
Ecological Impact Assessment

Proposed Residential Development at Lambs Cross, Dublin 16

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NM Ecology Ltd - Consultant Ecologists

38 Maywood Avenue, Raheny, Dublin 5

Website: www.nmecology.com

Email: info@nmecology.com

Tel: 087-6839771

Executive Summary

This Ecological Impact Assessment has been prepared by NM Ecology Ltd on behalf of Dun Laoghaire – Rathdown County Council regarding a proposed residential development at Lambs Cross, Dublin 16. The proposed development will involve the construction of a community facility, 37 apartments, and associated works. The aim of this report is to identify and evaluate the impacts of the proposed development on ecosystems and their components, including designated sites, habitats, flora and fauna.

The Site is located 220 m from *Fitzsimon's Wood* pNHA, which was designated to protect native woodland, scrub and some wetlands. The proposed development will have no direct or indirect effects on the pNHA.

The Brewery Stream passes the eastern boundary of the Site, and flows north to reach the coast within two European designated sites in Dublin Bay. However, even if waterborne pollutants from the Site could reach the stream, they would be diluted to negligible concentrations by over 6 km of intervening watercourse, so there is no risk of impacts on the European sites. An Appropriate Assessment screening report accompanies the application.

Habitats within the proposed development site include spoil / bare ground, artificial surfaces, treeline, scrub and the Brewery Stream. The scrub and stream are of Local ecological importance and will be retained as part of the proposed development. The landscaping scheme for the proposed development will include additional tree / woodland planting and rain gardens. These measures are expected to result in a moderate increase in the biodiversity value of the Site compared to the baseline, i.e. a biodiversity net gain.

No field signs of otters, badgers or other large terrestrial mammals were identified at the site. A bat survey was carried out, and bat foraging / commuting activity was very low. The scrub habitat is considered to be of Local importance for nesting birds and small mammals (e.g. hedgehog). To avoid impacts on small mammals and nesting birds it is recommended that tree felling takes place outside the nesting / breeding season, or that a pre-clearance survey is carried out.

Subject to the successful implementation of these measures, we conclude that the proposed development will not cause any significant negative impacts on designated sites, habitats, legally protected species, or any other features of ecological importance.

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1 Introduction

1.1 Assessment brief

The aim of this Ecological Impact Assessment (EclA) is to identify, quantify and evaluate the impacts of the proposed development on ecosystems and their components. This includes designated sites, habitats, flora and fauna. It has been prepared in accordance with the *Guidelines for Ecological Impact Assessment in the UK and Ireland (2018)*, which is the primary resource used by members of the Chartered Institute of Ecology and Environmental Management (CIEEM). The purpose of this document is to:

- Provide an objective and transparent assessment of the potential ecological impacts of the proposed development for all interested parties, including planning authorities and the general public,
- Facilitate objective and transparent determination of the consequences of the development in terms of national, regional and local policies relevant to ecology, and,
- Propose the steps that will be taken to adhere to legal requirements relating to designated sites and legally protected species (CIEEM 2018).

Although the above guidelines provide a framework for EclA, many processes rely on the professional judgement of an ecologist, including survey design, the valuation of ecological features, and the characterisation of impacts. An outline of the author's experience, training and accreditation is provided in the following section, which support his competency to make such judgements.

1.2 Statement of authority

All surveying and reporting was carried out by Nick Marchant, the principal ecologist of NM Ecology Ltd. He has sixteen years of professional experience, including thirteen years as an ecological consultant, one year as a local authority biodiversity officer, and two years managing an NGO in Indonesia. He provides ecological assessments for developments throughout Ireland and Northern Ireland, including wind farms, infrastructural projects (roads, water pipelines, greenways, etc.), and a range of residential and commercial developments.

He has an MSc in Ecosystem Conservation and Landscape Management from NUI Galway and a BSc in Environmental Science from Queens University Belfast. He is a member of the Chartered Institute of Ecology and Environmental Management, and operates in accordance with their code of professional conduct.

2 Methods

2.1 Scoping

An Ecological Impact Assessment involves the following steps:

- Identification of designated sites within an appropriate zone of influence
- A walkover survey incorporating the following elements:
 - Classification and mapping of habitats
 - A search for rare / protected flora, and for invasive plant species
 - A search for field signs of rare or protected fauna (e.g. badgers), and habitat suitability assessments for species that are secretive, nocturnal or seasonal
 - Specialist surveys (e.g. bats, breeding birds) where appropriate
- Valuation of ecological features, review of legal considerations, and identification of important ecological features
- Assessment of impacts on important ecological features and development of appropriate mitigation strategies

2.2 Data collection and walkover survey

A desk-based scoping study was carried out using data from the following sources:

- Plans and specifications for the proposed development
- Bedrock, soil, subsoil, ground water and surface water maps from the Geological Survey of Ireland webmapping service, the National Biodiversity Data Centre, and the Environmental Protection Agency web viewer
- Maps and details of designated sites from www.npws.ie
- Biological records from the National Biodiversity Data Centre online mapping service
- The *Dún Laoghaire-Rathdown County Development Plan 2022 – 2028*, and details of permitted or proposed developments from their online planning records

The following resources were used for the walkover surveys:

- Habitat surveys were carried out in accordance with the *Best Practice Guidance for Habitat Survey and Mapping* (Smith et al 2011), and using the classification system of *A Guide to the Habitats of Ireland* (Fossitt 2000)
- Flora were identified using *Webb's An Irish Flora* (Parnell & Curtis 2012) and *The Vegetation Key to the British Flora* (Poland & Clement 2009). Nomenclature follows the plant crib of the Botanical Society of the British Isles (BSBI 2007). The abundance and extent of species is described using the DAFOR scale (Dominant, Abundant, Frequent, Occasional, Rare)
- Fauna surveys followed the methods outlined in the *Ecological Surveying Techniques for Protected Flora and Fauna during the Planning of National Road Schemes* (NRA 2006), with reference to other species-specific methods as appropriate.

Desktop data from internet resources was accessed in July 2024, a multi-disciplinary survey was carried out on 8 June 2023, and a bat survey on 9 October 2023.

Bat survey

The bat activity survey was carried out at dusk on 9 October 2023. It involved a slow-paced walk around the boundaries and interior of the site for one hour in the post-sunset period, recording any bat passes using a handheld bat detector (Anabat Walkabout, Titley Scientific Inc.). Survey methods were developed using *Bat Surveys for Professional Ecologists: Good Practice Guidelines* (Bat Conservation Trust, 3rd edition, 2016). Weather conditions were suitable for a bat survey: with a sunset temperature of 17 °C and light winds.

2.3 Valuation of ecological features

Based on the information collected during desktop and walkover surveys, the ecologist assigns an ecological importance to each feature based on its conservation status at different geographical scales (Table 1). For example, a site may be of National importance for a given species if it supports a significant proportion (e.g. 5%) of the total national population of that species.

Table 1: The six-level ecological valuation scheme used in the CIEEM guidelines (2018)

Ecological value	Geographical scale of importance
International	International or European scale
National	The Republic of Ireland or the island of Ireland
Regional	Leinster, and/or the east midlands of Ireland
County	County Dublin
Local	Suburban areas around Lambs Cross
Negligible	None, the feature is common and widespread

It is accepted that any development will have an impact on the receiving environment, but the significance of the impact will depend on the importance of the ecological features that would be affected. The following is outlined in the CIEEM guidelines: *“one of the key challenges in an EclA is to decide which ecological features (habitats, species, ecosystems and their functions/processes) are important and should be subject to detailed assessment. Such ecological features will be those that are considered to be important and potentially affected by the project. It is not necessary to carry out detailed assessment of features that are sufficiently widespread, unthreatened and resilient to impacts from the development, and that will remain viable and sustainable.”*

For this report we have only assessed impacts on ecological features of Local importance or higher (refer to Table 1), or those that receive legal protection. These features are termed ‘important ecological features’ and are listed in Section 4.6. Impacts on features of Negligible

ecological importance (e.g. amenity grasslands) that do not receive legal protection are not considered to be significant, so they are not included in the impact assessment.

2.4 Ecological Impact Assessment

Potential direct, indirect or cumulative impacts on ecological features can be described in relation to their magnitude, extent, duration, reversibility and timing/frequency, as outlined in the CIEEM (2018) guidelines. Depending on the type of impact and the sensitivities of the important ecological feature, the ecologist may determine that the impact would have a 'significant effect'. The following definitions are provided in the CIEEM guidelines: "A significant effect is simply an effect that is sufficiently important to require assessment and reporting so that the decision maker is adequately informed of the environmental consequences of permitting a project". "For the purpose of EclA, a 'significant negative effect' is an effect that undermines biodiversity conservation objectives for 'important ecological features', or for biodiversity in general.". Where significant impacts are identified, measures will be taken to avoid, minimise or compensate for impacts (where possible). Subject to these measures, the EclA concludes with a summary of residual impacts.

3 Development proposals

3.1 Description of the proposed development

The proposed development will involve the construction of a 3 – 5 storey building containing a community facility (floor area of 137 sqm), 37 apartments, and associated works. The building will have an undercroft area at lower ground level that includes ESB substations, parking, bin storage, bulk storage and supporting mechanical, electrical and water infrastructure. There will be no basement structure or other significant underground works.

Road access will be from Hillcrest Road on the southern boundary. Public open space will be provided in the central courtyard and around the margins of the Site. Recreational space will be provided in the community facility, including a playground for toddlers / young children. Existing scrub vegetation in the east of the Site will be retained.

Foul water will be pumped to a local authority foul sewer to the north of the Site and conveyed to the Ringsend Waste Water Treatment Plant. The Ringsend WWTP is currently exceeding its organic capacity, but a major upgrade is in progress that will provide sufficient capacity by 2025. The WWTP upgrade will be completed before the proposed development is operational / occupied, so there will be capacity to accept the effluent.

Surface water will be managed on site using green / blue roofs, stored temporarily in an attenuation tank, and discharged to the stream on the eastern boundary. The system will include an oil and hydrocarbon interceptor.

3.2 Other nearby developments (potential in-combination effects)

Live and recently-approved planning applications in the vicinity of the Site were reviewed on the online planning records of Dun Laoghaire - Rathdown County Council. The following was noted:

- The Blackglen Road Improvement Scheme involved a range of changes to Hillcrest Road and Sandyford Road to the south and west of the Site. The Site was used as a construction compound for the development, and a storm water outfall to the Brewery Stream was constructed in the east of the Site. This project is now complete, and the former compound within the Site has been removed and reinstated
- Permission was granted in 2024 for a residential development of 80 units at Crohamhurst, Sandyford Road (planning reference D23A/0456), which is located to the west of the Site on the far side of Sandyford Road. The application was accompanied by an Ecological Impact Assessment and Screening for Appropriate Assessment report
- Permission was granted in 2021 (D21A/0387) for the subdivision of a residential plot and construction of a new dwelling, located approx. 20 m east of the Site. The application was not accompanied by ecological reports, but Appropriate Assessment screening was carried out by the local authority (as outlined in the planner's report) and it was concluded that the development posed no risk of impacts on European sites.

In summary, two nearby consented developments were identified. Potential in-combination effects are considered in Section 5.4.

4 The Receiving Environment

4.1 Environmental setting

Site location and surroundings

The proposed development site (hereafter referred to as 'the Site') is located on the north-eastern side of Lambs Cross, between the R113 Hillcrest Road and R117 Sandyford Road / Enniskerry Road. The Site was recently used as a temporary construction compound for the Blackglen Road Improvement Scheme, but has now been reinstated. The former compound consists of compacted sediment. Undisturbed areas in the north and east of the Site consist of a treeline and patch of willow scrub.

The surrounding area consists mainly of housing estates and low-density one-off housing, as well as some small commercial developments and schools.

Geology and soils

The underlying bedrock is granite, which is a poor aquifer. Subsoils are a mixture of granite till and alluvium (along the course of the stream). Soils are made ground.

Hydrology

A stream passes the eastern edge of the Site, flowing from south to north. At the time of survey in June 2023 it was approx. 1m in width and 0.1m in depth, and had a slow rate of flow. The culvert under Hillcrest Road is small, measuring approx. 1m in width and 0.3 m in height.

There is some uncertainty about the course of the stream, due primarily to a lengthy culvert under the Sandyford Industrial Estate. On the EPA database of rivers and streams it is labelled the Carrickmines Stream, with a course that turns south-east under the Sandyford Business Park, passing through Leopardstown Racecourse, Carrickmines and Loughlinstown, and reaching the coast in Killiney Bay. However, in a submission from the Dept of Housing, Local Government and Heritage for a nearby planning application (planning reference D23A/0456) it was reported that the watercourse is the Glasnalower / Brewery / Maretimo Stream, with a course that leads north under Sandyford Business Park, passing through Stillorgan and Blackrock and reaching the coast in Dublin Bay.

For the purposes of this assessment we will refer to it as the Brewery Stream and assume that it heads north and reaches the coast in Dublin Bay.

Water quality in rivers and streams is monitored as part of the Water Framework Directive Status Assessments, of which the latest monitoring period was from 2016 – 2021. The Brewery Stream was of Poor status, but the coastal waters of Dublin Bay were of Good status.

4.2 Designated sites

A map of designated sites in the surrounding area is provided in Figure 1, and details of the designated sites shown in the image are provided in Table 2. An image showing the location of the Site relative to the *Fitzsimon's Wood* pNHA is shown in Figure 2.

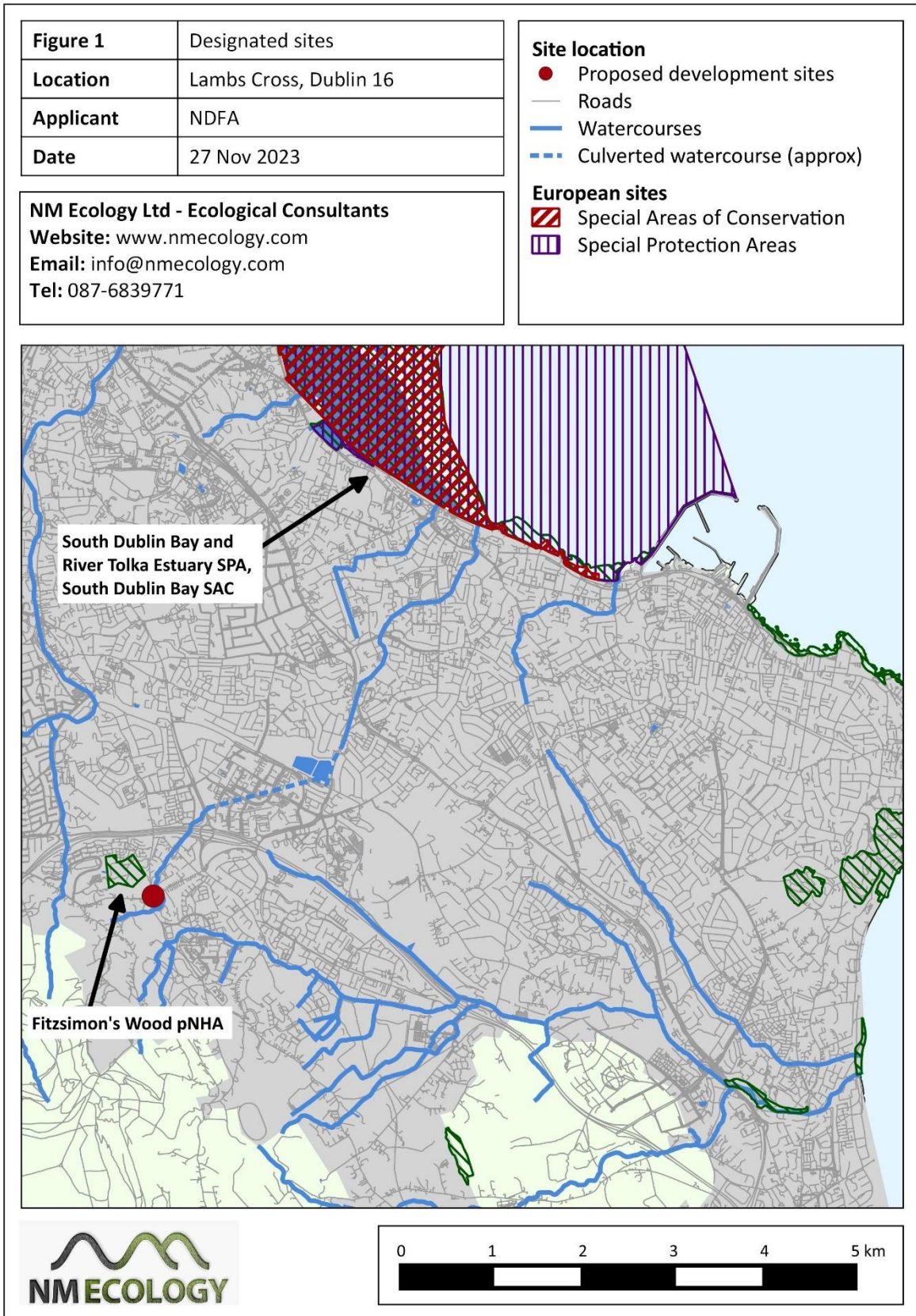


Table 2: Designated sites shown in Figure 1

Site Name	Distance	Reasons for designation
Fitzsimon’s Wood pNHA (site code 1753)	220 m north-west	Mature birch, oak and holly woodland, gorse-dominated dry heath. There are some marshy areas, and outcrops of bedrock with ferns and mosses. The pNHA is being negatively affected by recreational pressure.
South Dublin Bay SAC (210)	5.3 km north-east	Annex I habitats: inter-tidal mudflats / sandflats, Salicornia and other annuals), annual vegetation of drift lines, embryonic shifting dunes Annex I habitats: none
South Dublin Bay and River Tolka Estuary SPA (4024)	5.3 km north-east	Key habitats: coastal wetlands Special conservation interests: light-bellied brent goose, oystercatcher, ringed plover, grey plover, knot, sanderling, dunlin, bar-tailed godwit, redshank, black-headed gull (wintering populations), arctic tern, roseate tern (passage), and common tern (breeding and passage)



Figure 2: Position of the Site (red shading) and Brewery Stream (light blue) relative to Fitzsimon’s Wood pNHA (blue hatch)

Fitzsimon's Wood pNHA is located approx. 220 m north-west of the Site. There will be no direct effects on the site, and the proposed development poses no risk of impacts on the woodlands, heath or wetlands within the Site. It is noted that the proposed development does not have a basement or other significant underground component (other than standard foundations), so it will not affect local groundwater. The proposed development will include recreational and community facilities for residents, and thus will not increase recreational pressure on the pNHA. Therefore, the proposed development is not expected to have any negative effects on the pNHA.

The Brewery Stream provides a potential surface water pathway between the Site and the two European sites: the *South Dublin Bay* SAC and *South Dublin Bay and River Tolka Estuary* SPA. The shortest distance to the European sites is 5.3 km, but the surface water pathway is via approx. 6 km. Considering the dilution capacity provided by 6 km of watercourse and the coastal waters of Dublin Bay, any pollutants generated at the Site would be reduced to negligible concentrations before reaching the European sites. Therefore, there is no risk of significant effects on European sites, and Appropriate Assessment can be screened out.

4.3 Habitats and flora

Habitats recorded within the Site are discussed below, using the habitat classification system of *A Guide to Habitats in Ireland* (Fossitt 2000). A map of habitats is provided in Figure 3. It should be noted that the background aerial photography is from 2023 when the Site was in use as a construction compound.

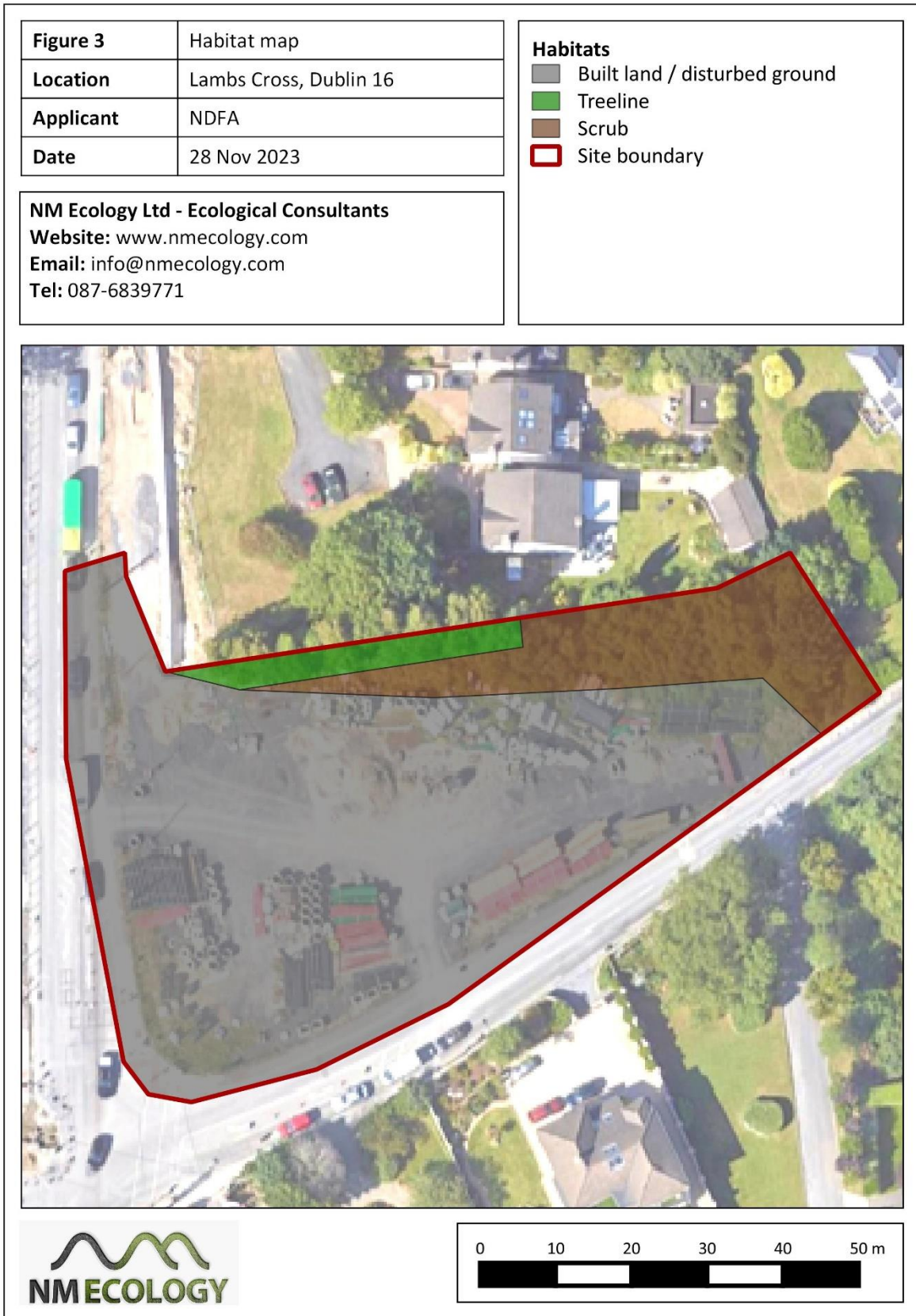
4.3.1 Phase 1 habitat survey

Spoil and bare ground (ED2)

The majority of the Site was used as a construction compound for the Blackglan Road Improvement Scheme in recent years. Following the completion of the project these areas were reinstated with compacted building spoil. These areas are of Negligible ecological importance.

Buildings and artificial surfaces (BL3)

The western and southern boundaries of the Site cover parts of Sandyford Road and Hillcrest Road, and the associated footpaths. These areas are unvegetated and of Negligible importance.



Treeline (WL1)

A line of approx. 10 – 15 leyland cypress *Cupressus leylandii* adjoins the Lamb's Brook housing estate to the north of the Site. The trunks of these trees are located just outside the site boundary, but the canopies of these trees overhang part of the Site, and the roots are also likely to cross the site boundary.

These trees are not native to Ireland, and are located primarily outside the Site, so they are of Negligible importance.

Scrub (WS1)

There is a patch of willow scrub in the north-east of the Site, which consists of abundant osier *Salix viminalis*, occasional crack-willow *Salix fragilis*, sycamore *Acer pseudoplatanus* elder *Sambucus nigra* and hawthorn *Crataegus monogyna*, and rare (in the context of the DAFOR scale) alder *Alnus glutinosa* and non-native birch *Betula* sp. Herbaceous vegetation includes abundant hedge bindweed *Calystegia sepium* and winter heliotrope *Petasites fragrans* and occasional creeping thistle *Cirsium arvense*, wild turnip *Brassica rapa*, bramble *Rubus fruticosus* ag., and common hogweed *Heracleum sphondylium*.

This habitat consists primarily of native (or naturalised) vegetation, and adjoins the Brewery Stream, so it is considered to be of Local importance.

Lowland river (FW2)

The stream is located in a steep-sided valley approx. 2 – 3 m below the level of the Site. A surface water outfall from Blackglen Road / Hillcrest Road has recently been constructed adjacent to the river.

As noted in Section 3.1, the stream is small (channel width approx. 1 m) and slow flowing. No aquatic vegetation was observed in the watercourse. The banks consist mainly of scrub (see above), brambles and overhanging hedgerows from adjacent properties. No riparian or wetland species were noted.

4.3.2 *Rare or protected flora*

No rare or protected plants were encountered.

4.3.3 *Invasive plant species*

No Japanese Knotweed *Fallopia japonica* or any other invasive plant species listed on the third schedule of the *European Communities (Birds and Natural Habitats) Regulations 2011* were recorded within the Site.

The Biodiversity Officer of Dun Laoghaire – Rathdown County Council noted that Japanese Knotweed had been recorded to the south of the Site on the far side of Hillcrest Road. The Hillcrest Downs estate was inspected for knotweed in October 2023, but none was recorded.

Therefore, while Japanese Knotweed is known to present in the area, it is not present in the vicinity of the Site.

Winter Heliotrope *Petasites fragrans* is a non-native perennial plant that can be invasive in grassland areas, although it is not subject to legal restrictions. It was recorded in the north of the Site near the treeline. However, there is no sign that it is spreading rapidly within the Site, so they are not considered to be problematic in this instance.

4.4 Protected fauna

4.4.1 Terrestrial mammals

No field signs of any mammals were observed during the site inspection. The Brewery Stream is considered unsuitable for otters because it is too small to support a population of fish or other prey, and because the culvert under Hillcrest Road appears impassable. No badger setts, mammal paths, latrines, etc, were found. The scrub is too small and fragmentary for woodland specialists such as deer, red squirrels, pine martens. Therefore, the Site is of no importance for any of these species.

However, the scrub could potentially be suitable for small mammals such as hedgehog, pygmy shrew and / or stoat. These species are shy and secretive, and they do not leave distinctive field signs, so it is very difficult to confirm their presence or absence during walkover surveys. Therefore, based solely on the suitability of habitats within the Site, we consider it likely to be of Local importance for at least one of the species listed above. All three species are protected under the *Wildlife Act 1976* (as amended).

4.4.2 Bats

Bats are common and widespread in Ireland. During the day they roost in buildings, bridges and mature trees. At night they forage around wetlands (lakes, rivers, swamps), woodland and hedgerows. They typically avoid urban areas (particularly areas with artificial lighting) and large open areas such as grasslands.

Potential roost features

There are no buildings, bridges or other built structures within the Site. Buildings around the margins of the Site are modern and illuminated by streetlights, so they are considered unsuitable for roosting bats. No cavities, crevices or other potential roost features were identified on any of the mature trees. Therefore, the Site and its immediate surroundings are of Negligible importance for roosting bats.

Foraging / commuting habitat

The hedgerow and scrub within the Site was considered suitable foraging habitat for bats, so a bat activity survey was carried out. The survey took place on the 9th of October 2023

(refer to Section 3.5). Weather conditions were ideal for a bat survey: sunset temperature 17 °C, dry, and with very light wind.

At sunset two passes of Leisler's bat were recorded, feeding in open air approx. 30 m above the Site. Approx. 10 minutes after sunset a single common pipistrelle passed the eastern boundary of the Site above the stream, flying north. No other bats were recorded for the remainder of the survey.

The low levels of bat activity are likely to be explained by the levels of artificial lighting around the Site. Streetlights along Hillcrest Road illuminate most of the southern half of the Site, including the channel of the Brewery Stream. Streetlights along Sandyford Road also illuminate the western boundary of the Site. These streets would act as a barrier for the dispersal of bats, and would deter them from foraging within the Site. By contrast, the gardens of the Lamb's Brook and Sandyford Downs housing estates outside the northern boundary of the Site have little or no artificial lighting, and would be suitable foraging habitats.

A bat activity survey during the recommended survey season and in ideal weather conditions recorded only occasional activity by common bat species within the Site. Therefore, the Site is considered to be of Negligible importance for foraging / commuting bats.

4.4.3 *Birds*

There are no Special Protection Areas in the surrounding area, so there is no risk that any associated species could use the Site.

The only birds recorded during the survey were rooks. Other common suburban birds (e.g. blackbird, robin and wren) are likely to use the Site, but it is unlikely to be used by any species of conservation importance. Therefore, the Site is of Negligible importance for bird species.

However, it is noted that birds and their nests are protected under the Wildlife Act 1976 (as amended). The scrub and treeline habitats would be suitable for nesting birds.

4.4.4 *Fish and aquatic fauna*

The Brewery Stream is considered unsuitable for fish or other aquatic fauna due to its small size and the extent of culverting downstream.

4.4.5 *Reptiles and amphibians*

No reptiles or amphibians were observed during the survey, nor any ponds or other permanent wetland features suitable for breeding. Therefore, the Site is of Negligible importance for these taxa.

4.4.6 *Terrestrial invertebrates*

The habitats within the Site are common in rural / suburban landscapes in Ireland, so it is considered to be of Negligible importance for invertebrates.

4.5 Potential limitations and information gaps

The site inspection was carried out in June 2023, which is an ideal time for most ecological surveys.

The bat survey was undertaken on 9th October 2023. In the BCT 2016 guidance (Collins et al 2016) it is stated that bat activity surveys in October are “*weather or location dependent, i.e. may not be suitable due to spring and autumn conditions in any one year, or in more northerly latitudes.*” It is also stated that optimal conditions for bat surveys are “*sunset temperature 10 °C or above, no rain or strong wind*”. Air temperatures in October 2023 were relatively mild, and the sunset temperature on the night of survey was 17 °C. Winds were low and conditions were dry. Bats were recorded during the survey. Therefore, the timing of the second survey is not considered to be a constraint.

4.6 Identification of important ecological features

Table 3 provides a summary of all ecological features identified on the Site, including their importance and legal status. For the purposes of this impact assessment, any features that are of Local ecological importance, or that receive legal protection, are considered to be ‘important ecological features’, and will be addressed in the impact assessment.

Table 3: Important ecological features within the Site

Ecological feature	Importance	Legal status	Important feature?
<i>Fitzsimon’s Wood</i> pNHA	County	N.A.	No
European sites in Dublin Bay	International	HR	No
Scrub (WS1)	Local	-	Yes
Brewery Stream (FW2)	Local	-	Yes
Treeline (WL1)	Negligible	-	No
Spoil and bare ground (ED2) / Artificial surfaces (BL3)	Negligible	-	No
Rare / protected flora	N.A.	-	No
Invasive plant species	N.A.	-	No
Small mammals (hedgehog, stoat, pygmy shrew)	Local	WA	Yes
All other terrestrial mammals	Negligible	HR, WA	No

Ecological feature	Importance	Legal status	Important feature?
Bats	Negligible	HR, WA	No
Birds (including nesting habitat)	Negligible	WA	Yes
Fish and aquatic fauna	N.A.	WA	No
Reptiles and amphibians	Negligible	-	No
Invertebrates	Negligible	-	No

* HR – European Communities (Birds and Natural Habitats) Regulations 2011 (as amended);
WA - protected under Section 19 or 20 of the Wildlife Act 1976 (as amended)

In summary, the Important Ecological Features identified in this assessment are scrub, the Brewery Stream, small mammals and nesting birds. Recommendations for the avoidance or minimisation of ecological impacts are outlined below. All other ecological features discussed in Section 3 are considered to be of Negligible ecological importance, so they are not listed as Important Ecological Features.

5 Predicted Impacts of the Proposed Development

5.1 Brewery Stream

Construction phase

The proposed development will not involve culverting, realigning or other modification of the Brewery Stream. It will be retained in its current condition along with its associated vegetation. However, there is a risk that pollutants (e.g. suspended sediments, concrete, hydrocarbons) generated during construction work could reach the river and have negative effects on water quality. This could potentially have a localised impact on the river, although the magnitude of the impact would decrease downstream of the Site as pollutants would be diluted. Construction-phase pollution-prevention measures will be required during construction to avoid or minimise such impacts.

For the avoidance of doubt, there is no risk that any pollutants could reach the coastal waters of Dublin Bay in perceptible concentrations and therefore no risk of impacts on the associated SAC and SPA. This is addressed in the accompanying *Screening for Appropriate Assessment* report.

Operational phase

During the operation of the proposed development, surface water runoff from roofs and other hard surfaces will be discharged to the stream. It will pass through an oil / silt interceptor and attenuation tank prior to discharge, and thus will consist primarily of uncontaminated rainwater. This is not considered to pose any risk to the watercourse.

5.2 Habitats

The majority of the existing scrub habitat within the Site will be retained and incorporated into the development. The only section that will be removed is some crack willows whose roots would be disturbed during the installation of car parking areas near the site entrance. Root protection zones will be implemented during construction to protect other trees and shrubs.

The *Landscape and Biodiversity Plan* for the proposed development (prepared by Mitchell & Associates, 2024) includes some biodiversity-enhancement measures that will be implemented as part of the landscaping scheme, including:

- Native trees will be planted in public open space around the northern, eastern and southern boundaries of the Site. The retained scrub habitat will be enhanced by woodland planting
- Rain gardens / bioretention areas will be provided around the edges of the building. These features will temporarily hold water during periods of high rainfall, and are expected to develop some wetland vegetation
- Bird nest boxes will be provided, including swift boxes on the new building and a range of other boxes at ground level suitable for tits, finches and other small passerine birds

These measures will introduce some habitats that are not currently present at the Site, notably the new trees, wetlands and swift nest boxes. They will also increase the number and diversity of trees within the Site. Considering that the majority of the proposed development will take place on land of no ecological value, that existing habitats of value will be retained, and the ecological enhancement measures will be provided, we conclude that the proposed development will have a moderate positive effect on the Site, i.e. a biodiversity net gain.

5.3 Disturbance of breeding birds and mammals

It is possible that birds and / or small mammals (e.g. hedgehog) could breed in some of the trees proposed for removal. If trees and shrubs were cut during the bird nesting season (usually between March and August, inclusive), it is possible that active nests could be destroyed. The breeding season for small mammals is approximately the same. The killing of any birds or small mammals, or the disturbance of their breeding / resting places, would constitute an offence under the *Wildlife Act 1976* (as amended).

5.4 Potential cumulative / in-combination impacts

None of the developments identified in Section 3.2 are considered likely to increase the magnitude, extent or duration of any of the potential impacts outline above.

6 Proposed mitigation measures

6.1 Construction-phase pollution-prevention measures

The following mitigation measures have been designed to avoid localised impacts on the Brewery Stream during the construction of the proposed development, by preventing fine sediments, concrete / cement, hydrocarbons or any other pollutants from reaching the river. For the avoidance of doubt, these measures are not required for the avoidance of impacts on European sites, as concluded in the accompanying *Screening for Appropriate Assessment* report.

All are standard pollution control measures that are regularly used on construction sites in Ireland, and confidence in their success is high. They have been developed with reference to the *Guidelines on protection of fisheries during construction works in and adjacent to waters* (Inland Fisheries Ireland, 2016).

6.1.1 *Suspended sediments*

The term 'suspended sediments' refers to any silt, mud or other fine sediment that becomes dissolved in water. Water can be contaminated by suspended sediments (SS) from open earthworks and excavations (either from rainfall or groundwater seepage), rainfall on soil/sediment stockpiles, or the tyres / tracks of construction vehicles. In order to retain all contaminated waters within the boundary of the Site, the following measures will be implemented:

- Excavation works will be suspended if high intensity local rainfall events are forecast (e.g. >10 mm/hr, >25 mm in a 24 hour period, or high winds)
- If any excavations need to be dewatered, waters contaminated with SS will be pumped into a settlement pond or tank, and discharged at greenfield runoff rates to a soakaway located in the west of the Site
- Stockpiles of mud, sand or other sediments will be levelled and compacted, and will be covered with thick plastic membranes to limit wind / rainwater erosion
- Dust suppression and road cleaning measures will be implemented, as outlined in Section 8 of the IFI guidelines.

6.1.2 *Concrete and cement*

These products are highly toxic to fauna, particularly fish and other aquatic / marine species. On-site pouring and / or mixing of concrete or cement will be required during construction works, so the following measures will be implemented to retain all cement-based materials within the boundaries of the Site:

- Concrete pouring / mixing will only take place in dry weather conditions. It will be suspended if high-intensity local rainfall events are forecast (e.g. >10 mm/hr, >25 mm in a 24 hour period or high winds)

- If any cement-based products will be stored on-site, they will be kept in a sheltered area, and will be covered (e.g. with a thick plastic membrane) to prevent spread by wind
- Ready-mix lorries and concrete-batching plant will be cleaned off-site at the concrete-batching plant. If on-site wash out facilities for concrete are required, they will be located in the west of the Site.

6.1.3 *Hydrocarbons and chemicals*

Hydrocarbons (oil, petrol, diesel, etc) and solvents are toxic to fauna. These chemicals can enter surface water or groundwater if they are accidentally spilled (e.g. during re-fuelling of machinery), or from leaking containers. In order to retain such materials within the boundaries of the Sites, the following measures will be applied throughout the construction works:

- Any fuel, oil or chemical containers must be stored in a designated bunded area that has sufficient capacity to retain any spills
- If any on-site refuelling is required, it will take place in the west of the Site, and over drip trays
- While in operation, diesel pumps, generators or other similar equipment will be placed on drip trays to catch any leaks
- A spill kit will be kept on-site. If any spills occur, appropriate measures will be taken to intercept hydrocarbons or chemicals on-site before they can leave the Site

6.2 **Protection of birds during site clearance works**

Under Sections 22 and 23 of the *Wildlife Act 1976* (as amended), it is an offence to kill or injure a protected bird or mammal, or to disturb their breeding / resting places. Most birds nest between March and August (inclusive), and the breeding season for most small mammals is similar. Therefore, it is strongly recommended that site clearance works are carried out between September and February (inclusive), i.e. outside the nesting season. If this is not possible, an ecologist will survey the affected areas in advance in order to assess whether any breeding birds or mammals are present. If any are encountered, vegetation clearance will be delayed until the breeding attempt has been completed, i.e. after chicks have fledged and a nest has been abandoned.

7 **Residual Impacts**

The construction of the proposed development could potentially generate pollutants that could have a localised effect on water quality in the Brewery Stream. In response, a range of pollution-prevention measures are proposed for the construction phased of the proposed development, which will avoid or minimise any negative impacts on the stream.

A *Screening for Appropriate Assessment* report accompanies this application. It was concluded that the proposed development poses no risk of impacts on any European sites.

The proposed development will be constructed primarily on habitats of no ecological value. Some scrub in the north-east of the Site will be retained, and enhanced by additional planting of native trees and shrubs. Native trees and rain gardens will also be provided in the landscaping scheme. These measures are expected to result in a moderate increase in the biodiversity value of the Site compared to the baseline habitats, i.e. a biodiversity net gain.

Site clearance works will take place outside the season of peak nesting activity, or the area will be surveyed by an ecologist to confirm that no nesting birds are present. This will avoid any direct impacts on nesting birds, and prevent a legal offence under the *Wildlife Act 1976* (as amended).

Subject to the successful implementation of these measures, it can be concluded that the proposed development will not cause any significant negative impacts on designated sites, habitats, legally protected species, or any other features of ecological importance.

8 References

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