

Darndale Housing Development

Ecological Impact Assessment

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Abbreviations

AA	Appropriate Assessment
BOCCI	Birds of Conservation Concern in Ireland
CIEEM	Chartered Institute of Ecology and Environmental Management
DCC	Dublin City Council
DEHLG	Department of Environment, Heritage and Local Government
DHPLG	Department of Housing, Planning and Local Government
EC	European Communities
ECJ	European Court Judgement
EPA	Environmental Protection Agency
GIS	Geographic Information Systems
GSI	Geological Survey Ireland
IAQM	Institute of Air Quality Management
INNS	Invasive Non-Native Species
IROPI	Imperative Reasons of Over-riding Public Interest
LBBG	Light-bellied Brent Goose
NBDC	National Biodiversity Data Centre
NIS	Natura Impact Statement
NPWS	National Parks and Wildlife Services
OPW	Office of Public Works
QI	Qualifying Interest
RBMP	River Basin Management Plan
SAC	Special Area of Conservation
SCI	Special Conservation Interest
SPA	Special Protection Area
WFD	Water Framework Directive
ZoI	Zone of Influence

1 Introduction

1.1 Background

JBA Consulting Engineers and Scientists Ltd. (hereafter JBA) has been commissioned by Paul Keogh of Paul Keogh Architects on behalf Respond Housing Association to prepare an Ecological Impact Assessment (EclA) for the proposed residential development to be carried out at Darndale, Dublin 17, Co. Dublin.

1.2 Aims

The aims of this EclA are to:

- Establish baseline ecological conditions to enable identification of potentially important ecological features within the Zone of Influence (Zol) of the project;
- Determine the ecological value of identified ecological features;
- Assess the significance of impacts of the proposed project on ecological features of value;
- Identify avoidance, mitigation or compensatory measures;
- Identify residual impacts after mitigation and the significance of their effects; and
- Identify opportunities for ecological enhancement.

1.3 Site Location

The proposed project is in Darndale, Dublin 17 Co. Dublin (Figure 1-1). The site is located 200m to the south of Darndale Park, and 460m to the south of the R139 Road. The site is also located approximately 285m to the northwest of the O'Tooles Gaelic Association Club.

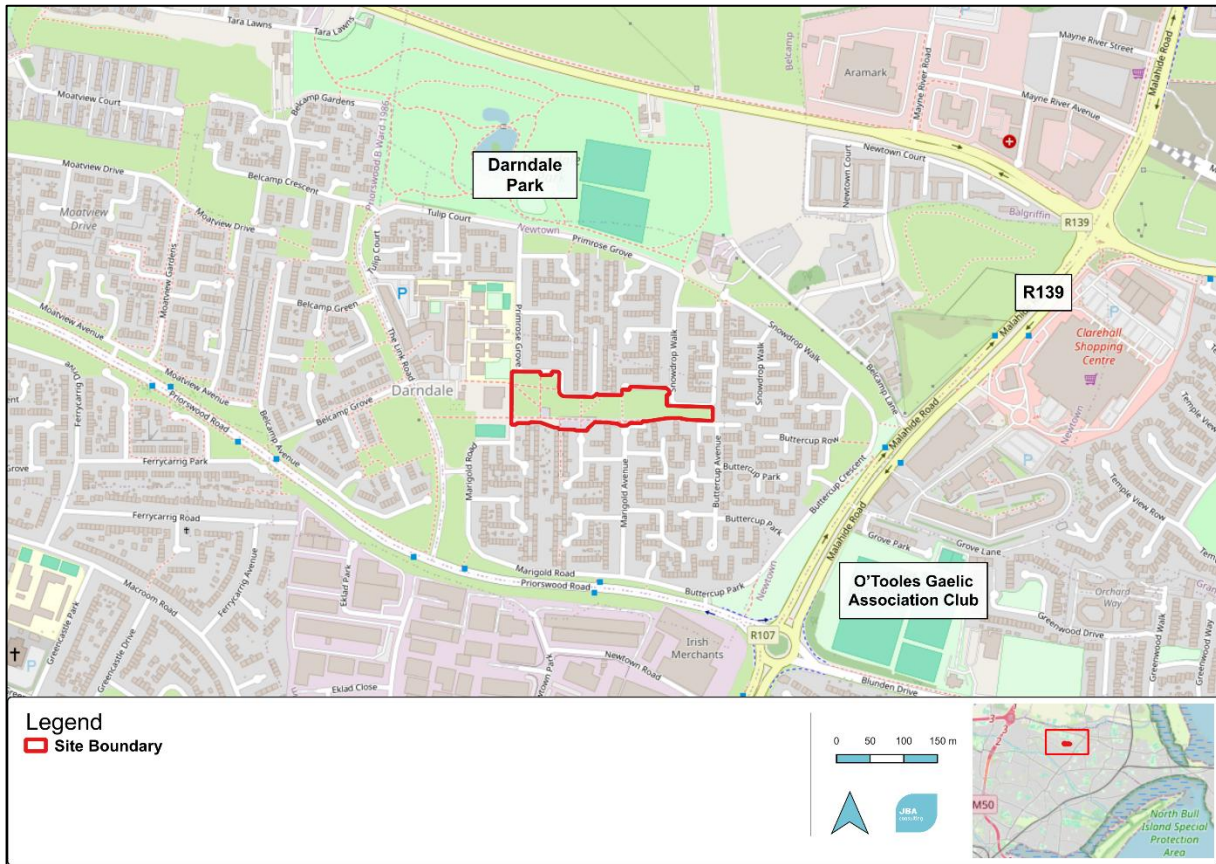


Figure 1-1: Site location with site boundary (©OSM, 2026)

2 Project Description

2.1 The Project

This residential development on behalf of Respond Housing at the Spine Site at Darndale, Dublin 17, seeks to redevelop the existing neglected open green space and provide 84 no. new dwellings. The 1.488 ha greenfield site is currently zoned in DCC's Development Plan as Z1: Sustainable Residential Neighbourhoods. The layout comprises four urban blocks, with a three-storey apartment block adjacent to the church and school to the west of the site, and three blocks of two-storey terraced housing ranging eastwards across the site towards Buttercup Avenue and the Malahide Road beyond.

The apartment block to the west of the site comprises a three-storey structure surrounding a gated, landscaped courtyard. In two L-shaped arrangements, it has own-door units at street level and deck-access apartments above which are accessed from two lift / stair cores in the south-west and north-east corners of the block respectively. A community hub is provided on the ground floor at the northwest tip of the apartment block, facing existing community facilities such as the church and community centre. This community facility provides a separate kitchen and large dining room, a co-working space, and W.C. facilities.

The three blocks of houses follow the principle of maximising the amount of active frontage to the public realm and minimising the extent of 'weak' corners that could provide opportunities for intruders to access the rear of houses. Each house has a 2.5- 3.0 meter railed front garden with bin enclosure to the public street and landscaped private gardens to the rear. All car parking is provided on-street.

These details are shown in the site layout plan, in Appendix A.

2.2 Landscape Plans

The proposed landscape plan includes the creation of pocket parks, ornamental shrubbery planting, and the provision of garden spaces.

The landscape plan is shown in detail in Appendix B.

2.3 Drainage Layout

The proposed surface water drainage layout includes the installation of surface water sewers (UPVC), perforated pipes and permeable paving (UPVC), surface water gullies, inspection chambers, and manholes. The proposed surface water infrastructure will connect with the existing surface water network within the site's locality.

The proposed foul water drainage layout includes the installation of new foul sewers (UPVC) and foul manholes. The proposed foul water infrastructure will connect with the existing foul water infrastructure within the site's locality.

For a full surface and foul water drainage layout, see Appendix C.

2.4 Lighting Plan

The proposed lighting plan includes the installation of luminaries mounted on 6m poles around the proposed housing development. Lux levels around the site range from 4 to 20 lux.

The lighting plans are shown in detail in Appendix D.

2.5 Excavation Depths

The maximum excavation depth will be approximately 2.7 metres.

2.6 Construction Duration

It is estimated that the construction phase for the proposed works will last 31 months/135 weeks from the date of commencement. The works will be carried out over 2 phases: Phase 1 includes the construction of Blocks A & D and is proposed to take 83 weeks; Phase 2 includes the construction of Blocks B & C is proposed to take 52 weeks.

3 Existing Environment

3.1 The EclA Team

The assessment was prepared by Jai Dolan BSc (Hons) Geography, MSc Conservation. Jai is an Assistant Ecologist with JBA Consulting and has over two years' experience in ecological consultancy. The assessment has been reviewed by William Mulville BSc (Hons) Zoology, MSc, MCIEEM. William is Senior Ecologist with JBA Consulting, with over 8 years' experience in environmental and ecological research, outreach and reporting; and with over seven years in ecological consultancy.

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

3.2 Policy and legislation

Policy and legalisation for nature conservation; and protected and priority species relevant to the proposed project is provided in Appendix F.

3.3 Methods

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

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

3.4 Guidance

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

- Guidelines for Ecological Impact Assessment in the United Kingdom and Ireland: Terrestrial, Freshwater, Coastal and Marine. Chartered Institute of Ecology and Environmental Management (CIEEM, 2024).
- Guidelines on the information to be contained in Environmental Impact Assessment Reports Environmental Protection Agency (EPA, 2022).
- Best Practice Guidance for Habitat Survey and Mapping, The Heritage Council. (Smith et al., 2011).

3.5 Baseline

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

protected habitats and/or species, the precautionary principle was used where limited information was available.

A desk-based assessment was carried out to collate information regarding protected/notable species and statutorily designated nature conservation sites in, or within close proximity to, the study area. This included a data search for protected and notable species using the National Biodiversity Data Centre (NBDC) Mapping System (NBDC, 2024). A customised 2km polygon was created to extract all the species data from the project site's locality.

Information for statutory designated sites including Special Protection Areas (SPAs), Special Areas of Conservation (SACs), Ramsar Sites, Natural Heritage Areas (NHAs) and proposed NHAs (pNHA) was collected from the online resources provided by the National Parks and Wildlife Service (NPWS).

Other information on the local area was obtained, including:

- EPA, 2026a. EPA Catchments.ie [online]. Available online at: <https://www.catchments.ie/maps/>
- EPA, 2026b. EPA Maps [online], Next Generation EPA Maps. Available online at: <https://gis.epa.ie/EPAMaps/>
- GSI, 2026. Geological Survey Ireland Spatial Resources website, available at <https://dcenr.maps.arcgis.com/apps/MapSeries/index.html?appid=a30af518e87a4c0ab2fbde2aaac3c228>
- NPWS, 2019a. The Status of EU Protected Habitats and Species in Ireland. Volume 1: Summary Overview. Unpublished NPWS report. Edited by: Deirdre Lynn and Fionnuala O'Neill. National Parks and Wildlife Service, Department of the Environment, Heritage and Local Government, Dublin, Ireland.
- NPWS, 2019b. The Status of EU Protected Habitats and Species in Ireland. Volume 2: Habitats Assessment. Unpublished NPWS report. Edited by: Deirdre Lynn and Fionnuala O'Neil. National Parks and Wildlife Service, Department of the Environment, Heritage and Local Government, Dublin, Ireland.
- NPWS, 2019c. The Status of EU Protected Habitats and Species in Ireland. Volume 3: Species Assessment. Unpublished NPWS report. Edited by: Deirdre Lynn and Fionnuala O'Neil. National Parks and Wildlife Service, Department of the Environment, Heritage and Local Government, Dublin, Ireland.
- Aerial photography available from www.osi.ie, Google Maps <http://maps.google.com/> ;
- Online data available on Natura 2000 sites as held by the National Parks and Wildlife Service (NPWS) from www.npws.ie
- NBDC, 2026 – Species Distribution Maps; Available online at www.biodiversityireland.ie Accessed on various dates;
- All Ireland Red Data lists for vascular flora, mammals, butterflies, non-marine molluscs, dragonflies & damselflies, amphibians and fish;
- Water Framework Directive water maps (available online at <http://www.wfdireland.ie/maps.html>); and
- International Union for Conservation of Nature and Natural Resources (IUCN) Red List of Threatened Species (available online at <http://www.iucnredlist.org>).

3.5.1 Zone of Influence

The Zol for the project is based on a judgement of the likely extent of the ecological impacts on key ecological receptors. This will vary for different ecological features, depending on their

sensitivities to environmental change. Additionally, the Zol is informed using the Source-Pathway-Receptor (S-P-R) model as outlined in guidance (OPR, 2021). Using the source-pathway-receptor model allows for the potential significant effects to be eliminated if no viable source, pathway, or receptor is present.

The S-P-R method uses an examination of the construction methods, nature of operation or project description and allows sources of impact to be determined. This also allows a zone of influence for the project to be generated based on the size, scale and nature of the works involved. The pathways for impact are also analysed to see if a functional pathway for impact is present. This report analyses three pathways: surface water, groundwater and land. Using information gathered from desk sources (e.g. mapped qualifying interests (QIs) and special conservation interests (SCIs) from the conservation objectives (CO) of a Natura 2000 site) and from field surveys, receptors within the zone of influence are identified. In some cases, sensitive receptors may also play a role in determining the zone of influence. If any of the three parts to the model are not present (source-pathway-receptor) the potential for a likely significant effect from the project on the Natura 2000 network or proposed Natural Heritage Areas (pNHAs) can be discounted.

In relation to terrestrial habitats, impacts will be limited to the lands within the site boundary of the proposed development, as well as the immediate surrounding environs (e.g., overshading and soil; root compaction and changes to local hydrological regimes).

Hydrological connections (e.g., drainage ditches, canals, wetlands and rivers) often receive the most far-reaching of impacts due to their lotic or semi-lotic nature. It becomes increasingly difficult to precisely predict the likely significance of adverse water-borne pollutants as they travel downstream from the pollution point source, given potential dilution and retention factors along the course of the impacted watercourse. Under the precautionary principle any designated sites (Natura 2000 and proposed NHA sites), protected habitats or species (flora and fauna) located downstream of the local watercourses, i.e. the North Dublin Bay pNHA, will be considered to be within the hydrological Zol of this proposed development.

Regarding the groundwater-to-surface water impact pathway, the characteristics of the underlying aquifer means it is likely to rapidly discharge to the nearby watercourses, i.e. the Whitestown Stream to the south of the site (GSI, 2026). Therefore, the groundwater-to-surface water Zol will include this watercourse, with the addition of downstream surface water hydrological connections.

In respect to Zol for air pollution (emissions and dust), designated sites within a 250m buffer zone of the development sites, were considered as per the Institute of Air Quality Management (IAQM) Guidance on the Assessment of Dust from Demolition and Construction (IAQM, 2024), including ex-situ foraging habitats utilised by protected species associated with the site. In relation to physical (vibration and clearance) works; audible and visual disturbance, faunal species will be considered on a species-by-species basis. Generally, smaller mammal species (e.g., Pygmy Shrew) will be given 100m disturbance zones, which is reflective of their relatively small territories. For larger mammals, such as Badger, a 150m disturbance zone can be established in the scenario where there is an active sett.

The Zol for local bats species is centred around lighting impacts within and adjacent to footprint of the development sites, as well as the developments' proximity of known bat roosts within the

locality. Impacts are likely to occur within a 3km radius sustenance zone around each of these known bat roosts.

The Zol for bird species is generally linked with direct habitat loss within the footprint of the proposed development sites. Additional adverse impacts for these birds will likely arise from the disturbance from construction works, which can extend 500m (Cutts et al, 2013) with local designated sites.

The Zol for amphibians is linked to the foraging, commuting and refuge habitats within the site, which have the potential to be degraded as a result of the proposed development sites. Therefore, the Zol for these floral / faunal species will mirror that of the terrestrial habitats.

The Zol for terrestrial invertebrates is generally linked with direct habitat loss and degradation, as well as construction and operational disturbances. As the furthest impact pathway that can affect terrestrial habitats is 300m, this will also be the Zol distance for terrestrial invertebrate species.

3.5.2 Field Surveys

A general ecological site walkover, including habitat mapping and wintering bird surveys, was conducted on 17/12/2025 by JBA Ecologists William Mulville and Jai Dolan. Two follow-up wintering bird surveys were conducted on 09/02/2026 and 20/02/2026 by JBA Ecologist William Mulville.

The ecological walkover and wintering bird surveys recorded habitats and protected species, following guidance outlined in the documents below:

- Guidelines for Assessment of Ecological Impacts of National Road Schemes (NRA, 2008)
- Best Practice Guidance for habitat Survey and Mapping. The Heritage Council. (Smith et al., 2011)
- Collins, J. (Ed.), 2024. Bat Surveys for Professional Ecologists: Good Practise Guidelines (4th Edition)
- Ecological Surveying Techniques for Protect Flora and Fauna during the Planning of National Road Schemes (NRA, 2008)

Aerial photographs and site maps assisted the habitat survey. Habitats have been named and classified following A Guide to Habitats in Ireland by Fossitt (2000). Nomenclature for higher plants follows that given in The New Flora of the British Isles 4th Edition (Clive Stace, 2019). Identification of Irish plants generally follows Webb's - An Irish Flora (Parnell and Curtis, 2012).

3.5.3 Water Framework Directive

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

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

authority in Ireland responsible for delivering the WFD. River Basin Management Plans (RBMP) have been created which set out measures to ensure that water bodies in the country achieve 'Good Ecological Status'.

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

3.5.4 Water Framework Status and Objectives

It is understood that the 'Water Action Plan 2024: A River Basin Management Plan' (DoHLGH, 2024) has been adopted by all local authorities in order to achieve the aims of the WFD. The Plan sets out the new approach that Ireland will take to enhance protection, prevention, and monitoring of Irish waterbodies. The main actions include:

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

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

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

3.6 Consideration of Ecological Receptors for Impact Assessment

The ecological receptors identified during the walkover surveys and from desk-based assessments were reviewed. An assessment of ecological features that may be vulnerable to impacts as a result of the development's construction or operations is presented at the end of the baseline section to ensure that the impact assessment focuses only on these key ecological receptors (KERs) of value, that will likely be subjected to adverse impacts. Any designated site, habitat, individual species or faunal group deemed a KER was brought forward into the impact assessment, while habitats, flora or fauna with little to no local ecological value were excluded from further assessment, with reasoning for this exclusion also provided. Additionally, invasive non-native species were also brought forward into the impact assessment as their on-going spread and capacity to impact designated sites, habitats, flora and fauna populations needs to be examined with respect to site biosecurity.

3.7 Assessment of the Effects on Key Ecological Receptors

The assessment of the significance of predicted impacts on KERs is based on both the 'value' of a receptor, and the nature and magnitude of the impact that the project will have on it. The impact is based on the project which includes a certain amount of designed-in mitigation, including construction best practice measures that will be implemented with a high degree of certainty.

3.8 Valuation of Receptors

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

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

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

Designated sites, habitats and species populations have been valued using the scale in (Table 3-1).

Table 3-1: Criteria examples used to define the value of ecological features (derived NRA, 2008, rev. 2009)

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

Level of Value	Examples of Criteria
(works site and its vicinity)	have little or no potential for restoration. A good example of a common or widespread habitat in the local area. Species of national or local importance, but which are only present very infrequently or in very low numbers within site area.
Less than local*	Areas of heavily modified or managed vegetation of low species diversity or low value as habitat to species of nature conservation interest. Common and widespread species.
*Not included within the original NRA table. Level of value added to address features with less than 'Local' value	

Guidance published by CIEEM (2018, rev. 2024 recommends breaking down the importance of ecological features in a geographic context similar to the NRA guidance shown in (Table 3-1) with the following frame of reference to be adapted to local circumstances.

- International and European;
- National;
- Regional;
- Metropolitan, County, vice-county or other local authority-wide area;
- River Basin District;
- Estuarine system/Coastal cell; and
- Local

The NRA (2009) guidance is congruent with this CIEEM (2018, rev 2024) guidance and includes a 'Less than local' level. The NRA (2008, rev. 2009) guidance on geographic criteria for ecological valuation, as described in Table 3-1, is utilised as the primary means of habitat valuation assessment in this chapter, as only the NRA guidance provides a split of High and Low level valued local ecological features, which provides more flexibility in regard to assessment of low-valued habitats that still provide ecological services (e.g. monoculture non-native ornamental shrubbery providing nesting opportunities to local breeding bird species).

3.8.1 Magnitude of Impacts

Ecological effects or impacts can be described and categorised in a number of ways. Examples of relevant terms are listed in Table 3-2. Table 3-2: Categories of Effects (derived EPA, 2022)

Description	Categories of Effects
Quality of Effects	Positive Effects A change which improves the quality of the environment (for example, by increasing species diversity; or the improving reproductive capacity of an ecosystem, or by removing nuisances or improving amenities).
	Neutral Effects No effects or effects that are imperceptible, within normal bounds of variation or within the margin of forecasting error.
	Negative/adverse Effects A change which reduces the quality of the environment (for example, lessening species diversity or diminishing the reproductive capacity of an ecosystem; or damaging health or property or by causing nuisance).

Description	Categories of Effects
Describing the Significance of Effects	Imperceptible An effect capable of measurement but without significant consequences.
	Not Significant An effect which causes noticeable changes in the character of the environment but without significant consequences.
	Slight Effects An effect which causes noticeable changes in the character of the environment without affecting its sensitivities.
	Moderate Effects An effect that alters the character of the environment in a manner that is consistent with existing and emerging baseline trends.
	Significant Effects An effect which, by its character, magnitude, duration or intensity, alters a sensitive aspect of the environment.
	Very Significant An effect which, by its character, magnitude, duration or intensity, significantly alters most of a sensitive aspect of the environment.
	Profound Effects An effect which obliterates sensitive characteristics.
Describing the Extent and Context of Effects	Extent Describe the size of the area, the number of sites and the proportion of a population affected by an effect.
	Context Describe whether the extent, duration or frequency will conform or contrast with established (baseline) conditions (is it the biggest, longest effect ever?).
Describing the Probability of Effects	Likely Effects The effects that can reasonably be expected to occur because of the planned project if all mitigation measures are properly implemented.
	Unlikely Effects The effects that can reasonably be expected not to occur because of the planned project if all mitigation measures are properly implemented.
Describing the Duration and Frequency of Effects	Momentary Effects Effects lasting from seconds to minutes.
	Brief Effects Effects lasting less than a day.
	Temporary Effects Effects lasting less than a year.
	Short-term Effects Effects lasting one to seven years.
	Medium-term Effects Effects lasting seven to fifteen years.
	Long-term Effects Effects lasting fifteen to sixty years.
	Permanent Effects Effects lasting over sixty years.

Description	Categories of Effects
Describing the Types of Effects	Reversible Effects Effects that can be undone, for example through remediation or restoration.
	Frequency of effects Describe how often the effect will occur (once, rarely, occasionally, frequently, constantly - or hourly, daily, weekly, monthly, annually).
	Indirect Effects (a.k.a. Secondary or Off-site Effects) Effects on the environment. Which are not a direct result of the project, often produced away from the project site of because of a complex pathway.
	Cumulative Effects The addition of many minor or insignificant effects, including effects of other projects, to create larger, more significant effects.
	Do-nothing Effects The environment as it would be in the future should the subject project not be carried out.
	Worst Case Effects The effects arising from a project in the case where mitigation measures substantially fail.
	Indeterminable Effects The effects arising from a project in the case where mitigation measures substantially fail.
	Irreversible Effects When the character, distinctiveness, diversity or reproductive capacity of an environment is permanently lost.
	Residual Effects The degree of environmental change that will occur after the proposed mitigation measures have taken effect.
	Synergistic Effects Where the resultant effect is of greater significance than the sum of its constituents (e.g. combination of SOx and NOx to produce smog).

3.8.2 Significance of Impacts

The overall significance of an impact can be derived from the total description of the effect compared against the sensitivity and significance (value) of the receptor as shown overleaf in Figure 3-1 which is taken from the EPAs EIAR Guidelines (EPA, 2022). The context and character of the receptor must also be assessed, such as its position in relation to the effect and its connectivity to the effect, however this should be determined before assessing the significance of the impact.

The total description of the effect includes the character, magnitude, probability and consequences of the effect as described in Figure 3-1 which are combined to give a general description of the effect on an ordinal scale from Negligible to High. The sensitivity and significance of the receptor is also described on an ordinal scale from Negligible to High.

The placement of the general description of the effect, and the sensitivity/significance of the receptor on this scale is determined by a Competent Person (a qualified ecologist in this case) as they interpret the qualities of the effect from the categories listed in Figure 3-1 and the receptors sensitivity and significance. Level of significance, also described as value of the receptor is previously set out in sub-section 3.8 above. Sensitivity of the receptor is assessed

by the Competent Person based on the receptor's characteristics and how susceptible to impact they are from the type of effect.

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

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

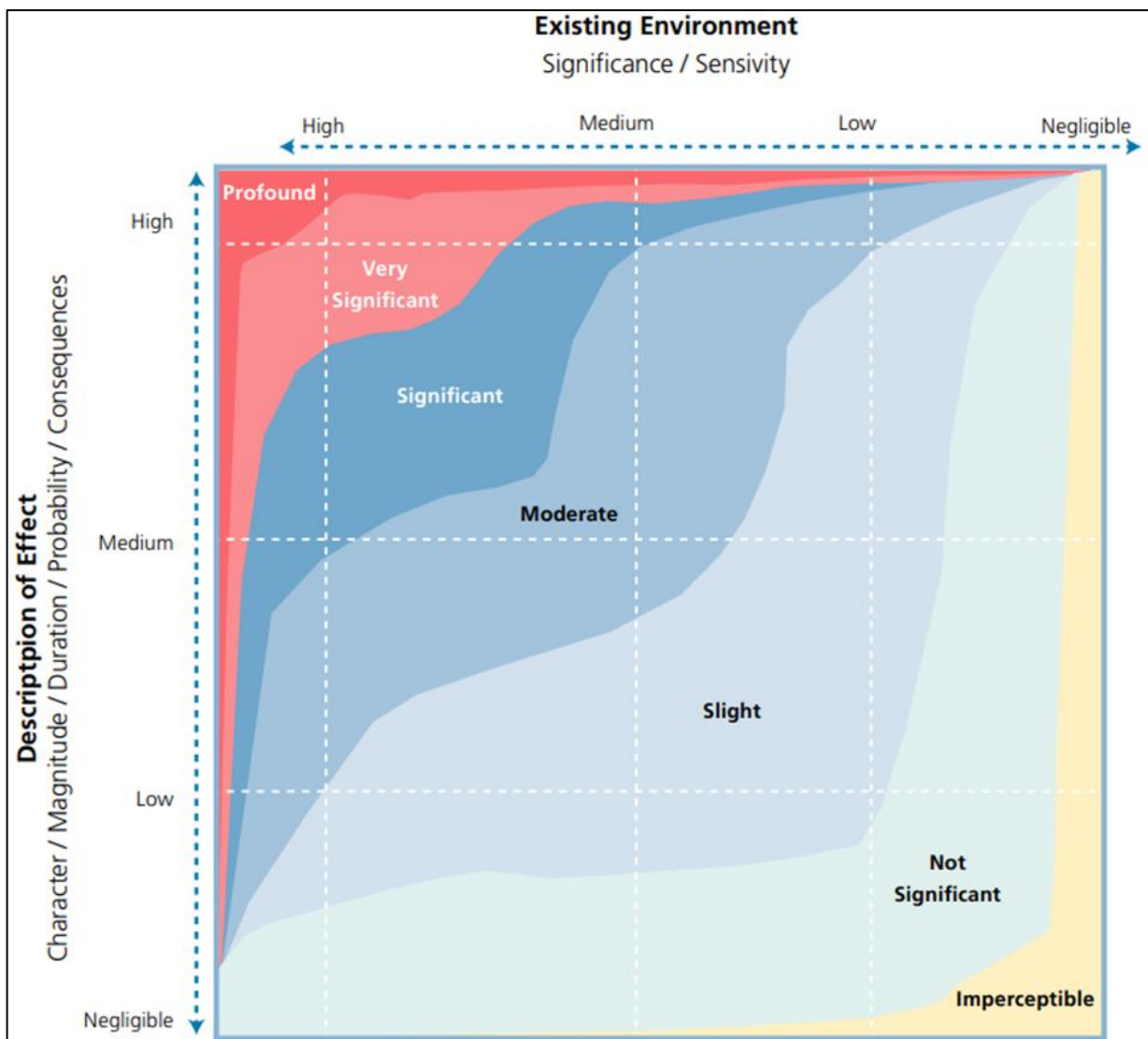


Figure 3-1: Chart showing the typical classifications of the significance of effects (EPA, 2022)

This chart has been interpreted in Table 3-3 below as a significance of impacts matrix. The scale has been ordered into an upper and lower bound for each qualitative category, so that degrees of significance within subcategories can be interpreted by the Competent Person. As Table 3-3 frames the significance of effects as a defined categorical scale rather than a sliding gradient as is shown in the EPA guidance, it is intended to be used as an initial reference resource, rather than definitive method of assigning impacts.

Table 3-3: Simplified Significance of Effects matrix

Magnitude of impact	Sensitivity/ Value of Receptor							
	High +	High -	Medium +	Medium -	Low +	Low -	Negligible +	Negligible -
High +	Profound	Very Significant	Very Significant	Significant	Moderate	Moderate	Not Significant	Imperceptible
High -	Very Significant	Very Significant	Significant	Moderate	Moderate	Slight	Not Significant	Imperceptible
Medium +	Very Significant	Significant	Moderate	Moderate	Slight	Slight	Not Significant	Imperceptible
Medium -	Significant	Moderate	Moderate	Moderate	Slight	Slight	Not Significant	Imperceptible
Low +	Moderate	Slight	Slight	Slight	Slight	Slight	Not Significant	Imperceptible
Low -	Slight	Slight	Slight	Slight	Slight	Not Significant	Not Significant	Imperceptible
Negligible +	Not Significant	Not Significant	Not Significant	Not Significant	Not Significant	Not Significant	Not Significant	Imperceptible
Negligible -	Not Significant	Not Significant	Not Significant	Not Significant	Not Significant	Imperceptible	Imperceptible	Imperceptible

3.8.3 Residual Impacts

The project is assessed including some designed-in mitigation (e.g. appropriate drainage design). This is done where mitigation is proven to be effective and will be implemented effectively with a high certainty. Where significant residual impacts are still identified, further mitigation measures will be proposed as part of the EclA process to avoid, reduce or minimise them. Each impact assessment section assigns a final significance level to the impact described, which considers and includes the implementation of any stated mitigation measures; these are the residual impacts.

3.9 Cumulative Impacts

Potential sources of cumulative impacts were identified based on the ecology of valued ecological features. Potential sources of cumulative impacts were sought within an area where there is the potential for a significant impact on a site or species. The plans and projects identified as potential sources of cumulative impacts are described in Section 5.

3.10 Limitations and Constraints

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

- Information on the works and conditions on site are based on current knowledge at the time of writing. Changes to the site since surveys were undertaken cannot be accounted for. However, the site surveys have followed CIEEM (2019) Advice note on the lifespan of ecological reports and surveys. Any changes to the proposed works will require an assessment by a suitably qualified ecologist to determine if re-assessment is required.
- Adverse weather can cause delays to the schedule and alter the timing of works. This has been accounted for using a worst-case scenario where possible.
- Data from biological record centres or online databases is historical information, and datasets may be incomplete, inaccurate, or missing. The absence of records for an area may be due to the under recording in the area and not necessarily imply the absence of species. These records are therefore to be treated as minimum information available for the area
- The precautionary principle is used at all times when determining potential ecological sensitivity of the site.
- Ecological surveys were conducted outside of the optimal window for flora (17/12/2025), as such, a number floral species (dormant or seed state) may not have been present at the time of survey efforts; however, given the nature of the site as a maintained green amenity area, it is not anticipated that there would be any rare flora present.

4 Baseline Conditions

The baseline conditions presented here are informed by desk-based sources as detailed in Section 3. To inform this EclA the initial baseline ecological site visit was performed by JBA Ecologists William Mulville and Jai Dolan on 17/12/2025. Two follow-up wintering bird surveys were conducted on 09/02/2026 and 20/02/2026 by JBA Ecologist William Mulville.

4.1 Desk-based Assessment

4.1.1 Designated Sites

This section lists the designated sites of International and National importance. Within the Zol for this project, six Natura 2000 sites were recorded and their potential links to the site examined (Table 4-1).

Table 4-1 Natura 2000 sites within Zol of the proposed site

Natura 2000 site	Site Code	Direct Distance from Site	Hydrological Distance from Site
South Dublin Bay and River Tolka Estuary SPA	004024	4.5km	6.3km indirect hydrological connection via surface and groundwater pathways
Baldoyle Bay SAC	000199	3.1km	3.8km indirect hydrological connection via surface and groundwater pathways
Baldoyle Bay SPA	004016	3.7km	4.3km indirect hydrological connection via surface and groundwater pathways
North Dublin Bay SAC	000206	3.2km	4.3km indirect hydrological connection via surface and groundwater pathways
North Bull Island SPA	004006	3.2km	4.3km indirect hydrological connection via surface and groundwater pathways
North-West Irish Sea SPA	004236	5km	7.2km indirect hydrological connection via surface and groundwater pathways

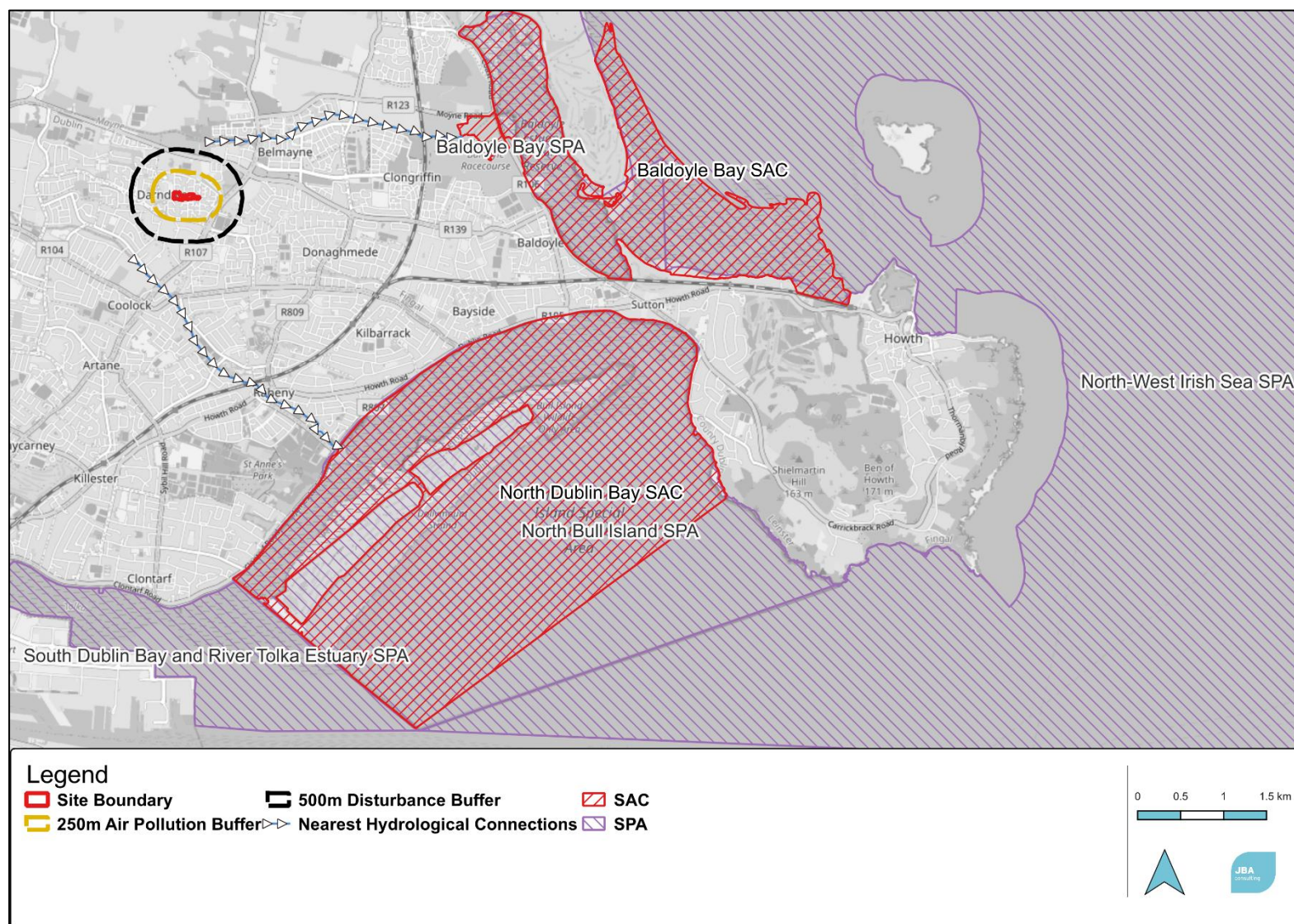


Figure 4-1: Natura 2000 sites within Zol of the proposed project (©OSM, 2026)

In addition to the Natura 2000 sites, the nationally designated sites within the S-P-R model were examined (Table 4-2). These sites include proposed and existing Natural Heritage Areas, sites which are considered of significance for wildlife and habitats. Two pNHAs were identified to be within the S-P-R model, namely Baldoyle Bay pNHA and North Dublin Bay pNHA.

Site descriptions and their respective ecological features of these nationally designated sites are listed in Table 4-4.

Table 4-2: Proposed Natural Heritage Areas within the Zol of the proposed site

pNHA Site	Site Code	Direct Distance from Site	Hydrological Distance from Site
Baldoyle Bay	000199	3.1km	3.8km indirect hydrological connection via surface and groundwater pathways
North Dublin Bay	00206	3.2km	4.3km indirect hydrological connection via surface and groundwater pathways

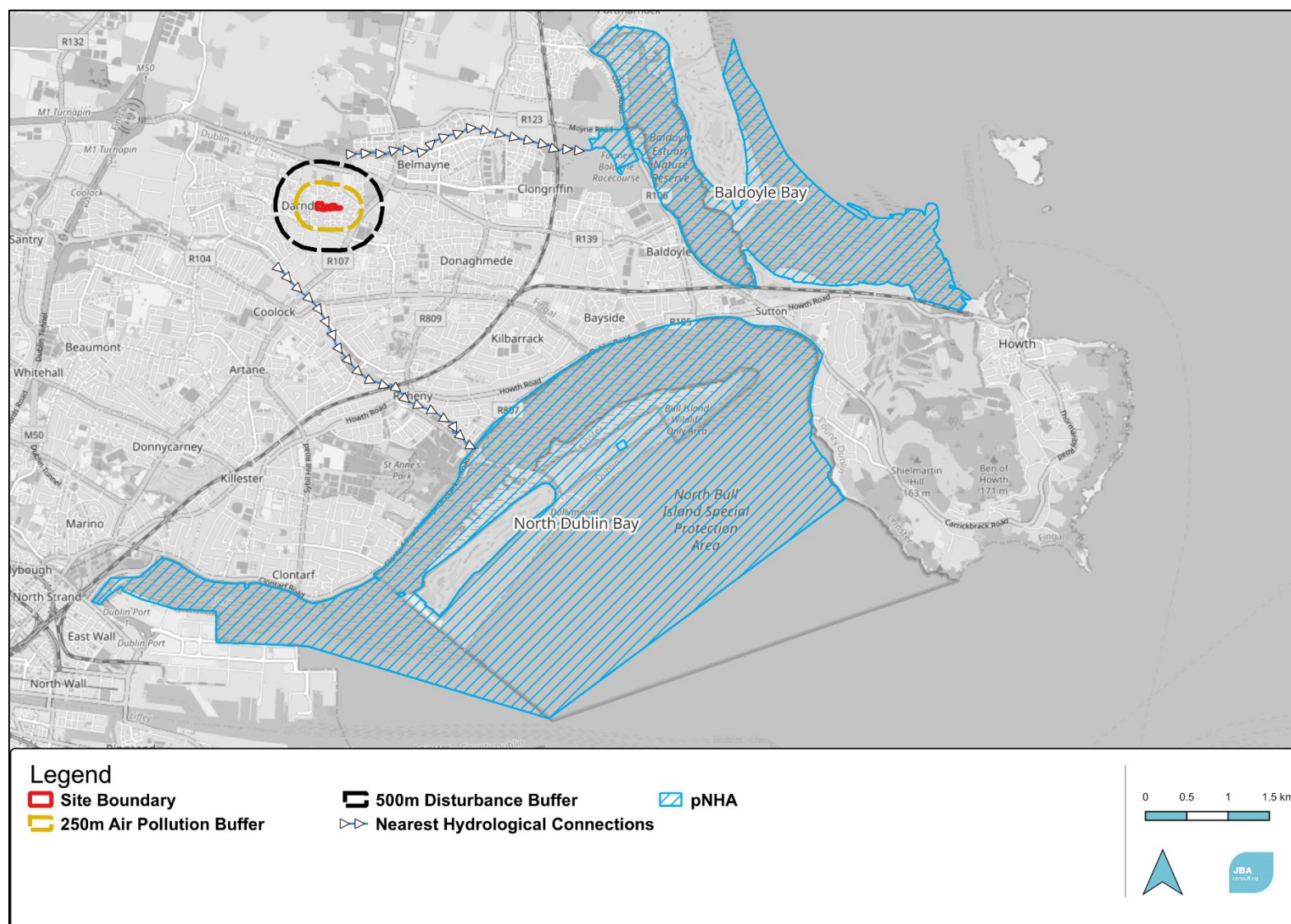


Figure 4-2: pNHA designated sites within the Zol of the site works (©OSM, 2026)

Table 4-3: Site briefs; QIs / SCIs; and project-relevant threats /pressures and their impacts and sources to the Natura 2000 sites within the Zol

Site Name	Brief	Qualifying Interests / Special Conservation Interests	Project-relevant Threats / Pressures: Impact (Source)
South Dublin Bay and River Tolka Estuary SPA	This designated site comprises a substantial part of Dublin Bay. It includes virtually all of the intertidal area in the south bay, as well as much of the Tolka Estuary to the north of the River Liffey. The sands support the largest stand of Dwarf Eelgrass on the east coast of Ireland. Sediments in the Tolka Estuary vary from soft thixotropic muds with a high organic content in the inner estuary to exposed, well aerated sands off the Bull Wall. The site regularly has an internationally important population of Brent Geese, which feeds on Dwarf Eelgrass in the autumn. It has nationally important numbers of a further 6 species including: Oystercatcher, Ringed Plover, Red Knot, Sanderling, Dunlin and Bar-tailed Godwit. It is an important site for wintering gulls, especially Black-headed Gull and Common Gull. Is a regular autumn roosting ground for significant numbers of terns, including Roseate Terns, Common Tern and Arctic Tern (NPWS, 2020a).	Light-bellied Brent Goose <i>Branta bernicla hrota</i> [A046] Oystercatcher <i>Haematopus ostralegus</i> [A130] Ringed Plover <i>Charadrius hiaticula</i> [A137] Grey Plover <i>Pluvialis squatarola</i> [A141] Red Knot <i>Calidris canutus</i> [A143] Sanderling <i>Calidris alba</i> [A144] Dunlin <i>Calidris alpina</i> [A149] Bar-tailed Godwit <i>Limosa lapponica</i> [A157] Redshank <i>Tringa totanus</i> [A162] Black-headed Gull <i>Chroicocephalus ridibundus</i> [A179] Roseate Tern <i>Sterna dougallii</i> [A192] Common Tern <i>Sterna hirundo</i> [A193] Arctic Tern <i>Sterna paradisaea</i> [A194] Wetland and Waterbirds [A999] (NPWS, 2015a)	Urbanised areas, human habitation: High impact (Outside) Road, motorways: Medium impact (Outside) (EEA, 2021)

Site Name	Brief	Qualifying Interests / Special Conservation Interests	Project-relevant Threats / Pressures: Impact (Source)
Baldoyle Bay SAC	The Baldoyle Bay SAC extends from just below Portmarnock village to the west pier for Howth in Co. Dublin. It is a tidal estuarine bay protected from the open sea by a large sand-dune system. Most of this dune system is now occupied with golf courses and is not part of the SAC. The bay has two rivers that flow in, the Mayne and the Sluice. Most of the intertidal area is sand with some muds within the more sheltered areas of the estuary, within these intertidal areas Narrow-leaved Eelgrass <i>Zostera angustifolia</i> and Dwarf Eelgrass <i>Zostera noltii</i> are found which are essential part of the protected Light-bellied Brent Goose <i>Branta bernicula hrota</i> diet. Salt meadows occur within the bay lining the two small rivers that flow into the bay. Along the River Mayne two protected plant species have been recorded, Borrer's Saltmarsh-grass <i>Puccinellia fasciculata</i> and Meadow Barley <i>Hordeum secalinum</i> . (NPWS, 2013d).	Mudflats and sandflats not covered by seawater at low tide [1140] Salicornia and other annuals colonising mud and sand [1310] Atlantic salt meadows <i>Glauco-Puccinellitalia maritimae</i> [1330] Mediterranean salt meadows <i>Juncetalia maritima</i> [1410] (NPWS, 2012)	Urbanised areas, human habitation: High impact (outside) (EEA, 2021)
Baldoyle Bay SPA	The Baldoyle Bay SPA is a narrow estuary stretching from north of Baldoyle to south of Portmarnock, Co. Dublin. It has two small rivers flowing into the inner part of the estuary. The SPA has large areas of intertidal flats that are exposed at low tide, mostly consisting of sandflats grading into mudflats within the inner sheltered parts of the estuary. Both the Narrow-leaved Eelgrass <i>Zostera angustifolia</i> and Dwarf Eelgrass <i>Zostera noltii</i> are found within the estuary. These are an important plant for the Light-bellied Brent Goose <i>Branta bernicula hrota</i> population. Baldoyle Bay is an important site for wintering waterfowl, providing good quality feeding areas and roost sites (NPWS, 2014a)	Light-bellied Brent Goose <i>Branta bernicula hrota</i> [A046] Shelduck <i>Tadorna tadorna</i> [A048] Ringed Plover <i>Charadrius hiaticula</i> [A137] Golden Plover <i>Pluvialis apricaria</i> [A140] Grey Plover <i>Pluvialis squatarola</i> [A141] Bar-tailed Godwit <i>Limosa lapponica</i> [A157] Wetland and Waterbirds [A999] (NPWS, 2013a)	Urbanised areas, human habitation: High impact (outside) (EEA, 2020a)

Site Name	Brief	Qualifying Interests / Special Conservation Interests	Project-relevant Threats / Pressures: Impact (Source)
North Bull Island SPA	The North Bull Island sand spit is a relatively recent depositional feature, formed as a result of improvements to Dublin Port. The site is among the top ten sites for wintering waterfowl in the country. It supports internationally important populations of Brent Goose and Bar-tailed Godwit and is the top site in the country for both of these species. A further 14 species have populations of national importance, with particular notable numbers of Shelduck, Pintail, Grey Plover, and Red Knot. The SPA is a regular site for passage waders such as Ruff, Curlew Sandpiper and Spotted Redshank. The site supports Short-eared Owl in winter. (NPWS, 2014b)	Light-bellied Brent Goose <i>Branta bernicla hrota</i> [A046] Shelduck <i>Tadorna tadorna</i> [A048] Teal <i>Anas crecca</i> [A052] Northern Pintail <i>Anas acuta</i> [A054] Northern Shoveler <i>Anas clypeata</i> [A056] Oystercatcher <i>Haematopus ostralegus</i> [A130] Golden Plover <i>Pluvialis apricaria</i> [A140] Grey Plover <i>Pluvialis squatarola</i> [A141] Red Knot <i>Calidris canutus</i> [A143] Sanderling <i>Calidris alba</i> [A144] Dunlin <i>Calidris alpina</i> [A149] Black-tailed Godwit <i>Limosa limosa</i> [A156] Bar-tailed Godwit <i>Limosa lapponica</i> [A157] Curlew <i>Numenius arquata</i> [A160] Redshank <i>Tringa totanus</i> [A162] Ruddy Turnstone <i>Arenaria interpres</i> [A169] Black-headed Gull <i>Chroicocephalus ridibundus</i> [A179] Wetland and Waterbirds [A999] (NPWS, 2015)	Continuous urbanisation: Medium impact (outside) Discharges: Medium impact (both) (EEA, 2020c)
North Dublin Bay SAC	The North Bull Island sand spit is a relatively recent depositional feature, formed as a result of improvements to Dublin Port during the 18th and 19th centuries. The seaward side of the island has a fine sandy beach. A substantial area of shallow marine water is included in the site. The interior of the island is excluded from the site as it has been converted to golf courses. Nature conservation is a main land use within the site. The North Bull Island dune	Mudflats and sandflats not covered by seawater at low tide [1140] Annual vegetation of drift lines [1210] <i>Salicornia</i> and other annuals colonising mud and sand [1310] Atlantic salt meadows (<i>Glauco-Puccinellietalia maritimae</i>) [1330] Mediterranean salt meadows (<i>Juncetalia maritimi</i>)	Urbanised areas, human habitation: High impact (outside) (EEA, 2020d)

Site Name	Brief	Qualifying Interests / Special Conservation Interests	Project-relevant Threats / Pressures: Impact (Source)
	system is one of the most important systems on the east coast and is one of the few in Ireland that is actively accreting. It possesses extensive and mostly good quality examples of embryonic, shifting marram and fixed dunes, as well as excellent examples of humid dune slacks. Both Atlantic and Mediterranean salt marshes are well represented, and a particularly good marsh zonation is shown. The salt marshes grade into mudflats and sandflats, some of which are dominated by annual <i>Salicornia</i> species. Petalwort <i>Petalophyllum ralfsii</i> occurs at its only known station away from the western seaboard. (NPWS, 2013f)	[1410] Embryonic shifting dunes [2110] Shifting dunes along the shoreline with <i>Ammophila arenaria</i> (white dunes) [2120] Fixed coastal dunes with herbaceous vegetation (grey dunes) [2130] Humid dune slacks [2190] Petalwort <i>Petalophyllum ralfsii</i> [1395] (NPWS, 2013c)	

Site Name	Brief	Qualifying Interests / Special Conservation Interests	Project-relevant Threats / Pressures: Impact (Source)
North-West Irish Sea SPA	The North-west Irish Sea SPA constitutes an important resource for marine birds. The estuaries and bays that open into it along with connecting coastal stretches of intertidal and shallow subtidal habitats, provide safe feeding and roosting habitats for waterbirds throughout the winter and migration periods. These areas, along with more pelagic marine waters further offshore, provide additional supporting habitats (for foraging and other maintenance behaviours) for those seabirds that breed at colonies on the north-west Irish Sea's islands and coastal headlands. These marine areas are also important for seabirds outside the breeding period. This SPA extends offshore along the coasts of counties Louth, Meath and Dublin, and is approximately 2,333km² in area. This SPA is ecologically connected to several existing SPAs in this area. (NPWS, 2023b).	Red-throated Diver <i>Gavia stellata</i> [A001] Great Northern Diver <i>Gavia immer</i> [A003] Fulmar <i>Fulmarus glacialis</i> [A009] Manx Shearwater <i>Puffinus puffinus</i> [A013] Cormorant <i>Phalacrocorax carbo</i> [A017] Shag <i>Phalacrocorax aristotelis</i> [A018] Common Scoter <i>Melanitta nigra</i> [A065] Little Gull <i>Larus minutus</i> [A177] Black-headed Gull <i>Chroicocephalus ridibundus</i> [A179] Common Gull <i>Larus canus</i> [A182] Lesser Black-backed Gull <i>Larus fuscus</i> [A183] Herring Gull <i>Larus argentatus</i> [A184] Great Black-backed Gull <i>Larus marinus</i> [A187] Kittiwake <i>Rissa tridactyla</i> [A188] Roseate Tern <i>Sterna dougallii</i> [A192] Common Tern <i>Sterna hirundo</i> [A193] Arctic Tern <i>Sterna paradisaea</i> [A194] Little Tern <i>Sterna albifrons</i> [A195] Guillemot <i>Uria aalge</i> [A199] Razorbill <i>Alca torda</i> [A200] Puffin <i>Fratercula arctica</i> [A204] (NPWS, 2023a).	Not currently listed given the sites newly granted SPA status. (NPWS, 2023)

Table 4-4: Site briefs and ecological features of conservation concern of the proposed Natural Heritage Areas within the Zol

Site Name	Brief	Ecological Features of Interest	
Baldoyle Bay pNHA	See Baldoyle Bay SAC and Baldoyle Bay SPA site descriptions above.	- QI / SCI habitats /species listed above within Baldoyle Bay SAC and SPA sections - Mallard <i>Anas platyrhynchos</i> - Northern Pintail <i>Anas clypeata</i> - Great Crested Grebe <i>Podiceps cristatus</i> - Teal <i>Anas crecca</i> - Common Scoter <i>Melanitta nigra</i> - Oystercatcher <i>Haematopus ostralegus</i> - Lapwing <i>Vanellus vanellus</i>	- Black-tailed Godwit <i>Limosa limosa</i> - Curlew <i>Numenius arquata</i> - Redshank <i>Tringa totanus</i> - Greenshank <i>Tringa nebularia</i> - Ruddy Turnstone <i>Arenaria interpres</i> - Little Egret <i>Egretta garzetta</i> - Spotted Redshank <i>Tringa erythropus</i> - Red Knot <i>Calidris canutus</i> - Dunlin <i>Calidris alpina</i>
North Dublin Bay pNHA	Includes an area around North Bull Island from Sutton to the River Tolka Estuary. For a more detailed description, see North Bull Island SPA, North Dublin Bay SAC, and South Dublin Bay and River Tolka Estuary SPA site descriptions above.	- QI / SCI habitats /species listed above within the North Bull Island SPA, North Dublin Bay SAC, and South Dublin Bay and River Tolka Estuary SPA - Grey Seal <i>Halichoerus grypus</i> - Harbour Seal <i>Phoca vitulina</i> - Ruff <i>Philomachus pugnax</i> - Short-eared Owl <i>Asio flammeus</i> - Curlew Sandpiper <i>Calidris ferruginea</i> - Spotted Redshank <i>Tringa erythropus</i>	- Goldeneye <i>Bucephala clangula</i> - Little Egret <i>Egretta garzetta</i> - Cormorant <i>Phalacrocorax carbo</i> - Greenshank <i>Tringa nebularia</i> - Red-breasted Merganser <i>Mergus serrator</i> - Wigeon <i>Mareca penelope</i> - Herring Gull <i>Larus argentatus</i> - Common Gull <i>Larus canus</i>

4.1.2 Screening of designated sites

An AA Screening has been carried out for this project by JBA (2026). Following initial screening, and based upon best scientific judgement it is concluded that **likely significant effects are not anticipated** from the project on any of the Natura 2000 sites within the project's Zol given the lengthy distances of the indirect hydrological connections and the direct distance between the project site and these Natura 2000 sites; as well as the site itself not acting as an ex-situ supporting habitat for flocks of sensitive SCI bird species:

- South Dublin Bay and River Tolka Estuary SPA;
- Baldoyle Bay SAC;
- Baldoyle Bay SPA;
- North Bull Island SPA;
- North Dublin Bay SAC; and
- North-West Irish Sea SPA

The pNHA sites below are being screened out due to the distance from the proposed development:

- Baldoyle Bay pNHA; and
- North Dublin Bay pNHA

4.1.3 Protected Species

National Biodiversity Data Centre (NBDC)

Records of protected flora and fauna including invertebrates, amphibians, reptiles, fish, birds and mammals collated from the NBDC (2026) database, present within the surrounding 2km within the past 10 years are listed in Appendix E.1. This list includes their level of protection, if they are red or amber listed on the IUCN Red List or the Birds of Conservation Concern in Ireland (2020-2026) and the date of the last record of this species at this location.

4.1.4 Invasive Non-Native Species

Certain invasive non-native animals and plants are listed under the First Schedule of the European Union (Invasive Alien Species) Regulations 2024 (S.I. No. 374/2024) and the Commission Implementing Regulation (EU) 2025/1422 update. This makes it an offence to release, plant them in the wild or cause them to disperse, spread or otherwise cause them to grow. If these species occur on a site proposed for development or other work which may disturb the ground, control of these species is likely to be required.

European Council's Regulation on the prevention and management of the introduction and spread of invasive alien species [2025/1422] sets out to prevent, minimise and mitigate the adverse impacts of the introduction and spread, both intentional and unintentional, of invasive

alien species on biodiversity and the related ecosystem services as well as on human health and the economy.

Table 4-5 below provides a list of INNS recorded within 2km of the site (NBDC, 2025) that are listed on the First Schedule of the European Union (Invasive Alien Species) Regulations 2024 (S.I. No. 374/2024; 2025/1422), and their approximate distance from the site. For a full list of INNS recorded within 2km of the site, see Appendix E.2.

Table 4-5: INNS recorded within or immediately adjacent to the site of proposed works

INNS	Impact	Regulation S.I. 374/2024, 2025/1422
Butterfly-bush <i>Buddleja davidii</i>	Medium	No
Cherry Laurel <i>Prunus laurocerasus</i>	High	No
Giant Hogweed <i>Heracleum mantegazzianum</i>	High	Yes
Grey Squirrel <i>Sciurus carolinensis</i>	High	Yes
Harlequin Ladybird <i>Harmonia axyridis</i>	High	Yes
Japanese Knotweed <i>Reynoutria japonica</i>	High	Yes
Jenkins' Spire Snail <i>Potamopyrgus antipodarum</i>	Medium	No
Ring-necked Parakeet <i>Psittacula krameri</i>	High	No
Sycamore <i>Acer pseudoplatanus</i>	Medium	No

4.2 Water Framework Directive

4.2.1 Surface Water Status

The proposed development is located within the WFD Mayne_SC_010 sub-catchment, within the WFD Liffey and Dublin Bay catchment (EPA, 2026). The nearest surface water course is the Mayne River which is located approximately 660m to the north of the site. This watercourse flows eastwards into the WFD Mayne Estuary transitional waterbody, which drains into the WFD Irish Sea Dublin (HA 09) coastal waterbody. The Santry River is located approximately 840m to the southwest of the site. This surface watercourse flows into the North Bull Island transitional waterbody, which drains into the Tolka Estuary transitional waterbody and Dublin Bay coastal waterbody. Table 4-6 and Figure 4-3 show the surface waterbodies within the vicinity of the site and their respective WFD status (2019-2024) and risk status.

Table 4-6: The WFD waterbodies within Zol of the proposed works

WFD Waterbody	WFD Status (2019-2024)	Risk Status
Mayne River	Poor	At risk
Santry River	Poor	At risk

WFD Waterbody	WFD Status (2019-2024)	Risk Status
Mayne Estuary	Moderate	Review
North Bull Island	Moderate	Review
Tolka Estuary	Poor	At risk
Dublin Bay	Good	Not at risk
Irish Sea Dublin (HA 09)	Good	Not at risk

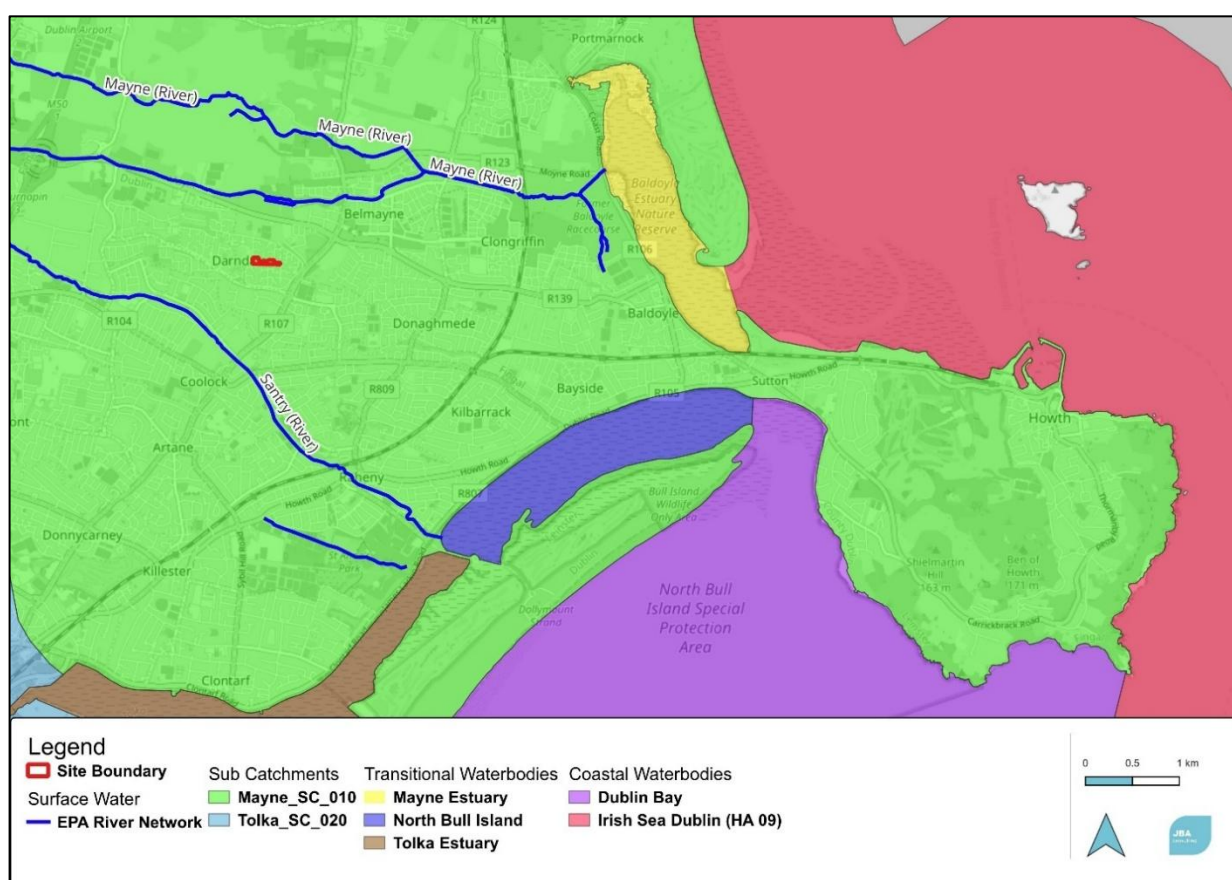


Figure 4-3: Sub-catchments and local waterbodies (©OSM, 2026)

4.2.2 Groundwater

The site is located in its entirety within the WFD Dublin groundwater body (Figure 4-4). This groundwater body currently has 'Good' WFD status (2019-2024), and its risk status is under review (EPA, 2025). The bedrock underlying the site is dominated by argillaceous bioclastic limestone and shale, while the site's subsoil permeability is low (GSI, 2026).

The site's underlying aquifer vulnerability is 'Low' (Figure 4-5). The aquifer underlying the site is considered to be a locally important bedrock aquifer which is moderately productive but only in local zones. This aquifer has a limited and relatively poorly connected network of fractures, fissures and joints, giving a low fissure permeability which tends to decrease further with depth.

A shallow zone of higher permeability may exist within the top few metres of more fractured/weathered rock, and higher permeability may also occur along fault zones. These zones may be able to provide larger 'locally important' supplies of water. In general, the lack of connection between the limited fissures results in relatively poor aquifer storage and flow paths that may only extend a few hundred metres. Due to the low permeability and poor storage capacity, the aquifer has a low 'recharge acceptance'. Some recharge in the upper, more fractured/weathered zone is likely to flow along the relatively short flow paths and rapidly discharge to streams, small springs and seeps. Groundwater discharge to streams ('baseflow') can significantly decrease in the drier summer months.

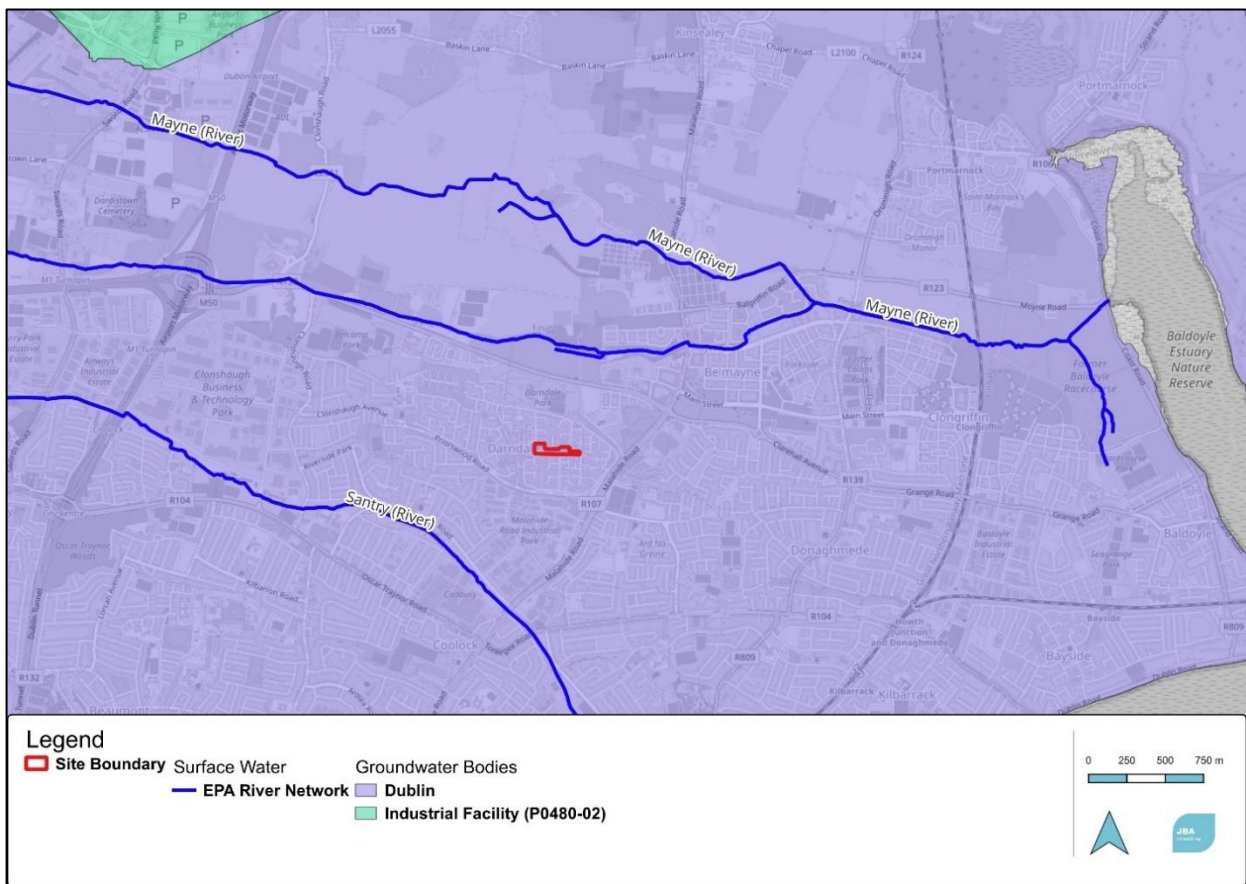


Figure 4-4: Groundwater bodies within the vicinity of the site (©OSM, 2026)

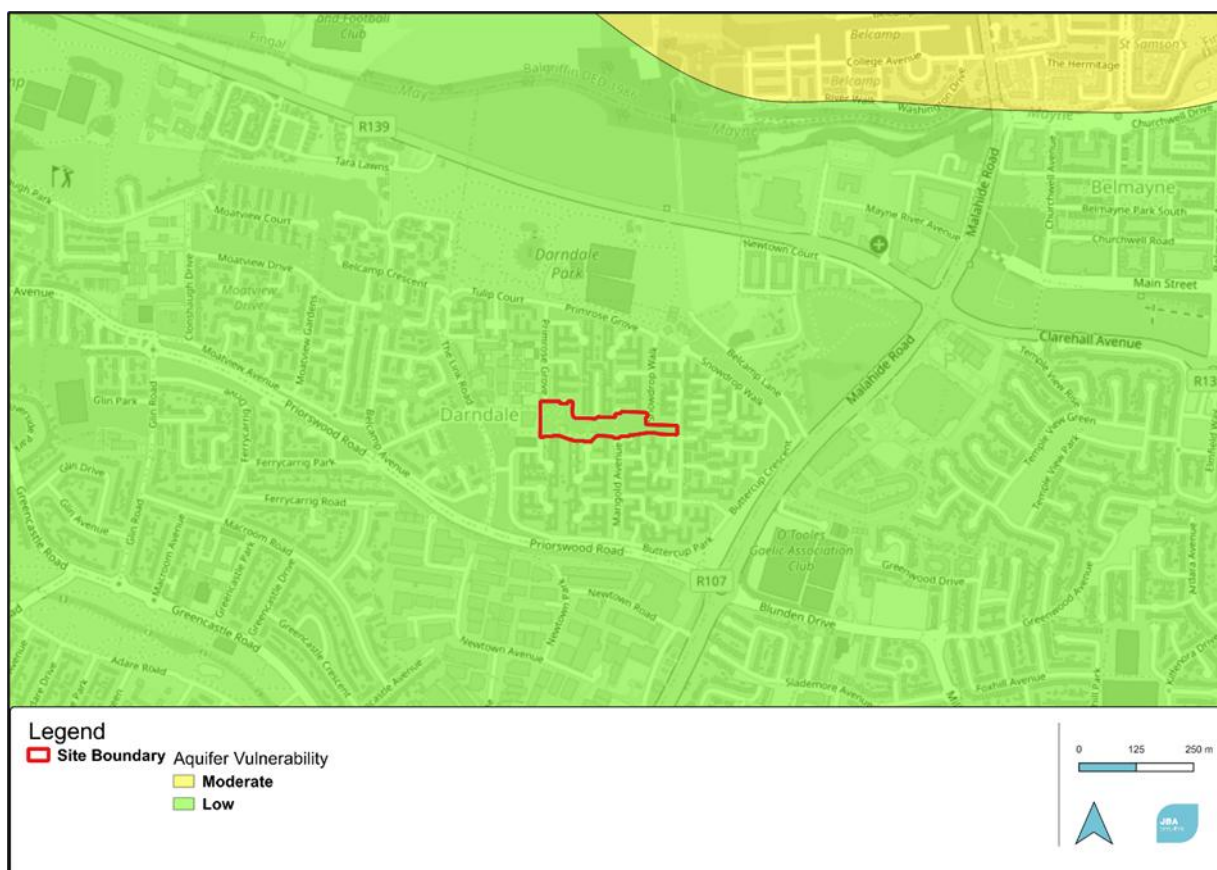


Figure 4-5: Groundwater vulnerability of the proposed site (©OSM, 2026)

4.3 Site Visits

The ecological walkover survey was conducted on 17/12/2025 by JBA Ecologists William Mulville and Jai Dolan. Two follow-up wintering bird surveys were conducted on 09/02/2026 and 20/02/2026 by JBA Ecologist William Mulville. The habitats and species recorded during the site visit are presented in detail in the following sections.

4.4 Habitats

The habitats recorded during the site survey are listed below in Table 4-7. These are mapped in Figure 4-6 and described in the sections below. The area of the proposed development consists of amenity grassland and artificial surfaces. The site is largely surrounded by residential properties.

Table 4-7: Habitats recorded during the site visit

Fossitt Code	Fossitt Habitat
BL3	Buildings and other artificial surfaces
GA2	Amenity grassland (improved)

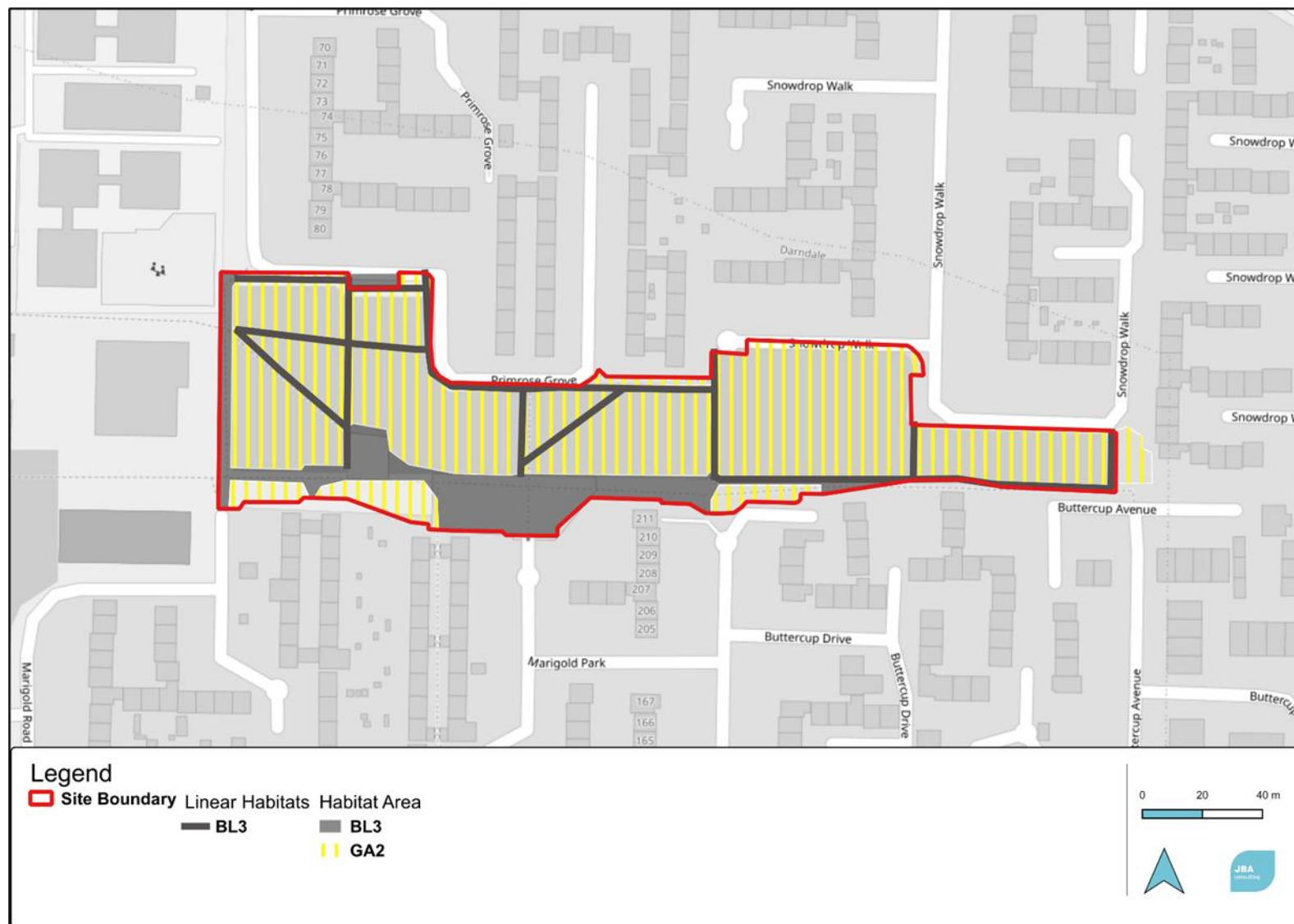


Figure 4-6: Habitats recorded on site classified by Fossitt (2000) (OSM, 2026)

4.4.1 Buildings and artificial surfaces (BL3)

There are several paved path areas running throughout the site. There is a paved area along the site's southern border. Only individual specimens of Perennial Rye-grass *Lolium perenne* were observed in the cracks of the artificial surfaces. No faunal species were recorded within this habitat.

Due to its lack of floral species and resources for local fauna, this habitat has been deemed to be of **less than local ecological importance**.

4.4.2 Amenity grassland (improved) (GA2)

The majority of the site's area is comprised of sections of amenity grassland. During all three site surveys, there was a high frequency of scattered refuse throughout this habitat, as well evidence that sections of the grassland had recently been burned. Floral species recorded within this habitat include Cock's-foot *Dactylis glomerata*, Creeping Thistle *Cirsium arvense*, Dandelion species *Taraxacum* spp., Groundsel *Senecio vulgaris*, Perennial Rye-grass (dominant), Pineappleweed *Matricaria discoidea*, and Ragwort *Jacobea vulgaris*. It was also observed that the sward height of the grass was notably higher (during all three site visits) than the sward height range preferred by Light-bellied Brent Goose (LBBG) *Branta bernicla hrota*.

Bird species recorded within this habitat across the surveys included Black-headed Gull *Chroicocephalus ridibundus*, Herring Gull *Larus argentatus*, Lesser Black-backed Gull *Larus fuscus*, Hooded Crow *Corvus cornix*, Jackdaw *Coloeus monedula*, Pied Wagtail *Motacilla alba yarrellii*, Rook *Corvus frugilegus*, and Starling *Sturnus vulgaris*. During the first and third site surveys LBBG flocks were observed flying north and south over this grassland during the first and third site surveys, with none of flocks attempting to land on the strip.

This habitat has foraging resources for some local fauna of conservation concern. However, due to its low floral diversity these resources are limited. Therefore, this habitat has been deemed to be of **low local ecological importance**.

4.5 Rare & Protected Flora

During a search of the NBDC records, no species red-listed species or flora listed under the Flora (Protection) Order 2022 were recorded within 2km of the site (NBDC, 2026); and nor were any rare or protected flora recorded on-site by surveyors.

The site is therefore considered of **less than local ecological importance** for protected flora.

4.6 Protected Fauna

4.6.1 Non-volant Mammals

There was no evidence of fauna species listed under the Wildlife Acts 1976-2021, the Wildlife (Amendment) Act 2023 or the EU Habitats Directive recorded by the JBA Ecologists during the ecological walkover survey. Mammals protected under the Wildlife Act that have been recorded under the NBDC within 2km of the site include:

- Hedgehog *Erinaceus europaeus*

There are limited foraging resources within the site for local Hedgehog and no refuges available, nor anyway sheltered commuting routes between the amenity grassland and any other natural local habitats (e.g. Darndale Park). Given the lack of safe commuting and sheltered in and around the site, the local Hedgehog likely does not utilise the proposed site.

Therefore, the proposed site is considered to be of **less than local ecological importance** for non-volant mammal populations.

4.6.2 Bats

Roosting

There are artificial or natural structures on the site capable of providing potential roosting features for local bat populations.

Therefore, the proposed site is considered to be of **less than local ecological importance** for roosting bats.

Foraging and Commuting

The amenity grassland habitat present within the site has limited foraging resources for local bat species. Darndale Park, located within approximately 200m to the north of the site, has higher quality foraging resources for local bat species. However, given the presence of street lighting within the residential area surrounding the site, as well along the roads within the vicinity of the site, bat activity within and around the site is expected to be minimal, with only the more light pollution tolerant bat species commuting through the site and foraging opportunistically.

Therefore, the proposed site is considered to be of **low local importance** for local foraging and commuting bat species.

4.6.3 Breeding and Wintering Birds

Desk Study

The NBDC records within 2km of the site have a list of protected species as shown in Appendix E.1. Bird species within this list include 16 species of conservation concern and/or SCI species of the Natura 2000 sites within Zol. These species are listed below in Table 4-8 along with their protection status and listing by the Birds of Conservation Concern Ireland (BoCCI) (Gilbert et al., 2021).

Table 4-8: Protected bird species recorded within NBDC records

Species	BoCCI 2020-2026	Annex / SCI Species
Black-headed Gull <i>Chroicocephalus ridibundus</i>	Amber (B&W)	Local SCI
Light-bellied Brent Goose <i>Branta bernicla hrota</i>	Amber (W)	Local SCI
Cormorant <i>Phalacrocorax carbo</i>	Amber (B&W)	Local SCI
Goldcrest <i>Regulus regulus</i>	Amber (B)	-
Great Black-backed Gull <i>Larus marinus</i>	Green	Local SCI
Grey Wagtail <i>Motacilla cinerea</i>	Red (B)	-

Species	BoCCI 2020-2026	Annex / SCI Species
Herring Gull <i>Larus argentatus</i>	Amber (B&W)	Local SCI
House Sparrow <i>Passer domesticus</i>	Amber (B)	-
Lapwing <i>Vanellus vanellus</i>	Red (B&W)	-
Lesser Black-backed Gull <i>Larus fuscus</i>	Amber (B&W)	Local SCI
Little Egret <i>Egretta garzetta</i>	Green	Annex I
Oystercatcher <i>Haematopus ostralegus</i>	Red (B&W)	Local SCI
Peregrine Falcon <i>Falco peregrinus</i>	Green	Annex I
Starling <i>Sturnus vulgaris</i>	Amber (B)	-
Swift <i>Apus apus</i>	Red (B)	-
Yellowhammer <i>Emberiza citrinella</i>	Red (B)	-
Designated category within BOCCI; B = Breeding, W = Wintering		

Wintering Bird Survey Data

During the first wintering bird survey (17/12/2025), LBBG, Black-headed Gull, Herring Gull, and Oystercatcher *Haematopus ostralegus* were recorded foraging within Darndale Park, located to the north of the site. LBBG is an SCI bird species of the South Dublin Bay and River Tolka Estuary SPA, North Bull Island SPA, and Baldoyle Bay SPA, while Oystercatcher is an SCI species of South Dublin Bay and River Tolka Estuary SPA and North Bull Island SPA.

Herring Gull were recorded within the area surrounding the site, with an estimated 80 individuals scattered throughout Darndale Park, and additional gulls present in additional green spaces to the west of the site. Black-headed Gulls were recorded at lower densities (several individuals per green area) within Darndale Park and the green spaces to the west of the site. Additionally, eight Oystercatcher were recorded foraging within Darndale Park. A flock of ~50 LBBG were recorded foraging within Darndale Park southeastern corner, in close proximity to the Tulip Court Road. During the first survey, the LBBG were spooked (dogwalker – dog unleashed) and flew southwards over the proposed site. The LBBG made no attempt to land within the site or the green spaces to the west and were estimated to be flying at a height of approximately 6-7 stories.

During the second wintering bird survey on 09/02/2026, a new wintering bird species was noted at the proposed site, namely Lesser Black-backed Gull, with two individuals foraging within the site. While this was only SCI species present within the site during the second survey, a small flock of eight Starlings (Amber-listed Breeding) were observed foraging on-site; however, there were no means of discerning whether these individuals were over-wintering or residents. LBBG (61 individuals) and Oystercatcher (11 individuals) were recorded foraging to the north-west, within a green area between Moatview Drive and Belcamp Crescent. This amenity grassland habitat had a lower sward height (resulting from the notable grazing from local domestic equine species) than the proposed site and was evidently more suitable for grazing LBBG flocks. The LBBG flock was disturbed by an unknown source and flew in a south-easterly direction beyond the proposed site and east of the R107.

During the third wintering bird survey, no SCI bird species were noted within the proposed site. Surveyors did observe a small flock of 24 LBBG fly north over the eastern end of the site towards

Darndale Park (no attempts were made to land at the proposed site). An additional flock of approximately 200 individuals was observed at the same green area as previous survey, between Moatview Drive and Belcamp Crescent, approximately 510m north-west of the site. When this LBBG flock was later disturbed, the flock split into four small flocks with the largest of the four heading to Darndale Park, while the other three flocks flew in south-westerly, southerly, and south-easterly directions. None of the flocks made attempts to land at or adjacent to the proposed site.

Additional Wintering Bird Desktop Data

Amenity grassland areas, such as grass pitches, are commonly used as ex-situ foraging and roosting habitat for a number of wintering bird species, namely LBBG, Black-headed Gull, and Oystercatcher. GPS data collected by PhD researcher Tess Handby (University of Exeter) (Handby, 2022), who has monitored LBBG populations in the Dublin area between 2018 and 2020, indicates the site is located within the home range (95% kernel density estimation [KDE]) of both the North Bull Island (north end) (Figure 4-7) and North Bull Island (south end) (Figure 4-8) LBBG populations. 50% KDE represents roosting areas.

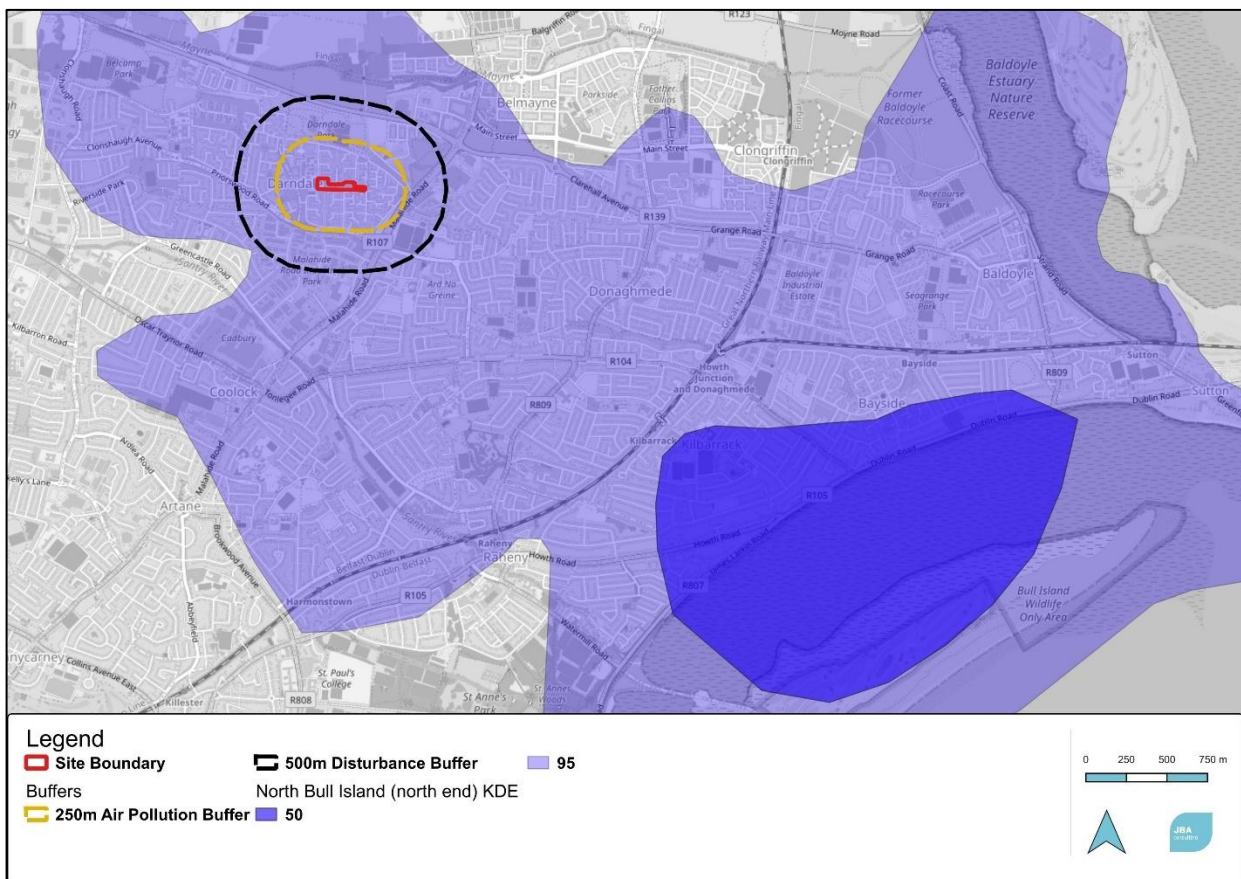


Figure 4-7: KDE for home range of the North Bull Island (north end) LBBG population (©OSM, 2026, Handby, 2022)



Figure 4-8: KDE for home range of the North Bull Island (south end) LBBG population (©OSM, 2026, Handby, 2022)

The GPS data indicates that Darndale Park, located within 500m of the site, was a key foraging site for LBBG during the wintering period of 2018/19 and 2019/20 (Figure 4-9). Darndale Park was within the top 20 most used areas by LBBG within Dublin County for both wintering periods (Handby, 2022). Additionally, species data available on Irish Birding's website (Irish Birding, 2026) indicates LBBG were recorded within Darndale Park during the wintering period of 2024/25.

Furthermore, the GPS data indicates LBBG were present within several amenity grassland areas located within the vicinity of the site during wintering period of 2018/19 and 2019/20. Notably, LBBG were recorded within the O'Tooles GAA grass pitches located approximately 285m to the southeast of the site. LBBG were also recorded within a green space adjacent to Moatview Drive located approximately 510m (the flock's location distance) to the north-west of the site. These areas were considered non-key in terms of LBBG foraging grounds within Dublin County during the wintering periods of 2018/19 and 2019/20.

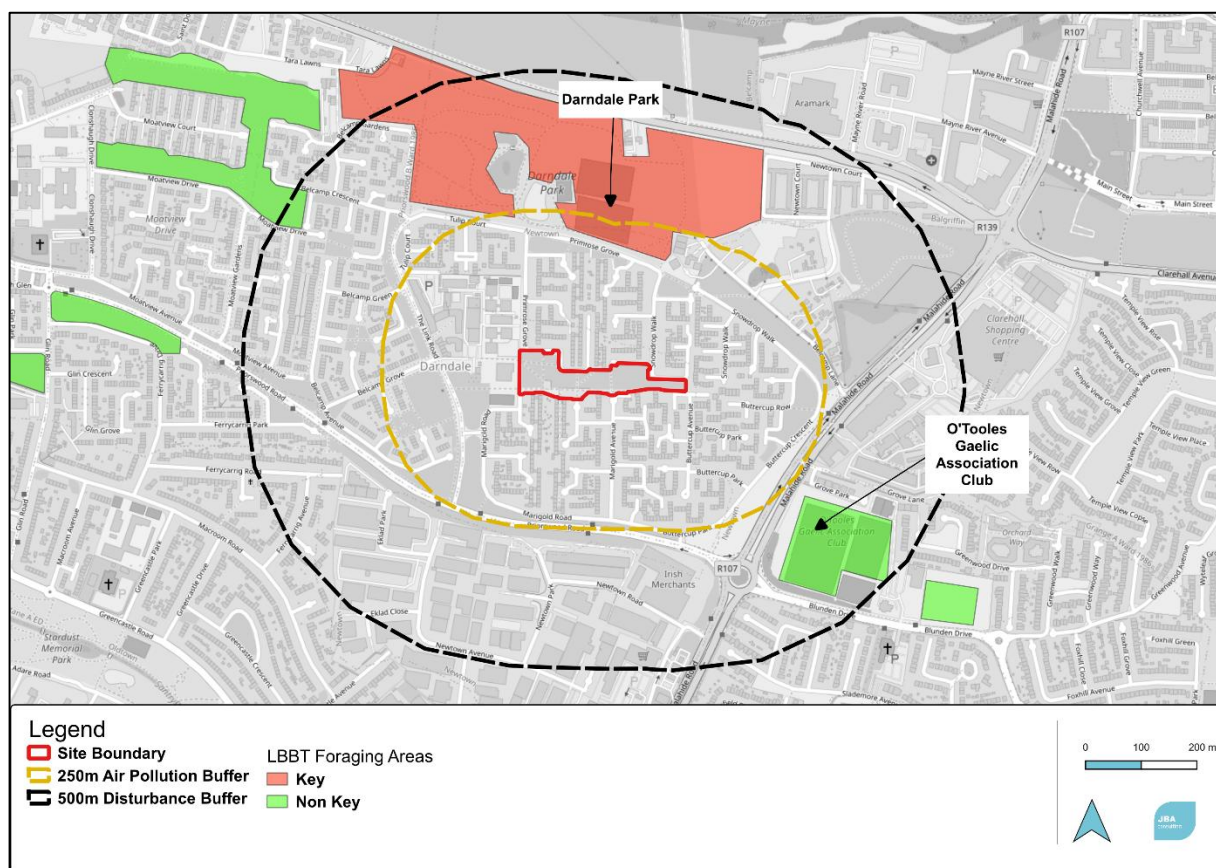


Figure 4-9: LBBG foraging areas within the vicinity of the site during the wintering period of 2018/19 and 2019/20 (©OSM, 2026, Handby, 2022)

Summary

LBBG were present for period of time in Darndale Park during all three wintering bird surveys. Oystercatcher were recorded once within Darndale Park to the north of the site and once at the Moatview Drive green area to the north-west.

Both Herring Gull, Lesser Black-backed Gull and Black-headed Gull were recorded throughout Darndale Park and the surrounding area, as well as within the site itself.

At the time of the surveys, the grass sward height within the site was estimated to be between 8-12cm. LBBG generally show strong foraging preferences for grassland areas with a sward height of 6cm (Hassall et al., 2001). The amenity grass areas within Darndale Park and the Moatview Drive green area were more preferable to LBBG than the proposed site due to their lower sward height. Furthermore, these open green spaces provide greater audible and visual distance buffers between LBBG flocks and local anthropogenic disturbances, when compared to the proposed site. There were also significant sources of disturbance present within the proposed site, such as local free-roaming dogs.

Unlike LBBG, Lesser Black-backed Gull, Black-headed Gull and Herring Gull have wide habitat preferences and are found throughout the wider Dublin area. These species are habituated to urban noise and other sources of disturbance. Oystercatcher forage within green spaces within Dublin and are relatively widespread within Dublin Park areas. Similar to LBBG, the present of

significant sources of disturbance within the site makes the area less favourable for Oystercatcher foraging.

Therefore, the proposed site is considered to be of **low local ecological importance** for migrant wintering bird populations, given its limited capacity to provide foraging resources for several gull species.

The amenity grassland habitat present within the site has foraging potential for local breeding bird species, such as Starling. There are no nesting resources for local breeding bird within the site. Therefore, the proposed site has been deemed to be of **low local ecological importance** for breeding birds.

4.6.4 Amphibians

There was no evidence of amphibian species listed under the Wildlife Acts 1976-2021, the Wildlife (Amendment) Act 2023 or the EU Habitats Directive recorded by the JBA Ecologists during the ecological walkover survey. Common Frog *Rana temporaria* has been recorded within NBDC within 2km of the site in the last 10 years. This species is protected under the Wildlife Acts and Annex V of the EU Habitats Directive.

The amenity grassland habitat present within the site has limited foraging potential and no refugia or sheltered commuting belts for Common Frog.

Therefore, in the context the site and the surrounding area, the proposed site is considered to be of **less than local ecological importance** for the local amphibian populations.

4.6.5 Reptiles

There was no evidence of reptilian species, namely Common Lizard *Zootoca vivipara*, listed under the Wildlife Acts 1976-2021, the Wildlife (Amendment) Act 2023 or the EU Habitats. This species is also not present within the NBDC records within 2km of the site in the last 10 years. There are limited foraging resources available for this species within the site and no refugia or sheltered commuting belts for Common Lizard.

Therefore, the proposed site is considered to be of **less than local ecological importance** for reptiles.

4.6.6 Terrestrial Invertebrates

During the ecological walkovers, no terrestrial invertebrate species were recorded, bearing in mind that all surveys were conducted during winter months. The amenity grassland habitat present within the site has limited foraging resources for local terrestrial invertebrates, in particular pollinators, given the grass species dominance. Nesting / hive-building opportunities are present for several common subterranean nesting / hive-building species (e.g. Common Carder-bee *Bombus pascuorum*), which are likely present within the locality. These opportunities are comprised of small patches of bare soil present in grassland, and at the edges of the grassland, where it meets the vertical concrete verges.

Therefore, the proposed site is considered to be of **low local ecological importance** for this faunal group.

4.7 Invasives Non-native Species

During the site visit, no invasive non-native species were recorded within the vicinity of the site.

4.8 Ecological Features Considered for Further Assessment

The designated sites and ecological features identified during the desktop study and ecological surveys, that were deemed to require further examination within the impact assessment section, are listed in Table 4-9. Sites and features screened out are not considered further in this assessment. Designated sites and ecologically features screened that are not to be examined further are also listed, along with the rationale for their exclusion.

Table 4-9: Summary of ecological features requiring impact assessment

Designated Site / Ecological Feature	Value	Rationale for Inclusion / Exclusion
South Dublin Bay and River Tolka Estuary SPA	International	<u>Excluded from impact assessment</u> This Natura 2000 site has been screened out in the application's accompanying Screening for Appropriate Assessment report (JBA, 2026).
Baldoye Bay SAC	International	<u>Excluded from impact assessment</u> This Natura 2000 site has been screened out in the application's accompanying Screening for Appropriate Assessment report (JBA, 2026).
Baldoye Bay SPA	International	<u>Excluded from impact assessment</u> This Natura 2000 site has been screened out in the application's accompanying Screening for Appropriate Assessment report (JBA, 2026).
North Dublin Bay SAC	International	<u>Excluded from impact assessment</u> This Natura 2000 site has been screened out in the application's accompanying Screening for Appropriate Assessment report (JBA, 2026).
North Bull Island SPA	International	<u>Excluded from impact assessment</u> This Natura 2000 site has been screened out in the application's accompanying Screening for Appropriate Assessment report (JBA, 2026).
North-West Irish Sea SPA	International	<u>Excluded from impact assessment</u> This Natura 2000 site has been screened out in the application's accompanying Screening for Appropriate Assessment report (JBA, 2026).
Baldoye Estuary pNHA	National	<u>Excluded from impact assessment</u> No impacts expected due to a lack of direct hydrological pathways and distance from the proposed site.
North Dublin Bay pNHA	National	<u>Excluded from impact assessment</u> No impacts expected due to a lack of direct hydrological pathways and distance from the proposed site.
Buildings and other artificial surfaces	Less than local	<u>Excluded from impact assessment</u> Excluded due to very low ecological value.

Designated Site / Ecological Feature	Value	Rationale for Inclusion / Exclusion
Amenity grassland (improved)	Low local	<u>Included in impact assessment</u> This habitat provides foraging resources for breeding and wintering bird species, as well as terrestrial invertebrates.
Rare & protected flora	Less than local	<u>Excluded from impact assessment</u> No evidence of rare and/or protected flora within the site and the surrounding area.
Non-volant Mammals	Less than local	<u>Excluded from impact assessment</u> Site is lacking required foraging and refuge resources.
Bats (Roosting)	Less than local	<u>Excluded from impact assessment</u> The site does not contain any natural or artificial structures that have the capacity to host roosting bats.
Bats (Foraging & Commuting)	Low local	<u>Included in impact assessment</u> The site provides very limited foraging resources for local bats.
Breeding birds	Low local	<u>Included in impact assessment</u> The site provides limited foraging resources for local breeding birds of conservation concern.
Wintering birds	Low local	<u>Included in impact assessment</u> The site provides limited foraging resources for migrant wintering birds of conservation concern.
Amphibians	Less than local	<u>Excluded from impact assessment</u> Site is lacking required foraging and refuge resources.
Reptiles	Less than local	<u>Excluded from impact assessment</u> Site is lacking required foraging and refuge resources.
Terrestrial Invertebrates	Low local	<u>Included in impact assessment</u> Amenity grassland habitat on site has foraging and nesting / hive-building potential for terrestrial invertebrates.
Invasive Non-native Species	N/A	<u>Included in impact assessment</u> Invasive species must be brought forward within the assessment for biosecurity reasons, i.e., the introduction of invasives species to the site.

5 Other Relevant Plans and Projects

5.1 Cumulative Effects

As part of the EclA, in addition to the proposed works, other relevant plans and projects in the region that may induce cumulative impacts must be considered at this stage. These are listed in sub-sections below and are assessed alongside the proposed development within the impact assessment section (JBA, 2026).

5.2 Plans

The following projects or plans were identified as potential sources of in-combination effects:

- Dublin City Development Plan 2022-2028;
- Greater Dublin Drainage Strategy 2005; and
- River Basin Management Plan for Ireland 2022-2027.

5.2.1 Dublin City Development Plan 2022 - 2028 - Natura Impact Report Conclusion (Scott Cawley, 2022)

It has been objectively concluded by Scott Cawley Ltd., following an examination, analysis and evaluation of the relevant information, including in particular the nature of the predicted impacts associated with the Plan, and that the implementation of mitigatory measures identified in Section 8 of the NIR (and included as objectives and policies of the Plan), that the Plan will not adversely affect (either directly or indirectly) the integrity of any European site, either alone or in combination with other plans or projects. Furthermore, the elected members of Dublin City Council, as the competent authority, formally recorded their determination at the end of the special council meetings held on November 1st and 2nd 2022 that the Plan would not adversely affect (either directly or in directly) the integrity of any European site, either alone or in combination with other plans of projects.

5.2.2 Greater Dublin Drainage Strategy 2005

The Greater Dublin Drainage Strategy sets out the strategic planning for the development of wastewater treatment in the Greater Dublin area in relation to the Ringsend WWTP Upgrade, Greater Dublin Drainage Project and associated wastewater network drainage projects (Irish Water, 2024). The Ringsend WWTP Upgrade includes plans to expand the WWTP to its ultimate capacity, together with associated network upgrades required. The Greater Dublin Drainage Project is planned to relieve both the Ringsend WWTP and network loading by construction of a new WWTP at Clonshaugh, an orbital sewer and provision of an outfall pipe discharging 1km northeast of Ireland's Eye.

The Ringsend WWTP upgrade is in progress and carried out in stages, with an increased capacity of 400,000 PE by Q1 2021 and the ultimate capacity of 2.4 million PE to be in operation by 2025 (Irish Water, 2025).

The Greater Dublin Drainage Project is strategically important to the Dublin Region in that it will provide capacity for residential and commercial growth (Irish Water, 2024).

The Greater Dublin Drainage Strategy is not anticipated to contribute to cumulative or in-combination effects in respect to the proposed works.

5.2.3 River Basin Management Plan for Ireland 2022-2027

Ireland's third River Basin Management Plan for Ireland - 'Water Action Plan 2024: A River Basin Management Plan' (DoHLGH, 2024) sets out the measures that are necessary to protect and restore water quality in Ireland. The overall aim of the plan is to ensure that our natural waters are sustainably managed and that freshwater resources are protected so as to maintain and improve Ireland's water environment. The 3rd cycle Catchment Reports were published in 2024. The Catchment Reports provide a summary of the water quality assessment outcomes for respective catchments, including status and risk categories, significant threats and pressures, details on protected areas and a comparison between cycle 2 and cycle 3.

The third cycle Catchment Report for Liffey and Dublin Bay Catchment (EPA, 2024) indicates that 42% of surface waterbodies were at 'good' or 'high' ecological status, and 86% of groundwater bodies were at 'good' status. The overall change in quality between Cycles 2 and 3 include 2 are mixed. There has been neither an increase or decrease in the number of river waterbodies valued at "Poor" or "Bad" status, remaining at 18% between cycles. There is an increase of river waterbodies reaching a "High" status from 9% to 10%, there was also a decrease in waterbodies from "Good" to "Moderate" value by approximately 3% of river waterbodies (as seen in (Figure 5-1)). The main significant pressures are aquaculture, anthropogenic, atmospheric, historically polluted sites and waste pressures followed by agriculture, urban run-off and forestry.

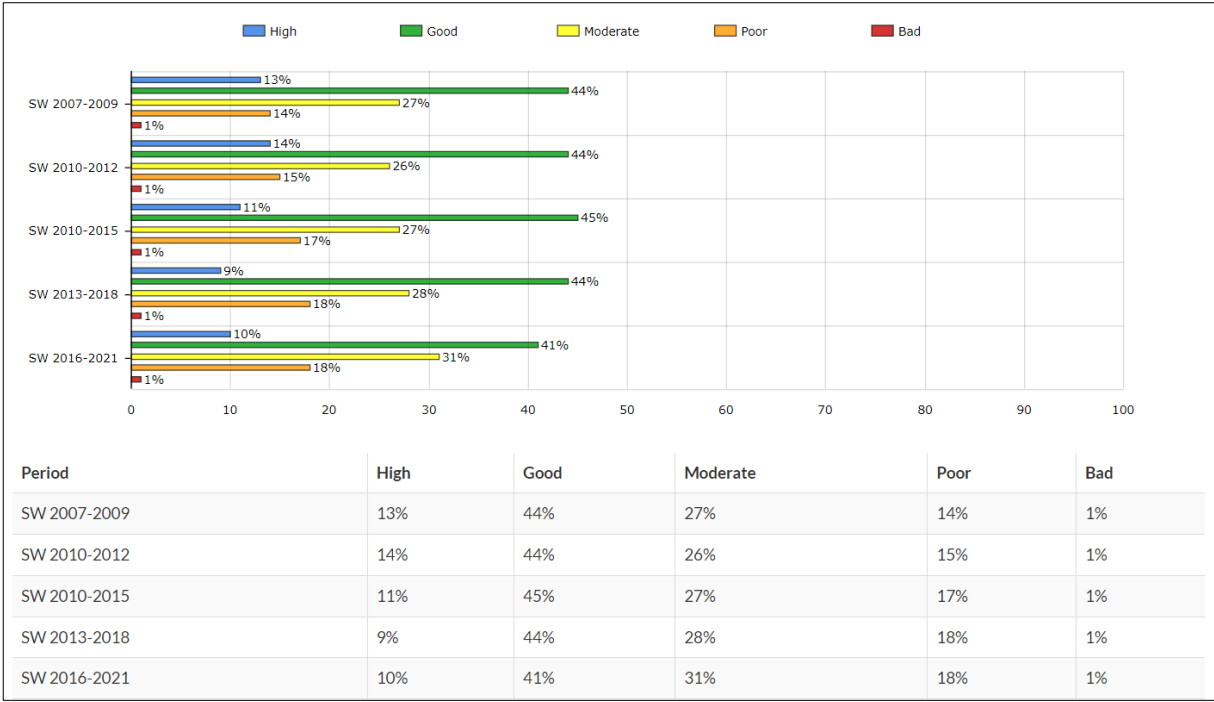


Figure 5-1: Changes in quality of river waterbodies in the Liffey and Dublin Bay catchment since 2007 (EPA, 2024)

5.3 Other Planning Applications

A search of planning applications that have been made in the last three years and within 2km of the proposed project was carried out. Applications for home extensions, internal alterations and retentions are not considered. The projects that could have in-combination effects with the proposed development are listed in Table 5-1 overleaf.

The City Development Plan, River Basin Management Plan and other local projects given permission by Dublin City Council (DCC) are considered in combination with the currently proposed project in the following Impact Assessment section.

Table 5-1: Projects granted planning permission vicinity of proposed site

Planning Reference	Address	Application Status	Decision Date	Summary of Development
F22A/0426	Belcamp Hall (Protected Structure), Malahide Road, Belcamp, Dublin 17	Accepted (grant permission)	22/03/2023	The proposed development will consist of the construction of 32 no. residential units (11 no. 1 bed units 19 no 2 bed units and 2 no. 2 bed live/work units) and 3 no. retail units all contained within 2 no. individual buildings as follows: A 1-2 storey mixed use building comprising 3 no. retail units in the single storey part of the building and 2 no. 2 bed live/work units in the two storey part of the building (work spaces at ground floor level and residential units at first floor level with associated balconies); and a 4 storey apartment building comprising 30 no. units (11 no. 1 bed & 19 no. 2 beds) with associated balconies/terraces; car parking and bicycle parking; landscaping and boundary treatments, public lighting and all associated site and engineering works necessary to facilitate the development.

6 Impact Assessment

6.1 Introduction

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

The potential impacts from the development are assessed under the following:

- Disturbance to habitats and species
- Habitat loss and degradation (foraging, commuting, general refuge and nesting)
- Impacts on local water quality (Surface water and underlying aquifer)

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

6.2 Do Nothing Scenario

If the proposed works were not to go ahead and the present land management continues as is, the ecological value of the site would remain unchanged.

6.3 Construction Phase

6.3.1 Habitats

Amenity grassland (improved) [Low Local]

During the construction phase, this habitat will be lost in its entirety; and won't be partially reinstated until the beginning of the operation phase.

Therefore, in the absence of mitigation, a **short-term negative impact of profound significance** is anticipated for this habitat.

6.3.2 Fauna

Bats (Foraging & Commuting) [Low Local]

During the construction phase, the amenity grassland habitat will be lost in its entirety. This will lead to a loss of foraging resources for local bat species. Additional impacts relate to the construction-based external lighting which has the potential to impact the foraging and commuting activities of local bats.

Therefore, in the absence of mitigation, a **short-term negative impact of slight significance** is anticipated for this faunal group.

Breeding Birds [Low Local]

During the construction phase, the loss of amenity grassland will lead to a loss of foraging resources for local breeding birds. Local bird species will potentially be physically, visually and audibly disturbed from their foraging activities on-site during the construction works.

While the amenity grassland will be cleared in full, other pollution events during the construction phase, for example hydrocarbon spills, have the potential to degrade the site's soils (and the operational amenity grasslands) temporarily or in the long-term, depending on the volume split and the efficiency of the clean-up.

Additionally, some breeding bird species may forage amongst the disturbed soils in periods of inactivity on-site, i.e., weekends, and in doing so, come in contact with harmful substances, such as hydrocarbons, in form of consumption of contaminated invertebrates or direct contact with their feathers, both of which will lead to physiological harm to the affected individual(s).

Therefore, in the absence of mitigation, a **temporary to long-term negative impact of slight significance** is anticipated for this faunal group.

Wintering Birds [Low Local]

During the construction phase, the removal of the amenity grassland will lead to a loss of foraging resources for migrant wintering birds. Light-bellied Brent Goose and Oystercatcher utilise amenity grassland areas as ex-situ supporting foraging habitat, and the loss of this habitat may have detrimental impacts for both species. However, at the time of the surveys, the grass sward height of the amenity grassland within the site was too long for Light-bellied Brent Goose grazing and less favourable for Oystercatcher. Additionally, notable sources of disturbance were present within the site during the survey for both Light-bellied Brent Goose and Oystercatcher, including free-roaming dogs, which likely result in frequent disturbance to any bird species foraging within the amenity grassland. As such, the amenity grassland area within the site is considered unsuitable to act as an ex-situ supporting site for Light-bellied Brent Goose and Oystercatcher. Therefore, there will be no loss of ex-situ supporting habitat for these two protected species as a result of the construction of the development. As Herring Gull, Lesser Black-backed Gull and Black-headed Gull have wide habitat preferences, and the scale of the amenity grassland is not considered to be critical supporting habitat for these species; therefore, these species will not lose any ex-situ supporting habitat as a result of the proposed development.

These protected bird species may also be physically, visually and audibly disturbed from their foraging activities on-site, and immediately adjacent areas during the construction works. The LBBG and Oystercatcher flocks recorded foraging within the 'Non-Key' green area to north-west are considered to be beyond (500m) the audible and visual disturbance of the proposed development's construction activities.

The LBBG and Oystercatcher flocks recorded within Darndale Park, approximately 200m to the north of the site. The proposed works may have the potential to disturb the foraging activities of both species within Darndale Park. However, during the surveys both species were recorded foraging in close proximity to the Tulip Court and are very likely to be accustomed to the baseline levels of vehicular noise disturbance, given the park's location between the Tulip Court to the south and the high frequency traffic of the 4-lane R139 to the north.

JBA previously conducted high frequency surveying of LBBG and Oystercatcher for two projects, namely within the Baldoyle Racecourse (2024-2025 winter period 114hrs of observation); and Erin's Isle GAA, Finglas Luas (multi-year surveying – 96hrs of observation), and found both species were partially tolerant to a degree of vehicular noises and movements. This included larger vehicles associated construction sites, as well as high decibel noises commonly associated with construction sites (e.g. dumping of hardcore substrate and excavating) noise occurring adjacent to the park area (JBA, 2025; Egis & JBA, 2025). Only exceptionally, loud and erratic noise generation led to increased vigilance behaviour and slow walking movement away from the source of the noise. Additionally, the residential area separating the proposed site from Darndale Park, will slightly buffer the park from audible disturbance; and screen the majority of visual disturbances generated on-site. These two past projects observed LBBG flocks from the northern and southern sub-populations of North Bull Island SPA and the Baldoyle Bay SPA sub-population.

While the SCI species Black-headed Gull, Lesser Black-backed Gull and Herring Gull were recorded within and adjacent to the site, these gull species are known for their resilient to urban noise disturbance and will likely not be notably impacted by the proposed construction works, see Figure 6-1 below an example.



Figure 6-1: Herring Gulls foraging on food items scraps within an active construction site

While the amenity grassland will be cleared in full, other pollution events during the construction phase, for example hydrocarbon spills, have the potential to degrade the site's soils (and the operational amenity grasslands) temporarily or in the long-term, depending on the volume split and the efficiency of the clean-up. Contaminated soils lead to contaminated invertebrate prey items for insectivorous gull species, leading to the accumulation of toxins within the affected gulls, leading to long-term physiological harm.

Furthermore, a number of wintering bird species, in particular gull species, may forage amongst the disturbed soils in periods of inactivity on-site, i.e., weekends, and in doing so, come in contact with harmful substances, such as hydrocarbons, in form of direct contact with their

feathers, which will degrade the insulative qualities of the feathers, and potential affect the flight capabilities.

Therefore, in the absence of mitigation during the construction phase, a **temporary to medium-term negative impact of slight significance** is anticipated for migrant wintering bird populations.

Terrestrial Invertebrates [Low Local]

The removal of the amenity grassland and soil works has the potential result in the destruction of potential subterranean bee nests/hives in the event that the works take place between March and September. Outside of these months, there will still be fatalities to invertebrate species which spend their full life-cycle, or part of their life-cycle (e.g. moth larvae) within the soil environment via physical impact (e.g. excavator buckets).

Additionally, pollution events during the construction phase, such as hydrocarbon spills, have the potential to degrade the site's soils (and the operational amenity grasslands) temporarily or in the long-term, depending on the volume split and the efficiency of the clean-up. This will adversely impact any soil-bound invertebrates through direct contamination.

Therefore, in the absence of mitigation during the construction phase, a **short-term negative impact of slight significance** is anticipated for this terrestrial invertebrate populations.

6.4 Operation Phase

6.4.1 Habitats

Amenity grassland (improved) [Low Local]

During the operational phase, this habitat will be replaced with a mix of artificial surfaces, residential properties, tree and ornamental shrub planting, and garden spaces. This will lead to a notable reduction in total available foraging area. However, the creation of some new habitat types in place of the lower value amenity grassland, will help offset this impact through a more variable range in flora and the local fauna they can support.

Therefore, in the absence of mitigation, an initial **very significant long-term negative impact** is anticipated for this grassland habitat.

6.4.2 Fauna

Bats (Foraging & Commuting) [Low Local]

During the operational phase, there will be a loss of foraging resources for bats due to the removal of the amenity grassland habitat. This habitat will be replaced by a mix of tarmacked surfaces, residential properties, tree and ornamental shrub planting, grassy verges, and garden space. The creation of some new habitat types in place of the lower value amenity grassland, will help offset this impact through a more variable range in flora and the local fauna they can support, including prey species range for local bats. However, the introduction of additional lighting columns to the area will likely result in increased aversive behaviour from the local bats; ultimately resulting in the local bats' utilisation of the site dropping from rare to near-absent.

Therefore, in the absence of mitigation, an initial **long-term negative impact of slight significance** is anticipated for foraging and commuting bats.

Breeding Birds [Low Local]

During the operational phase, there will be a loss of foraging resources for breeding birds due to the removal of the amenity grassland habitat. This habitat will be replaced by a mix of artificial surfaces, residential properties, tree and ornamental shrub planting, grassy verges, and garden space. This will lead to a notable reduction in total available foraging area. However, the creation of some new habitat types in place of the lower value amenity grassland, will help offset this impact through a more variable range in flora and the local birds they can support.

The addition of trees and hedging will create nesting resources for local breeding bird species. These trees will take several years or more (species dependent) to reach semi-maturity and fulfil their ecological role, while the green amenity spaces will establish quickly. Additionally, while the development will increase local disturbance sources, given the high pre-existing audible and visual disturbance levels, this is not anticipated to be significant issue for local breeding birds.

Therefore, in the absence of mitigation, an initial **short-term negative impact of slight significance** is anticipated for breeding bird populations.

Wintering Birds [Low Local]

During the operational phase, there will be a loss of foraging resources for wintering birds due to the removal of the amenity grassland habitat. This habitat will be replaced by a mix of artificial surfaces, residential properties, tree and ornamental shrub planting, grassy verges, and garden spaces. The loss of total foraging area will be partially offset by the creation of several green spaces. These areas will establish quickly and will provide alternative foraging resources for wintering bird species, in particular gull species.

The site's operational phase will lead to a relatively minor increase in the local populace, which has the potential to increase potential disturbance on Light-bellied Brent Goose and Oystercatcher foraging within Darndale Park. However, given the relatively high frequency of public green spaces within the locality of the site, as well as the size of Darndale Park (room for initial avoidance behaviour – walking further away from the disturbance source), the increase in the local population is not anticipated to significantly increase disturbance on migrant wintering bird populations.

Additionally, the proposed development has a maximum proposed height of 3 stories, which is not anticipated to impact the flight lines of migrant wintering birds. While LBBG were recorded flying over the site during the survey, they were recorded at a height of 6-7 stories, well above the maximum height of the proposed development.

Therefore, in the absence of mitigation during the operational phase, an initial **short- to long-term negative impact that is not significant** is anticipated for wintering bird populations.

Terrestrial Invertebrates [Low Local]

During the operational phase, there will be a loss of foraging resources for terrestrial invertebrates due to the removal of the amenity grassland habitat. This habitat will be replaced by a mix of artificial surfaces, residential properties, tree and ornamental shrub planting, grassy verges, and garden space. The loss of foraging resources will be partially offset by the creation of garden spaces, shrub planting, and grassy verges. The addition of trees and hedging will create nesting / hive-building resources for local terrestrial invertebrate species. The grass spaces will establish within a year, while the trees will take several years or more (species dependent) to reach semi-maturity, and provide their full range of ecological services.

There will also be a notable loss of potential subterranean hive-building habitat; however, this will be offset by the introduction of shrubs and trees, which will be able to host hives of different bee species, leading to an increase in pollinator diversity.

Therefore, in the absence of mitigation, a **short-term negative impact of slight significance is anticipated** for this species group.

6.4.3 In-combination Impacts

None of the potential in-combination projects requiring planning (Section 5) will result in any in-combination and/or cumulative impacts on the any of the valued ecological features.

6.5 Summary

The following potential significant impacts have been identified, and mitigation is discussed in the next chapter:

- Impacts through the generation of pollutants (e.g. noise, surface water pollution incidents) during the construction phase.
- Degradation of site soil conditions and soil fauna.
- Full-scale habitat loss during construction phase.
- Disruption to the foraging and commuting activities of local fauna
- Lighting impacts on bats during the construction and operational phases.

The mitigation is based on that proposed in existing guidance documentation and where necessary additional mitigation is proposed to reduce the impacts identified above.

7 Mitigation

The following mitigation is recommended to ensure that the proposed works do not adversely impact on the ecological receptors outlined in Section 6.

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

7.1 Project Construction Phase

The activities of the project for the construction phase shall remain within the boundary of the proposed site. Within this area, the mitigation measures outlined below shall be implemented.

- A Construction and Environment Management Plan (CEMP) will be submitted to Dublin City Council for agreement prior to site works commencing. This CEMP will incorporate the mitigation measures listed here.
- The CEMP will also strictly adhere to best practice environmental guidance including but not limited to the following:
 - CIRIA Guidance C532 Control of water pollution from construction sites. Guidance for consultants and contractors. (CIRIA, 2019 - www.ciria.org).
 - CIRIA Guidance C741: *Environmental good practice on site guide* (Charles & Edwards, 2015; CIRIA, 2019 - www.ciria.org).
 - CIRIA Guidance C750D: *Groundwater control: design and practice* (Preene *et al.*, 2016; CIRIA, 2019 - www.ciria.org).
- Construction method statements will be submitted to Dublin City Council for agreement prior to site works commencing.
 - Standard Environmental Best Practice

The activities required for the proposed development's construction phase shall remain within the boundary of the proposed site. The CEMP will strictly adhere to best practice environmental guidance including but not limited to the following:

- CIRIA Guidance C532: Control of water pollution from construction sites. Guidance for consultants and contractors. (CIRIA 2019a);
- CIRIA Guidance C741: Environmental good practice on site guide (Charles & Edwards, 2015; CIRIA, 2023);
- CIRIA Guidance C750D: Groundwater control: design and practice (Preene *et al.*, 2016; CIRIA, 2019b);
- CIRIA (C512): Environmental Handbook for Building and Civil Engineering Projects (CIRIA, 2000); and
- CIRIA (C697): The SuDS Manual (CIRIA, 2015).

A Construction and Environment Management Plan (CEMP) will be submitted to Dublin City Council for agreement prior to site works commencing. This CEMP will incorporate the mitigation measures listed here.

7.1.1 Environmental Management of Site Compound

The principal contractor will be required to ensure good environmental management within the site compound. A suitably qualified ECoW will be required to regularly conduct site compound checks to ensure they are adhering to ecological safeguarding protocols. The below list of measures will be incorporated into site compound environmental management:

- Only plant and materials necessary for the construction of the works will be permitted to be stored at the compound locations;
- Site establishment by the contractor will include the following;
 - Site offices;
 - Site facilities (canteen, toilets, drying rooms, etc.);
 - Office for construction management team;
 - Secure compounds for the storage of all on-site machinery and materials;
 - Temporary car parking facilities; and
 - Temporary fencing
- Site security to restrict unauthorized entry;
- All sub-contractors will be given induction toolbox talk so that they are aware of material storage arrangements;
- Construction materials within the compounds will be stored in a designated area in an organised manner so as to protect them from accidental damage and deterioration as a result of exposure;
- Bunded storage of fuels and refuelling area. Bunds shall be 110% capacity of the largest vessel contained within the bunded area;
- A separate container will be located in the contractor's compounds to store contaminated absorbents used to contain spillages of hazardous materials. The container will be clearly labelled, and the contents of the container will be disposed of by an appropriately licenced waste contractor at an appropriately licenced site. Waste disposal documentation of hazardous waste material taken off site for disposal will be retained by the contractor;
- A maintenance programme for the bunded areas will be managed by the site environmental manager. The removal of rainwater from the bunded areas will be their responsibility. Records will be maintained of materials taken off site for disposal;
- The site environmental manager will be responsible for maintaining all training records and weekly environmental inspections;
- Drainage collection system for washing area to prevent run-off into surface water system;

- Stockpiling of spoil and spoil-like materials will be appropriately located within the compounds to minimise exposure to prevailing winds; and
- All refuelling of vehicles will be carried out at the fuel stores within the main site compounds and only ADR trained personnel will be permitted to operate fuel bowsers.

7.1.2 Protection of Surface Water, Groundwater and Air Quality

In order to protect surface water, groundwater and air quality throughout the proposed development site, the contractor will be required to implement the prepared surface water management, environmental incident response, and dust management details outlined below.

Surface Water Management

The following surface water control and management best guidance documents were referenced in the production of the surface water management mitigations:

- Control of Water Pollution from Construction Sites. Guidance for Consultants and Contractors (C532) (Construction Industry Research and Information Association) (CIRIA, 2001);
- Best Practice Guide BPGCS005 – Oil Storage Guidelines (Enterprise Ireland, 2003);
- PUB C811 Environmental Good Practice on Site, 5th Edition (CIRIA, 2023);
- Safety, Health and Welfare at Work (Construction) Regulations 2013 – S.I. No. 291 of 2013; and
- Road Drainage and the Water Environment DN-DNG-03065 (TII, 2015).

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

- The contractor will ensure compliance with environmental quality standards specified in the relevant legislation, namely European Communities (Environmental Objectives (Surface Waters)) Regulations, 2009 (S.I. No. 272 of 2009 and amendments);
- Management of silt-laden water on-site, including procedures for accidental leaks / spills to ground, as well as water quality monitoring to ensure compliance with environmental quality standards specified above;
- At no point during the construction phase will untreated-water be discharged to local surface water drainage network without the water quality meeting the statutory limits as set under the environmental quality standards specified above, or limits imposed by a relevant authority;
- Fail-safe site drainage and bunding, e.g. drip trays on plant and machinery will be provided to prevent discharge of chemical spillage from the sites to surface water;
- Washout of concrete plant will occur at a designated impermeable area with waste control facilities (C649 – CIRIA, 2006b);
- Concrete delivery, concrete pours and related construction methodologies will be part of the procedure agreed with the contractor to mitigate any possibility of spillage or

contamination of the local environment. Particular attention will be paid during the pouring process in order to avoid leakages or spills of concrete; and

- Temporary stockpiles will be monitored for leachate generation. These stockpiles will be placed within designated areas (C649 – CIRIA, 2006b) and not located within 10m of any of surface water drains.

Welfare and Sanitary Facilities

Water and wastewater disposal will be organized by the appointed contractor. Temporary welfare facilities will need to be used: for example, portable toilets in the vicinity of works. Welfare facilities will discharge wastewater either to an existing sewer, with the permission of the water utility, or wastewater will be collected and disposed of in an appropriate manner to a suitably-licensed facility offsite to prevent water pollution and in accordance with the relevant statutory requirements.

Fuel Storage

- All hydrocarbons used during the Construction Phase will be appropriately handled, stored, and disposed of in accordance with recognised standards as laid out by the EPA within the Guidance Note on Storage and Transfer of Materials for Scheduled Activities (EPA, 2004);
- All chemical and fuel filling locations will be contained within signposted, designated bunded areas, a minimum of 10m from any surface water drain;
- At the construction compound, where the site is pervious, an area of hard standing will be installed in a demarcated area for refuelling, and vehicle / plant cleaning and service areas. This area will be drained via a hydrocarbon interceptor trap to a soakaway if possible, or to local surface water drains, with the permission of the asset owner, under a permit or licence authorised by the relevant authority;
- The retained contents of the separators will be collected for disposal by a licensed operator to a licensed waste disposal / recovery facility;
- Suitable precautions will be taken to prevent spillages from equipment containing small quantities of hazardous substances (for example, chainsaws and jerry cans) including:
 - Each container or piece of equipment will be stored in its own drip tray made of a material suitable for the substance being handled;
 - Spill kits and drip trays will be provided for all equipment and at locations where any liquids are stored and dispensed, and staff will be trained on the procedures to be followed; and
 - Containers and equipment will be stored on a firm, level surface.
- Procedures and contingency plans will be in place at each work area to address cleaning up small spillages as well as dealing with an emergency incident. A stock of absorbent materials such as sand, spill granules, absorbent pads and booms will be kept at each work site, on plant working near water and particularly at refuelling areas and where fuel or oil is stored;

- The storage of fuels, other hydrocarbons and other chemicals within the construction compound shall be in accordance with relevant legislation and with best practice. In particular:
 - Fuel tanks, drums, and mobile bowzers (and any other equipment that contains oil and other fuels) will be housed within a bund of at least 110% capacity of the fuel tank itself or at least 25% of the total volume of the containers, whichever is greatest. The fuel tank will be double skinned. There will be no passive drainage from the bund; any water collected within it will be pumped out and removed off site for disposal; and
 - Any designated area or areas for oils, fuel, chemicals, hydraulic fluids, etc. storage and refuelling will be set up at least 10m from any surface water drain (C649 – CIRIA, 2006b) and the storage location within the construction compound shall be organised so as to be as far away from surface water drains as is practicable to minimise risks from leaks and spills.
- Storage areas will be covered, wherever possible, to prevent rainwater filling the bunded areas;
- Fuel fill pipes will not extend beyond the bund wall and will have a lockable cap secured with a chain;
- Where fuel is delivered through a pipe permanently attached to a tank or bowser:
 - The pipe will be fitted with a manually operated pump or a valve at the delivery end which closes automatically when not in use;
 - The pump or valve will be fitted with a lock;
 - The pipe will be fitted with a lockable valve at the end where it leaves the tank or bowser;
 - The pipework will pass over and not through bund walls;
 - Tanks and bunds will be protected from vehicle impact damage;
 - Tanks will be labelled with contents; capacity information and hazard warnings; and
 - All valves, pumps and trigger guns will be turned off and locked when not in use. All caps on fill pipes will be locked when not in use.

Control of Sediment

There are a number of sources of sedimentary or silt-laden water on a construction site, including silty 'runoff' from stripped soils; and the stockpiling of soils. Control measures for each of these are to be provided.

Fuel and Chemical Spillages

Emergency procedures will be further developed by the contractor with either project-specific works, area-specific or activity-specific measures, and all personnel will be required to know these procedures.

Effective pollution control relies on the following elements, with regards to fuel, and chemical spillages:

- Identification of receptors / pathways (e.g. water body/surface water paths);

- Identification and clear marking of surface water drain locations within the construction compound and other work areas;
- Having designated re-fuelling areas;
- All hydrocarbons used during the construction phase will be appropriately handled, stored, and disposed of in accordance with recognised standards as laid out by the EPA;
- Identification of all possible emergency scenarios;
- Effective planning, e.g. oil booms and oil soakage pads will be maintained at appropriate locations on site to enable a rapid and effective response to any accidental spillage or discharge. These shall be disposed of correctly and records will be maintained by the environmental manager of the used booms and pads taken off site for disposal;
- Identification and dissemination of contact numbers;
- Definition of personnel responsibilities;
- Assurance that all appropriate personnel are aware of the emergency procedure(s) (e.g. spillage, leakage, fire, explosion, and flooding), that drain covers and spill kits are available, and personnel know how to use them;
- Knowledge of incident scenarios, such as spill drills; and
- Implementation of lessons learnt from previous incidents.

In terms of pollution spill response procedures, these will vary depending on the sensitive receptor and nature of construction activities. However, the following information will be included as a minimum and displayed at appropriate locations along the proposed development, at re-fuelling locations, fuel storage areas etc.:

- Instructions on how to stop work and switch off sources of ignition;
- Instructions on how to contain the spill;
- Location of spill clean-up material;
- Name and contact details of responsible personnel (these personnel will assess the scale of the incident to determine whether the environmental regulator needs to be called); and
- Measures particular to that location or activity (for example, close to a settlement pond).

More detailed plans may be location-specific, or specific to a particular activity depending on the nature of the work. They will identify the potential sources of pollution and pathways to receptors so that containment measures can be put in place at these locations. Suitable equipment, such as spill kits, oil booms and absorbent material, will be held at appropriate locations within the proposed development site and personnel will be trained in the use of the equipment.

Emergency equipment will be obtained from a reputable supplier, and personnel will be trained in its correct use. Material safety data sheets and best practice assessments will be used for advice on appropriate spill measures. The type of equipment required will depend on the activity taking place.

Every effort will be made to prevent an environmental incident during the construction phase of the proposed development. The objective of the surface water management measures is to prevent an incident arising in the first place. Oil / fuel spillages are one of the main environmental risks that will exist during the construction phase of the proposed development which will require an emergency response procedure. An example of the steps that will be followed in the event of a spillage to ensure that the environmental risk is reduced to as low as reasonably practical is provided in this section. This procedure can be tailored to be location / activity specific as required:

- Stop the source of the spill and raise the alarm to alert people working in the vicinity of any potential dangers;
- Notify the environmental manager immediately giving information on the location, type, and extent of the spill so that they can take appropriate action;
- If necessary, the environmental manager will inform the appropriate regulatory authority, including the Fire Services, depending on the size and nature of the spill - the appropriate regulatory authority will vary depending on the nature of the incident; and
- If applicable, eliminate any sources of ignition in the immediate vicinity of the incident; and
- Contain the spill using the spill control materials, track mats or other material as required. Do not use detergent or hoses to disperse spilled fuel.

If possible, cover or bund off any vulnerable areas where appropriate such as drains, watercourses or sensitive habitats:

- Clean up as much as possible using the spill control materials;
- Contain any used spill control material and dispose of used materials appropriately using a fully-licensed waste contractor with the appropriate permits so that further contamination is limited; The details of the incident will be recorded on an Environmental Incident Form and follow set protocols (see Environmental Incidence Response section below).

Environmental Incidence Response

Environmental incidents are not limited to just fuel spillages. For example, other environmental incidents may include:

- Accidental stripping of a protected habitat or habitat to be retained;
- Accidental release from settlement pond / tank etc.; and
- Unplanned utility strikes, resulting in foul water releases, temporary loss of services etc.

Therefore, any environmental incident will be investigated in accordance with the following steps:

- Immediately notify the environmental manager, giving information on the location, type, and extent of the incident so that they can take appropriate action;
- In the very unlikely event of an incident occurring which may impact on a sensitive receptor, the environmental manager will inform the appropriate persons / regulatory authority. The appropriate persons / regulatory authority will vary depending on the nature of the incident;
- The details of the incident will be recorded on an Environmental Incident Form (identified by the appointed contractor) which will provide information such as the cause, extent, actions, and remedial measures used following the incident. The form will also include any recommendations made to avoid the reoccurrence of the incident;
- A record of all environmental incidents will be kept on file by the environmental manager and the appointed contractor. These records will be made available to the relevant authorities if required; and
- The environmental manager will be responsible for any corrective actions required as a result of the incident e.g. an investigative report, formulation of alternative construction methods or environmental sampling, and will advise the appointed contractor as appropriate.

By carrying out the above steps, a proper system will be in place to investigate, record and report any potential accidents or incidents.

7.1.3 Dust Generation Management

The following dust management mitigations provide the strategy to be adopted in order to manage dust during construction. These mitigation measures are in accordance with the IAQM Guidance, with the mitigation measures proposed in accordance with the determination that the highest risk category should be applied to the construction phase of the proposed development.

Construction Dust Mitigations

Communications

- Develop and implement a stakeholder communications plan that includes community engagement before work commences on site;
- Display the name and contact details of person(s) accountable for air quality and dust issues on the site boundary. This may be the environment manager/engineer or the site manager; and
- Display the head or regional office contact information.

Dust Management

The dust management mitigations within the CEMP will be updated by the construction contractor prior to the commencement of the construction phase, so as to include any additional measures required pursuant to conditions attached to any decision to grant approval. The

mitigations may include measures to control other emissions, approved by the Local Authority. The level of detail will depend on the risk and will include as a minimum the recommended dust mitigation measures outlined below. The recommended construction dust mitigation measures will be implemented as appropriate for the site. The dust management strategy will also include monitoring of dust deposition, dust flux, real-time PM10 continuous monitoring and visual inspections.

Site Management

- Record all dust and air quality complaints, identify cause(s), take appropriate measures to reduce emissions in a timely manner, and record the measures taken;
- Make the complaints log available to the local authority when asked;
- Record any exceptional incidents that cause dust and/or air emissions, either on or offsite, and the action taken to resolve the situation in the logbook; and

Monitoring

- Carry out regular site inspections to monitor compliance with the DMP, record inspection results, and make an inspection log available to the local authority when asked; and
- Increase the frequency of site inspections by the person accountable for air quality and dust issues on site when activities with a high potential to produce dust are being carried out and during prolonged dry or windy conditions.

Preparing and maintaining the site

- Plan site layout so that machinery and dust causing activities are located away from receptors, as far as possible;
- Erect solid screens or barriers around dusty activities or the site boundary that are at least as high as any stockpiles on site;
- Fully enclose site or specific operations where there is a high potential for dust production and the site is active for an extensive period;
- Avoid site runoff of water or mud;
- Keep site fencing, barriers and scaffolding clean using wet methods;
- Remove materials that have a potential to produce dust from site as soon as possible, unless being re-used on site. If they are being re-used on-site cover as described below; and
- Cover, seed or fence stockpiles to prevent wind whipping.

Operating vehicle/machinery and sustainable travel

- Ensure all vehicles switch off engines when stationary - no idling vehicles;
- Avoid the use of diesel- or petrol-powered generators and use mains electricity or battery powered equipment where practicable;
- Impose and signpost a maximum-speed-limit of 15mph on surfaced and 10mph on unsurfaced haul roads and work areas; and

- Produce a Construction Logistics Plan to manage the sustainable delivery of goods and materials.

Operations

- Only use cutting, grinding or sawing equipment fitted or in conjunction with suitable dust suppression techniques such as water sprays or local extraction, e.g. suitable local exhaust ventilation systems;
- Ensure an adequate water supply on the site for effective dust/particulate matter suppression/mitigation, using non-potable water where possible and appropriate;
- Use enclosed chutes and conveyors and covered skips;
- Minimise drop heights from conveyors, loading shovels, hoppers and other loading or handling equipment and use fine water sprays on such equipment wherever appropriate; and
- Ensure equipment is readily available on site to clean any dry spillages and clean up spillages as soon as reasonably practicable after the event using wet cleaning methods.

Waste Management

- Avoid bonfires and burning of waste materials.

The IAQM Guidance (IAQM, 2024) Mitigation Measures applicable to the specific works to be undertaken as part of the proposed development are as follows:

Measures specific to earthworks

- Re-vegetate earthworks and exposed areas/soil stockpiles to stabilise surfaces as soon as practicable;
- Use Hessian, mulches or trackifiers where it is not possible to re-vegetate or cover with topsoil, as soon as practicable; and
- Only remove the cover in small areas during work and not all at once.

Measures specific to construction

- Avoid scabbling (roughening of concrete surfaces) if possible;
- Ensure sand and other aggregates are stored in bunded areas and are not allowed to dry out, unless this is required for a particular process, in which case ensure that appropriate additional control measures are in place;
- Ensure bulk cement and other fine powder materials are delivered in enclosed tankers and stored in silos with suitable emission control systems to prevent escape of material and overfilling during delivery; and
- For smaller supplies of fine power materials ensure bags are sealed after use and stored appropriately to prevent dust.

Measures specific to trackout

- Use water-assisted dust sweeper(s) on the access and local roads, to remove, as necessary, any material tracked out of the site. This may require the sweeper being continuously in use;
- Avoid dry sweeping of large areas;
- Ensure vehicles entering and leaving sites are covered to prevent escape of materials during transport;
- Inspect on-site haul routes for integrity and instigate necessary repairs to the surface as soon as reasonably practicable;
- Record all inspections of haul routes and any subsequent action in a site logbook;
- Install hard surfaced haul routes, which are regularly damped down with fixed or mobile sprinkler systems, or mobile water bowzers and regularly cleaned;
- Implement a wheel washing system (with rumble grids to dislodge accumulated dust and mud prior to leaving the site where reasonably practicable); and
- Ensure there is an adequate area of hard surfaced road between the wheel wash facility and the site exit, wherever site size and layout permits.

7.1.4 Concrete Management Procedures

The following measures will be implemented to prevent liquid concrete/ cement-based dust entering the adjacent habitats of ecological value.

- Wherever reasonably possible, pre-cast concrete features should be utilised to minimise the risk of a concrete-based pollution event.
- Concrete delivery, concrete pours and related construction methodologies will be part of the procedure agreed with the contractor to mitigate any possibility of spillage or contamination of the local environment. Particular attention will be paid during the pouring process in order to avoid leakages or spills of concrete.
- Washout of concrete plant will occur off site at a designated impermeable area with waste control facilities.
- Raw, uncured or waste concrete will be stored appropriately prior to disposal by licenced contractor.
- The contractor's construction methodology will require the use of precast elements where practical; the use of secondary protection shuttering for concrete pours; all pours to be carried out in dry weather conditions; and that all trucks be cleaned prior to leaving respective depots.
- The contractor will be required to use experienced operators for the work; provide an appropriate level of continuous monitoring during any concrete pours by experienced management; and have method statements approved by the client prior to commencing works. Works will be carried out using recommendations from current guidance and relevant codes of practise as outlined in EA (2011) - *Managing concrete wash waters*

on construction sites: good practice and temporary discharges to ground or to surface waters.

7.1.5 Noise and Vibration

The construction of the development will largely be limited to daylight hours where possible, ensuring minimum disturbance to commuting and foraging activities of local wildlife. The works will also be temporary. With regard to construction activities, reference will be made to BS 5228-1, which offers detailed guidance on the control of noise from demolition and construction activities. A variety of practicable noise control measures will be employed. These include:

- Limiting the hours during which site activities likely to create high levels of noise are permitted. Construction activities will take place Monday to Friday, between 07:00 and 18:00, and on Saturdays, between 08:00 and 13:00.
- A site representative responsible for matters relating to noise will be appointed to liaise with Dublin City Council.

Additional guidance relevant to acceptable vibration and noise levels will be followed and is contained in the following documents:

- British Standard BS 7385: 1993: Evaluation and measurement for vibration in buildings Part 2: Guide to damage levels from ground borne vibration.
- British Standard BS 5228-2: 2009: Code of Practice for Noise and Vibration Control on Construction and Open Sites: Vibration.
- NRA: 2014: Guidelines for the Treatment of Noise and Vibration in National Road Schemes.

7.1.6 Site Biosecurity

Site invasive species biosecurity protocols were developed with reference to the below best practice management guidance documents, where relevant:

- The Management of Invasive Alien Plant Species on National Roads – Technical Guidance (TII, 2020a); and
- The Management of Invasive Alien Plant Species on National Roads – Standard (TII, 2020b).

The unintentional spread of INNS into the site during construction works (within the proposed development, originating from outside the proposed development, such as through the importation of materials, poor biosecurity practices regarding plant and machinery or natural processes) can be a significant issue, and if not managed properly, can result in the spread of INNS to non-infested areas (within or adjacent to works areas). This will potentially increase the future landscape maintenance costs; and if hazardous INNS (e.g. Giant Hogweed) were brought into the site, there would be issues in regard to public safety.

Listed below is a brief detailing of necessary measures to be undertaken to ensure biosecurity within this section of the proposed development:

- The adherence to a set of biosecurity measures, including:

- protocols around the removal of contaminated soils; and
 - making sure all machinery entering the site is clear of INNS.
- In regard to the importation of soil and other materials, the principal contractor will only utilise traceable topsoil for landscaping that has been cleared of any invasive species material;

7.1.7 General Avoidance Measures

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

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

- Limit the hours of working to daylight hours, to limit disturbance to nocturnal and crepuscular animals (e.g. local bats);
- Due to the presence of bat species, the use of lighting at night should be avoided. If the use of lighting is essential, then a directional cowl should be fitted to all lights to prevent light spill and to be directed away from the dark corridor present to the north of the site.
- Contractors must ensure that no harm comes to wildlife by maintaining the site efficiently and clearing away materials which are not in use, such as wire or bags in which animals can become entangled; and
- Any pipes should be capped when not in use (especially at night) to prevent local fauna becoming trapped. Any excavations should be covered overnight to prevent animals from falling and getting trapped. If that is not possible, a strategically placed plank should be placed to allow animals to escape.

7.1.8 Construction Lighting

Site lighting required during construction phase will be installed in a manner that it is positioned, directed and cowed away to avoid unnecessary light spillage. Furthermore, wherever reasonably possible, works will be carried out in daylight hours in order to reduce the need for lighting on site (outside of compound areas). The lighting mitigation will be in line with relevant sections within the following best practice documents:

- Bats and Artificial Lighting at Night – Guidance Note 08/23 (BCT, 2023);
- Bats & Lighting – Guidance Notes for Planners, Engineers, Architects and Developers (BCI, 2010); and
- The reduction of Obstructive Light – Guidance Note GN01/21 (ILP, 2021).

7.2 Operational Mitigation

7.2.1 All Ireland Pollinator Plan

It is recommended that actions from the All-Ireland Pollinator Plan be implemented throughout the site's operational phase, with management strategies for the proposed grassland areas.

Measures outlining pollinator-friendly management of garden spaces, actions communities can undertake to promote pollinators, and biodiversity actions for new developments are detailed in the guidance documents: Gardens: actions to help pollinators (NBDC, 2009a), Local Communities – Actions to help pollinators (NBDC, 2009b, updated 2023), and Cluid Housing - Landscaping and Biodiversity Guide for New Developments (Cluid Housing, 2023).

Some of the key measures outlined in these guides include:

- Appropriate mowing regimes
- Protection of food and shelter for pollinators
- Elimination of use of pesticides, use eco-friendly pesticide alternatives like manual weeding
- Creation of short-flowering and long-flowering meadows
- Creating nesting habitat for pollinators, such as solitary mining bees
- Guidance on biodiversity friendly landscaping and infrastructure, such as green roof systems

7.2.2 Lighting Design

The proposed lighting plan will result in lux levels of between 4 to 20 lux around the proposed development. Lighting fixtures will be mounted on 6m poles. As the site is not considered to be a dark corridor / area, or to have important foraging resources within the context of the area around the site for local bats, the impacts of these light levels are not anticipated to lead to notable impacts on local bat species.

Light levels and type:

Site lighting that meets the lowest light levels permitted under health and safety would be preferable for bats in the vicinity. The specification and colour of light treatments, such as single bandwidth lights and no UV light are essential. LED luminaires are ideal and should be used where possible due to their sharp cut-off, lower intensity, and dimming capability. A warm white spectrum (2700K – 3000K) will be used to reduce the blue light component.

7.2.3 Bee Bricks

To create nesting resources for local solitary bee species, it is recommended bee bricks be installed within the proposed house and apartment block. Bee bricks contain cavities that are ideal for nesting space for solitary bees. These bricks require minimal internal maintenance.

The following guidance is recommended for the installation of bee bricks (Green & Blue, 2026):

- Bricks will be generally south facing, placed in warm sunny spots.
- Bricks will be placed at least 3m off the ground to avoid human interference.
- Bricks should be placed in the vicinity of potential food sources, such as flower beds and grassland areas (Figure 7-1).



Figure 7-1: Example of an installed bee brick (Green & Blue, 2026)

8 Residual Impact

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

8.1 Habitats

8.1.1 Amenity grassland (improved) [Low Local]

Following the implementation of the construction and operational stage ecological mitigation measures and short-term ecological lag (maturation of the landscaped habitats), it is anticipated that there will be a **significant long-term negative residual impact** for the amenity grassland habitat. However, it must be noted that sections of this habitat will be transformed into other habitat types (shrubbery and amenity grassland that includes trees) of slightly higher ecological value.

8.2 Fauna

8.2.1 Bats (Foraging & Commuting) [Low local]

Following the implementation of the construction and operational stage ecological mitigation measures and short-term ecological lag (maturation of the landscaped habitats), it is anticipated that there will be a **long-term negative residual impact that is not significant** for local foraging and commuting bats.

8.2.2 Breeding Birds [Low Local]

Following the implementation of the construction and operational stage ecological mitigation measures and short-term ecological lag (maturation of the landscaped habitats), it is anticipated that, there will be a **long-term neutral residual impact that is not significant** for breeding bird populations.

8.2.3 Wintering Birds [Low Local]

Following the implementation of the construction and operational stage ecological mitigation measures and short-term ecological lag (maturation of the landscaped habitats), it is anticipated that, there will be a **long-term negative residual impact that is not significant** for migrant wintering birds.

8.2.4 Terrestrial Invertebrates [Low Local]

Following the implementation of the construction and operational stage ecological mitigation measures and short-term ecological lag (maturation of the landscaped habitats), it is anticipated that, there will be a **long-term negative residual impact that is not significant** for local terrestrial invertebrate populations.

8.3 Summary

Following the implementation of the construction and operational-stage ecological mitigation measures and short-term ecological lag (maturation of the landscaped habitats), it is anticipated that the proposed development will have a **long-term negative residual ecological impact that is not significant for the overall ecology of the site.**

9 Summary of Impact Statement

9.1 Ecological Impact Assessment Summary Table

Ecological Features	Potential Impacts	Importance of Feature	Significance of Impact without Mitigation	Mitigation	Significance of Residual Impacts
Amenity grassland (improved)	Construction Phase: This habitat will be lost in its entirety. Operational Phase: The loss of this habitat will be partially reinstated, though the majority will be lost to artificial surfaces or new habitat types.	Low Local	Very significant long-term negative impact	Construction Phase: Strict adherence to the mitigation measures outlined in sub-sections 7.1.1, 7.1.2, 7.1.3, 7.1.4, and 7.1.6, ensuring the protection of local habitats, including soil condition. Operational Phase: Strict adherence to the mitigations outlined in sub-section 7.2.1 outlining measures to promote pollinator friendly management of grassland areas.	Significant long-term negative residual impact <i>(Important to note that some sections of amenity grassland lost will be replaced with different habitats of higher value)</i>

Ecological Features	Potential Impacts	Importance of Feature	Significance of Impact without Mitigation	Mitigation	Significance of Residual Impacts
Bats	Construction Phase: Loss of foraging resources following removal of grassland. Construction lighting (spillage) impacts. Operational Phase: Lighting design will further decrease the currently (likely) very low bat activity on the site.	Low Local	Long-term negative impact of slight significance	Construction Phase: Strict adherence to the mitigation measures outlined in sub-sections 7.1.1, 7.1.2, 7.1.3, 7.1.4, 7.1.5, 7.1.6, 7.1.7, and 7.1.8 ensuring the protection of local bats and their associated habitats. Operational Phase: Strict adherence to the mitigations outlined in sub-section 7.2.1 outlining measures to promote pollinator (bat prey items) friendly management of grassland areas. Strict adherence to the mitigation measures outlined in sub-section 7.2.2 ensuring the use of measures to protect local bats from unnecessary lighting impacts.	Long-term negative residual impact that is not significant
Breeding Birds	Construction Phase: Loss of foraging resources following removal of grassland. Pollution of soil containing invertebrates. Audible and visual disturbance. Accumulation of pollutant toxins through the consumption of	Low Local	Short-term negative impact of slight significance	Construction Phase: Strict adherence to the mitigation measures outlined in sub-sections 7.1.1, 7.1.2, 7.1.3, 7.1.4, 7.1.5, 7.1.6, and 7.1.7 ensuring the protection of breeding birds and their associated habitats. Operational Phase: Strict adherence to the mitigations outlined in sub-section 7.2.1	Long-term neutral residual impact that is not significant

Ecological Features	Potential Impacts	Importance of Feature	Significance of Impact without Mitigation	Mitigation	Significance of Residual Impacts
	contaminated prey items. Degradation of feathers following contact with hydrocarbon spills. Operational Phase: Partial loss of foraging resources due to the removal of the amenity grassland habitat though a wide variety of foraging resources will be present with the creation of new habitat types. Increased nesting resources following the maturation of new shrubs and trees on-site.			outlining measures to promote pollinator (bird prey items) friendly management of grassland areas.	

Ecological Features	Potential Impacts	Importance of Feature	Significance of Impact without Mitigation	Mitigation	Significance of Residual Impacts
Wintering Birds	Construction Phase: Loss of foraging resources following removal of grassland. Pollution of soil containing invertebrates. Audible and visual disturbance. Accumulation of pollutant toxins through the consumption of contaminated prey items. Degradation of feathers following contact with hydrocarbon spills. Operational Phase: Partial loss of foraging resources due to the removal of the amenity grassland habitat though a wider variety of foraging resources will be present with the creation of new habitat types. Increased populace resulting in minor increases in the potential for disturbance of wintering bird species.	Low Local	Short- to long-term negative impact that is not significant	Construction Phase: Strict adherence to the mitigation measures outlined in sub-sections 7.1.1, 7.1.2, 7.1.3, 7.1.4, 7.1.5, 7.1.6, and 7.1.7 ensuring the protection of wintering birds and their associated habitats. Operational Phase: Strict adherence to the mitigations outlined in sub-section 7.2.1 outlining measures to promote pollinator (bird prey items) friendly management of grassland areas.	Long-term negative residual impact that is not significant
Terrestrial Invertebrates	Construction Phase: Loss of foraging resources	Low Local	Short-term negative impact of slight	Construction Phase: Strict adherence to the mitigation measures outlined in sub-sections	Long-term negative residual impact of that is not significant

Ecological Features	Potential Impacts	Importance of Feature	Significance of Impact without Mitigation	Mitigation	Significance of Residual Impacts
	following removal of grassland. Pollution of soil containing invertebrates, resulting in physiological harm. Direct fatalities through physical activities (e.g. excavation). Operational Phase: Partial loss of foraging resources due to the removal of the amenity grassland habitat though a wider variety of foraging resources will be present with the creation of new habitat types. Partial loss of subterranean hive-building habitat. Introduction of shrubs and trees, which will be able to host hives of different bee species, leading to an increase in pollinator diversity.		significance	7.1.1, 7.1.2, 7.1.3, 7.1.4, 7.1.5, 7.1.6, and 7.1.7 ensuring the protection of terrestrial invertebrates and their associated habitats. Operational Phase: Strict adherence to the mitigations outlined in sub-section 7.2.1 outlining measures to promote pollinator friendly management of grassland areas; as well as the mitigations outlined in sub-section 7.2.3 detailing the installation of bee bricks.	

9.2 In-combination and Cumulative Impacts

As there are no notable residual impacts on ecological features (following mitigation measures) from this development, the likelihood for other plans or projects to act in combination with the proposed project to result in notable adverse impacts on key ecological features is greatly reduced. Further to this, as no notable impacts are anticipated along the main impact pathways, within the Zol, the capacity of the proposed project to act in combination and/or cumulatively with a series of other local low-impact developments is also not anticipated.

10 Conclusion

The proposed development has been shown to potentially impact a number of different habitats and faunal groups (amenity grassland, bats, breeding birds, wintering birds, and terrestrial invertebrates) whose ecological importance is considered to be of low local.

Based upon the information supplied, regarding the scope of the work site layout, landscape plan and lighting plans; and provided that the development is constructed in accordance with the mitigation measures outlined above, there will be no significant impacts alone or in combination with other projects and plans, as result of the development and associated works on the ecology and local species of the area and on any designated conservation sites. The proposed development is anticipated to have a long-term negative residual impact that is not significant for the habitats and faunal groups present within the site and its locality.

A Site Layout



APARTMENT BLOCK MIX		
	UNIT TYPE A: 1-BED 2P-UNIT (53 sq.m)	17no.
	UNIT TYPE B: 1-BED 2P-UNIT (59 sq.m)	16no.
	UNIT TYPE C: 1-BED 2P-UNIT (66 sq.m)	4no.
	UNIT TYPE D: 2-BED 3P-UNIT (80 sq.m)	1no.
	UNIT TYPE E: 1-BED 2P-UNIT (55 sq.m)	4no.
	UNIT TYPE F: 1-BED 2P-UNIT (55 sq.m)	4no.
	UNIT TYPE G: 2-BED 3P-UNIT (73 sq.m)	4no.
	COMMUNITY FACILITY (86 sq.m)	

HOUSING UNIT MIX		
	UNIT TYPE A: 3BED 4P-UNIT (95 sq.m)	9no.
	UNIT TYPE B: 3-BED 4P-UNIT (100 sq.m)	2no.
	UNIT TYPE C: 3-BED 6P-UNIT (128 sq.m)	4no.
	UNIT TYPE D: 2-BED 4P-UNIT (112 sq.m)	8no.
	UNIT TYPE E: 3-BED 5P-UNIT (114 sq.m)	1no.
	UNIT TYPE F: 2-BED 4P-UNIT (114 sq.m)	4no.
	UNIT TYPE G: 4-BED 7P-UNIT (147 sq.m)	1no.
	UNIT TYPE H: 3-BED 6P-UNIT (116 sq.m)	2no.
	UNIT TYPE J: 3-BED 6P-UNIT (123 sq.m)	1no.
	UNIT TYPE K: 2-BED 4P-UNIT (95 sq.m)	2no.

TOTAL SITE AREA: 14887 sq.m / 1.4887 ha

UNITS TYPES PROVIDED: 34 no. houses / 50 no. apts

TOTAL OF UNITS PROVIDED: 84 no. units total

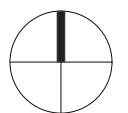
UNITS PER HECTARE: 58

CAR PARKING SPACES PROVIDED: 79

BICYCLE SPACES PROVIDED: 95 IN APARTMENT BLOCK

7 VISITOR SPACES FOR HOUSES IN PUBLIC AREAS

LEGEND	
SITE BOUNDARY	



1
PA-001

PROPOSED SITE PLAN- GROUND FLOOR PLAN

SCALE 1:1000 (A3) / 1:500 (A1)

REVISIONS	STATUS	DRAWN	CHECKED

REVISIONS	STATUS	DRAWN	CHECKED
A	17/07/2026	FA	ISSUED FOR PART 8 PLANNING APPROVAL

STATUS : PR - PRELIMINARY ISSUE; FI - FOR INFORMATION; FA - FOR APPROVAL; FP - FOR PRICING; FC - FOR CONSTRUCTION

PROJECT: DARNDALE

DRAWING: PROPOSED SITE PLAN

JOB NO: 2330

DATE: JUL' 2026

PAUL KEOGH ARCHITECTS, CATHEDRAL COURT, NEW ST., DUBLIN 8.

TEL NO: 01 6791551

CLIENT: RESPOND HOUSING ASSOCIATION

SCALE: 1: 1000 (A3) / 1:500 (A1)

FAX NO: 01 6793476

E-MAIL: info@pka.ie

DRAWING NO.:2330 / PA / 001 / A

NOTIFY ARCHITECT OF ANY DISCREPANCIES - CHECK DIMENSIONS ON SITE - DO NOT SCALE.

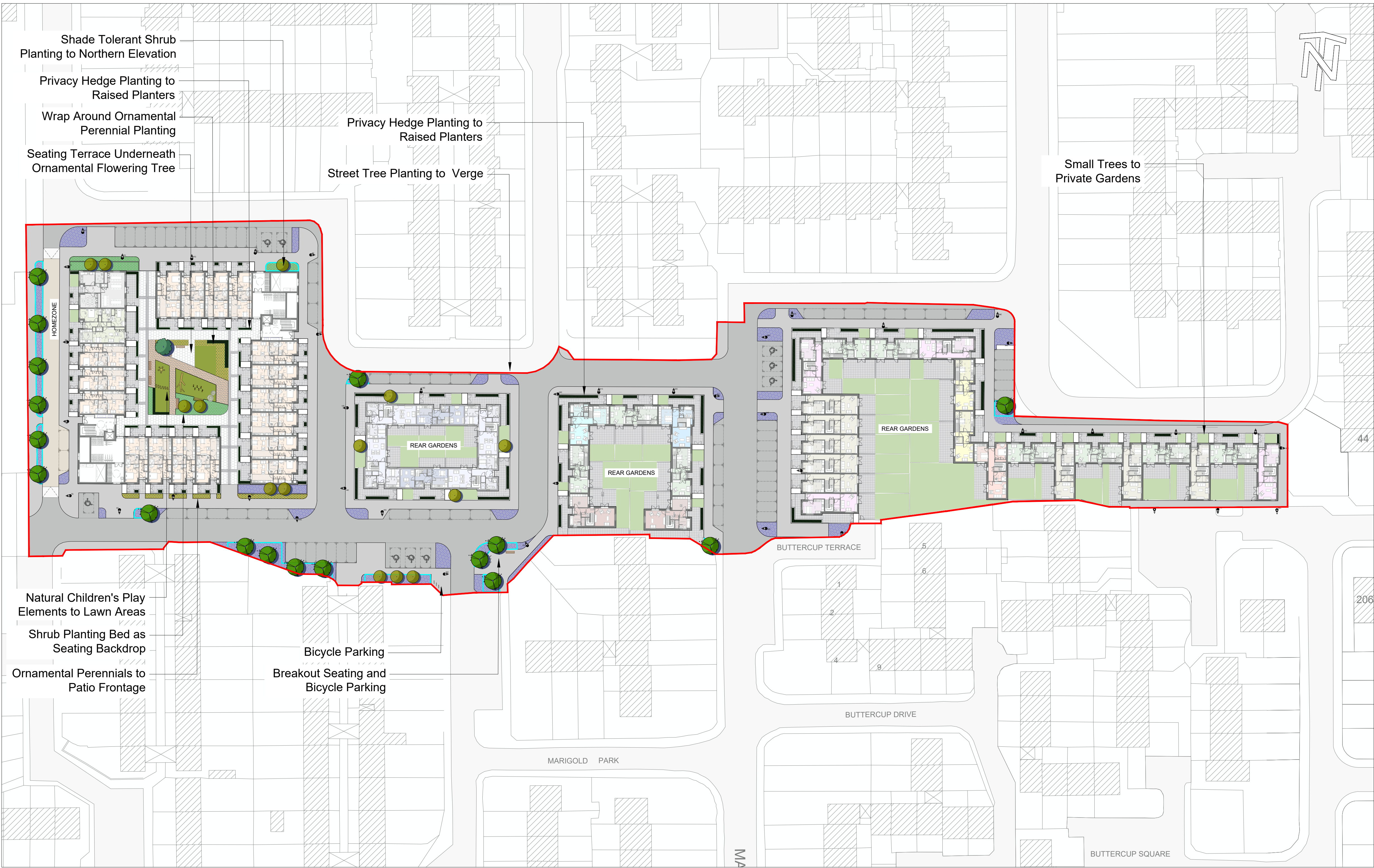
USE FIGURED DIMENSIONS ONLY - COPYRIGHT RESERVED - PAUL KEOGH ARCHITECTS ©

PKA

PAUL KEOGH

ARCHITECTS

B Site Landscape Plan



- GENERAL NOTES**
- ALL DIMENSIONS SHOWN ARE IN METRES UNLESS OTHERWISE STATED AND LEVELS ARE IN METRES ABOVE ORDNANCE DATUM.
 - DO NOT SCALE FROM THIS DRAWING. ALL DIMENSIONS MUST BE CHECKED/VERIFIED ON SITE.
 - ANY DISCREPANCIES NOTED ON SITE ARE TO BE REPORTED TO JBA CONSULTING IMMEDIATELY.
 - THE LOCATIONS OF ANY KNOWN SERVICES SHOWN ON THIS DRAWING ARE APPROXIMATE AND FOR GUIDANCE ONLY. THE TRUE LOCATIONS OF ALL SERVICES SHALL BE CONFIRMED ON SITE PRIOR TO THE COMMENCEMENT OF ANY WORKS.
 - THE ELECTRONIC VERSION OF THIS DRAWING IS NOT TO BE USED FOR SETTING OUT.
- LEGEND**
- PROPOSED SOFT LANDSCAPE**
- Proposed Native Street Trees
 - Proposed Native Small Trees to Gardens
 - Proposed Native Trees to Open Space
 - Proposed Root Barrier at Min. 0.5m From Underground Services/ Pipes
 - Proposed Formal Hedge Planting
 - Proposed Planting Mix A - Ornamental Perennials
 - Proposed Planting Mix B - Shade-Tolerant Shrubs
 - Proposed Planting Mix C- Wetland species for Rain Water Management
 - Proposed Mown Amenity Grass Planting
 - Proposed Private Garden Lawns
- HARD LANDSCAPE**
- Proposed Brushed Concrete Footpath - to Engineer's specification
 - Proposed Resin Bound Gravel Surface
 - Proposed Paving A - Concrete Flagstone Paving to Courtyard
 - Proposed Paving B - Charcoal Setts to Courtyard
 - Proposed Paving C - Concrete Pavers to Patios
 - Proposed Tarmacadam with Pigmented Chippings to Homezones and Link Road - to Engineer's specification
- FURNITURE**
- Proposed Bench Seating - Chaumont Bench RBA8 by PROLUDIC
 - Proposed Natural Play - NRO806 Stilts by KOMPAN
 - Proposed Natural Play - Salvaged Natural Stone Boulders
 - Proposed Natural Play - Tree Climbing Frame
 - Proposed Natural Play - Log Stepping Pads and Table
 - Proposed Natural Play - NRO212 Kids Table by KOMPAN
- LIGHTING** - see SMK-ZZ-DR-ME-60021
- DENOTES 6 METRE COLUMN MOUNTED PUBLIC LIGHTING LUMINAIRE - 7m clearance from street trees

P02	Landscape Masterplan	13/07/26	JW	JW	COF	COF
P01	Landscape Masterplan	17/04/26	JW	JW	COF	COF
Rev.	Description	Date	Author	Designer	Checker	Approver

Document Control

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consulting

Project Title					
Darndale Housing Development					
Drawing Title					
Landscape Masterplan					
Client					
PAUL KEOGH ARCHITECTS					
Parent Model					
RJQ-JBAI-XX-XX-M2-0001-S3-P06-Landscape_Masterplan.dwg					
Security Classification			Scale		
OFFICIAL			1:500		
Author	Designer	Checker	Approver		
JW	JW	COF	CP		
Suitability				Status	Revision
SUITABLE FOR STAGE APPROVAL				S4	P02
Information Container					
RJQ-JBAI-XX-XX-DR-L-0001					

PRECEDENT IMAGES



PARKLAND SETTING



BREAKOUT SEATING



PERENNIAL PLANTING

C Site Drainage Design

NOTES

GENERAL

- THESE DRAWINGS TO BE READ IN CONJUNCTION WITH ALL RELEVANT HAYES HIGGINS ENGINEERING DRAWINGS AND SPECIFICATIONS.
- DO NOT SCALE. USE FIGURED DIMENSIONS ONLY.
- ALL WASTEWATER INFRASTRUCTURE TO BE DESIGNED AND CONSTRUCTED IN ACCORDANCE WITH IRISH WATERS REQUIREMENTS & THEIR STANDARD DETAILS JULY 2020 (REVISION 4); IW-CDS-5030-01.

DRAINAGE LEGEND

- EXISTING SURFACE WATER SEWER
- EXISTING FOUL SEWER
- PROPOSED SURFACE WATER SEWER
- PROPOSED FOUL SEWER
- PROPOSED PERFORATED PIPE - PERMEABLE PAVING/RAIN GARDENS & TREE PITS
- EXISTING FOUL SEWER TO BE REMOVED
- EXISTING SURFACE SEWER TO BE REMOVED
- EXISTING SURFACE WATER MANHOLE
- EXISTING FOUL WATER MANHOLE
- PROPOSED SURFACE WATER MANHOLE
- PROPOSED FOUL MANHOLE
- PROPOSED SURFACE WATER GULLY
- PROPOSED SURFACE INSPECTION CHAMBER
- PROPOSED FOUL INSPECTION CHAMBER
- PROPOSED SURFACE WATER ACCESS JUNCTION
- PROPOSED FOUL ACCESS JUNCTION
- RAIN GARDENS/TREE PITS/BIO-RETENTION (SUDS)
- PERMEABLE PAVING AREA (SUDS)

SURFACE WATER DRAINAGE INFRASTRUCTURE WITHIN AREAS TO BE TAKEN IN CHARGE SHALL COMPLY WITH THE GREATER DUBLIN REGIONAL CODE OF PRACTICE FOR DRAINAGE WORKS (VERSION 6.0) AND THE REQUIREMENTS OF THE LOCAL AUTHORITY. SURFACE WATER PIPES SHALL BE CONCRETE OR VITRIFIED CLAY. MANHOLES, INSPECTION CHAMBERS, AND GULLIES SHALL BE BLOCKWORK OR CAST IN SITU CONCRETE. SURFACE WATER PIPES WITHIN PRIVATE AREAS SHALL BE UPVC.

P1	14.07.28	REVISED PER PRE-PART 8 SUBMISSION COMMENTS	LS	LM
P	17.04.28	ISSUED FOR PLANNING	LS	LM

REV	DATE	DESCRIPTION	DWG BY	APPR BY
ISSUED				

PLANNING

CLIENT
RESPOND
SOCIAL HOUSING

PROJECT NAME
84 HOUSES
AT DARNDALE

DRAWING NAME
PROPOSED DRAINAGE
LAYOUT
SHEET 1 OF 2

PROJECT No.
25D046

DRAWING No.
06-A

SCALE
1:250

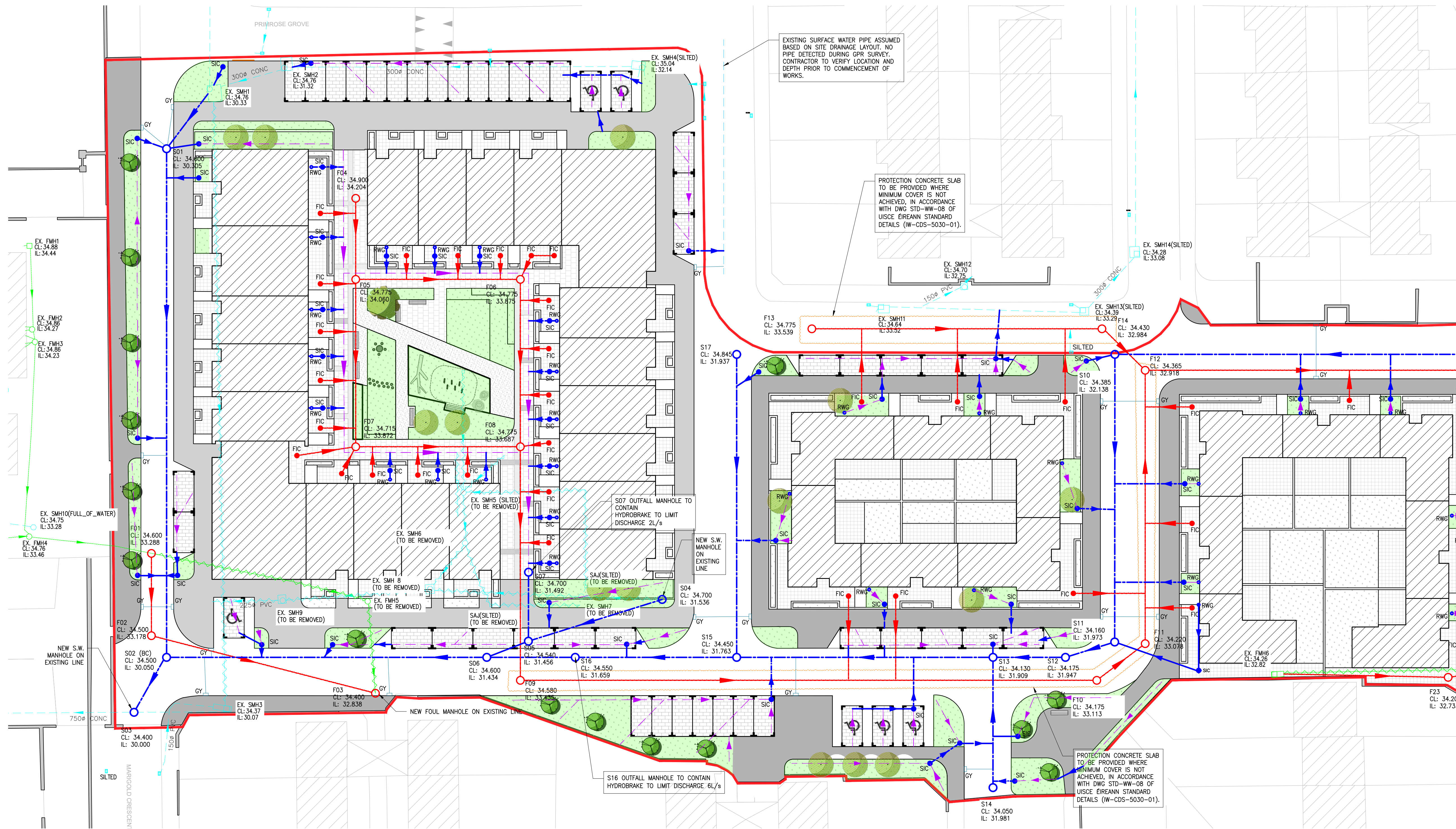
CAD DRAWN BY
L.S.

CHECKED BY
L.M.

APPROVED BY
D.H.

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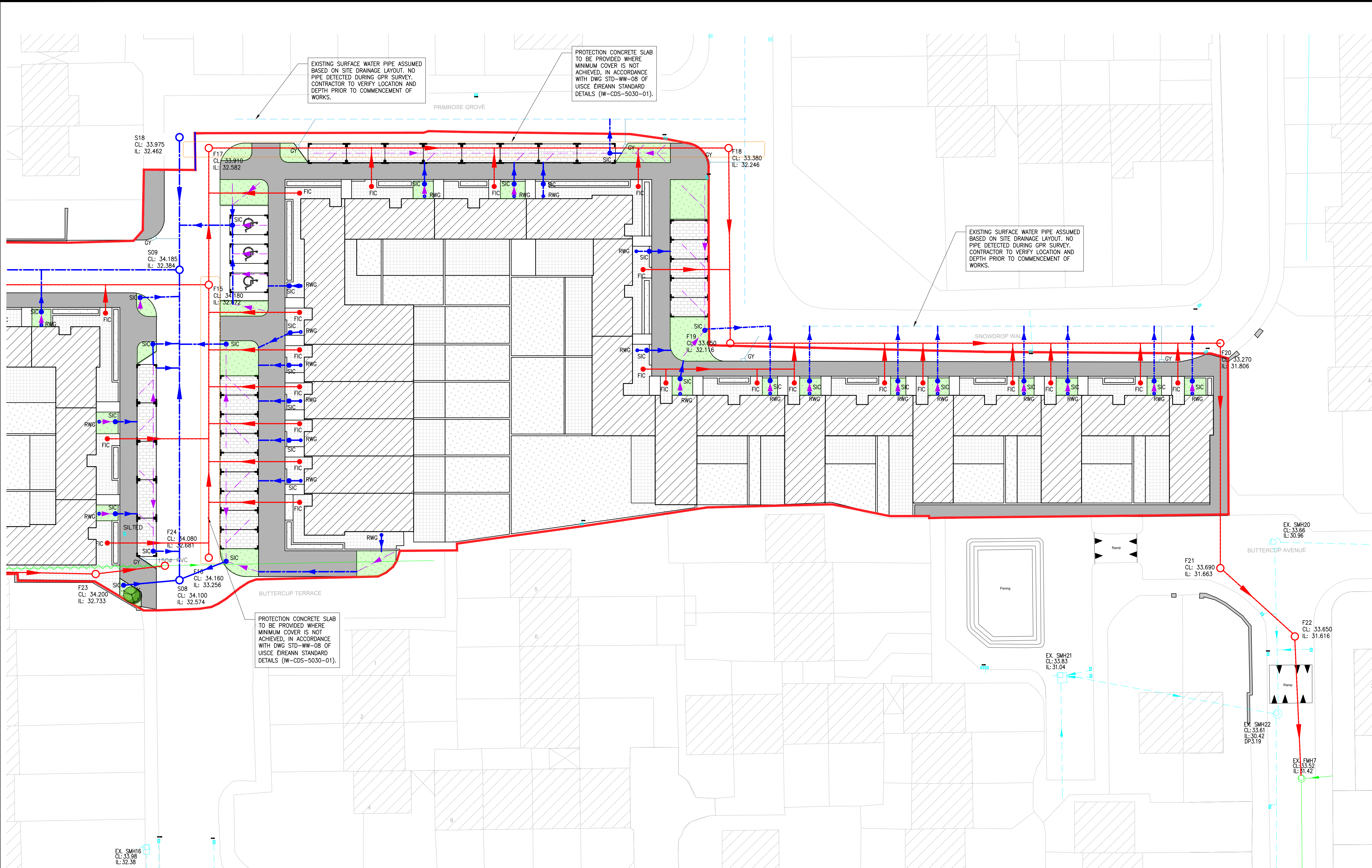


STORM WATER DRAINAGE TABLE

MANHOLE	COVER LEVEL EX. PROPOSED	INVERT LEVEL	MH - MH	PIPE DIA.	MIN. PIPE GRADIENT	MH COVER SIZE	LOADING
EX. SMH1	EX. 34.760	34.760	EX. SMH1 - S01	750mm	1:300	#600	D400
S01	NEW - 34.600	30.205	S01-S02	750mm	1:300	#600	D400
S02(BC)	NEW - 34.500	30.108	S02-S05	750mm	1:330	#600	D400
S03	NEW - 34.400	30.000	-	750mm	-	#600	D400
S04	NEW - 34.700	31.536	S04-S05	300mm	1:200	#600	D400
S05	NEW - 34.540	31.456	S05-S06	300mm	1:200	#600	D400
S06	NEW - 34.600	31.434	S06-S02	300mm	1:200	#600	D400
S02(BC)	NEW - 34.500	31.250	S02-S05	750mm	1:330	#600	D400
S07	NEW - 34.700	31.492	S07-S05	300mm	1:200	#600	D400
S08	NEW - 34.100	32.574	S08-S09	300mm	1:200	#600	D400
S09	NEW - 34.185	32.384	S09-S10	300mm	1:200	#600	D400
S10	NEW - 34.385	32.138	S10-S11	300mm	1:200	#600	D400
S11	NEW - 34.160	31.973	S11-S12	300mm	1:200	#600	D400
S12	NEW - 34.175	31.947	S12-S13	300mm	1:200	#600	D400
S13	NEW - 34.130	31.909	S13-S15	300mm	1:200	#600	D400
S15	NEW - 34.450	31.763	S15-S16	300mm	1:200	#600	D400
S16	NEW - 34.500	31.659	S16-S06	300mm	1:200	#600	D400
S14	NEW - 34.050	31.981	S14-S13	300mm	1:200	#600	D400
S17	NEW - 34.845	31.937	S17-S15	300mm	1:200	#600	D400
S18	NEW - 33.975	32.462	S18-S09	300mm	1:200	#600	D400

FOUL WATER DRAINAGE TABLE

MANHOLE	COVER LEVEL EX. PROPOSED	INVERT LEVEL	MH - MH	PIPE DIA.	MIN. PIPE GRADIENT	MH COVER SIZE	LOADING
EX. FMH4	EX. 34.760	34.760	EX. FMH4 - F01	150mm	1:80	600x600	D400
F01	NEW - 34.600	33.286	F01-F02	150mm	1:80	600x600	D400
F02	NEW - 34.500	33.178	F02-F03	150mm	1:80	600x600	D400
F03	NEW - 34.400	32.838	-	150mm	-	600x600	D400
F04	NEW - 34.800	34.204	F04-F05	150mm	1:80	600x600	D400
F05	NEW - 34.775	34.060	F05-F06	150mm	1:100	600x600	D400
F06	NEW - 34.775	33.875	F06-F08	150mm	1:100	600x600	D400
F07	NEW - 34.715	33.872	F07-F08	150mm	1:100	600x600	D400
F08	NEW - 34.775	33.687	F08-F09	150mm	1:100	600x600	D400
F09	NEW - 34.580	33.435	F09-F10	225mm	1:200	600x600	D400
F10	NEW - 34.175	33.113	F10-F11	225mm	1:200	600x600	D400
F11	NEW - 34.220	33.078	F11-F12	225mm	1:200	600x600	D400
F12	NEW - 34.365	32.918	F12-F15	225mm	1:200	600x600	D400
F13	NEW - 34.775	33.539	F13-F14	225mm	1:80	600x600	D400
F14	NEW - 34.430	32.984	F13-F14	225mm	1:80	600x600	D400
F15	NEW - 34.180	32.872	F15-F17	225mm	1:200	600x600	D400
F16	NEW - 34.160	33.256	F16-F15	225mm	1:80	600x600	D400
F17	NEW - 33.910	32.582	F17-F18	225mm	1:200	600x600	D400
F18	NEW - 33.380	32.246	F18-F19	225mm	1:200	600x600	D400
F19	NEW - 33.650	32.116	F19-F20	225mm	1:200	600x600	D400
F20	NEW - 33.270	31.806	F20-F21	225mm	1:200	600x600	D400
F21	NEW - 33.680	31.683	F21-F22	225mm	1:200	600x600	D400
F22	NEW - 33.650	31.616	F22-EX. FMH7	225mm	1:200	600x600	D400
EX. FMH6	EX. 34.260	34.260	EX. FMH6 - F23	150mm	1:150	600x600	D400
F23	NEW - 34.200	32.733	F23-F24	150mm	1:150	600x600	D400
F24	NEW - 34.080	32.681	-	150mm	-	600x600	D400



NOTES

GENERAL

1.) THESE DRAWINGS TO BE READ IN CONJUNCTION WITH ALL RELEVANT HAYES HIGGINS ENGINEERING DRAWINGS AND SPECIFICATIONS.

2.) DO NOT SCALE. USE FIGURED DIMENSIONS ONLY.

3.) ALL WASTEWATER INFRASTRUCTURE TO BE DESIGNED AND CONSTRUCTED IN ACCORDANCE WITH IRISH WATERS REQUIREMENTS & THEIR STANDARD DETAILS JULY 2020 (REVISION 4); IW-CDS-5030-01.

DRAINAGE LEGEND

- EXISTING SURFACE WATER SEWER
- EXISTING FOUL SEWER
- PROPOSED SURFACE WATER SEWER
- PROPOSED FOUL SEWER
- PROPOSED PERFORATED PIPE - PERMEABLE PAVING/RAIN GARDENS & TREE PITS
- EXISTING FOUL SEWER TO BE REMOVED
- EXISTING SURFACE SEWER TO BE REMOVED
- EX-SMH: EXISTING SURFACE WATER MANHOLE
- EX-FMH: EXISTING FOUL WATER MANHOLE
- S02: PROPOSED SURFACE WATER MANHOLE
- F02: PROPOSED FOUL MANHOLE
- GY: PROPOSED SURFACE WATER GULLY
- SIC: PROPOSED SURFACE INSPECTION CHAMBER
- FIC: PROPOSED FOUL INSPECTION CHAMBER
- SAJ: PROPOSED SURFACE WATER ACCESS JUNCTION
- FAJ: PROPOSED FOUL ACCESS JUNCTION
- RAIN GARDENS/TREE PITS/BIO-RETENTION (SUDS)
- PERMEABLE PAVING AREA (SUDS)

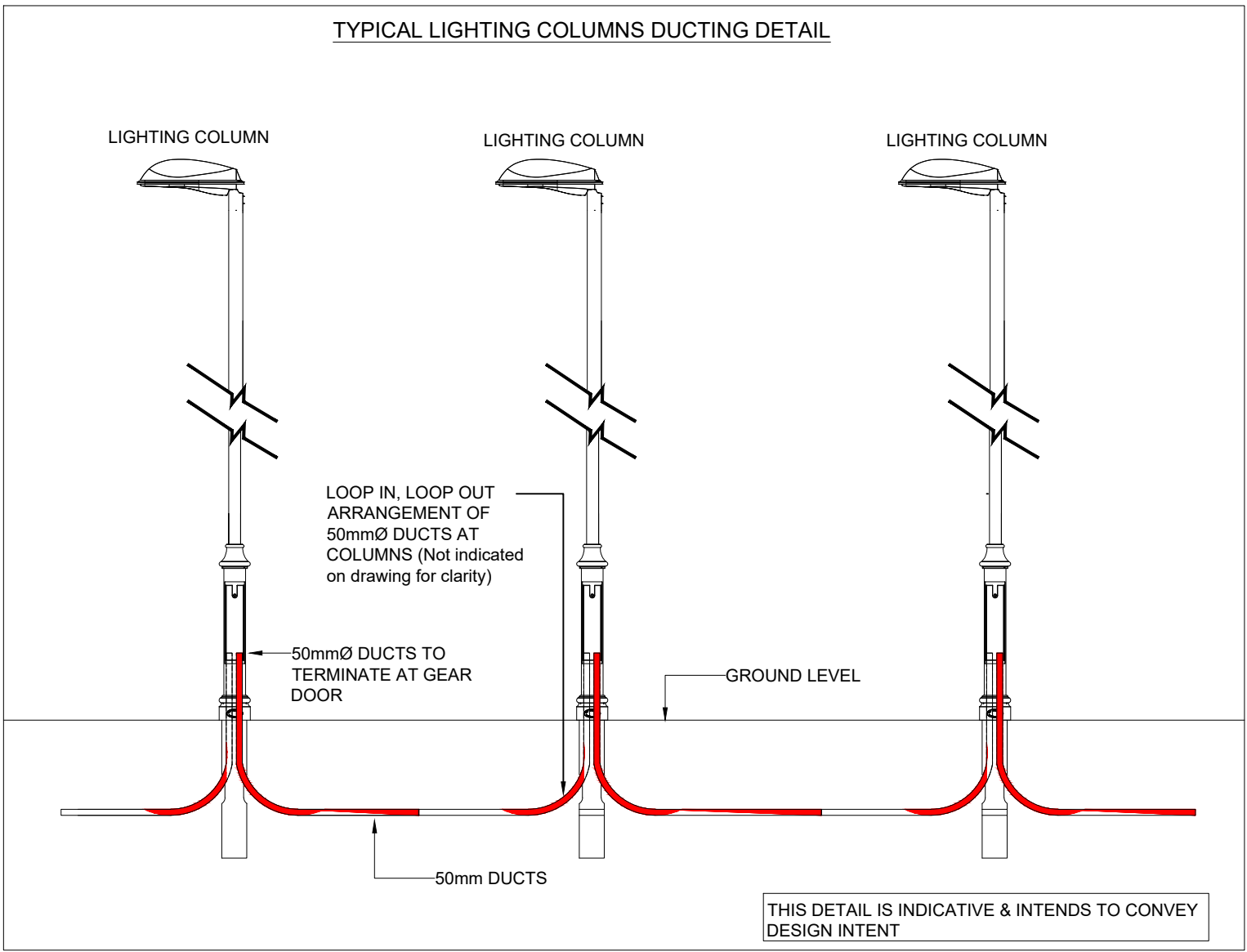
SURFACE WATER DRAINAGE INFRASTRUCTURE WITHIN AREAS TO BE TAKEN IN CHARGE SHALL COMPLY WITH THE GREATER DUBLIN REGIONAL CODE OF PRACTICE FOR DRAINAGE WORKS (VERSION 6.0) AND THE REQUIREMENTS OF THE LOCAL AUTHORITY. SURFACE WATER PIPES SHALL BE CONCRETE OR VITRIFIED CLAY. MANHOLES, INSPECTION CHAMBERS, AND GULLIES SHALL BE BLOCKWORK OR CAST IN SITU CONCRETE. SURFACE WATER PIPES WITHIN PRIVATE AREAS SHALL BE UPVC.

STORM WATER DRAINAGE TABLE									
MANHOLE	COVER LEVEL	INVERT LEVEL	MH - MH	PIPE DIA.	MIN. PIPE GRADIENT	MH COVER SIZE	LOADING		
EX-SMH1	EX. 34.760	34.760	30.330	EX-SMH1-S01	750mm	1:300	#600	D400	
S01	NEW - 34.600	30.305	S01-S02	750mm	1:300	#600	D400		
S02(B)	NEW - 34.500	INLET 30.108 OUTLET 30.050	S02-S05	750mm	1:330	#600	D400		
S03	NEW - 34.400	30.000	-	750mm	-	#600	D400		
S04	NEW - 34.700	31.536	S04-S05	300mm	1:200	#600	D400		
S05	NEW - 34.540	31.456	S05-S06	300mm	1:200	#600	D400		
S06	NEW - 34.600	31.434	S06-S02	300mm	1:200	#600	D400		
S02(B)	NEW - 34.500	INLET 31.250 OUTLET 30.050	S02-S05	750mm	1:330	#600	D400		
S07	NEW - 34.700	31.492	S07-S05	300mm	1:200	#600	D400		
S08	NEW - 34.100	32.574	S08-S09	300mm	1:200	#600	D400		
S09	NEW - 34.185	32.384	S09-S10	300mm	1:200	#600	D400		
S10	NEW - 34.385	32.138	S10-S11	300mm	1:200	#600	D400		
S11	NEW - 34.160	31.973	S11-S12	300mm	1:200	#600	D400		
S12	NEW - 34.175	31.947	S12-S13	300mm	1:200	#600	D400		
S13	NEW - 34.130	31.909	S13-S15	300mm	1:200	#600	D400		
S15	NEW - 34.450	31.763	S15-S16	300mm	1:200	#600	D400		
S16	NEW - 34.550	31.659	S16-S06	300mm	1:200	#600	D400		
S14	NEW - 34.050	31.981	S14-S13	300mm	1:200	#600	D400		
S17	NEW - 34.845	31.937	S17-S15	300mm	1:200	#600	D400		
S18	NEW - 33.975	32.462	S18-S09	300mm	1:200	#600	D400		

FOUL WATER DRAINAGE TABLE									
MANHOLE	COVER LEVEL	INVERT LEVEL	MH - MH	PIPE DIA.	MIN. PIPE GRADIENT	MH COVER SIZE	LOADING		
EX-FMH4	EX. 34.760	34.760	33.440	EX-FMH4-F01	150mm	1:80	600x600	D400	
F01	NEW - 34.600	33.286	F01-F02	150mm	1:80	600x600	D400		
F02	NEW - 34.500	33.178	F02-F03	150mm	1:80	600x600	D400		
F03	NEW - 34.400	32.838	-	150mm	-	600x600	D400		
F04	NEW - 34.900	34.204	F04-F05	150mm	1:80	600x600	D400		
F05	NEW - 34.775	34.060	F05-F06	150mm	1:100	600x600	D400		
F06	NEW - 34.775	33.875	F06-F08	150mm	1:100	600x600	D400		
F07	NEW - 34.715	33.872	F07-F08	150mm	1:100	600x600	D400		
F08	NEW - 34.775	33.687	F08-F09	150mm	1:100	600x600	D400		
F09	NEW - 34.580	33.435	F09-F10	225mm	1:200	600x600	D400		
F10	NEW - 34.175	33.113	F10-F11	225mm	1:200	600x600	D400		
F11	NEW - 34.220	33.078	F11-F12	225mm	1:200	600x600	D400		
F12	NEW - 34.365	32.918	F12-F15	225mm	1:200	600x600	D400		
F13	NEW - 34.775	33.539	F13-F14	225mm	1:60	600x600	D400		
F14	NEW - 34.430	32.984	F13-F14	225mm	1:60	600x600	D400		
F15	NEW - 34.180	32.672	F15-F17	225mm	1:200	600x600	D400		
F16	NEW - 34.160	33.256	F16-F15	225mm	1:60	600x600	D400		
F17	NEW - 33.910	32.582	F17-F18	225mm	1:200	600x600	D400		
F18	NEW - 33.380	32.246	F18-F19	225mm	1:200	600x600	D400		
F19	NEW - 33.650	32.116	F19-F20	225mm	1:200	600x600	D400		
F20	NEW - 33.270	31.806	F20-F21	225mm	1:200	600x600	D400		
F21	NEW - 33.690	31.663	F21-F22	225mm	1:200	600x600	D400		
F22	NEW - 33.650	31.616	F22-EX-FMH7	225mm	1:200	600x600	D400		
EX-FMH6	EX. 34.260	34.260	32.820	EX-FMH6-F23	150mm	1:150	600x600	D400	
F23	NEW - 34.200	32.733	F23-F24	150mm	1:150	600x600	D400		
F24	NEW - 34.080	32.681	-	150mm	-	600x600	D400		

P1	14.07.26	REVISED PER PRE-PART 8 SUBMISSION COMMENTS	LS	LM
P	17.04.26	ISSUED FOR PLANNING	LS	LM
REV	DATE	DESCRIPTION	DWG BY	APPR BY
ISSUED				
PLANNING				
CLIENT				
RESPOND				
SOCIAL HOUSING				
PROJECT NAME				
84 HOUSES				
AT DARNDALE				
DRAWING NAME				
PROPOSED				
DRAINAGE LAYOUT				
SHEET 2 OF 2				
PROJECT No.				
25D046				
DRAWING No.		REVISION		
06-B		P1		
SCALE		DRAWN DATE		
1:250		19.01.26		
CAD DRAWN BY		CHECKED BY	APPROVED BY	
L.S.		L.M.	D.H.	
HAYES HIGGINS PARTNERSHIP				
The Glass House, 11 Coke Lane				
Smithfield, Dublin 7. Tel: 01 6612321				
E-mail: admin@hayeshiggins.ie				
Gas House Lane, Kilkenny. Tel: (056) 7764710				
Email: info@hhp.ie				

D Site Lighting Plan



- PUBLIC LIGHTING NOTES:
1. THIS DRAWING SHALL BE READ IN CONJUNCTION WITH ALL OTHER RELEVANT DRAWINGS & CONTRACT DOCUMENTS
 2. THE CONTRACTOR SHALL ENSURE THAT THE INSTALLATION COMPLIES WITH LOCAL AUTHORITY CODES AND ALL OTHER RELEVANT STANDARDS.
 3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE CO-ORDINATION OF ALL UNDERGROUND SERVICES.
 4. THE CONTRACTOR IS TO ALLOW FOR THE SUPPLY AND INSTALLATION OF ACCESS CHAMBERS ON DUCTING AS REQUIRED AT CHANGES IN DIRECTION & ON DUCT RUNS IN EXCESS OF 50M
 5. WIDE RADIUS & GENTLY SWEEPING BENDS TO BE USED ON DUCTING SET IN CONCRETE
 6. ALL DUCTING TO BE LOCATED IN FOOTPATHS & SOFT LANDSCAPING
 7. NOT MORE THAN SIX COLUMNS MAY BE SUPPLIED FROM ANY ONE CIRCUIT AND NOT MORE THAN FOUR CIRCUITS MAY BE TAKEN FROM ANY ONE PUBLIC LIGHTING MICRO PILLAR
 8. SITE LIGHTING SHALL BE WIRED IN 3C 10mm sq XLPE/SWA/LSF IN DUCTING.
 9. A MINIMUM COVER OF 600mm TO THE DUCTING SHOULD BE PROVIDED IN GRASS MARGINS. A MINIMUM COVER OF 750mm TO THE DUCTING SHOULD BE PROVIDED AT ROAD CROSSINGS
 10. CABLE JOINTS ARE NOT PERMITTED. CABLES SHOULD BE LOOPED FROM COLUMN TO COLUMN ON EACH CIRCUIT
 11. STREET LIGHTING COLUMNS SHALL BE 6m & 8m OCTAGONAL GALVANISED COLUMNS SUPPLIED BY PILTOWN ENGINEERING, LAMPPOST CONSTRUCTION OR EQUAL & APPROVED. COLUMNS & COLUMN INSTALLATION TO COMPLY WITH DEPARTMENT OF THE ENVIRONMENT & LOCAL AUTHORITY REQUIREMENTS
 12. EACH SITE-LIGHTING COLUMN SHALL BE C/W A FUSED CUT OUT & LOOPING CABLE CONNECTION
 13. LIGHTING COLUMNS TO BE POSITIONED TO COINCIDE WITH PROPERTY PARTY LINES TO AVOID OBSTRUCTING ENTRANCES.
 14. THE CONTRACTOR SHALL NOTE THAT ALL PUBLIC LIGHTING DUCTING TO BE RED HIGH DENSITY POLYETHYLENE (HDPE) 50/100mm DUCTS STAMPED 'STREET LIGHTING' OR 'PUBLIC LIGHTING' AND BE IN ACCORDANCE WITH MCC PUBLIC LIGHTING GENERAL SPECIFICATION. ALL COLUMNS AND DUCTING SHALL BE INSTALLED AT THE FRONT OF THE PATHS.
 15. PUBLIC LIGHTING CONNECTION SHALL BE BY UNDERGROUND CABLE FROM THE NEAREST ESB NETWORKS MINIPILLAR TO THE PUBLIC LIGHTING SYSTEM MICRO-PILLAR.
 16. THE CONTRACTOR SHALL SUPPLY AND INSTALL AN ESB NETWORKS APPROVED MDPE 50mm OD RED CONTINUOUS SERVICE DUCT AT A DEPTH OF 600mm FROM ESB NETWORKS MINIPILLAR VAULT, TO THE PUBLIC LIGHTING SYSTEM MICRO-PILLAR.
 17. THE CONTRACTOR SHALL INSTALL ESB NETWORKS APPROVED YELLOW WARNING TAPE 300mm BELOW FINISHED GROUND LEVEL ALONG THE FULL LENGTH OF AND OVER THE DUCT.
 18. THE CONTRACTOR SHALL SUPPLY AND INSTALL A STRONG CONTINUOUS 10mm POLYPROPYLENE DRAW ROPE SECURED AT BOTH ENDS IN THE DUCT.
 19. THE CONTRACTOR SHALL PROVIDE A COMPLETION CERTIFICATE FOR THE PUBLIC LIGHTING SYSTEM.
 20. THERE SHOULD BE A SEPARATION OF AT LEAST 2 METERS BETWEEN ESB NETWORKS MINIPILLAR AND THE PUBLIC LIGHTING SYSTEM MICRO-PILLAR. PUBLIC LIGHTING COLUMN OR ANY OTHER PRIVATE MICRO PILLAR.

THIS DRAWING IS FOR INFORMATION PURPOSES ONLY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PRODUCING WORKING DRAWINGS

ELECTRICAL LEGEND	
	EXISTING UNDERGROUND STREET/SITE LIGHTING CABLE ROUTE (SUBJECT TO IDENTIFICATION ON SITE)
	EXISTING OVERHEAD STREET/SITE LIGHTING CABLE ROUTE (SUBJECT TO IDENTIFICATION ON SITE)
	DENOTES 50mm DIA RED ESB DUCT WITH 10mm NYLON ROPE DRAW WIRE SHALL BE INSTALLED FROM ESB MINI PILLAR TO PL MICRO PILLAR
	PROPOSED PUBLIC LIGHTING DUCTING ROUTE. DUCTS SHALL BE UPVC COMPLYING WITH HESSOR CLASS B OR HIGH DENSITY POLYTHENE PIPE TO I.S.135 CLASS B. MINIMUM SIZE 100mm WITH 100mm SPARE DUCTS DEPLOYED AT ROAD CROSSINGS. DUCTING TO BE STAMPED 'PUBLIC LIGHTING' OR 'STREET LIGHTING' AT 1m INTERVALS.
	PROPOSED (800x800) CONCRETE DRAW PIT / INSPECTION CHAMBER
	EXISTING ESB MINI-PILLARS
	PROPOSED ESB MINI-PILLARS WITH VC2 VAULT INSTALLED DIRECTLY IN FRONT
	PROPOSED ESB MICRO-PILLARS FOR UNMETERED SUPPLIES PUBLIC LIGHTING
	DENOTES 6 METRE COLUMN MOUNTED PUBLIC LIGHTING LUMINAIRE
	DENOTES COLUMN 6 METRE MOUNTED PUBLIC LIGHTING AMENITY LUMINAIRE
	DENOTES EXISTING STREET LIGHTING LUMINAIRE & 6m COLUMN.

Luminaire Data
Luminaire B <DA MIDI 5121 Flat glass
8 XP-G3@400mA NW 740 230V 437312
Lamp 8 XP-G3@400mA NW 740 230V MF 0.81
Luminaire C AXIA 2.1 5167 Integrated lenses
24 OSLO SQUARE GIANT@350mA
NW 740 230V 00-56-646 MF 0.81

Key
 Luminaire B Column
 Luminaire C Column
 Beam Aiming Target
 Photometric Centre

P04 ISSUED FOR PLANNING	EK	GF	14.07.2026
P03 ISSUED FOR PLANNING	EK	GF	17.04.2026
P02 ISSUED FOR PLANNING	EK	GF	18.03.2026
P01 ISSUED FOR PLANNING	EK	GF	16.12.2025

REV	DESCRIPTION	DRN	CHK	DATE
ISSUE	PLANNING STAGE			



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Registered www.semplemckillop.com admin@semplemckillop.com

PROJECT TITLE
HOUSING DEVELOPMENT, DARNDALE, CO. DUBLIN

DRAWING TITLE
SITE SERVICES - PROPOSED LIGHTING
ARRANGEMENT

DRAWING REFERENCE	DRN	SCALE
3223-SMK-XX-ZZ-DR-E-60021	AS	A1 1:500

E NBDC Records

E.1 Protected species recorded within 2km of the site within the last 10 years

Species name	Date of last record	Designation
Amphibians		
Common Frog <i>Rana temporaria</i>	12/05/2018	EU Habitats Directive >> Annex V Protected Species: Wildlife Acts
Birds		
Black-headed Gull <i>Chroicocephalus ridibundus</i>	06/09/2021	Protected Species: Wildlife Acts Birds of Conservation Concern - Amber List
Light-bellied Brent Goose <i>Branta bernicla hrota</i>	09/03/2020	Protected Species: Wildlife Birds of Conservation Concern - Amber List
Cormorant <i>Phalacrocorax carbo</i>	05/04/2016	Protected Species: Wildlife Acts Birds of Conservation Concern - Amber List
Goldcrest <i>Regulus regulus</i>	08/05/2018	Protected Species: Wildlife Acts Birds of Conservation Concern - Amber List
Great Black-backed Gull <i>Larus marinus</i>	05/06/2022	Protected Species: Wildlife Acts
Grey Wagtail <i>Motacilla cinerea</i>	10/07/2021	Protected Species: Wildlife Acts Birds of Conservation Concern - Red List
Herring Gull <i>Larus argentatus</i>	06/09/2021	Birds of Conservation Concern - Amber List
House Sparrow <i>Passer domesticus</i>	18/05/2025	Birds of Conservation Concern - Amber List
Lapwing <i>Vanellus vanellus</i>	13/06/2019	Protected Species: Wildlife Acts EU Birds Directive >> Annex II Birds of Conservation Concern - Red List
Lesser Black-backed Gull <i>Larus fuscus</i>	19/03/2021	Birds of Conservation Concern - Amber List
Little Egret <i>Egretta garzetta</i>	24/03/2021	Protected Species: Wildlife Acts EU Birds Directive >> Annex I Bird Species
Oystercatcher <i>Haematopus ostralegus</i>	17/02/2017	Protected Species: Wildlife Acts Birds of Conservation Concern - Red List
Peregrine <i>Falco peregrinus</i>	04/05/2024	Protected Species: Wildlife Acts EU Birds Directive >> Annex I Bird Species
Starling <i>Sturnus vulgaris</i>	18/05/2025	Birds of Conservation Concern - Amber List
Swift <i>Apus apus</i>	30/06/2025	Protected Species: Wildlife Acts Birds of Conservation Concern - Red List
Yellowhammer	08/08/2017	Protected Species: Wildlife Acts

Species name	Date of last record	Designation
<i>Emberiza citrinella</i>		Birds of Conservation Concern - Red List
Invertebrates		
Red-tailed Bumblebee <i>Bombus lapidarius</i>	15/06/2020	Threatened Species: Near threatened
Terrestrial Mammals		
Hedgehog <i>Erinaceus europaeus</i>	16/07/2021	Protected Species: Wildlife Acts
Pipistrelle <i>Pipistrellus pipistrellus sensu lato</i>	06/03/2017	EU Habitats Directive >> Annex IV Protected Species: Wildlife Acts

E.2 Invasive species recorded within 2km of site within the last 10 years

Species	Date of last record	Designation
Birds		
Ring-necked Parakeet <i>Psittacula krameri</i>	20/10/2024	High Risk Invasive Species
Flora		
Butterfly-bush <i>Buddleja davidii</i>	08/05/2017	Medium Risk Invasive Species
Cherry Laurel <i>Prunus laurocerasus</i>	30/05/2016	High Risk Invasive Species
Giant Hogweed <i>Heracleum mantegazzianum</i>	28/05/2019	EU Invasive Alien Species Regulation No. 1143/2014 Regulation S.I. 477/2011 / 374/2024 (Ireland) High Risk Invasive Species
Japanese Knotweed <i>Reynoutria japonica</i>	26/08/2016	EU Invasive Alien Species Regulation No. 1143/2014 Regulation S.I. 477/2011 / 374/2024 (Ireland) High Risk Invasive Species
Sycamore <i>Acer pseudoplatanus</i>	26/08/2016	Medium Risk Invasive Species
Invertebrates		
Harlequin Ladybird <i>Harmonia axyridis</i>	26/06/2023	Regulation S.I. 477/2011/374/2024 (Ireland) Invasive Species High Risk Invasive Species
Mollusc		
Jenkins' Spire Snail <i>Potamopyrgus antipodarum</i>	24/08/2016	Medium Risk Invasive Species
Terrestrial Mammal		
Grey Squirrel <i>Sciurus carolinensis</i>	30/07/2022	EU Invasive Alien Species Regulation No. 1143/2014

Species	Date of last record	Designation
		Regulation S.I. 477/2011 / 374/2024 (Ireland) High Risk Invasive Species

F Relevant Policy and Legislation

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

F.1 Biodiversity Polic Guidance

'Biodiversity: The National Biodiversity Action Plan 2017-2021 (DCHG, 2017) sets out actions through which a range of government, civil and private sectors will undertake to achieve Ireland's 'Vision for Biodiversity' and has been developed in response to The Earth Summit, held in Rio de Janeiro in 1992 (UN Convention on Biological Diversity) and subsequent EU and International Biodiversity strategies and policies.

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

F.2 Designated Sites and Nature Conservation

F.2.1 Statutory Designated Nature Conservation Sites

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

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

- National
- Natural Heritage Area (NHA)
- Wildfowl Sanctuary
- Statutory Nature Reserve
- Refuge for Fauna
- European
- Special Protection Area (SPA)
- Special Area of Conservation (SAC)
- International
- UNESCO Biosphere Reserve
- Ramsar Convention Site
- National Park (Category II) Sites

F.2.2 Non-Statutory Designations

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

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

F.2.3 Protected and Notable Species

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

The Flora (Protection) Order (2022) makes it illegal to cut, uproot or damage a listed species in any way. It is illegal to alter, damage or interfere in any way with their habitats.

References

- BCT (2010) Guidance Notes for: Planners, engineers, architects and developers.
- CIEEM. 2024. "Guidelines For Ecological Impact Assessment in the UK and Ireland - Terrestrial, Freshwater, Coastal and Marine." Chartered Institute of Ecology and Environmental Management.
- Collins, J. (Ed.), 2023. Bat Surveys for Professional Ecologists: Good Practise Guidelines (4th Edition) (Updated 2024)
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