AVRIO

Ecological Appraisal

Knocklyon Road, Knocklyon,
Co. Dublin

Project Details:

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AVRIO Quality Information:

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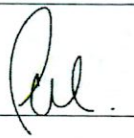
Reviewed by:	Fergal Maguire (Environmental & Ecological Consultant) **AVRIO Environmental Management**	Signed: 

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Executive Summary

AVRIO Environmental Management was engaged to undertake an Ecological Appraisal of a proposed development site located Knocklyon Road, Knocklyon, Co. Dublin (Grid Reference: O 11695 27404).

An extended Fossitt Habitat survey was undertaken on 14th of September 2022. The survey area encompassed lands associated with the proposed development hereafter ('application site'), and the wider environs.

The site is located approximately 7.8km southwest of Dublin city centre, 17.4km northwest of Bray town centre, and 46.8km southeast of Navan town centre. The area surrounding the site consists of residential dwellings, commercial businesses, greenspace and access roads associated with Knocklyon.

Habitats on-site comprise of areas of GA2 - Amenity Grassland, WD5 - Scattered Trees & Parkland, WS1 – Scrub, WS3 – Ornamental Non-native Shrub and BL3 – Buildings and Artificial Surfaces Proposals will see the removal of some of these habitats. Recommendations have been provided below for the retention of trees and hedgerows where possible with exception of non-native and invasive species which are target noted in Figure 2 below. Where retaining trees and hedgerows is not possible, the design should incorporate mitigation and enhancement measures to include the planting of native tree and hedgerow species to offset any adverse impact on habitats and to enhance ecological features on-site. Virginia Creeper which is an invasive species was identified on site, recommendations have been provided to remove this species from the site.

Habitats on-site were assessed as having negligible roosting potential for Bats. However, habitats are suitable for commuting and foraging bats. Recommendations for protection of commuting and foraging bats has been provided below.

A survey of the site did not identify badger setts, latrines, snuffle holes or mammal trails within the site's boundary or wider environs. The site has suitable habitat for badgers; however, the site being located within a grossly urbanised area, it is unlikely this species utilises the site for commuting and foraging. Considering badgers and other mammals can be highly mobile, general recommendations have been provided below for site safeguarding of badgers and additional terrestrial mammals during construction activities.

Breeding birds may use areas of trees, hedgerows, and scrub for nesting. To ensure that there are no adverse impacts on breeding/nesting birds, recommendations have been provided for the timing of site works to avoid the breeding season. The retention of periphery vegetation where possible, removal of non-native shrub and the inclusion of additional native hedgerow and tree species planting on-site will ensure there will be no negative impact on the local bird populations.

The site is unsuitable for Otter, Pine Martin, Red Squirrel and Common Frog.

1. Introduction

1.1 Remit

AVRIO Environmental Management was engaged to undertake an Ecological Appraisal of a proposed development site located Knocklyon Road, Knocklyon, Co. Dublin (Grid Reference: O 11695 27404).

This report details the Ecological Appraisal (EA) results and describes the habitats present within the site boundary and evidence/suitability for a range of protected and/or notable species.

This report should be read in conjunction with the Appropriate Assessment Screening Report prepared for this development.

1.2 Surveyors

Surveys herein were undertaken by Fergal Maguire NDA, BSc (Hons), PIEMA. This report was prepared by Amy Gallagher BSc (Hons), MSc QCIEEM.

Fergal Maguire NDA, BSc (Hons), PIEMA: Fergal is the General Manager at AVRIO Environmental Management. He holds an NDA and BSc (Hons) in Environmental Science from the Institute of Technology, Sligo. Fergal is a Practitioner member of the Institute of Environmental Management & Assessment (IEMA), an organisation requiring peer review and a high standard of professional conduct. Fergal has over 9 years of experience within the environmental industry. He has experience contributing to a number of Environmental Impact Assessments, environmental licence and surrender applications, including Industrial Emissions Licences (IEL), Integrated Pollution Control Licences (IPC) and Waste Licences for submission to the Irish Environmental Protection Agency (EPA), Northern Ireland Environment Agency (NIEA), Scottish Environment Protection Agency (SEPA), United Kingdom Environment Agency (E.A.) and a number of Local Authorities throughout the U.K. and Ireland. Fergal has extensive experience in the sustainable development and management of a number of IED licenced facilities throughout Ireland, the U.K. and greater Europe, as well as general consultancy within the waste management, environmental compliance and ecological sectors. Fergal has extensive experience in Ecological Impact Assessments (EcIA), including priority species such as Bats, Badger, Otter, Red Squirrel, Pine martin and breeding birds, and habitats assessments including Phase I and Fossitt Habitat Surveys. Fergal has extensive experience in Habitat Regulation Assessments (HRA/AASR/NIS), Ecological Clerk of Works (ECoW), Invasive Species Surveys and Management and production of site-specific mitigation proposals for a range of developments throughout Northern Ireland and the Republic of Ireland.

Amy Gallagher: This report has been prepared by Amy Gallagher. Amy is an Ecologist at AVRIO Environmental Management. She holds a BSc (Hons) in Ecological Management and an MSc in Ecological Management and Conservation Biology from Queens University Belfast. Amy is an ecologist with over 3 years of experience within the environmental industry. Amy is a qualifying membership of the Chartered Institute of Ecology and Environmental Management (CIEEM), an organisation requiring peer review and a high standard of professional conduct. Amy has experience contributing to Ecological Impact Assessments (EcIA), including assessments for priority species such as Bats, Badger,

Otter, Marsh Fritillary, Dragonfly and Damselfly, and habitats assessments including Phase I and Fossitt Habitat Surveys. Amy has experience in Habitat Regulation Assessment (HRA/AASR/NIS), Invasive Species Surveys and Management, and the production of site-specific mitigation proposals for various developments throughout Northern Ireland and the Republic of Ireland.

1.3 Site Location & Description

The proposed development site is located at Knocklyon Road, Knocklyon, Co. Dublin (Grid Reference: O 11695 27404).

The site is located approximately 7.8km southwest of Dublin city centre, 17.4km northwest of Bray town centre, and 46.8km southeast of Navan town centre. The area surrounding the site consists of residential dwellings, commercial businesses, greenspace and access roads associated with Knocklyon.

The wider environs include interspersed areas of road, parkland, watercourses, residential dwellings, commercial properties, hedgerows and treelines.

The are no designated sites within 2km of the development. The closest designated site is Glenasmole Valley SAC, which is 4.1km southwest of the development site. Glenasmole Valley SAC is designated for:

- Semi-natural dry grasslands and scrubland facies on calcareous substrates (Festuco-Brometalia) (* important orchid sites) [6210]
- Molinia meadows on calcareous, peaty or clayey-silt-laden soils (Molinion caeruleae) [6410]
- Petrifying springs with tufa formation (Cratoneurion) [7220]

The application site is hydrogeologically connected to South Dublin Bay SAC which is 8.7km east and South Dublin Bay and River Tolka Estuary SPA which is 8.8km east.

South Dublin Bay SAC is designated for:

- Tidal Mudflats and Sandflats [1140]
- Annual vegetation of drift lines [1210]
- Salicornia and other annuals colonising mud and sand [1310]
- Embryonic shifting dunes [2110]

South Dublin Bay and River Tolka Estuary SPA is designated for:

- Light-bellied Brent Goose (Branta bernicla hrota) [A046]
- Oystercatcher (Haematopus ostralegus) [A130]
- Ringed Plover (Charadrius hiaticula) [A137]
- Grey Plover (Pluvialis squatarola) [A141]
- Knot (Calidris canutus) [A143]
- Sanderling (Calidris alba) [A144]
- Dunlin (Calidris alpina) [A149]
- Bar-tailed Godwit (Limosa lapponica) [A157]
- Redshank (Tringa totanus) [A162]
- Black-headed Gull (Chroicocephalus ridibundus) [A179]
- Roseate Tern (Sterna dougallii) [A192]
- Common Tern (Sterna hirundo) [A193]
- Arctic Tern (Sterna paradisaea) [A194]
- Wetland and Waterbirds [A999]

The current site is used as an area of green space within a residential area. The site consists of habitats such as Scattered Trees and Parkland, Amenity Grassland, Scrub, Ornamental/Non-native Shrub and Hardstanding.

1.4 Proposed Development

Permission is sought for:

1. 4 no. new build 2.5-storey 5-bedroom semi-detached houses;
2. Hard and soft landscaping and all associated development works;
3. A new water main connection to the public network which runs by the front of the site will provide a clear potable water supply;
4. Foul wastewater will be discharged to the foul network via a new foul connection from the dwellings, the exact details of which are set out in the engineer's report and associated drawings;
5. Surface water will be discharged to local gravity-fed public surface water network. This systems will be designed and constructed in line with SuDS best practice guidance;
6. To carry out all ancillary site works.

1.5 Baseline Ecological Environment

Assessing the impacts of any project and associated activities requires an understanding of the ecological baseline conditions prior to and at the time of the project proceeding. Ecological baseline conditions are those existing in the absence of proposed activities[1].

[1] CIEEM, 2018, Guidelines for Ecological Impact Assessment in the UK and Ireland. Terrestrial, Freshwater, Coastal and Marine;

A walkover of the site was undertaken on 14th September 2022 by a qualified ecologist, and habitats present were identified in accordance with the Heritage Council's 'Guide to Habitats in Ireland'[2]. Plant nomenclature for vascular plants follows 'New Flora of the British Isles, while mosses and liverworts nomenclature follows 'Mosses and Liverworts of Britain and Ireland - a field guide'.

The walkover survey was designed to detect the presence, or likely presence, of a range of protected species and habitats. The walkover survey comprehensively covered the entire study area of the subject development and surrounding habitats.

[2] Fossitt, J. A. (2000). A Guide to Habitats in Ireland. Dublin: The Heritage Council;

2. Methodology

2.1 Pre-survey Data Search

An online search of the application site and surrounding area was undertaken to research existing ecological knowledge of the site.

The data search involved a search for statutory (up to 2km) and non-statutory (up to 1km) designated sites ecologically connected to the application site. A search for known records of notable/protected species was undertaken within relevant reporting grid squares incorporating the site and non-statutory designated sites, ancient and semi-ancient woodlands within 1km of the application site using the following sources:

- National Parks and Wildlife Service (NPWS) online map viewer[3];
- Ordnance Survey Ireland Map Viewer: Geohive[4];
- Environmental Protection Agency Geographic Information System (EPAGIS)[5];
- National Biodiversity Data Centre (NBDC)[6];
- NPWS Article 17 Metadata and GIS Database[7];
- Geological Survey Ireland, Department of the Environment, Climate and Communications Map Viewer[8];
- Pathway Homes Ltd[9]; and
- National Biodiversity Network (NBN) Atlas[10].

The results of the desktop survey were utilised to direct and inform the flora and fauna surveys detailed below. No assessments or conclusions are based upon the results of the desk study alone.

2.2 Fossitt Habitat Survey

The method adopted for the field survey follows the standard Fossitt Habitat Survey methodology developed by the Heritage Council of Ireland[11]. This method is used due to its wide applicability and accepted usage for determining existing conditions from which potential impacts arising from a development can be assessed.

[3] National Parks and Wildlife Service: National Parks & Wildlife Service (npws.ie)
[4] Ordnance Survey Ireland Map Viewer - GeoHive: https://webapps.geohive.ie/mapviewer/index.html
[5] Environmental Protection Agency Geographic Information System: https://gis.epa.ie/EPAMaps/
[6] National Biodiversity Data Centre: www.biodiversityireland.ie
[7] NPWS Article 17 Metadata and GIS Database: https://www.npws.ie/maps-and-data/habitat-and-species-data/article-17
[8] Geological Survey Ireland Map Viewer: https://dcenr.maps.arcgis.com/apps/MapSeries/index
[9] Pathway Homes Ltd - Development Information
[10] National Biodiversity Network (NBN) Atlas: Explore Your Area | NBN Atlas
[11] Fossitt (2000): A GUIDE TO HABITATS IN IRELAND. The Heritage Council Ireland.

The Fossitt habitat method involves mapping and assigning habitats within an established classification system and, where necessary, recording of point features of ecological interest (e.g., the presence of rare plant species or dead trees providing potential bat roosts). Point features of ecological interest are then recorded as a series of 'target notes'. A plant species list and photographs are produced and taken to convey to the reader a sense of the nature of the habitat(s) or to illustrate target-noted features.

The entire application site and immediate environs were surveyed for floral species and habitats classified by observing and recording the relative abundance of key species while also assessing the composition and condition of various vegetation communities. These surveys were augmented by the examination of aerial photographs, records and data compiled during a desktop study. Habitats were then classified according to The Fossitt methodology for habitats in Ireland

2.2.1 Significance of Habitats

Ecological evaluation within this section follows a methodology that is set out in Chapter 4 of CIEEM Good Practice Guidance for Habitats and Species The habitats within and adjacent to the development site was evaluated in accordance with the ecological context evaluation criteria outlined in CIEEM Good Practice Guidance for Habitats and Species[12]. The evaluation methodology also took cognisance of the National Roads Authority (NRA) outlined in Guidelines for Assessment of Ecological Impacts of National Road Schemes[13] which classifies sites in terms of their ecological importance, i.e., International Importance, National Importance, County Importance, Local Importance (Higher Value) or Local Importance (Lower Value).

2.2.2 Invasive Species (Flora) Survey

Throughout the habitat survey, the site was searched for invasive weed species, focusing on those species listed under the Third Schedule of the Wildlife Act 1976[14]. Invasive species included in this list include Japanese Knotweed (*Fallopia japonica*), Giant Hogweed (*Heracleum mantegazzianum*), Giant Knotweed (*Fallopia sachalinensis*), Giant Rhubarb (*Gunnera manicata*), Himalayan Balsam (*Impatiens glandulifera*), Himalayan Knotweed (*Polygonum polystachyum*), Bohemian Knotweed (*Fallopia bohemica*) and Rhododendron (*Rhododendron ponticum*).

2.3 Protected Species Surveys

Species survey methods were conducted in accordance with specific survey requirements and best practice guidelines (as outlined below). Due to the nature of the habitats present within the site, consideration was given to the potential for the site to support a variety of protected animal species detailed below.

2.3.1 Bat (*Vespertilionidae spp.)* Scoping Survey

The preliminary roost assessment (PRA) was undertaken by an experienced bat ecologist in line with current guidelines set out by the Bat Conservation Trust[15] (BCT).

[12] CIEEM-Good Practice Guidance for Habitats and Species: Good-Practice-Guide-July-2021-Update.pdf (cieem.net)
[13] NRA (2009): https://www.tii.ie/technical-services/environment/planning/Guidelines-for-Assessment-of-Ecological-Impacts-of-National-Road-Schemes.pdf
[14] The Wildlife Act 1976: https://www.irishstatutebook.ie/eli/1976/act/39/schedule/3/enacted/en/html
[15] Collins, J. (ed.) 2016: Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd edn.). The Bat Conservation Trust, London.

The PRA encompassed the buildings, structures, trees, and habitats within the site.

2.3.1.1 Roost Assessment for Buildings/Structures

This assessment incorporated a detailed inspection of the walls exterior on-site to look for features that bats could use for entry/exit and roosting and to search for signs of bats. A systematic search was conducted of the exterior of the walls to identify any potential or actual access points..

2.3.1.2 Roost Assessment for Trees

Roost surveys of trees frequently adopt a staged approach, with the initial survey being a preliminary ground level roost assessment. This preliminary ground level roost assessment is a detailed inspection of the exterior of the tree from ground level to identify any features that bats may utilise for roosting, such as:

- Woodpecker holes;
- Rot holes;
- Hazard beams;
- Other vertical or horizontal cracks and splits (such as frost cracks) in stems or branches;
- Partially detached platey bark;
- Knot holes arising from naturally shed branches, or branches previously pruned back to the branch collar;
- Man-made holes (e.g. cavities that have developed from flush cuts) or cavities created by branches tearing out from parent stems;
- Cankers (caused by localised bark death) in which cavities have developed;
- Other hollows or cavities, including butt-rots;
- Double-leaders forming compression forks with included bark and potential cavities;
- Gaps between overlapping stems or branches;
- Partially detached ivy with stem diameters in excess of 50mm;
- Bat, bird, or dormouse boxes.

Signs of use by bats (besides the actual presence of individuals) include:

- Bat droppings in, around or below a roosting feature;
- Odour emanating from a feature;
- Audible squeaking at dusk or in warm weather;
- Staining below a suitable feature.

The PRA (Preliminary Roost Assessment) aims to assess the likelihood of roosts being present within the trees located throughout the site.

In accordance with BCT guidelines, the inspection survey was carried out systematically and consistently around all parts of the tree, from all angles and both close to the trunk and further away.

2.3.2 Badger (*Meles meles*) Survey

Habitat suitability assessments and activity surveys were conducted by experienced field ecologists according to CIEEM guidance 'Competencies for Species Survey: Badger' for the treatment of badgers[16] to identify areas of suitable foraging and commuting habitats and suitable locations for resting places such as setts. The site and a 30m surrounding buffer zone were surveyed (where possible) for the following diagnostic field evidence:

- Setts (underground structures displaying signs of current or recent use and occupation or disused holes made by badgers);
- Paths & Trails (networks of paths linking setts with foraging habitat);
- Pawprints & Tracks;
- Guard hairs;
- Snuffle holes & Feeding scrapes (vegetation or soft soil turned over during foraging);
- Scratching posts (claw marks on tree trunks or fallen trees);
- Breach points (gaps in fences and hedges or crossing points over roads);
- Dung pits (single faeces deposits placed in a small excavation);
- Latrines (collection of faecal deposits used to mark territorial boundaries).

All tracks, trails and paths identified were followed to locate setts and other field signs; the immediate vicinity of all latrines was also searched for further signs of territorial evidence. In areas where no access was possible, for example, due to the presence of dense impenetrable scrub, an assessment of the likely importance of the area to badgers was undertaken. This assessment was based on the known local ecology of the species, the presence or absence of badger trails entering the area, identified field signs in the vicinity and local habitat suitability and quality.

2.3.3 Breeding Bird Habitat Suitability Assessment

An assessment of the habitats on site for supporting breeding birds was undertaken. The following optimal features were searched for:

- Suitable nesting habitat;

[16]CIEEM guidance for badger surveys: CSS-BADGER-April-2013.pdf (cieem.net)

- Suitable foraging areas.

2.3.4 Otter (*Lutra lutra*) Survey

The site was surveyed and searched for the following diagnostic and forensic field evidence indicative of the presence of L. lutra:

- Spraints (otter faeces/droppings used as territorial signposts. Often located in prominent positions and can be placed on deliberate piles of sand, soil or placed on rocks). Three categories are used for describing otter spraint: Dried fragmented (Df); Dried intact (Di) and Not fully dry (Nd);
- Footprints;
- Feeding remains;
- Paths/slides (otters can leave a distinctive path to/from the watercourse);
- Holts (underground shelters) are generally found:
  - Within tree roosts at the edge of the bank of a river;
  - Within hollowed out trees;
  - In naturally formed holes in the river banks that can be easily extended;
  - In ready-made holes created by larger mammals such as badgers, rabbits or outlet pipes; and
  - Couches/lay-ups (places for laying above ground usually located near a watercourse, between rocks or bounders, under dense vegetation);
- Breach points (gaps in fences, hedges etc. close to ditches & watercourses);
- Urination 'green spots'.

2.3.5 Pine Marten (*Martes martes*) Survey

Pine marten surveys and habitat suitability assessments were undertaken by an experienced ecologist in line with current guidelines set out by the mammal society[17] as recommended by CIEEM. Surveys followed the methodology set out in Cresswell *et al.* (2012)[18]. A scoring system was taken from Cresswell *et al.* (2012) and used to quantify key habitat features on a scale of 1 to 3. Combining the scores from each category enabled a final assessment to be made of the site as being 'high', 'moderate' or 'poor' quality for pine marten. This method is described in Table 2-1 below.

[17] Mammal society guidelines for pine martins: CSS-PINE-MARTEN-April-2013.pdf (cieem.net)
[18] UK BAP Mammals: Interim Guidance for Survey Methodologies, Impact Assessment and Mitigation – Pine Marten

Table 2-1: Habitat Suitability Assessment Scoring for Pine Marten

Category	Feature	Subjective Score Based Upon Presence/Abundance of Each Feature in a Survey Area
Foraging Resource	Abundance of fruit-bearing trees and shrubs.	1 to 3, where 1 = poor, 2 = moderate, 3 = rich (foraging resource)
	The extent of rough grassland/pre-thicket plantations (vole populations).	
	The extent of mature conifers with a well-developed field layer.	
	Area of broadleaf woodland and scrub.	
	The extent of tree-lined stream valleys and wetlands.	
	Rabbit abundance	
Habitat Extent & Connectivity	Extent (area) of 3-dimensional habitat (e.g. woodland) in woodland block.	1 to 3, where 1 = poor, 2 = moderate, 3 = high (habitat extent and connectivity)
	Habitat connectivity by hedgerows or tree lines beyond the woodland edge.	
Den Availability	The abundance of potential elevated den sites (e.g. over mature trees with cavities, windthrow, squirrel dreys, raptor or corvid nests, owl boxes, rock outcrops).	1 to 3, where 1 = poor, 2 = moderate, 3 = high (den availability)
Mortality Risk Factors	Evidence of predator control (e.g. tunnel traps around pheasant pens).	1 to 3, where 1 = low, 2 = moderate, 3 = high (mortality risk)
	Fox abundance	
	The density of main roads in the target Habitat Survey Area	
Total	Sum scores for each habitat block will range between 0 and 8, where score 0-2= poor, 3-5= moderate, and 6-8 = high habitat suitability	

A survey for potential den sites and scats was undertaken in suitable habitats. Each habitat block was walked once. Surveyors looked for scats, footprints, suitable den sites and direct sightings of pine marten. Surveys included searches along with rides and paths for scats. Where evidence was found, a detailed description was given, and the GPS position was recorded.

2.3.6 Red Squirrel (*Sciurus vulgaris*) Survey

Red squirrel surveys and habitat suitability assessments were conducted by experienced field ecologists according to CIEEM's Good Practice Guidance for Red Squirrels, produced by the Forestry Commission[19], BAP Mammals; Interim Guidance for Survey Methodologies, Impact Assessment and Mitigation[20], and Gurnell et al. (2004) 'A critical look at methods for monitoring red and grey squirrel'. Surveys identified areas of suitable foraging and commuting habitat and suitable locations for resting places such as dreys.

Features of value to red squirrel associated with the site were assessed in line with Gurnell et al. (2009) and are listed below:

- Woodland type (e.g. coniferous plantation, semi-natural broad-leaved woodland);
- Woodland use (e.g. commercial forestry, parkland);
- Connectivity (whether or not connecting features such as a canopy or thicket-stage plantations were present);
- Tree species present (e.g. Scots pine (Pinus sylvestris), Sitka spruce (Picea sitchensis), birch (Betula spp.);
- Dominant species;
- Canopy species;
- Age of woodland (over or under 25 years);
- Understorey (presence of scrub layer providing cover); and
- Ground flora (whether developed or poor, squirrels or presence of other foraging opportunities).

Following field survey, woodland blocks were assigned as either poor, moderate or high suitability based on the criteria developed based on professional experience in combination with Gurnell et. al. 2009, as detailed in Table 2-3 below.

Table 2-3: Scoring System Used to Evaluate Red Squirrel Activity

Score	Description
1	No signs (no signs of activity, no dreys present)
2	Few signs (no dreys, very few feeding signs)
3	Moderate signs (<4 dreys present, some scattered feeding signs)
4	Many signs (>4 dreys present, abundant feeding signs)

[19] CIEEM recommended Forestry Commission guidelines for Red Squirrel surveys: (researchgate.net)
[20] BAP Mammals; Interim Guidance for Survey Methodologies, Impact Assessment and Mitigation

2.3.7 Common Frog (*Rana temporaria*) Survey

An assessment of the habitats on site for supporting Common Frogs was undertaken in accordance with Irish Peatland Conservation Council's Guide to Common Frog[21]. The following optimal breeding habitats were searched for:

- Ponds which have plenty of algae and plants near the edge, usually with shallow edges so that they can easily climb out;
- Garden ponds;
- Farm ponds;
- Wildlife ponds;
- Streams;
- Bog pools; and
- Drains and ditches.

This survey aims to assess the likelihood of the species being present within the habitat located throughout the site.

2.3.8 Survey Constraints & Limitations

Weather conditions were optimal during the duration of the survey. Surveys were undertaken in September which may render some botanical species hard to identify as they are out of season; however, based on the size, scale and nature of the site it is highly unlikely that any botanical species not outlined in the report would arise in any quantity of significance. It was not possible to access the 30m site buffer in places as the surrounding land was privately owned and consisted of residential premises and private lands in places with no permitted access.

[21] Irish Peatland Conservation Councils Common Frog habitat: http://www.ipcc.ie/a-to-z-peatlands/frogs/

3. Legislation

3.1 Wildlife Act 1976 (as amended)

The Wildlife Act, 1976, is the principal national legislation providing for the protection of wildlife and the control of some activities that may adversely affect wildlife. The Wildlife Act, 1976, came into operation on 1st June 1977. It was the only major legislation concerned with wildlife that was passed in the previous 45 years. It replaced the Game Preservation Act, 1930, and the Wild Birds (Protection) Act, 1930.

The aims of the Wildlife Act, 1976, are to provide for the protection and conservation of wild fauna and flora, to conserve a representative sample of important ecosystems, to provide for the development and protection of game resources and to regulate their exploitation, and to provide the services necessary to accomplish such aims.

Under the Act, the Minister responsible for nature conservation may afford protection to all wild species of fauna and flora. However, the 1976 Act did not provide for the conservation of fish species nor of aquatic invertebrates in general, except insofar as species may be added in Agreement with the Minister for Communications, Marine and Natural Resources. Currently, all bird species, 22 other animal species or groups of species and 86 species of flora are afforded protected status.

The Act also enables the possession, trade and movement of wildlife to be regulated and controlled. Hunting and also falconry is controlled under the Act. Specific areas of importance for wildlife may be protected under the Act either as Nature Reserves, Refuges for Fauna, or by way of management agreements.

Under the Act, the Minister may provide assistance and advice on wildlife matters, undertake the necessary research and promote public knowledge and understanding of wildlife.

The Wildlife Act is not concerned with animal welfare per se, as its primary purpose is the conservation of wildlife. Animal welfare is the responsibility of the Department of Agriculture and Food.

More than 6,000 licences mainly concerned with hunting and import or export species are issued by NPWS under the Act every year. Almost all licences and certificates are issued free of charge under the Act. The Minister has the power to attach conditions to any licence granted under the Act and to vary them.

The main objectives of the Wildlife (Amendment) Act, 2000 are to:

- Provide a mechanism to give statutory protection to NHAs;
- Provide for statutory protection for important geological and geomorphological sites, including fossil sites by designation as NHAs;
- Improve some existing measures, and introduce new ones, to enhance the conservation of wildlife species and their habitats;

- Enhance a number of existing controls in respect of hunting, which are designed to serve the interests of wildlife conservation;
- Broaden the scope of the Wildlife Acts to include most species, including the majority of fish and aquatic invertebrate species which were excluded from the 1976 Act;
- Introduce new provisions to enable regulation of the business of commercial shoot operators;
- Ensure or strengthen compliance with international agreements and, in particular, enable Ireland to ratify the Convention on International Trade in Endangered Species (CITES) and the African-Eurasian Migratory Waterbirds Agreement (AEWA).
- Increase substantially the level of fines for contravention of the Wildlife Acts and to allow for the imposition of prison sentences;
- Provide mechanisms to allow the Minister to act independently of forestry legislation, for example, in relation to the acquisition of land by Agreement;
- Strengthen the provisions relating to the cutting of hedgerows during the critical bird-nesting period and include a requirement that hedgerows may only be cut during that period by public bodies, including local authorities, for reasons of public health or safety;
- Strengthen the protective regime for Special Areas of Conservation (SACs) by removing any doubt that protection will in all cases apply from the time of notification of proposed sites; and,
- Give specific statutory recognition to the Minister's responsibilities in regard to promoting the conservation of biological diversity, in light of Ireland's commitment to the U.N. Convention on Biological Diversity.

3.2 The Habitats Directive & Regulations

Council Directive 92/43/EEC on the conservation of natural habitats and of wild fauna and flora, the Habitats Directive, is transposed into law in Ireland by the European Communities (Birds and Natural Habitats Regulations 2011 (S. I. No. 477 of 2011).

The Habitats Directive covers habitats and non-avian species of fauna of nature conservation importance and in danger of disappearance, for which the European Commission (E.C.) has a responsibility in view of the proportion of their global range. Habitats are listed and detailed in Annex I of the Directive.

Where the Habitats Directive encapsulates a presumption in favour of conserving Annex I habitats wherever they occur, prior assessment is required to determine whether any areas of habitat within the site meet the criteria for recognition as Annex I habitat types.

Bats (all species) and Otter in Ireland are listed on Annex IV of the Directive and are therefore classified as European Protected Species (EPS). These European Protected Species are considered to be of international conservation status. They are subject to a regime of strict legal protection in Ireland under the provisions of the Habitats Regulations.

Articles 12 to 16 of the Habitats Directive establish and implement a strict protection regime for plant and animal species listed in Annex IV (European Protected Species, EPS).

Part III of the Habitats Regulations establish the protective regime which applies to EPS, wherever they occur, giving particular effect to the provisions of Article 12 of the Habitats Directive, making it an offence to:

- Deliberately to capture, injure or kill a wild animal of a European protected species;
- Deliberately to disturb such an animal while it is occupying a structure or place which it uses for shelter or protection;
- Deliberately to disturb such an animal in such a way as to be likely to-
  - Affect the local distribution or abundance of the species to which it belongs;
  - Impair its ability to survive, breed or reproduce, or rear or care for its young; or
  - Impair its ability to hibernate or migrate;
  - Deliberately to take or destroy the eggs of such an animal;
- Deliberately to obstruct access to a breeding site or resting place of such an animal; or
- To damage or destroy a breeding site or resting place of such an animal.

Therefore, it is necessary to establish if bats and otters are utilising the site and immediate environs prior to any works commencing. Surveys must detail and describe the activity and behaviour of the species on-site and determine the nature and significance of any impacts, which may be likely to arise as a result of the proposed development.

4. Results

4.1 Pre-survey Data Search

The site is not located within 2km of any Special Protected Areas (SPA), Special Areas of Conservation (SAC) or National Heritage Area (NHA). The closest site is Glenasmole Valley SAC which is 4.1km southwest of the site.

The following designated sites have been identified within 15km of the application site:

- Glenasmole Valley SAC
- Wicklow Mountain SAC
- South Dublin Bay SAC
- Knocksink Wood SAC
- North Dublin Bay SAC
- Ballyman Glen SAC
- Rye Water Valley/Carton SAC
- Wicklow Mountain SPA
- South Dublin Bay and River Tolka Estuary SPA

A review of the Biodiversity Ireland Maps[22] did not reveal any local wildlife sites within 1km or any additional environmental information on the site.

There are no woodlands identified on the Irish Ancient and Long-Established Woodland Inventory within 1km of the site. The closest is Fitzsimons Wood, which is 2.7km southeast of the site.

A search of records held on the NBDC website revealed the following protected species within the 2km grid square incorporating the site:

- Common Frog (*Rana temporaria*) – Last Recorded 03/03/202;
- Eurasian Badger (*Meles meles*) - Last recorded 08/03/2014;
- Eurasian Red Squirrel - Last recorded 31/12/2012;
- European Otter (*Lutra lutra*) - Last recorded 09/07/2017;
- Lesser Noctule (*Nyctalus leisleri*) – Last Recorded 09/04/2001;
- Pine Marten (*Martes martes*) – Last Recorded 08/05/2019;
- Common Pipistrelle (*Pipistrellus pipistrellus*) – Last Recorded 15/06/2004;
- Smooth Newt (*Lissotriton vulgaris*) – Last Recorded 31/05/1974; and,
- Soprano Pipistrelle (*Pipistrellus pygmaeus*) – Last Recorded 09/04/2001.

[22] Biodiversity Ireland Map Viewer: https://maps.biodiversityireland.ie/Map

A search of records held on the NBN Atlas website revealed the following protected species within a 5km grid square incorporating the site:

- Common Frog (*Rana temporaria*) – Last Recorded 1973;
- European Otter (*Lutra lutra*) - Last Recorded 1980;
- Leisler's Bat (*Nyctalus leisleri*) – Last Recorded 2005; and
- Smooth Newt (*Lissotriton vulgaris*) – Last Recorded 1974.

4.2 Fossitt Habitat Survey

A Fossitt Habitat survey was undertaken on the 14th of September 2022. The weather during the survey was dry and cloudy. A habitat map is detailed in Figure 2 attached as an appendix to this document.

4.2.1 Amenity Grassland (GA2)

The majority of grassland on the site was dominated by Amenity Grassland indicator species including Korean Lawn Grass (*Zoysia japonica*), Annual Bluegrass (*Poa annua*), and Creeping Buttercup (*Ranunculus repens*). Species noted within this habitat on-site include:

- Annual Bluegrass (*Poa annua*);
- Bitter Dock (*Rumex obtusifolius*);
- Common Dandelion (*Taraxacum officinale*);
- Creeping Buttercup (*Ranunculus repens*);
- Curly Dock (*Rumex crispus*);
- Field Mustard (*Brassica rapa*);
- Korean Lawn Grass (*Zoysia japonica*);
- Orchard Grass (*Dactylis glomerata*);
- Perennial Ryegrass (*Lolium perenne*);
- Rugosa Rose (*Rosa rugosa*) and,
- Spear Thistle (*Cirsium vulgare).*

4.2.2 Scattered Trees & Parkland (WD5)

Broadleaf trees are scattered around the boundary of the site. Trees are generally in good condition with some trees clad with thick ivy. The tree species are diverse and the majority of species are native, species noted include:

- Ash (*Fraxinus excelsior*);
- Small Leaved Lime (*Tilia cordata*); and
- Sycamore (*Acer pseudoplatanus*);

4.2.3 Scrub (WS1)

There is a small area of scrub on site, that consists of a number of common species including:

- Bitter Dock (*Rumex obtusifolius*);
- Cleavers (*Galium aparine*);
- Common Dandelion (*Taraxacum officinale*);
- Common Nettle (*Urtica dioica*);
- Creeping Thistle (*Cirsium arvense*);
- Elmleaf Blackberry (*Rubus ulmifolius*);
- Poison Hemlock (*Conium maculatum*);
- Ribwort Plantain(*Plantago lanceolata*);
- Scarlet Firethorn (*Pyracantha coccinea*); and

- Common Ivy (*Hedera helix*);
- Perennial Ryegrass (*Lolium perenne*);
- Stinging Nettle (*Urtica dioica*).

4.2.4 Ornamental Non-native Shrub (WS3)

There was a number of non-native species identified along the stone wall including Virginia Creeper (*Parthenocissus quinquefolia*), Scarlet Firethorn (*Pyracantha coccinea),* Rugosa Rose (*Rosa rugosa)* and Japanese Barberry (*Berberis thunbergii*). All non-native species on site have been listed below:

- Japanese Barberry (*Berberis thunbergii*);
- Korean Lawn Grass (*Zoysia japonica*);
- Rugosa Rose (*Rosa rugosa);*
- Scarlet Firethorn (*Pyracantha coccinea);*
- Sycamore (*Acer pseudoplatanus*); and
- Virginia Creeper (*Parthenocissus quinquefolia*).

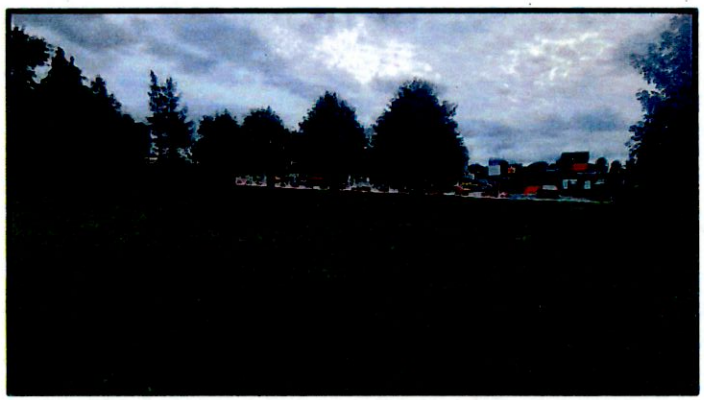
4.2.5 Buildings & Artificial Surfaces (BL3)

A concrete brick wall was present to the north and east of the site. This wall was vegetated in some areas. Notable species include:

- Common Ivy (*Hedera helix*);
- Japanese Barberry (*Berberis thunbergii*);
- Scarlet Firethorn (*Pyracantha coccinea);* and
- Virginia Creeper (*Parthenocissus quinquefolia*).

4.2.5 Invasive Species

The site, the extended land holding, and the surrounding areas where possible were comprehensively surveyed and searched for invasive species, focusing on those species listed under Third Schedule of the Wildlife Act 1976[23]. The invasive species survey carried out by AVRIO identified Virginia Creeper along the eastern wall that has encroached onto the site from a neighbouring property. Virginia Creeper is not listed under on the Third Schedule of Regulations 49 and 50 of the European Communities (Birds and Natural Habitats) Regulations 2011, however should be managed appropriately. Virginia Creeper has been target noted in Figure 2 below.



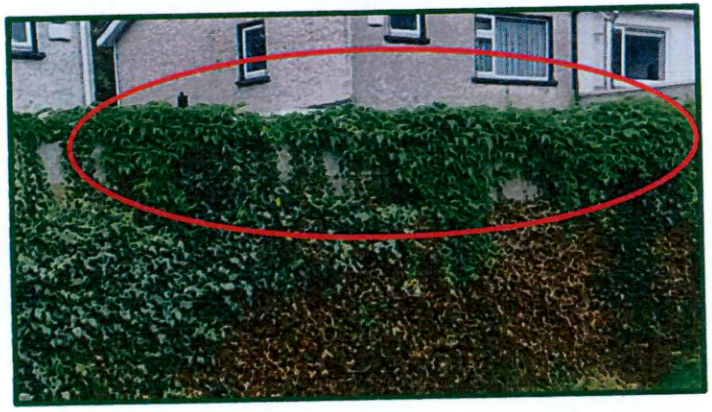
Picture 1: Amenity Grassland & Hardstanding On-site

Picture 2: Hedgerow, Shrub & Trees On-site

[23] The Wildlife Act 1976: https://www.irishstatutebook.ie/eli/1976/act/39/schedule/3/enacted/en/html

Picture 3: Amenity Grassland On-site

Picture 4: Trees On-site



Picture 5: Virginia Creeper On-site

4.3 Protected Species Survey

4.3.1 Bat (*Vespertilionidae* spp.) Scoping Survey

4.3.1.1 Roost Assessment for Wall

The wall on-site is located towards the north and northeast site boundary. The wall consists of a concrete brick structure. There were no suitable cracks/crevices for bats to roost. The wall was assessed as being of negligible bat roost potential in accordance with BCT and NPWS guidelines.

4.3.1.2 Roost Assessment for Trees

Trees were scattered to the west of the site. A preliminary roost assessment (PRA) did not identify any trees with bat roost potential due to the lack of roost features present. All trees on site were assessed as being of negligible bat roost potential.

Habitats within the site, and the wider environs are considered optimal for commuting and foraging bats due to the presence of open grassland, treelines and hedgerows.

4.3.2 Badger (Meles meles) Survey

The site, and the wider environs were comprehensively surveyed and searched for field evidence of Badger. No Badger setts, latrines, snuffle holes or mammal trails were identified within the site's boundary or the extended survey area. The site has suitable habitat for badgers; however, the site being located within a grossly urbanised area, it is unlikely this species utilises the site for commuting and foraging.

4.3.3 Breeding Bird Surveys

Areas of scrub, hedgerows and treelines are considered optimal locations for breeding birds. A dedicated survey for breeding birds was not undertaken at the site. No birds were identified utilising the site and no nests were observed within trees or shrub on-site.

4.3.4 Otter (*Lutra lutra*) Surveys

The site, and the wider environs were comprehensively surveyed and searched for diagnostic and forensic field evidence indicative of the presence of otter. There were no field drains on site and no otter Spraints, Footprints, Paths/slides, Holts or Urination 'green spots' were identified within the site or the extended survey area. The site did not provide sufficient otter habitat as the area lacked any suitable banks and watercourses for otters to form holts within. Considering such, the site itself is considered sub optimal for otter and the extended environs are deemed unsuitable for commuting and foraging otters.

4.3.5 Pine Martin (*Martes martes*) Surveys

The site and the wider environs were comprehensively surveyed and searched for evidence of pine marten. No specific evidence of this species was noted within the application boundary itself or in the immediate environs. The site is considered to have poor suitability for this species, in accordance with the methodology detailed in section 2.3.5 above. According to the Habitat Suitability Assessment methodology outlined in section 2.3.5, a scoring rating was developed for the site and is detailed below.

Table 4-1: Pine Martin Habitat Suitability Assessment Score

Category	Subjective Score
Foraging Resource	0.2
Habitat Extent & Connectivity	0.1

Den Availability	0.1
Mortality Risk Factors	0.7
Total	1.1 (Poor Suitability)

4.3.6 Red Squirrel (*Sciurus vulgaris*) Surveys

The site and the wider environs were comprehensively surveyed and searched for evidence of Red Squirrels. No coniferous woodland is present on-site, and the site is not connected to larger woodlands via treelines, hedgerows or other ecological corridors. No specific evidence of this species was noted within the application boundary itself or in the immediate environs. The site is considered to have a score rating of 1 (no signs (no signs of activity, no dreys present) for this species, in accordance with the methodology detailed in section 2.3.6 above. According to the Habitat Suitability Assessment methodology outlined in section 2.3.6, a scoring rating was developed for the site and is detailed below.

Table 4-2: Red Squirrel Habitat Suitability Assessment Score

Score	Description	Evaluation Score – Section 1
1	No signs (no signs of activity, no dreys present)	Score 1: No signs (no signs of activity, no dreys present)
2	Few signs (no dreys, very few feeding signs)	
3	Moderate signs (<4 dreys present, some scattered feeding signs)	
4	Many signs (>4 dreys present, abundant feeding signs)	

4.3.7 Common Frog (*Rana temporaria*) Surveys

The site and the wider environs were comprehensively surveyed and searched for evidence Common Frog, and the habitat on-site assessed in accordance with methodologies outlined above. No specific evidence of this species was noted within the application boundary itself or in the immediate environs. The site is considered sub-optimal for common frog.

5. Discussion

5.1 Habitats

5.1.1 Protected Habitats

Note: This report should be read in conjunction with the site-specific Appropriate Assessment Screening Report developed by AVRIO, project reference AEMP-162 (AH7-T1) V2 dated 7th November 2022 V2 for this scheme.

There is no spatial overlap or no direct land take from any designated site. There are no European Designated sites (SAC or SPA) within 15km that are hydrologically connected to the development. However, the site may be hydrogeologically connected to designated sites via a Locally Important Aquifer with a Low groundwater vulnerability status. This feature is a potential pollutant pathway from the development site to designated sites. However, the development includes the following:

1. Foul wastewater will be discharged to the foul network via a new foul connection from the dwellings;
2. Surface water will be discharged to local gravity-fed public surface water network. This system will be designed and constructed in line with SuDS best practice guidance.
3. All construction activities on-site will adhere to best practice environmental guidance such as:

   - Guidance for Pollution Prevention (GPP's);
   - Pollution Prevention Guidance Notes (PPG's);
   - Pollution Prevention Guidance Notes (PPG's);
   - CIRIA Report C532 Control of Water Pollution from construction sites;
   - CIRIA Report C741 Environmental Good Practice on Site guide (4th Edition);
   - BS6031:2009 Code of Practice for Earthworks; and,
   - BS 5930 2015: Code of Practice for Site Investigations.

These mitigation measures detailed within the proposal negates any such impact to any designated site.

There are no woodlands identified on the NI Ancient Woodland Inventory, which are classified as planted ancient woodland sites (PAWS) and ancient semi-natural woodland (ASNW) located within 1km of the site.

5.1.2 Site Habitats

GA2 - Amenity Grassland

Amenity grassland habitats were identified on-site. This grassland comprises of common species such as Korean Lawn Grass (*Zoysia japonica*), Annual Bluegrass (*Poa annua*), and Creeping Buttercup (*Ranunculus repens*). The loss of this small amount of amenity grassland habitats is considered negligible, as this grassland type is of low species diversity and is present throughout the immediate and wider environs.

WD5 - Scattered Trees & Parkland

Broadleaf trees are scattered around the boundary of the site. Many of the broadleaved trees form linear treelines, which would be utilised by local species such as bats for navigation. Birds may also utilise these trees for nesting. Trees on-site are therefore assessed as being of moderate ecological value at site level only.

Trees to the north and west of the site are to be removed as part of development proposals. Trees should be retained where possible, where retaining trees and treelines is not possible, the design should incorporate mitigation and enhancement measures to include the planting of native tree species to offset any adverse impact on this habitat. Supplementary flora planting has been recommended below.

WS1 – Scrub

The scrub on site has been deemed to be species-poor; however, it helps provide commuting and foraging habitat for bats and other species, and nesting locations for birds. Scrub on-site is therefore deemed to be of moderate ecological value at site level only.

Scrub to the north and east of the site is to be removed as part of development proposals. Scrub should be retained where possible, where retaining scrub is not possible, the design should incorporate mitigation and enhancement measures to include the planting of native hedgerow species to offset any adverse impacts on this habitat. Supplementary flora planting has been recommended below.

WS3 – Ornamental Non-native Shrub

Boundary vegetation to the east of the site consists of Ornamental Non-native Shrub. Species identified within this habitat include Virginia Creeper and Japanese Barberry.

Ornamental Non-native Shrub on-site is to be removed as part of development proposals. This habitat has been deemed to be species-poor; however, it helps provide commuting and foraging habitat for bats and other species, and nesting locations for birds. Non-native species on-site should be removed and replaced with native species. To ensure no adverse impact as a result of removal of this habitat, recommendations have been provided below for the planting of native tree and hedgerow species within the site. Supplementary flora planting has been recommended below.

- As a last resort, accessories such as baffles, hoods or louvres can be used to reduce light spill and direct it only to where it is needed.

6.3.2 Badgers

A survey of the site and the immediate environs did not reveal any evidence and/or sett locations for this species. However, badgers and other mammals are highly mobile species and as such precautionary mitigation should be implemented as detailed below.

It is recommended that once construction works have begun on-site, any open excavation pits or trenches should have wooden planks placed within them overnight and outside construction periods to provide a means of escape and to avoid accidental trapping of mammals or other wild/domestic animals within them.

6.3.3 Breeding Birds

All species of breeding birds are protected under legislation. Therefore, removal of vegetation on-site must be undertaken outwith the breeding season, which extends from 1st March to 31st August inclusive. Should these operations be required during this period, it is recommended that a qualified ecologist is appointed to survey the areas of vegetation prior to removal for evidence of use by nesting birds. Should any nesting birds be identified, the area will need to remain undisturbed until all dependent young have fledged the nest and the nest is no longer in use. Additional hedgerow and tree planting recommendations highlighted in section 6.1 above will ensure the site remains viable for these species.

Figures

Figure 1: Site Location

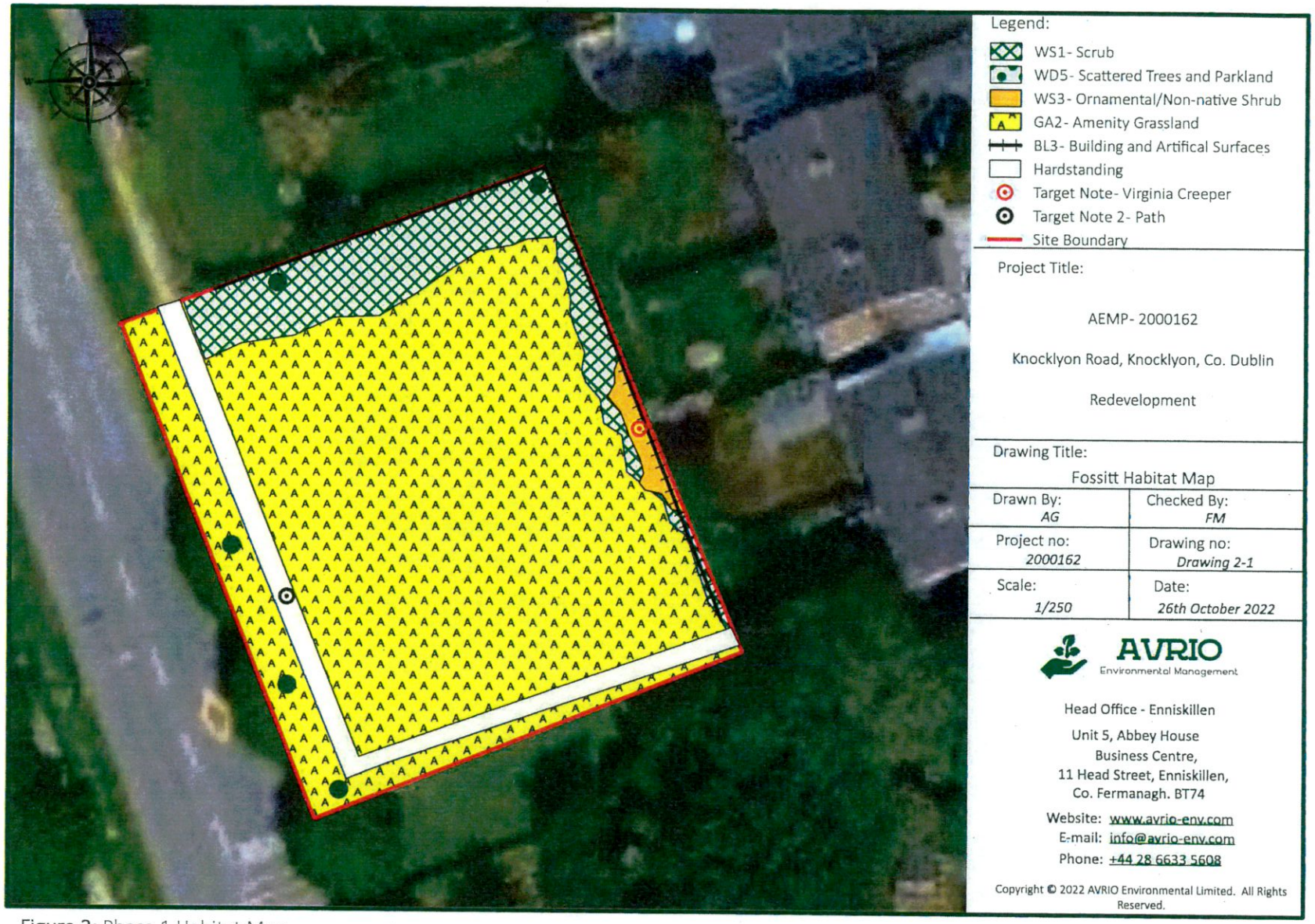


Figure 2: Phase 1 Habitat Map