

Suitability	Description of Roosting Habitat	Commuting and foraging habitats
	table are made irrespective of species conservation status, which is established after presence is confirmed)	for foraging such as trees, scrub, grassland or water.
High	A structure or tree with one or more potential roost sites that are obviously suitable for use by larger numbers of bats in a more regular basis and potentially for longer periods of time due to their size, shelter, protection, conditions and surrounding habitat.	<p>Continuous habitat connected to the wider landscape that could be used by bats for commuting such as lines of trees and scrub, hedgerows. Linked back gardens, river valleys, streams and woodland edge.</p> <p>Habitat that is connected to the wider landscape that could be used by foraging bats such as trees, scrub, grassland or water.</p> <p>Site is close to and connected to a known roost.</p>

6.2.9.2.3 Birds

One breeding bird survey was undertaken on the 26th August 2021 by Criostoir Mac Cuirc BA, previously of Scott Cawley Ltd., following a methodology adapted from the *Bird Monitoring Methods - A Manual of Techniques for Key UK Species* (Gilbert *et al.*, 2021). The study area covered the lands between Cedarview residential estate and Swift Square office complex (see **Figure 6-1**). Lands within the study area were slowly walked in a manner allowing the surveyor to come within 50m of all habitat features. Birds were identified by sight and song, and general location and activity were recorded using the standard British Trust for Ornithology (BTO) species and activity codes.

A desk study was carried out to identify any potential suitable inland feeding and / or roosting sites for wintering birds located within or directly adjacent to the proposed development. This included a review of recent aerial photography and known inland feeding sites for light-bellied brent goose (Benson, 2009; Scott Cawley Ltd., 2017; and Enviroguide, 2019). Owing to the urban nature of the surrounding environs, the lack of suitable habitat within the proposed development lands (surface-level car park) and the high levels of disturbance noted on site, no wintering bird surveys were undertaken.

6.2.9.2.4 Amphibians

The suitability of habitats, located within and immediately adjacent to the proposed development, were assessed for breeding and/or hibernating amphibian species (common frog *Rana temporaria* and smooth newt *Lissotriton vulgaris*) as part of the initial surveys undertaken on the 26th August 2021. No species-specific surveys were undertaken, as no evidence of these protected species or their preferred habitat was recorded within the proposed development site.

6.2.9.2.5 Reptiles

The suitability of habitats, located within and immediately adjacent to the proposed development, were assessed for breeding and/or hibernating reptile species common lizard *Lacerta vivipara*, as part of the of the initial surveys undertaken on the 26th August 2021. No species-specific survey was undertaken as no evidence of common lizard, or its preferred habitat was recorded within the proposed development site.

6.2.9.2.6 Aquatic surveys

No aquatic habitats are located within of adjacent to the proposed development. As such, no aquatic surveys were undertaken within or adjacent to the proposed development site.

6.2.9.2.7 Invertebrates

A desk study was undertaken to identify rare and protected invertebrates recorded within the vicinity of the proposed development. There were no records for species of concern or of those listed in the Habitats Directive within or directly adjacent to the proposed development site.

Marsh fritillary *Euphydryas aurinia* are legally protected under Annex II of the Habitats Directive. In an Irish context, the conservation status of these species in Ireland is designated as 'Vulnerable' (Regan *et al.* 2010). Surveys for marsh fritillary were not carried out as part of this assessment because the lack of suitable habitat for the species within or adjacent to the proposed development site. Marsh fritillary are restricted to habitats containing a low, open sward with abundant devil's-bit scabious *Succisa pratensis* including sand dunes, calcareous grassland, fens, raised and blanket bogs, upland heaths and grasslands. Neither devil's-bit scabious nor these habitats were recorded within the boundary of the proposed development site. As such, marsh fritillary is not considered further in the assessment.

6.2.9.3 Survey Limitations

No terrestrial mammals were recorded within or adjacent to the proposed development site during the surveys, and as such no species-specific terrestrial mammal surveys were undertaken. Considering the limited amounts of suitable habitat (e.g., grassland, hedgerows and waterbodies) within the proposed development site, this is not considered to pose any limitation on the ecological assessment in relation to terrestrial mammals due to the aforementioned facts.

No wintering bird surveys were undertaken, or are necessary to support the assessment, as the proposed development site is unsuitable as a roosting and/or foraging site for wintering bird species due to the absence of open, suitably sized foraging and/or roosting habitat (e.g., amenity grassland or wetlands).

Habitat associated with reptiles and amphibians were not observed within or around the proposed development site. As such, reptile and amphibian specific surveys were not deemed necessary. This is not considered to pose any limitation on the ecological assessment in relation to amphibians and reptiles due to aforementioned facts.

The habitats on site were assessed to be of low suitability for foraging, commuting and roosting bats, and the bat activity recorded was relatively low. In March 2023, the proposed development site was expanded to include a temporary car park. This site was surveyed in April 2023 and is predominantly consisting of already built-up developed land, as well as storage for spoil and other construction materials. Surveys for bat activity are ongoing, however this is not considered to pose a limitation on the ecological assessment as the habitats represent low suitability for foraging, commuting and roosting bats due to the aforementioned facts. It should be noted that a precautionary approach has been adopted, whereby mitigation and enhancement measures have been applied to avoid effects on bats, and to create opportunities for potential roosting habitat for these species.

The habitats on site were assessed to be of relatively low suitability for breeding birds and bird activity recorded was relatively low. In March 2023, the proposed development site was expanded to include a temporary car park. This site was surveyed in April 2023 and is predominantly consisting of already built-up developed land, as well as storage for spoil and other construction materials. Surveys for breeding bird activity are ongoing, however this is not considered to pose a limitation on the ecological assessment as the habitats represent low suitability for foraging, commuting and breeding birds due to the aforementioned facts. It should be noted that a precautionary approach has been adopted, whereby mitigation and enhancement measures have been applied to avoid effects on birds, and to create opportunities for potential nesting habitat for these species.

6.3 Baseline Scenario (Existing Environment)

A description of the receiving environment should be provided into which the proposal will fit, taking account of other developments likely to occur. The particular aspects of the environment will be discussed in terms of their context, character, significance and sensitivity. The receiving environment will have regard to the situation as it currently exists.

6.3.1 Land Use Zoning

The subject lands are currently zoned as "MRE- Metro and Rail Economic Corridor" with the zoning objective to "Facilitate opportunities for high-density mixed-use employment generating activity and commercial development, and support the provision of an appropriate quantum of residential development within the Metro and Rail Economic Corridor" within the Fingal Development Plan 2023-2029. The lands immediately surrounding the proposed development site are also zoned as "MRE- Metro and Rail Economic Corridor". Santry Demesne is located approximately 180m north of the proposed development site and this is zoned as "OS- Open space" to "Preserve and provide for open space and recreational amenities". Lands to the east

and south of the development site comprise a mixture of “RA – Residential Area” to “Provide for new residential communities subject to the provision of the necessary social and physical infrastructure” and “OS – Open Space”.

6.3.2 Designated Sites

6.3.2.1 European Sites

No terrestrial mammals were recorded within the or adjacent to the proposed development. As such, no species-specific terrestrial mammal surveys were undertaken. That said, the precautionary principle is adopted, and it is presumed that animals listed in the EC Habitats Directive (92/43/EEC) (hereafter referred to as the habitats directive) might be present within these areas.

Special Areas of Conservation (SAC) are designated under the EC Habitats Directive (92/43/EEC) for the protection of habitats listed on Annex I and/or species listed on Annex II of the Directive. Special Protection Areas (SPAs) are designated under the Birds Directive (2009/147/EC) for the protection of bird species listed on Annex I of the Directive, regularly occurring populations of migratory species (such as ducks, geese or waders), and areas of international importance for migratory birds.

There are no European sites within or adjacent to the proposed development boundary. The nearest European site is South Dublin Bay and River Tolka Estuary SPA [004024] c. 5.1km southeast of the proposed development. This is followed by North Dublin Bay SAC [000206] and North Bull Island SPA [004006]; both c. 6.7km southeast of the proposed development site. The Ballymun stream is the closest watercourse to the proposed development site, located c. 28m to the west. This stream merges with the Santry River, which discharges into Dublin Bay coastal waterbody c. 7.9km downstream via the North Bull Island transitional waterbody. Thus these European sites are at a hydrological distance of c. 7.9km downstream from the proposed development site. Surface waters from the proposed development ultimately discharge to Dublin Bay coastal waterbody via the Santry River. Therefore, these European sites are considered to be within the potential Zol of the proposed development, as all of these sites are located in the relevant downstream receiving environment (i.e. Dublin Bay coastal waterbody) of the proposed development site, along with additional European sites such as South Dublin Bay SAC, Howth Head SAC, Howth Head Coast SPA, Dalkey Islands SPA and Rockabill to Dalkey Islands SAC. In addition, Baldoyle Bay SPA, Ireland’s Eye SPA, Malahide Estuary SPA and Rogerstown Estuary SPA are considered to fall within the potential zone of influence due to the foraging distances for different bird species for which they have been designated. An *Appropriate Assessment Screening Report* prepared by Scott Cawley Ltd. (Scott Cawley Ltd., 2023) accompanies this planning application.

The SAC and SPA sites in the vicinity of the proposed development, their distance from the proposed development and their Qualifying Interests (QI)/Special Conservation Interests (SCI) are presented in Appendix A.

All of the European sites present in the vicinity of the proposed development are shown on **Figure 6-2** below.

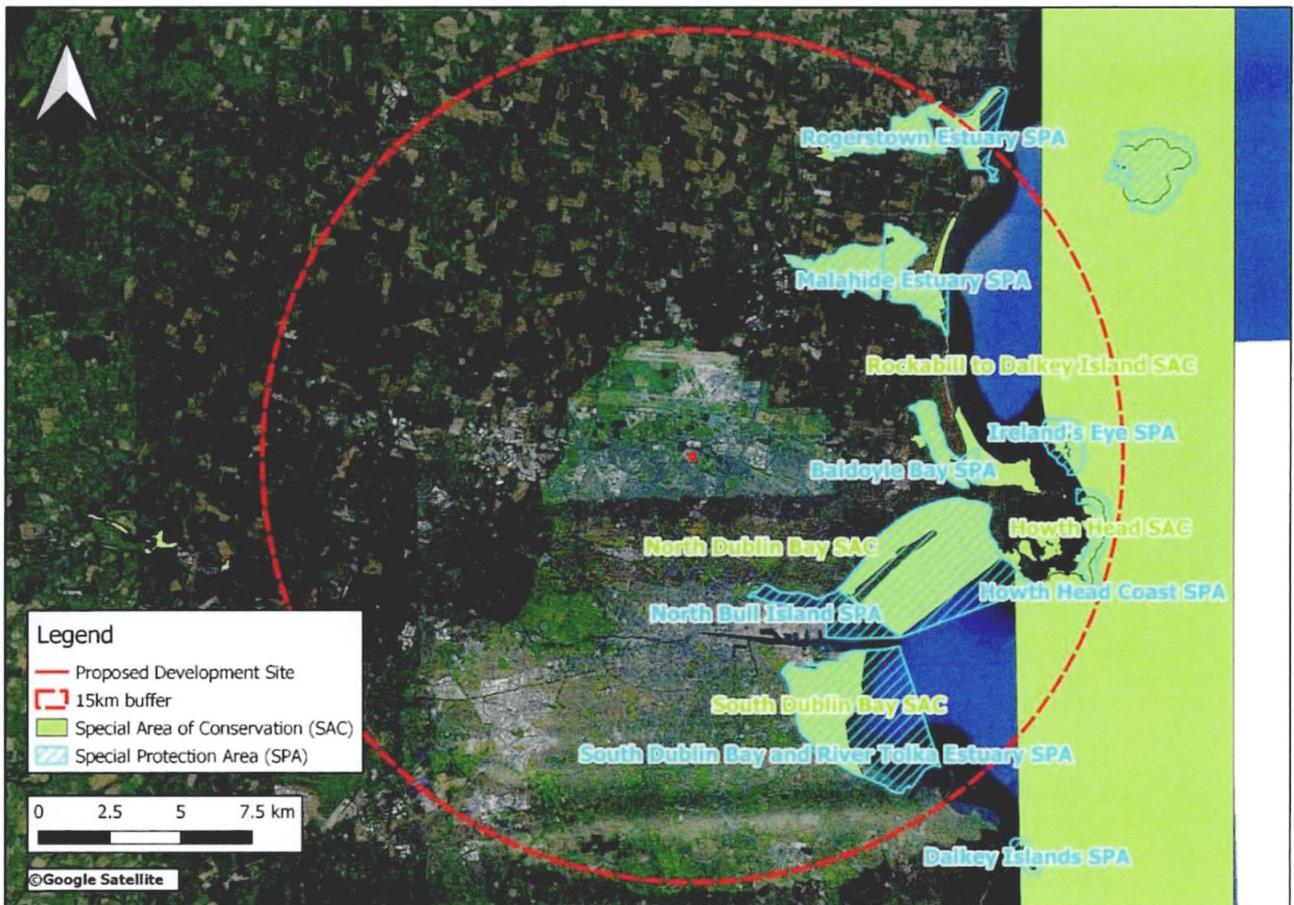


Figure 6-2: European sites in the vicinity of the proposed development

Source: Google Satellite (2023)

6.3.2.2 Nationally Designated Sites

National Heritage Areas (NHAs) are designated under the Wildlife Acts to protect habitats, species, or geology of national importance. In addition to NHAs, there are proposed NHAs (referred to as pNHAs), which are also sites of significance for wildlife and habitats and were published on a non-statutory basis in 1995 but have not since been statutorily proposed or designated. Proposed NHAs are offered protection in the interim period under county or city development plans which requires that planning authorities give due regard to their protection in planning policies and decisions.

The NHA and pNHA sites in the vicinity of the proposed development, their distance from the proposed development and their conservation objectives are presented in **Appendix 6.1** and illustrated in **Figure 6-3**.

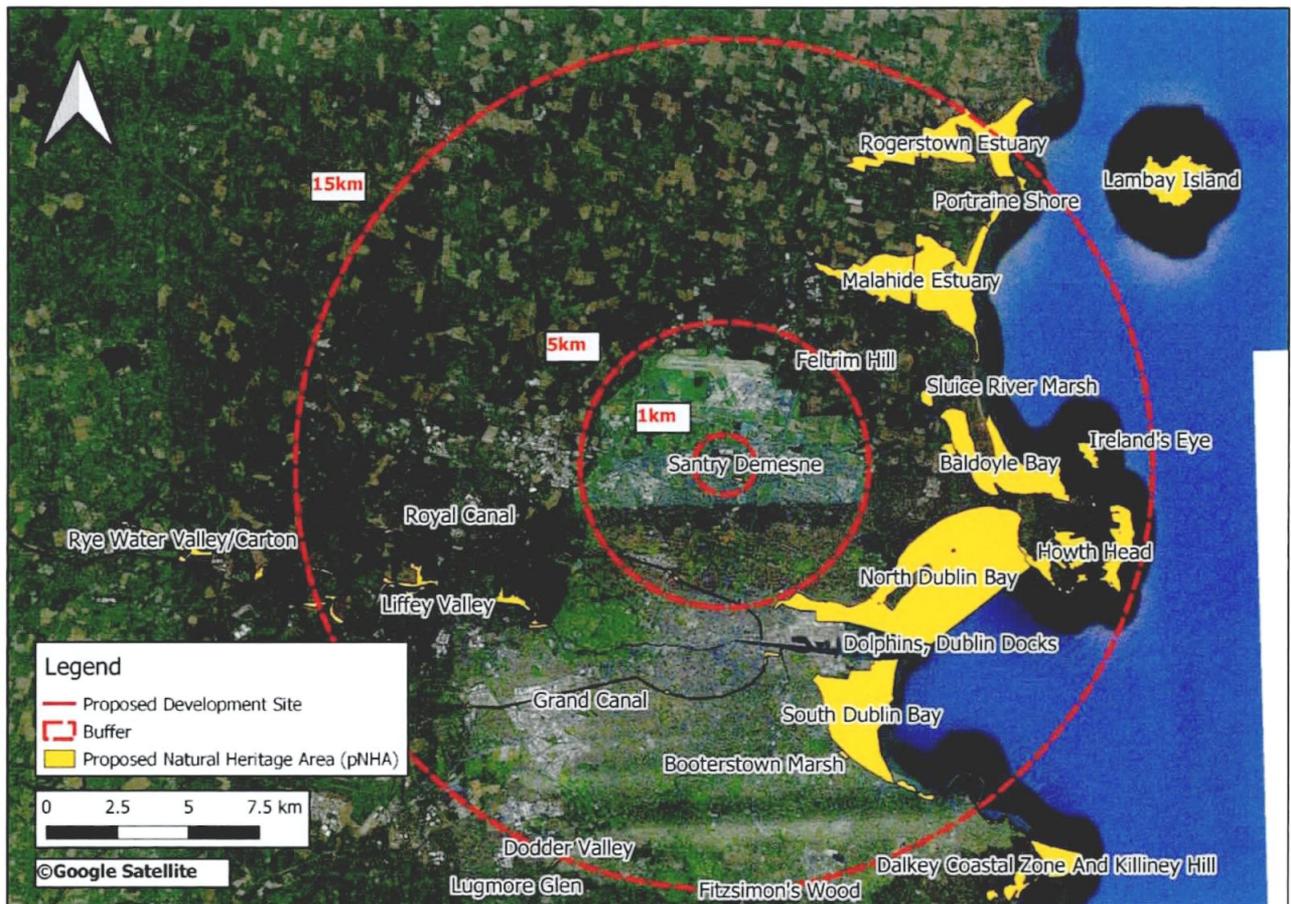


Figure 6-3: Nationally designated sites in the vicinity of the proposed development

Source: Google Satellite (2023)

There are no nationally designated sites within the proposed development site. The closest nationally designated site is Santry Demesne pNHA, which is located c. 180m north of the proposed development site. The proposed development site is hydrologically connected to those designated sites downstream of the site via surface water drainage (i.e. via the Santry River). Therefore, Santry Demesne pNHA, and those pNHAs that lie downstream of the Santry River within Dublin Bay are considered to be hydrologically connected to the proposed development site.

The location of Santry Demesne pNHA, and those pNHAs in Dublin Bay in relation to the proposed development site is provided in more detail in **Figure 6-4**.



Figure 6-4: Those nationally designated sites that lie downstream and thus are hydrologically connected via surface water drainage (i.e. Santry River) to the proposed development

Source: Google Satellite (2023)

6.3.2.3 Other Designated Sites

Other designations recognised in the wider Greater Dublin Area (GDA) including RAMSAR wetlands sites and UNESCO Dublin Bay Biosphere are considered in terms of the European and National sites assessment, whilst the three Special Area Amenity Order are outside the ZoI of the proposed development. They are identified below and are considered in the context of the overall EIAR assessment.

6.3.2.3.1 Ramsar sites

The Convention on Wetlands is an intergovernmental treaty adopted on 2 February 1971 in the Iranian city of Ramsar. The official name of the treaty “*The Convention on Wetlands of International Importance especially as Waterfowl Habitats*” reflects the emphasis on the protection of wetlands primarily as habitat for waterbirds.

There are a number of RAMSAR sites within the vicinity of the proposed development, namely:

- Rogerstown Estuary (Site code 412);
- Broadmeadow Estuary (Site code 833);
- Baldoye Bay (Site code 413);
- North Bull Island (Site code 406); and,
- Sandymount Strand/Tolka Estuary (Site code 832).

The assessment of these RAMSAR sites, which are encompassed within European sites and/or NHAs/pNHAs, is captured in full under the assessment of European sites and or NHAs and pNHAs for which this EIAR assessment is considering, and thus no further discussion is provided.

6.3.2.3.2 UNESCO Dublin Bay Biosphere

Dublin Bay was initially recognised by the United Nations Education, Scientific and Cultural Organisation (UNESCO) for its rare and internationally important habitats and species. The North Bull Island supports a variety of plants and wildlife including an internationally significant population of light bellied brent goose that overwinters in the bay. UNESCO's concept of a Biosphere has evolved to include not just areas of ecological value but also the areas around them and the communities that live and work within these areas. The Dublin Bay Biosphere Reserve now extends to over 300km² of marine and terrestrial habitat encompassing North Bull Island and ecologically significant habitats such as the Tolka and Baldoyle Estuaries, Howth Head, Dalkey Island, Killiney Hill and Booterstown Marsh. Over 300,000 people live within the newly enlarged Biosphere.

While the Biosphere designation does not strictly add any new specific legal protection to Dublin Bay, it greatly enhances the many legal protections that already exist by improving the co-ordination and management of its functions in a holistic and integrated way. In this respect, the biodiversity assessment for the EIAR and the AA for the proposed development collectively addresses the key biodiversity elements of the Biosphere designation, and thus no further discussion is provided.

6.3.2.3.3 Special Amenity Area Order

The objective of the Special Amenity Area Order is primarily to protect outstanding landscapes, nature and amenities and were originally placed on a statutory footing under the Local Government (Planning and Development) Act 1963, as amended, and re-enacted under section 202 of the Planning and Development Act 2000.

Three such special amenity area orders have been recognised in Ireland, all of which are located within the Greater Dublin Area and can cross Local Authority administrative boundaries. None are directly intersected by the proposed development. They include:

- Liffey Valley;
- North Bull Island; and
- Howth Head.

The designation re-enforces the protection of green belts via land plans and objectives contained therein. As such these areas have been considered in the overall EIAR biodiversity assessment and Appropriate Assessment respectively, by virtue of overlapping nature designations.

6.3.2.4 Biodiversity Areas (outside of Designated sites)

Fingal Biodiversity Action Plan 2022-2030 highlights a number of areas considered to be of biodiversity value present within the boundaries of FCC (FCC, 2022). Some of these areas that are located within the Zol of the proposed development are provided below:

- Habitats considered to be of importance, such as arable land, semi-natural grasslands, hedgerows and woodlands, which support a range of species and act as important ecological links/corridors across the wider landscape. Woodlands in FCC administrative territory were largely planted during the 18th century and may be part of the ancient woodland cover in Dublin.
- Hedgerows providing food, shelter and nesting sites in the agricultural landscape. They also act as ecological links or corridors across habitat types. There is about 2,660km of hedgerow in FCC administrative territory, most of which are located in the north and west of the County.
- Network of rivers and streams including the Santry River, which is north of the proposed development. These watercourses support a range of riverine bird species, such as kingfisher *Alcedo atthis*, and fish species.
- Green spaces providing valuable wildlife habitats scattered across parkland and gardens e.g., Santry Demesne.

6.3.3 Habitats and Flora

6.3.3.1 Desk Study

6.3.3.1.1 Protected Flora

A desk study of notable plant species within 2km of the proposed development site was undertaken on the 22nd November 2021 and updated on the 16th January 2023 using the NBDC database. One record of species listed under the Flora (Protection) Order 2022 was returned, and is listed below:

- Hairy St. John's Wort *Hypericum hirsutum*

This downy-leaved perennial of river banks and shady places has been recorded from only five counties in eastern Ireland, concentrated in the River Liffey valley (NPWS, 2011). It, nor any other species listed under the Flora (Protection) Act 2022, was not recorded within the proposed development site during surveys carried out in 2021 or 2023.

6.3.3.1.2 Non-Native Invasive Species

A desk study of non-native invasive species within 2km of the proposed development site was undertaken on the 22nd November 2021 and updated on the 16th January 2023 using the NBDC database. One non-native invasive plant species listed in the Third Schedule of the European Communities (Birds and Natural Habitats) Regulations 2011 as amended were returned from the NBDC desk study, namely:

- Giant hogweed *Heracleum mantegazzianum*

No non-native invasive species, including giant hogweed, listed in the Third Schedule of the European Communities (Birds and Natural Habitats) Regulations 2011 (as amended) were recorded within the proposed development site during site surveys carried out in 2021 or 2023.

6.3.3.2 Habitats

Habitats within the proposed development site were classified using Fossitt (2000). Habitat types recorded within the footprint of the proposed development site discussed in this section are shown in **Figure 6-5** and listed below:

- Buildings and artificial surfaces (BL3);
- Spoil and bare ground (ED2)
- Amenity grassland (improved) (GA2);
- (Mixed) broadleaved woodland (WD1)
- Treelines (WL2);
- Ornamental/non-native shrub (WS3); and
- Mosaic of Ornamental / non-native shrub (WS3) and Hedgerows (WL1)

Given the artificial nature of the site (i.e. surface-level car park), and the fact that it is relatively disturbed, none of these habitats correspond to Annex I habitats.



Figure 6-5: Habitats recorded within the proposed development site (indicative subject site outlined in red)

Source: Google Satellite (2023)

6.3.3.2.1 Buildings and artificial surfaces (BL3)

Buildings and artificial surfaces habitat (BL3) accounted for c.180ha of the site and was found widely within the planning boundary of the proposed development site. This habitat type is mainly comprised of roads and paved areas (see **Plate 6.1**). Buildings and artificial surfaces habitat within the proposed development site were well maintained with limited vegetation recorded in cracks and crevices. The following species occurred in very low densities and in localised areas (e.g. margins and cracks in paved areas); red fescue *Festuca rubra* agg., spear thistle *Cirsium vulgare*, common daisy *Bellis perennis*, ribwort plantain *Plantago lanceolata*, common dandelion *Taraxacum officinale* agg., and perennial ryegrass *Lolium perenne*.

Due to the artificial nature of this habitat and low species diversity, it is valued as local importance (lower value).



Plate 6.1: Buildings and artificial surfaces

Source: Nicholas Fettes. Scott Cawley Ltd. (2023)

6.3.3.2 Spoil and bare ground (ED2)

Spoil and bare ground habitat within the proposed development site consisted of a relatively large area of ground in the northwest of the site, where there was evidence of storage of construction-related material (see **Plate 6.2**). The following species occurred in very low densities and in localised areas (e.g. margins); common daisy *Bellis perennis*, ribwort plantain *Plantago lanceolata*, common dandelion *Taraxacum officinale* agg., and perennial ryegrass *Lolium perenne*.

Due to the artificial nature of this habitat and low species diversity, it is valued as local importance (lower value).



Plate 6.2: Spoil and bare ground

Source: Nicholas Fettes. Scott Cawley Ltd. (2023)

6.3.3.2.3 Amenity grassland (improved) (GA2)

Amenity grassland habitat within the proposed development site consisted of linear strips of managed grassland along roads along the perimeter of the site (see **Plate 6.3**). This habitat accounted for c. 0.14ha of the proposed site. Three main sections of amenity grassland were identified with similar vegetative composition that include grass species such as red fescue and perennial ryegrass dominant, and forb species such as spear thistle, broad leaf dock *Rumex obtusifolius*, creeping buttercup *Ranunculus repens*, red dead nettle *Lamium purpureum*, ribwort plantain, common dandelion, and common daisy rarely recorded.

Amenity grassland at the northern extent of the proposed development site was dominated by red fescue with perennial ryegrass rarely recorded. Flowering species were rarely recorded, with common dandelion present.

The remaining sections of amenity grassland to the south and west of the proposed development site were dominated by perennial ryegrass, with red fescue occasionally recorded. Flowering species in this section of amenity grassland were also rare, with ribwort plantain, common dandelion, and common daisy recorded.

This habitat has limited ecological importance due to it being relatively species poor and is valued as being of local importance (lower value).



Plate 6.3: Amenity grassland (improved)

Source: Nicholas Fettes. Scott Cawley Ltd. (2023)

6.3.3.2.4 (Mixed) broadleaved woodland (WD1)

Small discrete sections of (Mixed) broadleaved woodland (WD1) occur in the northwest of the proposed development site, where the temporary car park is to be located (see **Plate 6.5**). This woodland extends into the proposed development site (plinth-railed boundary) from one metre up to three metres in places. Canopy species include common alder *Alnus glutinosa*, pedunculate oak *Quercus robur*, ash *Fraxinus excelsior*, Norway maple *Acer platanoides*, hazel *Corylus avellana*, silver birch *Betula pendula*, hawthorn *Crataegus monogyna* and wild cherry *Prunus avium*. Understorey species include bramble, whilst climbing species included ivy. The woodlands also contain limited field layer flora and include hogweed *Heracleum sphondylium*, common nettle *Urtica dioica*, cow parsley *Anthriscus sylvestris*, common ragwort *Jacobaea vulgaris*, broad-leaved dock *Rumex obtusifolius*, *Cirsium* sp., *Epilobium* sp. and hedge bindweed *Calystegia sepium*.

Although the woodland here is a remnant of earlier planting in the area, and many of the trees are damaged and all have been extensively disturbed by prior attenuation works, due to the diversity of species recorded (and general high level of native species present), and the connection into woodland that forms part of the Santry Demesne pNHA, this habitat type is considered to be of local importance (higher value). These woodlands also provide feeding and nesting habitat for a range of breeding bird species, potential roosting, foraging and commuting habitat for bat species and potential resting and breeding places for other mammals.



Plate 6.4: (Mixed) broadleaved woodland habitat

Source: Nicholas Fettes. Scott Cawley Ltd. (2023)

6.3.3.2.5 Mosaic of Ornamental/non-native shrub (WS3) and Hedgerow (WL1)

A mosaic of ornamental/non-native shrub and hedgerow habitat was recorded at one location on the western perimeter of the proposed development site and was c. 80m in length (see **Plate 6.6**). The mosaic habitat was dominated by cherry laurel *Prunus laurocerasus* and common dogwood *Cornus sanguinea*, with species such as hawthorn *Crataegus monogyna*, goat willow *Salix caprea* and hazel *Corylus avellana* occasionally recorded. Forb species recorded in the understory were rare and comprised of great willow herb *Epilobium hirsutum*, groundsel *Senecio vulgaris*, and fat-hen *Chenopodium album*. The mosaic of ornamental/non-native shrub and hedgerow appeared to be used as screening of the adjacent carpark. This habitat was low lying (approximately 1m-1.25m in height) and highly modified through cutting.

This habitat was species poor and relatively low quality due to the intensive maintenance regime. However, given the stated importance of hedgerow within the *Fingal Biodiversity Plan 2022-2030*, hedgerows within the proposed development site are valued as local importance (higher value).



Plate 6.5: Mosaic of Ornamental/non-native shrub (WS3) and Hedgerow (WL1)

Source: Nicholas Fettes. Scott Cawley Ltd. (2023)

6.3.3.2.6 Treelines (WL2)

This habitat accounts for c. 50.5m of linear features throughout the proposed development site. Treelines were mainly recorded as decorative landscape features along roads and footpaths (see **Plate 6.7**). Treelines species composition comprised of pedunculate oak *Quercus robur*, horse chestnut *Aesculus hippocastanum* and hornbeam *Carpinus betulus*.

Treelines are valued as being of local importance (higher value) due to the urban nature of the surrounding area and their importance in maintaining ecological links with the Santry Demesne pNHA to the north, and Santry Park to the south of the proposed development.



Plate 6.6 Treeline

Source: Nicholas Fettes. Scott Cawley Ltd. (2023)

6.3.3.2.7 Ornamental/non-native shrub (WS3)

Ornamental/non-native shrub habitats were recorded along fencing and boundaries and accounted for c. 142.7m of habitat within the proposed development site. Species such as common dogwood, cotoneaster species *Cotoneaster* spp., and cherry laurel were dominant, and typically this habitat contained a single planted variety with a bare understory (see **Plate 6.8**). The function of this habitat is to act as decorative screening. The longest example of this habitat was recorded at the northwestern section of the proposed development site and comprised a c. 119m row of developing cotoneaster.

Ornamental/non-native shrub habitat is valued as being of local importance (lower value) as it was species poor and comprised of non-native decorative plant species only.



Plate 6.7 Ornamental and non-native shrubs

Source: Nicholas Fettes. Scott Cawley Ltd. (2023)

6.3.4 Fauna

6.3.4.1 Terrestrial mammals (excluding bats)

Records of four mammal species protected under the Wildlife Acts were returned within the 2km desk study and included badger *Meles meles*, otter *Lutra lutra*, Irish stoat *Mustela erminea hibernica* and hedgehog *Erinaceus europaeus*. Otter are also listed on Annex II and Annex IV of the EU Habitats Directive and are afforded strict protection under the Habitats Directive and the European Communities (Birds and Natural Habitats) Regulations, 2011 (as amended).

Badger *Meles meles*

The NBDC database search returned records of badger c. 650m north of the proposed development site at Santry Demesne. Suitable habitats for badgers such as hedgerow (WL1) were recorded within the proposed development site.

No badger setts, feeding signs or territorial markings of badger (i.e. latrines) were observed within the lands during surveys on the 26th August 2021 and 18th January 2023. Notwithstanding the absence of signs of badger gathered during the site surveys, the subject lands could potentially be part of the wider territory of local badger populations. The nearest known historical badger's sett is located within the Santry Demesne pNHA (FCC, 2006).

Notwithstanding the above, the legal protection provided to badgers and their setts would afford the local badger population as being valued as local importance (higher value). However, due to the artificial nature of the proposed development site (i.e. surface-level car park) and urban surrounding environs and high levels of disturbance within the proposed development site, it is unlikely that badgers would use the site for cover or forage. As such, badger will not be considered further within this assessment.

Stoat *Mustela erminea hibernica*

The NBDC database search returned records of stoat c. 1.75km northeast of the proposed development site at Collinstown Business Park, R132. No suitable habitat for stoat was recorded within the proposed development site. The proposed development site is dominated by artificial surfaces and highly disturbed. In light of the protection offered to stoats, the local stoat population is valued as being of local importance (higher value). However, due to the artificial nature of the proposed development site (i.e. surface-level car

park) and high level of disturbance within and surrounding the proposed development site, stoat will not be considered further within this assessment.

Otter *Lutra lutra*

Otter, and their breeding and resting places, are protected under the Wildlife Act. Otter are also listed on Annex II and Annex IV of the EU Habitats Directive and are afforded strict protection under the Habitats Directive and the European Communities (Birds and Natural Habitats) Regulations, 2011 (as amended).

No signs or suitable habitat for otter were recorded within the proposed development site. The NBDC database search returned records of otter c. 800m east of the proposed development at Santry Demesne from 1980. The Dublin City Otter Report recorded activity c.1.75km east of the proposed development site between the M50 and Jim Larkin Road where the Santry River outfalls at Bull Island (Macklin *et al.*, 2019). Although it is acknowledged that otter use watercourse, evidence of otter usage of the Santry River itself was found to be very low compared to other watercourses (a total of n=6 signs of otter were recorded along the Santry, with a low average compared to other watercourses of 0.98 signs per kilometre). The Santry River was found to be a heavily modified and urbanised watercourse, with poor levels of naturalness overall, thus providing limited ecological value for aquatic fauna including otter.

During ecological surveys associated with the proposed development, no holts or sign of otter (i.e. spraint) were observed within the proposed development site. Furthermore, the Santry River is located approximately c. 220m north of the proposed development site (far exceeding the 10m riparian buffer considered to comprise the typical foraging/hunting range of otter either side of watercourses), and the proposed development site itself is mostly dominated by artificial surfaces and amenity grassland, making it largely unsuitable for otter.

Thus, although otter is valued as being of National Importance, it is not considered further owing to the absence of watercourses and suitable foraging territory within the proposed development site and is not considered further in this assessment.

Small Mammals

The NBDC database search returned records of hedgehog c. 850m north of the proposed development site at Silloge Green Road. No signs of hedgehog or other small mammals were noted during the site surveys within the proposed development site in August 2021 or January 2023. However, the hedgerow (WL1) habitat within the proposed development site could provide suitable habitat for Hedgehog. Small mammal species are widespread and common in Ireland (Marnell *et al.*, 2019).

As such, the local small mammal populations are assessed as being of a local importance (higher value).

6.3.4.2 Bats

Bats, and their breeding and resting places, are protected under the Wildlife Acts. All bat species are also listed on Annex IV of the EU Habitats Directive (with the Lesser horseshoe bat also listed on Annex II) and are afforded strict protection under the Habitats Directive and the European Communities (Birds and Natural Habitats) Regulations, 2011 (as amended).

NBDC Records returned within 2km of the proposed development include Leisler's bat *Nyctalus leisleri*, soprano pipistrelle *Pipistrellus pygmaeus*, and common pipistrelle *Pipistrellus pipistrellus*.

Bat activity surveys were undertaken on the 26th of August 2021. One activity of common pipistrelle was recorded within the boundary of the proposed development. Bat activity within the proposed development site was limited to one common pipistrelle recorded along the centre of the site and appeared to be transient in nature. The majority of bat activity was focused on the treelines of adjacent lands that boarded with the proposed development site (see **Figure 6-6**). Habitats within the proposed development site are considered to be of low suitability for commuting and foraging bats due to the low stature of the hedgerow and treeline habitats, and high levels of artificial lighting of the carpark (Collins, 2016). Connectivity between hedgerows and treelines within the proposed development and that of the surrounding area are fragmented due to residential and commercial developments. However, bats are known to use fragmented habitats such as those recorded within the proposed development as "stepping stones" between foraging sites.

A comprehensive ground level inspection of all potential roosting features (PRF's) was undertaken across the proposed development site. No PRFs were identified within the boundary of proposed development site.

Although the proposed development site is of low suitability for foraging and roosting bats, given the protected status of bats, they are considered to be local importance (higher value).

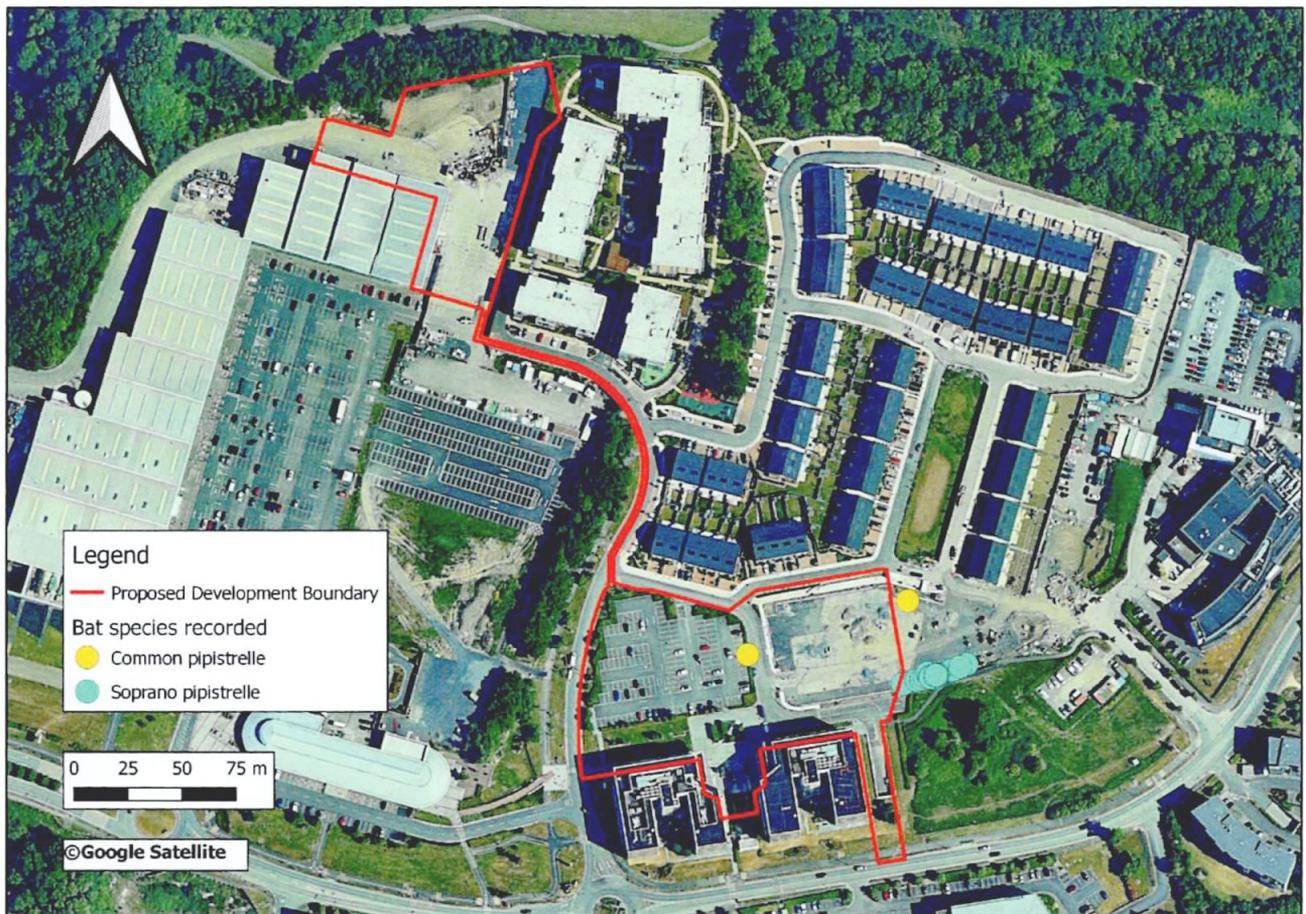


Figure 6-6: Bat activity recorded within the proposed development site (indicative subject site outline in red)

Source: Google Satellite 2023

6.3.4.3 Birds

All wild birds, and their nests and eggs, are protected under the Wildlife Acts. Some bird species are also listed on Annex I of the Birds Directive, and/or as SCIs within designated European sites.

The full results of the desk study, including records of breeding bird species considered to be of conservation concern, are presented in **Appendix 6.2**. These species are considered to be KERs of the proposed development and include the following:

- SCIs, for a breeding population, of SPAs;
- Species listed under Annex I of the Birds Directive; and
- Red and Amber Birds of Conservation Concern in Ireland (BoCCI) (Gilbert *et al.*, 2021) species listed for their breeding populations.

Records of three BoCCI Red-listed species, grey wagtail *Motacilla cinerea*, common swift *Apus apus*, and redwing *Turdus iliacus* were returned from the desk study. There is no suitable breeding habitat for grey wagtail on the proposed development site as it is associated with freshwater aquatic habitats (Mullarney *et al.*, 2009), though there may be suitable foraging habitat. There is no suitable nesting habitat for common swift as they prefer nesting in cavities of building and rock faces (Mullarney *et al.*, 2009), though suitable foraging habitat may be present within the proposed development. There is no suitable habitat for redwing as they prefer open fields in lowland areas (Mullarney *et al.*, 2009), and typically avoid disturbed habitats such as those found within the proposed development. In addition, redwing don't breed in Ireland, but are scarce winter visitors. Records of fourteen Amber-listed species were returned from the desk study, of which black-headed gull *Chroicocephalus ridibundus*, great cormorant *Phalacrocorax carbo*, mallard *Anas platyrhynchos*, mute swan *Cygnus olor*, and tufted duck *Aythya fuligula* are not considered to frequent habitats within the proposed development as they are typical of coastal, estuarine and intertidal habitats

(Mullarney *et al.*, 2009), though black-headed gulls have been known to forage in car parks where there are easy food sources available. This may be more associated with supermarket car parks, where there tends to be food droppings. The proposed development is dominated by a surface-level car park associated with an office development, not a supermarket or shopping centre, and furthermore no black-headed gulls were observed during the surveys in 2021 or 2023.

There are no SPAs designated for breeding populations of the species returned from the desk study within the Zol of the proposed development. However black-headed gull, an SCI of South Dublin Bay and River Tolka Estuary SPA which has been designated for its wintering populations, may use the proposed development site for foraging and/or roosting. The SPA is within the normal foraging range (15-20km) of the species and therefore any individuals recorded on site during winter months may potentially belong to the wintering SPA population. As previously mentioned, the urban environs, lack of food availability and highly disturbed nature of the proposed development site would reduce the likelihood of use by this SCI species, and no black-headed gulls were observed in the proposed development site during surveys in 2021 or 2023.

The remaining species included barn swallow *Hirundo rustica*, common coot *Fulica atra*, common linnet *Carduelis cannabina*, common starling *Sturnus vulgaris*, goldcrest *Regulus regulus*, house martin *Delichon urbicum*, house sparrow *Passer domesticus*, willow warbler *Phylloscopus trochilus*, and greenfinch *Chloris chloris* most of which are passerines species. All species listed, with the exception of barn swallow, house martin and common coot, have suitable (though not ideal) breeding places (trees and hedgerows) within the proposed development site. However, the trees are predominantly young (less than 20 years old) and thus have reduced features suitable for nesting birds (knotholes and cracks in bark), whilst the hedgerows that are present are mixed in with ornamental plants and are highly modified and subject to regular maintenance (cutting) as part of the car park boundary, thus reducing the suitability of the sites trees and hedgerows for these species. Furthermore, some of these species, such as goldcrest, willow warbler and greenfinch are typical woodland species, of which there is no habitat present within the proposed development site.

A number of bird species were recorded during bird survey within the proposed development site on the 26th August 2021 (See **Figure 6-7**).

These species did not include any Red- or Amber-listed species. No birds species were recorded nesting within the proposed development, however it should be noted that the survey was carried out towards the end of breeding bird season and bird nests are generally well-camouflaged to avoid detection.

The bird species recorded included: blackbird *Turdus merula*, great tit *Parus major*, blue tit *Cyanistes caeruleus*, wren *Troglodytes troglodytes*, magpie *Pica pica*, hooded crow *Corvus cornix*, jackdaw *Coloeus monedula*, and robin *Erithacus rubecula*. These species were recorded in low numbers transiting through the proposed development site. Although the proposed development site is largely comprised of artificial surfaces and thus mostly unsuitable habitat for breeding and/or foraging birds, the local bird populations are considered to be of local importance (higher value).

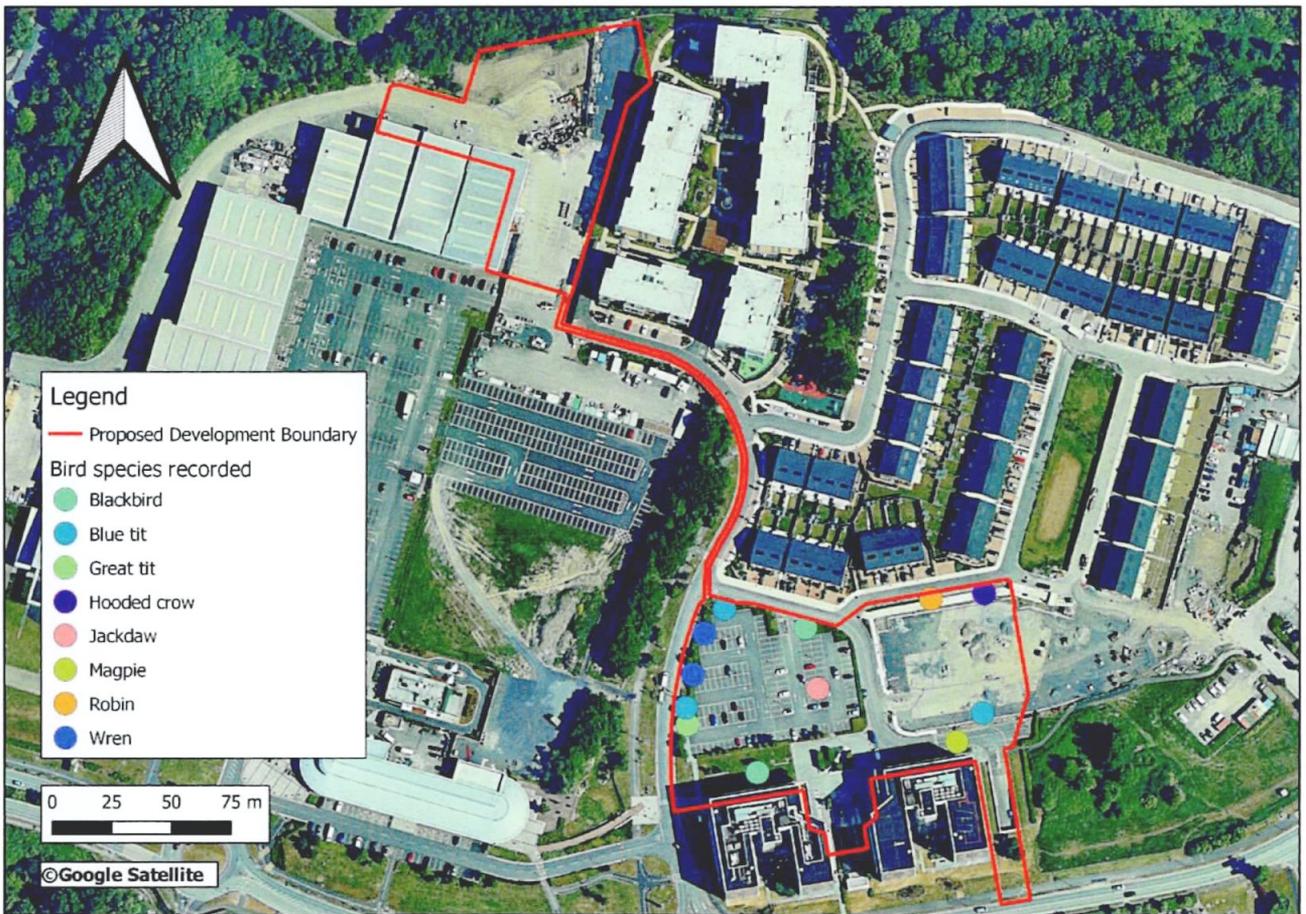


Figure 6-7: Bird species recorded within the proposed development site (indicative subject site outline in red)

Source: Google Satellite 2023

6.3.4.4 Amphibians

The NBDC database returned seven records for common frog and no records for smooth newt. The nearest and the most recent records for common frog are located c. 800m away from the proposed development, from 2019.

The surveys did not record any suitable habitat (e.g., pond or other waterbodies) for amphibians, or individuals of the species within the proposed development site. Although local amphibian populations are valued to be of local importance (higher value), considering there is no suitable habitat for the species, and no individuals were recorded during the surveys within the proposed development site, amphibians will not be considered further within this assessment.

6.3.4.5 Reptiles

The NBDC database returned no records for common lizard.

The surveys did not record any suitable habitat (e.g. woodland, marshes, heath, moors, bogs, sand-dunes) for reptiles, or individuals of the species within the proposed development site. Although local reptile populations are valued to be of local importance (higher value), considering there is no suitable habitat for the species, and no individuals were recorded during the surveys, within the proposed development site, reptiles will not be considered further within this assessment.

6.3.4.6 Invertebrates

The NBDC database returned no records for invertebrate species of concern or of those listed in the Habitats Directive within or directly adjacent to the proposed development site.

Although local invertebrate populations are valued to be of local importance (higher value), considering there is no suitable habitat for these species (i.e. flower-rich meadows containing native plants), and no species of concern were recorded during the surveys within the proposed development site, invertebrates will not be considered further within this assessment.

6.4 Impact Assessment

6.4.1 Summary of Ecological Valuation

Table 6.5 summarises the ecological evaluation of all receptors taking into consideration legal protection, conservation status and local abundance, and identifies the KERs. Species, habitats and features not qualifying as KERs are not subjected to impact assessment in line with current best practice of assessing the impacts on what are determined to be important ecological or biodiversity features: CIEEM and TII guidelines (CIEEM, 2018; NRA, 2009).

The following ecological features are considered to be KERs in relation to the proposed development and its potential construction and/or operational impacts.

6.4.1.1 Woodlands

Woodlands are considered a KER due to the stated importance of woodlands within the *Fingal Biodiversity Plan 2022-2030*.

6.4.1.2 Hedgerows

Hedgerows are considered a KER due to the stated importance of hedgerows within the *Fingal Biodiversity Plan 2022-2030*.

6.4.1.3 Treelines

Treelines within the study area form an important part of the wider ecological network in the landscape and also have the potential to provide foraging and commuting habitat for bats and suitable breeding habitat for birds. Subsequently they are considered a KER on their own right.

6.4.1.4 Terrestrial Mammals

Stoat, and other small mammal have been considered as KER's based on the precautionary approach due to their protected under the Wildlife Acts.

6.4.1.5 Bats

Bats are considered to be KERs as all bats and their roosts are protected under the Wildlife Act and under the Habitats Directive.

6.4.1.6 Birds

Birds are considered to be KERs within the proposed development site due to their protection afforded under the Wildlife Act.

Table 6.5: Summary of the ecological evaluation

Ecological Receptor	Ecological Valuation	KER
Designated sites		
North Dublin Bay SAC [000206]	International	Yes
Baldoyle Bay SAC [004016]	International	No
Malahide Estuary SAC [000205]	International	No

Ecological Receptor	Ecological Valuation	KER
South Dublin Bay SAC [000210]	International	Yes
Howth Head SAC [000202]	International	Yes
Rogerstown Estuary SAC [000208]	International	No
Rockabill to Dalkey Island SAC [003000]	International	Yes
Ireland's Eye SAC [002193]	International	No
Lambay Island SAC [000204]	International	No
South Dublin Bay and River Tolka Estuary SPA [004024]	International	Yes
North Bull Island SPA [004006]	International	Yes
Malahide Estuary SPA [004025]	International	Yes
Baldoyle Bay SPA [004016]	International	Yes
Rogerstown Estuary SPA [004015]	International	Yes
Ireland's Eye SPA [004117]	International	Yes
Howth Head Coast SPA [004113]	International	Yes
Lambay Island SPA [004069]	International	No
Dalkey Islands SPA [004172]	International	No
Santry Demesne pNHA [000178]	National	Yes
Royal Canal pNHA [002103]	National	No
North Dublin Bay pNHA [000206]	National	Yes
Feltrim Hill pNHA [001208]	National	No
Grand Canal pNHA [002104]	National	No
Sluice River Marsh pNHA [001763]	National	No
Malahide Estuary pNHA [000205]	National	No
Baldoyle Bay pNHA [000199]	National	No
Dolphins, Dublin Docks pNHA [000201]	National	No
South Dublin Bay pNHA [000210]	National	Yes
Liffey Valley pNHA [000128]	National	No
Howth Head pNHA [000202]	National	No
Boosterstown Marsh pNHA [001205]	National	No
Rogerstown Estuary pNHA [000208]	National	No
Ireland's Eye pNHA [000203]	National	No
Portraine Shore pNHA [001215]	National	No
Dodder Valley pNHA [000991]	National	No

Ecological Receptor	Ecological Valuation	KER
All other NHA or pNHA sites	National	No – beyond Zol
Habitats		
Buildings and artificial surfaces (BL3)	Local Importance (Lower Value)	No
Spoil and bare ground (ED2)	Local Importance (Lower Value)	No
Amenity grassland (improved) (GA2)	Local Importance (Lower Value)	No
(Mixed) broadleaved woodland (WD1)	Local Importance (Higher Value)	Yes
Hedgerows (WL1)	Local Importance (Higher Value)	Yes
Treelines (WL2)	Local Importance (Higher Value)	Yes
Ornamental / non-native shrub (WS3)	Local Importance (Lower Value)	No
Flora Species		
Flora Species listed on the Flora Protection Order	National	No
Flora Species on Irelands Red Lists (Vulnerable or of higher concern concern)	Local Importance (Higher Value)	No
All other non-Red listed flora species	Local Importance (Lower Value)	No
Non-native invasive plant species	N/A	No
Fauna Species		
Otter	National importance	No
Bats	Local Importance (Higher Value)	Yes
Badgers	Local Importance (Higher Value)	No
Hedgehog	Local Importance (Higher Value)	Yes
Stoat	Local Importance (Higher Value)	Yes
Other mammal species protected under the Wildlife Acts	Local Importance (Higher Value)	Yes
SCI / Annex I bird species	International Importance	Yes
All other Red listed bird species (non-SCI breeding populations)	Local Importance (Higher Value)	Yes
All other Amber listed bird species (non-SCI breeding populations)	Local Importance (Higher Value)	Yes
Any other Green listed bird species (non-SCI breeding populations)	Local Importance (Higher Value)	Yes
Amphibians	Local Importance (Higher Value)	No
Reptiles	Local Importance (Higher Value)	No
Invertebrates	Local Importance (Higher Value)	No
Non-native invasive animal species	N/A	No

6.4.2 Do Nothing

Under the do-nothing scenario, it is likely that the site would continue to offer limited foraging habitat for bats and nesting habitat for breeding birds.

6.4.3 Construction Phase

6.4.3.1 Assessment of effects on European Sites

This section describes and assesses the possibility for the proposed development to result in likely significant effects on any European sites. In the context of European sites this is focussed on the habitats and species for which the sites are selected (QIs for SACs and SCIs for SPAs) and the conservation objectives supporting their conservation status in each site. This assessment is directly related to the assessment methodology for European sites required under the Habitats Directive, which is presented in the AA Screening report for the proposed development which accompanies this application.

The assessment presented in the AA Screening Report concluded that the potential impacts associated with the proposed development do not have the potential to affect the receiving environment and, consequently, do not have the potential to affect the conservation objectives supporting the QIs or SCIs of any European sites; either alone or in combination with any other plans or projects. Therefore, there is no possibility of significant residual effects on any European sites as a result of the proposed development.

6.4.3.2 Assessment of effects on Nationally Designated Sites

As the proposed development does not overlap with or cross any nationally designated sites, there is no potential for significant effects to arise from habitat loss or fragmentation impacts.

Based on the information contained within **Chapter 7** (Land, Soils & Hydrogeology), and **Chapter 8** (Water and Hydrology) the potential zone of influence for effects on nationally designated sites extends to those located immediately downstream of the proposed development via surface water drainage and water quality effects. The only nationally designated sites within this potential ZOI are Santry Demesne pNHA, and those sites that lie within Dublin Bay such as North Dublin Bay pNHA and South Dublin Bay pNHA. Both North Dublin Bay pNHA and South Dublin Bay pNHA sites and their conservation objectives are included within North Dublin Bay SAC and South Dublin Bay SAC and are addressed within **section 6.3.1.4** Assessment of Effects on European Sites and the accompanying AA Screening Report. There is not considered to be any potential for significant effects on water quality arising from the construction or operation of the proposed development for the same reasons as presented under **Section 6.3.1.4** European sites. Santry Demesne pNHA has been designated primarily for Hairy St. Johns-wort, a legally protected plant species, as well as its woodland habitat. There is no potential for significant effects arising from habitat loss or fragmentation impacts from the proposed development on these conservation objectives of Santry Demesne pNHA as the proposed development does not overlap with Santry Demesne pNHA. In addition, indirect effects on the woodland habitat of Santry Demesne pNHA, and Hairy St. John's Wort for which the pNHA has been designated, can be excluded as there is no risk of surface water pollution resulting in impacts on these items as the species and habitat is terrestrial in nature and not reliant on fluvial systems.

Assessment of effects from Non-Native Invasive Species on Nationally Designated Sites

No non-native invasive species were recorded within or adjacent to the proposed development site. Systems to restrict the introduction and spread of non-native invasive species into the proposed development site are outlined in the Construction and Environmental Management Plan (CEMP) that accompanies this application.

As such, the proposed development poses no risk of introducing non-native invasive species to pNHA's within the ZOI as none are present within or adjacent to the site.

6.4.3.3 Habitats

6.4.3.3.1 Habitat loss

It is proposed to remove c. 260m² of woodland associated with the temporary car park in the northwest of the site. This woodland removal will result in habitat loss within the greater area and reduce its capacity to support fauna.

It is proposed to remove c. 21m of the hedgerow (that forms a mosaic with ornamental/non-native shrub planting) on the western perimeter of the site to facilitate construction of the proposed development. The removal of this section of hedgerow will result in habitat fragmentation of the already fragmentary hedgerow within the greater area and reduce its capacity to support fauna. It is also proposed to remove 50 trees that form the treelines habitat within the site to facilitate construction of the proposed development, although there will also be retention of three existing trees on the site. . Therefore, in the absence of mitigation, the proposed development is predicted to result in a significant impact on woodland, hedgerows and trees at a local geographic scale. The impact of removal will be permanent.

6.4.3.3.2 Damage to vegetation to be retained

Accidental impacts from construction vehicles may damage trees that are to be retained. Likewise, excavation or compaction from construction within the site may impact tree roots and reduce the likelihood of their survival. Therefore, in the absence of mitigation, the development is predicted to result in a significant impact on treelines at a local geographic scale. The impact of removal will be permanent.

6.4.3.4 Terrestrial Mammals

6.4.3.4.1 Habitat loss

No signs of terrestrial mammals protected under the Wildlife Act (as amended) were recorded during the surveys. However, as outlined in **Section 6.3.4.1**, habitat suitable for use by terrestrial mammals such as hedgehogs was recorded within the proposed development site and included hedgerows and treelines. It is possible that small mammals such as hedgehog may use the site as traditional cover or foraging habitat and be disturbed or injured as a consequence of habitat removal during the construction phase. Areas of permanent habitat loss are relatively small (c. 260m² of woodland, c. 21 metres of hedgerow, and 50 trees) and largely adjacent to urban and commercial environments that are highly disturbed. Given the relatively low numbers of individuals of hedgehog that are likely to be affected (i.e. majority of proposed development site is surface-level car park), and that they are highly mobile species, tree and hedgerow clearance is unlikely to result in a level of mortality that would affect the species' conservation status, and result in a significant negative effect, even at a local geographic scale. Any retained trees and hedgerows are likely to provide refuge for small mammals during construction works. In addition, the inclusion of a "micro woodland" within the proposed development will act as a corridor for small mammals through the site and will include understorey ground flora planting which will provide foraging, refuge and breeding habitat for small mammals such as hedgehog. In light of the above, it is predicted that, despite any temporary effects, the loss of foraging habitat associated with the proposed development is unlikely to affect the conservation status of small mammals such as the local hedgehog population and will not result in a likely significant negative effect, at any geographic scale.

6.4.3.4.2 Disturbance/displacement

It is possible that small mammals such as hedgehog may use the site as traditional cover or foraging habitat and be disturbed or injured as a consequence of habitat removal during construction phase. However, considering the same argument above for habitat loss and that disturbance will be short-term, it is extremely unlikely to result in any long-term effects on the local small mammal population or their conservation status, particularly considering the extensive planting outlined within the landscaping design ("micro woodland" and native wildflower meadow), the retention of trees and the presence of alternative suitable habitat of a similar nature surrounding the proposed development site. Therefore, disturbance/displacement is unlikely to result in a significant negative effect, at any geographic scale.

6.4.3.5 Bats

6.4.3.5.1 Direct mortality

Bats, and their breeding and resting places, are protected under the Wildlife Acts. All bat species are also listed on Annex IV of the EU Habitats Directive (with the lesser horseshoe bat also listed on Annex II) and are afforded strict protection under the Habitats Directive and the European Communities (Birds and Natural Habitats) Regulations, 2011 (as amended).

Although no bat roosts were identified during the bat activity surveys of the site, and no trees were found to contain PRFs, the removal of trees that could have developed PRFs in the interim period since surveys were

carried out could result in the potential loss of a bat roost, if present, and as such, there would be a significant impact on bats at a local scale. The size of any bat roost within the trees is likely to be small, as tree roosts generally accommodate relatively small and/or transitional bat roosts. Therefore, the proposed development, in the absence of mitigation, has the potential to result in a significant negative effect, with regard to direct mortality, at a local geographic scale.

6.4.3.5.2 Habitat loss

There were very low levels of bat activity noted across the site. During the bat activity survey in August 2021, only one call of the following bat species was recorded within the proposed development site: common pipistrelle. Soprano pipistrelle calls were recorded immediately to the east of the proposed development boundary.

Although small in area, considering the suitability of habitats within the proposed development site for commuting/foraging bats, the removal of c. 260m² of woodland, c. 21 metres of hedgerow, and 50 trees to will result in loss of potential ecological connectivity and foraging habitat for bat species within the proposed development site. There is alternative suitable foraging habitat located in the immediate surroundings, such as within Santry Demesne and Santry Park, along with the retention of trees on site as outlined in the landscape design, all of which are likely to be sufficient to maintain the local population in the long-term. It is therefore predicted that, despite any temporary effects, the loss of foraging/commuting habitat associated with the proposed development site will not affect the conservation status of the local bat population and will not result in a likely significant negative effect, at any geographic scale. Furthermore, the most frequently recorded species; common and soprano pipistrelle, are known to have a widespread distribution across the region and in Ireland, and these species are showing an increase in their population trend (Roche *et al.*, 2014). They are also relatively light-tolerant species which are often recorded in towns and cities.

6.4.3.5.3 Disturbance/displacement

An increase in the existing light levels during construction and operation, within and adjacent to the proposed development site may potentially indirectly impact on bat species that utilise the site for foraging and/or commuting. Given the built-up nature of the wider surrounding environment and the presence of artificial lighting already in the proposed development site and within the immediate vicinity of the proposed development site, the local bat population would be expected to be habituated to artificial light spill, especially as the most common species recorded within the proposed development site i.e. common pipistrelle and soprano pipistrelle are some of the least sensitive species to artificial light spill, and are recorded in towns and cities across Ireland.

However, it is possible that lighting required during the construction and operational stages of the proposed development may illuminate previously unlit feeding and/or commuting areas, making them unsuitable for bats and it is likely that bats may not use the site to the extent that they do currently. In light of this and in the absence of mitigation, the proposed development could result in a significant negative effect, albeit at a local geographic scale.

6.4.3.6 Birds

6.4.3.6.1 Direct mortality

All birds, their nests, eggs and unfledged young are protected in Ireland through the Wildlife Acts (as amended). In the absence of any mitigation, there is potential for clearance of vegetation to result in mortality of birds or their young, or the destruction of a nest. This would most likely occur if site preparation works were to be undertaken during the breeding bird season, i.e. between 1st March and 31st August. The effects of mortality or loss of a nest for birds would be significant at the local geographic scale.

6.4.3.6.2 Habitat loss

The proposed development will result in the loss of c. 260m² of woodland, c. 21 metres of hedgerow, and 50 trees during construction, resulting in the permanent loss of foraging and nesting habitats (i.e., woodland, trees and hedgerows) utilised by a range of common bird species. However, suitable alternative breeding and foraging habitats for birds exist to the north of the proposed development in Santry Demesne and to the southeast in Santry Park. Both of these areas are zoned as “OS- Open Space” to “Preserve and provide for open space and recreational amenities” in the Fingal Development Plan 2023-2029, and therefore will not be developed during the current development plan. Overall, in the absence of mitigation, habitat loss during

construction of the proposed development is predicted to result in a temporary significant impact on birds at a local geographic scale.

6.4.3.6.3 Disturbance/displacement

It is possible that birds currently using the site and its environs may be disturbed as a consequence of habitat removal, increased noise and human activity levels in the construction zone of the proposed development. This disturbance could potentially result in the temporary displacement of birds within the construction zone and as a result, a potential reduction in the breeding success of such birds during this period. This impact is considered to be temporary and restricted to the construction phase of the development and post-construction until replacement trees and hedgerows become established. Birds recorded within the subject lands are typical garden and suburban species which are considered to tolerate increased levels of disturbance provided that adequate suitable habitat remains during and post-development. Significant effects on birds due to disturbance/displacement are therefore predicted to arise during the construction phase of the proposed development, however these will only be temporary and therefore, no long-term significant impacts at any geographical scale are predicted.

6.4.4 Operational Phase

6.4.4.1 Habitats

There are no operational phase impacts predicted for habitats arising from the proposed development.

6.4.4.2 Terrestrial Mammals

Effects on terrestrial mammals during the operational phase of the proposed development are not likely to be significant. This is due to the relatively small, low quality of the sections of habitat (c. 260m² of woodland, c. 21 metres of hedgerow, and 50 trees) to be removed and high levels of human disturbance recorded on site.

Therefore, the proposed development site is considered unlikely to affect the conservation status of terrestrial mammals protected under the Wildlife Act (as amended) and will not result in a likely significant negative effect at any geographic scale.

6.4.4.3 Bats

Owing to the nature of the proposed development (i.e. surface-level car park), it is already artificially lit. The presence of additional artificial lighting from buildings and external lighting across the proposed development during the operational phase is unlikely to further reduce the suitability of the proposed development site for commuting and foraging bats. Artificial lighting spill to retained woodland, hedgerows and treelines that exceeds 3 lux may reduce the activity of bats along those features however (BCT 2018).

Given the suburban character of the surrounding area, and that species of bats recorded within and immediately adjacent to the proposed development site are commonly recorded in urban environments, bats present in the vicinity of the proposed development are likely to be habituated to artificial lighting to some degree as is evidenced by the activity that was recorded during the surveys. Therefore, the potential impact from lighting during the operational phase of the proposed development on bat activity is not regarded to be significant at any geographic scale.

6.4.4.4 Birds

There will be a loss of suitable habitat that can be utilised by birds as a result of the proposed development. This will be undone after construction, due to the significant use of planting proposed in the landscaping design. The construction of the proposed development will result in the loss of suitable habitat that can be utilised by birds, however the extensive landscaping proposed, which includes creating 194m² of a "micro woodland", planting 120 no. semi-mature trees and 40 no. multi-stem trees (native or varieties of native species), and 420m of linear hedge will result in an increase of suitable habitat. Therefore, no operational phase impacts on birds with regards habitat loss are predicted.

Nevertheless, it is possible that birds using the site and environs may be permanently displaced as a result of increased noise and human activity levels during operation of the proposed development. Birds recorded within the subject lands are typical garden and suburban species which are considered to tolerate increased levels of disturbance providing suitable alternative habitat remains, which birds use as a refuge. The total

loss of birds habitats within the proposed development is small (c. 260m² of woodland, c. 21 metres of hedgerow, and 50 trees) when considered against the moderate to high quality habitats available within the vicinity such as Santry Demesne and to the southeast in Santry Park. Both of these areas are zoned as “OS-Open Space” to “*Preserve and provide for open space and recreational amenities*”, in the Fingal Development Plan 2023-2029, and therefore will not be developed during the current development plan. Overall, the development is predicted to result in a permanent significant impact on birds at a local scale until mitigation measures such as treeline, hedgerow and woodland habitats become established.

6.5 Mitigation Measures

6.5.1 Construction Phase

6.5.1.1 Nationally Designated Sites

A CEMP summarises the overall environmental management strategy that will be adopted and implemented during the construction phase of the proposed development. The purpose of the CEMP is to demonstrate how the proposed construction works can be delivered in a logical, sensible, and safe sequence with the incorporation of specific environmental control measures relevant to construction works of this nature. The CEMP sets out the mechanism by which environmental protection is to be achieved during the construction phase of the proposed development. The CEMP has been prepared in accordance with industry best practice guidance and is included as part of the planning application package. The CEMP will be updated by the client prior to the commencement of the construction phase, so as to include any additional measures required pursuant to conditions attached to any decision to grant approval. The CEMP will be implemented in full by the appointed contractor to the satisfaction of the client.

The following mitigation measures will be included in the CEMP and will be implemented to avoid or reduce the potential impacts of the proposed development on the Santry Demesne pNHA, North Dublin Bay pNHA and South Dublin Bay pNHA during construction. All of the mitigation measures will be implemented in full and are best practice, and tried and tested, effective control measures to protect the receiving environment: -

- Use of detergents should be carried out in designated areas draining to the foul sewer,
- Fuel/oil stores must be located away from the site drainage system and the edge of watercourses.
- Ensure adequate measures are identified to prevent or contain any spillage of fuel / oil such as creating a fall away from any drainage grid or blocking drainage points.
- Prevent oil pollution by:
 - Suitable bunded storage of fuel / oil and use of drip trays under plant.
 - An oil separator and / or an on-site spill kit.
 - Commercially available absorbent granules, pads or booms.
 - Store drums, oil and chemicals on an impervious base and within a secured bund.
- Ensure topsoil and /or spoil heaps are located at least 10m away from watercourses. Consider seeding them or covering with a tarpaulin to prevent silty runoff and losses due to wind.
- Storage facilities are to be checked on a regular basis to ensure any leaks or drips are fixed to prevent loss and pollution.
- Ensure appropriate spill response equipment is located near to the material in case of containment failure or material spills and ensure site staff know how to use it.
- Adequate stocks of absorbent materials such as sand or commercially available spill kits and booms should be available at all times.
- Provide waste bins on-site as appropriate.
- Provide construction vehicle wheel washing.
- Washout of concrete, cement and bentonite (where relevant) should be carried out in a designated impermeable contained area. The washout water itself should be disposed of off-site, or discharged to the foul sewer if authorised.

- All run-off leaving a disturbed area will pass through a sediment entrapment facility before it exits the site and flows downstream. These may be straw bales, silt fencing, silt barriers and / or diversion drains.

6.5.1.2 Habitats

The following mitigation measures are proposed to protect the trees to be retained on site:

- TM1: In order to preserve the trees to be retained within the proposed development, the root protection area must be calculated by a qualified arborist. Protective barriers as per standard guidance BS 5837:2012 must be installed to exclude construction activities from the root protection area of the trees.

6.5.1.3 Terrestrial mammals

As the proposed development will not result in any significant effect on the local small mammal population during construction or operation, no mitigation measures are required.

6.5.1.4 Bats

All bat species and their roost sites are strictly protected under both European and Irish legislation including:

- Wildlife Act, as amended
- Council Directive on the Conservation of Natural Habitats and of Wild Flora and Fauna, as amended
- European Communities (Birds and Natural Habitats) Regulations, as amended

It is an offence under Section 23 of the Wildlife Acts and under Section 51 of the European Communities (Birds and Natural Habitats) Regulations, to kill a bat or to damage or destroy the breeding or resting place of any bat species. Under the European Communities (Birds and Natural Habitats) Regulations it is not necessary that the action should be deliberate for an offence to occur. This places an onus of due diligence on anyone proposing to carry out works that might result in such damage or destruction. Under Section 54 of S.I. 477 of 2011, a derogation may be granted by the Minister where there is no satisfactory alternative, and the derogation is not detrimental to the maintenance of the populations of the species to which the Habitats Directive relates at a favourable conservation status in their natural range.

The following mitigation measures are proposed in relation to the trees scheduled for removal:

- BM1: The trees in the lands that are scheduled for removal will be rechecked by a suitably qualified ecologist for the presence of PRFs immediately prior to felling. This measure is proposed as PRFs could potentially develop in the period between completion of surveys to inform this report and the commencement of tree-felling works.

Where no PRF features are identified during the recheck, no further actions will be taken. Where PRFs are identified on trees, the following measures will be undertaken:

- BM2: Felling of confirmed and potential tree roosts will be undertaken between September and February when bats are least likely to be utilising tree roosts in an urban context.
- BM3: Subject to the health and safety considerations with regards to access to PRFs, PRFs will be inspected using an endoscope device by a suitably licenced and experienced professional to check for the presence of roosting bats. Access to the PRFs may be facilitated by using a mobile elevated working platform (MEWP) or similar, or using tree climbing equipment.

Where a bat or signs of a bat are identified in a PRF feature during the pre-felling checks of the tree, all works to the relevant tree will cease. A bat mitigation strategy will be prepared for the tree pruning/removal works and a derogation licence sought from the Minister for Housing, Local Government and Heritage to facilitate the legal removal of a roost.

Where a PRF or a set of PRFs on a tree are identified as being of low suitability for bats/unlikely to host roosting bats, e.g. due to their extent, condition, exposure etc., then felling/pruning of the relevant section of tree / relevant tree will proceed at discretion of the tree surgeon and under the supervision of a suitably qualified ecologist.

Where a PRF or a set of PRFs, is assessed as being of greater than low suitability for roosting bats, the following will apply:

- BM4: Where it is safe and appropriate to do so for both bats and humans, such trees may be felled using heavy plant to push over the tree. In order to ensure the optimum warning for any roosting bats that may still be present, the tree will be pushed lightly two to three times using the heavy plant machinery, with a pause of approximately 30 seconds between each nudge to allow bats to become active. The tree should then be pushed to the ground slowly and should remain in place until it is inspected by a bat specialist.

Or

- BM5: Trees will be felled “in section” where the sections can be rigged to avoid sudden movements or jarring of the sections. Felled sections to be inspected when on ground and left in place for 24hrs before mulching.

6.5.1.5 Birds

The following mitigation measures are proposed to comply with legislation protecting birds and their nests:

- BBM1: In order to avoid disturbance of breeding birds, their nests, eggs and/or their unflown young, any tree felling, or hedgerow, scrub or brash removal works will be undertaken outside of the nesting season (1st March to 31st August inclusive).

Where this seasonal restriction cannot be observed, then:

- BBM2: A check of woodland, trees and hedgerows within the proposed development site for breeding birds will be undertaken during the appropriate season (between 1st March and 31st August) by a suitably qualified and experienced ecologist. The appointed ecologist will confirm whether birds are nesting within suitable habitat affected by or immediately adjacent to the proposed development site. Should nesting birds be encountered during these checks, the vegetation removal in the vicinity of the nest(s) will be delayed until nesting has finished. This will comprise another inspection by an ecologist to check that young birds have fledged and no new nests are present on site.

6.5.2 Operational Phase

6.5.2.1 Nationally Designated Sites

A range of SuDS (Sustainable Drainage Systems) measures will be implemented as design mitigation at construction phase to control flows and improve the quality of surface water run-off from the site during the operational phase of the development. These include source control, site control and regional control SuDS measures. These will be fully functional during operational phase.

Proposed source control devices include green roofing, planted areas and permeable paving. Green roofing is proposed at the roofs of each apartment block. The substrate and the plant layers in a green roof absorb large amounts of rainwater and release it back into the atmosphere by transpiration and evaporation. They also filter water as it passes through the layers, so the run-off, when it is produced, has fewer pollutants. Rainfall not retained by green roofs is detained, effectively increasing the time to peak and slowing peak flows.

It is proposed to introduce permeable paving at private paved areas and roadside parking bays throughout the development. The goal of permeable paving is to control stormwater at the source to reduce runoff. In addition to reducing surface runoff, permeable paving has the dual benefit of improving water quality by trapping suspended solids and filtering pollutants in the substrata layers.

Open grassed areas with low level planting are proposed in various open spaces throughout the site, which will act as soft scape and will significantly slow down and reduce the amount of surface water runoff from the open spaces.

Flow control devices are proposed before each outfall to the public network, with offline attenuation systems provided to store excess rainwater during storm events. Flows will be limited to the greenfield equivalent runoff rate

6.5.2.2 Habitats

6.5.2.2.1 Landscape Design

As outlined in **Chapter 14** (Landscape and Visual). SuDs has been incorporated into the design with a key design feature in respect of biodiversity relating to the inclusion of green roofs. Proposed landscape planting incorporated into the proposed development design will be implemented by the appointed contractor. The Landscape Masterplan for this proposed development (**Chapter 14** Landscape and Visual of Volume 2 of this EIAR) and accompanying Landscape Report includes the following: use of native species, pollinator-friendly species, hedgerows, treelines, wildflower meadows and micro woodland.

6.5.2.2.2 Use of Native species

As part of the iterative design process, consultations between the ecologist and landscape designer have ensured that the landscape design is cognisant of incorporating biodiversity into developments, a theme that is also identified in the third National Biodiversity Action Plan to “mainstream biodiversity”. The tree population associated with the proposed development site is predominantly young (less than 20 years old). These are trees that have been planted as part of the Swift Square Office Park and associated temporary car park, by the applicant. The removal of these trees will be mitigated by the creation of 194m² of a “micro woodland”, planting 120 no. semi-mature trees and 40 no. multi-stem trees (native or varieties of native species), and 420m of linear hedge. In this regard, the replanting near to 100% native tree species will be undertaken, with species including silver birch *Betula pendula*, downy birch *Betula pubescens*, Scots pine *Pinus sylvestris*, bird cherry *Prunus padus*, pedunculate oak *Quercus robur* and white willow *Salix alba*.

6.5.2.2.3 Pollinator friendly species

The Landscape Masterplan for this proposed development (**Chapter 14** Landscape and Visual of Volume 2 of this EIAR) has been designed to include biodiversity and ecological enhancement measures to strengthen green infrastructure within the wider landscape. . This includes the use of ornamental shrub and herbaceous groundcover planting, with an emphasis on those species listed as pollinator friendly under the All-Ireland Pollinator Plan 2021-2025. . The full species list is specified in the Landscape Masterplan drawing which accompanies this report.

6.5.2.2.4 Woodland

Mitigation for the removal of woodland habitats recorded during the habitat survey (outlined in **section 6.2.9.1** Habitats and Flora Survey) are as follows:

- WLM1: The creation of 194m² of a “micro woodland which will consist of native tree species (e.g. those tree species included in treelines below, as well as alder *Alnus glutinosa*, hazel, hawthorn, holly *Ilex aquifolium*, blackthorn *Prunus spinosa*, dog-rose *Rosa canina* and gorse *Ulex europaeus*) planted closely together in a “Miyawaki Method” style, which is used to encourage more biodiversity. The micro woodland will include native canopy trees, and mostly native midstorey and understorey planting, with the full species list specified in the accompanying Landscape Masterplan.

6.5.2.2.5 Hedgerows

Mitigation for the removal of hedgerow habitats recorded during the habitat survey (outlined in **section 6.2.9.1** Habitats and Flora Survey) are as follows:

- HM1: The planting of 420m of linear hedgerows with a range of native herbaceous and tree/shrub species (e.g. wild privet *Ligustrum vulgare* and hornbeam *Carpinus betulus*) will be planted along the western perimeter of and proposed development. When established, this will allow for the development of biodiversity corridors for fauna.

6.5.2.2.6 Treelines

Mitigation for the removal of treeline habitats recorded during the habitat survey (outlined in **section 6.2.9.1** Habitats and Flora Survey) are as follows:

- TM1: The planting of native 120 no. semi-mature trees and 40 no. multi-stem trees (native or varieties of native species, e.g. silver birch *Betula pendula*, scots pine *Pinus sylvestris*, bird cherry *Prunus padus*