
Ecological Impact Assessment

Proposed Part 8 Residential Development,
Croke Villas, Sackville Avenue, Dublin 3

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Executive Summary

This Ecological Impact Assessment has been prepared by NM Ecology Ltd on behalf of the Dublin City Council regarding a proposed residential development at Croke Villas, Sackville Avenue, Dublin 3. The proposed development will involve the construction of 52 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.

Designated sites

There are no designated sites in the vicinity of the proposed development site (hereafter referred to as 'the Site'). Some designated sites were identified in the surrounding area, but there are no surface water (or other) pathways connecting them to the Site, so impacts can be ruled out.

A *Screening for Appropriate Assessment* report accompanies the application. It was concluded that the proposed development will not be likely to have a significant effect on any European sites.

Habitats and flora

Habitats within the Site include buildings, artificial surfaces, dry meadow, recolonising bare ground, and a small patch of scrub. All are of Negligible botanical importance, so they pose no constraint to future development. The landscaping scheme for the proposed development will involve the planting of a range of native trees and shrubs, some small patches of wildflower meadow, and the installation of bird boxes. These measures will result in a slight net gain in the biodiversity value of the Site.

A small patch of Japanese Knotweed is located on the northern side of Sackville Avenue, outside the boundary of the Site. Dublin City Council has commissioned an Invasive Species Management Plan of the Site, and a herbicide treatment programme is ongoing. The proposed development will not disturb the knotweed, so no further action is required.

Some three-cornered leek was recorded within the western boundary of the Site. It will be eradicated by herbicide treatment before the construction of the proposed development.

Fauna

There are two existing derelict structures within the Site: a five-storey apartment building and a two-storey dwelling. Both will be demolished under separate planning consents. On a precautionary basis two bat surveys of these buildings were carried out, and it was concluded that neither building is used by roosting bats. The Site is of Negligible importance for foraging /

feeding bats, but the adjacent Royal Canal is likely to be of importance as a foraging habitat. Bat-sensitive lighting techniques have been incorporated into the lighting scheme along Sackville Gardens to avoid indirect illumination of the Royal Canal.

The Site does not contain any suitable habitat for otters, badgers, hedgehogs or other protected mammals. A group of foxes was observed on the Site, but no fox earth or other permanent resting place was recorded, and this species receives no legal protection. Some common and widespread bird species were recorded at the Site, and a patch of scrub provides potential nesting habitat. To avoid impacts on nesting birds it is recommended that site clearance works take place outside the nesting / breeding season, or that a pre-clearance survey is carried out.

Conclusion

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 *Dublin City 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 *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 March 2024, a multi-disciplinary survey was carried out on 6 July 2023, and bat surveys on 6 and 8 September 2023.

Bat survey

Survey methods were developed using *Bat Surveys for Professional Ecologists: Good Practice Guidelines* (Bat Conservation Trust, 3rd edition, 2016). It is noted that the 4th edition of the guidance was published in October 2023, but the survey had already been completed by that time, so it was undertaken in accordance with the 3rd edition guidance.

Two buildings of moderate suitability for roosting bats were identified during an initial inspection of the Site, so two surveys were carried out. Dawn surveys were undertaken on 6 and 8 September, with ideal weather conditions on each occasion: air temperatures of 15 – 17 °C and no wind or rain.

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	Urban / suburban areas in Dublin 3
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 two 4 - 5 storey buildings containing 52 apartments, and associated works. Road access will be from Sackville Avenue, with a new pedestrian / cycle boulevard via Sackville Gardens. Public open space will be provided between the apartment buildings, and public realm features along roadsides will be improved. An outdoor community / arts / cultural space will also be provided.

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. The additional load from the proposed development (201 Population Equivalent) will represent 0.008% of the load of the upgraded capacity of Ringsend WWTP (2,400,000 Population Equivalent), which is a negligible increase.

Rainwater runoff from roofs and other impermeable surfaces will be channelled to an attenuation tank in the centre of the Site, and discharged at a controlled rate to a local authority storm drain. The system will include an oil and hydrocarbon interceptor.

3.2 Other nearby developments (potential in-combination effects)

There have been a number of Part 8 planning applications within and adjacent to the Site, notably a line of new houses along the northern side of Sackville Avenue approved under planning consents 3435/17 and 3789/20. There are live planning consents for the demolition of the remaining apartment building (2946/16) and 30 Sackville Avenue (3789/20). Details are provided in the planning report that accompanies this application. The new houses will be constructed on ground that was disturbed during the demolition of former structures; this area is of Negligible ecological importance.

Other live and recently-approved planning applications in the vicinity of the Site were reviewed on the online planning records of Dublin City Council, but none were found. Therefore, no potential in-combination effects were identified.

4 The Receiving Environment

4.1 Environmental setting

Site location and surroundings

The proposed development site (hereafter referred to as 'the Site') currently contains a derelict five-storey apartment building, a derelict house (30 Sackville Avenue), a field of grassland, and disturbed ground / building rubble.

The site was formerly used for social housing, and contained four apartment buildings on the southern side of Sackville Avenue (of the same design as the remaining apartment building) and some dwelling houses on the northern side. Three of the apartment buildings and most of the dwelling houses were demolished in late 2017; their foundations are still visible in parts of the Site. There are live planning consents for the demolition of the remaining apartment building (planning reference 2946/16) and 30 Sackville Avenue (planning reference 3789/20).

Croke Park Handball Alley adjoins the north-western boundary of the Site. Croke Park GAA stadium, museum and associated facilities are located to the north-west of the Site on the far side of Ardilaun Square. With these exceptions, the broader surroundings are characterised primarily by housing estates.

Geology and soils

The underlying bedrock is limestone (subcategorised as 'dark limestone and shale' on the GSI database), which is a locally-important aquifer. Subsoils are limestone till, and soils are made ground.

Hydrology

The Royal Canal is located approx. 25 m south-west of the Site. There is a high wall, train line and earth embankment between the Site and the canal, which would block any overland flow of surface water runoff. Canals are self-contained hydrological features that do not interact with surrounding surface water or groundwater features, so there is no possibility that any waterborne materials from the Site could reach the canal.

The only other watercourse in the surrounding area (as per the EPA database of rivers and streams) is the Tolka Estuary, which is approx. 400 m north-east of the Site. There are no surface water (or other) pathways between the Site and the Tolka Estuary.

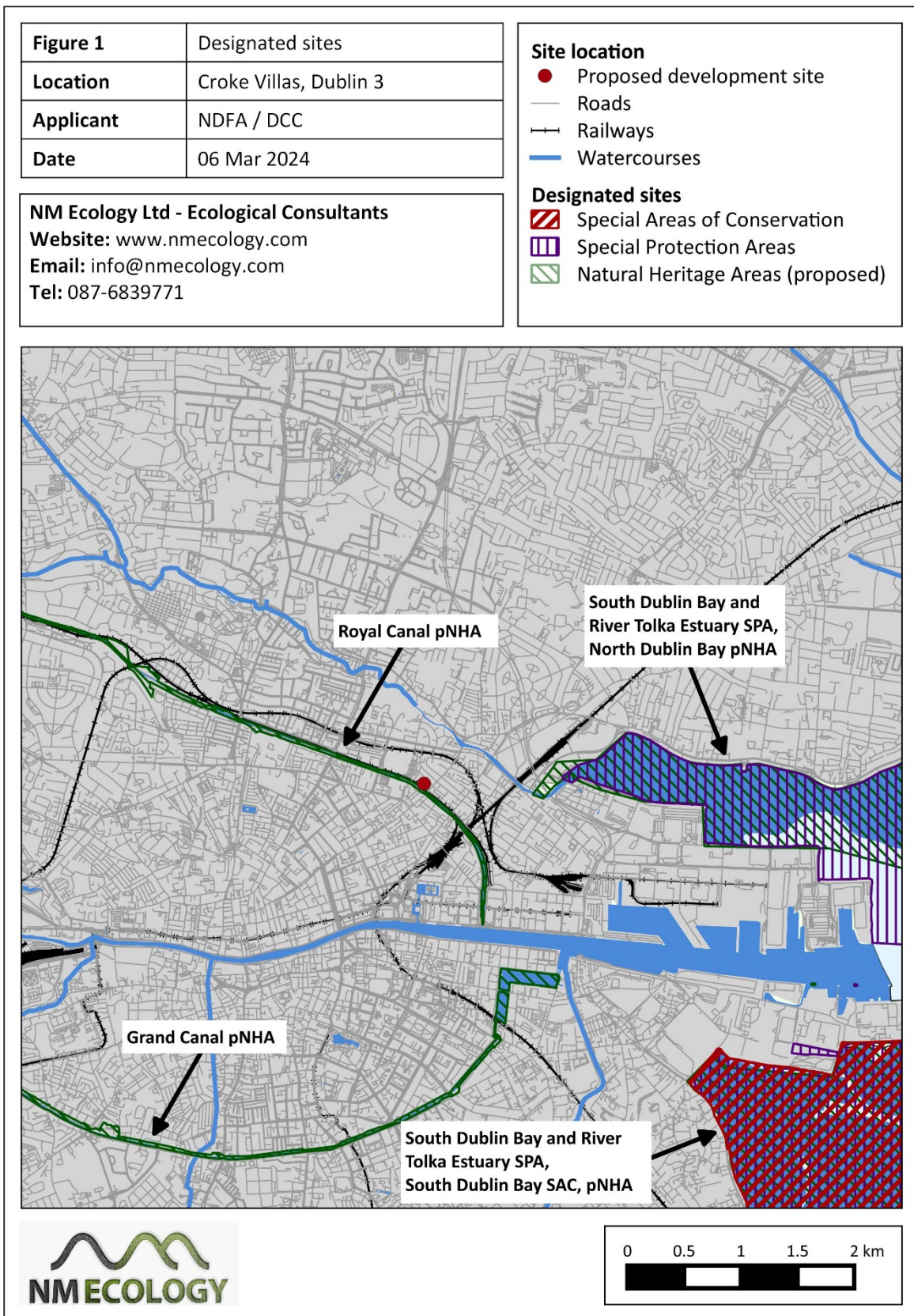
In summary, the Site does not appear to have a connection to any nearby watercourses. Rainfall on greenfield areas of the Site is expected to soak to ground, and rainfall on existing hard surfaces (e.g. Sackville Avenue) would flow into roadside storm drains.

4.2 Designated sites

The Site is not located within any designated sites, but is located approx. 25 m from the *Royal Canal* pNHA. A map of designated sites in the surrounding area is provided in Figure 1, and details are provided in Table 2.

Table 2: Designated sites shown in Figure 1

Site Name	Distance	Reasons for designation
Royal Canal pNHA (site code 2103)	25 m south-west	Extensive freshwater feature of value to a range of biodiversity, and with value as an ecological corridor
North Dublin Bay pNHA (206)	0.9 km east	None provided. Assumed to be the same as the <i>South Dublin Bay and River Tolka Estuary SPA</i>
South Dublin Bay and River Tolka Estuary SPA (4024)	1.2 km east	Habitats: tidal / coastal wetlands Special conservation interests: light-bellied brent goose, oystercatcher, ringed plover, grey plover, knot, sanderling, dunlin, bar-tailed godwit, redshank, black-headed gull (over-wintering populations), arctic tern, roseate tern (passage migrants), and common tern (breeding populations)
Grand Canal pNHA (2104)	1.8 km south	Extensive freshwater feature of value to a range of biodiversity, and with value as an ecological corridor
South Dublin Bay SAC, pNHA (210)	3.5 km south-east	Annex I habitats: inter-tidal mudflats / sandflats Annex II species: none



The Site is not within any designated sites, so there is no possibility of direct effects. It was established in Section 3.1 that there is no surface water (or other) pathway linking the Site with the *Royal Canal* pNHA, so any risk of impacts can be ruled out. Similarly, there are no surface water (or other) pathways linking the Site to any of the other designated sites in Table 2, there is no possibility of indirect effects.

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 habitat map is not provided, because the distribution and extent of habitats can be readily discerned from aerial photography.

4.3.1 Phase 1 habitat survey

Much of the Site consists of buildings and artificial surfaces (BL3), including the foundations of former buildings, roads (Sackville Avenue, Ardilaun Road, Ardilaun Square), roadside pavements and parking areas. All of these areas are of Negligible ecological importance.

The land to the south of the Handball Alley formerly contained apartment buildings and paved areas that were demolished in 2017. It appears that topsoil and grass seed were spread across the area after demolition, and the habitat now consists of dry meadow (GS2). It is dominated by false oat-grass *Arrhenatherum elatius*, with frequent cock's-foot *Dactylis glomerata*, common couch *Elytrigia repens*, perennial rye-grass *Lolium perenne*, red fescue *Festuca rubra*, Yorkshire-fog *Holcus lanatus* and ragwort *Senecio jacobaea*. Occasional species include broad-leaved dock *Rumex obtusifolius*, red clover *Trifolium pratense*, nipplewort *Lapsana communis*, creeping thistle *Cirsium arvense*, yarrow *Achillea millefolium* and lesser stitchwort *Stellaria graminea*. There are some dense patches of nettle *Urtica dioica*, cleavers *Galium aparine*, creeping thistle, great willowherb *Epilobium hirsutum* and hedge bindweed *Calystegia sepium* along the southern boundary wall. This habitat consists of species that are common and widespread throughout Ireland, so it is of Negligible ecological importance.

Building rubble from the demolition of former buildings is still visible in some parts of the Site, notably the strip to the south-east of the Handball Alley and two enclosed areas to the north of Sackville Avenue (which are outside the Site boundary). These areas have been recolonised by a range of ruderal plant species, and are classified as recolonising bare ground (ED3). A range of species are frequent to occasional, including butterfly-bush *Buddleja davidii*, scarlet pimpernel *Anagallis arvensis*, opium poppy *Papaver somniferum*, annual mercury *Mercurialis annua*, petty spurge *Euphorbia peplus*, hedge mustard *Sisymbrium officinale*, lesser swine-cress *Coronopus didymus*, knotgrass *Polygonum aviculare*, spear thistle *Cirsium vulgare*, broad-leaved dock, hedge bindweed *Calystegia sepium*, Canadian fleabane *Conyza canadensis*, American willowherb *Epilobium ciliatum*, herb-robert *Geranium robertianum*, lesser trefoil *Trifolium dubium*, dandelion *Taraxacum officinale*, false

oat-grass, Yorkshire-fog, creeping bent *Agrostis stolonifera*, greater quaking-grass *Briza maxima*, greater plantain *Plantago major*, mallow *Malva* sp., ragwort and giant viper's-bugloss *Echium pininana*. Although relatively species rich, this habitat consists of species that are common and widespread on disturbed ground, so the habitat is of Negligible importance.

A small patch of scrub (WS1) is located in an enclosed area to the rear (south) of the remaining apartment building. Species include butterfly-bush, elder *Sambucus nigra*, sycamore *Acer pseudoplatanus* and bramble *Rubus fruticosus*. This habitat is very localised, and thus of Negligible importance

4.3.2 *Rare or protected flora*

No rare or protected plants were encountered.

4.3.3 *Invasive plant species*

Japanese Knotweed

A small patch of Japanese Knotweed *Fallopia japonica* is located the enclosed area to the north-east of the Site (Figure 2). It was first recorded at this location in 2018 by Envirico Ltd. There is a live planning consent in this area for the construction of a line of new houses (planning reference 3435/17).

Invasive Species Management plans were developed by Envirico in 2018 and 2020. Herbicide treatment commenced in 2020, and appears to have been repeated annually, with treatment as recently as May 2023.

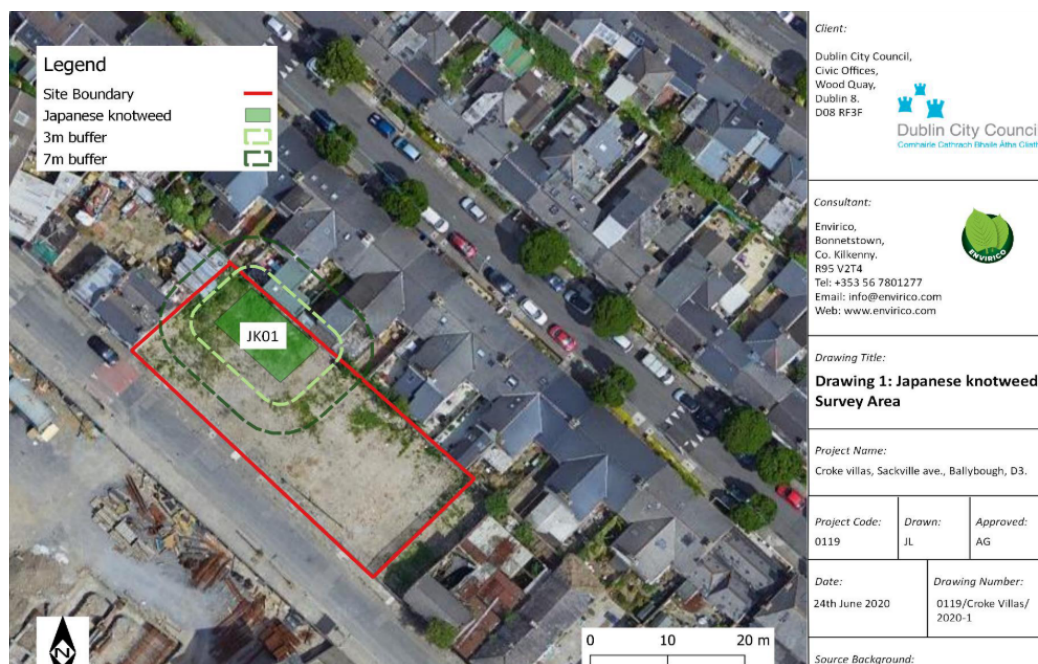


Figure 2: Extent of Japanese Knotweed recorded by Envirico in 2020

As the Japanese Knotweed (and its underground rhizomes) are located outside the boundary of the proposed development, there is no risk that it will be disturbed or otherwise spread during the construction of the proposed development. Therefore, it does not need to be considered further in this assessment.

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

Three-cornered leek

A small patch of three-cornered leek *Allium triquetrum* was recorded at the western boundary of the Site off Ardilaun Square. This species is listed on the third schedule of the *European Communities (Birds and Natural Habitats) Regulations 2011*, which makes it an offence to cause it to spread. It is widespread throughout Ireland, particularly in urban areas.

4.4 Protected fauna

4.4.1 Terrestrial mammals

Four fox cubs were observed in the dry meadow to the south of the Handball Alley during the survey in July 2023. An adult fox was also observed on the third storey of the apartment building during the first bat survey on 6th September 2023; the building is used by nesting pigeons, so the fox may have been foraging for pigeons or eggs. There is no sign of a fox earth within the Site, so it appears that it was only being used as a temporary foraging and resting place. Foxes do not receive any legal protection in Ireland.

No field signs of any other mammals were observed during the site inspection. The Site is separated from the Royal Canal by a high masonry wall that would be impassable to otters. Ground conditions are unsuitable for badger setts. There is no woodland suitable for deer or red squirrel. There is some ground cover that could potentially be suitable for hedgehogs and other small mammals, but the Site is small and not connected to any larger areas of suitable habitat, so it is unlikely that any such species would use the Site on a regular basis. In summary, the Site is of Negligible importance for any protected terrestrial mammal species.

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 open habitats such as grasslands.

Potential roost features

There are two structures within the Site, both of which will be demolished as part of other planning consents (refer to Section 3.2):

- A derelict 5 storey apartment building constructed of block walls and a roof of concrete tiles. The structure is unoccupied and most doors and windows are boarded up, although parts of the upper floors are open and occupied by pigeons. The structure has moderate suitability for roosting bats, although this is reduced somewhat by the prevalence of artificial lighting along Sackville Avenue
- 30 Sackville Avenue, a two-storey derelict dwelling. The walls are part stone, part masonry, and there are some shallow crevices between the brickwork. The roof is constructed of slate and has many holes. A large *Buddleja* plant has grown through an open window. As above, the structure is considered to have moderate suitability for roosting bats, although it is reduced by the prevalence of artificial lighting

Best practice survey guidance from the Bat Conservation Trust (3rd edition, Collins et al 2016) recommended two bat surveys for structures of moderate suitability for bats, including at least one survey at dawn. The two surveys were undertaken on 6 and 8 September (both at dawn), and the results are summarised below.

Dawn survey: 6 September

No bats were recorded roosting in either the apartment building or 30 Sackville Avenue.

Approx 30 – 40 minutes before dawn two common pipistrelle bats foraged briefly on the southern side of the apartment building around the trees and scrub. They later flew off to the north, passing to the west of the apartment building and 30 Sackville Avenue and disappearing from view at Foster Terrace. No other bat activity was recorded.

Dusk survey: 8 September

No bats were recorded roosting in either the apartment building or 30 Sackville Avenue.

A single common pipistrelle bat was observed foraging briefly around the northern side of the apartment building approx. 45 mins before sunrise. It flew off to the south towards the Royal Canal. No other bat activity was recorded.

Foraging / commuting habitat

No bats were roosting within either of the two buildings, so the Site is of no importance for roosting bats.

The only bat foraging activity within the Site was by small numbers of common pipistrelle bats. There are no high-quality foraging habitats within the Site (e.g. woodland, open water), so it is considered to be of Negligible importance for foraging bats.

The Royal Canal is located approx. 25 m south-west of the Site. It consists of open water lined in places by trees, which is a higher-value foraging habitat, and likely of Local importance for foraging bats.

4.4.3 *Birds*

Habitats within the Site are unsuitable for brent geese or any other species associated with SPAs in Dublin Bay; these species are only recorded in amenity grassland that is regularly mowed.

The following species were recorded during the site inspection: feral pigeon, woodpigeon, jackdaw, magpie, wren and pied wagtail. Other common urban / suburban birds (e.g. tits and finches) are likely to use the Site at other times, but species of conservation importance are unlikely to be present. 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 apartment building appears to be used by nesting pigeons, and other species may nest within the scrub.

4.4.4 *Fish and aquatic fauna*

There are no waterbodies in the vicinity of the Site, so it is of no importance for fish or other aquatic fauna.

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 urban / suburban landscapes in Ireland, so it is considered to be of Negligible importance for invertebrates.

4.5 **Potential limitations and information gaps**

The multi-disciplinary site inspection was carried out in July 2023 and the bat survey in September 2023. These are ideal times for ecological surveys.

As noted in Section 2.2, the bat survey methods were developed using *Bat Surveys for Professional Ecologists: Good Practice Guidelines* (Bat Conservation Trust, 3rd edition, 2016). The 4th edition of the guidance was published in October 2023, but the survey had already been completed by that time, so it was undertaken in accordance with the 3rd edition guidance. This does not provide any limitation to the survey, as the 3rd edition guidance represented best practice guidance at the time.

Two bat surveys were undertaken. It is recommended in Collins et al (2016) that multiple surveys are carried out at least two weeks apart. However, as the surveys commenced in early September, which is near the end of the recommended survey season, it was

preferable to carry out two surveys in ideal conditions relatively early in the month rather than later in the month when weather conditions could have been less favourable.

Finally, it was standard practice under the 3rd edition of the Bat Conservation Trust guidance (Collins et al. 2016) to carry out a mixture of surveys at dusk and dawn. However, previous dusk surveys by NM Ecology Ltd in city centre locations have been disrupted by anti-social behaviour, so it is company policy to carry out dawn surveys in these locations. The guidance did not specify that dusk surveys were necessary, so this approach was consistent with the guidance.

4.6 Identification of important ecological features

Table 3 provides a summary of all ecological features identified within the Site, including their importance and legal / conservation status. For the purposes of this impact assessment, any features that are of Local (or higher) ecological importance are considered to be 'Important Ecological Features'.

Table 3: Important ecological features within the Site

Ecological feature	Importance	Legal status	Important feature?
Designated sites	International	HR	No
Buildings and artificial surfaces (BL3)	Negligible	-	No
Dry meadow (GS2)	Negligible	-	No
Recolonising bare ground (ED3)	Negligible	-	No
Scrub (WS1)	Negligible	-	No
Rare / protected flora	N.A.	-	No
Three-cornered leek	N.A.	HR	Yes
Other invasive plant species	N.A.	-	No
Terrestrial mammals	Negligible	WA	No
Bats (within Site)	Negligible	HR, WA	No
Bats (foraging on Royal Canal)	Local	HR, WA	Yes
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, three Important Ecological Features were identified within the Site: three-cornered leek, bats foraging along the Royal Canal, and birds nesting within the Site, notably feral pigeons in the apartment building. Potential impacts are considered in Section 5, and mitigation measures are presented in Section 6. All other ecological features discussed in Section 4 are of Negligible ecological importance, so they do not require further assessment.

Policy GI 16 of the Dublin City Development Plan requires that “opportunities should be taken as part of new development to provide a net gain in biodiversity and provide links to the wider Green Infrastructure network”. Ecological enhancement measures for the scheme are reviewed in Section 5.3, and justification is provided to achieve a net gain in biodiversity.

5 Predicted Impacts of the Proposed Development

5.1 Three-cornered leek

This invasive plant species is common and widespread throughout Ireland, particularly in urban areas. It spreads by seed dispersal, and can rapidly colonise green areas.

The construction of the proposed development could potentially cause some localised spread of this species. This would constitute an offence under the *EC (Birds and Natural Habitats) Regulations 2011* (as amended).

5.2 Bat foraging habitat along the Royal Canal

The Royal Canal is likely to be of Local importance as a foraging area for bats. The proposed development will not involve any direct changes to the canal, but it will involve the addition of artificial lighting in parts of the Site, notably the new pedestrian / cycle boulevard connecting to Sackville Gardens.

To avoid impacts on the bat foraging habitat, some bat sensitive lighting techniques have been incorporated into the lighting scheme along Sackville Gardens, as follows:

- A 2.45 m wall will be constructed along the southern boundary of the Site
- Lighting poles along Sackville Gardens will be installed on the southern side of the road and directed to the north. Cowls will be used to minimise light spill to the south
- Lights will be LEDs with a warm tone

These measures will ensure that the proposed development will cause no additional illumination of the Royal Canal, and thus will prevent any impact on the bat foraging habitat.

5.3 Disturbance of breeding birds and mammals

Feral pigeons appear to be nesting in the derelict buildings. There are live planning consents for the demolition of these structures, and both will be demolished before the proposed

development commences. General best practice suggests demolition works should be undertaken outside of nesting season, so the contractor will be expected to comply with this.

It is also possible that birds may nest within the scrub habitat. If this habitat was cleared during the bird nesting season (usually between March and August, inclusive), it is possible that active nests could be destroyed. The killing of any birds or the disturbance of their breeding / resting places would constitute an offence under the *Wildlife Act 1976* (as amended).

5.4 Biodiversity Enhancement in the landscaping proposals

Existing grassland, recolonising bare ground and scrub will be cleared to make space for the proposed development. As discussed in Section 4.3, all habitats within the Site are currently of Negligible importance.

The loss of baseline habitats will be compensated by the incorporation of biodiversity measures in the landscaping proposals for the scheme. The following measures are shown in the landscape plan:

- New trees and shrubs will be planted in areas of communal and public open space. The majority will be native species, including some that produce berries (hawthorn, rowan) suitable for over-wintering birds
- Small sections of wildflower meadow will be included in the public open space
- Bird boxes will be provided, including designs suitable for common garden birds (e.g. finches, tits, blackbirds) and swift nesting boxes on buildings of > 5 m height

Overall, the proposed landscaping scheme is expected to result in a slight positive increase in the biodiversity value of the Site compared to the baseline habitats.

5.5 Potential cumulative / in-combination impacts

No developments were identified in Section 3.2 that could potentially lead to in-combination effects.

6 Proposed mitigation measures

6.1 Eradication of three-cornered leek

Individual plants can be killed by herbicide application, and it is recommended that this is carried out in the next growing season, approx. March / April 2025. It is possible that seeds are present in the surrounding soil and may germinate in the future, so it is recommended that follow-up treatment is also carried out in 2026 to treat any new growth.

It is recommended that this is undertaken by Dublin City County Council prior to tendering for the construction of the proposed development, as it should be possible to eradicate the

plant before construction commences, thus avoiding an offence under the *EC (Birds and Natural Habitats) Regulations 2011* (as amended).

6.2 Protection of birds during site clearance works

Under Section 22 of the *Wildlife Act 1976* (as amended), it is an offence to kill or injure a protected bird or to disturb their nests. Most birds nest between March and August (inclusive), so 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 to assess whether or not any nesting birds 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 proposed development will require the removal of existing habitats of Negligible importance within the Site. The loss of these habitats will be compensated by the landscaping scheme for the proposed development, which will include native trees, meadows and bird nest boxes. These measures are expected to result in a slight positive increase in the biodiversity value of the Site compared to the baseline habitats.

It is expected that three-cornered leek can be eradicated prior to the construction of the proposed development, so there will be no residual impact or legal offence.

The lighting scheme for the proposed development has been designed to avoid any additional illumination of the Royal Canal, which means that it will have no impact on the bat foraging habitat.

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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