NPWS) protected site boundary data;
  - Ordnance Survey of Ireland (OSI) mapping and aerial photography;
  - OSI/ Environmental Protection Agency (EPA) rivers and streams, and catchments;
  - Open Street Maps;
  - Digital Elevation Model over Europe (EU-DEM);
  - Google Earth and Bing aerial photography 1995-2022;
- Online data available on Natura 2000 sites as held by the National Parks and Wildlife Service (NPWS) from www.npws.ie including:
  - Natura 2000 - Standard Data Form;
  - Conservation Objectives;
  - Site Synopses;
- National Biodiversity Data Centre records;
  - Online database of rare, threatened and protected species;
  - Publicly accessible biodiversity datasets.
- Status of EU Protected Habitats in Ireland. (National Parks & Wildlife Service, 2019); and
- Relevant Development Plans;
  - South Dublin County Development Plan 2016-2022
  - Draft South Dublin County Development Plan 2022-2028
  - Balgaddy-Clonburris Strategic Development Zone (SDZ) – Draft Planning Scheme.
  - Clonburris SDZ Planning Scheme Chief Executive's Report Appendix E: Ecological Surveys

2.2.2. Field Study

The second phase of the assessment involved site visits to establish the existing environment in the footprint of the proposed development area. Areas which were highlighted during desktop assessment were investigated in closer detail according to the Heritage Council Best Practice Guidance for Habitat Survey and Mapping (Smith *et al*., 2011). Habitats in the proposed development area were classified according to the Heritage Council publication "*A Guide to Habitats in Ireland*" (Fossitt, 2000). This publication sets out a standard scheme for identifying, describing and classifying wildlife habitats in Ireland. This form of classification uses codes to classify different habitats based on the plant species present. Species recorded in this report are given in both their Latin and English names. Latin names for plant species follow the nomenclature of "*An Irish Flora"* (Parnell & Curtis, 2012).

Habitats were surveyed on the 15 September 2021 and 20 October 2021 by conducting a study area walkover covering the main ecological areas identified in the desktop assessment. The September survey date is toward the end of the optimal botanical survey period. However, it is adequate given the suburban/semi-rural nature of the site with predominantly improved grassland present on site. A photographic record was made of features of interest.

Signs of mammals such as badgers and otters were searched for while surveying the study area noting any sights, signs or any activity in the vicinity especially along adjacent boundaries. The towpath of the Grand Canal for a distance of 150m either side of the proposed development area was surveyed for signs of otters.

A Song Meter SM-Mini-BAT (Wildlife Acoustics, Inc; Massachusetts, USA) 16-bit full spectrum time-expansion recording bat detector was placed within the study area; (Grid Ref. 706024 732130) on the 29 September to the 19 October 2021. This static detector was installed according to the guidelines as set out in Bat Conservation Ireland's 'Bat Survey Guidelines'.

The detector was erected onto an ESB pole at a height of 4m set to record from half an hour before sunset to half an hour after sunrise and automatically adjusts itself each day. The recorder was thus in position and recording giving a total of 16,732 minutes of recording over the 20 nights.

Registrations as described below follow the Bat Conservation Trusts definition of a bat pass; 'two or more bat calls in a continuous sequence; each sequence or pass is separated by one second or more in which no calls are recorded. The number of bat passes for each species or species group identified is counted for each' point. (BCT Good Practice Guidelines 3rd Ed 2016).

Birds were surveyed using standard transect methodology and signs were recorded where encountered during the field walkover surveys. The site is essentially an open field and the walk over during habitat

surveys was adequate to assess the value of the site to breeding birds. The approach for bird surveys was a 'look-see' methodology (based on Gilbert *et al.* 1998)[1]. All birds present within a site were identified with reference to Collins Bird Guide (Svensson, 2010 mobile phone vers) to confirm identification (where necessary). The estimated flock size of birds present, their general location within the site and any activity exhibited were also recorded.

A desk study was carried out to identify any potential suitable inland feeding and / or roosting sites for winter birds located within or directly adjacent to the proposed development areas.

Field surveys carried out in the urban and suburban areas of the proposed development deemed the lands to be unsuitable feeding and/or roosting sites for wintering birds, due to habitat conditions being dominated by amenity grassland and subject to high levels of disturbance. As such it was not deemed necessary to carry out detailed wintering bird surveys in these areas. The results of the desk-based study have informed the assessment of potential impacts on wintering bird species arising from the proposed development.

2.2.3. Site Evaluation and Impact Assessment

The final part of the assessment involves an evaluation of the study area and determination of the potential impacts on the habitats of the study area. This part of the assessment forms the basis for Impact Assessment and is based on the following guidelines and publications:

- Guidelines for Ecological Impact Assessment in the UK And Ireland Terrestrial, Freshwater, Coastal and Marine September 2018 Version 1.1 - Updated September 2019 (CIEEM, 2019);
- EPA Draft Guidelines on Information to be contained in an EIAR (EPA, 2017);
- Best Practice Guidance for Habitat Survey and Mapping (Heritage Council, 2011);
- Ecological Surveying Techniques for Protected Flora & Fauna (NRA, 2008);
- Guidelines for Assessment of Ecological Impacts of National Road Schemes (NRA, 2009);
- Appropriate Assessment of Plans and Projects in Ireland - Guidance for Planning Authorities (DEHLG, December 2009, Rev 2010);

While prepared for linear projects the TII Guidelines for Assessment of Ecological Impacts of National Road Schemes (NRA, 2009) are still relevant and outlines the methodology for evaluating ecological impacts of the project in the present report. According to the TII Guidelines, the Ecological Study should address:

- Designated conservation areas and sites proposed for designation within the zone(s) of influence of any of the Project options,

[1] Gilbert, G., Gibbons, D. W. & Evans, J. (1998). Bird Monitoring Methods. RSPB, Sandy, Bedfordshire, England.

- All the main inland surface waters (e.g. rivers, streams, canals, lakes and tanks) that are intersected by any of the route corridor options, including their fisheries value and any relevant designations,
- Aquifers and dependent systems and turloughs and their subterranean water systems,
- Any known or potentially important sites for rare or protected flora or fauna that occur along or within the zone(s) of influence of any of the route options,
- Any other sites of ecological value, that are not designated, along or in close proximity to any of the route corridor options,
- Any other relevant conservation designations or programmes (e.g. catchment management schemes, habitat restoration or creation projects, community conservation projects, etc.),
- Any other features of particular ecological or conservation significance along any of the route options.

The TII Guidelines set out a method of evaluating the importance of sites identified and in turn the evaluation of the significance of impacts. The Evaluation Scheme is presented in Appendix 1 for reference.

Impact Assessment is then based on CIEEM Guidelines for Ecological Impact Assessment in the UK and Ireland, 2019.

3. PROJECT DESCRIPTION

The Proposed Development consists of the construction of a residential development at Clonburris, South County Dublin, to consist of 118 dwelling units, to include apartments, duplexes and dwelling houses and associated works, see Figure 3 below.

The proposal consists of the following works:

118 No. Units in a mix of houses, duplexes, simplexes, and 1 No. Apartment building, comprising:

• 11 No. 2 storey - three-bed semi-detached and terraced houses

• 11 No. 3 storey - four-bed semi-detached and terraced houses

• 25 No. 3 storey buildings each comprising: a single storey 2-bedroom apartment at the ground level with a three-bed duplex above

• 5 No. 3 storey - stacked simplex units (Triplex): comprising a 1-bedroom apartment with study at ground level and 2 No. 1-bedroom apartments at the first and second floor levels

• 4 No. 3 storey - stacked simplex units (Triplex): comprising a 2-bed apartment at ground level and 2 No. 1-bedroom apartments with study at the first and second floor levels

• 1 No. 4 storey Apartment building (c.440 sq.m.) Accommodating 19 No. Apartments, comprising; 15 No. 1 bed and 4 No. of 2 bed units. The proposed apartments are provided with private balconies or terraces.

• Site development and landscape works include the provision of 112 No. Parking spaces, 24 No. Visitor cycle parking, ESB substation, high quality amenity spaces, landscape works, roundabout at the entrance to the development from Bawnogue Road, SuDS measures and all associated ancillary site development works.

Surface water will be directed to a SuDS area at the northern portion of the site. Wastewater from the proposed development will be directed to Ringsend WWTP which will have the capacity to assimilate the additional load. There is therefore indirect connectivity to Dublin Bay via the Ringsend Wastewater Treatment Plant.

There will be no development within the boundary of the Grand Canal pNHA and given it is a closed system there will be no surface water discharge to the Grand Canal.

Figure 3. Layout of the Proposed Development.

Commented [BP1]: Replace maps - no wet ponds - refer as SUDS AREA

4. EXISTING ENVIRONMENT

4.1. DESIGNATED CONSERVATION AREAS

The Department of Housing, Planning and Local Government (previously DoEHLG)'s Guidance on Appropriate Assessment (2009) recommends an assessment of European sites within a Zone of Influence (ZoI) of 15km. However, this distance is a guidance only and a zone of influence of a proposed development is the geographical area over which it could affect the receiving environment in a way that could have significant effects on the Qualifying Interests of a European site. In accordance with the OPR Practice Note, PN01, the ZoI should be established on a case-by-case basis using the Source-Pathway-Receptor framework and not by arbitrary distances (such as 15km).

The Zone of Influence may be determined by connectivity to the Proposed Development in terms of:

- Nature, scale, timing and duration of works and possible impacts, nature and size of excavations, storage of materials, flat/sloping sites;
- Distance and nature of pathways (dilution and dispersion; intervening 'buffer' lands, roads etc.); and
- Sensitivity and location of ecological features.

The potential for source pathway receptor connectivity is firstly identified through GIS interrogation and detailed information is then provided on sites with connectivity. European sites that are located within a potential Zone of Influence of the Proposed Development are listed in Table 1 and presented in Figures 4 and 5, below. Spatial boundary data on the Natura 2000 network was extracted from the NPWS website (www.npws.ie) on 25 February 2022. This data was interrogated using GIS analysis to provide mapping, distances, locations and pathways to all sites of conservation concern including pNHAs, NHA and European sites.

This analysis found that the Rye Water Valley/Carton SAC [001398] at c.6.46km northwest and the Glenasmole Valley SAC [001209] at c. 8.07km south are the closest European sites. However, there are no pathways or connectivity to either of these two sites and they are excluded at this preliminary screening stage.

Table 1 European Sites located within the potential Zone of Influence[2] of the Proposed Development.

Site Code	Site name	Distance (km)[3]
000206	North Dublin Bay SAC	15.36
000210	South Dublin Bay SAC	12.85
004006	North Bull Island SPA	15.35
004024	South Dublin Bay and River Tolka Estuary SPA	12.27

Surface water will be directed to an SuDS Area at the northern portion of the site. Wastewater from the proposed development will be directed to Ringsend WWTP which will have the capacity to assimilate the additional load. There is therefore indirect connectivity to Dublin Bay via the Ringsend Wastewater Treatment Plant.

The European sites within the potential zone of influence of the Proposed Development are associated with Dublin Bay and include South Dublin Bay SAC, and South Dublin Bay and River Tolka Estuary SPA, 12.85km and 12.27km from the site, respectively.

There are no water courses on site and there is no direct connectivity to any European sites.

[2] All European sites potentially connected irrespective of the nature or scale of the Proposed Development.
[3] Distances indicated are the closest geographical distance between the Proposed Development site and the European site boundary, as made available by the NPWS.

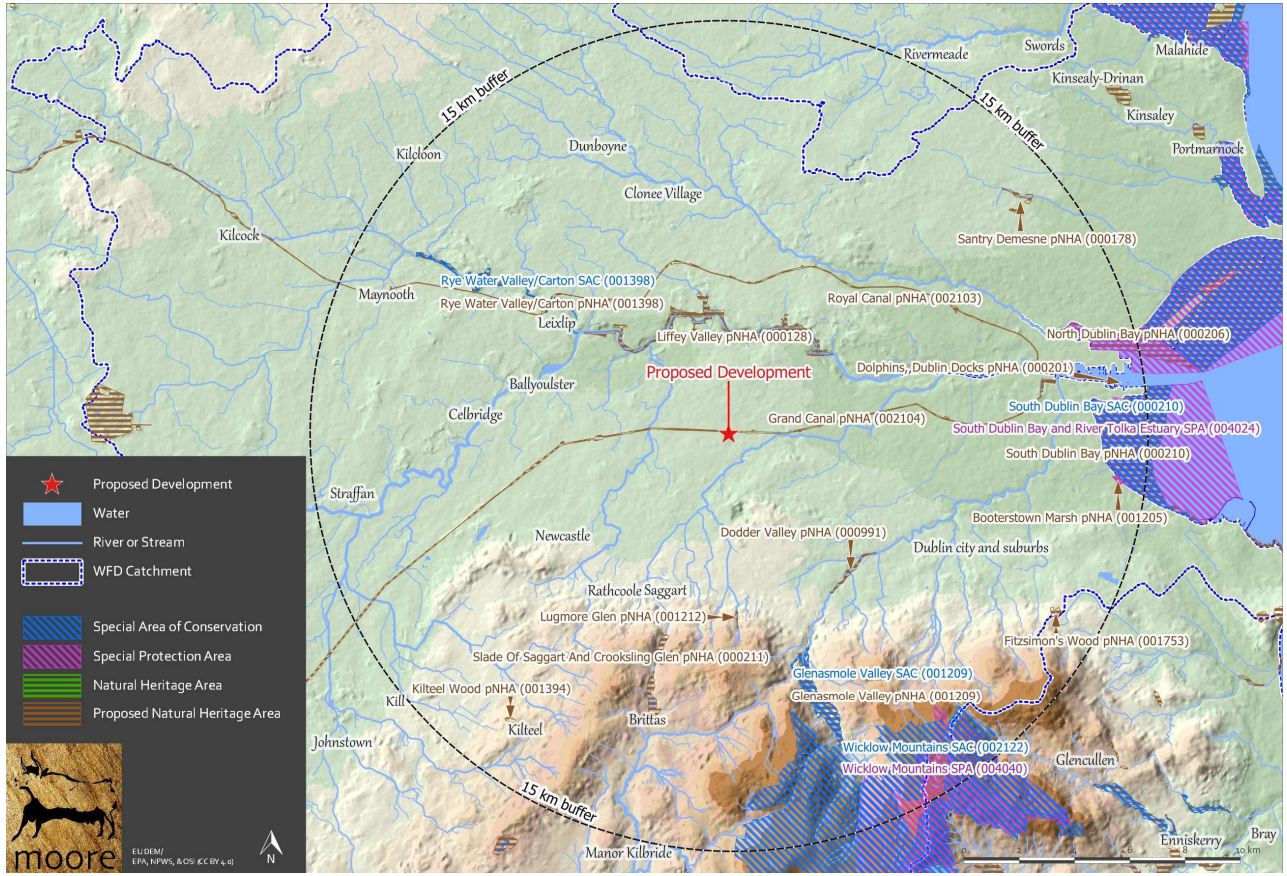

Figure 4. Showing European sites and NHAs/pNHAs within the wider Potential Zone of Influence of the Proposed Development.

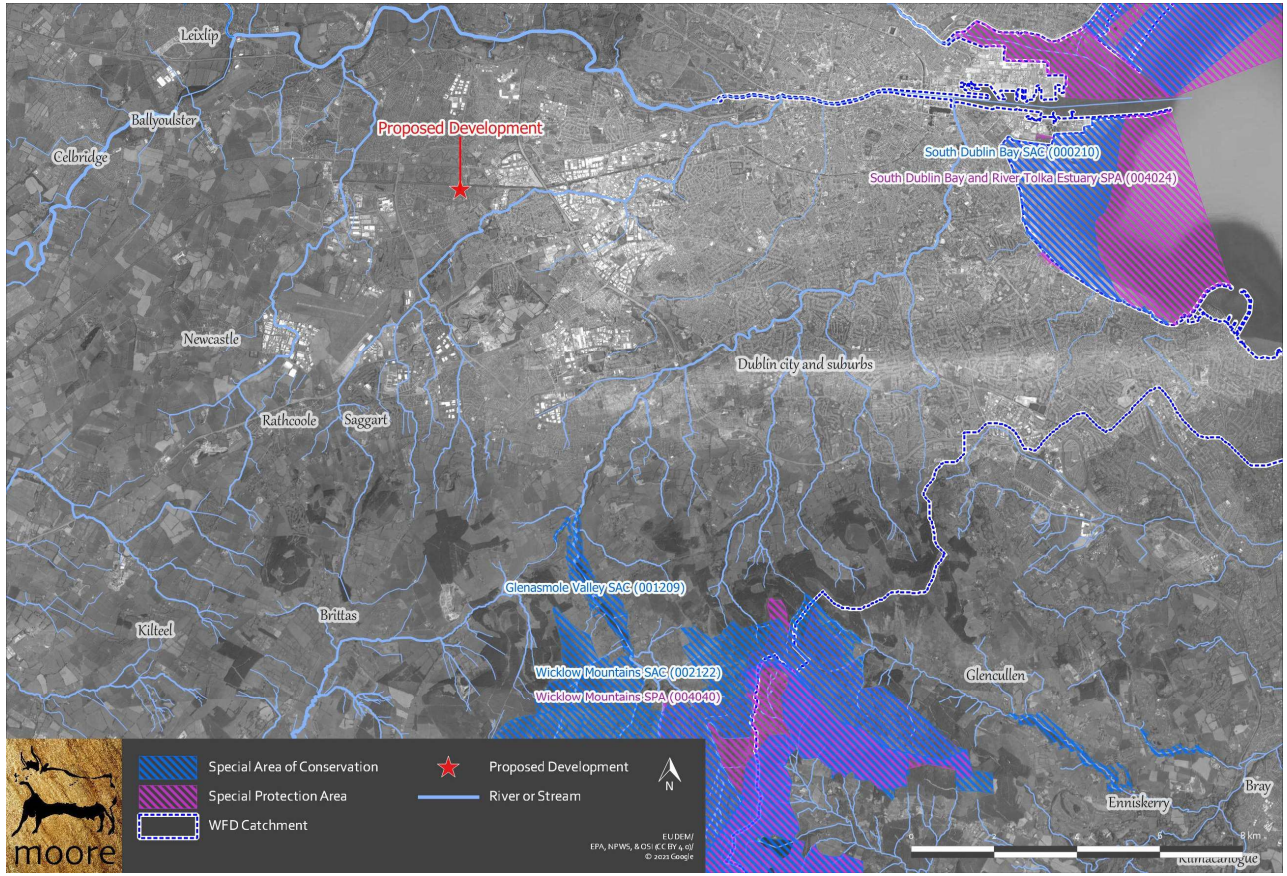

Figure 5. Detailed view of European sites in the nearer Potential Zone of Influence of the Proposed Development.

4.2. HABITAT DESCRIPTIONS

4.2.1. Habitats & Flora

The site in question consists of a mosaic of Amenity Grassland (GA2) and managed areas of Dry meadows and grassy verges (GS2) located to the north of the existing residential areas of Clonburris and to the immediate south of the Grand Canal between Locks 10 and 11. The habitats recorded on site are presented in Table 1 below and Figure 6.

There are no Annexed Habitats or Species present within the boundary of the Proposed Development site. The area of highest ecological value is the Grand Canal pNHA. The are no hydrological links between the subject site and the Grand Canal.

The local buildings and artificial surfaces (roads and paths) are considered under the category 'Built land' (BL3).

Table 2 Habitat types present according to Fossitt (2000).

Habitat	Habitat Category	Habitat Type
(F) Freshwater	(FW) Water courses	(FW3) Grand Canal
(G) Grassland	(GA) Improved grassland	(GA2) Amenity grassland
	(GS) Semi-natural grassland	(GS2) Dry meadows and grassy verges
(W) Woodland	(WL) Linear woodland/scrub	(WL1) Hedgerows

Amenity grassland & semi-natural meadow (GA2/GS2)

The proposed development site comprises an area of grassland c. 3.9 Ha which is managed with mown verges and pathways and with central sections left for biodiversity promotion. A large portion of the grassland to the southeast adjacent to the R113 is more regularly mown with a tightly cropped sward.

Species present include Cock's-foot (*Dactylis glomerata*) along with Bent grasses (*Agrostis* spp.) and False-oat grass (*Arrhenatherum elatius*) which is common un unmown sections. Dock (*Rumex obtusifolius*), Common sorrel (*Oxalis acetosella*) are occasional with frequent Yarrow (*Achillea millefolium*), Field speedwell (*Veronica chamaedrys*), Ribwort plantain (*Plantago lanceolata*), Selfheal (*Prunella vulgaris*), Clovers (*Trifolium* spp.), Creeping buttercup (*Ranunculus repans*) all present with frequent Cow parsley (*Anthriscus sylvestris*) and occasional Hogweed (*Heracleum sphondylium*) along with Thistles (*Cirsium vulgare* and *C. arvense*), occasional Silverweed (*Potentilla anserina*) and Hoary Ragwort (*Senecio erucifolius*).

There are patches of Meadow vetchling (*Lathyrus pratensis*) and Curled Dock (*Rumex crispus*) is frequent. Slightly damper patches have clusters of Hard rush (*Juncus inflexus*). Dandelions (*Taraxacum* spp.) are frequent with patches of Clover and Knapweed (*Centaurea nigra*). There are also patches of Rape (*Brassica napus*) and buttercup where ground has been disturbed.

Red Bartsia (*Odontites vernus*) is more common on the northern side of the field closer to the Grand Canal and may be associated with some ground disturbance and recolonisation in that area. Bramble (*Rubus fruticosus* agg.) and Nettle (*Urtica diocia*) are common along the field edge particularly to the southern and eastern boundaries.

Hedgerow (WL1)

This habitat refers to the Hedgerow of the southern towpath of the Grand Canal which has a scrubby appearance and comprises typical rural hedgerow species such as Elder and Hawthorn with an understorey including Nettle, Cleavers (*Gallium aparine*), Hogweed, Spear thistle, Rape (Brassica napus) and Bramble (*Rubus fruticosus* agg.) with Ivy (*Hedera helix*).

There is also a short meandering line of trees that is neither treeline or hedgerow at the southern boundary of the site separating the existing residential area and road from the grassland area. Species include Beech, Sycamore, Ash and Eucalyptus. Similar understorey species described above are present along with Dogwood (*Cornus sanguinea*), Rosebay willowherb (*Chamerion angustifolium*), Nettle and Cleavers and Ragwort (*Senecio jacobaea*). Large Bindweed (*Calystegia sylvatica*) is occasional here along with Lesser burdock (*Arctium minus*).

Invasive Species

There were no records of Third Schedule invasive species on the Proposed Development site.

Figure 6. Habitat map based on recent aerial photography.

4.1. FAUNA

4.1.1. Mammals

Otters

There are no records for otters in the section of the Grand Canal adjacent to the proposed development area at Clonburris. There were no signs of otters during the surveys carried out. There are historical records from the Grand Canal in the 'Circular Line' toward the city and further east toward Grangecastle West and it is possible that otters pass along the canal at night.

Badgers

There are no badger setts in the study area and no potential for badgers on the site. The field boundaries were surveyed and no setts were recorded.

Bats

The NBDC database was consulted for details on bat records held for the site and the surroundings. The database was consulted on the 09/03/2022 for details on historical records from a polygon extending for up to 100m from the site boundary. Four species have been recorded in the study area; Daubenton's

Bat (*Myotis daubentonii*), Lesser Noctule (*Nyctalus leisleri*), Pipistrelle (*Pipistrellus pipistrellus sensu lato*) and Soprano Pipistrelle (*Pipistrellus pygmaeus*).

The results of the static detector surveys are summarised in Table 3 below. Over the course of 20 nights a total of 321 registrations were recorded. This equates to 1.2 bat passes per minute which is considered very low. It should be noted that a single bat continuously circling a site or along a hedgerow will produce numerous recordings, thus the amount of registrations cannot quantify abundance, rather activity.

The most common species (activity) recorded was Soprano Pipistrelle at 209 (65.1%). Common Pipistrelle was the next most common with 58 (18.1%) followed by Leisler's bat (13.7%) with 44 registrations over the survey period followed by 2 passes of Daubenton's bat (0.6%) and 2 passes of a 'Myotis' bat (0.6%).

Table 3 Results of the Static Bat Detector.

	Myotis Bat	Possible Daubenton's	Leisler's Bat	Common Pipistrelle	Soprano Pipistrelle	Pip Social	Total
29 / 30 Sept	0	0	0	2	65	0	67
30 Sept / 01 Oct	0	0	1	0	10	0	11
01 / 02 Oct	0	0	0	0	4	1	5
2 / 03 Oct	0	1	0	0	5	0	6
3 / 04 Oct	0	0	0	0	5	0	5
4 / 05 Oct	0	0	3	0	4	0	7
5 / 06 Oct	0	1	2	0	5	0	8
6 / 07 Oct	0	0	2	7	17	0	26
7 / 08 Oct	1	0	1	7	16	1	26
8 / 09 Oct	1	0	9	11	18	1	40
9 / 10 Oct	0	0	6	2	9	0	17
10 / 11 Oct	0	0	3	0	3	0	6
11 / 12 Oct	0	0	2	0	0	0	2
12 / 13 Oct	0	0	1	10	4	1	16
13 / 14 Oct	0	0	0	2	5	0	7
14 / 15 Oct	0	0	0	3	10	0	13
15 / 16 Oct	0	0	2	2	6	0	10
16 / 17 Oct	0	0	0	1	4	0	5
17 / 18 Oct	0	0	5	6	13	2	26
18 / 19 Oct	0	0	7	5	6	0	18

4.1.2. Birds

All birds are protected under the Wildlife Acts. A list of breeding bird species recorded during fieldwork in 2021 is presented in Table 4 below.

Table 4 Results breeding bird survey from September 2021.

Birds	Scientific name	BWI Status	Habitat Type
Magpie	*Pica pica*	Green	Anywhere in lowland areas
Woodpigeon	*Columba palumbus*	Green	Gardens, woods, hedges
Wren	*Troglodytes troglodytes*	Green	Gardens, woods, hedges
Blackbird	*Turdus merula*	Green	Dense woodland to open moorland, common in gardens
Chaffinch	*Fringilla coelebs*	Green	Hedgerows, gardens and farmland
Goldfinch	*Carduelis carduelis*	Green	Open woodland, gardens and farmland
Woodpigeon	*Columba palumbus*	Green	Gardens, woods, hedges
Wren	*Troglodytes troglodytes*	Green	Low cover anywhere, especially woodlands
Mallard Duck	*Anas platyrhynchos*	Green	Rivers, lakes, ponds, canals

The site was surveyed again on 20 October 2021 prior to taking down the Static Bat detector. No Winter birds of conservation concern were noted on the site during surveys. The site is located over 13km from Dublin Bay and experiences high levels of walkers and dog walking activity and is not suitable for foraging geese or other Winter birds pf conservation concern.

The most common species recorded on the Grand Canal was Mallard duck. However, Moorhen and Mute swan have been observed on the canal in the wider area by the author.

4.1.3. Invertebrates

While the Grand Canal is acknowledged to have no hydrological connectivity with the proposed Canal Extension development area, the presence of White-clawed Crayfish (a species listed on Annex II of the EU Habitats Directive) has been noted in all the main freshwater habitats within the Clonburris SDZ[4].

White-clawed Crayfish are long-lived (up to ten years) and has a "Keystone" ecological role to play in suitable freshwater ecosystems. It is a generalist feeder, converting detritus, plant matter, etc. into a form readily available to large vertebrate predators such as Trout (*Salmo trutta*) and Otter (*Lutra lutra*). This species, therefore, plays an important role in the well-being of freshwater systems and contributes significantly to the flow of energy and cycling of nutrients.

[4] Clonburris SDZ Draft Planning Scheme Chief Executive's Report Appendix E: Ecological Surveys

5. SITE EVLAUATION & ASSESSMENT OF EFFECTS

5.1. SITE EVALUATION

The ecological value of the site was assessed following the guidelines set out in the Institute of Ecology and Environmental Management's Guidelines for Ecological Impact Assessment (2019) and according to the Natura Scheme for evaluating ecological sites (after Nairn & Fossitt, 2004). Judgements on the evaluation were made using geographic frames of reference, e.g. European, National, Regional or Local.

Due cognisance of features of the landscape which are of major importance for wild flora and fauna, such as those with a "*stepping stone*" and ecological corridors function, as referenced in Article 10 of the Habitats Directive were considered in this assessment.

Following a detailed literature review, desktop assessment and field survey the footprint of the proposed development site can be categorised into a grassland habitat types (GA) Improved grassland and semi-natural meadow (GS2):

- Amenity grassland (GA1 and GA2)
- (Semi-natural) Dry meadows and grassy verges grassland (GS2)

There are no Annexed habitats on or adjacent to the proposed development site. There were no rare or protected species recorded on the site and there were no invasive species recorded. There are no rare or protected habitats recorded within the study area.

The habitat of highest conservation value adjacent to the proposed development area is the Grand Canal. The proposed Natural Heritage Area of the Grand Canal encompasses the hedgerows to the north, the water course of the canal itself and the hedgerow to the south of the southern towpath which forms the northern boundary of the overall site area, see Figure 6 above.

The proposed development redline boundary touches the boundary of the Grand Canal pNHA at the line of the proposed SuDS Area. However, it does not encroach on the hedgerow of the canal.

There is no hydrological connectivity between the proposed development site and the Grand Canal or to any European sites.

The habitats under the footprint of the proposed development are of low to moderate local ecological value with the southern towpath Hedgerow of the Grand Canal to the north of the site being of National Importance.

5.2. ASSESSMENT OF EFFECTS

5.2.1. Direct Effects

Habitats

There are no hydrological links between the subject site and the Grand Canal or to any European sites downstream. There is no direct connectivity with any of the European sites considered in the assessment.

There are no predicted effects on any European sites given:

- The distance between the Proposed Development and any European Sites;
- The lack of direct connectivity between the Proposed Development and any hydrological pathways; there are no watercourses within the Proposed Development boundary and there is only indirect connectivity between the Proposed Development site and Dublin Bay via the Ringsend WwTP.
- There are no predicted emissions to air, water or the environment during the construction or operational phases that would result in significant effects.

It can be excluded, on the basis of objective information, that the Proposed Development, individually or in combination with other plans or projects, will have a significant effect on a European site.

Grand Canal pNHA (FW3)

There will be no significant effects on the ecological corridor of the Grand Canal pNHA. Potential effects on fauna are addressed below.

Improved grassland (GA1&GA2)

There will be a loss of c. 2.4 Ha meadow type habitat and 0.3 Ha mown amenity grassland from an overall site area of c. 3.9 Ha of improved grassland. There are large surrounding similar habitats available to the west and south of the proposed development site and the loss of improved grassland is considered as a **slight neutral permanent** effect.

Hedgerow (WD1)

There are no planned changes to the southern towpath hedgerow of the Grand Canal and there will be no significant effects on the ecological corridor of the Grand Canal.

Fauna

Otters

There will be no direct or indirect impact on otters. There are no plans for night time construction work and no predicted impacts on commuting otters.

Badgers

There will be no direct or indirect impact on badgers.

Bats

- Disturbance

Works associated with development or building work are likely to lead to an increase in human presence at the site, extra noise and changes in the site layout and local environment.

- Lighting

Lighting can create a barrier for feeding and commuting particularly for woodland bats such as Myotis species.

Guidance on lighting has been based on Bats and artificial lighting in the UK, Guidance Note 08/18 (BCT, 2018), EUROBATS*; Guidelines for consideration of bats in lighting projects.* (Voigt, 2018) and BCI; Bats & Lighting document; (BCI, 2010). Lighting can alter the behaviour of bats and the insects they prey on. Night flying insects can be attracted to lights particularly sources that emit an ultraviolet component or have a high blue spectral content. Whilst some species of bat such as Leisler's and Pipistrelle species can take advantage of this occurrence, other species such as Daubenton's bat avoid such areas. Lighting can create barriers for bat species both entering roosts and using commuting routes such as rivers, treelined roads and woodland edges.

- Loss of feeding habitat

The proposed development will result in the transformation of grassland to built land.

There will be no direct effects on bats as there are no bat roost features that will be affected.

Birds

There are no predicted impacts on birds.

5.2.2. Indirect Effects

Effects of lighting on bats

BCI's Bats & Lighting document (BCI, 2010) states 'Myotis species commute and forage along dark wildlife corridors such as treelines and consequently shies away from highly illuminated sections. Therefore, illumination can impede their flight to suitable feeding areas. Consideration should be given to ensure that dark wildlife corridors remain in the landscape to allow bats and other wildlife to travel safely to and from feeding habitats.' The report also states 'each species of bat has an optimum level of light for emergence. For example, Daubenton's bats prefer a light level of less than 1 lux.'

While the BCT guidelines do not give a recommended level of acceptable lux levels on commuting habitats it notes 'significant effects (on bat activity) have been recorded from as low as 3.6 lux'.

Eurobats guidelines state *Myotis daubentonii* and *M. mystacinus/M. brandtii* consistently avoided their preferred habitats, i.e. lakes and forest gaps, in response to the brightness of the Nordic midsummer nights.

Potential indirect effects from additional lighting are not predicted to be significant and will be offset by appropriate design which has been taken into consideration in the panning of this residential development.

5.2.3. Cumulative Effects

Cumulative effects or in-combination effects are changes in the environment that result from numerous human-induced, small-scale alterations considered in-combination with other development. Cumulative impacts can be thought of as occurring through two main pathways: first, through persistent additions or losses of the same resource, and second, through the compounding effects as a result of the coming together of two or more effects.

As part of the Assessment, in addition to the Proposed Development, other relevant plans and projects in the area must also be considered at this stage. This step aims to identify at this early stage any possible significant in-combination or cumulative effects of the proposed development with other such plans and projects.

Consideration of Plans

This EcIA was prepared with consideration of the policies and objectives of the South Dublin County Development Plan (2022-2028) outlined in Section 2.1.4.

The South Dublin County Development Plan in complying with the requirements of the Habitats Directive, Wildlife Acts and Planning & Development Acts requires that all Projects and Plans that could affect biodiversity in the same potential Zone of Influence of the Proposed Development site would be assessed on a case by case basis that appropriate employable mitigation measures would be put in place to avoid, reduce or ameliorate negative effects. In this way any, in-combination impacts with Plans or Projects for the proposed development area and surrounding townlands in which the proposed development site is located, would be avoided.

This EcIA was also prepared with consideration of the policies and objectives of the Clonburris Strategic Development Zone (SDZ) Planning Scheme.

The proposal to develop Development Area 12 (the subject of this application for permission) and any future development of the SDZ lands constitute separate developments. Importantly, the proposed development should be considered as a standalone residential scheme, and it is not functionally dependent on the wider development of the SDZ lands.

No other large scale developments are proposed for the area and therefore, it is not likely that cumulative impacts with other existing and/or approved projects will have significant effects on the environment.

A Strategic Environmental Assessment (SEA) was prepared (SDCC, 2017) for the Clonburris Strategic Development Zone (SDZ) – Draft Planning Scheme.

The Environmental Report documents the SEA process and is the key consultation document in the SEA process and facilitates interested parties to comment on the environmental issues associated with the plan. It includes Key Principles following a review of International, National, Regional and Local Plans, Policies and Programmes as follows:

- Conserve and enhance biodiversity at all levels,
- Avoid and minimise effects on nationally and internationally rare and threatened species and habitats through sensitive design and consultation, recognising ecological connectivity where possible,
- Facilitate species and habitat adaption to climate change,
- Avoid and minimise habitat fragmentation and seek opportunities to improve habitat connectivity,
- Ensure careful consideration of non-native invasive and alien species issues particularly as they relate to waterbodies such as the Grand Canal and Griffeen River.

Consideration of Projects

A review of the National Planning Application Database was undertaken. The first stage of this review confirmed that there were no data gaps in the area where the Proposed Development is located. The database was then queried for developments granted planning permission within 500m of the Proposed Development site within the last three years. Three years is the generally acknowledged time frame in Ecological Assessment (also by CIEEM) in which ecological changes occur and can be measured. Outside three years the consideration of response to an environmental pressure needs to be reassessed. Granted applications are considered in Table 5 below.

Table 5 Planning applications granted permission in the vicinity of the Proposed Development.

Planning Ref.	Description of development	Comments
SD19A/0108	Retention of 12 metre high rooftop telecommunications structure, antennas, dishes and associate equipment and cabinets.	No potential for in-combination effects given the scale and location of the project.
SD19A/0376	Sub-division of existing site for the construction of a two storey detached house; connection to foul sewer and surface water; shared use of existing vehicular entrance and driveway and all associated site works.	No potential for in-combination effects given the scale and location of the project.
SD19B/0091	Construction of a single storey extension to side of dwelling with internal modification and associated site works.	No potential for in-combination effects given the scale and location of the project.
SD19B/0207	First floor extension to side over converted garage, with projecting bay window to rear; ground floor extension to front incorporating porch and extended living and play rooms; attic conversion to utility/storage incorporating 'Velux' type rooflights to all aspects with solar panels to rear; external insulation to all elevations; demolition of garden shed replacing with new shed; all associated site works and drainage.	No potential for in-combination effects given the scale and location of the project.
SD19B/0360	Two storey extension to side of existing dwelling incorporating garage & utility at ground floor and ensuite, walk in wardrobe to first floor; pitched roof to match existing; alterations to existing vehicular entrance including new brick pillar and rendered front wall; gate to side of rear garden. Also, retention permission is sought for construction of single storey shed, with pitched roof, to rear garden used as playroom and store and all associated site works.	No potential for in-combination effects given the scale and location of the project.
SD20A/0062	Revision of previously approved planning SD09A/0313 including increase the number of children attending the playschool to 16 (maximum) in any one session; change opening hours to 9am - 12pm (morning session) and 12:30pm - 3:30pm (afternoon session), Monday to Friday; minor internal changes to the playschool; all associated site works.	No potential for in-combination effects given the scale and location of the project.
SD20A/0164	Internal separation of house and associated granny flat to provide for 2 permanent houses.	No potential for in-combination effects given the scale and location of the project.
SD20B/0010	Retention of a single storey extension to rear and existing storey garage to front side and rear; erect a first floor extension to front side and rear above existing garage and all ancillary site works.	No potential for in-combination effects given the scale and location of the project.
SD20B/0420	Single storey extension at side.	No potential for in-combination effects given the scale and location of the project.
SD21B/0365	Conversion of attic to storage including changing existing hipped end roof to a gable end roof; dormer window to the rear and a window to the new side gable wall, all at roof level.	No potential for in-combination effects given the scale and location of the project.
SD21B/0491	Attic conversion to incorporate a storeroom with full dormer window to rear of existing dwelling; all ancillary site works.	No potential for in-combination effects given the scale and location of the project.

In addition, SDCC has a land holding within the SDZ which has the potential to deliver approx. 2,600 homes and each phase of development will be assessed as they are brought forward.

Planning permission has been granted for the Southern Link Road within the SDZ which would be located within 500m of the Proposed Development; Planning reference: SDZ20A/0021. The application was accompanied by a Report for AA Screening which concluded that the possibility of any significant effects on any European sites, whether arising from the project alone or in combination with other plans ad projects, can be excluded.

There is a current live planning application within the SDZ in subsector S3 Clonburris South West (CSW-S3) for 569 dwellings, creche, open space and innovation hub and that at the time of this report the application is still under consideration with a request for further information requested by the planning authority.

The listed developments have been granted permission in most cases with conditions relating to sustainable development by the consenting authority in compliance with the relevant Local Authority Development Plan and in compliance with the Local Authority requirement for regard to the Habitats Directive. The development cannot have received planning permission without having met the consenting authority requirement in this regard.

There are no predicted cumulative effects given that it is predicted that the Proposed Development will have no significant effects on biodiversity. In this way, in-combination impacts with Plans or Projects for the development area and surrounding area in which the development site is located, would be avoided.

6. MITIGATION MEASURES

6.1. FLORA

There will be no direct effects on the Grand Canal ecological corridor. However, as a precaution, the developing contractor will have regard to the proximity of the southern towpath hedgerow particularly along the curved boundary of the proposed SuDS Area and a temporary protective barrier, such as site hoarding will be erected to protect the hedgerow from trampling or encroachment, see Photo 6 Appendix 2.

6.2. FAUNA

Table 6 below provides a site specific response to the 2018 BCT flowchart which provides best practice guidance when considering effects of lighting schemes on bats.

Table 6 Application of BCT, 2018 Flowchart.

Step	Query	Response
1	Could bats be present on site?	Yes.
2	Determine the presence of roosting / commuting / feeding habitats	The site is used by feeding and commuting Soprano Pipistrelle, Common Pipistrelle, Leisler's bats and possibly Daubenton's Bat.
3	Avoid lighting on key habitats and features all together.	The subject development will result in changes to the site including the transformation of grassland to built land. Although an avoidance of lighting within the operational phase is the optimal preference for safety reasons some lighting is necessary.
4	In other locations of value to bats apply mitigation measures to reduce lighting to a minimum.	Vandal proof bollard lighting with a maximum height of 1000mm such as Schreder Pharos are proposed for the project in the proposed SuDS Area. These lights should be fitted with an extra bowler hat type cowl ensuring 0 degrees inclination above the horizontal. This will ensure there will be no light spillage shining on the hedgerow to the north or surrounding sensitive bat habitat. Lighting will be fitted with LED luminaires using amber-white spectrum to avoid the component of light most disturbing to bats.
5	Demonstrate compliance with lux levels and buffers	This lighting proposal has been produced with cognisance of protecting landscape features for bat usage. A Dark zone will be established where lux levels of 1 or below are proposed at a zone adjacent to the southern towpath hedgerow of the Grand Canal.

7. RESIDUAL IMPACTS

The proposed development is located in an area of low to moderate ecological value and has no hydrological connectivity to areas of International Importance or Annexed species. The implementation of successful industry standard mitigation measures will avoid local impacts and as such the proposed development is predicted to have a neutral imperceptible effect on biodiversity.

The proposed development includes a Landscape Strategy which considers the promotion of biodiversity through planting of native species of trees, shrubs and flowers.

The inclusion of a semi-natural SuDS Area will provide a supporting habitat for the Grand Canal pNHA and will attract insects and bird life and promote biodiversity which will offset the loss of improved grassland. This is considered a **positive permanent** effect.

8. CONCLUSIONS & RECOMMENDATIONS

The proposed development footprint is an area of low to moderate ecological value and as such predicted to have a neutral imperceptible effect on biodiversity.

Given the inclusion of Best Practice Measures with regard to lighting and bats to be included and enforced by design, the proposed development will have no predicted impacts on local ecology and biodiversity.

There is no requirement for monitoring with regard to Biodiversity.

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Appendix 1

TII Evaluation of Habitats

Ecological valuation: Examples

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 fulfills 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.[4]
- 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)[5] 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).[6]

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)[7] of the following:
  - Species protected under the Wildlife Acts; and/or
  - Species listed on the relevant Red Data list.
- Site containing 'viable areas'[8] of the habitat types listed in Annex I of the Habitats Directive.

County Importance:

- Area of Special Amenity.[9]
- 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)[10] 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 BAP,[11] 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.

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)[12] of the following:
  - Species of bird, listed in Annex I and/or referred to in Article 4(2) of the Birds Directive;
  - Species of animal and plants listed in Annex II and/or IV of the Habitats Directive;
  - Species protected under the Wildlife Acts; and/or
  - Species listed on the relevant Red Data list.
- Sites containing semi-natural habitat types with high biodiversity in a local context and a high degree of naturalness, or populations of species that are uncommon in the locality;
- Sites or features containing common or lower value habitats, including naturalised species that are nevertheless essential in maintaining links and ecological corridors between features of higher ecological value.

Local Importance (lower value):

- Sites containing small areas of semi-natural habitat that are of some local importance for wildlife;
- Sites or features containing non-native species that are of some importance in maintaining habitat links.

Appendix 2

Site Photos

Photo 1. Grassland habitats on the southern portion of the site (inc. mown GA2 Improved grassland).

Photo 2. Grassland habitats on the central portion of the site looking toward the Grand Canal with unmown areas presenting as semi-natural meadow type habitat.

Photo 3. Existing access to the Grand Canal.

Photo 4. Adjacent habitats to the Grand Canal looking west. Note existing street lighting.

Photo 5. Central semi-natural grassland areas with Meadow vetchling patches.

Photo 6. Habitats adjacent to the Grand Canal looking west. Note the mown border along which no development should take place.