

KERRY ECOLOGICAL SERVICES

**Ecological Impact Assessment for development at Lynbrook,
Whitechurch Rd., Rathfarnham, Co. Dublin**

[SD21A/0307]

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On behalf of: Brock Finucane Architects

1. **INTRODUCTION**

It is proposed to develop dwelling houses at Lynbrook, Whitechurch Road, Rathfarnham, Co. Dublin (D16T2P7).

An Ecological Impact Assessment report has been requested.

The overall objectives of this assessment are:

- To assess the likely impacts, if any, on the existing habitats and associated fauna, which may arise from the proposed development.
- If necessary, to outline suitable environmental measures which could reduce or eliminate any likely impacts.

This report has been compiled by Ciaran Ryan (B.Sc. Analytical Science; M.Sc. Environmental Science) with over 25 years experience in ecological survey (including SAC & SPA designations), SAC & SPA Management Plans, Commonage Framework Plans, SAC Appeals, Natura 2000 site assessments and reports (NIS) and general environmental consultancy. I am an accredited Native Woodland Scheme ecologist.

2. **DESK SURVEY**

A desk study was carried out to determine baseline information on the development site and nearby habitats and species of ecological interest, with special reference to Natura 2000 sites and protected species. The following databases from the following organisations were assessed:

- National Parks and Wildlife Service (www.npws.ie)
- Geohive mapview (www.geohive.ie)
- Biodiversity Ireland (www.biodiversityireland.ie)
- Environmental Protection Agency (www.epa.ie)
- Ordnance Survey Ireland (www.osi.ie)
- Geological Survey Ireland (www.gsi.ie)
- BTO Bird Atlas Records (1981- 2011)
- Teagasc Soil Map ([www.http://gis.teagasc.ie/soils/map.php](http://gis.teagasc.ie/soils/map.php))
- Wetlands Survey (www.wetlandsurveysireland.com)

3. **SITE SURVEY / ASSESSMENT**

3.1 **General**

The site was surveyed on the 23rd March, 2022. The site was walked, identifying habitats and species likely to be affected. The survey was carried out in accordance with the Smith *et al.*, (2011). Foulkes *et al.*, (2013) and the Institute of Ecology and Environmental Management (2011 & 2012). Habitats are classified according to Fossitt (2000). It was possible to classify each habitat and identify relevant species. Using the information gathered in the field, together with any published and/or local information on the site and its environs, it is considered that an adequate ecological assessment is achieved.

Survey for terrestrial mammals was carried out by means of a search within the site and immediate vicinity, focusing on mammal dwellings (e.g. Badger setts, Otter holts), feeding signs or droppings and direct observations if possible. Special attention is paid to species listed under Schedule 5 of the Wildlife Act, 1976; 2000 in particular Badger or Otter. Bird sampling such as those recommended by Bibby *et al.*, (2000) were not carried out, but any bird species seen or heard were recorded. The survey also took account of the presence of any invasive species listed under the Third Schedule of the EC (Birds and Natural Habitats) Regulations 2011 (S.I. 477 of 2011).

The underlying soil is predominantly acid, brown earths / podzolics (i.e. acid, deep, poorly drained mineral) on granite rocks and appinite bedrock (geohive.ie /epa.ie mapviewers).

The site comprises an existing dwelling house, gardens, amenity grassland, with bounding stream and woodland corridors.

3.2 **Habitats**

Habitats identified are categorised as per level 3 habitat mapping classification (Fossitt, 2000).

The principal habitat on lands proposed for development is amenity grassland (GA2) adjacent to an existing house, shed and tarmac driveway (BL3) surrounded by a garden hosting ornamental shrubs (BC4, GA2). The grassland is dominated by typical grasses (e.g. *Lolium perenne*, *Agrostis stolonifera*, *Poa* spp., *Anthoxanthum odoratum*), with abundant Creeping Buttercup (*Ranunculus repens*) along with Dock (*Rumex* sp.) and Dandelion (*Taraxacum officinale* agg.) also present. It is species-poor.

Adjacent to the development lands is an eroding / upland river (FW1) – the Whitechurch Stream. This is approximately 2m wide, < 0.5m deep, medium flowing and with a boulder, cobble and pebble substrate. The source of this stream is at Tibbradden in the Dublin/Wicklow Mountains. The river waterbody status (2013-18) within this stream is classified as good (EPA database).

The watercourse has an associated corridor (3-5m) of riparian woodland / scrub (WN5) running along its banks. This strip of woodland (WD2) / scrub (WS1) also extends along the western / north-western site boundary on an embankment sloping downwards toward the development lands. These woodland strips comprise Cypress (*X Cupressocyparis leylandii*, *Chamaecyparis lawsoniana*), one large Silver Fir (*Abies alba*) beside the stream, Scots Pine (*Pinus sylvestris*) on north-west bank, Alder (*Alnus glutinosa*) along the stream, Ash (*Fraxinus excelsior*) and Elder (*Sambucus nigra*) trees; with Buddleja (*Buddleja davidii*), Rose-of-Sharon (*Hypericum calycinum*) and Bramble (*Rubus fruticosus*) in the understorey. Other species present in the ground flora include ferns (*Polystichum setiferum*, *Asplenium scolopendrium*), Pendulous Sedge (*Carex pendula*), Honeysuckle (*Lonicera periclymenum*), Ivy (*Hedera helix*), Hogweed (*Heracleum sphondylium*), Cow Parsley (*Anthriscus sylvestris*), Creeping Buttercup, Cleavers (*Galium aparine*), Ramsons (*Allium ursinum*), Bluebell (*Endymion non-scriptus*), Lords-and-Ladies (*Arum maculatum*), Herb Robert (*Geranium robertianum*), Nettle (*Urtica dioica*), Sanicle (*Sanicula europaea*), Violet (*Viola riviniana*) and non-native Winter Heliotrope (*Petasites fragrans*). Tree diameters are generally < 0.5m, but along the north-western

boundary away from the stream, tree diameters can be up to 1m, with Ivy-covered limbs. In the far north-western corner, there is a very small area of more open scrub (WS1) adjacent to the woodland corridor.

There were no invasive non-native species recorded e.g. Japanese Knotweed.

3.3 **Fauna**

3.3.1 **General**

There is no notable fauna recorded on this site. Notable species present within O1425 1km grid (encompassing development site) include Badger, Long-eared Owl and the protected species Long-eared Bat (Biodiversityireland.ie). However, none are qualifying interests for the SAC.

3.3.2 **Mammals**

The woodland corridors with dense undergrowth could be suitable habitat for Badger. However, there were no setts recorded or any evidence of Badger activity. The adjacent Whitechurch Stream watercourse may be utilised by Otter, although there are no recent records for this species occurring here.

It is possible that bats roost within the existing dwelling house. However there was no evidence of this - assessed based on Kelleher and Marnell (2006). In any case, the proposed development does not include any disturbance to this building. The large trees present along the north-western site boundary could harbour occasional roosting bats, especially where there is dense Ivy growth. It is also quite possible that bats forage along the watercourse and woodland corridors.

With regard to the inspection of trees for bats this presents particular problems at any time of year as bats will use a wide variety of roost sites in cavities, splits, cracks, knotholes and under loose bark many of which are not easily detected from the ground. The nomadic nature of tree-dwelling bats means that the success rate of bat confirmation using a bat detector is likely to be very low – those just before dawn (which aim to detect bats returning to their roost) have a slightly higher chance of success, as bats will often swarm around a roost for some time before entering (Kelleher & Marnell, 2006).

3.3.3 **Birds**

The nearby Wicklow Mountains SPA has been designated for Merlin and Peregrine Falcon, while Long-eared Owl has been recorded in the locality (refer 4.3.1). However, the site would not provide suitable nesting or foraging habitat for Merlin or Peregrine, and there was no evidence of nesting Long-eared Owl.

Some native songbirds would likely occur within the general area in hedgerow and fields e.g. Blackbird, Wren, Robin and possibly Bullfinch, Chaffinch and Willow Warbler. None of these are listed under Annex I of the EU Birds Directive or on the Birds of Conservation Concern Red List. The only other notable bird species that is considered potentially present is Kingfisher, which is listed for protection under Annex I of the EU Birds Directive.

Merlin generally occur on open moorland during the breeding season. They traditionally nest amongst heather in hilly moorland. However, they do also nest in semi-open habitat at the periphery of coniferous woodland in old corvid nests, often adjacent to heath habitat or close to residential areas. They rarely re-use a nest in subsequent years. Its core foraging range is typically 5km (Scottish Natural Heritage, 2016). In the winter, Merlin move to the coast to prey on the concentrations of bird species here.

Peregrine Falcon is widespread and relatively common in Ireland, with c. 500 breeding pairs (Cabot, 1995). It has a typical core foraging range of 2km with a maximum distance of 18km (Scottish Natural Heritage, 2016).

Long-eared Owl is seldom seen, spending the day roosting close to the trunk of a tree, only emerging at night to feed. They are more frequent in the east than the west with about 2,300 pairs, mostly in coniferous woodland (Cabot, 1995).

Merlin and Peregrine Falcon are listed for protection under Annex I of the EU Birds Directive.

3.4 Rare plants / species

The site does not support any of the habitats or species for which any nearby SAC and/or SPAs are designated, nor are there rare plants or other notable species present. The site is not wet enough to provide suitable habitat for amphibians such as Common Frog.

4. ASSESSMENT

4.1 Habitats

The development will result in a loss of some amenity grassland habitat. However, this habitat is not species-rich and of limited ecological value. It is common locally and nationally. As such, any ecological impact on site habitats would not be regarded as significant.

The adjacent stream and woodland habitats have greater ecological value. However, the proposed works will not directly impact on these habitats. With standard appropriate working practices (refer section 5) any potential indirect impacts on these habitats can be minimised i.e. be insignificant.

4.2 Fauna

4.2.1 Mammals

No noteworthy mammals were recorded, although the Whitechurch Stream may be utilised by aquatic species such as Otter. However, this watercourse will not be impacted upon by the proposed works. Corridors of woodland present that may be utilised by foraging, or even occasional roosting bat, species will be left intact.

There was no notable bird species recorded. Native songbirds potentially present would mostly utilise woodland and scrub present which will not be impacted by the proposed works.

4.2.4 Disturbance

The introduction of machinery and working personnel will result in disturbance to inhabiting birds, mammals and other fauna during the works. However, all this work will be mostly within amenity grassland habitat of no significant ecological value. Any impact will be restricted to daylight hours over the works period. In any case, the disturbance factor will be short-term in nature. Therefore overall, this impact is deemed to be minor.

4.3 Sediment & nutrient run-off

4.3.1 Overview

Sediment and nutrient run-off are the principal potential impacts on the aquatic environment i.e. the on-site stream.

4.3.2 Potential impacts

Sediment and nutrient run-off can occur owing to proposed works and the general operation of machines. These works could result in impacts on the semi-natural habitats present, notably any aquatic habitat. Sediment run-off could also enter the aquatic environment via drains present.

The principal aquatic habitat of ecological concern is the Whitechurch Stream. Any works within 10m of this stream (or a drain discharging into this stream), could potentially result in sediment run-off into this natural aquatic environment.

4.3.3 Assessment

It is considered that the potential for the generation of suspended sediment and run-off into the on-site watercourse will be tempered and, if necessary, mitigated by a number of factors:

- (i) There are no drainage channels on site which could act as conduits of polluting material into the Whitechurch Stream.
- (ii) There is a woodland corridor (5-10m) with dense undergrowth between the development lands and the Whitechurch Stream. This will act as a buffer to any potential sediment run-off.
- (iii) The soil present comprises acid brown earth. Any run-off would likely permeate this soil as opposed to surface run-off.
- (iv) Only a limited amount of excavation work is required. The total volume is approximately 20m³. Aside from this excavation no other soil disturbance is expected occur.
- (v) The material excavated will be primarily composed of soil and subsoil. This material will be removed off site immediately and transferred to a licensed waste facility. There will be no stockpiling of this material on site.
- (vi) No road construction or road amendment is necessary as the delivery trucks will enter the site using the existing dwelling house access.
- (vii) The limited duration of the works.
- (viii) As with any development project, the application of good building (CIRIA guidelines) is assumed. Appropriate working practices will be employed (including silt traps where necessary), to ensure that minimal to nil silt or nutrients enter the aquatic environment (refer section 5).

In conclusion, there is little potential for any surface sediment run-off impact from the proposed works impacting on the aquatic environment. Any potential impact can be mitigated by applying appropriate measures (refer Section 5).

4.4 Pollution

The use of building materials and the employment of machines can introduce pollutants into the surrounding semi-natural habitats. Aquatic habitats (e.g. site watercourse) would be most at risk to this potential impact. However, as shown above (4.3.3), this impact would not be regarded as significant, once appropriate standard practices are applied to ensure that pollution does not occur (refer section 5).

4.5 Conclusion

The proposed project will not have a significant impact on the general ecology of the area because:

- The only habitat directly impacted is species-poor, amenity grassland of little ecological value.
- There will be no direct impact on nearby watercourse and woodland habitats, with any potential indirect impacts easily mitigated for.
- There are no notable fauna recorded on site. Habitats that may harbour notable fauna (e.g. Whitechurch Stream and woodland corridor) will not be impacted upon.

Section 5: MITIGATION MEASURES

5.1 Aquatic buffer zones & sediment control

- There will be no disturbance of the Whitechurch Stream.
- A silt curtain will be installed along the length of the working area boundary with the stream and adjacent riparian woodland corridor for the duration of the works.

5.2 Habitat enhancement measures

- It is recommended that the majority of the Cypress trees are removed. This species is non-native and of little value to wildlife. Their presence along the watercourse has led to excessive shading and deterioration of its general aquatic ecological health. However, the large diameter (up to 1m) Cypress trees along the north-western boundary should be retained. Their age, girth, potential for cavities and Ivy cover all provide potential roosting habitat for bats and other species.
- Any such trees felled should be left undisturbed for 24 hours so as to allow any potential roosting bats to safely escape. It should be noted that it is not envisaged that these narrow diameter trees, with no apparent cavities, would harbour roosting bats.

5.3 General

- There will be no disturbance to the woodland corridor along the stream and western/north-western boundary, retaining 3 -5m of this corridor undisturbed (including clearance of undergrowth).
- If there is any native tree, scrub or hedgerow disturbance, this should occur outside the bird nesting season (March – August).
- Liaison will occur with an ecologist if any notable mammal holes are encountered.

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