5.3.2.3 Breeding Bird Surveys

Breeding Bird Surveys were undertaken on 25th May and 30th July 2021. The survey methodology follows the British Trust for Ornithology's (**BTO**) *Common Bird Census* (**CBS**) technique (Bibby *et al.*, 1992). A pre-determined transect is walked and all bird species encountered are recorded on field sheets, along with the corresponding breeding evidence code, location (on 1:500 field maps), behaviour and numbers.

Breeding bird surveys for previous seasons were undertaken on 25th June 2016, 28th June 2017, 30th May 2017 and on three 3 (no.) days between March 2019 and May 2019 (i.e., 1st March, 30th April & 27th May).

5.3.2.4 Wintering Bird Surveys

A suite of wintering bird surveys (**WBS**) has been undertaken in relation to the Proposed Development between 2015 and 2022. Surveys carried out for the 2015/16 and 2016/17 winter seasons were completed by SC, in respect of a previous planning application at the site of the Proposed Development. Surveys for the 2018/19, 2019/20 and 2020/21 and 2021/22 winter seasons were undertaken by EG, the authors of this report. The methodology and details of these surveys is set out in detail in the NIS submitted as a separate document with this planning application.

Surveys were carried out during a series of visits at the Site during each survey season with shorebird and wildfowl species recorded in relation to their location (on 1:500 field maps), behaviour and numbers.

5.3.2.5 Mammal Surveys

Four 4 (no.) walkover mammal surveys were undertaken at the site of the Proposed Development on the 7th March 2019, 12th March 2019, 14th May 2019 and 10th December 2021. In addition, any signs of mammal presence were recorded, where relevant, during other ecological surveys undertaken at the site of the Proposed Development between 2015 and 2021.

The site of the Proposed Development was searched for tracks and signs of mammals. The habitat types recorded throughout the survey area were used to assist in identifying the fauna considered likely to utilise the area. During these surveys, the Site was searched for tracks and signs of mammals as per Bang and Dahlstrom (2001).

A set of focused badger surveys of the Site were conducted by Mammal specialist Brian Keeley between July 1st and August 3rd, 2022. These surveys involved examining all hedgerows, scrub, mounds, and other areas where setts were possible, from ditches, drains, dense vegetation to suitable slopes and banks. A motion-activated camera was installed under licence on July 18th, 2022, and remained in place and recorded up to August 3rd 2022.

With regard to the timing of the badger surveys, the setts were identified in December 2021, the optimal period for surveying for setts due to the vegetation growth being limited at this time. The subsequent surveys of the setts found on Site were conducted by Mr Keeley in July/August at which point the sett location was known and the levels of vegetation had no bearing on the surveys. Mr Keeley notes in his report (Appendix E) that the timing was perfect

for assessment of the sett and the vegetation did not affect the success of the assessment. The Badger Assessment Report states:

"Survey constraints

The date was not ideal for identifying features such as badger latrines but as the key focus of this assessment was the level of activity and nature of the sett, the timing for the badger survey was perfect. The height and density of vegetation was a hindrance to access but did not affect the success of the assessment's central aim."

The goal of the surveys was to ascertain the nature of and activity at the sett i.e., was it a main breeding sett, how many badgers use it etc. These goals were achieved by the identification of a family of 5 badgers including two cubs by Brian's camera surveys in July/August. Thus, there is no reason for these surveys to be questioned in terms of timing.

5.3.2.6 Other Fauna

During all surveys at the site of the Proposed Development, other species of fauna were noted, and these are included in the report where applicable.

5.3.2.6.1 Amphibian Survey

One 1 (no.) day-time amphibian survey was undertaken at the site of the Proposed Development and immediate surrounding area on 7th March 2019 by Enviroguide Consulting.

A further set of amphibian surveys were undertaken by Amphibian specialist Rob Gandola on 8th and 10th of July 2022. Supplementary surveys were conducted during daylight hours on 16th and 17th July 2022, respectively as access to the Model Gardens was not possible at night.

Standard survey methods appropriate for detecting amphibians e.g., visual encounter searches via torch lighting and dip netting, were employed. Submerged funnel traps were not deployed during these surveys as (i) the water bodies were sufficiently shallow and/or clear to permit conclusive visual encounter surveys combined with dip net sampling; and (ii) the surveys were undertaken at a suboptimal time for detection of adult newts and their larvae, or frog tadpoles, particularly in waterbodies that contain multiple species of fish that are known to prey on native amphibians, their eggs, and larvae. Any natural or artificial refugia present near the waterbodies were inspected (e.g., wood stumps). Visual encounter surveys and dip netting surveys were conducted at each pond except from the ditch north of Belgrove Park. An incident whereby foul water/sewerage had entered the ditch via an inlet from the western side of the park rendering dip netting an unhygienic endeavour. All visual encounter surveys were conducted during periods of suitable weather (warm, calm, and humid without mist/very light rain). All sightings of a focal species or other deemed relevant, were recorded on a Garmin 60CSx GPS unit or suitably equipped smart phone.

Given the timing of the surveys, common frog spawn counts and breeding effort estimation were not possible. However, this is not a source of concern or a limitation to the assessment as, in this case, the Site of the Proposed Development supports no areas of standing water nor other wetland habitats i.e., no suitable breeding habitat, and no amphibians were recorded or would be expected at the Site according to Mr. Gandola's report. The amphibian assessment covered various other locations within St. Anne's Park that might support

amphibians, even when these sites are not all connected to the Site. Therefore, the report goes above and beyond what is necessary in terms of assessing amphibians in the context of the Proposed Development, please see Amphibian Report appended in Appendix F for further details.

5.3.2.6.2 Freshwater Biological Assessment of Naniken Stream

A walkover survey of the length of the Naniken stream from where it enters St. Annes Park to where it outflows into Dublin Bay was undertaken on the 24th of September 2021 by Dr Siobhán Atkinson of Enviroguide Consulting. The aim of the walkover survey was to undertake a general physical habitat assessment of the river channel and riverbanks and fisheries habitat assessment. A macro-invertebrate sample was collected and assessed to determine the biological water quality (Q Rating) of the stream. Live macroinvertebrate samples were sorted on the riverbank on a white tray using a head torch. Taxa were preserved in 70% Industrial Methylated Spirits (IMS) and identified by microscope. An EPA Q-value classification was assigned to each sample by recording the taxa present at a suitable taxonomic resolution and their categorical relative abundance.

5.3.3 Assessment

The value of the ecological resources, the habitats and species present or potentially present, was determined using the ecological evaluation guidance given in the National Roads Authority's (**NRA**) Ecological Assessment Guidelines (NRA, 2009). This evaluation scheme, with values ranging from locally important to internationally important, seeks to provide value ratings for habitats and species present that are considered ecological receptors of impacts that may ensue from a proposal. The NRA Guidelines (2009) define key ecological receptors (**KERs**) as those ecological features which are evaluated as Locally Important (higher value) or higher, that are likely to be impacted significantly by the Proposed Development. Internationally important receptors would include Special Areas of Conservation (**SAC**) or Special Protected Areas (**SPA**) while those of national importance would include Natural Heritage Areas (**NHA**).

This evaluation scheme has been adapted here to assess the value of habitats and fauna within the site of the Proposed Development. The value of habitats is assessed based on the condition, size, rarity, conservation, and legal status. The value of fauna is assessed on its biodiversity value, legal status, and conservation status. Biodiversity value is based on its national distribution, abundance or rarity, and associated trends.

Using the evaluation criteria as described above, some of the habitats and species identified as being present were assessed. Any of those selected that were evaluated as being of Local Importance (higher value) and higher in this study were selected as KERs and then the impact significance on each of these receptors was assessed.

5.3.3.1 Value of Ecological Receptors

The ecological features identified within the site of the Proposed Development and wider area are evaluated based on their value. These values are detailed in Table 5-1 and are taken from the Guidelines for Assessment of Ecological Impacts of National Road Schemes published by the National Roads Authority (NRA), now Transport Infrastructure Ireland (**TII**).

Table 5-1 Description of values for ecological resources based on geographic hierarchy of importance (NRA, 2009b)

Importance	Criteria

International Importance	- 'European Site' including Special Area of Conservation (SAC), Site of Community Importance (SCI), Special Protection Area (SPA) or proposed Special Area of Conservation.
	- Proposed Special Protection Area (pSPA). - Site that fulfils the criteria for designation as a 'European Site' (see Annex III of the Habitats Directive, as amended).
	- Features essential to maintaining the coherence of the Natura 2000 Network
	- Site containing 'best examples' of the habitat types listed in Annex I of the Habitats Directive.
	- Resident or regularly occurring populations (assessed to be important at the national level) of the following:
	  o Species of bird, listed in Annex I and/or referred to in Article 4(2) of the Birds Directive; and/or
	  o Species of animal and plants listed in Annex II and/or IV of the Habitats Directive
	- Ramsar Site (Convention on Wetlands of International Importance Especially Waterfowl Habitat 1971).
	- World Heritage Site (Convention for the Protection of World Cultural & Natural Heritage, 1972).
	- Biosphere Reserve (UNESCO Man & The Biosphere Programme)
	- Site hosting significant species populations under the Bonn Convention (Convention on the Conservation of Migratory Species of Wild Animals, 1979).
	- Site hosting significant populations under the Berne Convention (Convention on the Conservation of European Wildlife and Natural Habitats, 1979).
	- Biogenetic Reserve under the Council of Europe.
	- European Diploma Site under the Council of Europe.
	- Salmonid water designated pursuant to the European Communities (Quality of Salmonid Waters) Regulations, 1988, (S.I. No. 293 of 1988).

National Importance	- Site designated or proposed as a Natural Heritage Area (NHA). - Statutory Nature Reserve. - Refuge for Fauna and Flora protected under the Wildlife Acts. - National Park. - Undesignated site fulfilling the criteria for designation as a Natural Heritage Area (NHA); Statutory Nature Reserve; Refuge for Fauna and Flora protected under the Wildlife Act; and/or a National Park. - Resident or regularly occurring populations (assessed to be important at the national level) of the following: o Species protected under the Wildlife Acts; and/or Species listed on the relevant Red Data list. Sites containing 'viable areas' of the habitat types listed in Annex I of the Habitats Directive

County Importance	- Area of Special Amenity.
	- Area subject to a Tree Preservation Order.
	- Area of High Amenity, or equivalent, designated under the County Development Plan.
	- Resident or regularly occurring populations (assessed to be important at the County level) of the following:
	  o Species of bird, listed in Annex I and/or referred to in Article 4(2) of the Birds Directive;
	  o Species of animal and plants listed in Annex II and/or IV of the Habitats Directive;
	  o Species protected under the Wildlife Acts; and/or
	  o Species listed on the relevant Red Data list.

Importance	Criteria
	○ Site containing area or areas of the habitat types listed in Annex I of the Habitats Directive that do not fulfil the criteria for valuation as of International or National importance. - County important populations of species; or viable areas of semi-natural habitats; or natural heritage features identified in the National or Local BAP; if this has been prepared. - Sites containing semi-natural habitat types with high biodiversity in a county context and a high degree of naturalness, or populations of species that are uncommon within the county. - Sites containing habitats and species that are rare or are undergoing a decline in quality or extent at a national level.
Local Importance (higher value)	- Locally important populations of priority species or habitats or natural heritage features identified in the Local BAP, if this has been prepared; - Resident or regularly occurring populations (assessed to be important at the Local level) of the following: ○ Species of bird, listed in Annex I and/or referred to in Article 4(2) of the Birds Directive; ○ Species of animal and plants listed in Annex II and/or IV of the Habitats Directive; ○ Species protected under the Wildlife Acts; and/or o ○ Species listed on the relevant Red Data list. ○ Sites containing semi-natural habitat types with high biodiversity in a local context and a high degree of naturalness, or populations of species that are uncommon in the locality; - Sites or features containing common or lower value habitats, including naturalised species that are nevertheless essential in maintaining links and ecological corridors between features of higher ecological value.
Local Importance (lower value)	- Sites containing small areas of semi-natural habitat that are of some local importance for wildlife; - Sites or features containing non-native species that is of some importance in maintaining habitat links.

5.3.3.2 Impact Assessment Criteria

Once the value of the identified ecological receptors was determined, the next step was to assess the potential effect or impact of the Proposed Development on the identified KERs. This was carried out with regard to the criteria outlined in various impact assessment guidelines (NRA, 2009; CIEEM, 2018) that set down a number of parameters such as quality, magnitude, extent, and duration that should be considered when determining which elements of the proposal could constitute impact or sources of impacts. Once impacts are defined, their significance was categorised using the EPA *Guidelines on the information to be contained in Environmental Impact Assessment Reports* (EPA, 2022).

Identification of a risk does not constitute a prediction that it will occur, or that it will create or cause significant impact. However, identification of the risk does mean that there is a possibility of ecological or environmental damage occurring, with the level and significance of the impact depending upon the nature and exposure to the risk and the characteristics of the ecological receptor.

5.3.3.2.1 Criteria used to Define Quality of Effects

In line with the EPA Guidelines (EPA, 2022), the following terms are defined when quantifying the quality of effects. See Table 5-2.

Table 5-2 Definition of Quality of Effects

Quality	Definition
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).

5.3.3.2.2 Criteria used to Define Significance of Effects

In line with the EPA Guidelines (EPA, 2022), the following terms are defined when quantifying the significance of impacts. See Table 5-3.

Table 5-3 Definition of Significance of Effects

Significance of Effects	Definition
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

5.3.3.2.3 Criteria used to Define Duration of Effects

In line with the EPA Guidelines (EPA, 2022), the following terms are defined when quantifying duration and frequency of effects. See Table 5-4.

Table 5-4 Definition of Duration of Effects

Quality	Definition
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
Reversible Effects	Effects that can be undone, for example through remediation or restoration

5.4 The Existing and Receiving Environment (Baseline Situation)

5.4.1 Site Overview

The Site of the Proposed Development is located to the east of St Paul's College (Secondary School) and is accessed via the R808 Sybil Hill Road, Raheny, Dublin 5. St Anne's Park borders the site to the north, east and south. The Site is bordered to the west by St Paul's College, Sybil Hill House (a protected structure) and some residential dwellings. The 4-storey Convent building / grounds of the Little Sisters of the Poor is located to the immediate west of Sybil Hill Road.

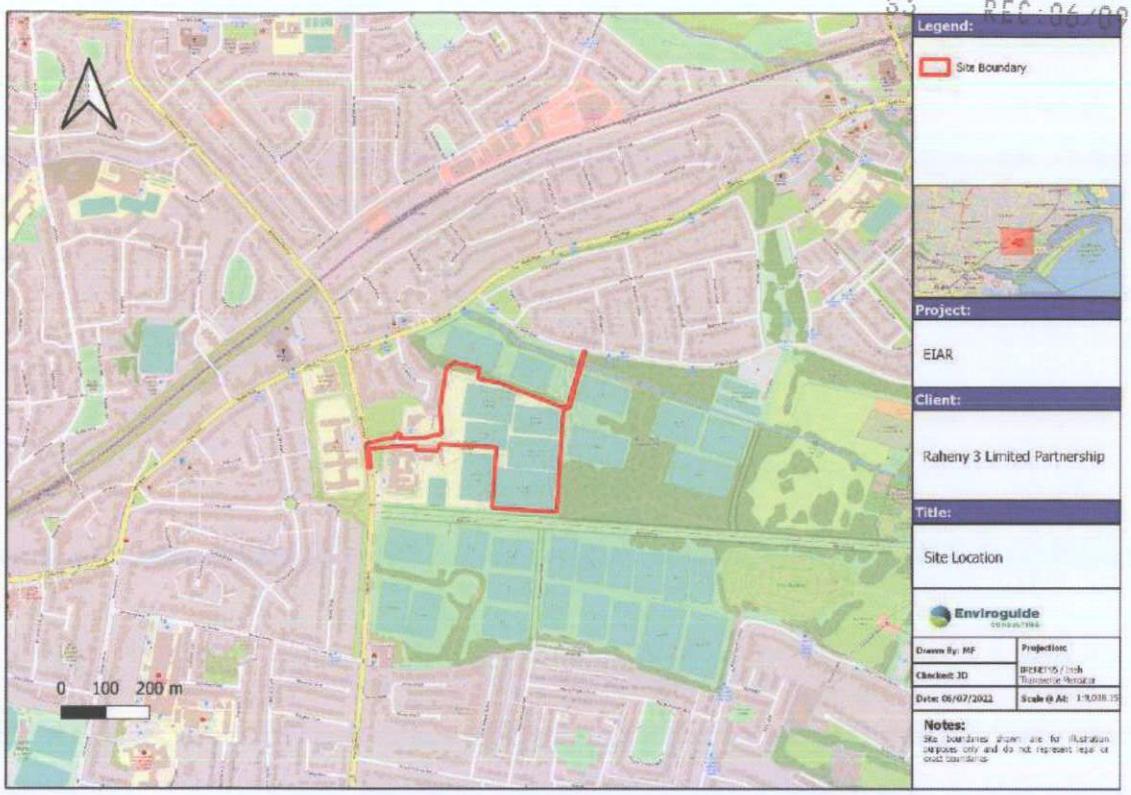

Figure 5-3: Site Location Map

Dublin 5 and the wider local area are located within the *Dublin* groundwater body. The overall status (2013 - 2018) of this waterbody is recorded as *Good* (EPA, 2021). The groundwater rock units underlying the area are classified as *Dinantian Upper Impure Limestones* and the sub-soil at the site is classified as both *man-made* and *Limestone till (Carboniferous)*. The site of the Proposed Development is located on a *locally important* aquifer with groundwater vulnerability in the area listed as *Low*.

The site of the Proposed Development is located within the Mayne River sub-catchment (*Mayne_SC_010*) and the Santry sub-basin (*Santry_020)*. The Naniken Stream[2] (*EPA code: 09N04*) flows c. 100m to the north of the site of the Proposed Development, within St Anne's Park. The Naniken Stream flows easterly for *c.* 1.7km from where it exits the culvert under the Clontarf Road (R807), to where it enters the south lagoon at North Bull Island.

5.4.2 Designated Sites

5.4.2.1 Sites of International Importance

Table 5-5 presents details of the key ecological features of the European sites within 15km of the Proposed Development. Designated sites outside of this 15km radius were not assessed further, as they are either located a considerable physical distance inland, separated by a

[2] It should be noted that the terms Naniken River and Naniken Stream are interchangeable and for the purpose of this planning application and all supporting reports and documentation both names refer to the same waterbody.

substantial marine buffer, and/or located within different surface water catchment zones to the Proposed Development.

Table 5-5 European sites located within 15km of the Site of the Proposed Development

Site Code	Site Name	Qualifying Interests	Distance to Site
Special Areas of Conservation (SAC)			
000206	North Dublin Bay SAC	**Annex I Habitats:** - [1140] Tidal Mudflats and Sandflats - [1210] Annual Vegetation of Drift Lines - [1310] Salicornia Mud - [1330] Atlantic Salt Meadows - [1410] Mediterranean Salt Meadows - [2110] Embryonic Shifting Dunes - [2120] Marram Dunes (White Dunes) - [2130] Fixed Dunes (Grey Dunes)* - [2190] Humid Dune Slacks **Annex II Species:** - [1395] Petalwort (*Petalophyllum ralfsii*)	1.1km
000210	South Dublin Bay SAC	**Annex I Habitats:** - [1140] Tidal Mudflats and Sandflats - [1210] Annual vegetation of drift lines - [1310] Salicornia and other annuals colonising mud and sand - [2110] Embryonic shifting dunes	3.5km
000199	Baldoyle Bay SAC	**Annex I Habitats:** - [1140] Tidal Mudflats and Sandflats not covered by water at low tide. - [1310] Salicornia Mud - [1330] Atlantic Salt Meadows - [1410] Mediterranean Salt Meadows	4.7km
000202	Howth Head SAC	**Annex I Habitats:** - [1230] Vegetated Sea Cliffs - [4030] Dry Heath	5.9km
003000	Rockabill to Dalkey Island SAC	**Annex I Habitats:** - [1170] Reefs **Annex II Species:** - [1351] Harbour Porpoise (Phocoena phocoena)	6.6km
000205	Malahide Estuary SAC	**Annex I Habitats:** - [1140] Tidal Mudflats and Sandflats - [1310] Salicornia Mud - [1330] Atlantic Salt Meadows - [1410] Mediterranean Salt Meadows - [2120] Marram Dunes (White Dunes) - [2130] Fixed Dunes (Grey Dunes)*	7.9km
002193	Ireland's Eye SAC	**Annex I Habitats:** - [1220] Perennial Vegetation of Stony Banks	8.6km

Site Code	Site Name	Qualifying Interests	Distance to Site
		- [1230] Vegetated Sea Cliffs	
000208	Rogerstown Estuary SAC	**Annex I Habitats:** - [1130] Estuaries - [1140] Tidal Mudflats and Sandflats - [1310] Salicornia Mud - [1330] Atlantic Salt Meadows - [1410] Mediterranean Salt Meadows - [2120] Marram Dunes (White Dunes) - [2130] Fixed Dunes (Grey Dunes)*	13.5km
Special Protection Areas (SPA)			
004006	North Bull Island SPA	- [A046] Light-bellied Brent Goose (*Branta bernicla hrota*) [wintering] - [A048] Shelduck (*Tadorna tadorna*) [wintering] - [A052] Teal (*Anas crecca*) [wintering] - [A054] Pintail (*Anas acuta*) [wintering] - [A056] Shoveler (*Anas clypeata*) [wintering] - [A130] Oystercatcher (*Haematopus ostralegus*) [wintering] - [A140] Golden Plover (*Pluvialis apricaria*) [wintering] - [A141] Grey Plover (*Pluvialis squatarola*) [wintering] - [A143] Knot (Calidris canutus) [wintering] - [A144] Sanderling (*Calidris alba*) [wintering] - [A149] Dunlin (*Calidris alpina*) [wintering] - [A156] Black-tailed Godwit (*Limosa limosa*) [wintering] - [A157] Bar-tailed Godwit (*Limosa lapponica*) [wintering] - [A160] Curlew (*Numenius arquata*) [wintering] - [A162] Redshank (*Tringa totanus*) [wintering] - [A169] Turnstone (*Arenaria interpres*) [wintering] - [A179] Black-headed Gull (*Chroicocephalus ridibundus*) [wintering] - [A999] Wetland and Waterbirds	1.1km
004024	South Dublin Bay and River Tolka Estuary SPA	- [A046] Light-bellied Brent Goose (*Branta bernicla hrota*) [wintering] - [A130] Oystercatcher (*Haematopus ostralegus*) [wintering] - [A137] Ringed Plover (*Charadrius hiaticula*) [wintering] - [A141] Grey Plover (*Pluvialis squatarola*) [wintering] - [A143] Knot (*Calidris canutus*) [wintering] - [A144] Sanderling (*Calidris alba*) [wintering] - [A149] Dunlin (*Calidris alpina*) [wintering] - [A157] Bar-tailed Godwit (*Limosa lapponica*) [wintering] - [A162] Redshank (*Tringa totanus*) [wintering] - [A179] Black-headed Gull (*Chroicocephalus ridibundus*) [wintering] - [A192] Roseate Tern (*Sterna dougallii*) [passage] - [A193] Common Tern (*Sterna hirundo*) [breeding] [passage]	1.3km

Site Code	Site Name	Qualifying Interests	Distance to Site
		- [A194] Arctic Tern (*Sterna paradisaea*) [breeding [passage] - [A999] Wetland and Waterbirds	
004016	Baldoyle Bay SPA	- [A046] Light-bellied Brent Goose (*Branta bernicla hrota*) [wintering] - [A048] Shelduck (*Tadorna tadorna*) [wintering] - [A137] Ringed Plover (*Charadrius hiaticula*) [wintering] - [A140] Golden Plover (*Pluvialis apricaria*) [wintering] - [A141] Grey Plover (*Pluvialis squatarola*) [wintering] - [A157] Bar-tailed Godwit (*Limosa lapponica*) [wintering] - [A999] Wetland and Waterbirds	4.8km
004117	Ireland's Eye SPA	- [A017] Cormorant (*Phalacrocorax carbo*) [breeding] - [A184] Herring Gull (*Larus argentatus*) [breeding] - [A188] Kittiwake (*Rissa tridactyla*) [breeding] - [A199] Guillemot (*Uria aalge*) [breeding] - [A200] Razorbill (*Alca torda*) [breeding]	8.4km
004025	Malahide Estuary SPA	- [A005] Great Crested Grebe (*Podiceps cristatus*) [wintering] - [A046] Light-bellied Brent Goose (*Branta bernicla hrota*) [wintering] - [A048] Shelduck (*Tadorna tadorna*) [wintering] - [A054] Pintail (*Anas acuta*) [wintering] - [A067] Goldeneye (*Bucephala clangula*) [wintering] - [A069] Red-breasted Merganser (*Mergus serrator*) [wintering] - [A130] Oystercatcher (*Haematopus ostralegus*) [wintering] - [A140] Golden Plover (*Pluvialis apricaria*) [wintering] - [A141] Grey Plover (*Pluvialis squatarola*) [wintering] - [A143] Knot (*Calidris canutus*) [wintering] - [A149] Dunlin (*Calidris alpina*) [wintering] - [A156] Black-tailed Godwit (*Limosa limosa*) [wintering] - [A157] Bar-tailed Godwit (*Limosa lapponica*) [wintering] - [A162] Redshank (*Tringa totanus*) [wintering] - [A999] Wetland and Waterbirds	8.5km
004113	Howth Head Coast SPA	- [A188] Kittiwake (*Rissa tridactyla*) [breeding]	8.8km
004172	Dalkey Islands SPA	- [A192] Roseate Tern (*Sterna dougallii*) [passage] [breeding] - [A193] Common Tern (*Sterna hirundo*) [passage] [breeding] - [A194] Arctic Tern (*Sterna paradisaea*) [passage] [breeding]	12km
004015	Rogerstown Estuary SPA	- [A043] Greylag Goose (*Anser anser*) [wintering] - [A046] Light-bellied Brent Goose (*Branta bernicla hrota*) [wintering]	13.7km

Site Code	Site Name	Qualifying Interests	Distance to Site
		- [A048] Shelduck (*Tadorna tadorna*) [wintering] [breeding] - [A056] Shoveler (*Anas clypeata*) [wintering] - [A130] Oystercatcher (*Haematopus ostralegus*) [wintering] - [A137] Ringed Plover (*Charadrius hiaticula*) [wintering] - [A141] Grey Plover (*Pluvialis squatarola*) [wintering] - [A143] Knot (*Calidris canutus*) [wintering] - [A149] Dunlin (*Calidris alpina*) [wintering] - [A156] Black-tailed Godwit (*Limosa limosa*) [wintering] [passage] - [A162] Redshank (*Tringa totanus*) [wintering] - [A999] Wetland and Waterbirds	

5.4.2.2 Sites of National Importance

The basic designation for wildlife and habitats in Ireland is the Natural Heritage Area (**NHA**). These sites are comprised of 75 no. raised bogs and a further 73 no. blanket bogs. There are an additional 630 no. sites listed as proposed Natural Heritage Areas (**pNHA**). These are sites that were initially published on a non-statutory basis in 1995 but have yet to be statutorily proposed or designated. However, they do have certain levels of protection such as in the County Development Plans.

No NHAs are located within, or directly adjacent to, the Site of the Proposed Development. The nearest pNHA to the Proposed Development is the North Dublin Bay pNHA located ca.1.1km to the east. The Proposed Development maintains a hydrological connection with this pNHA via the Naniken Stream. As Such, North Dublin Bay pNHA is included in the precautionary Zone of Influence (ZOI) of the Proposed Development.

North Dublin Bay pNHA is designated as an SAC, and as such has no official pNHA Site Synopses attributed to it. This pNHA is therefore considered in this assessment in terms of the Qualifying interests (i.e., habitats and species) for which the North Dublin Bay SAC is designated. As such, potential impacts to this pNHA are addressed by proxy in the AA Screening and NIS reports that accompany this application under separate cover.

No other pNHAs are deemed to maintain potential impact pathways linking them to the Proposed Development.

Table 5-6 details the NHAs and pNHA within 5km of the site of the Proposed Development and summarises their qualifying interests, where available. There are six (6) no. pNHA within 5km of the site of the Proposed Development.

Table 5-6 Natural heritage areas and proposed natural heritage areas within 5km of the Site of the Proposed Development

Site Code	Site Name	Qualifying Interests	Distance to Site
Natural Heritage Areas (NHA)			
There are no NHAs within 5km of the Proposed Development.			
Proposed Natural Heritage Areas (pNHA)			
000206	North Dublin Bay	*There are no formal qualifying interests listed for proposed Natura Heritage Areas (pNHA). A general site synopsis is available for most sites on the NPWS website (NPWS, 2022).*	1.14km
000201	Dolphins, Dublin Docks		3.35km
000210	South Dublin Bay		3.52km
002103	Royal Canal		3.77km
000178	Santry Demesne		4.41km
000199	Baldoyle Bay		4.71km

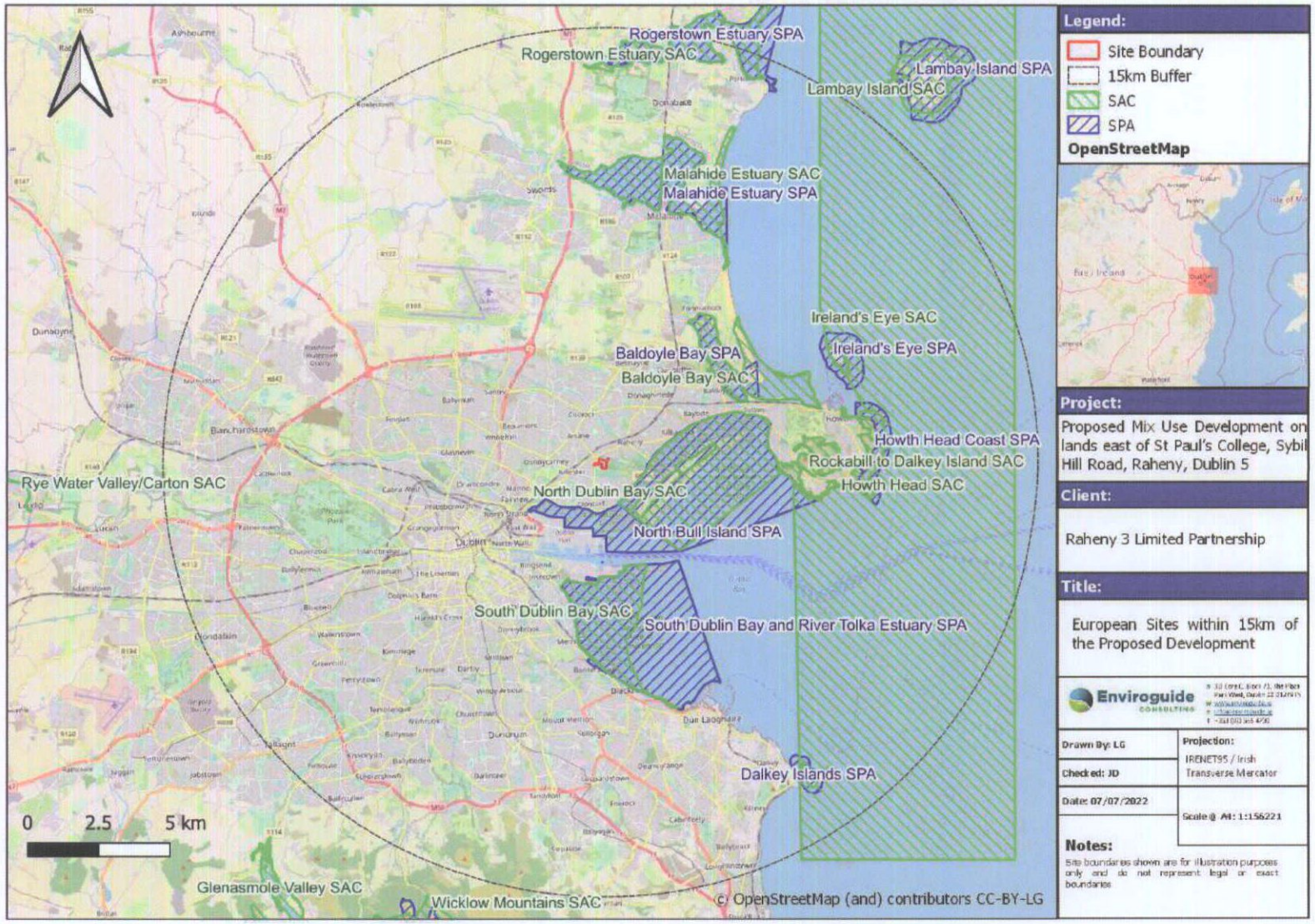

Figure 5-4 European Sites within 15km of the Proposed Development

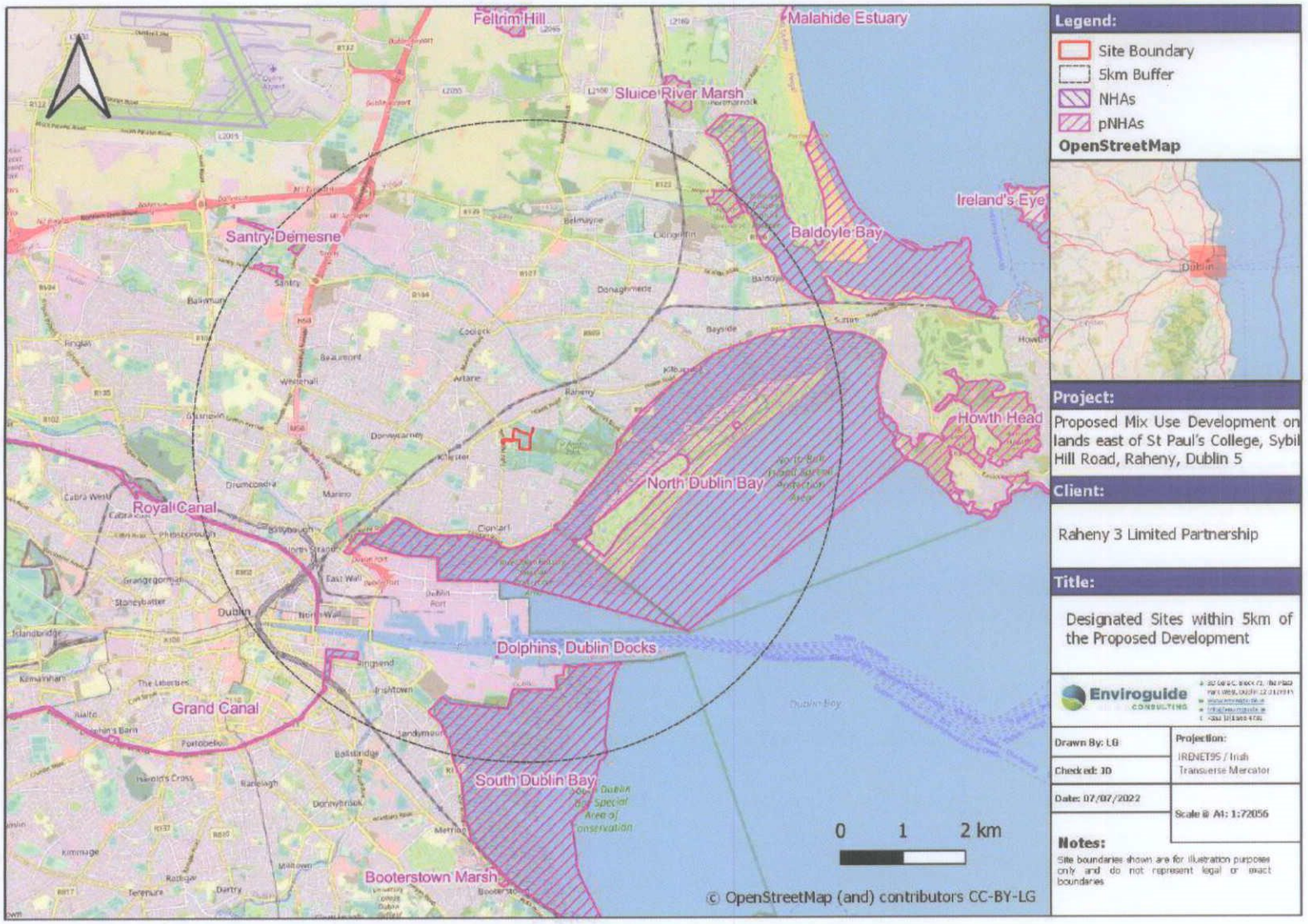

Figure 5-5 Designated Sites within 5km of the Proposed Development

5.4.3 Habitats

The habitats within the site of the Proposed Development were coded and categorised to level 3 according to Fossitt (2000). The following habitats were identified within the site of the Proposed Development and the immediate surrounding area:

- Buildings and Artificial Surfaces (BL3);
- Amenity Grassland (Improved) (GA2);
- Dry meadows and grassy verges (GS2);
- Scrub (WS1);
- Scattered Trees and Parkland (WD5);
- (Mixed) Broadleaved Woodland (WD1);
- Treelines (WL2);
- Drainage Ditch (FW4); and
- Stone Walls and Other Stonework (BL1).

See Figure 5-6 for the habitat map.

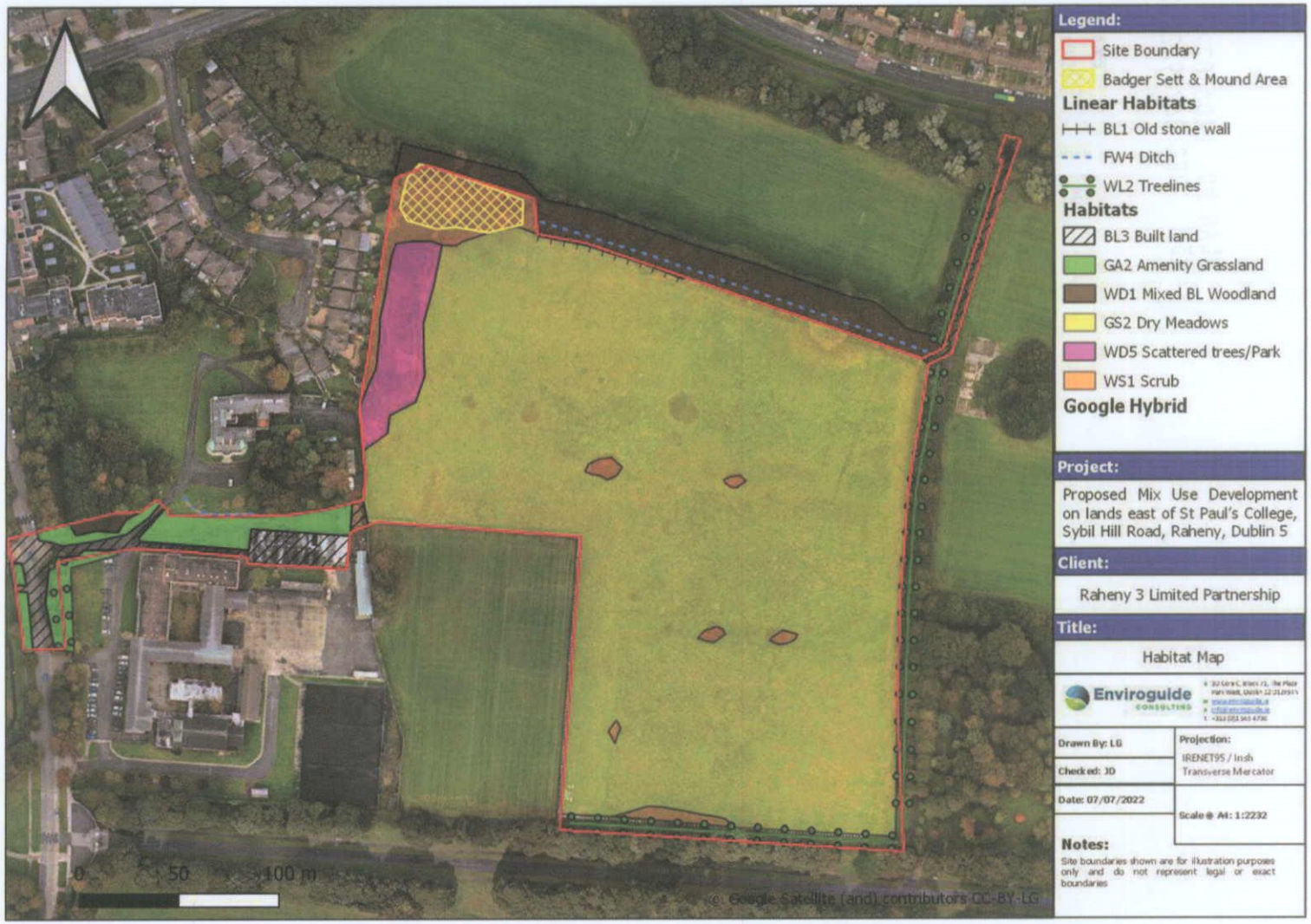

Figure 5-6. Habitat Map

5.4.3.1 Buildings and Artificial Surfaces (BL3)

Buildings and Artificial Surfaces habitat covers the existing site structures and areas of hardstanding. There is little to no vegetation present in these areas, and they are of negligible ecological value.

5.4.3.2 Amenity Grassland (Improved) (GA2)

Amenity Grassland (Improved) habitat covers the managed area of the playing pitch utilised by St Paul's College; this area is subject to regular mowing and is of negligible ecological value.

5.4.3.3 Dry Meadows and Grassy Verges (GS2)

This unmanaged habitat type makes up the majority of the Site groundcover in the form of rank grassland fields, formerly used as playing pitches without maintenance (i.e., mowing) since August 2018. The main sward comprises Yorkshire fog *Holcus lanatus*, cock's foot *Dactylis glomerata*, creeping bent *Agrostis stolonifera* and perennial ryegrass *Lolium perenne*. The herbaceous component is largely made up of creeping buttercup *Ranunculus repens*, meadow buttercup *Ranunculus acris*, nettle *Urtica dioica*, dandelion *Taraxacum officinale*, daisy *Bellis perennis*, ribwort plantain *Plantago lanceolata*, creeping thistle *Cirsium arvense,* Hogweed *Heracleum sphondylium,* broad-leaved dock *Rumex obtusifolius* and white clover *Trifolium repens*. In the shadier areas along the boundary and under trees species such as rape *Brassica napus*, garlic mustard *Alliaria petiolata*, cow parsley *Anthriscus sylvestris*, prickly sowthistle *Sonchus asper*, cleavers *Galium aparine* and field forget-me-not *Myosotis arvensis* were recorded. This habitat type is of some value to local insects and wildlife at the Site and is of Local importance (Lower value).

5.4.3.4 Scrub (WS1)

There is an area of dense scrub located in the north-west corner of the main grassland section of the Site. This scrub is dominated by thick bramble *Rubus fruticosus* agg., and elder *Sambucus nigra,* with nettle *Urtica dioica* and ivy *Hedera helix* also abundant. A section of Griselenia hedgerow has become part of the scrub. Garlic mustard *Alliaria petiolata*, cleavers *Galium aparine* and silverweed *Potentilla anserina* were recorded along the scrub margins. Patches of this habitat are forming in various parts of the rank grassland meadow, with bramble and elder both present. This habitat forms a dense habitat for wildlife such as local birds and mammals and is of Local importance (Higher value).

5.4.3.5 Scattered Trees and Parkland (WD5)

There are several parcels of *scattered trees and parkland* habitat within the Site of the Proposed Development and surrounding area; along the north-western boundary of the main area of rank grassland. There are also areas north of St Paul's College, within the grounds of the Vincentian Community Residence. Common trees recorded within the northwest of the Site include horse chestnut *Aesculus hippocastanum*, Austrian Pine *Pinus nigra,* sycamore *Acer pseudoplatanus* and lime *Tilia europea.* This habitat provides potential bat roosting habitat due to the age and condition of the trees present. This habitat is considered of Local importance (Higher value).

5.4.3.6 (Mixed) Broadleaved Woodland (WD1)

A strip of mixed broadleaved woodland forms the northern boundary of the site of the Proposed Development. There are additional parcels located within the grounds of the Vincentian Community Residence. The northern woodland is largely comprised of sycamore *Acer pseudoplatanus*, and ash *Fraxinus excelsior*. This northern strip of WD1 habitat is located outside the redline boundary of the Site and is separated by a steep drainage ditch. This habitat is therefore retained in the project design and impacts are not envisaged bar the removal of several trees located south of the aforementioned ditch and close to the northern Site boundary i.e., Trees BA & BB as per the Arboricultural Report and Tree impacts Plan (Treefile, 2022). This habitat forms part of a wider wildlife corridor system running north and east through St Anne's Park providing habitat connectivity with the rest of the park. This habitat is considered of Local importance (Higher value).

5.4.3.7 Treelines (WL2)

Treelines comprising mature trees form the eastern and southern boundaries of the Site of the Proposed Development. There are numerous other mature treelines present within St Anne's Park and the surrounding area. Regularly occurring species included holm oak *Quercus ilex*, lime *Tilia europea,* ash *Fraxinus excelsior*, bramble *Rubus fruticosus* agg., elder *Sambucus nigra*, Austrian pine *Pinus nigra* and Monterey pine *Pinus radiata*. Ivy *Hedera helix* is the dominant ground cover in these areas. This habitat also forms part of a wider wildlife corridor system running through St Anne's Park; providing important habitat connectivity. This habitat is considered of Local importance (Higher value).

5.4.3.8 Drainage Ditch (FW4)

There is a short drainage ditch within the grounds of Sybil Hill House. This ditch was slightly wet underfoot but with no actual standing water present. Species present within the ditch included silverweed *Potentilla anserina* , creeping cinquefoil *Potentilla reptans,* meadow buttercup *Ranunculus acris*, germander speedwell *Veronica chamaedrys*, daisy *Bellis perennis* and dandelion *Taraxacum officinale agg*. A second longer drainage ditch is present adjacent to the northern boundary of the Site of the Proposed Development. This ditch is *c.* 0.5-1.0m in width and was wet in parts during the site visits although it dried out along the eastern reaches. This ditch contained some discarded refuse along its length. Due to its relatively dry state overall and lack of aquatic vegetation, this habitat is considered of Local importance (lower value).

5.4.3.9 Stone Walls and Other Stonework (BL1)

An old brick wall is present beyond the northern boundary of the site of the Proposed Development. While there is little or no vegetation on the surface of the wall itself, there are a number of species present at the base including black medick *Medicago lupulina*, common ramping-fumitory *Fumaria muralis*, scarlet pimpernel *Anagallis arvensis*, common vetch *Vicia sativa ssp.* and winter heliotrope *Petasites fragrans*. This habitat is considered of Local importance (Higher value) due to its age and some bat roost potential in cracks and crevices.

5.4.4 Flora and Fauna

The Site of the Proposed Development is located within the Ordnance Survey National Grid 10km grid square O23, the 2km grid square O23D and the 1km grid square O2037. Species records from the last 30 years from the National Biodiversity Data Centre (NBDC) online

database for these grid squares were studied for the presence of rare/protected/invasive flora and fauna species.

5.4.4.1 Rare and Protected Flora

Ten records of rare flora, e.g., those classified as 'critically endangered', 'endangered', or 'vulnerable' on the *Ireland Red List No. 10: Vascular Plants* (Wyse-Jackson *et al.*, 2016) or the *Ireland Red List No. 8: Bryophytes* (Lockhart *et al.*, 2012), were identified during a review of the relevant grid squares using the NBDC database. No rare species of flora were recorded during site visits. Lesser Centaury *Centaurium pulchellum* was recorded at a location along the southeast shore of Bull Island in 2010, however, this coastal species is unlikely to be found at the Site of the Proposed Development.

The Site does not contain any species listed on the Flora (Protection) Order 2015 (FPO). A search of the NPWS FPO Bryophyte Map Viewer provided no records of protected species within the vicinity of the Site of the Proposed Development, with the nearest records located on Bull Island to the east (Petalwort, Cernuous Thread-moss, Many-seasoned Thread-moss & Warne's Thread-moss).

Table 5-7 Records of Rare or Protected Flora for the Surrounding 10KM (O23) Grid Square, from the NBDC.

Name	Species Group	Date of last record	Database	Designation
Petalwort *(Petalophyllum ralfsii)*	Liverwort	11/06/2009	Bryophytes of Ireland	EU Habitats Directive: Annex II; Flora Protection Order 2015 (Schedule C); Red List 2012: Least concern
Cernuous Thread-moss (*Bryum uliginosum*)	Moss	03/10/2008	Bryophytes of Ireland	Flora Protection Order 2015 (Schedule B); Red List 2012: Endangered
Many-seasoned Thread-moss (*Bryum intermedium*)	Moss	14/09/2007	Bryophytes of Ireland	Flora Protection Or-der 2015 (Schedule B); Red List 2012: Endangered
Warne's Thread-moss (*Bryum warneum*)	Moss	14/09/2007	Bryophytes of Ireland	Flora Protection Or-der 2015 (Schedule B); Red List 2012: Endangered
Shady Beard-moss *(Didymodon umbrosus)*	Moss	17/11/2004	Bryophytes of Ireland	Red List 2012:Vulnerable
Lesser Centaury (*Centaurium pulchellum*)	Flowering plant	31/12/2010	BSBI tetrad data for Ireland	Flora Protection Order 2015 (Schedule A); Red List 2016: Near Threatened
Little-robin (*Geranium purpureum)*	Flowering plant	24/05/2014	Ireland's BioBlitz	Red List 2016: Endangered
Wild Clary *(Salvia verbenaca)*	Flowering plant	01/08/2020	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	Red List 2016: Vulnerable
Spring Vetch *(Vicia lathyroides)*	Flowering plant	07/05/2019	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	Red List 2016: Vulnerable
Bird's-foot *(Ornithopus perpusillus)*	Flowering plant	18/08/2020	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	Red List 2016: Vulnerable

5.4.4.2 Invasive Flora

There are records from the NBDC database for 9 no. species of flora considered to be invasive within the 2km grid square (O23D) within which the site of the Proposed Development is located. The 2km grid resolution is somewhat more relevant than invasive plant species

recorded within 10km of the Site, and is used to give a more focused account of invasive flora in the vicinity of the Site. Details of these records are detailed in Table 5-8.

The site of the Proposed Development contains a number of these non-native species, none of which are listed on the Third Schedule of the *European Communities (Birds and Natural Habitats) Regulations 2011*. The following invasive non-native flora were observed within the vicinity of the Site:

- Himalayan Honeysuckle *Leycesteria formosa* (Medium Impact[3])
- Sycamore *Acer pseudoplatanus* (Medium Impact)
- Holm oak *Quercus Ilex* (Medium Impact)
- Winter Heliotrope *Petasites pyrenaicus* (Low impact)

Winter Heliotrope *Parasites pyrenaicus* was found at the base of the wall running along the northern boundary of the Site. Holm oak and Sycamore found along the wooded margins of the Site. One instance of Himalayan Honeysuckle *Leycesteria formosa* was noted within the northern woodland strip outside of the Site's boundary.

[3] Impact status based on the 2013 Invasive Species in Ireland risk assessment. See report: Kelly, J., O'Flynn, C., and Maguire, C. 2013. Risk analysis and prioritisation for invasive and non-native species in Ireland and Northern Ireland. http://invasivespeciesireland.com/wp-content/uploads/2013/03/Risk-analysis-andprioritization-29032012-FINAL.pdf

Table 5-8 Records of Invasive Species of Flowering Plant from the relevant 2KM Grid Square (O23D) from the NBDC

Species	Date of last record	Source	Designations
Butterfly-bush (*Buddleja davidii*)	08/06/2013	Online Atlas of Vascular Plants 2012-2020; Local BioBlitz Challenge 2013	- Medium Impact Invasive Species
Cherry Laurel (*Prunus laurocerasus*)	08/06/2013	Local BioBlitz Challenge 2013	- High Impact Invasive Species
Holm Oak (*Quercus ilex*)	07/05/2020	Local BioBlitz Challenge 2013	- Medium Impact Invasive Species
Himalayan Honeysuckle (*Leycesteria formosa*)	08/06/2013	Local BioBlitz Challenge 2013	- Medium Impact Invasive Species
Japanese Knotweed (*Fallopia japonica*)	08/06/2013	National Invasive Species Database; Local BioBlitz Challenge 2013	- High Impact Invasive Species - Regulation S.I. 477
Japanese Rose (*Rosa rugosa*)	24/09/2018	Online Atlas of Vascular Plants 2012-2020	- Medium Impact Invasive Species
Sycamore (*Acer pseudoplatanus*)	26/08/2016	Online Atlas of Vascular Plants 2012-2020	- Medium Impact Invasive Species
Three-cornered Garlic (*Allium triquetrum*)	03/05/2015	Online Atlas of Vascular Plants 2012-2020	- Medium Impact Invasive Species - Regulation S.I. 477
Turkey Oak (*Quercus cerris*)	08/06/2013	Local BioBlitz Challenge 2013	- Medium Impact Invasive Species

5.4.4.3 Mammals (excl. bats)

Records for terrestrial mammals recorded in the surrounding 2km grid square were retrieved from the NBDC online database. The following protected species were included in these results:

- Eurasian Badger (*Meles meles*)
- Eurasian Pygmy Shrew (*Sorex minutus*)
- Western European Hedgehog (*Erinaceus europeaus*)
- Red Squirrel (*Sciurus vulgaris*)

Additional commonly occurring protected mammal species were also considered in the context of the Site of the Proposed Development and its environs.

5.4.4.3.1 Eurasian Badger

Badgers are a protected species under the Wildlife Act 1976 as amended and are listed in Appendix III of the Bern Convention. It is an offence to intentionally cause harm or wilfully interfere with an active or inactive breeding or resting place of a protected wild animal.

Evidence of Badger was recorded in the north-western corner of the Site, during the mammal survey in December 2021. A large earthen mound, covered in mature elder and dense bramble scrub is present in this corner of the Site, running east-west; likely a result of previous clearance of the lands in the past. Several established mammal trails were noted leading into this scrub from the Site lands, and evidence of mammal scuffle marks and digging were present.

On the northern side of this mound (midway along) three large burrow entrances were noted in close proximity to each other, with large spoil heaps outside with discarded bedding observed. Badger prints were observed in the wet earth at these entrances. These large entrances were confirmed by Brian Keeley during July 2022 surveys to represent a badger main sett (due to the size and nature of the spoil heaps present, discarded bedding etc.). Trail camera footage (under licence from NPWS) recorded the presence of 5 badgers utilising the main sett; two adults and three weaned cubs, confirming it as a breeding sett for 2022.

Further along the mound from the main sett, at the north-westernmost point, four smaller burrow entrances were recorded in close proximity to each other; one at the base of a tree and three in the side of the earth mound. These burrows were confirmed by Brian Keeley to be entrances to an annexe badger sett linked by establish trails to the main sett.

No latrines were visible within the vicinity of the entrances although lead litter was abundant and may have disguised them if present. Mammal trails were noted throughout, and leading from this area, under the metal fencing and into the wooded margin of St Anne's Park.

On the southern side (Site-side) of the mound, amidst dense bramble scrub, two smaller entrances were noted with potential discarded grass bedding nearby. More potentially discarded dry grass bedding was found piled at the base of the slope, underneath the canopy of a Griselenia hedge.

5.4.4.3.2 Red Fox

Red Fox has been observed at the Site on multiple occasions, with a fox observed in a 2019 Enviroguide Mammal survey entering the north-western scrub, and several heard calling during a bat survey of the Site in the same year. A fox was observed visually and calling during the bat survey on 26th July 2022 and was also recorded in the vicinity of the main sett on trail camera footage in 2022. No dens were recorded at the Site, although foxes will inhabit occupied setts with badgers in some instances. Foxes are not a protected species in Ireland, partly due to their apparent success in urban environments, but as our only wild canid they should be considered as best practice in terms of avoiding direct harm.

5.4.4.3.3 Small Mammals

Western European Hedgehog and Pygmy Shrew have potential to utilise the Site lands in their current condition. These small, relatively widespread species inhabit both urban and rural landscapes, and likely inhabit the Site and St. Anne's Park due to the presence of suitable habitats therein, although no signs or evidence was recorded during site visits.

Red Squirrel is limited to more rural parts of the country with higher tree cover e.g., woodland, commercial forestry plantations etc., (Lawton et al., 2020), however, this species has been recorded in St. Anne's Park as recently as 2007 (NBDC record: The Irish Squirrel Survey 2007). The Site itself provides limited habitat potential for Red Squirrel in its current state.

Little to no suitable habitat for Irish Stoat *Mustela erminea hibernica* and Pine Marten *Martes* exists at the Site. Irish stoat have been recorded on Bull Island as recently as 2017, while a Pine Marten was recorded in south Baldoyle bay in 2013 (NBDC, 2021). These species could potential be found in St. Anne's Park but the Site of the Proposed Development would not support significant habitat for either species.

Irish mountain hare *Lepus timidus hibernicus* are not likely to be present at the Site and no signs e.g., droppings were noted during site surveys.

5.4.4.3.4 Otter

It is deemed that Otter *Lutra lutra* would not utilise the Site of the Proposed Development due to the lack of suitable habitat for this species within the Site itself and its immediate surroundings.

5.4.4.4 Bats

In view of their sensitive status across Europe, all species of bat have been listed on Annex IV of the EC 'Habitats and Species Directive'. One other species, the Lesser Horseshoe bat is given further protection and listed on Annex II of this Directive. However, this species is only found in the west of Ireland. All bat species are protected under the Wildlife Act 1976 to 2012 (the **Wildlife Acts**) which make it an offence to wilfully interfere with or destroy the breeding or resting place of these species; however, the Wildlife Acts permit limited exemptions for certain kinds of development.

5.4.4.4.1 Activity and Emergence Surveys

Surveys undertaken by Enviroguide Consulting picked up frequencies between 10 kHz - 192 kHz, this frequency range is able to pick up the calls of Irish bat species, including Lesser horseshoe bats. The bat detector used was the Elekon Bat Logger M2. Visual observations were taken with the aid of two powerful L.E.D. torch (AP Pros-Series 220 Lumens High Performance Spotlights).

The following bat species were recorded within the site of the Proposed Development and immediate surrounding area during dusk transect activity surveys undertaken in 2021 and 2022:

- Common Pipistrelle *Pipistrellus*;
- Soprano Pipistrelle *Pipistrellus pygmaeus*;
- Nathusius's Pipistrelle *Pipistrellus nathusii*;
- Leisler's Bat *Nyctalus leisleri*; and
- Brown Long-eared Bat *Plecotus auritus*.

<u>7th of September 2021</u>

The dusk bat activity survey conducted on the 7th of September 2021 focussed on the treeline habitats bounding the north, east and south of the Site. Three bat species were recorded: Leisler's Bat (*Nyctalus leisleri*), Common Pipistrelle (*Pipistrellus pipistrellus*) and Soprano Pipistrelle (*Pipistrellus pygmaeus*). Leisler's Bat was the most common bat species and accounted for 63% (24) of all records followed by Soprano Pipistrelle at 21% (8) and Common Pipistrelle at 16% (6).

The treelines running along the Site's boundaries represent moderate-high value foraging and commuting habitat within the context of the Site and St. Anne's Park. There were several records of Leisler's bat foraging activity along the treeline to the north with emitted calls being consistent with foraging activity above treelines (as per Russ, 2012). In addition, Soprano Pipistrelle were recorded emitting "feeding buzzes" (rapid calls emitted before capturing prey) along the treelines to the north and east at 7:28pm and 7:32pm respectively. Over the course of the survey all bat species were recorded commuting along the boundary treelines along the north, east and south of the Site.

Figure 5-7 Results of September 2021 dusk activity survey.

26th of July 2022

No bats were observed emerging from either the prefab structure or the mature Horse Chestnut tree (tree tag 38) during the emergence surveys conducted on 26th July 2022. It was noted that the prefab structure is well lit by external flood lights located on the adjacent school buildings, with the south-western corner containing the damaged section located below one such light.

Although no emergence was recorded, both the prefab and tree 38 provide moderate – high roosting potential due to their supporting multiple PBR features and their location near to mature trees and suitable habitat.

A total of 5 bat species were encountered during the dusk activity survey conducted on the 26th of July 2022: Leisler's Bat (*Nyctalus leisleri*), Common Pipistrelle (*Pipistrellus pipistrellus*), Soprano Pipistrelle (*Pipistrellus pygmaeus*), Nathusius's Pipistrelle (*Pipistrellus nathusii*) and

Brown long-eared Bat (*Plecotus auritus*). An unidentified pipistrelle species was also recorded. Both Common Pipistrelle and Leisler's bat were the more common species detected, accounting for 46% and 38% of records respectively. The majority of activity occurred near the trees and buildings to the west of the Site. The majority of species recorded were utilising these habitats to commute across the Site. Although no "feeding buzzes" were noted in the recordings, it is likely that that bat species utilise these habitats for commuting and foraging for prey.

An elevated level of bat activity was recorded around a mature horse chestnut (Tree tag 38) in the west of the Site; with 16 Common Pipistrelle passes, 1 Nathusius's Pipistrelle pass, 1 Soprano Pipistrelle pass and 1 Leisler's bat pass detected between 21:46pm and 22:00pm. However, no bats were observed emerging from this tree during the emergence survey carried out from 21:20 to 22:00, despite the presence of surface openings/hollows in the tree trunk. Analysis of the bat calls recorded at this tree were mostly indicative of bats commuting past the tree, which aligns with the few visual observations that were made of bats commuting past due west. However, this tree does hold moderate-high bat roost potential and may support roosting bats in the future.

A single recorded of a Brown Long-eared bat was detected at 21:37pm commuting across open ground in the north-west of the Site. Leisler's Bat and Common Pipistrelle were also observed commuting along the boundary treelines to the north, east and south of the Site.

Table 5-9 Summary of bat activity recorded on 7th of September 2021 and the 26th of July 2022. (Non bat "noise" records removed).

Survey	Species (Scientific name)	Species (Common name)	Number of recordings	Number of Calls
7th of September 2021	*Nyctalus leisleri*	Leisler's Bat	24	141
	Pipistrellus pygmaeus	Soprano Pipistrelle	8	239
	Pipistrellus	Common Pipistrelle	6	92
26th of July 2022	*Nyctalus leisleri*	Leisler's Bat	20	71
	Pipistrellus pygmaeus	Soprano Pipistrelle	4	48
	Pipistrellus	Common Pipistrelle	24	451
	Pipistrellus nathusii	Nathusius's Pipistrelle	1	29
	Plecotus auritus	Brown Long-eared Bat	1	6
	Pipistrellus spec.	Pipistrelle Sp.	2	48

Full survey metadata for the 2021 and 2022 surveys is attached in Appendix G.

Figure 5-8 Results of July 2022 dusk activity survey and PBR/ bat habitat survey.

5.4.4.4.2 Roost inspection Surveys

No evidence of roosting bats (e.g. live/dead specimens, droppings, urine splashes and fur-oil stains) were found at the building (prefab classroom) located within the Site of the Proposed Development during the roost inspection surveys undertaken in 2019 and 2022.

Some trees located within the site of the Proposed Development were identified as having features with the potential to support roosting bats (e.g., splits, knots, flaking bark and cracked branches). Of particular note is a set of trees in the north-west of the Site which comprise mature trees, some with visible potential bat roost features (Within tree group 100-118).

Pre-fab structure

The pre-fab structure supported a number of PBR features along its western, northern and southern sides that could feasibly be used by bats to enter and exit the building. These comprised of damage to fascia boards, gaps in the eaves, and an ajar window along its northern side. No signs of bat usage were noted at these features from ground level except for one large hole in the corner cladding of the building's south-western corner; where insect remains and potential claw marks, both possibly caused by bats, were observed (See Figure 5-12). This area was observed during the emergence survey but no bat emergence or activity was recorded. The surveyor noted that a floodlight illuminated this feature well at night (See Figure 5-13).

The internal PBR inspection showed that the eastern side of the prefab is largely in good condition with only one PBR feature noted; an askew ceiling panel providing access to the

roof cavity (See Figure 5-10). The western side of the prefab was largely inaccessible and sealed off and could not be surveyed in detail, however, a precautionary pre-demolition assessment of the entire structure by a bat specialist is recommended to address this.

Figure 5-9 Examples of PBR features observed at the prefab structure.

Figure 5-10 Left-right: Example of interior of prefab structure and PBR feature in the ceiling of the hallway.

Figure 5-11 Images of the western side of the prefab which was inaccessible on the day of survey.

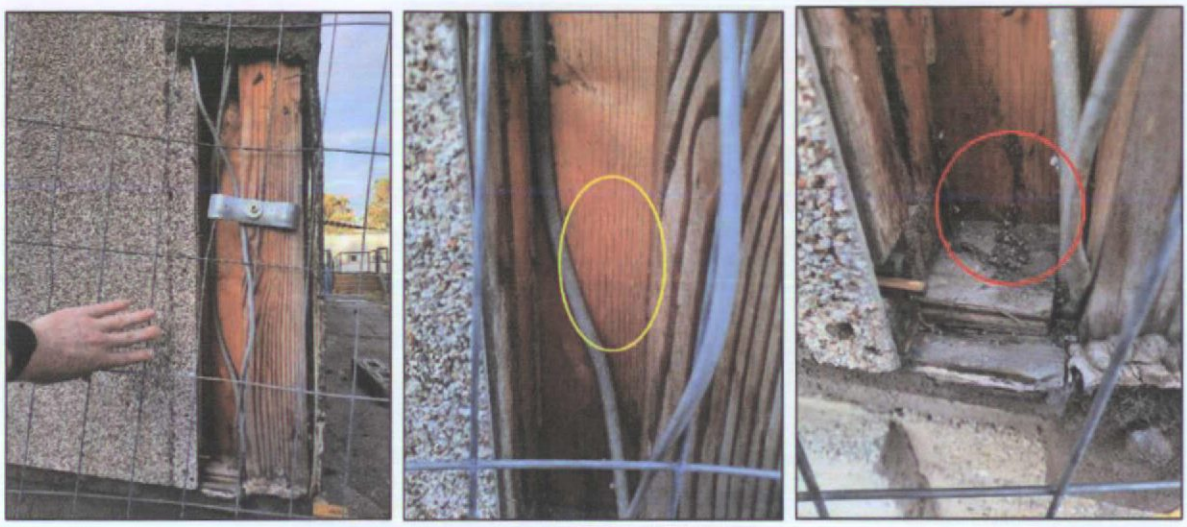

Figure 5-12 Images of the damage to pre-fab structure's south-western corner. Left-right: The damage, potential claw marks (Yellow) & insect remains at the base of the hole (Red).

Figure 5-13. PBR feature at south-western corner of prefab was well lit by floodlighting during the emergence survey.

Trees

The daytime PBR assessment of the Site focused on the trees proposed to be felled as part of the Proposed Development, as per the Arborist Report and Tree Constraints Plan (The Tree File, 2022) (See Table 5-10).

No confirmed bat roosts were noted during surveys on 26th July 2022. Two trees proposed to be felled were noted as having moderate-high bat roost potential; Chestnut trees tagged 38 and 101.

The majority of the trees to be felled provide some form of linear vegetation for bats to commute and forage along. Those in the far west of the Site are more fragmented and less suitable due to proximity to the road and are thus assigned low-moderate commuting/foraging suitability. Trees located within the north-western section of the Site itself and the wooded boundaries of the Site are assigned moderate-high suitability, due to their continuity, broadleaf component and connectivity with the habitats of St. Anne's Park. These features were noted to be utilised by foraging/commuting bats during the dusk activity survey.

The trees assigned as having Moderate-High bat roost potential are highlighted in orange in Table 5-10 for reference. All trees within the north-western section of the Site (Tree tags 38-118) will be subject to a pre-felling bat survey carried out by a suitably qualified bat specialist, the night/morning before felling. This may require several surveys depending on the felling schedule/ bat specialist's judgement.

The trees noted as having moderate-high bat roost potential and highlighted in orange in the table below (Tree tags 38 & 101) will be felled using a particular soft-felling approach and under the supervision of a bat specialist, as detailed in the mitigation section 5.7.3. This will also apply to any further trees the bat specialist identifies in their pre-felling survey as requiring

this approach. Figure 5-8 should be consulted along with the Arborist report and drawings to ensure correct felling takes place and potential harm to roosting bats is avoided if present.

Table 5-10 Bat roost potential and commuting/foraging suitability of the trees marked for felling as part of the Proposed Development.

Arborist Tree Number	Effect as part of the Proposed Development	Tree Species	Roost Suitability	Commuting/ Foraging suitability	Notes
Tree line 2	Remove ca. 1/3 of close-knit tree line	Leyland Cypress *(Cuppressocyparis leylandii)*	Negligible	Moderate	Dense conifer treeline. No BPR features. Habitat connected to woodland area.
63	Remove	Lawson Cypress *(Chamaecyparis lawsoniana)*	Negligible	Moderate	No BPR features. Part of treeline with connectivity to other treelines.
64	Remove	Silver Birch *(Betula pendula)*	Negligible	Moderate	No BPR features. Part of treeline with connectivity to other treelines .
65	Remove	Lawson Cypress *(Chamaecyparis lawsoniana)*	Negligible	Moderate	No BPR features. Part of treeline with connectivity to other treelines.
I	Remove	Norway Maple *(Acer platanoides)*	Negligible	Low	No BPR features. Planted along the road.
22-28	Remove	Ornamental Cherry *(Prunus variety)*	Negligible	Low	No BPR features. Isolated treeline in close proximity to the school building.
199	Remove	Norway Maple *(Acer platanoides)*	Negligible	Low	No BPR features. Planted ornamental along access road.
200	Remove	Purple Plum *(Prunus cerasifera)*	Negligible	Low	No BPR features. Planted ornamental along access road.
34	Remove	Ornamental Cherry *(Prunus variety)*	Negligible	Moderate	No BPR features. Habitat connected to woodland area .
35	Remove	Ash *(Fraxinus excelsior)*	Negligible	Moderate	No BPR features. Habitat connected to woodland area.
66	Remove	Lawson Cypress	Negligible	Moderate	No BPR features. Part of treeline with

		(Chamaecyparis lawsoniana)			connectivity to other treelines.
38	Remove	Horse Chestnut *(Aesculus hippocastanum)*	Moderate-high	Moderate	Mature tree with two notable holes in trunk at height. Habitat connected to wider site.
99	Remove	Sycamore *(Acer pseudoplatanus)*	Negligible	Moderate - high	No BPR features. Part of mature treeline and connected to surrounding landscape
100	Remove	Lime *(Tilia europea)*	Negligible	Moderate - high	No BPR features. Part of mature treeline and connected to surrounding landscape.
101	Remove	Horse Chestnut *(Aesculus hippocastanum)*	Moderate-high	Moderate - high	Mature tree with hole visible half way up trunk. Part of mature treeline and connected to surrounding landscape.
102	Remove	Sycamore *(Acer pseudoplatanus)*	Low	Moderate - high	No BPR features but of mature age and size. Part of mature treeline and connected to surrounding landscape.
103	Remove	Sycamore *(Acer pseudoplatanus)*	Negligible	Moderate - high	No BPR features. Part of mature treeline and connected to surrounding landscape.
104	Remove	Sycamore *(Acer pseudoplatanus)*	Low	Moderate - high	No BPR features but of mature age and size. Part of mature treeline and connected to surrounding landscape.
108	Remove	Austrian Pine *(Pinus nigra)*	Negligible	Moderate - high	No BPR features. Part of mature treeline and connected to

					surrounding landscape.
111	Remove	Austrian Pine *(Pinus nigra)*	Negligible	Moderate - high	No BPR features. Part of mature treeline and connected to surrounding landscape.
112	Remove	Lodgepole Pine *(Pinus contorta)*	Negligible	Moderate - high	No BPR features. Part of mature treeline and connected to surrounding landscape.
113	Remove	Sycamore *(Acer pseudoplatanus)*	Negligible	Moderate - high	No BPR features. Part of mature treeline and connected to surrounding landscape.
114	Remove	Sycamore *(Acer pseudoplatanus)*	Low	Moderate - high	Some damage present – split visible. Part of mature treeline and connected to surrounding landscape.
115	Remove	Lime *(Tilia europea)*	Negligible	Moderate - high	No BPR features. Part of mature treeline and connected to surrounding landscape.
116	Remove	Austrian Pine *(Pinus nigra)*	Negligible	Moderate - high	No BPR features. Part of mature treeline and connected to surrounding landscape.
117	Remove	Austrian Pine *(Pinus nigra)*	Negligible	Moderate - high	No BPR features. Part of mature treeline and connected to surrounding landscape.
118	Remove	Lodgepole Pine *(Pinus contorta)*	Negligible	Moderate - high	No BPR features. Part of mature treeline and connected to surrounding landscape.

5.4.4.5 Breeding Birds

Breeding bird surveys were carried out at the Site of the Proposed Development on the 1st of March 2019, 30th April 2019, 27th May 2019, 25th of May 2021 and 30th of July 2021.

The bird species recorded during these surveys between 2019 and 2021 are shown in Table 5-11. Additional species recorded during other site visits are included where applicable.

A total of 31 species were identified within the vicinity of the Site of the Proposed Development; with 30 species in 2019 and 25 species recorded in 2021. These were either associated with the treelines and hedgerows that run along the Site boundaries or observed foraging across the Site lands.

Red-listed Bird Species

One species listed on the BoCCI[4] Red List; Swift, was recorded at the Site of the Proposed Development during the 2019 surveys. This species was flying over the Site and not deemed to be breeding on site.

Amber-listed Bird Species

Seven species which are on the current BoCCI Amber List were recorded during the surveys.

- House Martin
- Swallow
- Starling
- Goldcrest
- Linnet
- Herring Gull
- Lesser Black-backed Gull

During the December 2021 site visit two additional species were noted:

- Jay *Garrulus glandarius* (**Green** listed) - Along northern boundary.
- Buzzard *Buteo buteo* (**Green** listed) – Hunting across Site.

[4] Birds of Conservation Concern in Ireland 2020-2026 (Gilbert, Stanbury and Lewis, 2021).

Table 5-11. Bird species recorded within the vicinity of the Site during the breeding bird surveys in 2019 & 2021.

Species	BoCCI Status	EU Designation	Notes
Goldcrest (*Regulus regulus*)	Amber	N/A	In song in suitable habitat
Herring Gull (*Larus argentatus*)	Amber	Annex II Birds Directive	Flyover only
Lesser Black-backed Gull (*Larus fuscus*)	Amber	Annex II Birds Directive	Flyover only
Wren (*Troglodytes troglodytes*)	Green	N/A	In song in suitable habitat largely noted in southwestern corner of Site
Robin (*Erithacus rubecula*)	Green	N/A	In song in suitable habitat largely noted in southwestern corner of Site
Dunnock (*Prunella modularis*)	Green	N/A	In song in suitable habitat largely noted in southwestern corner of Site
Coal Tit (*Periparus ater*)	Green	N/A	Two in southern section
Blue Tit (*Cyanistes caeruleus*)	Green	N/A	Carrying food for young, noted in southwestern corner of Site
Great Tit (*Parus major*)	Green	N/A	Several recorded throughout the site
Long-tailed tit (*Aegithalus caudatus*)	Green	N/A	In song in suitable habitat
Chaffinch (*Fringilla coelebs*)	Green	N/A	In song in suitable habitat
Goldfinch (*Carduelis carduelis*)	Green	N/A	Present in suitable habitat
Greenfinch (*Chloris*)	Green	N/A	In song in suitable habitat
Blackbird (*Turdus merula*)	Green	N/A	Several recorded throughout the site
Mistle Thrush (*Turdus viscivorus*)	Green	N/A	Pair recorded along the northern section of site
Song Thrush (*Turdus philomelos*)	Green	N/A	Two recorded, along eastern and northern sections
Blackcap (*Sylvia atricapilla*)	Green	N/A	One heard along boundary
Linnet (*Linaria cannabina*)	Amber	N/A	Small party of birds feeding on site
Jackdaw (*Coloeus monedula*)	Green	N/A	Common

Species	BoCCI Status	EU Designation	Notes
Rook (*Corvus frugilegus*)	Green	N/A	Present in suitable habitat
Magpie (*Pica pica*)	Green	N/A	Present in suitable habitat
Hooded Crow (*Corvus cornix*)	Green	N/A	Present in suitable habitat
Wood pigeon (*Columba palumbus*)	Green	N/A	In song in suitable habitat
Chiffchaff (*Phylloscopus collybita*)	Green	N/A	In song in suitable habitat
Starling (*Sturnus vulgaris*)	Amber	N/A	Present in suitable habitat
Swallow (*Hirundo rustica*)	Amber	N/A	Feeding over the area
House Martin (*Delichon urbicum*)	Amber	N/A	Feeding over the area
Sparrowhawk (*Accipiter nisus*)	Green	N/A	In suitable habitat
Swift (*Apus apus*)	Red	N/A	In flight over the Site
Siskin (*Carduelis spinus*)	Green	N/A	In song in suitable habitat
Treecreeper (*Certhia familiaris*)	Green	N/A	In song in suitable habitat

5.4.4.6 Wintering Birds

In addition to Light-bellied Brent Goose *Branta bernicla hrota* other Special Conservation Interest (**SCI**) species of European Sites were recorded at the site of the Proposed Development or in the adjacent fields/pitches during the Winter Bird Surveys, in small numbers that were not deemed to be significant. These are Curlew *Numenius arquata*, Oystercatcher *Haematopus ostralegus*, Black-tailed Godwit *Limosa limosa*, and Black-headed Gull *Chroicocephalus ridibundus.* These species are addressed in detail in the Natura Impact Statement that accompanies this application under separate cover.

5.4.4.7 Amphibians

The common frog (*Rana temporaria*) is listed under Annex V of the Habitats Directive and is further protected in Ireland under the Wildlife (Amendment) Act 2000. Smooth Newt (*Lissotriton vulgaris*) are protected in Ireland under the Wildlife (Amendment) Act 2000.

2019 Survey

An amphibian survey carried out in March 2019 recorded no common frog *Rana temporaria*, smooth newt *Lissotriton vulgaris* or their spawn/eggs within the Site of the Proposed Development, or along the drainage ditch which runs outside the northern boundary of the Site. No features considered suitable for breeding amphibians were identified within the site of the Proposed Development (e.g., ponds, puddles, drainage ditches or other water features). Common frog are widespread and likely to be present onsite or within the surrounding lands.

2022 Surveys

A suite of amphibian surveys conducted over July 2022 by Amphibian specialist Rob Gandola covered the Site of the Proposed Development and a number of locations outside of same i.e., The Model Garden, Duck Pond, City Farm and several drainage ditches within St. Anne's Park. The Site itself was found to have no habitat suitable for either native amphibian species that could potentially inhabit the area, apart from some potential foraging habitat within the linear treelines or adjacent mixed woodland. However, no observations of any amphibian using these linear habitats have been recorded to date suggesting that the habitat is of poor suitability for amphibians.

Although ample suitable habitat exists for both species in the Model Garden; in the ponds and immediate area, neither species of amphibian were detected. The surveyor noted that these ponds have undergone restoration works in recent years, are likely to still be maturing and may support populations in the future. Neither species of native amphibian was detected using the Duck pond, nor were they encountered in a number of suitable terrestrial habitats in the immediate vicinity of the pond. The City Farm has had frog spawn introduced in the past according to staff. This spawn had been allowed to develop naturally and the froglets had been allowed to emerge and disperse into the adjoining allotment area and wider park. This may result in recolonisation of the park by this species.

The Site of the Proposed Development supports no areas of standing water nor other wetland habitats i.e., no suitable breeding habitat, and no amphibians were recorded or would be expected at the Site according to Mr Gandola's report, which concludes that the Proposed Development is unlikely to have any direct impacts on common frogs or smooth newts. Please see the Amphibian Report (Appendix F) for further details.

5.4.4.8 European Eel

On the 26th of March 2020, European Eel *Anguilla anguilla* was recorded within the 'Duck Pond' in St. Annes Park by Rob Gandola. Mr Gandola reported seeing 12 eels within the 'Duck pond', with this species identification verified via video evidence by Ms Mahon of Inland Fisheries Ireland. Ms Mahon, confirmed that European eel were the species identified by Mr Gandola and that Inland Fisheries Ireland (IFI) staff had noted this species in the Naniken River 9 years earlier and that a population exists within the Tolka estuary.

In July 2022, Mr Gandola recorded counts of 14 and 19 individual European eels during amphibian surveys of the Duck Pond on 8th and 13th July respectively. European eel of multiple size and age classes (e.g., elvers, yellow eels, and silver eels) were observed.

European eel is a critically endangered species and is listed on the NPWS Red list for amphibians, reptiles and freshwater fish (King et al., 2011). The classification of the European eel as Critically Endangered, is a reflection of its significant decline in Ireland and the Europe-wide decline in eel populations. European eel populations are valued as being of International

Importance as they are an internationally critically endangered fish species both in Ireland internationally. This concern has led to the implementation of a national 'Eel Management Plan' in 2009.

A Freshwater Biological Assessment of the Naniken River was carried out on 24th September 2021 by Enviroguide Senior Ecologist Dr Siobhán Atkinson (See Appendix I). This assessment also included the 'Duck Pond' which was noted to be heavily silted on the day of survey, with patches of emergent vegetation noted along the margins of the pond and islands within it. An extensive duckweed *Lemna* sp. 'carpet' covered large areas of the pond, and filamentous algae was noted within it.

The assessment states the following in relation to the fisheries potential of the pond:

"The Naniken River could support eel Anguilla anguilla, however the one-way sluice flaps at the river outlet, as well as the many barriers within the river, would likely impact their distribution and abundance. European Eel are tolerant of moderately polluted water, however, the current biological status of the Naniken river is not conducive to a healthy eel population. It is noted that eel have been recorded within the Duck Pond. However, given the apparent high level of eutrophication in this pond (evidenced by high algal and macrophyte growth), it is unlikely that a healthy eel population could be sustained in it."

The Naniken River itself was assigned a Q-value of 3, corresponding with a WFD status of "poor" and a pollution gradient of "moderately polluted". The assessment describes the Naniken as follows:

"*The Naniken exhibits signs of poor hydromorphological condition. The stream has been channelised and straightened in the past, and numerous weirs, bridges and perched culverts fragment the river throughout its length (Plate 1). Bank erosion was evident throughout the river and is likely exacerbated by human access to the riverbanks. The riverbanks are very steep in places (2-3m high), and this, coupled with trees along the banks, has resulted in heavy shading throughout the river. The channel substrate was scoured in places (in particular downstream of perched culverts and weirs) on the day of survey, whereas the channel was heavily silted in the slower flowing sections. It appears historic modifications to the river channel have limited its ability to function naturally (e.g. it has limited potential to respond to changes in sediment supply and hydrology).*"

5.4.5 Summary of Ecological Evaluation

The habitats present, and species likely to utilise the Site, have been evaluated in Table 5-12 for their conservation importance based on the NRA evaluation scheme (NRA, 2009b). Those selected as key ecological receptors (KERs) are those which are evaluated to be of at least local importance (higher value) and deemed to be at risk of significant effects resulting from the Proposed Development. The impacts of the Proposed Development on these receptors are assessed below in section 5.6. The summary in the table below indicates the evaluation rating assigned to each receptor and the rationale behind these evaluations.

Wintering waterfowl and shorebird species are assessed for potential impacts associated with the Proposed Development in the Appropriate Assessment Screening and Natura Impact Statement that accompany this application under separate cover. As such, the conclusions of these reports are referenced/provided in this Biodiversity Chapter where applicable.

Table 5-12. Evaluation of potential ecological sensitivities within the vicinity of Site of the Proposed Development.

Ecological Receptor	Evaluation	Rationale	Key Ecological Receptor (KER)?
Designated Sites			
North Dublin Bay SAC [000206] **South Dublin Bay SAC [000210]** **North Bull Island SPA [004006]** **South Dublin Bay and River Tolka Estuary SPA [004024]** **Baldoyle Bay SPA [004016]** **Malahide Estuary SPA [004025]** **Rogerstown Estuary SPA [004015]**	International importance	Potential impacts to these European Sites are addressed in the AA screening and NIS which accompany this application under separate cover.	**Yes**
North Dublin Bay pNHA	National Importance	This pNHA is also designated as an SAC. As such, potential impacts to this protected site are addressed in the AA screening and NIS which accompany this application under separate cover.	**Yes**
Habitats			
Scrub (WS1)	Local Importance (Higher Value)	Contains a main and annexe badger sett.	**Yes**
Stone Walls and other stonework (BL1)	Local importance (Higher value)	Bat roost potential noted along northern wall face within wooded margin to north of Site.	**Yes**
Scattered trees and Parkland (WD5)	Local importance (Higher value)	Small area of mature non-native trees located in north-west of Site with potential to support roosting bats.	**Yes**
Mixed broad leaf woodland (WD1)	Local importance (Higher value)	Makes up a band along northern boundary and two smaller stands east of Site. Forms part of wildlife corridor system running north and east through St Anne's Park. Potential to support roosting bats.	**Yes**
Treelines (WL2)	Local importance (Higher value)	Mature treelines running along eastern and southern boundary of Site, mostly non-native, linking up hedgerow habitat and treeline to the east. Potential to support roosting bats.	**Yes**

Ecological Receptor	Evaluation	Rationale	Key Ecological Receptor (KER)?
Dry meadows (GS2)	Local importance (Lower value)	Rank grassland field covering the majority of the Site. Of some value to local insects, birds and foraging mammals. Widespread habitat.	No
Drainage Ditches (FW4)	Local importance (Lower value)	Consisted of a short-isolated ditch containing no standing water to east of site, and a longer ditch along northern boundary containing significant amount of dumped refuse.	No
Amenity Grassland (GA2) **Buildings and artificial surfaces (BL3)**	Negligible ecological value	Low ecological value, anthropogenic habitats.	No
Fauna			
Badger	Local Importance (Higher Value)	A breeding main sett and an annexe sett were recorded in the north-west corner of Site. Signs of recent activity.	**Yes**
Hedgehog **Pygmy Shrew**	Local Importance (Higher Value)	Widespread species and likely to be present within Site or nearby.	**Yes**
Red Squirrel **Pine Marten** **Irish Stoat** **Irish Mountain Hare**	Local Importance (Lower Value)	Minimal suitable habitat onsite and unlikely to be present.	No
Otter	Local Importance (Lower Value)	No suitable habitat onsite and unlikely to be present.	No
Bat assemblage	Local Importance (Higher Value)	Several bat species recorded at the Site during activity surveys. Potential roosting habitat present in the form of mature trees, prefab classroom structure and old stone walls.	**Yes**
Bird assemblage (Amber listed)	Local Importance (Higher Value)	Seven amber listed species noted at the Site. Relatively common species recorded at the Site overall. Site provides nesting/foraging habitat in boundary treelines /woodland and Scrub habitats	**Yes**
Bird assemblage (Green listed)	Local Importance (Higher Value)		
SCI Waterfowl and shorebirds	International importance	Previous ex-situ usage of the Site and adjacent lands by SCI species in the past.	**Yes**
Common Frog	Local Importance (Lower Value)	Little potential habitat within the Site of the Proposed Development.	No

Ecological Receptor	Evaluation	Rationale	Key Ecological Receptor (KER)?
Smooth Newt	Local Importance (Lower Value)	No potential habitat within the Site of the Proposed Development.	No
Common Lizard	Local Importance (Lower Value)	Little potential habitat within the Site of the Proposed Development.	No
European Eel	National Importance	Localised population of critically endangered European eel recorded in the 'Duck Pond' at St Anne's Park in 2020 & 2022.	**Yes**

5.5 Characteristics of the Proposed Development

Raheny 3 Limited Partnership are applying for permission for development on lands east of St Paul's College, Sybil Hill Road, Raheny, Dublin 5. The 6.7 ha site is bound to the north, east and south by St Anne's Park and to the west by residential development at The Meadows, Sybil Hill House (a Protected Structure) and St Paul's College. Vehicular access to the site is from Sybil Hill Road.

The Proposed Development consists of the construction of a residential and nursing home development set out in 7 no. blocks, ranging in height from 4-7 storeys to accommodate 580 no. apartments, residential tenant amenity spaces, a crèche and a 100-bed nursing home. The site will accommodate car parking spaces, bicycle parking spaces, storage, services and plant areas at both basement and podium level.

Landscaping will include extensive communal amenity areas, and a significant public open space provision on the east and south of the site. The proposed application includes all site landscaping works, green roofs, substations, boundary treatments, lighting, servicing, signage, surface water attenuation facilities and associated and ancillary works, including site development works and services above and below ground. For a full description of the Proposed Development please refer to the Statutory Notices.

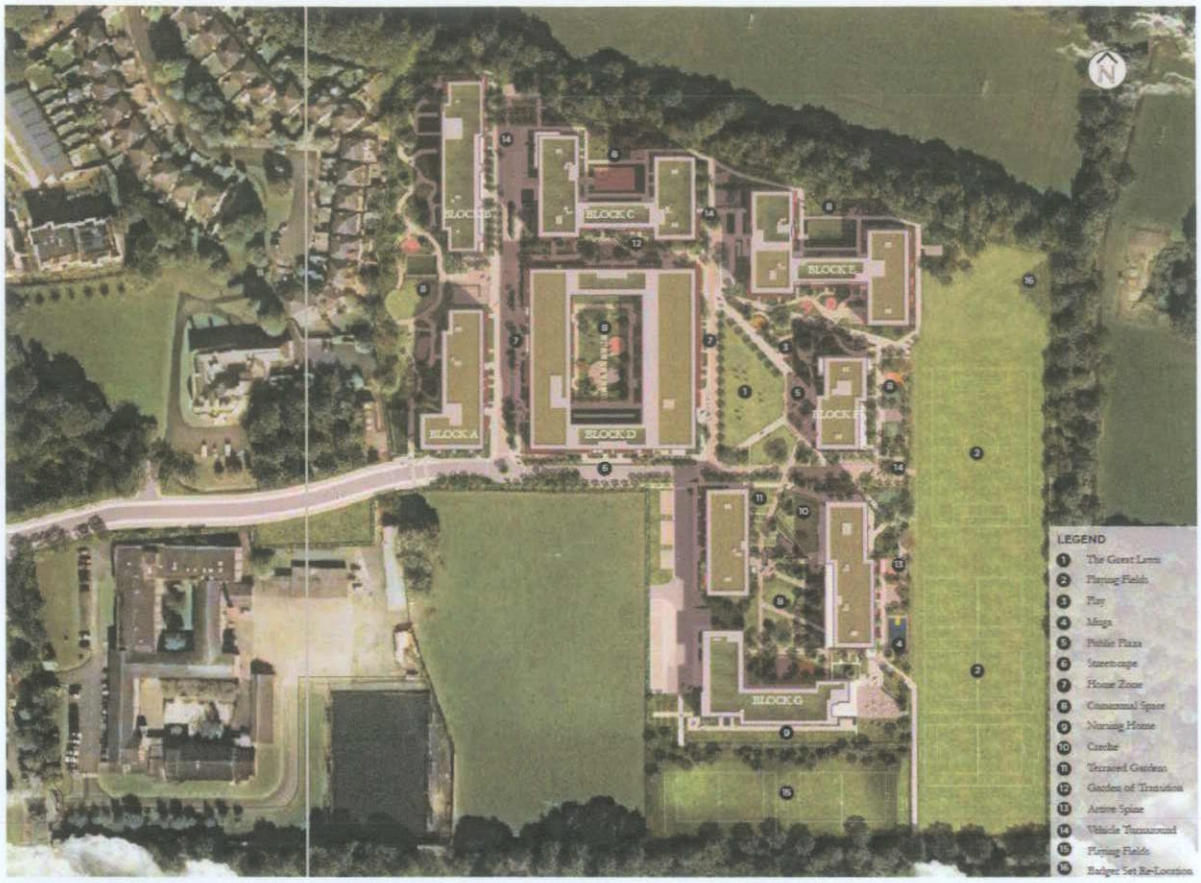

Figure 5-14: Proposed Site Layout (Adapted from NMP Landscape Design Statement – August 2022)

5.6 Potential Impact of the Proposed Development

This section details the potential impacts of the Proposed Development on the habitats and species identified as Key Ecological Receptors in Section 5.4.5. Those receptors not deemed to be KERs are not considered further in this assessment, as they are either not considered to be significant in the context of the Site of the Proposed Development or are not considered to be at risk of likely significant impacts.

5.6.1 Construction Phase

5.6.1.1 Designated Sites

5.6.1.1.1 European Sites

The closest European Sites to the Proposed Development are the North Dublin Bay SAC and North Bull Island SPA, both located c. 1.1km to the east. The AA Screening Report (Enviroguide, 2022) has concluded that, on the basis of objective information, the possibility cannot be ruled out that the Proposed Development will not have a significant effect on any of the Natura 2000 sites listed below:

- North Dublin Bay SAC [000206]
- South Dublin Bay SAC [000210]

- North Bull Island SPA [004006]
- South Dublin Bay and River Tolka Estuary SPA [004024]
- Baldoyle Bay SPA [004016]
- Malahide Estuary SPA [004025]
- Rogerstown Estuary SPA [004015]

A Natura Impact Statement (**NIS**) has been prepared by Enviroguide and accompanies this planning application under separate cover. The NIS concludes the following:

Wintering Bird Surveys - Conclusions

Light-bellied Brent Goose

It has been determined, based on the best scientific information by the authors, including the analysis of the information as contained in this NIS, that the loss of ex-situ inland feeding habitat at the Site as a result of the Proposed Development will not adversely impact on the conservation objective attributes of Light-bellied Brent Geese of "Distribution" and "Population Trend".

Other Special Conservation Interest Species

While some foraging habitat for other SCI species (i.e. Curlew, Oystercatcher, Black-tailed Godwit and Black-headed Gull) will be lost as a result of the Proposed Development, the results of the WBS at the site have demonstrated that this site is not considered to be of High or Major Importance for any of these species and that therefore this loss will not have a significant impact on any of these species.

It is therefore considered, based on both the numbers and frequency of occurrence of SCI species recorded at the Proposed Development site over the course of the wintering bird seasons (2015/16, 2016/17 & 2018/19 2019/20 2020/21 and 2021/22), that the loss of ex-situ habitat will not impact on the conservation objective attributes of "Distribution" and "Population Trend" of any of the SCI species recorded at the Proposed Development site.

Construction-related Surface Water Discharge – Conclusions

A potential for impact on South Dublin Bay SAC, South Dublin Bay and River Tolka Estuary SPA, North Dublin Bay SAC and North Bull Island SPA was identified due to the possibility of discharge/run-off of surface waters containing sediment, silt, oils and/or other pollutants during the Construction Phase of the Proposed Development into the Naniken Stream, which flows into North Bull Island's South Lagoon.

Construction-Related Surface Water Discharges

Specific and detailed mitigation measures are proposed to address the potential adverse effects that may arise from construction-related surface water discharges from the Proposed Development and a Construction Environmental Management Plan (**CEMP**)

has been prepared and will be implemented by the contractor during the construction of the Proposed Development.

It is the professional opinion of the authors and design team that once the mitigation measures out-lined in the NIS, are implemented, no adverse effects on the European sites will arise during the Construction Phase of the Proposed Development or as a consequence of run-off of sediment/silt or contaminated waters into the Naniken Stream during the Construction Phase of the Proposed Development.

5.6.1.1.2 Natural Heritage Areas

North Dublin Bay pNHA is linked to the Site via the Naniken Stream, which will receive Operational Phase surface water discharges from the Proposed Development once completed. The potential for impacts to this hydrologically linked site is covered in detail (by proxy as discussed in section 5.4.2.2) within the NIS which accompanies this application and it is deemed that there will not be any significant impact as a result of the Proposed Development.

5.6.1.2 Habitats

There will be **no** loss of the mature eastern boundary Holm Oak treeline (WL2) as a consequence of the Proposed Development. Several trees located at the Proposed entrance to the Site from Sybil Hill Road and located along the proposed access road into the Site, will be removed as part of the proposed works. These comprise of three Lawson Cypress *(Chamaecyparis lawsoniana)*, a Silver Birch *(Betula pendula)* and a Norway Maple (*Acer platanoides*) (tree no. 63, 64, 65, 66 & 'I' as per the Arboricultural Report and Tree impacts Plan (Treefile, 2022), and a treeline of 7no. ornamental cherry trees (*Prunus sp.*) (tree no. 22 – 28). These trees are largely mature Category B 'Good' quality trees, although of non-native/ornamental varieties. Their removal is necessary to allow for the main access road to the Site to be constructed.

Collectively this will represent a **negative, slight, permanent** impact to treelines at a local scale, based on the ornamental nature of these specimens in the context of the wider Site and the existing tree cover.

The Mixed Broadleaf Woodland (WD1) habitat, located to the north and east of the Site, is being retained in the project design. Minor portions of the western section of WD1 habitat will be affected by works along the proposed access road connecting the Site with Sybil Hill Road. A number of Leyland Cypress *(Cuppressocyparis leylandii),* and tree no. 34 & 35 (Ornamental Cherry and Ash respectively) will also be removed.

Collectively these losses will represent a **negative, slight, permanent** impact to WD1 habitat at a local scale, based on the ornamental nature of these specimens in the context of the wider Site and the existing tree cover.

The loss of Scattered Trees and Parkland (WD5), Scrub (WS1) and Stone Walls and Other Stonework (BL1) habitats at the Site will be more significant, due to the age of the trees and stone structures in question and their respective bat roost potential; and the presence of badger setts within the scrubby north-western corner of the Site. Their loss solely as habitat features represents a **negative, slight, permanent** impact at a local scale, based on their limited presence onsite and their abundance and widespread nature in the surrounding St. Anne's Park. Specific impacts to bats and badgers are considered separately in the proceeding sections.

5.6.1.3 Mammals

5.6.1.3.1 Badger

A main badger sett and associated annexe sett have been identified in the north-western scrub at the Site. The main sett has been confirmed as an active breeding sett with weaned cubs recorded on trail camera footage in July 2022. The Proposed Development will require the removal of these setts to allow for the construction of part of the proposed buildings in this section of the Site.

The loss of this sett will represent a **negative, significant, permanent** impact at a local scale in the absence of mitigation or compensation.

The excavation of the sett in the absence of suitable surveys, and exclusion of badgers if present, could lead to death or injury of badgers and would represent a **negative, profound, permanent** effect at a local scale.

Noise disturbance impacts associated with the Construction Phase will constitute a **negative, short term, significant** impact at a local scale in the absence of mitigation.

5.6.1.3.2 Small mammals

Entanglement and entrapment in construction waste such as plastic sheeting, netting etc., presents a potential **negative, slight, short-term** impact at a local scale, in the absence of mitigation.

Some habitat loss will result in a **negative, permanent, slight** impact at a local scale.

Noise disturbance impacts associated with the Construction Phase will constitute a **negative, short term, significant** impact at a local scale in the absence of mitigation

5.6.1.3.3 Bats

The construction of the Proposed Development will require the removal of vegetation during site clearance works in addition to a number of trees (WD5) located within the Site that were identified as having potential to support roosting bats. Although these trees were not confirmed as potential bat roosts during any of the bat surveys undertaken in 2021 and 2022 they still may be utilised by roosting bats on other occasions. Vegetation across the Site was also considered suitable for bats to forage and commute along. The removal of these trees and other vegetation would result in **negative, slight, permanent** impacts to local bats.

Should bats be present roosting in these trees during their felling, then there is the potential for **negative, significant, short-term** impacts through the injury/mortality of roosting bats, in the absence of mitigation measures.

Temporary lighting required during the Construction Phase could illuminate previously unlit feeding areas along the Site's woodland and treelined boundaries, or potential tree roosts making them unsuitable for bats. Although Leisler's bats and pipistrelle species previously recorded onsite may tolerate some lighting of feeding areas, other species are potentially adversely affected by strong lighting. Construction night-time lighting could therefore represent a source of **negative, significant, short-term** impacts in the absence of appropriate mitigation.

5.6.1.4 Birds

All birds, their nests and their eggs are protected under the Wildlife Acts 1976 as amended. If vegetation clearance is carried out during the breeding bird season (i.e., from the 1st March to the 31st August), there is the potential for **negative, significant, short-term** effects to local breeding bird populations through nest destruction and mortality.

The loss of potential nesting habitat in general at the Site, through the replacement of existing grassland and scrub habitats with buildings will represent a **negative, moderate, permanent** impact at a local scale.

Noise, vibration and increased human presence associated with the Construction Phase of the Proposed Development could theoretically result in a disturbance impact to local breeding bird populations during the bird breeding season and has the potential to result in reduced breeding success of birds in green spaces adjacent to the construction zone. Due to the proximity of the Proposed Development to St Anne's Park, which is used by people on a frequent basis, and that the urban nature of the surrounding lands to the north-west, birds on the Site of the Proposed Development are likely habituated to a degree to human related disturbance. The impact of construction related activity on local breeding bird populations in vicinity of the Proposed Development will likely represent a **negative, slight, short-term** impact at a local level in the absence of mitigation.

Wintering birds recorded at the Site related to ex-situ feeding species listed as SCIs for European Sites listed in previous sections of this report. These species are addressed in detail in the NIS submitted as part of this planning application under separate cover. The five (5) no. SCI from the relevant European Sites are evaluated based on scientific information detailed in the NIS and it is concluded that the Proposed Development will not adversely affect the integrity of any European Sites, either alone or in combination with other plans and projects, taking into account the conservation objectives of said sites.

The species that were recorded in winter only related to these European Sites and are addressed in the NIS. There are no wintering species other than these that are directly related to the Site of the Proposed Development and therefore no impact on non SCI wintering species is anticipated.

5.6.1.5 European Eel

European Eel have been recorded using the 'Duck Pond' located to the north-east of the Site of the Proposed Development. The Proposed Development entails the draining of Operational Phase surface water through the Site via a series of sewers, ultimately discharging to the Naniken River. To enable this flow route, a new sewer and headwall is proposed to be constructed to the north-east of the Site. The Naniken River forms a connection with 'Duck

Pond' prior to its outflow into Dublin Bay and as such a temporary hydrological connection exists between the Construction Phase of the Proposed Development and this pond containing European Eel, through the construction of the new outflow point to the Naniken River.

There is the potential for construction related contaminants, such as cementitious materials, sediment and oils, to enter the river during these works, which will likely entail amendments to the river bank to install the outflow.

In a worst case scenario and in the absence of mitigation measures, this could lead to a potential **negative, significant, short-term** impact at a local scale to European Eel, should they be present in the 'Duck Pond' at the time of the works and should such pollutants reach the pond.

5.6.2 Operational Phase

5.6.2.1 Designated Sites

The closest European Site to the Site of the Proposed Development is North Dublin Bay SAC and North Bull Island SPA, both located approximately 1.1 km to the east (as the crow flies). The AA Screening Report has identified several potential sources of likely significant effects to the below European Sites that warrant further attention:

- North Dublin Bay SAC [000206]
- South Dublin Bay SAC [000210]
- North Bull Island SPA [004006]
- South Dublin Bay and River Tolka Estuary SPA [004024]
- Baldoyle Bay SPA [004016]
- Malahide Estuary SPA [004025]
- Rogerstown Estuary SPA [004015]

A NIS has been produced and accompanies this planning application under separate cover. The NIS concludes that the loss of the ex-situ feeding site for Species of Conservation Interest of the relevant European Sites will not significantly affect these species, and that the mitigation measures outlined in the NIS, when implemented, will ensure that no likely significant adverse effects on the European Sites will arise during either the Construction Phase of the Proposed Development or as a consequence of surface water discharge to the Naniken Stream during the Operational Phase of the Proposed Development.

5.6.2.2 Habitats

Given the nature of the surrounding area, which is predominately suburban in nature, and the retention of the mature boundary habitats at the Site, the Proposed Development operation is likely to have an imperceptible impact on the surrounding habitats.

Furthermore, the inclusion of 20969.91m^2 of semi-private open space (33.92% of a developable area of 61822.62m^2 within the landscaping of the Proposed Development, along with extensive tree, shrub and green space planting, will have a positive effect on habitat provision at the Site.

The proposed landscape plan, as designed by Niall Montgomery + Partners Landscape Architects (NMP), includes the planting of 714 no. new trees at the Site, to replace the 33 trees/tree groups to be removed as part of the proposed works. These trees will be largely native species and will include:

- a woodland buffer running north-south along the eastern front of the Proposed residential development, separating them from the eastern green space/ playing fields,
- an area of native tree planting in the north-eastern corner of the Site,
- a series of 'Gardens' comprising diverse tree and shrub planting. The north-western corner of the Site in particular will encompass the 'Garden of Goodness', a landscaped woodland area where it is proposed to plant 14 no. large semi mature specimen trees in advance of construction works, to provide additional screening of the Site from the west and to replace the existing trees to be removed in this corner of the Site. A further 40-50 large standard trees are planned for this part of the Site (NMP, 2022), and
- areas of wildflower planting located throughout the Proposed Development.

In addition, approximately 60% of the roof space provided by the proposed structures will support green roofing which will provide an additional source of foraging habitat for pollinators, birds and bats.

As such, the proposed landscaping of the Site will offset the loss of the trees to be removed as part of the Proposed Development and will have a **positive, significant, permanent** effect on habitat provision at the Site; through the replacement of the existing rank grassland field and sections of scrub, with a more diverse habitat mosaic including a high degree of native and non-native tree planting and diverse understorey planting.

5.6.2.3 Mammals

5.6.2.3.1 Badgers, Hedgehogs and Pygmy shrew

The operation of the Proposed Development will result in a general loss of foraging habitat for local mammals, as much of the open rank grassland is replaced with buildings, artificial surfaces and landscaped areas. Green spaces are provided along the north-western, north-eastern and eastern portions of the Site, but these will be fenced and gated, and will not provide readily available foraging habitat.

Walls and fencing may affect free movement of badgers through the Site in addition to human presence, pet dogs and other disturbances. Foraging in areas that will be close to human activity is also likely to be hampered or abandoned.

As such, the loss of potential foraging and commuting habitat at the Site will represent a **negative, slight, permanent** impact, at a local scale, to local mammals. Abundant analogous grassland and marginal habitat is present across St. Annes Park and, therefore, this will not represent a significant impact.

The presence of humans within a currently unoccupied site, and the possible associated introduction of dogs, will lead to increased disturbance potential for any resident badgers. This will further reduce or even remove the ability of badgers to forage successfully within the Site going forward and at worst would lead to injury from dog attack. This will equate to a **negative, moderate to significant, permanent** impact in the absence of any mitigation.

The Badger Assessment Report prepared by Brian Keeley (2022) states the following with regard overall impacts from the Proposed Development on Badgers:

"*There is a loss of foraging area through the space taken up by the housing and all associated infrastructure and through the loss of scrub and grassland within the site.*

There is a loss of tree cover that will affect badgers by reducing feeding and commuting areas. This is unlikely to have a direct impact on the status of this species, but it is contributory in a minor way to an overall diminution in habitat availability in this area of Dublin. The presence of St. Anne's Park will sustain areas of feeding while there will be the loss of the breeding sett and adjoining sett."

5.6.2.3.2 Bats

During the dusk transect surveys undertaken in 2021 and 2022 there was evidence of bat activity (i.e., foraging and commuting) recorded across the Site of the Proposed Development. During the surveys, brightly lit areas around St Paul's College grounds and Sybil Hill Road were generally avoided by bats and most bats recorded were located along the boundaries of the open space in close proximity to St Anne's Park.

The presence of artificial lighting due to the Proposed Development in these areas is likely to result in some localised impact to bats commuting through or feeding within the Site of the Proposed Development. Lighting during the operation of the Proposed Development has the potential to reduce the commuting and foraging habitat available to local bats should lighting be directed onto boundary tree lines and vegetation at the Site. It is likely that bats will be able to still pass through the area, albeit via different dark corridors to those currently used, and with less potential for foraging within the Site itself. In the absence of mitigation, the impact to bats as a result of operational lighting is considered to represent a potential **negative, significant, permanent** impact at a local scale.

In order to positively enhance the potential bat roosting habitat on site, it is proposed that 5 no. bat boxes (2 F Schwegler General Purpose woodcrete – mixture of concrete and wood, or equivalent) be erected on mature trees located within or (if possible) directly adjacent to the Site. The boxes proposed are long-lasting and durable.

5.6.2.4 Birds

Notwithstanding the issue of the potential for wintering birds to use the Site of the Proposed Development (see "*Designated Sites*" sections above), bird species likely to be breeding on the Site are common species found in suburban areas, parks and in residential gardens. Therefore, the impact of the operation of the Proposed Development is deemed to be an imperceptible effect on local breeding bird populations. No wintering species that are specific to the Site were recorded and therefore there will be no impact from the Operational Phase on wintering species directly related to the Site.