

# Ecological Impact Statement of shared accommodation development at 36-40 Dominick Street Upper, Dublin 7

Compiled by OPENFIELD Ecological Services

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For Western Way Developments Ltd.



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## **1 INTRODUCTION**

This Ecological Impact Statement has been prepared by Pádraic Fogarty of OPENFIELD Ecological Services. Pádraic Fogarty has worked for over 20 years in the environmental field and in 2007 was awarded an MSc from Sligo Institute of Technology for research into Ecological Impact Assessment (EclA) in Ireland. OPENFIELD is a full member of the Institute of Environmental Management and Assessment (IEMA).

## **2 STUDY METHODOLOGY**

The assessment was carried out in accordance with the following best practice methodology: 'Guidelines for Ecological Impact Assessment in the United Kingdom and Ireland' by the Institute of Ecology and Environmental Management (IEEM, 2016).

Site visits were carried out on the 28<sup>th</sup> of November 2019 and the 19<sup>th</sup> of August 2020 in fair weather. The site was surveyed in accordance with the Heritage Council's Best Practice Guidance for Habitat Survey and Mapping (Smith et al., 2010). Habitats were identified in accordance with Fossitt's Guide to Habitats in Ireland (Fossitt, 2000).

The nomenclature for vascular plants is taken from *The New Flora of the British Isles* (Stace, 2010) and for mosses and liverworts *A Checklist and Census Catalogue of British and Irish Bryophytes* (Hill et al., 2009).

August lies within the optimal survey period for general habitat surveys (Smith et al., 2010) and so it was possible to classify all habitats on the site to Fossitt level 3.

## **3 EXISTING RECEIVING ENVIRONMENT**

### **3.1 Zone of Influence**

Best practice guidance suggests that an initial zone of influence be set at a radius of 2km for non-linear projects (Institute of Environmental Assessment, 1995). This is shown in figure 1. However, some impacts are not limited to this distance and so sensitive receptors further from the project footprint may need to be considered as this assessment progresses.

There are a number of designations for nature conservation in Ireland including National Park, National Nature Reserve, RAMSAR site, UNESCO Biosphere reserves, Special Protection Areas (SPA – Birds Directive), Special Areas of Conservation (SAC – Habitats Directive); and Natural Heritage Areas. The mechanism for adopting these designations is through national or international legislation. Proposed NHAs (pNHA) are areas that have yet to gain full legislative protection. They are generally protected through the relevant County Development Plan. There is no system in Ireland for the designation of sites at a local, or county level. The following areas were found to be located within the zone of influence of the application site:

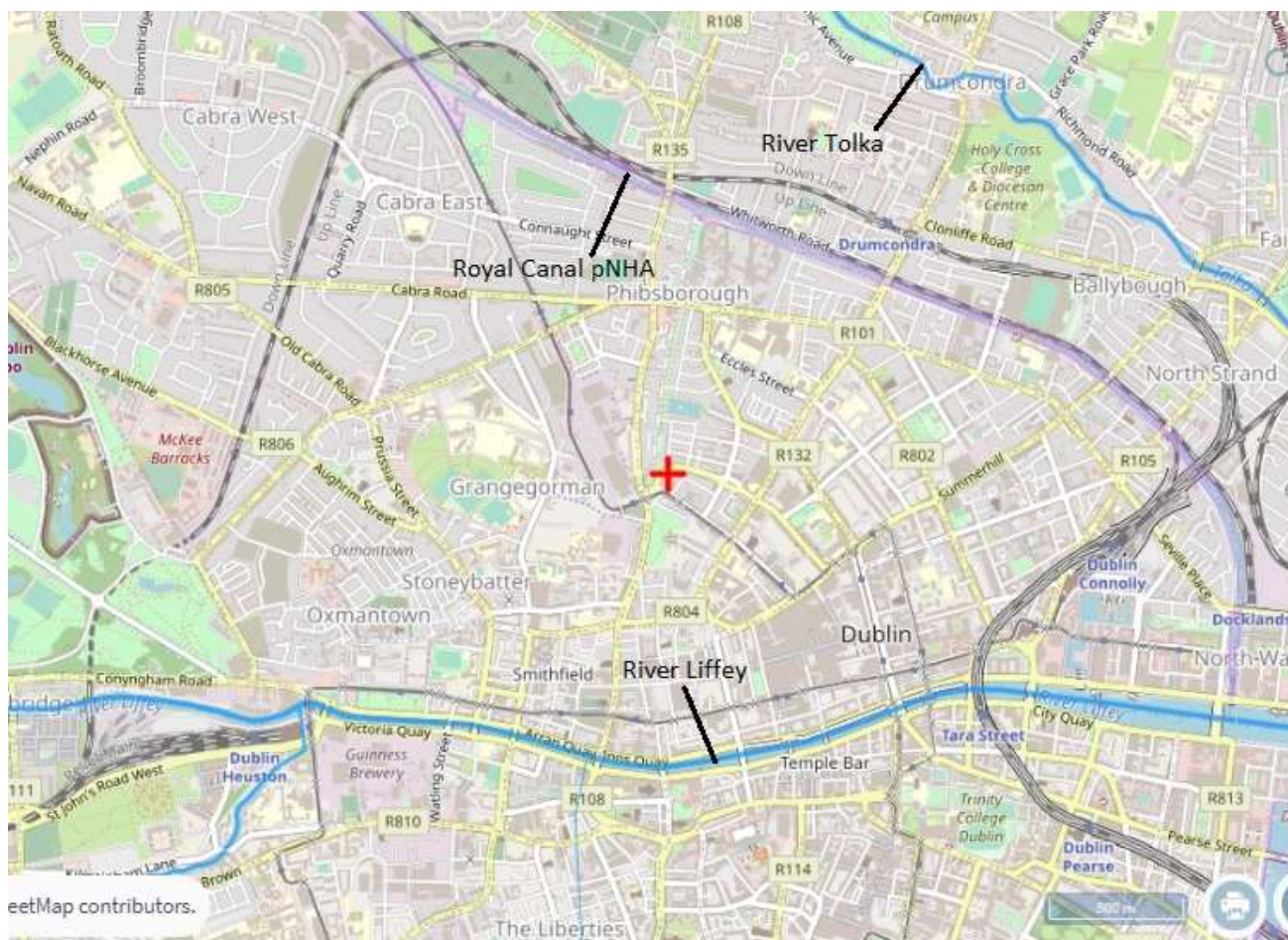


Figure 1 – Approximate 2km radius of proposed site (red cross) showing local water courses and areas designated for nature conservation (from [www.epa.ie](http://www.epa.ie)).

**Royal Canal pNHA** (site codes: 2104): The Royal Canal was constructed in the 18th century and links Dublin to the River Shannon. It is a nationally valuable wildlife corridor and is home to a wide range of plants and animals, many of conservation value, including the Otter *Lutra lutra*.

**South Dublin Bay SAC** (side code: 0210) is concentrated on the intertidal area of Sandymount Strand. It has one qualifying interest (i.e. feature which qualifies the area as being of international importance) which is mudflats and sandflats not covered by seawater at low tide.

**South Dublin Bay and Tolka Estuary SPA** (side code: 4024) is largely coincident with the SAC boundary with the exception of the Tolka Estuary. The North Bull Island SPA (site code: 0206) is largely coincident with the North Dublin Bay SAC with the exception of the terrestrial portion of Bull Island. Table 1 lists the features of interest for these SPAs.

**North Dublin Bay pNHA** (site code: 0206). This area stretches north along the Dublin coast as far as Howth Head and east to the waters around (but not including) Bull Island. Much of the pNHA is now within the North Dublin Bay SAC (site code: 0206) while that portion that falls within the Tolka estuary is within the aforementioned SPA.

Table 1 – Features of interest for the South Dublin Bay and Tolka Estuary SPAs in Dublin Bay (EU code in square parenthesis)

Light-bellied Brent Goose ( <i>Branta bernicla hrota</i> ) [A046]
Oystercatcher ( <i>Haematopus ostralegus</i> ) [A130]
Ringed Plover ( <i>Charadrius hiaticula</i> ) [A137]
Grey Plover ( <i>Pluvialis squatarola</i> ) [A140]
Knot ( <i>Calidris canutus</i> ) [A143]
Sanderling ( <i>Calidris alba</i> ) [A144]
Dunlin ( <i>Calidris alpina</i> ) [A149]
Bar-tailed Godwit ( <i>Limosa lapponica</i> ) [A157]
Redshank ( <i>Tringa totanus</i> ) [A162]
Black-headed Gull ( <i>Croicocephalus ridibundus</i> ) [A179]
Roseate Tern ( <i>Sterna dougallii</i> ) [A192]
Common Tern ( <i>Sterna hirundo</i> ) [A193]
Arctic Tern ( <i>Sterna paradisaea</i> ) [A194]
Wetlands & Waterbirds [A999]

Bird counts from BirdWatch Ireland are taken from Dublin Bay as a whole and are not separated between the two SPAs in this area.

Dublin Bay is recognised as an internationally important site for water birds as it supports over 20,000 individuals. Table 2 shows the most recent count data available<sup>1</sup>.

Table 2 – Annual count data for Dublin Bay from the Irish Wetland Birds Survey (IWeBS)

Year	2010/11	2011/12	2012/13	2013/14	2014/15	Mean
Count	27,931	30,725	30,021	35,878	33,486	31,608

There were also internationally important populations of particular birds recorded in Dublin Bay (i.e. over 1% of the world population): Light-bellied brent geese *Branta bernicula hrota*; Black-tailed godwit *Limosa limosa*; Knot *Calidris canutus* and Bar-tailed godwit *L. lapponica*.

<sup>1</sup> <https://www.birdwatchireland.ie/?tabid=111>

**North Dublin Bay SAC/North Bull Island SPA**

The North Dublin Bay SAC (site code: 0206) is focussed on the sand spit on the North Bull island. The qualifying interests for it are shown in table 3. The status of the habitat is also given and this is an assessment of its range, area, structure and function, and future prospects on a national level and not within the SAC itself.

Table 3 – Qualifying interests for the North Dublin Bay SAC

Code	Habitat/Species	Status
1140	Mudflats and sandflats not covered by seawater at low tide	Inadequate
1320	Salicornia and other annuals colonizing mud and sand	Favourable
1330	Atlantic salt meadows	Inadequate
1410	Mediterranean salt meadows	Inadequate
1210	Annual vegetation of drift lines	Inadequate
2110	Embryonic shifting dunes	Inadequate
2120	Shifting dunes along the shoreline with <i>Ammophila arenaria</i> (white dunes)	Inadequate
2130	Fixed coastal dunes with herbaceous vegetation (grey dunes)	Bad
2190	Humid dune slacks	Inadequate
1395	<i>Petalophyllum ralfsii</i> Petalwort	Favourable

- **Annual vegetation of drift lines (1210)** This habitat of the upper shore is characterised by raised banks of pebbles and stones. They are inhabited by a sparse but unique assemblage of plants, some of which are very rare. The principle pressures are listed as gravel extraction, the building of pipelines and coastal defences.
- **Embryonic shifting dunes (2110).** As their name suggests these sand structures represent the start of a sand dune's life. Perhaps only a meter high they are a transient habitat, vulnerable to inundation by the sea, or developing further into white dunes with Marram Grass. They are threatened by recreational uses, coastal defences, trampling and erosion.
- **Shifting dunes along the shoreline with *Ammophila arenaria* (white dunes) (2120).** These are the second stage in dune formation and depend upon the stabilising effects of Marram Grass. The presence of the grass traps additional sand, thus growing the dunes. They are threatened by erosion, climate change, coastal flooding and built development.
- **Fixed coastal dunes with herbaceous vegetation (grey dunes) (2130 – priority habitat).** These are more stable dune systems, typically located on the landward side of the mobile dunes. They have a more or less permanent, and complete covering of vegetation, the quality of which depends on local hydrology and grazing regimes. They are the most endangered of the dune habitat types and are under pressure from

built developments such as golf courses and caravan parks, over-grazing, under-grazing and invasive species.

- **Humid dune slacks (2190).** These are wet, nutrient enriched (relatively) depressions that are found between dune ridges. During winter months or wet weather these can flood and water levels are maintained by a soil layer or saltwater intrusion in the groundwater. There are found around the coast within the larger dune systems.
- **Petalwort (1395).** There are 30 extant populations of this small green liverwort, predominantly along the Atlantic seaboard but also with one in Dublin. It grows within sand dune systems and can attain high populations locally.

The North Bull Island SPA (site code: 0206) is largely coincident with the North Dublin Bay SAC with the exception of the terrestrial portion of Bull Island. Table 4 lists its features of interest.

Table 4 – Features of interest for the North Dublin Bay SPA

North Bull Island SPA	National Status
Light-bellied Brent Goose <i>Branta bernicla hrota</i>	Amber (Wintering)
Oystercatcher <i>Haematopus ostralegus</i>	Amber (Breeding & Wintering)
Teal <i>Anas crecca</i>	Amber (Breeding & Wintering)
Pintail <i>Anas acuta</i>	Red (Wintering)
Shoveler <i>Anas clypeata</i>	Red (Wintering)
Shelduck <i>Tadorna tadorna</i>	Amber (Breeding & Wintering)
Golden Plover <i>Pluvialis apricaria</i>	Red (Breeding & Wintering)
Grey Plover <i>Pluvialis squatarola</i>	Amber (Wintering)
Knot <i>Calidris canutus</i>	Amber (Wintering)
Sanderling <i>Calidris alba</i>	Green (Wintering)
Dunlin <i>Calidris alpina</i>	Red (Breeding & Wintering)
Black-tailed Godwit <i>Limosa limosa</i>	Amber (Wintering)
Bar-tailed Godwit <i>Limosa lapponica</i>	Amber (Wintering)
Curlew <i>Numenius arquata</i>	Red (Breeding & Wintering)
Redshank <i>Tringa totanus</i>	Red (Breeding & Wintering)
Turnstone <i>Arenaria interpres</i>	Green (Wintering)
Black-headed Gull <i>Larus ridibundus</i>	Red (Breeding)

Wetlands & Waterbirds
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- **Oystercatcher.** Predominantly coastal in habit Oystercatchers are resident birds whose numbers continue to expand in Ireland.
- **Teal.** In winter this duck is widespread throughout the country. Land use change and drainage however have contributed to a massive decline in its breeding range over the past 40 years.
- **Pintail.** Dabbling duck wintering on grazing marshes, river floodplains, sheltered coasts and estuaries. It is a localised species and has suffered a small decline in distribution in Ireland for unknown reasons.
- **Shoveler.** Favoured wintering sites for this duck are inland wetlands and coastal estuaries. While there have been local shifts in population and distribution, overall their status is stable in Ireland.
- **Knot.** These small wading birds do not breed in Ireland but gather in coastal wetlands in winter. Their numbers have increased dramatically since the mid-1990s although the reasons for this are unclear.
- **Sanderling.** This small bird breeds in the high Arctic and winters in Ireland along sandy beaches and sandbars. Its wintering distribution has increased by 21% in the previous 30 years.
- **Dunlin.** Although widespread and stable in number during the winter season, the Irish breeding population has collapsed by nearly 70% in 40 years. Breeding is now confined to just seven sites in the north and west as habitat in former nesting areas has been degraded.
- **Black-tailed Godwit.** Breeding in Iceland these waders winter in selected sites around the Irish coast, but predominantly to the east and southern halves. Their range here has increase substantially of late.
- **Curlew.** Still a common sight during winter at coastal and inland areas around the country its breeding population here has effectively collapsed. Their habitat has been affected by the destruction of peat bogs, afforestation, farmland intensification and land abandonment. Their wintering distribution also appears to be in decline.
- **Redshank.** Once common breeders throughout the peatlands and wet grasslands of the midlands Redshanks have undergone a 55% decline in distribution in the past 40 years. Agricultural intensification, drainage of wetlands and predation are the chief drivers of this change.
- **Turnstone.** This winter visitor to Irish coasts favours sandy beaches, estuaries and rocky shores. It is found throughout the island but changes may be occurring due to climate change.
- **Black-headed Gull.** Widespread and abundant in winter these gulls are nevertheless considered to be in decline. The reasons behind this are unclear but may relate to the loss of safe nesting sites, drainage, food depletion and increase predation.

The NPWS web site ([www.npws.ie](http://www.npws.ie)) contains a mapping tool that indicates historic records of legally protected species within a selected Ordnance Survey (OS) 10km grid square. The subject site is located within the square O13 and six species of protected flowering plant are highlighted. These species are detailed in Table 3. It must be noted that this list cannot be seen as exhaustive as suitable habitat may be available for other important and protected species.



Table 5 – Known records for protected species within the O13 10km square

Species	Habitat <sup>2</sup>	Current status <sup>3</sup>
<i>Groenlandia densa</i> Opposite-leaved Pondweed	Rivers, canals and estuarine mud	Current
<i>Galeopsis angustifolia</i> Red Hemp-nettle	Calcareous gravels	Record pre-1970
<i>Hordeum secalinum</i> Meadow Barley	Upper parts of brackish marshes, chiefly near the sea	
<i>Puccinellia fasciculata</i> Borrer's salt-marsh grass	Muddy inlets on the coast	
<i>Hypericum hirsutum</i> Hairy St. John's-wort	Woods and shady places	Current
<i>Viola hirta</i> Hairy Violet	Sand dunes, grasslands, limestone rocks	

In summary it can be seen that of the six species only three records remain current. Opposite-leaved Pondweed was recorded as being 'common in the Grand Canal' in the *Flora of County Dublin* (Doogue et al., 1998). This source elaborates that the plant was "scattered along the Grand Canal at Dolphin's Barn from Portobello to Charlemont Bridge, and between Drimnagh and Kilmainham."

Water quality in rivers, canals and estuaries is monitored on an on-going basis by the Environmental Protection Agency (EPA). They assess the pollution status of a stretch of water by analysing the invertebrates living in the substrate as different species show varying sensitivities to pollution. They arrive at a 'Q-Value' where Q1 = pristine quality and Q5 = grossly polluted (Toner et al., 2005). The subject lands are approximately 1.1km from the banks of the River Liffey. The river is tidally influenced throughout its length in Dublin city centre. The river banks at this location are composed of artificial quay walls while water is assessed as 'eutrophic', indicating excessive levels of pollution. The 'ecological potential' of canals is assessed by the EPA as these are artificial water bodies. The Royal and Grand canals are achieving 'good ecological potential' with the exception of the Grand Canal Basin in Dublin which was deemed to be of moderate ecological potential due to elevated levels of faecal coliforms and ammonia (EPA, 2019). These data are taken from the EPA's mapping tool on [www.epa.ie](http://www.epa.ie).

### 3.2 Stakeholder Consultation

Because of the low ecological sensitivity of this site and its immediate vicinity no third party observations were sought.

<sup>2</sup> Parnell et al., 2012

<sup>3</sup> Preston et al., 2002



### 3.3 Site Survey

Aerial photography from the OSI and historic mapping shows that this area has long been a part of the built environment of Dublin City. The Royal Canal was constructed in the 18<sup>th</sup> Century to facilitate trade between Dublin and the rest of Ireland. Its subsequent decline left behind a semi-natural corridor that is now recognised for its wildlife value. The immediate vicinity of the site is entirely composed of buildings and artificial surfaces while nearby areas of open green space or clusters of mature trees are separated by public roads.

#### 3.3.1 Flora

The subject site is entirely composed of **buildings and artificial surfaces – BL3**. As such there is minimal presence of vegetation. There are no areas of green space and this is a habitat of negligible biodiversity value. No alien invasive species listed under Schedule 3 of SI No. 477 are present on this site and there was no indication that any are growing in the immediate vicinity. Some ruderal vegetation is present and includes Brambles *Rubus fruticosus agg.*, Canadian Fleabane *Conyza canadiensis*, Sycamore *Acer pseudoplatanus* and the non-native Butterfly-bush *Buddleja davidii*.

#### 3.3.2 Fauna

The site survey included incidental sightings or proxy signs (prints, scats etc.) of faunal activity, while the presence of certain species can be concluded where there is suitable habitat within the known range of that species. Table 6 details those mammals that are protected under national or international legislation in Ireland. Cells are greyed out where suitable habitat is not present or species are outside the range of the study area.

Table 6 – Protected mammals in Ireland and their known status within the zone of influence<sup>4</sup>. Those that are greyed out indicate either that suitable habitat is not present or that there are no records of the species from the National Biodiversity Data Centre.

Species	Level of Protection	Habitat <sup>5</sup>
Otter <i>Lutra lutra</i>	Annex II & IV Habitats Directive; Wildlife (Amendment) Act, 2000	Rivers and wetlands
Lesser horseshoe bat <i>Rhinolophus hipposideros</i>		Disused, undisturbed old buildings, caves and mines
Grey seal <i>Halichoerus grypus</i>	Annex II & V Habitats Directive; Wildlife (Amendment) Act, 2000	Coastal habitats
Common seal <i>Phocaena phocaena</i>		
Whiskered bat <i>Myotis mystacinus</i>	Annex IV Habitats Directive;	Gardens, parks and riparian habitats

<sup>4</sup> From the National Biodiversity Data Centre, excludes marine cetaceans

<sup>5</sup> Harris & Yalden, 2008

Natterer's bat <i>Myotis nattereri</i>	Wildlife (Amendment) Act, 2000	Woodland
Leisler's bat <i>Nyctalus leisleri</i>		Open areas roosting in attics
Brown long-eared bat <i>Plecotus auritus</i>		Woodland
Common pipistrelle <i>Pipistrellus pipistrellus</i>		Farmland, woodland and urban areas
Soprano pipistrelle <i>Pipistrellus pygmaeus</i>		Rivers, lakes & riparian woodland
Daubenton's bat <i>Myotis daubentonii</i>		Woodlands and bridges associated with open water
Nathusius' pipistrelle <i>Pipistrellus nathusii</i>		Parkland, mixed and pine forests, riparian habitats
Irish hare <i>Lepus timidus hibernicus</i>	Annex V Habitats Directive; Wildlife (Amendment) Act, 2000	Wide range of habitats
Pine Marten <i>Martes martes</i>		Broad-leaved and coniferous forest
Hedgehog <i>Erinaceus europaeus</i>	Wildlife (Amendment) Act, 2000	Woodlands and hedgerows
Pygmy shrew <i>Sorex minutus</i>		Woodlands, heathland, and wetlands
Red squirrel <i>Sciurus vulgaris</i>		Woodlands
Irish stoat <i>Mustela erminea hibernica</i>		Wide range of habitats
Badger <i>Meles meles</i>		Farmland, woodland and urban areas
Red deer <i>Cervus elaphus</i>		Woodland and open moorland
Fallow deer <i>Dama dama</i>		Mixed woodland but feeding in open habitat
Sika deer <i>Cervus nippon</i>		Coniferous woodland and adjacent heaths

Although a number of mammals are known to be present in Dublin city, most notably Fox *Vulpes vulpes*, there are no habitats on the site which are suitable for the majority of these species.

A bat survey was carried out by Brian Keeley of Wildlife Surveys Ireland during the optimal flight period in 2020. His report is presented separately but its findings are incorporated in this report. Two bat species were noted: Soprano Pipistrelle and Leisler's Bat. The report states that "there is no evidence of bats within the building

elements despite extensive searching of the building.” [...] “there is very limited vegetation within the site and no roost potential within the vegetation.



Figure 2 – Aerial photograph showing the boundaries of the subject site (from [www.google.com](http://www.google.com))

The building is used by nesting Feral Pigeon *Columba livia*. This is a bird of low conservation concern (Coulhoun & Cummins, 2013). No other nesting birds were recorded during the August 2020 survey, which lies within the nesting season. The habitats on the development site are not suitable for wintering/wetland/wading birds which may be associated with Natura 2000 sites.

There are no suitable habitats on the site for amphibians or fish. Most habitats, even highly altered ones, are likely to harbour a wide diversity of invertebrates. In Ireland, only one insect is protected by law, the Marsh Fritillary butterfly *Euphydryas aurinia*, and this is not to be found on built-up sites. Other protected invertebrates are confined to freshwater and wetland habitats and so are not present on this site.

### 3.4 Overall Evaluation of the Context, Character, Significance and Sensitivity of the Proposed Development Site

In summary, it has been seen that the application site is within a built-up area of Dublin city. There are no examples of habitats listed on Annex I of the Habitats Directive or records of rare or protected plants. There are no species listed as alien invasive as per SI 477 of 2011 or as ‘most unwanted’ by Invasive Species Ireland.

The building provides suitable habitat for breeding Feral Pigeon.

Significance criteria are available from guidance published by the National Roads Authority (NRA, 2009). These are reproduced in table 7. From this an evaluation of the various habitats and ecological features on the site has been made and this is shown in table 8.

Table 7 Site evaluation scheme taken from NRA guidance 2009

<b>Site Rating</b>	<b>Qualifying criteria</b>
A - International importance	<p>SAC, SPA or site qualifying as such.</p> <p>Sites containing ‘best examples’ of Annex I priority habitats (Habitats Directive).</p> <p>Resident or regularly occurring populations of species listed under Annex II (Habitats Directive); Annex I (Birds Directive); the Bonn or Berne Conventions.</p> <p>RAMSAR site; UNESCO biosphere reserve;</p> <p>Designated Salmonid water</p>
B - National importance	<p>NHA. Statutory Nature Reserves. Refuge for Flora and Fauna. National Park.</p> <p>Resident or regularly occurring populations of species listed in the Wildlife Act or Red Data List</p> <p>‘Viable’ examples of habitats listed in Annex I of the Habitats Directive</p>
C - County importance	<p>Area of Special Amenity, Tree Protection Orders, high amenity (designated under a County Development Plan)</p> <p>Resident or regularly occurring populations (important at a county level, defined as &gt;1% of the county population) of European, Wildlife Act or Red Data Book species</p> <p>Sites containing semi-natural habitat types with high biodiversity in a county context, and a high degree of naturalness, or populations of species that are uncommon in the county</p>
D - Local importance, higher value	<p>Sites containing semi-natural habitat types with high biodiversity in a county context, and a high degree of naturalness, or populations of species that are uncommon in the locality</p> <p>Sites or features containing common or lower value habitats, including naturalised species that are nevertheless essential in maintaining links and ecological corridors between features of higher ecological value.</p>

<p>E - Local importance, lower value</p>	<p>Sites containing small areas of semi-natural habitat that are of some local importance for wildlife;</p> <p>Sites or features containing non-native species that are of some importance in maintaining habitat links.</p>
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Table 8 Evaluation of the importance of habitats and species on the subject site

<p>Buildings and artificial surfaces – BL3</p>	<p>Negligible ecological value</p>
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#### 4 CHARACTERISTICS OF THE PROPOSED DEVELOPMENT

The proposed development comprises demolition of the existing warehouse buildings and no. 36 Dominick Street Upper and retention of the Hendrons Building as part of an overall redevelopment of the site to accommodate a build-to-rent shared living scheme and publicly accessible neighbourhood uses (including café/shop, gym and yoga studios). The scheme will include; 280 no. shared living rooms (281. no bedspaces), internal and external amenity space over 5 no. blocks ranging in height from 5 no. storeys to 9 no. storeys, secure bicycle parking, site-wide landscaping, ESB substation and switch-room and site development works all on the 0.3285 hectare site.



Figure 3 – Development overview

## 5 POTENTIAL IMPACT OF THE PROPOSED DEVELOPMENT

This section provides a description of the potential impacts that the proposed development may have on flora & fauna in the absence of mitigation. Methodology for determining the significance of an impact has been published by the NRA. This is reproduced in table 9 and is based on the evaluation of the ecological feature in question (table 5) and the scale of the predicted impact. In this way it is possible to assign an impact significance in a transparent and objective way. Table 10 summarises the nature of the predicted impacts.

Table 9: Determination of significance matrix taken from NRA guidance Appendix 4 (2006)

<b>Impact Level</b>	<b>Site category</b>				
	<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>	<b>E</b>
<b>Severe negative</b>	Any permanent impact	Permanent impact to a large part of the site			
<b>Major negative</b>	Temporary impact to a large part of the site	Permanent impact to a small part of the site	Permanent impact to a large part of the site		
<b>Moderate negative</b>	Temporary impact to a small part of the site	Temporary impact to a large part of the site	Permanent impact to a small part of the site	Permanent impact to a large part of the site	
<b>Minor negative</b>		Temporary impact to a small part of the site	Temporary impact to a large part of the site	Permanent impact to a small part of the site	Permanent impact to a large part of the site
<b>Neutral (Negligible)</b>	No impact	No impact	No impact	No impact	Permanent impact to a small part of the site
<b>Minor positive</b>				Permanent beneficial impact to a small part of the site	Permanent beneficial impact to a large part of the site
<b>Moderate positive</b>			Permanent beneficial impact to a small part of the site	Permanent beneficial impact to a large part of the site	
<b>Major positive</b>		Permanent beneficial impact to a small part of the site	Permanent beneficial impact to a large part of the site		



## 5.1 Construction Phase

The following potential impacts are likely to occur during the construction phase in the absence of mitigation:

1. The removal of habitats: No habitats of high value to biodiversity are to be affected by this development. The habitats to be lost are of negligible value, The impact of this loss of habitat will be minor negative.
2. The direct mortality of species during demolition. This impact is most acute during the bird breeding season which can be assumed to last from March to August inclusive. The buildings on the site provide suitable nesting habitat for Feral Pigeon. All birds' nests and eggs are protected under the Wildlife Act, as amended, and disturbance is only permitted under licence from the National Parks and Wildlife Service. This effect is potentially moderate negative.
3. Pollution of water courses through the ingress of silt, oils and other toxic substances:

A Hydrological and Hydrogeological Quantitative Risk Assessment has been carried out by AWN Consulting for this application. It states:

The nearest surface water receptors is Dublin Bay Coastal Water Body (WFD code: IE\_EA\_090\_0000), which is located c. 3 Km to the east of the Proposed Development site. The River Liffey (Transitional Waterbody code IE\_EA\_090\_0400, EPA code: 09L01) is the nearest river to the site and it also discharges into the Dublin Bay coastal water which hosts SAC, SPA and NHA habitats.

The subject site is currently drained to the public sewer network. There is an existing surface water sewer located on Dominick Street Upper which in turn eventually discharges to the River Liffey. Therefore, the site is hydraulically connected to the Dublin Bay.

4. The distance from the River Liffey means that there is a buffer between potential pollution sources and this sensitive receptor. There are no surface water courses in the vicinity of the subject site. The Liffey holds populations of Brown Trout *Salmo trutta* and Atlantic Salmon *S. salar* and these species are highly sensitive to pollutants (Hendry & Craig-Hine, 2003). Atlantic Salmon is listed under Annex II of the Habitats Directive. However, there is no pathway to the freshwater portion of the Liffey from this location. The tidal portion of the river is not vulnerable to the input of sediment in the way that upstream spawning habitats are and so impacts from this source are not expected.

There is no pathway for pollutants to reach the canal. At worst, the effect of pollution during the construction phase is minor negative.

## Operational Phase

The following potential impacts are likely to occur during the operational phase in the absence of mitigation:

4. Pollution of water from foul wastewater arising from the development: Wastewater will be transmitted via the public sewer to the municipal treatment plant at Ringsend. Upgrade works are needed as the plant is not currently meeting its requirements under the Urban Wastewater Treatment Directive. Pollution effects are most acute in freshwater systems where the capacity for dilution is low and the consequent risk of eutrophication is high. The Ringsend WWTP discharges into Dublin Bay which is currently classified as 'unpolluted' by the EPA despite long-running compliance issues at the plant. A separate screening report for Appropriate Assessment specifically examines the impacts of this project on Natura 2000 sites in Dublin Bay. However there is currently no evidence that non-compliance issues at the WWTP are having negative effects to features of high ecological value (e.g. wading birds or intertidal habitats). Irish Water is currently undertaking upgrading works on a phased basis and that will see compliance issues comprehensively in the coming years.

According to the report prepared by AWN Consulting:

"The peak wastewater discharge is calculated at an average wastewater discharge of 1.68 litres/sec., and will be collected in the public sewer and treated at Irish Water's WWTP at Ringsend prior to discharge to Dublin Bay. The connection to the sewage network requires the consent of Irish Water, having considered the capacity of their infrastructure (current and future). This WWTP is required to operate under an EPA licence (D0034-01) and to meet environmental legislative requirements.

The Ringsend WWTP received planning permission for upgrading works in 2012. Works commenced on this upgrade in February 2018, and are due to be completed in 2021. This upgrade involves the provision of a long sea outfall and ancillary elements to improve the functionality and operability of the facility. This upgrade will deliver a 25% increase in capacity.

Planning is also underway for a new wastewater treatment plant in North Dublin which will give greater treatment capacity for the catchment. The 2019 planning permission facilitated upgrading works to meet nitrogen and phosphorus standards set out in the licence and which are temporarily exceeded currently. The design includes aerobic granular sludge which will result in treatment of sewage to a higher quality than current thereby ensuring effluent discharge to Dublin Bay will comply with the Water Framework Directive, Urban Wastewater Treatment Directive and Bathing water Directive. It is understood at this point in time that the upgrade to use of aerobic granular sludge and other phased upgrades will achieve a population equivalent of 2.4 million and are to be completed between by 2027 to 2028. As outlined in the EIAR provided with the 2018 planning submission, modelling has shown that the upgrades which are currently underway will result in improved water quality within Dublin Bay. The 2018 EIAR predicts that the improvement in effluent quality achieved by the upgrade will compensate for the increase in flow through the plant.

Even without treatment at the Ringsend WWTP, the peak effluent discharge, calculated for the Proposed Development as 1.68 litres/sec which would equate to 0.015% of the licensed discharge at Ringsend WWTP [peak hydraulic capacity]), would not have a measurable impact on the overall water quality within Dublin Bay

and therefore would not have an impact on the current Water Body Status (as defined within the Water Framework Directive). This assessment is supported by hydrodynamic and chemical modelling within Dublin Bay which has shown that there is significant dilution for contaminants of concern (DIN and MRP: DIN and MRP represent the soluble inorganic fraction of Total Nitrogen and Total Phosphorus present in water, which is available for biological uptake) available quite close to the outfall for the treatment plant (Ringsend WWTP 2012 EIS, Ringsend WWTP 2018 EIAR). The modelling shows that the future Total Nitrogen and Total Phosphorus levels are expected to be at or below the licence levels as a direct result of the improved treatment works (Chapter 5 Figure 5-16 Chapter 5 of the 2018 EIAR plots the extent of the zone of influence of the effluent from the Ringsend WWTP on the predicted modelled output for winter depth averages for DIN. The zone of influence is shown to be largely confined to the area between the Great South Wall on the south side to the Bull Wall on the north side but it also extends into a small area in the inner part of Dublin Bay at Clontarf, a lagoon west of Bull Island and a small section of open sea to the south east of Bull Island). The modelling also shows that enrichment is also occurring from run-off from the Tolka and Liffey.

Recent water quality assessment for Dublin Bay also shows that Dublin Bay on the whole, currently continues to meet the criteria for 'Unpolluted' water quality status (EPA, 2020)."

Having regard to the conclusions of the AA screening report, this impact is neutral.

5. Pollution of water from surface water run-off. The Greater Dublin Strategic Drainage Study (2005) identified issues of urban expansion leading to an increased risk of flooding in the city and a deterioration of water quality. This arises where soil and natural vegetation, which is permeable to rainwater and slows its flow, is replaced with impermeable hard surfaces. The site is currently entirely of hard standing with no surface water attenuation in place. A new surface water drainage system will be installed for the development in accordance with the Greater Dublin Strategic Drainage Study (GSDSDS). This will include an underground storm water storage tank with overflow restricted to 2L/sec. All new areas of hard standing will be composed of permeable paving. Discharge is to a municipal surface water sewer. Because the site is already entirely of hard standing there will be no negative effects arising in relation to the quantity or quality of surface run-off.

This impact is minor positive.

## 6. Impacts to bats

The following is summarised from the bat survey report:

Disturbance from lighting

Lighting will be utilised for two different functions:

1. Access and safety and 2) Security and policing. The former is to allow ease of use at night. The latter is to ensure a perceived higher security level. This may affect light-intolerant bat species during foraging and if directed at emergence points would affect all bat species, even those that will feed in illuminated areas. Species such as Leisler’s bat and Common pipistrelles are less affected than almost all other Irish bat species and this would not be a significant impact. At worst, it would be a permanent moderately negative impact.

Reduced Feeding

Reduced vegetation including the removal of any of the scrub within the site may lead to reduced insect abundance. On the night of survey, two species were noted, only one of which was repeatedly in evidence. This will be a permanent slight negative impact.

7. No impacts are predicted to occur that would affect the status of the Royal Canal pNHA. Impacts to Natura 2000 areas (SACs or SPAs) in Dublin Bay are not predicted to occur. A full assessment of potential effects to these areas is contained within a separate Screening Report for Appropriate Assessment.

Table 10: Significance level of likely impacts in the absence of mitigation

Impact		Significance
Construction phase		
1	Loss of habitat	Minor negative
2	Mortality of animals during construction	Moderate negative
3	Pollution of water during construction phase	Neutral – no impacts are likely
Operation phase		
4	Wastewater pollution	Neutral
5	Surface water pollution	Minor positive
6	Impacts on bats	Moderate negative
7	Impacts to protected areas	Neutral

Overall it can be seen that two potential moderate negative impacts are predicted to occur as a result of this project in the absence of mitigation.

## 5.2 Cumulative impacts

A number of the identified impacts can also act cumulatively with other impacts from similar developments in this area of Dublin. These primarily arise through the additional loading to the Ringsend Wastewater Treatment Plant. It is considered that this effect is not significant as there is no evidence that pollution issues are resulting in significant negative effects to high biodiversity value features in Dublin Bay. Planned and ongoing upgrading works will bring emissions in line with the requirement of the Urban Wastewater Treatment Directive. The nature of these upgrading works is referred to in the AWN hydrological risk assessment report and also in the AA screening report where cumulative impacts are considered further.

According to the report from AWN Consulting:

The assessment has also considered the effect of cumulative events, such as release of sediment laden water combined with a hydrocarbon leak on site (during construction). As there is adequate assimilation and dilution between the site and the Natura sites (Dublin Bay), it is concluded that no perceptible impact on water quality would occur at the Natura sites as a result of the construction or operation of this Proposed Development. It can also be concluded that the cumulative or in-combination effects of effluent arising from the Proposed Development with that of other proposed developments or planned development pursuant to statutory plans in the greater Dublin, Meath and Kildare areas discharging to Ringsend WWTP will not be significant having regard to the size of the calculated discharge from the Proposed Development and having regard to the following:

- Recent water quality assessment for Dublin Bay shows that Dublin Bay currently continues to meet the criteria for 'Unpolluted' water quality status (EPA, 2020).
- The Ringsend WWTP upgrade which is currently being constructed will result in improved water quality to ensure compliance with Water Framework Directive requirements.
- All new developments are required to comply with SUDs which ensures management of run-off rate within the catchment of Ringsend WWTP.
- The natural characteristics of Dublin Bay result in enriched water rapidly mixing and degrading such that the plume has no appreciable effect on water quality at Natura sites.

The assessment has also considered the effect of cumulative events, such as release of sediment laden water combined with a hydrocarbon leak on site. As there is adequate assimilation and dilution between the site and the Natura sites (Dublin Bay), it is concluded that no perceptible impact on water quality would occur at the Natura sites as a result of the construction or operation of this Proposed Development. It can also be concluded that the cumulative or in-combination effects of effluent arising from the Proposed Development with that of other developments discharging to Ringsend WWTP will not be significant having regard to the size of the calculated discharge from the Proposed Development.

## 6 DO NOTHING IMPACT

The site can be considered to have minimal ecological value. This will not change in the absence of this project.

Water quality may improve throughout the Liffey catchment with the implementation of the Water Framework Directive.

## **7 AVOIDANCE, REMEDIAL AND MITIGATION MEASURES**

This report has identified one potential impact that has been assessed as 'moderate negative' (i.e. potential impact on bats and birds) and therefore mitigation is required.

### **7.1 Mitigation Measures Proposed**

All birds' nests and their eggs are protected under the Wildlife Act. Demolitions of buildings and clearance of vegetation should be undertaken outside the bird nesting season, i.e. from September to February inclusive. Where this is not possible, a suitably qualified ecologist must first inspect the building for signs of nesting. If no nesting is found then clearance works can proceed within 48 hours of the inspection. If nesting is found, then disturbance can only proceed under licence from the NPWS.

The following mitigation is taken from the bat survey report:

Incorporation of 2 bat boxes (Build-in WoodStone Bat Box) is proposed for the site to provide bat roost opportunities. All bat boxes must be unlit and should be at least 2.5 metres above ground height and preferably 3 metres or higher.

#### Planting of vegetation

Where there is an opportunity to provide vegetative cover, native and local plant species should be employed including typical plants such as hawthorn, blackthorn, dog rose with an encouragement of species such as Clematis and other species attractive to moths. Planting proposed includes the following: Tilia, Crataegus, Sorbus, Prunus, Pyrus calleryana (exotic), Betula pendula, Fagus sylvatica (hedge), Hebe, Lavandula, Potentilla fruticosa, Hedera helix, Helleborus etc.

#### Lighting

Lighting should be controlled to avoid light pollution of green areas and should be targeted to areas of human activity and for priority security areas. Motion-activated sensor lighting is preferable to reduce light pollution.

- None of the remaining mature trees shall be illuminated.
- Dark corridor for movement of bats along the grounds of the site. Lighting should be directed downwards away from the treetops.
- All luminaires shall lack UV elements when manufactured and shall be LED
- A warm white spectrum (ideally <2700 Kelvin but as low as the Council limitations allow) shall be adopted to reduce blue light component
- Luminaires shall feature peak wavelengths higher than 550nm
- Tree crowns shall remain unilluminated
- Planting shall provide areas of darkness suitable for bats to feed and commute through the site.

## **8 PREDICTED IMPACTS OF THE PROPOSED DEVELOPMENT**

This section allows for a qualitative description of the resultant specific direct, indirect, secondary, cumulative, short, medium and long-term permanent, temporary, positive and negative effects as well as impact interactions which the proposed development may have, assuming all mitigation measures are fully and successfully applied.

No negative effects on biodiversity are predicted to arise from this development which can be considered to moderate negative or greater in magnitude.

According to the bat survey report: "There will be no impacts upon bats following the proposed mitigation. Should bat boxes be used by bats, this would potentially represent an enhancement for bats as there is no evidence of bat usage of the existing buildings."

According to the AWN Consulting report: "It is concluded that there are no pollutant linkages as a result of the construction or operation of the Proposed Development which could result in a water quality impact which could alter the habitat requirements of the Natura sites within Dublin Bay."

Conclusion and Finding of No Significant Effects from the Screening Report for Appropriate Assessment:

"No significant effects will arise from this project to Natura 2000 sites in Dublin Bay: the North Dublin Bay SAC, South Dublin Bay SAC, the North Bull Island SPA or the South Dublin Bay and River Tolka Estuary SPA.

In carrying out this AA screening, mitigation measures have not been taken into account. Standard best practice construction measures which could have the effect of mitigating any effects on any European Sites have similarly not been taken into account.

On the basis of the screening exercise carried out above, it can be concluded that the possibility of any significant impacts on any European Sites, whether arising from the project itself or in combination with other plans and projects, can be excluded beyond a reasonable scientific doubt on the basis of the best scientific knowledge available."

## **9 MONITORING**

Monitoring is required where the success of mitigation measures is uncertain or where residual impacts may in themselves be significant. Table 6.11 summaries the likely impacts arising from this project.

No negative effects are likely to arise as a result of this development to flora and fauna which are moderate negative or greater and so monitoring is not required.



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