

Appendix 5-1 The Qualifying Interests (QIs) and Special Conservation Interests (SCIs) of the European and National sites in the vicinity of the Proposed Development site

European Site Name [Code] and its Qualifying interest(s) / Special Conservation Interest(s) (*Priority Annex I Habitats)	Location Relative to the Proposed Development Site
Special Area of Conservation (SAC)	
<p>Knocksink Wood SAC [000725]</p> <p>7220 Petrifying springs with tufa formation (<i>Cratoneurion</i>)*</p> <p>91A0 Old sessile oak woods with <i>Ilex</i> and <i>Blechnum</i> in the British Isles</p> <p>91E0 Alluvial forests with <i>Alnus glutinosa</i> and <i>Fraxinus excelsior</i> (<i>Alno-Padion</i>, <i>Alnion incanae</i>, <i>Salicion albae</i>)*</p> <p>S.I. No. 93/2019 - European Union Habitats (Knocksink Wood Special Area Of Conservation 000725) Regulations 2019</p> <p>NPWS (2021) Conservation Objectives: Knocksink Wood SAC 000725. Version 1. National Parks and Wildlife Service, Department of Housing, Local Government and Heritage.</p>	<p>Located c. 2.8km south of the Proposed Development site.</p>
<p>Ballyman Glen SAC [000713]</p> <p>7220 Petrifying springs with tufa formation (<i>Cratoneurion</i>)*</p> <p>7230 Alkaline fens</p> <p>S.I. No. 92/2019 - European Union Habitats (Ballyman Glen Special Area Of Conservation 000713) Regulations 2019</p> <p>NPWS (2019) Conservation Objectives: Ballyman Glen SAC 000713. Version 1. National Parks and Wildlife Service, Department of Culture, Heritage and the Gaeltacht.</p>	<p>Located c. 3.5km south of the Proposed Development site.</p>
<p>Wicklow Mountains SAC [002122]</p> <p>3110 Oligotrophic waters containing very few minerals of sandy plains (<i>Littorelletalia uniflorae</i>)</p> <p>3130 Oligotrophic to mesotrophic standing waters with vegetation of the Littorelletea uniflorae and/or Isoeto-Nanojuncetea</p> <p>3160 Natural dystrophic lakes and ponds</p> <p>4010 Northern Atlantic wet heaths with <i>Erica tetralix</i></p> <p>4030 European dry heaths</p> <p>4060 Alpine and Boreal heaths</p> <p>6130 <i>Calaminarian</i> grasslands of the <i>Violetalia calaminariae</i></p> <p>6230 Species-rich <i>Nardus</i> grasslands, on siliceous substrates in mountain areas (and submountain areas, in Continental Europe)*</p> <p>7130 Blanket bogs (* if active bog)</p> <p>8110 Siliceous scree of the montane to snow levels (<i>Androsacetalia alpinae</i> and <i>Galeopsietalia ladani</i>)</p> <p>8210 Calcareous rocky slopes with chasmophytic vegetation</p> <p>8220 Siliceous rocky slopes with chasmophytic vegetation</p> <p>91A0 Old sessile oak woods with <i>Ilex</i> and <i>Blechnum</i> in the British Isles</p> <p>1355 <i>Lutra lutra</i> (Otter)</p>	<p>Located c. 4.3km southwest of the Proposed Development site.</p>

European Site Name [Code] and its Qualifying interest(s) / Special Conservation Interest(s) (*Priority Annex I Habitats)	Location Relative to the Proposed Development Site
<p>NPWS (2017) <i>Conservation Objectives: Wicklow Mountains SAC 002122</i>. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage, Regional, Rural and Gaeltacht Affairs.</p>	
<p>South Dublin Bay SAC [000210]</p> <p>1140 Mudflats and sandflats not covered by seawater at low tide 1210 Annual vegetation of drift lines 1310 <i>Salicornia</i> and other annuals colonising mud and sand 2110 Embryonic shifting dunes</p> <p><i>S.I. No. 525/2019 - European Union Habitats (South Dublin Bay Special Area of Conservation 000210) Regulations 2019</i></p> <p>NPWS (2013) <i>Conservation Objectives: South Dublin Bay SAC 000210</i>. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.</p>	<p>Located c. 6.6km north of the Proposed Development site.</p>
<p>Rockabill to Dalkey Island SAC [003000]</p> <p>1170 Reefs 1351 Harbour porpoise <i>Phocoena phocoena</i></p> <p><i>S.I. No. 94/2019 - European Union Habitats (Rockabill To Dalkey Island Special Area Of Conservation 003000) Regulations 2019</i></p> <p>NPWS (2013) <i>Conservation Objectives: Rockabill to Dalkey Island SAC 003000</i>. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.</p>	<p>Located c. 6.6km east of the Proposed Development site.</p>
<p>Bray Head SAC [000714]</p> <p>1230 Vegetated sea cliffs of the Atlantic and Baltic coasts 4030 European dry heaths</p> <p><i>S.I. No. 620/2017 - European Union Habitats (Bray Head Special Area of Conservation 000714) Regulations 2017</i></p> <p>NPWS (2017) <i>Conservation Objectives: Bray Head SAC 000714</i>. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage, Regional, Rural and Gaeltacht Affairs.</p>	<p>Located c. 8km southeast of the Proposed Development site.</p>
<p>Glenasmole Valley SAC [001209]</p> <p>6210 Semi-natural dry grasslands and scrubland facies on calcareous substrates (<i>Festuco-Brometalia</i>) (* important orchid sites) 6410 <i>Molinia</i> meadows on calcareous, peaty or clayey-silt-laden soils (<i>Molinion caeruleae</i>) 7220 Petrifying springs with tufa formation (<i>Cratoneurion</i>)*</p> <p><i>S.I. No. 345/2021 - European Union Habitats (Glenasmole Valley Special Area of Conservation 001209) Regulations 2021</i></p>	<p>Located c. 10.3km west of the Proposed Development site.</p>

European Site Name [Code] and its Qualifying interest(s) / Special Conservation Interest(s) (*Priority Annex I Habitats)	Location Relative to the Proposed Development Site
NPWS (2021) <i>Conservation Objectives: Glenasmole Valley SAC 001209. Version 1.</i> National Parks and Wildlife Service, Department of Housing, Local Government and Heritage.	
Glen of the Downs SAC (000719) 91A0 Old sessile oak woods with <i>Ilex</i> and <i>Blechnum</i> in the British Isles <i>S.I. No. 526/2019 - European Union Habitats (Glen of the Downs Special Area of Conservation 000719) Regulations 2019</i> NPWS (2020) <i>Conservation objectives: Glen of the Downs SAC [000719]. Version 1.0.</i> Department of Housing, Local Government and Heritage.	Located c. 11.2km southeast of the Proposed Development site.
North Dublin Bay SAC [000206] 1140 Mudflats and sandflats not covered by seawater at low tide 1210 Annual vegetation of drift lines 1310 <i>Salicornia</i> and other annuals colonising mud and sand 1330 Atlantic salt meadows (<i>Glaucopuccinellietalia maritimae</i>) 1395 Petalwort <i>Petalophyllum ralfsii</i> 1410 Mediterranean salt meadows (<i>Juncetalia maritimi</i>) 2110 Embryonic shifting dunes 2120 Shifting dunes along the shoreline with <i>Ammophila arenaria</i> (white dunes) 2130 Fixed coastal dunes with herbaceous vegetation (grey dunes)* 2190 Humid dune slacks <i>S.I. No. 524/2019 - European Union Habitats (North Dublin Bay Special Area of Conservation 000206) Regulations 2019</i> NPWS (2013) <i>Conservation Objectives: North Dublin Bay SAC 000206. Version 1.</i> National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.	Located c. 12km north of the Proposed Development site.
Carriggower Bog SAC [000716] 7140 Transition mires and quaking bogs <i>S.I. No. 293/2018 - European Union Habitats (Carriggower Bog Special Area of Conservation 000716) Regulations 2018</i> NPWS (2019) <i>Conservation Objectives: Carriggower Bog SAC 000716. Version 1.</i> National Parks and Wildlife Service, Department of Culture, Heritage and the Gaeltacht.	Located c. 14.2km south of the Proposed Development site.
Howth Head SAC [000202] 1230 Vegetated sea cliffs of the Atlantic and Baltic coasts 4030 European dry heaths <i>S.I. No. 524/2021 - European Union Habitats (Howth Head Special Area of Conservation 000202) Regulations 2021</i>	Located c. 15.2km northeast of the Proposed Development site.

European Site Name [Code] and its Qualifying interest(s) / Special Conservation Interest(s) (*Priority Annex I Habitats)	Location Relative to the Proposed Development Site
NPWS (2016) <i>Conservation Objectives: Howth Head SAC 000202</i> . Version 1. National Parks and Wildlife Service, Department of Arts, Heritage, Regional, Rural and Gaeltacht Affairs.	
The Murrough Wetlands SAC [002249] 1210 Annual vegetation of drift lines 1220 Perennial vegetation of stony banks 1330 Atlantic salt meadows (<i>Glauco-Puccinellietalia maritimae</i>) 1410 Mediterranean salt meadows (<i>Juncetalia maritimi</i>) 7210 Calcareous fens with <i>Cladium mariscus</i> and species of the Caricion davallianae* 7230 Alkaline fens <i>S.I. No. 622/2017 - European Union Habitats (The Murrough Wetlands Special Area of Conservation 002249) Regulations 2017</i> NPWS (2021) <i>Conservation Objectives: The Murrough Wetlands SAC 002249</i> . Version 1. National Parks and Wildlife Service, Department of Housing, Local Government and Heritage.	Located c. 16.6km southeast of the Proposed Development site.
Special Protection Area (SPA)	
Wicklow Mountains SPA [004040] A098 Merlin <i>Falco columbarius</i> A103 Peregrine <i>Falco peregrinus</i> <i>S.I. No. 586/2012 - European Communities (Conservation of Wild Birds (Wicklow Mountains Special Protection Area 004040)) Regulations 2012.</i> NPWS (2022) <i>Conservation objectives for Wicklow Mountains SPA [004040]. First Order Site-specific Conservation Objectives</i> . Version 1.0. Department of Housing, Local Government and Heritage.	Located c. 4.3km southwest of the Proposed Development site.
South Dublin Bay and River Tolka Estuary SPA [004024] A046 Light-bellied Brent Goose <i>Branta bernicla hrota</i> A130 Oystercatcher <i>Haematopus ostralegus</i> A137 Ringed Plover <i>Charadrius hiaticula</i> A141 Grey Plover <i>Pluvialis squatarola</i> A143 Knot <i>Calidris canutus</i> A144 Sanderling <i>Calidris alba</i> A149 Dunlin <i>Calidris alpina</i> A157 Bar-tailed Godwit <i>Limosa lapponica</i> A162 Redshank <i>Tringa totanus</i> A179 Black-headed Gull <i>Chroicocephalus ridibundus</i> A192 Roseate Tern <i>Sterna dougallii</i> A193 Common Tern <i>Sterna hirundo</i> A194 Arctic Tern <i>Sterna paradisaea</i> A999 Wetland	Located c. 6.6km north of the Proposed Development site.

European Site Name [Code] and its Qualifying interest(s) / Special Conservation Interest(s) (*Priority Annex I Habitats)	Location Relative to the Proposed Development Site
<p><i>S.I. No. 212/2010 - European Communities (Conservation of Wild Birds (South Dublin Bay and River Tolka Estuary Special Protection Area 004024)) Regulations 2010.</i></p> <p>NPWS (2015) <i>Conservation Objectives: South Dublin Bay and River Tolka Estuary SPA 004024</i>. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.</p>	
<p>Dalkey Islands SPA [004172]</p> <p>A192 Roseate Tern <i>Sterna dougallii</i> A193 Common Tern <i>Sterna hirundo</i> A194 Arctic Tern <i>Sterna paradisaea</i></p> <p><i>S.I. No. 238/2010 - European Communities (Conservation of Wild Birds (Dalkey Islands Special Protection Area 004172)) Regulations 2010.</i></p> <p>NPWS (2022) <i>Conservation objectives for Dalkey Islands SPA [004172]. First Order Site-specific Conservation Objectives</i>. Version 1.0. Department of Housing, Local Government and Heritage.</p>	<p>Located c. 7.6km northeast of the Proposed Development site.</p>
<p>North Bull Island SPA [004006]</p> <p>A046 Light-bellied Brent Goose <i>Branta bernicla hrota</i> A048 Shelduck <i>Tadorna tadorna</i> A052 Teal <i>Anas crecca</i> A054 Pintail <i>Anas acuta</i> A056 Shoveler <i>Anas clypeata</i> A130 Oystercatcher <i>Haematopus ostralegus</i> A140 Golden Plover <i>Pluvialis apricaria</i> A141 Grey Plover <i>Pluvialis squatarola</i> A143 Knot <i>Calidris canutus</i> A144 Sanderling <i>Calidris alba</i> A149 Dunlin <i>Calidris alpina</i> A156 Black-tailed Godwit <i>Limosa limosa</i> A157 Bar-tailed Godwit <i>Limosa lapponica</i> A160 Curlew <i>Numenius arquata</i> A162 Redshank <i>Tringa totanus</i> A169 Turnstone <i>Arenaria interpres</i> A179 Black-headed Gull <i>Chroicocephalus ridibundus</i> A999 Wetlands & Waterbirds</p> <p><i>S.I. No. 211/2010 - European Communities (Conservation of Wild Birds (North Bull Island Special Protection Area 004006)) Regulations 2010.</i></p> <p>NPWS (2015) <i>Conservation Objectives: North Bull Island SPA 004006</i>. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.</p>	<p>Located c. 12km northeast of the Proposed Development site.</p>
<p>North-West Irish Sea SPA [004236]</p> <p>A065 Common Scoter <i>Melanitta nigra</i></p>	<p>Located c. 12km northeast of the Proposed Development site.</p>

European Site Name [Code] and its Qualifying interest(s) / Special Conservation Interest(s) (*Priority Annex I Habitats)	Location Relative to the Proposed Development Site
<p>A001 Red-throated Diver <i>Gavia stellata</i> A003 Great Northern Diver <i>Gavia immer</i> A009 Fulmar <i>Fulmarus glacialis</i> A013 Manx Shearwater <i>Puffinus puffinus</i> A018 Shag <i>Phalacrocorax aristotelis</i> A017 Cormorant <i>Phalacrocorax carbo</i> A179 Black-headed Gull <i>Chroicocephalus ridibundus</i> A182 Common Gull <i>Larus canus</i> A183 Lesser Black-backed Gull <i>Larus fuscus</i> A184 Herring Gull <i>Larus argentatus</i> A187 Great Black-backed Gull <i>Larus marinus</i> A188 Kittiwake <i>Rissa tridactyla</i> A195 Little Tern <i>Sterna albifrons</i> A192 Roseate Tern <i>Sterna dougallii</i> A193 Common Tern <i>Sterna hirundo</i> A194 Arctic Tern <i>Sterna paradisaea</i> A204 Puffin <i>Fratercula arctica</i> A200 Razorbill <i>Alca torda</i> A199 Guillemot <i>Uria aalge</i> A862 Little Gull <i>Hydrocoloeus minutus</i></p> <p>NPWS (2023) <i>Conservation Objectives: North-west Irish Sea SPA 004236. Version 1.</i> National Parks and Wildlife Service, Department of Housing, Local Government and Heritage.</p>	
<p>Howth Head Coast SPA [004113] A188 Kittiwake <i>Rissa tridactyla</i></p> <p><i>S.I. No. 185/2012 - European Communities (Conservation of Wild Birds (Howth Head Coast Special Protection Area 004113)) Regulations 2012.</i> NPWS (2022) <i>Conservation objectives for Howth Head Coast SPA [004113]. First Order Site-specific Conservation Objectives.</i> Version 1.0. Department of Housing, Local Government and Heritage.</p>	<p>Located c. 16.2km northeast of the Proposed Development site.</p>
<p>The Murrough SPA [004186] A001 Red-throated Diver <i>Gavia stellata</i> A043 Greylag Goose <i>Anser anser</i> A046 Light-bellied Brent Goose <i>Branta bernicla hrota</i> A050 Wigeon <i>Anas penelope</i> A052 Teal <i>Anas crecca</i> A179 Black-headed Gull <i>Chroicocephalus ridibundus</i> A184 Herring Gull <i>Larus argentatus</i> A195 Little Tern <i>Sterna albifrons</i></p> <p><i>S.I. No. 298/2011 - European Communities (Conservation of Wild Birds (The Murrough Special Protection Area 004186)) Regulations 2011.</i></p>	<p>Located c. 17.6km northeast of the Proposed Development site.</p>

European Site Name [Code] and its Qualifying interest(s) / Special Conservation Interest(s) (*Priority Annex I Habitats)	Location Relative to the Proposed Development Site
NPWS (2022) <i>Conservation objectives for The Murrough SPA [004186]. First Order Site-specific Conservation Objectives</i> Version 1.0. Department of Housing, Local Government and Heritage.	
Proposed National Heritage Areas (pNHA)	
Dingle Glen pNHA [001207] Variety of habitat present, including woodland. The importance in this site lies in the variety of habitats within a relatively small area, mainly for its woodland regeneration structure. The site is secluded and not subject to much disturbance.	Located c. 560m from the Proposed Development
Ballybetagh Bog pNHA [001202] Although the site contains samples of fen and marsh vegetation, the main interest lies in its historical value. Ballybetagh Bog has become a classical site of quaternary studies due to the intensity of research. The bones of Giant Irish Deer have been found in upwards of 150 sites in the country, but nowhere else have their surroundings been subjected to such intense investigation.	Located c 1.4 from the Proposed Development
Knocksink Wood pNHA [000725] See above under Knocksink Wood SAC.	Located c 2.9 from the Proposed Development
Ballyman Glen pNHA [000713] See above under Ballyman Glen SAC.	Located c 3.5 from the Proposed Development
Loughlinstown Woods pNHA [001211] This site is a good example of demesne-type mixed woodland. It is now used chiefly for amenity purposes.	Located c 3.6 from the Proposed Development
Fitzsimon's Wood pNHA [001753] Birch woodland, which is very rare in County Dublin.	Located c 3.8 from the Proposed Development
Powerscourt Woodland pNHA [001768] The site is designated for its woodland and for the rich flora on the banks of the River Dargle which flows through it. Presence of rare Myxomycete fungus, <i>Didymium clavus</i> .	Located c 5km from the Proposed Development
Dalkey Coastal Zone and Killiney Hill pNHA [001206] Good example of a coastal system with habitats ranging from sub-littoral to coastal heath. Flora is well developed and includes some scarce species. The islands are important bird sites. See Rockabill to Dalkey Island SAC and Dalkey Islands SPA.	Located c 5.1 from the Proposed Development
Dargle River Valley pNHA [001754] See above under Knocksink Wood SAC.	Located c.6 from the Proposed Development
South Dublin Bay pNHA [000210] See above under South Dublin Bay SAC and South Dublin Bay and River Tolka Estuary SPA.	Located c.6.6 from the Proposed Development
Great Sugar Loaf pNHA [001769] The site is designated for its ecological and geological features of interest, such as upland plant communities and rich geology. It also a prominent feature in the landscape of north Co. Wicklow.	Located c.6.8 from the Proposed Development

European Site Name [Code] and its Qualifying interest(s) / Special Conservation Interest(s) (*Priority Annex I Habitats)	Location Relative to the Proposed Development Site
Glencree Valley pNHA [001755] Good example of a deciduous woodland and diversity of habitats including upland river and boggy flushes.	Located c.7.1 from the Proposed Development
Boosterstown Marsh pNHA [001205] See above under South Dublin Bay and River Tolka Estuary SPA.	Located c.7.7 from the Proposed Development
Bray Head pNHA [000714] See above under Bray Head SAC.	Located c.8km from the Proposed Development
Kilmacanoge Marsh pNHA [000724] Diversity of species-rich wetland habitats within a relatively small area and presence of some rare invertebrates, including <i>Oxycera falleni</i> , <i>Oxycera morrisii</i> and <i>Parhelophilus consimilis</i> .	Located c.8.5 from the Proposed Development
Powerscourt Waterfall pNHA [001767] The site is designated for its waterfall which is one of the most spectacular ones found in Ireland, as well as its good exposure of schist and granite. Presence of scarce and rare flowering plants, lichens, bryophytes and mosses.	Located c.8.8 from the Proposed Development
Glenasmole Valley pNHA [001209] See above under Glenasmole Valley SAC	Located c.10.3 from the Proposed Development
Dodder Valley pNHA [000991] The last remaining stretch of natural river bank vegetation on the River Dodder in the built-up Greater Dublin Area.	Located c.10.5 from the Proposed Development
Grand Canal pNHA [002104] Diversity of species canal supports and presence of legally protected plant species, opposite-leaved pondweed <i>Groenlandia densa</i> .	Located c.11 from the Proposed Development
Glen of the Downs pNHA [000719] See above under Glen of the Downs SAC.	Located c.11.2 from the Proposed Development
Dolphins, Dublin Docks pNHA [000201] See above under South Dublin Bay and River Tolka Estuary SPA	Located c.11.3 from the Proposed Development
North Dublin Bay pNHA [000206] See above under North Dublin Bay SAC, North Bull Island SPA and South Dublin Bay and River Tolka Estuary SPA	Located c.12 from the Proposed Development
Royal Canal pNHA [002103] The site is designated for its canal which is a man-made waterway linking the River Liffey at Dublin to the River Shannon near Tarmonbarry. The ecological value of the canal lies more in the diversity of species it supports along its linear habitats than in the presence of rare species. It crosses through agricultural land and therefore provides a refuge for species threatened by modern farming methods.	Located c.12.3 from the Proposed Development
Carriggower Bog pNHA [000716] See under Carriggower Bog SAC.	Located c.14.2 from the Proposed Development

European Site Name [Code] and its Qualifying interest(s) / Special Conservation Interest(s) (*Priority Annex I Habitats)	Location Relative to the Proposed Development Site
Lugmore Glen pNHA [001212] Presence of the rare Red Data Book species yellow archangel <i>Lamiastrum galeobdolon</i> .	Located c.14.3 from the Proposed Development
Howth Head pNHA [000202] See above under Howth Head SAC and Howth Head Coast SPA	Located c.15.2 from the Proposed Development
Vartry Reservoir pNHA [001771] The site is designated for its wintering waterfowl, its diversity of habitats, as well as for the presence of some plant species that are relatively rare in eastern Ireland.	Located c.15.3 from the Proposed Development
The Murrough pNHA [000730] See under The Murrough SPA	Located c.15.8 from the Proposed Development
Liffey Valley pNHA [000128] Presence of legally protected plant species, hairy St. John's-wort <i>Hypericum hirsutum</i> , rare Red List plant species green figwort <i>Scrophularia umbrosa</i> and yellow archangel <i>Lamiastrum galeobdolon</i> and the diversity of habitat present.	Located c.16.4 from the Proposed Development
Slade of Saggart and Crooksling Glen pNHA [000211] Wooded river valley and small wetland system. Presence of rare plant species (yellow archangel <i>Lamium galeobdolon</i>), rare invertebrate (<i>Halticoptera patellana</i>) and a variety of wildfowl species.	Located c.16.7 from the Proposed Development
Baldoye Bay pNHA [000199] See above under Baldoye Bay SAC and Baldoye Bay SPA	Located c.17.6 from the Proposed Development
Santry Demesne pNHA [000178] Presence of legally protected plant species, hairy St. John's-wort <i>Hypericum hirsutum</i> , and woodland.	Located c.17.9 from the Proposed Development

Appendix 5-2 Criteria for Ecological Evaluation

Ecological Valuation Criteria
<p>International Importance:</p> <ul style="list-style-type: none">• '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.¹• 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)² of the following:<ul style="list-style-type: none">◦ Species of bird, listed in Annex I and/or referred to in Article 4(2) of the Birds Directive; and / or◦ Species of animal and plants listed in Annex II and/or IV of the Habitats Directive.• Ramsar Site (Convention on Wetlands of International Importance Especially Waterfowl Habitat 1971).• World Heritage Site (Convention for the Protection of World Cultural & Natural Heritage, 1972).• Biosphere Reserve (UNESCO Man & The Biosphere Programme).• Site hosting significant species populations under the Bonn Convention (Convention on the Conservation of Migratory Species of Wild Animals, 1979).• Site hosting significant populations under the Berne Convention (Convention on the Conservation of European Wildlife and Natural Habitats, 1979).• Biogenetic Reserve under the Council of Europe.• European Diploma Site under the Council of Europe.• Salmonid water designated pursuant to the European Communities (Quality of Salmonid Waters) Regulations, 1988, (S.I. No. 293 of 1988).³ <p>National Importance:</p> <ul style="list-style-type: none">• 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.

¹ See Articles 3 and 10 of the Habitats Directive.

² It is suggested that, in general, 1% of the national population of such species qualifies as an internationally important population. However, a smaller population may qualify as internationally important where the population forms a critical part of a wider population or the species is at a critical phase of its life cycle.

³ Note that such waters are designated based on these waters' capabilities of supporting salmon (*Salmo salar*), trout (*Salmo trutta*), char (*Salvelinus*) and whitefish (*Coregonus*).

- 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)⁴ of the following:
 - Species protected under the Wildlife Acts; and/or
 - Species listed on the relevant Red Data list.
- Site containing 'viable areas'⁵ of the habitat types listed in Annex I of the Habitats Directive.

County Importance:

- Area of Special Amenity.⁶
- 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)⁷ of the following:
 - Species of bird, listed in Annex I and/or referred to in Article 4(2) of the Birds Directive;
 - Species of animal and plants listed in Annex II and/or IV of the Habitats Directive;
 - Species protected under the Wildlife Acts; and/or
 - Species listed on the relevant Red Data list.
- Site containing area or areas of the habitat types listed in Annex I of the Habitats Directive that do not fulfil the criteria for valuation as of International or National importance.
- County important populations of species, or viable areas of semi-natural habitats or natural heritage features identified in the National or Local Biodiversity Action Plan (BAP) if this has been prepared.
- Sites containing semi-natural habitat types with high biodiversity in a county context and a high degree of naturalness, or populations of species that are uncommon within the county.
- Sites containing habitats and species that are rare or are undergoing a decline in quality or extent at a national level.

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;

⁴ It is suggested that, in general, 1% of the national population of such species qualifies as a nationally important population. However, a smaller population may qualify as nationally important where the population forms a critical part of a wider population or the species is at a critical phase of its life cycle.

⁵ A 'viable area' is defined as an area of a habitat that, given the particular characteristics of that habitat, was of a sufficient size and shape, such that its integrity (in terms of species composition, and ecological processes and function) would be maintained in the face of stochastic change (for example, as a result of climatic variation).

⁶ It should be noted that whilst areas such as Areas of Special Amenity, areas subject to a Tree Preservation Order and Areas of High Amenity are often designated on the basis of their ecological value, they may also be designated for other reasons, such as their amenity or recreational value. Therefore, it should not be automatically assumed that such sites are of County importance from an ecological perspective.

⁷ It is suggested that, in general, 1% of the County population of such species qualifies as a County important population. However, a smaller population may qualify as County importance where the population forms a critical part of a wider population or the species is at a critical phase of its life cycle.



-
- Resident or regularly occurring populations (assessed to be important at the Local level)⁸ of the following:
 - Species of bird, listed in Annex I and/or referred to in Article 4(2) of the Birds Directive;
 - Species of animal and plants listed in Annex II and/or IV of the Habitats Directive;
 - Species protected under the Wildlife Acts; and/or
 - Species listed on the relevant Red Data list.
 - Sites containing semi-natural habitat types with high biodiversity in a local context and a high degree of naturalness, or populations of species that are uncommon in the locality;
 - Sites or features containing common or lower value habitats, including naturalised species that are nevertheless essential in maintaining links and ecological corridors between features of higher ecological value.



Local Importance (lower value):



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


⁸ It is suggested that, in general, 1% of the local population of such species qualifies as a locally important population. However, a smaller population may qualify as locally important where the population forms a critical part of a wider population or the species is at a critical phase of its life cycle.


Appendix 5-3 Potential Roost Feature (PRF) photos of tree PRFs identified



Tree	PRFs (with indicative heights)	Photograph
Tree 1 Mature Ash	Knothole 8m	
Tree 2 Ash Tag no. 0872	Peeling Bark 7 m	No corresponding photo
Tree 3 - Sycamore	Mat of dead ivy around tops of main trunks 8 – 9 m	



<p>Tree 4 – Ash Tag no. 0808</p>	<p>Dense mat of ivy around main trunk 3 – 10 m</p>	
<p>Tree 5 – Rowan Tag no. 0695</p>	<p>Set of Knotholes 3 m</p>	



<p>Tree 6 – Mature Ash Tag no. 0698</p>	<p>Knothole 6 -7 m</p>	 A photograph of a mature ash tree with a red circle highlighting a knothole in the canopy. The tree is large and has many green leaves. The knothole is located in the upper part of the tree, near the top of the trunk.
<p>Tree 7 – Ash Tag no. 1113</p>	<p>Knothole – 3m</p>	 A photograph of an ash tree with a red circle highlighting a knothole on the trunk. The tree is smaller than the one in the first photo and has many green leaves. The knothole is located on the trunk, about 3 meters high.



Tree 8 – Rowan Tag no. 0690	Tear Out 3 m	
--------------------------------	-----------------	--



Tree 9 – Ash Tag no. 0693	Wound 4 m	
------------------------------	--------------	---

<p>Tree 10 – Hawthorn Tag no. 0688</p>	<p>Dense mat of ivy 1 – 5 m</p>	
<p>Tree 11 – Mature Ash Tag no. 1155</p>	<p>Dense mat of ivy 1 – 10 m</p>	

<p>Tree 12 - Ash 1161</p>	<p>Dense dead mat of ivy around trunk 1 – 6 m</p>	
<p>Tree 13 – Ash Tag no. 1158</p>	<p>Knotholes 3 – 7 m</p>	

<p>Tree 14 – Beech Tag no. 1165</p>	<p>Split from Base 4m</p>	
<p>Tree 15 – Mature Ash Tag no. 1048</p>	<p>Peeling Bark decaying tree with peeling bark on multiple limbs - at least one limb with gap under bark</p>	

<p>Tree 16 – Mature Ash Tag no. 0629</p>	<p>Knothole 7 m</p>	 A photograph of a mature ash tree with a red circle marking a knothole in its trunk. The tree is tall and has a dense canopy of green leaves. A dark building is visible in the background.
<p>Tree 17 – Mature Sycamore Tag no. 0787</p>	<p>Large Cavity/Wound 3 m</p>	 A photograph of a mature sycamore tree with a red circle marking a large cavity or wound in its trunk. The tree is tall and has a dense canopy of green leaves. The ground is covered with green vegetation.

<p>Tree 18 – Ash Tag no. 0644</p>	<p>Collapse of trunk 4 – 5 m</p>	
<p>Tree 19 - Ash</p>	<p>Canker 5 m</p>	

<p>Tree 20 – Ash 0614</p>	<p>Knothole 2m</p>	
-------------------------------	------------------------	--

Appendix 5-4 Relevant projects in the vicinity of the Proposed Development site with regard to the cumulative assessment (projects granted permission within the last five years included)

Planning/Project Reference	Developer / Applicant	Grant of permission	Description
ABP30397819	Victoria Homes Ltd.	26/06/2019	Strategic Housing Development 30 no. houses and 173 no. apartments with all associated site works, Glenamuck Road South, Kilternan, Dublin 18.
D19B/0358	Martin Hunter	24/09/2019	Permission for construction of a single storey extension with a 'mansyard' type roof to the side & rear of existing house and all associated site development works at Saint Martin's, Ballybetagh Road, Kilternan, Co. Dublin.
ABP-303945-19	Dun Laoghaire Rathdown County Council	18/12/2019	Glenamuck District Roads Scheme which will connect the existing R117 Enniskerry Road with the Glenamuck Road and new link distributor road which will connect to the Ballycorus Road and the R117 Enniskerry Road.
307043	Paul and David Butler	28/08/2020	116 no. residential units (85 no. houses, 31 no. apartments), childcare facility and associated site works at Suttons Fields, Ballybetagh Road, Kilternan, Dublin 18..
ABP PL06D.306999/ D20A/0015	Goodrock Project Management Ltd	22/09/2020	The construction of a four storey apartment block comprising of 56 no. residential units including 11 no. 1 beds, 39 no. 2 beds and 6 no. 3 beds at site located to the south east of Glenamuck Road South, Kiltiernan, Dublin 18.
309846	Adroit Operations Limited	15/07/2021	203 no. residential units (109 no. houses, 94 no. apartments), creche and associated site works on lands immediately adjoining Bishop's Gate housing development, Townland of Kiltiernan Domain, Enniskerry Road, Kiltiernan, Dublin 18.
313797	Gillian Lynch	12/07/2023	Change to first floor front elevation removal of existing 3 front dormer windows and replacing with 1 full width dormer. Change to ground floor front windows extra height. Removal of 1 bay window and replacing with 1 flat window also other bay changed to square bay window. 2 new ground floor windows and 1 first floor window to the side elevation. Bay window extension to the rear. 1B Wayside Cottages Glenamuck South, Kilternan, Co. Dublin

Planning/Project Reference	Developer / Applicant	Grant of permission	Description
D23A/0728	Ard Services Ltd.	02/04/2024	A ground floor extension to the rear of the existing service station amenity building, Circle K, Enniskerry Road, Kilternan, Dublin.
D23A/0616	Liscove Ltd.	07/06/24	Provision of a mixed use development consisting of 91 No. residential units (72 No. houses and 19 No. duplex units), a creche (405 sq m) and retail/commercial floorspace (356 sq m), which ranges in height from 2 to 4 No. storeys. The 91 No. residential units will consist of 5 No. 1 bedroom units (5 No. duplexes), 18 No. 2 bedroom units (9 No. duplexes and 9 No. houses), 48 No. 3 bedroom units (43 No. houses and 5 No. duplexes) and 20 No. 4 bedroom units (20 No. houses) at Wayside, Enniskerry Road, Kiltiernan, Dublin 18.
LRD24A/0279	Dwyer Nolan Developments Ltd.	18/06/2024	Permission, to retain development, which has modified a permitted Strategic Housing Development (SHD) (Ref.s ABP-303978-19 & ABP-312216-21) by way of a planning application for a Large-Scale Residential Development (LRD), within the permitted "Glenamuck Manor" development (currently under construction), located at Glenamuck Road South, Kilternan, Dublin 18. Permission is sought to retain development consisting of the following: (i) relocated and extended retaining wall, partially along southwestern boundary, (ii) an increased play area of 60sq.m to rear of creche, (iii) reconfiguration of approved external steps at pedestrian link No. 2 and (iv) all associated site development works, all as previously approved under planning Refs ABP-303978-19 & ABP-312216-21, on an overall site area of 4.28Ha.

**Appendix 5-5 Bat Mitigation Strategy for a Proposed Large Residential Development,
Enniskerry Road, Kilternan, Dublin 18**

SCOTT CAWLEY

BAT MITIGATION STRATEGY



PROPOSED LARGE RESIDENTIAL DEVELOPMENT, ENNISKERRY ROAD, KILTERNAN, DUBLIN 18

INFORMATION INTENDED TO SUPPORT AN APPLICATION FOR A DEROGATION LICENCE UNDER THE EUROPEAN COMMUNITIES (BIRDS AND HABITATS) REGULATIONS 2011 AS AMMENDED

Proposed Scientific Agent:

Scott Cawley Ltd.
70-73 Rock Road
Blackrock
Co. Dublin
A94 F9X9

Proposed Licensee:

Neil Durkan
Liscove Limited
1st Floor, Maple House, Lower Kilmacud Road,
Stillorgan
Co. Dublin
A94 E3F2

Document Control

Project Title 220147 Kiltiernan Lands LRD			Project No. 220147	
Document Title Bat Mitigation Strategy			Status Final	
Revision	Issue Date	Author	Reviewed By	Approved By
104	29/07/24	SS	SQ	CC

© Copyright Scott Cawley Limited.

This report has been prepared by Scott Cawley Ltd. for the sole use of our client (the 'Client') and, unless otherwise agreed in writing by Scott Cawley Ltd., no other party may use, make use of or rely on the contents of this report. No liability is accepted by Scott Cawley Ltd. for any use of this report, other than the purpose for which it was prepared.

This report has been prepared by Scott Cawley Ltd. in accordance with the particular instructions and requirements of our agreement with the Client, the project's budgetary and time constraints and in line with best industry standards. The methodology adopted and the sources of information used by Scott Cawley Ltd. in providing its services are outlined in this report. The scope of this report and the services are defined by these circumstances.

Where the conclusions and recommendations contained within this document are based upon information provided by others than Scott Cawley Ltd., no liability is accepted on the validity or accuracy of that information. It is assumed that all relevant information has been provided by those parties from whom it has been requested and that the information is true and accurate. No independent verification of any documentation or information supplied by others has been made.

The conclusions presented in this report represent Scott Cawley Ltd.'s best professional judgement based on review of site conditions observed during the site visit (if applicable) and the relevant information available at the time of writing. Scott Cawley Ltd. has used reasonable skill, care and diligence in compiling this report and no warranty is provided as to the report's accuracy.

Table of Contents

1	Introduction	1
1.1	Qualifications, Licensing and Experience of Authors.....	1
1.2	Description of Proposed Development Site	2
1.3	Overview of Proposed Works	2
2	Legal Protection and Conservation Status of Bats in Ireland.....	4
3	Need for The Derogation Licence	5
3.1	Test 1 – Reason for seeking derogation.....	5
3.2	Test 2 – There is no Satisfactory Alternative	6
3.3	Test 3 – Favourable Conservation status.....	6
4	Methodology	6
4.1	Desk Study	6
4.2	Field Surveys	6
4.3	Limitations of Surveys.....	9
5	Results.....	9
5.1	Desk Study	9
5.2	Field Surveys	10
5.3	Evaluation of Results	17
6	Works Which Could Potentially Affect Bats or Their Roosts	17
7	Measures to Avoid, Reduce and Offset any Negative effects on Bats and their Roosts	17
7.1	Supervision of Proposed Works.....	17
7.2	Provision of Alternative Roost Facilities On-site During and Post Development Works.....	19
7.3	Measures for the Unforeseen Discovery of Roosts during Works	20
7.4	Reporting to the NPWS.....	20
8	Post-Construction Monitoring.....	20
8.1	Monitoring of Alternative Roosts (Bat Boxes)	20
9	Conclusions	21
	Appendix I.....	22
	Appendix II	29

1 Introduction

- 1 Scott Cawley Ltd. has been engaged by Liscove Limited to undertake surveys for bats and prepare a bat mitigation strategy in relation to a proposed Large Residential Development at Wayside, Enniskerry Road, Kiltiernan, Dublin 18 (Grid Reference: O 20662 22173). This report provides details of surveys undertaken by Scott Cawley Ltd. ecologists to assess bat roost presence/absence at the proposed development site, implications of the works on bats and their roosts, and outlines a draft mitigation strategy for bats.
- 2 The information within this report is intended to support an application for a derogation licence for bats and their roosts, under the *European Communities (Birds and Natural Habitats) Regulations, 2011*¹. The success of the proposed strategy will be measured by the avoidance of mortality of any bats during construction, the minimisation of disturbance of roosting bats, and the provision of suitable alternative roosting spaces for bats within the grounds controlled by the applicant.

1.1 Qualifications, Licensing and Experience of Authors

- 3 Scott Cawley Ltd. staff abide by the Code of Professional Conduct for the Chartered Institute of Ecology and Environmental Management (CIEEM). Scott Cawley Ltd. hold an annual licence under Sections 23 and 34 of the Wildlife Acts 1976-2022 (C228/2023), enabling staff members to capture and handle bats, and an annual derogation licence under the European Communities (Birds and Natural Habitats) Regulations 2011 (as amended) (DER/BAT 2023-02), enabling staff members to enter roosts and undertake surveys using an endoscope. This report has been prepared by Sorcha Shanley and has been reviewed by Síofra Quigley and Colm Clarke of Scott Cawley Ltd.

Colm Clarke

- 4 Colm Clarke is a Principal Ecologist with Scott Cawley and has over nine year's professional experience in ecological consultancy. He obtained an honours degree in Natural Sciences from Trinity College Dublin, and a Masters in Biodiversity and Conservation from the same institution. Colm is a full member of the CIEEM, a member of Bat Conservation Ireland and Chairperson of the Dublin Bat Group. Colm is Scott Cawley's lead bat ecologist, and regularly prepares derogation licences for bats and their roosts, and oversees the discharge of licence obligations. As part of this work, Colm provides advice on protected species to clients and contractors. Colm is on the CIEEM's EclA Accreditation Working group, which aims to improve the quality of Ecological Impact Assessment (EclA) Reports through an accreditation process, and he is an assessor on the EclA Pilot Accreditation Scheme. Colm is experienced in scoping, preparing, and reviewing EclA (including EIA Biodiversity Chapters) and in the completion of Appropriate Assessment (AA) Screening and Natura Impact Statement (NIS), and has prepared these reports and acted as internal reviewer (as part of Scott Cawley's quality assurance process) on a range of projects from residential to industrial and large-scale infrastructure (e.g. national road and rail projects). Colm also regularly completes technical peer review and has assessed projects for local authority clients and renewable energy developers. As a member of the Irish Environmental Law Association and regular attendee at IELA seminars, Colm stays abreast of developments in environmental law and how these relate to changes to assessment practices.

Síofra Quigley

- 5 Síofra Quigley is a Senior Ecologist with Scott Cawley. She obtained an honours degree in Zoology, from National University of Ireland Galway, and a Master's degree in Wildlife Biology and Conservation from Edinburgh Napier University. She has six years' professional experience working in the UK and Ireland on a range of projects, from residential to large-scale infrastructure. Síofra is experienced in carrying out field surveys in several protected species; bat, otter, badger, birds, red squirrel, reptile, pine marten, and undertakes and manages surveys for a range of projects. She has also been involved in radio tracking mountain hares and bats, bat call analysis, badger bait marking, has acted as an Ecological Clerk of Works role on construction projects. Síofra is experienced in habitat classification (Joint Nature Conservation Committee, 2010, EU Habitats Directive and Fossitt classification) and mapping (QGIS and ArcGIS). Síofra's work in Scott Cawley involves project management, and the preparation of reports, including Ecological

¹ S.I. No. 477/2011 - European Communities (Birds and Natural Habitats) Regulations 2011.

Impact Assessment (EclA) Appropriate Assessment (AA) Screening reports, and Natura Impact Statements (NIS) for residential, commercial, and infrastructure projects across Ireland. Siofra has also been involved in the preparation of bat derogation licence applications, prepared habitat management plans and advised on enhancement measures for planning applications.

Sorcha Shanley

- 6 Sorcha Shanley is a Senior Consultant Ecologist with Scott Cawley Ltd. She holds an honours degree in Natural Sciences with a specialisation in Zoology from Trinity College Dublin, and a master's degree in Marine Biology from the University of Essex. She has three years' professional experience in ecological consultancy in Ireland, carrying out a range of habitat and protected species surveys, including bat, otter, badger and breeding and wintering birds. She has undertaken Ecological Clerk of Works roles, overseeing the implementation of mitigation measures, and has prepared and contributed to bat derogation licence applications, Appropriate Assessment (AA) Screening reports, Natura Impact Statements (NIS) and Ecological Impact Assessments (EclA) for a range of development projects across the country.

1.2 Description of Proposed Development Site

- 7 The proposed development site is located to the east of the Enniskerry Road (R117), south of Glenamuck Road (R842), and north of Ballycorus Road (R116) within Kiltarnan, Co. Dublin. There are seven buildings/structures within the proposed development site. This includes one derelict dwelling known as 'Rockville' with five ancillary derelict outhouses in the southwest end of the site, and the former Kiltarnan County Market, a wooden structure in the northwest end of the site (Figure 1).
- 8 The proposed development site is dominated by improved agricultural grassland, with a variety of other habitats present including treelines, hedgerows, scrub, immature woodland, dry meadows and grassy verges, spoil and bare ground, recolonising bare ground and buildings and artificial surfaces. The closest watercourse to the proposed development site is the Shanganagh River (IE_EA_10S010600), located c.350m to the southeast. The newly constructed development of Rockville is located along the north-eastern border of the site, while the lands to the east consist of similar agricultural grassland habitats. An area of woodland is located to the east of the eastern boundary of the proposed development site.

1.3 Overview of Proposed Works

- 9 Liscove Limited intend to apply for permission for a Large-Scale Residential Development on 2 No. sites, measuring c. 14.2 Ha., which will be separated by the future Glenamuck Link Distributor Road (GLDR). The western site principally comprises lands at Wayside, Enniskerry Road and Glenamuck Road, Kiltarnan, Dublin 18, which include a derelict dwelling known as 'Rockville' and associated derelict outbuildings, Enniskerry Road, Kiltarnan, Dublin 18, D18 Y199 and the former Kiltarnan Country Market, Enniskerry Road, Kiltarnan, Dublin 18, D18 PK09. The western site is generally bounded by the Glenamuck Road to the north; the Sancta Maria property to the north, west and south; a residential development named "Rockville" to the north-east; the Enniskerry Road to the south-west; dwellings to the south; and the future GLDR to the east. The eastern site is generally bound by dwellings to the south; the future GLDR to the west; and greenfield land to the north and east.
- 10 Road works are proposed to facilitate access to the development from the Enniskerry Road; to the approved Part 8 Enniskerry Road/Glenamuck Road Junction Upgrade Scheme on Glenamuck Road (DLRCC Part 8 Ref. PC/IC/01/17); and to the approved Glenamuck District Roads Scheme (GDRS) (ABP Ref. HA06D.303945) on the Glenamuck Link Distributor Road (GLDR). Drainage and potable water infrastructure is proposed to connect to services on the Glenamuck Road, Enniskerry Road and the GLDR.
- 11 The Glenamuck Road access point will include works, inclusive of any necessary tie-ins, to the footpath and cycle track to create a side road access junction incorporating the provision of an uncontrolled pedestrian crossing across the side road junction on a raised table and the changing of the cycle track to a cycle lane at road level as the cycle facility passes the side road junction. Surface water and foul drainage infrastructure is proposed to connect into the drainage infrastructure to be constructed as part of the Part 8 scheme. Potable water is to be provided from the existing piped infrastructure adjacent to the site along Glenamuck Road. Surface water and foul drainage infrastructure connections for the 'former Country

Market' area (north-west of the site) are proposed to connect into the drainage infrastructure at the Enniskerry Road/Glenamuck Road junction.

- 12 The GLDR 'western' access point will include works, inclusive of any necessary tie-ins, to the footpath and cycle track to create a side road access junction incorporating the provision of short section of shared path and an uncontrolled shared pedestrian and cyclist crossing across the side road junction on a raised table. The works will also include the provision of a toucan crossing, inclusive of the necessary traffic signal equipment, immediately south of the access point to facilitate pedestrian and cyclist movement across the mainline road. All works at this GLDR access point will include the provision of the necessary tactile paving layouts. Surface water, foul drainage and potable water infrastructure connections are proposed into the drainage infrastructure to be constructed as part of the GDRS scheme.
- 13 The GLDR 'eastern' access point will include works, inclusive of any necessary tie-ins, to the footpath and cycle track to create a side road access junction incorporating the provision of short section of shared path and an uncontrolled shared pedestrian and cyclist crossing across the side road junction on a raised table. Potable water, surface water and foul drainage infrastructure connections for the eastern site are proposed into the drainage infrastructure to be constructed as part of the GLDR.
- 14 On Enniskerry Road, works are proposed to facilitate 3 No. new accesses for the development along with modifications to Enniskerry Road. The 3 No. side road priority access junctions incorporate the provision of an uncontrolled pedestrian crossing across the side road junction on raised tables. The modifications to Enniskerry Road fronting the development (c. 340 metres) includes the narrowing of the carriageway down to c.6.5 metres (i.e. a c.3.25 metres running lane in each direction) from the front of the kerb on the western side of Enniskerry Road. The remaining former carriageway, which varies in width of c. 2 metres, will be reallocated for other road users and will include the introduction of a widened pedestrian footpath and landscaped buffer on the eastern side of the road adjoining the proposed development. On Enniskerry Road at the interface of the proposed Dingle Way and Enniskerry Road, aligning with the proposed location of the community centre/café and existing Our Lady of Wayside Church, works include the continuation of the Dingle Way surface materials across Enniskerry Road to create a raised table to connect these community facilities. The above works are inclusive of all necessary tie-in works such as new kerbs along the eastern side of Enniskerry Road, drainage details, road marking, signage and public lighting. Additionally, the development includes the removal of the existing stone wall and the construction of a new stone wall set back to facilitate the upgrade and realignment of the Enniskerry Road. Potable water is to be provided from the existing piped infrastructure along the Enniskerry Road.



Figure 1. Proposed development site at Wayside, Enniskerry Road, Kilternan, Dublin 18

2 Legal Protection and Conservation Status of Bats in Ireland

- 15 There are nine species of bat known to breed in Ireland, while two other species have been recorded on a single occasion (Table 1). All of Ireland's nine resident bat species are listed as "least concern" in the *Ireland Red List No. 12: Terrestrial Mammals*².

Table 1. Bat species in Ireland: status and distribution

Species	Status	Distribution
Common pipistrelle <i>Pipistrellus pipistrellus</i>	Resident	Widespread
Soprano pipistrelle <i>Pipistrellus pygmaeus</i>	Resident	Widespread
Nathusius' pipistrelle <i>Pipistrellus nathusii</i>	Resident	Widespread
Leisler's bat <i>Nyctalus leisleri</i>	Resident	Widespread
Brown long-eared bat <i>Plecotus auritus</i>	Resident	Widespread
Whiskered bat <i>Myotis mystacinus</i>	Resident	Widespread
Natterer's bat <i>Myotis nattereri</i>	Resident	Widespread
Daubenton's bat <i>Myotis daubentonii</i>	Resident	Widespread
Lesser horseshoe bat <i>Rhinolophus hipposideros</i>	Resident	Restricted to the western seaboard

² Marnell, F., Looney, D. & Lawton, C. (2019). *Ireland Red List No. 12: Terrestrial Mammals*. National Parks and Wildlife Service, Department of the Culture, Heritage and the Gaeltacht, Dublin, Ireland.

Brandt's bat <i>Myotis brandtii</i>	Vagrant	Single confirmed record from Co. Wicklow
Greater horseshoe bat <i>Rhinolophus ferrumequinum</i>	Vagrant	Single confirmed record from Co. Wexford

- 16 All species and their roost sites are strictly protected under both European and Irish legislation including:
- *Wildlife Act 1976 and Wildlife (Amendment) Act, 2000;*
 - *European Communities (Birds and Natural Habitats) Regulations, 2011;* and
 - *Council Directive on the Conservation of Natural Habitats and of Wild Flora and Fauna 1992 (Council Directive 92/43/EEC).*
- 17 It is an offence under Section 23 of the *Wildlife Acts* and under Section 51 of the *European Communities (Birds and Natural Habitats) Regulations, 2011* to kill a bat, to interfere with, damage or destroy the breeding or resting place of a bat species, or to deliberately disturb bats, particularly during their periods of breeding, rearing, hibernation, and migration. Under the *European Communities (Birds and Natural Habitats) Regulations 2011* it is not necessary for damage or destruction of bats' breeding sites or resting places to be deliberate for an offence to occur. Given that unintentional damage or destruction of bats' breeding sites or resting places gives rise to an offence under the legislation, there is an onus of due diligence on landowners and anyone proposing to carry out works, to avoid any such damage or destruction.
- 18 As a signatory to the EUROBATS Agreement (Agreement on the Conservation of Populations of European Bats, 1994)³, Ireland is required to protect their habitats and important feeding areas from damage or disturbance. All Irish bat species are listed in Appendix II of the Bern Convention (1979), as species requiring protection.

3 Need for The Derogation Licence

- 19 Scott Cawley Ltd. are submitting this application under Regulation 54 of the European Communities (Birds and Habitats) Regulations 2011 (S.I. 477 of 2011) for a derogation licence from complying with the requirements of the provisions of Regulations 51, 52 and 53 of the same Regulations.

3.1 Test 1 – Reason for seeking derogation

- 20 The derogation is being sought on the basis that the proposed development site contains a bat roost, and the proposed works will likely result in the loss of the roost site, and have the potential to result in the mortality and/or disturbance of bats or their roosts, which would be in contravention of the *European Communities (Birds and Natural Habitats) Regulations 2011 (as amended)* if undertaken in the absence of a derogation licence.
- 21 A derogation is being sought under Regulation 54(2) (c):
- “In the interests of public health and public safety, or for other imperative reasons of overriding public interest, including those of a social or economic nature and beneficial consequences of primary importance for the environment.”*
- 22 One building was confirmed as a bat roost during surveys of the proposed development site. The building is a disused derelict outhouse located within a site zoned under Objective A: ‘To provide residential development and improve residential amenity while protecting the existing residential amenities’ and adjacent lands zoned under Objective NC: ‘To protect, provide for and/or improve mixed-use neighbourhood centre facilities.’ The proposed development aims to provide an appropriate response to the current housing shortage prevailing within Dun Laoghaire-Rathdown and the wider Dublin region.
- 23 A derogation licence is also being sought on the basis that the proposed works have the potential to result in the disturbance of bats or their roosts due to works involving trees within the proposed development site. During the tree roost surveys several of the mature trees in the proposed development site have been

³ https://www.eurobats.org/about_eurobats/introduction_to_agreement

recognised as possessing PRFs for bats. The majority of treelines within and on the periphery of the proposed development site will be retained, in particular the more established treelines including the treeline running from northwest to southeast through the centre of the site, however there will be loss of some trees across the development site. Despite there being no tree roosts found, the derogation licence is being sought on a precautionary basis to ensure avoidance and minimisation of any potential disturbance effects that may impact bats in trees.

3.2 Test 2 – There is no Satisfactory Alternative

- 24 The building containing a bat roost is a derelict outhouse situated among several other buildings in a state of advanced disrepair. In the absence of interventions, there is likely to be a progression of deterioration of the building, which is likely to significantly affect the roof and supporting structures. In the long-term this deterioration could affect the suitability of the building for roosting bats, and retaining the building in its current condition is unfeasible.
- 25 Kiltarnan/Glenamuck is identified as a 'New Residential Community' in the Core Strategy of the Dun Laoghaire-Rathdown County Development Plan 2022-2028. The proposed development lands are zoned for residential and mixed-use development and the proposed works are necessary for the residential density required. The proposal has been prepared to comply with the County Development Plan to ensure that this prime site in the centre of Kiltarnan Village is appropriately and sustainably developed.

3.3 Test 3 – Favourable Conservation status

- 26 The application relates to specific impacts on the local population of bats and/or their roosts arising from proposed works at Kiltarnan, Dublin 18. The strategy outlined in this report includes measures to avoid and minimise disturbance to bats, and the provision of alternative roosting sites for the duration of construction and post-construction. In light of the size of the roost identified in the lands, the nature and setting of the proposed development, the mitigation strategy proposed (see Section 7) and the fact that the bat species are well established in the locality, together with the current status of bats as 'Least Concern', it can be concluded that following the implementation of the proposed mitigation measures, the Proposed Scheme will not be detrimental to the maintenance of the local bat population and thus the national population, at a favourable conservation status in their natural range.

4 Methodology

4.1 Desk Study

- 27 A desk study was undertaken to compile records of bat species within 2km of the proposed development site, using the National Biodiversity Data Centre (NBDC) database⁴ and the Bat Conservation Ireland database.

4.2 Field Surveys

4.2.1 Habitat and Tree Surveys

- 28 Habitat suitability for foraging/commuting/roosting bats was assessed during a survey of the proposed development site on 30th March 2023. During this survey trees were assessed for their suitability for roosting and / or foraging bats, based on advice contained within *Bat Surveys for Professional Ecologists: Good Practice Guidelines* (Collins, ed., 2016), which has been reproduced in Table 2.

4.2.2 Building Inspections

- 29 Internal and external inspections of the seven buildings and outhouses within the proposed development site (Figure 2) were carried out by Shea O'Driscoll and Sorcha Shanley of Scott Cawley Ltd. during daylight hours on the 30th March 2023, under NPWS Licence No. DER/BAT 2023-02. A systematic inspection of the

⁴ National Biodiversity Data Centre Database of records. Available online at www.biodiversityireland.ie

external and all accessible internal areas and roof spaces of the buildings involved a search for evidence of bats such as:

- Bat droppings (these will accumulate under an established roost or under access points);
- Insect remains (under feeding perches);
- Oil (from fur) and urine stains;
- Scratch marks;
- Pupae of bat parasites such as *Nycteribia kolenatii*; and,
- Bat corpses.

30 Any crevices, in so far as they could be safely accessed, were examined using a strong narrow-beamed torch and an endoscope (RIDGID® Micro CA-350) where necessary. Binoculars were used to examine potential bat roost features that could not be reached from the ground.



Figure 2. Buildings/structures within the proposed development site

31 The suitability of potential roost features (PRFs) and habitats within the proposed development sites were assessed and categorised according to the criteria described in Table 2 below.

Table 2. Assessment Criteria for potential suitability of proposed development sites for bats, derived from similar criteria in Bat Surveys for Professional Ecologists: Good Practice Guidelines⁵⁶

Suitability	Description of Roosting Habitat	Commuting and foraging habitats
Negligible	Negligible habitat features on site likely to be used by roosting bats	Negligible habitat features on site likely to be used by commuting or foraging bats

⁵ Collins, J. (2016) *Bat Surveys for Professional Ecologists: Good Practice Guidelines*. 3rd edition. Bat Conservation Trust, London.

⁶ The newest edition of the guidelines was released in 2023 – Collins, J. (2023) *Bat Surveys for Professional Ecologists: Good Practice Guidelines* 4th Edition. The 2016 edition of guidelines was used at the time of surveys and guidance followed is still relevant.

Low	<p>A structure with one or more potential roost sites that could be used by individual bats opportunistically. However, these potential roost sites do not provide enough space, shelter, protection, appropriate conditions⁷ and/or suitable surrounding habitat to be used on a regular basis or by larger numbers of bats (i.e. unlikely to be suitable for maternity or hibernation).</p> <p>A tree of sufficient size and age to contain PRFs but with none seen from the ground or features seen with only very limited roosting potential.</p>	<p>Habitat that could be used by small numbers of commuting bats such as a gappy hedgerow or un-vegetated stream, but isolated, i.e. not very well connected to the surrounding landscape by other habitat.</p> <p>Suitable, but isolated habitat that could be used by small numbers of foraging bats such as a lone tree (not in a parkland situation) or a patch of scrub</p>
Moderate	<p>A structure or tree with one or more potential roost sites that could be used by bats due to their size, shelter, protection, conditions and surrounding habitat but unlikely to support a roost of high conservation status (with respect to roost type only – the assessments in this table are made irrespective of species conservation status, which is established after presence is confirmed)</p>	<p>Continuous habitat connected to the wider landscape that could be used by bats for commuting such as lines of trees and scrub or linked back gardens.</p> <p>Habitat that is connected to the wider landscape that could be used by bats for foraging such as trees, scrub, grassland or water.</p>
High	<p>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>	<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>

4.2.3 Roost Presence/Absence Surveys

- 32 Three roost presence/absence surveys were undertaken by Scott Cawley Ltd. ecologists on 23rd May 2023, 28th June 2023 and 27th July 2023, during calm, dry weather conditions, with temperatures within the range suitable for bat activity (i.e., above 10°C). Details of the surveys are outlined in Table 3.
- 33 A total of three dusk emergence surveys were carried out, with four surveyors observing the buildings for bats emerging from potential roost sites. The buildings were surveyed from 15 minutes before sunset until 1.5 hours after sunset. Emergence surveys were followed by walked transect surveys which covered the proposed development site, and a representation of each habitat type within the lands, to record bat activity across the site. The surveys were conducted using direct observation and handheld ultrasound detectors (Elekon BatLogger M). An infrared camera (Canon XA40) was used on the south-western aspect of the Building 4 during the third survey, where one bat was recorded emerging on the first survey, see Figure 3, below. Echolocation recordings were analysed using Elekon BatExplorer software.

⁷ For example, in terms of temperature, humidity, height above ground level, light levels or levels of disturbance.



Figure 3. Locations of infrared camera and field of view during July 2023 survey

Table 3. Details of roost presence/absence surveys conducted in September 2022

Date	Survey Type	Survey Times (Sunset Time)	Weather Conditions
23rd May 2023	Dusk Emergence Survey	21:20 – 23:30 (21:39)	12°C, 25% cloud, no rain, calm
28th June 2023	Dusk Emergence Survey	21:45– 23:10 (22:05)	14°C, 50% cloud, no rain, calm
27th July 2023	Dusk Emergence Survey	21:10 – 23:30 (21:29)	17°C, 25% cloud, no rain, calm

4.3 Limitations of Surveys

- 34 The northern sides of Building 1, Building 2, Building 3 and Building 5 and eastern side of Building 4 were not fully visible from the exterior due to the dense treeline. The buildings were fully accessed and surveyed during the internal building inspections and no signs indicating the presence of a bat roost were observed. All buildings were surveyed to the fullest practical extent and the results and evaluation reflect an accurate assessment of the structures within the proposed development site. A precautionary approach is being taken and the mitigation strategy (Section 7) includes measures for unforeseen discovery of bats.
- 35 There were no other limitations associated with surveys undertaken. Surveys were undertaken during the optimal season and weather on all survey dates was suitable for conducting bat surveys, with no rain and temperatures well above 10°C.

5 Results

5.1 Desk Study

- 36 A search of the database of species records held by the NBDC returned records of six bat species within c. 2km of the proposed development site, namely common pipistrelle *Pipistrellus pipistrellus*, soprano pipistrelle *Pipistrellus pygmaeus*, Nathusius' pipistrelle *Pipistrellus nathusii*, Leisler's bat *Nyctalus leisleri*,

Natterer's Bat *Myotis nattereri*, whiskered bat *Myotis mystacinus*, Daubenton's bat *Myotis daubentonii* and brown long-eared bat *Plecotus auritus*.

- Common Pipistrelle *Pipistrellus pipistrellus* – 52 records, the most recent in 2022 and nearest c. 250m west of the proposed development site
- Soprano Pipistrelle *Pipistrellus pygmaeus* – 11 records, the most recent in 2022 and nearest c. 250m west of the proposed development site
- Leisler's Bat *Nyctalus leisleri* – 38 records, the most recent in 2022 and nearest c. 250m west of the proposed development site
- Natterer's Bat *Myotis nattereri* - 2 records in 2018 c. 250m west of the proposed development site.
- Daubenton's Bat *Myotis daubentonii* – 1 record, in 2005 c 1.9km northeast of the proposed development site.
- Brown Long-eared Bat *Plecotus auritus* – 2 records, the most recent in 2005 c. 1.4km north of the proposed development site.

5.2 Field Surveys

5.2.1 Habitat and Tree Surveys

- 37 During the field surveys 14 trees within the proposed development site were recorded as containing potential roost features (PRFs) for bats, which include knot holes, tear-outs, wounds, canker, tree splits and dense ivy cover. No evidence of roosting bats was observed. Their locations are shown in Figure 4 and details are included in Appendix I.



Figure 4. PRF trees recorded within the proposed development site

5.2.2 Building Inspection

- 38 There are seven buildings/structures located within the proposed development site. Building 1 is a derelict dwelling known as 'Rockville' and Buildings 2-6 are the five associated derelict outbuildings, all of which are located in the southwest end of the site. Building 7 is the former Kilternan Country Market, a wooden structure in the northwest end of the site. There was no evidence of bats in any of the buildings within the proposed development site. Their locations are shown in Figure 2 and details are included in Appendix II.
- 39 The building containing a bat roost (Building 4) is a two-storey derelict outhouse with corrugated metal roofing. No evidence of bats (e.g. droppings, feeding remains or staining) was recorded during the external or internal building inspection. Potential roost features were noted and photos from the building inspection are shown in Table 4.
- 40 Potential exit and entry points for bats were observed and include gaps along the base of the roofing, particularly on the gable ends (Table 4; Plate 5, 8 and 9). There are many gaps around the doors and windows (Table 4; Plate 4, 6 and 7) as well as crevices in the wood of the doors and windows (Table 4; Plate 4 and 7). There are vents in the gable ends of the building and some holes in the cladding (Table 4; Plate 3). There are gaps between the joists in the ceiling of the ground floor rooms (Table 4; Plate 10 and 15). There are crevices in the blocks of the walls on the ground floor and upper floor/attic (Table 4; Plate 15 and 20) and holes in the roofing of the upper floor/attic (Table 4; Plate 19).
- 41 The buildings in the southwest of the proposed development site (Buildings 1-6) are illuminated to the west by streetlights and by security floodlights on a number of the buildings, with the majority of this lighting concentrated around the courtyard on the western side of Building 4. There are security floodlights on east and south walls of the Building 4. The building in the northwest of the site (Building 7) is highly illuminated by streetlights and security lighting on all sides. Floodlighting is likely to inhibit bat activity.

Table 4 Results of Building Internal and External Inspections



Plate 3 – Northern side – Holes in cladding



Plate 4 - Eastern side – Holes in wood and gaps around entrance



Plate 5 – Northern side – Vent and gaps under roof



Plate 6 – Eastern side – Gaps around entrance



Plate 7 Eastern side – Crevices around window



Plate 8 – Southern side – Gaps under roof



Plate 9 – Eastern side – Gaps under roof



Plate 10 – Ground floor, northern room – Gaps in wall



Plate 11 – Ground floor, northern room



Plate 12 – Ground floor, southern room



Plate 15 – Ground floor, southern room – Gaps between joists



Plate 16 - Ground floor, southern room



Plate 17 – Upper floor/attic – Openings in roof

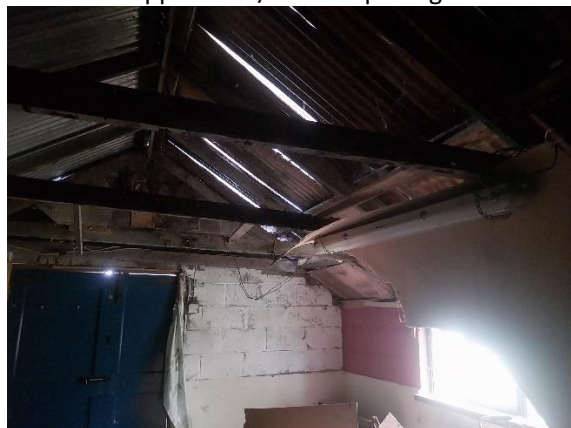


Plate 18 – Upper floor/attic -



Plate 19 – Upper floor/attic – Holes in roof and between blocks

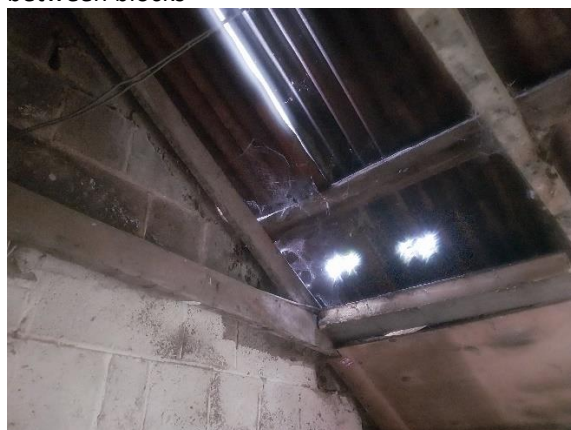


Plate 20 - Upper floor/attic - Crevices in blocks



5.2.3 Roost Presence/Absence Surveys

- 42 Soprano pipistrelles were observed emerging from Building 4 on two out of three of the dusk emergence surveys. The emerging bats were observed and recorded by surveyors; none were captured in the infrared camera footage.
- 43 During the first dusk emergence survey on the 23rd May 2023, one soprano pipistrelle bat was observed emerging from the southeastern face of Building 4 from a gap under the roofing (Figure 5). During the second dusk emergence survey on the 28th June 2023, one soprano pipistrelle bat was recorded emerging from the same location on the southeastern side of the building and flying south east (Figure 5). No bats were observed emerging during the dusk emergence survey on the 27th July 2023.



Figure 5. Emergence location of soprano pipistrelle during surveys in May and June 2023 on southeast facing side of the Building 4

- 44 No bats were observed emerging from any other building in the proposed development site during the surveys.
- 45 At least five bat species were recorded within and adjacent to the proposed development site during bat activity surveys: common pipistrelle, soprano pipistrelle, Leisler's bat, brown long-eared bat and an undetermined bat species of the genus *Myotis*. A number of pipistrelle species *Pipistrellus* sp. calls were also recorded, that cannot be differentiated by analytical software as belonging to either soprano pipistrelle or common pipistrelle as the frequency of the call falls between the thresholds for the two species. Similarly, bat species of the genus *Myotis* are difficult to identify to species level based on call analysis and are therefore grouped together as *Myotis* sp. The locations of the bat calls recorded during the activity surveys are illustrated in Figure 6 and Figure 7, with common pipistrelle and Leisler's bats being the most commonly recorded species.



Figure 6 Bat activity recorded at Building 4 during 2023 surveys of the proposed development site



Figure 7 Bat activity recorded during 2023 surveys of the proposed development site

5.3 Evaluation of Results

- 46 The results of the surveys indicate that Building 4 is currently a small bat roost, used by one or two soprano pipistrelle bats for roosting purposes. No bats were observed emerging from any other building within the proposed development site. Five species of bats were found to use the site for foraging and commuting purposes; common pipistrelle, soprano pipistrelle, Nathusius' pipistrelle, Leisler's bat and a *Myotis* bat species, although of these species only soprano pipistrelle was recorded emerging from the building. Floodlighting is present on the building and is likely to inhibit bat activity and potentially deter large numbers of roosting bats.
- 47 Pipistrelle bats, Leisler's bats and *Myotis* bats accounted for most of the activity on site. Pipistrelles and *Myotis* were generally observed commuting and foraging within grassland areas and treelines surrounding the buildings. Leisler's bats were generally noted to be commuting over the site at height.
- 48 Buildings are the most frequently recorded roost type for both maternity and hibernation roosts of soprano pipistrelles. However, given the lack of evidence of bats (droppings, feeding remains etc.) within Building 4, the state of disrepair, the levels of surrounding light pollution and the low number of bats recorded emerging, it is considered that it is currently only in use as a satellite or night-roost site on a temporary basis.

6 Works Which Could Potentially Affect Bats or Their Roosts

- 49 Any works that take place in Building 4 have the potential to result in disturbance of bats or their roosts, or in a worst-case scenario, the mortality of bats roosting in the building. The proposed works include the demolition of the Building 4 and there is therefore inherent potential to affect bats when carrying out any activities during the demolition process.
- 50 The proposed development will not result in the loss of any trees that are known breeding/resting sites for any bat species, however, there are 14 trees within the proposed development site recorded as containing potential roost features (PRFs) for bats. It should be noted that it is extremely difficult to determine the likely absence of bats from PRFs by traditional roost emergence or inspection surveys, and therefore it is appropriate to adopt the precautionary principal and assume bats could use those features at some stage. Therefore, in the absence of mitigation, there is potential for the felling, pruning, or cutting, of these trees to result in direct harm and pose a mortality risk to bats, should bats be present in the trees at the time of felling.
- 51 The responsibility is on the body carrying out the works to ensure that bats are not present during such works. It is not a defence to maintain that there was no knowledge of bats being present and therefore 'accidental' disturbance of bats is not considered an adequate excuse.

7 Measures to Avoid, Reduce and Offset any Negative effects on Bats and their Roosts

- 52 Mitigation measures have been proposed with reference to practices outlined in *Bat Mitigation Guidelines for Ireland*⁸, *Bat Surveys for Professional Ecologists: Good Practice Guidelines*⁹ and in *Bats & Bat Boxes: Guidance Notes for Agri-environment Schemes*¹⁰. The aims of the mitigation strategy are to avoid disturbance of roosting bats or mortality of bats during the proposed works, and to provide alternative roost sites to offset the loss of known and potential roost sites.

7.1 Supervision of Proposed Works

- 53 A suitably qualified / licenced bat specialist (note: or other person as may be stipulated in any subsequent condition by An Bord Pleanála, e.g., an Ecological Clerk of Works), will be engaged by the appointed contractor who will advise the appointed contractor on ecological matters during construction,

⁸ Kelleher, C., and Marnell, F. (2006). *Bat Mitigation Guidelines for Ireland*. Irish Wildlife Manuals, No. 25. National Parks and Wildlife Service, Department of Environment, Heritage and Local Government.

⁹ Collins, J. (2023) *Bat Surveys for Professional Ecologists: Good Practice Guidelines*. 4th edition. Bat Conservation Trust, London.

¹⁰ Bat Conservation Ireland (2015). *Bats & Bat Boxes: Guidance Notes for Agri-environmental Schemes*. August 2014. Updated January 2015. Available online at https://www.batconservationireland.org/wp-content/uploads/2015/05/BCIrelandGuidelines_BatBoxes.pdf

communicate all findings in a timely manner to the applicant and statutory authorities, and supervise and direct the ecological measures associated with the proposed development.

- 54 The proposed demolition works are due to commence one month after final grant of planning and to be completed within one month (subject to planning consent). If possible, demolition of the building confirmed as a bat roost will occur during the spring or autumn periods (i.e. April or October), as the risk of accidental death or injury is lower at this time, as it is outside the main maternity season and hibernation season. Bats may use roosts in smaller numbers in winter for hibernation but may nevertheless be present.
- 55 The following measures are proposed for demolition of the confirmed roost building (Building 4):
- Presence/absence of bats in the building will be determined by suitably qualified, experienced, and licensed ecologist(s) in advance of building demolition. Presence/absence will be determined by roost inspection checks (e.g. using an endoscope device) and a combination of dusk emergence and/or dawn re-entry surveys (if weather conditions are suitable).
 - Immediately following completion of the above (the next day after dawn/dusk emergence surveys), the roofing will be removed under the supervision of the licenced bat ecologist during daylight hours. The bat worker will inspect the roof materials in advance of removal with a suitable device such as an endoscope.
 - The contractor undertaking demolition works will facilitate safe access for the bat worker to the roof area of the building to allow inspection for roosting bats. Safe access may be facilitated via a scaffold, or via a Mobile Elevated Working Platform (MEWP) or similar.
 - The demolition works will be conducted under the supervision of the licenced bat ecologist. In the event that bats are encountered during the works, they will be removed by hand, and transferred to a bat box (for specification, refer to Section 7.2, below), which will be installed on site in advance of works.

Regarding the retention and protection vegetation, in the event where any of the trees showcasing PRFs (Figure 4) require removal, pruning, or cutting, these will need to be checked in advance of pruning to confirm absence of roosting bats. Given the potential for PRFs to host roosting bats, the completion of tree works will be conducted under a derogation licence from the NPWS to disturb a bat or its roost and/or to remove/destroy a bat roost. In general, the checks of PRFs will proceed as follows:

1. PRFs will be inspected at height by an appropriately trained and qualified professional¹¹ with the use of an endoscope device or similar.
2. Where a PRF can be fully inspected and no evidence of bats is detected, the tree may be felled/pruned/cut immediately or on the same working day during daylight hours. As bats are mobile species and are known to 'roost switch' between different tree PRFs¹², it is not appropriate to allow a larger passage of time between inspection of a feature and its removal due to the increased risk of occupancy by a bat.
3. Where a PRF can be fully inspected and a bat is identified roosting within the PRF¹³, works on that particular tree will be suspended. The licensed ecologist will be engaged to complete a roost emergence and dawn re-entry survey of the PRF. The survey will be completed with equipment including recording bat detectors and night vision aids [e.g. infrared camera(s) or thermal imaging camera(s) of an appropriate specification to detect emerging/returning bats]. Where bats are confirmed to be absent, recommendation 2 (above) will apply. Where a bat roost is confirmed, the bat(s) will be allowed to leave the PRF or will be excluded from the PRF before the feature is

¹¹ In general an appropriately trained and qualified professional will either be i) a tree surgeon who has undergone tree roost inspection training and has a certificate issued by the trainer, or ii) a qualified and experienced bat ecologist who holds a Regulation 54(2)(d) derogation licence for roost disturbance and Wildlife Acts Section 9 & 23(6)(b) and Section 23&34 licences for disturbance of bats in their roosts.

¹² Andrews, H. (2018). *Bat Roosts in Trees: A Guide to Identification and Assessment for Tree-Care and Ecology Professionals*. Pelagic Publishing

¹³ Where a bat is encountered by a tree surgeon, they should withdraw from inspecting said tree immediately in order to avoid triggering disturbance of a bat or its roost.

removed. This may require multiple roost emergence, dawn re-entry, and roost inspection surveys.

4. Where a PRF cannot be fully inspected or where there is doubt as to whether bats are likely to be present, works will be suspended on that particular tree. A qualified ecologist will be engaged to complete a roost emergence and dawn re-entry survey of the PRF. The survey should be completed with equipment including recording bat detectors and night vision aids [e.g. infrared camera(s) or thermal image camera(s) of an appropriate specification to detect emerging/returning bats]. Where bats are confirmed to be absent, recommendation 2 (above) will apply. Where a bat roost is confirmed, the bat(s) will be allowed to leave the PRF or will be excluded from the PRF before the feature is removed. This may require multiple roost emergence, dawn re-entry, and roost inspection surveys

- 56 Any vegetation (including trees, hedgerows or scrub adjacent to, or within, the proposed development boundary) which is to be retained shall be afforded adequate protection during the construction phase in accordance with the Guidelines for the Protection and Preservation of Trees, Hedgerows and Scrub Prior to, During and Post Construction of National Road Schemes (National Roads Authority, 2006)¹⁴.

7.2 Provision of Alternative Roost Facilities On-site During and Post Development Works

- 57 As part of the mitigation measures, alternative roosts appropriate to the bat species recorded will be provided nearby within the proposed development site. For soprano pipistrelles these are tree crevice-type boxes, with 25-35mm crevices. Therefore, a combination of two Schwegler type 2F bat boxes and four Schwegler type 1FF flat bat boxes (or similar models) (Figure 7) will be installed at a suitable location to be determined by the bat worker/ecologist within the site boundary.
- 58 The tree-mounted bat boxes will be installed either by the ecologist or by the contractor under the supervision of the ecologist. It is preferable that each box faces a slightly different aspect from southeast to southwest facing, to provide a range of slightly differing temperature regimes (Bat Conservation Ireland, 2015). All bat boxes will be installed at least 3m above ground level to minimise the risk of interference by humans. The bat boxes will be located away from areas that are subject to artificial light spill. All boxes will be installed prior to the commencement of demolition and construction works

¹⁴ National Roads Authority (2006) *Guidelines for the Protection and Preservation of Trees, Hedgerows and Scrub Prior to, During and Post Construction of National Road Schemes*



Figure 7. Schwegler type 1FF flat bat box (left) and Schwegler type 2F bat box (right)

7.3 Measures for the Unforeseen Discovery of Roosts during Works

- 59 In the event of the unforeseen discovery of roosts during the construction of the proposed development all construction activities will cease in proximity to the discovered roost, and the bat specialist/ecologist contacted for advice. The local NPWS ranger will be contacted by the bat specialist/ecologist for an agreed approach.

7.4 Reporting to the NPWS

- 60 A report documenting adherence to measures within Section 7.1, and 7.2 of this report will be produced by the licensed ecologist and forwarded to the NPWS within three months of completion of demolition works. The success of the proposed strategy will be measured by the avoidance of mortality of any bats during construction, and the provision of alternative roosting sites in the lands during and after construction.

8 Post-Construction Monitoring

- 61 While the success of the proposed strategy will not be measured by occupancy of roosts by bats, it is considered to be best practice and appropriate to implement a monitoring plan to gather information and assess whether the bat population has responded favourably to mitigation measures⁸. In this instance, post-construction monitoring checks of occupancy of the alternative roost facilities will be undertaken as described in further detail below.

8.1 Monitoring of Alternative Roosts (Bat Boxes)

- 62 A three-year post-installation monitoring programme will be undertaken. The bat boxes will be checked for presence of bats or signs of bats on a bi-annual basis between August and September in years 1 and 3 post-installation by an appropriately licensed and qualified ecologist. The results of these surveys will be recorded and shared with the local authority and the NPWS.



9 Conclusions



- 63 The application relates to specific impacts on bats and/or their roosts arising from the proposed development at Wayside, Enniskerry Road, Kilternan, Dublin 18. Measures have been provided to reduce potential impacts on bats as far as possible during work. The strategy outlined in this report includes the provision of alternative roosting sites for the duration of the proposed works (i.e. the provision of bat boxes). Considering the size of the roost identified in the proposed development site, and the current status of the species identified on site as 'Least Concern'¹⁵, their widespread distribution and stable population in Ireland, it can be concluded that following the implementation of measures outlined in Section 7 of this report, the proposed development will not be detrimental to the maintenance of the local bat population at a favourable conservation status in their natural range.



¹⁵ IUCN defines a taxon as 'Least Concern' when it has been evaluated against the Red List criteria and does not qualify for Critically Endangered, Endangered, Vulnerable or Near Threatened. IUCN (2001) IUCN Red List Categories and Criteria: Version 3.1. IUCN Species Survival Commission. IUCN, Gland, Switzerland and Cambridge, UK. IUCN (2003) Guidelines for Application of IUCN Red List Criteria at Regional Levels: Version 3.0. IUCN Species Survival Commission. IUCN, Gland, Switzerland and Cambridge, UK.



Appendix I



Trees with Potential Roost Features within the Proposed Development Site



Tree	PRFs (with indicative heights)	Photograph
Tree 1 - Sycamore	Mat of dead ivy around tops of main trunks 8 – 9 m	
Tree 2 – Ash Tag no. 0808	Dense mat of ivy around main trunk 3 – 10 m	



<p>Tree 3 – Rowan Tag no. 0695</p>	<p>Set of knotholes 3 m</p>	
<p>Tree 4 – Mature Ash Tag no. 0698</p>	<p>Knothole 6 -7 m</p>	

<p>Tree 5 – Ash Tag no. 1113</p>	<p>Knothole – 3m</p>	
<p>Tree 6 – Rowan Tag no. 0690</p>	<p>Tear-out 3 m</p>	

<p>Tree 7 – Ash Tag no. 0693</p>	<p>Wound 4 m</p>	
<p>Tree 8 – Hawthorn Tag no. 0688</p>	<p>Dense mat of ivy 1 – 5 m</p>	

<p>Tree 9 – Mature Ash Tag no. 1155</p>	<p>Dense mat of ivy 1 – 10 m</p>	
<p>Tree 10 - Ash 1161</p>	<p>Dense dead mat of ivy around trunk 1 – 6 m</p>	

<p>Tree 11 – Ash Tag no. 1158</p>	<p>Knotholes 3 – 7 m</p>	
<p>Tree 12 – Beech Tag no. 1165</p>	<p>Split from Base 4m</p>	

Tree 13 - Ash	Canker 5 m	
Tree 14 – Ash 0614	Knothole 2m	

Appendix II

Buildings and Structures within the Proposed Development Site

Building 1

South-facing Side



East-facing Side



West-facing Side



Building 2

East-facing Side



Building 3

West and South-facing Sides



East and South-facing Sides



Building 4

East-facing Side



North-facing Side



South-facing Side



Building 5

West and South-facing Sides



South-facing Side



West-facing Side



Building 6

North and East-facing Side



South and East-facing Side



Building 7

South-facing Side



West-facing Side



North-facing Side



East-facing Side

