

NPWS Records

A data request was sent to the NPWS and data received in relation to the grid square O03 on the 10/08/2022. Table 4.3 lists the rare and protected species records obtained from the NPWS during this study. No bat roost records were returned.

Table 4.3: Records for rare and protected species, NPWS.

Common Name	Scientific Name	Status	Hectad
Basil Thyme	<i>Clinopodium acinos</i>	FPO, Near Threatened (NT)	O03
Betony	<i>Stachys officinalis</i>	FPO, Near Threatened (NT)	O03
Brown Long-eared Bat	<i>Plecotus auritus</i>	Annex IV, WA, Least Concern (LC)	O03
Common Frog	<i>Rana temporaria</i>	Annex V, WA, Least Concern (LC)	O03
Common Lizard	<i>Zootoca vivipara</i>	WA, Least Concern (LC)	O03
Desmoulin's Whorl Snail	<i>Vertigo moulinsiana</i>	Annex II, Endangered (EN)	O03
Dwarf Mallow	<i>Malva neglecta</i>	Near Threatened (NT)	O03
Dwarf Spurge	<i>Euphorbia exigua</i>	Near Threatened (NT)	O03
Eurasian Badger	<i>Meles meles</i>	WA	O03
Eurasian Otter	<i>Lutra lutra</i>	Annex II & IV, WA, Least Concern (LC)	O03
Eurasian Red Squirrel	<i>Sciurus vulgaris</i>	WA	O03
Field Gentian	<i>Gentianella campestris</i>	Near Threatened (NT)	O03
Autumn Gentian	<i>Gentianella amarella</i>	Near Threatened (NT)	O03
Green Figwort	<i>Scrophularia umbrosa</i>	Near Threatened (NT)	O03
Hairy St John's-wort	<i>Hypericum hirsutum</i>	FPO, Vulnerable (VU)	O03
Hairy Violet	<i>Viola hirta</i>	FPO, Vulnerable (VU)	O03
Henbane	<i>Hyoscyamus niger</i>	Near Threatened (NT)	O03
Irish Hare	<i>Lepus timidus</i>	Annex V, WA, Least Concern (LC)	O03
Irish Stoat	<i>Mustela erminea</i>	WA, Least Concern (LC)	O03
Irish Whitebeam	<i>Sorbus hibernica</i>	Vulnerable (VU)	O03
Meadow Barley	<i>Hordeum secalinum</i>	FPO, Vulnerable (VU)	O03

Common Name	Scientific Name	Status	Hectad
Opposite-leaved Pondweed	<i>Groenlandia densa</i>	Near Threatened (NT)	O03
Red Hemp-nettle	<i>Galeopsis angustifolia</i>	FPO, Vulnerable (VU)	O03
Shepherd's-needle	<i>Scandix pecten-veneris</i>	Regionally Extinct (RE)	O03
Smooth Newt	<i>Lissotriton vulgaris</i>	WA, Least Concern (LC)	O03
Upright Brome	<i>Bromopsis erecta</i>	Near Threatened (NT)	O03
West European Hedgehog	<i>Erinaceus europaeus</i>	WA, Least Concern (LC)	O03
White-clawed crayfish	<i>Austropotamobius pallipes</i>	Annex II & IV, WA	O03
Yellow Bird's-nest	<i>Monotropa hypopitys</i>	Vulnerable (VU)	O03

Annex II, Annex IV, Annex V – Of EU Habitats Directive, WA – Irish Wildlife Acts (1976-2017), BoCCI - Birds of Conservation Concern in Ireland Red List; NT, VU – Of Red Data List (Curtis and McGough 1988)

4.5

National Biodiversity Data Centre Records

The National Biodiversity Data centre database was accessed on 02.09.2022 and the following information was obtained. Table 4-4 lists the protected faunal species (excluding birds) recorded within the hectad O03 which pertains to the current study area. The database was also searched for records of Third Schedule non-native invasive species within the hectad. Table 4-5 lists the non-native invasive species recorded within the hectad. Table 4-6 lists all the protected bird species recorded within the hectad which pertains to the current study area.

Table 4-4: NBDC records for protected fauna records (excl. birds).

Common Name	Scientific Name	Status	Hectad
Bats			
Daubenton's Bat	<i>Myotis daubentonii</i>	Annex IV, WA	O03
Natterer's Bat	<i>Myotis nattereri</i>	Annex IV, WA	O03
Lesser Noctule	<i>Nyctalus leisleri</i>	Annex IV, WA	O03
Soprano Pipistrelle	<i>Pipistrellus pygmaeus</i>	Annex IV, WA	O03
Brown Long-eared Bat	<i>Plecotus auritus</i>	Annex IV, WA	O03
Nathusius's Pipistrelle Bat	<i>Pipistrellus nathusii</i>	Annex IV, WA	O03
Pipistrelle Bat	<i>Pipistrellus pipistrellus sensu lato</i>	Annex IV, WA	O03
Whiskered Bat	<i>Myotis mystacinus</i>	Annex IV, WA	O03
Non-volant Mammals			

Common Name	Scientific Name	Status	Hectad
European Otter	<i>Lutra lutra</i>	Annex II, IV, WA	O03
Pine Marten	<i>Martes martes</i>	Annex V, WA	O03
Eurasian Badger	<i>Meles meles</i>	WA	O03
Hedgehog	<i>Erinaceus europaeus</i>	WA	O03
Red Squirrel	<i>Sciurus vulgaris</i>	WA	O03
Pygmy Shrew	<i>Sorex minutus</i>	WA	O03
Red Deer	<i>Dama dama</i>	WA	O03
Amphibians			
Smooth Newt	<i>Lissotriton vulgaris</i>	WA	O03
Common Frog	<i>Rana temporaria</i>	Annex V, WA	O03
Invertebrates			
Freshwater White-clawed Crayfish	<i>Austropotamobius pallipes</i>	WA, Annex II & V	O03
Desmoulin's Whorl Snail	<i>Vertigo moulinsiana</i>	WA, Annex II	O03

Annex II, Annex IV, Annex V – Of EU Habitats Directive, WA – Irish Wildlife Acts (1976-2017).

Table 4-5: NBDC records for Invasive species.

Common Name	Scientific Name	Hectad
Wireweed	<i>Sargassum muticum</i>	O03
Canadian Waterweed	<i>Elodea canadensis</i>	O03
Japanese Knotweed	<i>Fallopia japonica</i>	O03
Rhododendron	<i>Rhododendron ponticum</i>	O03
Giant Hogweed	<i>Heracleum mantegazzianum</i>	O03
Indian Balsam	<i>Impatiens glandulifera</i>	O03
Spanish Bluebell	<i>Hyacinthoides hispanica</i>	O03
Roach	<i>Rutilus rutilus</i>	O03
American Mink	<i>Mustela vison</i>	O03
Fallow Deer	<i>Dama dama</i>	O03
Brown Rat	<i>Rattus norvegicus</i>	O03
Douglas Fir	<i>Pseudotsuga menziesii</i>	O03
Freshwater Shrimp	<i>Gammarus pulex</i>	O03
Water Fern	<i>Azolla filiculoides</i>	O03
New Zealand flatworm	<i>Arthurdendyus triangulatus</i>	O03
Australian flatworm	<i>Australoplana sanguinea</i>	O03
Black Currant	<i>Ribes nigrum</i>	O03
Butterfly-bush	<i>Buddleja davidii</i>	O03
Canadian Fleabane	<i>Conyza canadensis</i>	O03
Cherry Laurel	<i>Prunus laurocerasus</i>	O03
Common Broomrape	<i>Orobanche minor</i>	O03
False-acacia	<i>Robinia pseudoacacia</i>	O03
Himalayan Honeysuckle	<i>Heracleum mantegazzianum</i>	O03
Japanese Rose	<i>Rosa rugosa</i>	O03
Least Duckweed	<i>Lemna minuta</i>	O03
Nuttall's Waterweed	<i>Elodea nuttallii</i>	O03
Russian-vine	<i>Fallopia baldschuanica</i>	O03
Sycamore	<i>Acer pseudoplatanus</i>	O03

Three-cornered Garlic	<i>Allium triquetrum</i>	O03
Traveller's-joy	<i>Clematis vitalba</i>	O03
Harlequin Ladybird	<i>Harmonia axyridis</i>	O03
Budapest Slug	<i>Tandonia budapestensis</i>	O03
Common Garden Snail	<i>Cornu aspersum</i>	O03
Jenkins' Spire Snail	<i>Potamopyrgus antipodarum</i>	O03
Keeled Slug	<i>Tandonia sowerbyi</i>	O03
Wrinkled Snail	<i>Candidula intersecta</i>	O03
Red-eared Terrapin	<i>Trachemys scripta</i>	O03
Eastern Grey Squirrel	<i>Sciurus caroliensis</i>	O03
House Mouse	<i>Mus musculus</i>	O03
Siberian Chipmunk	<i>Tamias sibiricus</i>	O03
Silka Deer	<i>Cervus nippon</i>	O03

Table 4-6: NBDC Records for Birds

Common Name	Scientific Name	Status	Hectad
Barn Swallow	<i>Hirundo rustica</i>	WA, BoCCI Amber	O03
Barn Owl	<i>Tyto alba</i>	BoCCI Red List	O03
Black-headed Gull	<i>Larus ridibundus</i>	BoCCI Red List, WA	O03
Brent Goose	<i>Branta bernicula</i>	WA, BoCCI Amber List	O03
Common Coot	<i>Fulica atra</i>	WA, Annex II & III, BoCCI Amber List	O03
Common Grasshopper Warbler	<i>Locustella naevia</i>	WA, BoCCI Amber List	O03
Common Kestrel	<i>Falco tinnunculus</i>	WA, BoCCI Amber List	O03
Common Kingfisher	<i>Alcedo atthis</i>	WA, Annex I, BoCCI Amber List	O03
Common Linnet	<i>Carduelis cannabina</i>	WA, BoCCI Amber List	O03
Common Pheasant	<i>Phasianus colchicus</i>	WA, Annex II & Annex III,	O03
Common Pochard	<i>Aythya ferina</i>	WA, Annex II & III, BoCCI Amber List	O03
Redshank	<i>Tringa totanus</i>	BoCCI Red List	O03
Snipe	<i>Gallinago gallinago</i>	BoCCI Red List	O03

Common Name	Scientific Name	Status	Hectad
Common Starling	<i>Sturnus vulgaris</i>	WA, BoCCI Amber List	O03
Swift	<i>Apus apus</i>	BoCCI Red List	O03
Common Wood Pigeon	<i>Columba palumbus</i>	WA, Annex II & III	O03
Corn Crane	<i>Crex crex</i>	WA, Annex I, BoCCI Red List	O03
Eurasian Curlew	<i>Numenius arquata</i>	BoCCI Red List [Breeding & Wintering], WA	O03
Oystercatcher	<i>Haematopus ostralegus</i>	BoCCI Red List	O03
Eurasian Teal	<i>Anas crecca</i>	WA, Annex II & III, BoCCI Amber List	O03
Eurasian Tree Sparrow	<i>Passer montanus</i>	WA, BoCCI Amber List	O03
Eurasian Wigeon	<i>Anas Penelope</i>	WA, Annex II & III, BoCCI Amber List	O03
Eurasian Woodcock	<i>Scolopax rusticola</i>	WA, Annex I, II & III, BoCCI Amber List	O03
Golden Plover	<i>Pluvialis apricaria</i>	Annex I, BoCCI Red List	O03
Gadwall	<i>Anas strepera</i>	WA, Annex II, BoCCI Amber List	O03
Goosander	<i>Mergus merganser</i>	WA, Annex II, BoCCI Amber List	O03
Great Black-billed Gull	<i>Larus marinus</i>	WA, BoCCI Amber List	O03
Great Cormorant	<i>Phalacrocorax carbo</i>	WA, BoCCI Amber List	O03
Great Crested Grebe	<i>Podiceps cristatus</i>	WA, BoCCI Amber List	O03
Grey Partridge	<i>Perdix perdix</i>	WA, Annex II & III. BoCCI Red List	O03
Herring Gull	<i>Larus argentatus</i>	WA, BoCCI Red List	O03
House Martin	<i>Delichon urbicum</i>	WA, BoCCI Amber List	O03
House Sparrow	<i>Passer domesticus</i>	WA, BoCCI Amber List	O03
Lesser Black-billed Gull	<i>Larus fuscus</i>	WA, BoCCI Amber List	O03
Little Egret	<i>Egretta garzetta</i>	WA, Annex I	O03
Little Grebe	<i>Tachybaptus ruficollis</i>	WA, BoCCI Amber List	O03
Mallard	<i>Anas platyrhynchos</i>	WA, Annex II & III	O03
Mew Gull	<i>Larus canus</i>	WA, BoCCI Amber List	O03
Mute Swan	<i>Cygnus olor</i>	WA, BoCCI Amber List	O03

Common Name	Scientific Name	Status	Hectad
Lapwing	<i>Vanellus vanellus</i>	BoCCI Red List	O03
Northern Pintail	<i>Anas acuta</i>	WA, Annex II & III, BoCCI Red List	O03
Peregrine Falcon	<i>Falco peregrinus</i>	Annex I	O03
Red Grouse	<i>Lagopus lagopus</i>	BoCCI Red List	O03
Red Kite	<i>Milvus milvus</i>	WA, BoCCI Amber List	O03
Rock Pigeon	<i>Columba livia</i>	WA, Annex II	O03
Sand Martin		WA, BoCCI Amber List	O03
Sky Lark	<i>Alauda arvensis</i>	WA, BoCCI Amber List	O03
Spotted Flycatcher	<i>Muscicapa striata</i>	WA, BoCCI Amber List	O03
Stock Pigeon	<i>Columba oenas</i>	WA, BoCCI Amber List	O03
Tufted Duck	<i>Aythya fuligula</i>	WA, Annex II & III, BoCCI Amber List	O03
Whooper Swan	<i>Cygnus cygnus</i>	Annex I	O03
Yellowhammer	<i>Emberiza citrinella</i>	BoCCI Red List	O03

Annex I – Of EU Birds Directive, Red List – Birds of Conservation Concern in Ireland (Population for which the species is red listed in brackets).

4.6

Bird Records

A number of sources were assessed to determine the likely usage of the site by both breeding and wintering bird species, including Bird Atlases, National Biodiversity Data Centre (NBDC), BirdWatch Ireland and Conservation Objectives Supporting Documents from the National Parks and Wildlife Service (NPWS) for nearby Special Protection Areas (SPAs).

The Bird Atlas 2007-11: The breeding and wintering birds of Britain and Ireland (Balmer et al., 2013) provides the most up-to-date information regarding the distribution and relative abundance of bird species in Britain and Ireland, based on surveys carried out between 2007 and 2011. The atlases show data for breeding and wintering birds respectively in individual 10 km x 10 km squares (hectads). Table 3.1 shows any species found in the relevant hectad (O03) which are recorded as breeding in the most recent atlas. It also provided species that have been recorded within the relevant tetrads (G63W & G73B) on National Biodiversity Data Centre (NBDC) datasets as well as any listed in Annex I of the EU Birds Directive recorded on the BoCCI Red List. Birds listed under Annex I are offered special protection by the EU Birds Directive. Those listed on the Birds of Conservation Concern in Ireland (BoCCI) Red List meet one or more of the following criteria:

- IUCN: Global conservation status (Critically Endangered (CE), Endangered (E) or Vulnerable (V), but not Near Threatened. These species are recognised as the highest priorities for action at a global scale and are thus priorities at an all-Ireland level.
- European conservation status. The conservation status of all European species was assessed most recently by Birdlife International (2004), one of the main changes in the revision being to include

the IUCN criteria. These species are those of global conservation concern (including those classified as Near Threatened) and are Red-listed.

- The Irish breeding population has undergone significant historical decline since 1800.
- The Irish non-breeding population has undergone a significant decline of 50% in the last 25 years.
- The Irish breeding range has undergone a decline of 70% or more in the last 25 years.

No species listed under Annex I of the EU Birds Directive have been recorded within the relevant hectad (O03). No red-listed birds of conservation concern have been recorded breeding within the relevant tetrads with 7 amber listed species being recorded.

Table 4-7: NBDC Bird data and Bird Atlas data (Hectad O03)

Common Name	Scientific name	Bird Atlas		Designation
		Breeding 2008-2011	Wintering 2007-2011	
Barn Swallow	<i>Hirundo rustica</i>	Confirmed	Breeding	Protected Species: EU Birds Directive Annex II, III Birds of Conservation Concern -Red & Amber List
Barn Owl	<i>Tyto alba</i>	Confirmed	Breeding	
Black-headed Gull	<i>Larus ridibundus</i>	Present	Winter	
Brent Goose	<i>Branta bernicula</i>	Present	Winter	
Common Coot	<i>Fulica atra</i>	Present	Winter	
Common Grasshopper Warbler	<i>Locustella naevia</i>	Possible	Breeding	
Common Kingfisher	<i>Alcedo atthis</i>	Present	Winter	
Common Linnet	<i>Carduelis cannabina</i>	Confirmed	Breeding	
Redshank	<i>Tringa totanus</i>	Present	Winter	
Snipe	<i>Gallinago gallinago</i>	Present	Winter	
Common Starling	<i>Sturnus vulgaris</i>	Confirmed	Breeding	
Swift	<i>Apus apus</i>	Confirmed	Breeding	
Common Wood Pigeon	<i>Columba palumbus</i>	Confirmed	Breeding	
Corn Crake	<i>Crex crex</i>	Probable	Breeding	
Eurasian Curlew	<i>Numenius arquata</i>	Present	Winter	
Oystercatcher	<i>Haematopus ostralegus</i>	Present	Winter	

Common Name	Scientific name	Bird Atlas		Designation
		Breeding 2008-2011	Wintering 2007-2011	
Eurasian Teal	<i>Anas crecca</i>	Present	Breeding	
Eurasian Wigeon	<i>Anas Penelope</i>	Present	Winter	
Eurasian Woodcock	<i>Scolopax rusticola</i>	Present	Winter	
Golden Plover	<i>Pluvialis apricaria</i>	Present	Winter	
Gadwall	<i>Anas strepera</i>	Present	Winter	
Great Black-billed Gull	<i>Larus marinus</i>	Present	Winter	
Great Cormorant	<i>Phalacrocorax carbo</i>	Present	Winter	
Great Crested Grebe	<i>Podiceps cristatus</i>	Present	Winter	
Herring Gull	<i>Larus argentatus</i>	Present	Winter	
House Martin	<i>Delichon urbicum</i>	Confirmed	Breeding	
House Sparrow	<i>Passer domesticus</i>	Confirmed	Breeding	
Lesser Black-billed Gull	<i>Larus fuscus</i>	Present	Winter	
Little Egret	<i>Egretta garzetta</i>	Present	Winter	
Little Grebe	<i>Tachybaptus ruficollis</i>	Present	Winter	
Mallard	<i>Anas platyrhynchos</i>	Confirmed	Breeding	
Mute Swan	<i>Cygnus olor</i>	Confirmed	Breeding	
Lapwing	<i>Vanellus vanellus</i>	Present	Winter	
Northern Pintail	<i>Anas acuta</i>	Present	Winter	
Peregrine Falcon	<i>Falco peregrinus</i>	Possible	Breeding	
Sand Martin	<i>Riparia riparia</i>	Confirmed	Breeding	

Common Name	Scientific name	Bird Atlas		Designation
		Breeding 2008-2011	Wintering 2007-2011	
Sky Lark	<i>Alauda arvensis</i>	Confirmed	Breeding	
Spotted Flycatcher	<i>Muscicapa striata</i>	Confirmed	Breeding	
Whooper Swan	<i>Cygnus cygnus</i>	Present	Winter	

4.6.1

Bat Records

A review of the National Biodiversity Data Centre results was made on the 28/07/2022, to search for records of bats within 10km of the proposed site (hectad O03). Details of the results are provided in Table 4.8 below.

Table 4-8: Bat Records within 10km of Proposed Development (hectad O03).

Common Name	Scientific Name	Protection Status
Daubenton's Bat	<i>Myotis daubentonii</i>	Annex IV, WA
Natterer's Bat	<i>Myotis nattereri</i>	Annex IV, WA
Lesser Noctule	<i>Nyctalus leisleri</i>	Annex IV, WA
Soprano Pipistrelle	<i>Pipistrellus pygmaeus</i>	Annex IV, WA
Brown Long-eared Bat	<i>Plecotus auritus</i>	Annex IV, WA
Nathusius's Pipistrelle Bat	<i>Pipistrellus nathusii</i>	Annex IV, WA
Pipistrelle Bat	<i>Pipistrellus pipistrellus sensu lato</i>	Annex IV, WA
Whiskered Bat	<i>Myotis mystacinus</i>	Annex IV, WA

Additional detailed data search results for bats, utilizing Bat Conservation Ireland data, are provided within Section 3.4 of the bat Assessment report (see Appendix 1).

4.7

Water Quality

The proposed development is situated entirely within the WFD Catchment 09, Liffey and Dublin Bay, (<https://gis.epa.ie/EPAMaps/>). There are no EPA mapped watercourses within or adjacent to the proposed T3 development boundary. The site is located in the sub-catchments Liffey_SC_090.

The Water Framework Directive (WFD) Transitional Waterbody risk score for the section of Liffey and Dublin Bay closest to the development site known as Liffey Estuary Lower Estuary has been assessed as "Intermediate".

The site is located in the groundwater catchment: the Dublin area (IE_EA_G_008). The Water Framework Directive (WFD) Groundwater Monitoring Programme (2013-2018) assigned the

groundwater catchment as having 'good' status. The Dublin groundwater catchment has an assigned WFD Ground Waterbody Approved Risk of 'Good'.

4.8

Conclusion of desktop study

The desktop study has provided information about the existing environment in hectad O03, within which the proposed development is located. The mammal species recorded within the relevant hectad have widespread range and distributions in Ireland and are likely to be recorded frequently throughout Ireland. Bat records within 10km of the proposed development site revealed that the wider area has been studied for bats and that common species have been recorded.

The proposed development is located within close proximity to the Grand Canal pNHA (located approximately 300m to the south of the T3 Site). The potential for deterioration in water quality during the construction phase via the existing drainage ditch network has been identified as a potential pathway for effect on this nationally designated site, due to its close proximity.

Potential for significant effects on Nature 2000 designated sites within the potential likely zone of influence has been fully assessed within the accompanying AA Screening Report.

FIELD STUDY

Habitats Present on the Site and Surrounding Area

A dedicated habitat survey of the area within and in the vicinity of the proposed development was undertaken on the 24th June 2022. The ecological survey work was undertaken within the optimal period for habitat classification surveys (Smith et al., 2011); all the habitats within the site were easily classified during the survey. Habitats recorded within the development site are listed in Table 5.1. The habitat classifications and codes correspond to those described in 'A Guide to Habitats in Ireland' (Fossitt, 2000). The habitats recorded during the site visit are described below and a habitat map is provided in Figure 5.1.

Table 5-1. Habitats recorded within the proposed development site.

Habitat	Code
Dry meadows and grassy verges	(GS2)
Wet grassland	(GS4)
Scrub	(WS1)
Stone walls	(BL1)
Hedgerows	(WL1)
Treeline	(WL2)
Drainage Ditches	(FW4)

Grassland Habitats

The majority of the habitat within the proposed development site comprised formerly agricultural grassland that had not been recently managed through grazing; this habitat was classified as **Dry meadows and grassy verges (GS2)**, and comprised of abundant false oat grass (*Arrhenatherum elatius*), cocks foot grass (*Dactylis glomerata*) and Yorkshire fog (*Holcus lanatus*), with broad-leaved dock (*Rumex obtusifolius*), meadow foxtail (*Alopecurus pratensis*), red fescue (*Festuca rubra* agg.), silverweed (*Potentilla anserina*), common nettle (*Urtica dioica*), hogweed (*Heracleum sphindylum*), creeping thistle (*Cirsium arvense*), ribwort plantain (*Plantago lanceolata*), white clover (*Trifolium repens*), common vetch (*Vicia sativa*), ragwort (*Jacobaea vulgaris*), creeping buttercup (*Ranunculus repens*), birds foot trefoil (*Lotus corniculatus*), red clover (*Trifolium pratense*), common knapweed (*Centaurea nigra*), lesser stitchwort (*Stellaria graminea*) and sweet vernal grass (*Anthoxanthum odoratum*) also present; at field margins species such as broad leaved dock, hogweed, common nettle and creeping cinquefoil (*Potentilla reptans*) were particularly abundant in places.

Hedgerows/ Treelines

A network of **Hedgerows (WL1)** is present within the wider Clonburris Site, and part of this wider hedgerow network occurs in the western portion of the T3 Site as well as along the northern site boundary (see Figure 5.1 and Plate 5.3). The northern boundary hedgerow comprised primarily grey willow (*Salix cinerea*), and was associated with a wet drainage ditch (see below). Hedgerow within the western part of the T3 site itself had grown to over 5m in height, and were therefore categorised as **Treelines (WL2)**, with species present including hawthorn (*Crataegus monogyna*), elder (*Sambucus nigra*), ash (*Fraxinus excelsior*), dog rose (*Rosa canina*) and elm (*Ulmus glabra*).

Drainage Ditches

Drainage ditches were present in association with the hedgerows within the Site. These were dry in the case of the treelines within the site, but had standing water along the northern site boundary. The dense

shrub cover along the hedgerow shaded out the ditch in this part of the site so that little semi-aquatic or in-channel vegetation was present.



Plate 5.1: Dry meadows and grassy verges (GS2) habitat making up the majority of the proposed development site



Plate 5.2: Tree line and ruderal vegetation located in the central part of the proposed development site



Plate 5.3 Grassland and hedgerow along the northern site boundary within the western portion of the proposed development site.



Plate 5.4: Example of Improved agricultural grassland (GA1) present within the westernmost part of the proposed development site.

5.1.2 Fauna in the Existing Environment

The following subsections provide a breakdown of the faunal species recorded during the site visit and assessment.

5.1.3 Birds

Bird species recorded within or immediately adjacent to the proposed development during the ecological walkover surveys comprised of a variety of common bird assemblages. Species recorded are provided in Table 5-1 below. All the bird species recorded during the survey are common and widespread in the wider area.

Table 5-1: Bird species recorded during the site visit.

Common Name	Scientific Name	Conservation Status (BoCCI)
Chaffinch	<i>Fringilla coelebs</i>	Green Listed
Blackbird	<i>Turdus merula</i>	Green Listed
Buzzard	<i>Buteo buteo</i>	Green listed
Robin	<i>Erithacus rubecula</i>	Green Listed
Magpie	<i>Pica pica</i>	Green Listed

5.1.4 Bats

No buildings are present within the T3 Site.

Habitat for commuting and foraging within and around the site for bats was relatively limited; the grassland within the Site was species poor and dominated by grasses, and therefore likely attracts relatively few flying insects but is nonetheless likely to be utilised to at least some degree for foraging by bats.

The hedgerow associated with the northern site boundary of T3 represented the best commuting features, being largely continuous; the other two sections of hedgerow within the T3 site, running across the site in the eastern and south-westernmost portions of the site, did not connect to the wider hedgerow network within the Clonburris site, as part of this connection had been removed. The hedgerows provide connectivity for bats to the surrounding landscape. As such, they were assessed overall as having *Moderate* suitability for foraging and commuting i.e. continuous habitat connected to the wider landscape that could be used by bats for commuting such as lines of trees and scrub or linked back gardens (Collins, 2016).

A detailed bat assessment of the proposed development was carried out by Dr Tina Aughney of Bat Eco Services (see Appendix 1). A summary of the results of the bat surveys carried out as part of this assessment are provided below:

No trees within the T3 site were judged to have features potentially suitable for roosting bats; a number of trees within the wider Clonburris SDZ site were judged to have some low-level potential due to heavy ivy growth, however no usage of trees by bats was recorded during the further bat surveys (see Section 3.1.2 of the Bat Assessment report (Appendix 1)).

A total of five bat species were recorded during the detailed bat survey work undertaken at the site; these were Leisler's bat, common pipistrelle, soprano pipistrelle, brown long-eared bat and Daubenton's bat. The bat species most commonly recorded were soprano pipistrelle then Leisler's bat and common pipistrelle and these are the three most common bat species in Ireland. No Annex II species were recorded.

The following is a summary from the Bat Assessment report (see Appendix 1) for overall activity levels within the wider Clonburris SDZ between 2018 and 2022:

“Soprano pipistrelles were the most frequently encountered bat species and were recorded during all walking transects and static surveillance surveys. While this species was recorded foraging and commuting throughout the survey area, the majority of the bat encounters were in vicinity of the treeline along the Grand Canal. In relation to static surveillance a Low level of bat activity was recorded for this species of bat.

Common pipistrelle was the third most frequently encountered bat species. Common pipistrelles were recorded during all walking transects and static surveillance surveys. This species was recorded foraging throughout the survey area with records distributed along the hedgerows, treelines and located along the treeline adjacent to the canal. In relation to static surveillance a Low to Medium level of bat activity was recorded for this species of bat.

Leisler's bats were the second most frequently recorded bat species. Leisler's bats were recorded during all walking transects and static surveillance surveys. This species was recorded foraging throughout the survey area with the majority of the records located along the mature treelines within the internal linear habitat network and along treelines adjacent to the canal. In relation to static surveillance a Low level of bat activity was recorded for this species of bat.

The remaining three bat species are considered to be less common in Ireland.

Brown long-eared bats were only recorded during static surveillance during 2020 and on static units located along hedgerows within the internal linear habitat network of the survey area. A single bat pass of this bat species was recorded on the static units on the same night (16/7/2020) and therefore it is likely that it was one individual bat commuting and foraging through the survey area.

Daubenton's bats were recorded during the 2018 walking transects and during static surveillance surveys completed in 2018 (one static unit, 3 bat passes), 2020 (one static unit, 3 bat passes) and 2022. The location of the static units relating to the 2018 and 2020 static surveillance was at the same grid reference point: hedgerow along the eastern section of the survey area while the static unit that recorded Daubenton's bats in 2022 was position adjacent to the canal. This species was only recorded during the 2018 and 2022 walking transects and this was on the water surface of the canal.

5.1.5 Amphibians and Reptiles

No amphibians or reptiles were recorded during the survey. Some suitable terrestrial and aquatic habitat for amphibians was present in the form of the vegetated drainage ditches and the longer grassland within the Site.

5.1.6 Other Fauna

Fox paths, scat and foraging evidence was recorded throughout the Site but no earths were present. No evidence of badger (i.e. setts, prints, foraging signs etc) or Irish hare (*Lepus timidus*) i.e. droppings, were recorded within the study area. These mammal species are likely to be common in the wider landscape and are likely to use parts of the site, at least on occasion. In general, given the nature of the habitats recorded on site, limited suitable habitat occurs for protected faunal species. It is noted also that no signs of badger were found during dedicated fauna surveys carried out (see Appendix 3).

The Grand Canal to the south of the site is known to be used by otter (see non-avian fauna survey in Appendix 3), and otters may occasionally pass through the wider site via the drainage ditch network. However no evidence of otter was recorded during the ecological survey of T3, and the ditch running adjacent to the railway line immediately to the north of the T3 site is very much suboptimal for the species.

No areas of devil's-bit scabious *Succisa pratensis* were recorded within the proposed footprint and therefore no suitable habitat for marsh fritillary *Euphydryas aurinia* exists.

No signs of any additional protected fauna were recorded within the study area during the field survey. Common frogs (*Rana temporaria*) were found to use a number of pools and drains present on all of the site survey area. Many of these had since been affected by removal of scrub and hedgerows.

5.1.7 Invasive Species

No invasive species listed on the third schedule of the EC (Birds and Natural Habitats) Regulations 2011 S.I. 477/2011 were recorded during the site visit.

5.1.8 Importance of Ecological Receptors

Table 4-7 lists all identified receptors and assigns them an ecological importance in accordance with the Guidelines for Assessment of Ecological Impacts on National Road Schemes (NRA, 2009). This table also provides the rationale for this determination and identifies the habitats that are key Ecological Receptors.

Plate 5-5: Ecological Receptors

Ecological Receptor	KER (Y/N)	Rationale
Designated Sites		
EU sites – International importance	No	No potential pathway for significant effects has been identified (see also the Appropriate Assessment Screening Report that accompanies the application). No potential for significant effects on European Sites has been identified, and these sites will therefore not be considered further within this EcIAR.
National Sites – National Importance ➤ Grand Canal pNHA	Yes	The proposed development site is located approximately 80m from the pNHA boundary at its closest point, with potential hydrological connectivity present. Taking a precautionary approach, a potential pathway for indirect effects to this designated site was identified in the form of deterioration in water quality due to surface water pollution during the construction and operational phases of the development via the release of polluting materials including sediment, cement, fuels and hydrocarbons.
Habitats, Flora and Fauna		
Habitats of Local importance (higher value): ➤ Hedgerow (WLI)	Yes	Hedgerow and the associated trees within the Site act as a commuting and foraging corridor for wildlife, and this habitat is essential in maintaining connectivity to the

Ecological Receptor	KER (Y/N)	Rationale
<ul style="list-style-type: none"> > Treelines (WL2) > Drainage Ditches (FW4) – associated with above features 		<p>wider landscape and to features of higher ecological value. There will be a loss of approximately 280 linear metres of hedgerow (and associated drainage ditches) associated with the proposed development (see also the Arboricultural Report (The Tree File, 2022) for T3 submitted with this application).</p> <p>Therefore, these habitats are considered to be KERs.</p>
<p>Habitats of local importance (lower value):</p> <ul style="list-style-type: none"> > Dry meadows and grassy verges (GS2) > Spoil and bare ground (ED2) > Recolonising bare ground (ED3) 	No	<p>The grassland habitat within the Site, as well as the areas of disturbed ground and temporary track for vehicular use, was highly modified, species poor and is common and widespread in the local area and wider landscape. Therefore, these habitats are not considered to be a KERs, but the grassland and areas of recolonising bare ground are nevertheless of some local value.</p>
<p>Water Quality and Aquatic Species Local Importance (Higher value)</p>	Yes	<p>Drainage ditches within the site provide suitable habitat for aquatic species such as common frog as well as aquatic invertebrate species.</p> <p>The proposed development site is located approximately 200m from the Grand Canal pNHA, as noted above, with potential hydrologically connectivity present.</p> <p>Taking a precautionary approach, a potential pathway for indirect effects to water quality and aquatic species was identified in the form of deterioration in water quality due to surface water pollution during the construction and operational phases of the development via the release of polluting materials including sediment, cement, fuels and hydrocarbons.</p>
<p>Birds – Local Importance (Higher value)</p>	Yes	<p>Bird species recorded using the habitats within the site were mostly an assemblage of common birds that are typical of the grassland and urban habitats in the wider area. Birds have been assigned a value of <i>Local Importance (higher value)</i>. Due to the nature of the proposed development, there will be some loss of/disturbance to habitat within the site that birds may use for foraging/nesting. From a precautionary perspective, if undertaken during the nesting bird season, such vegetation clearance could adversely impact on bird species.</p>
<p>Bats – Local Importance (Higher value)</p>	Yes	<p>The habitats within and surrounding the Proposed Development site are likely to be utilised by a bat population of <i>Local Importance (higher value)</i>. All bat species in Ireland are protected under both national legislation – (Wildlife Act, 1976, as amended and European legislation – (Habitats Directive (92/43/EEC). Bats are likely to forage and commute within the vicinity of the Proposed Development. No potential bat roosting features were identified within the development footprint; a bat roost of Local Importance was identified within the wider Survey Area. The Proposed Development has the potential to result in</p>

Ecological Receptor	KER (Y/N)	Rationale
		direct and indirect effects on the receptor. Therefore, bats are included as a KER for further assessment.
Badgers	Yes	No evidence of badger was recorded anywhere within the T3 site or the wider SDZ lands (see also the Non-avian Fauna report – Appendix 3) and it is therefore considered that the species is not resident within site. However the habitat of the site is suitable for foraging and it is likely that badgers forage within the site at least on occasion. Due to the fact that new setts may be constructed in a short period of time, badgers are considered as A KER on a precautionary basis.
Otters	No	Otters are known to utilise the Grand Canal the banks of the canal provide a refuge and foraging habitat for the species (see Section 2.1.1 of the Non-avian Fauna Survey Report – Appendix 3). No evidence of the species was recorded within the T3 site, and the drainage ditch to the north is sub-optimal for the species. Otters are therefore not considered to be a Key Ecological Receptor and will not be considered further in this report.
Frogs	Yes	Evidence of frog breeding was recorded in a seasonal pool within the T3 site in March 2021 (although not in April 2022) as part of the non-avian fauna surveys. This habitat within T3 may no longer be suitable for the species; however on a precautionary basis frogs have been identified as a KER warranting further consideration.
Other Fauna – Local Importance (Lower value)	No	Given the absence of notable additional faunal species occurring within the development footprint, no significant direct or indirect impacts on other faunal species, in addition to those listed above, are considered likely as a result of the proposed development. Other faunal species that may utilise the site on occasion, such as otter are not considered to be KERs, as no evidence of these species was recorded during the T3 site and no suitable habitat was present for otter within the T3 site itself.

6.

ECOLOGICAL IMPACT ASSESSMENT

6.1

Do Nothing Effect

If the proposed works were not to go ahead the development site would remain under its current usage, with grassland remaining unmanaged and ruderal vegetation and scrub continuing to encroach.

6.1.1

Effects on Designated Sites

None of the elements of the Proposed Development are located within the boundaries of any Nationally or European designated sites. There will be no direct effects on any designated site as a result of the construction, operation and decommissioning the Proposed Development.

One nationally designated site - Grand Canal pNHA - has been identified as being within the zone of influence due to potential for indirect impacts and has therefore been assigned as a KER.

Nationally designated sites that are also designated as European Sites (North Dublin Bay and South Dublin Bay) have been assessed as those designations within the Appropriate Assessment Screening Report, with the relevant conclusions recorded and referenced in this chapter.

In relation to European sites, an AA Screening Report has been prepared to provide the competent authority with the information necessary to complete an Appropriate Assessment Screening (AA Stage 1) for the Proposed Development in compliance with Article 6(3) of the Habitats Directive.

The AASR concluded as follows:

‘Following an examination, analysis and evaluation of the relevant data and information set out within this Screening Report, it can be concluded beyond reasonable scientific doubt, in view of best scientific knowledge, on the basis of objective information and in light of the conservation objectives of the relevant European sites, that the Proposed Development, individually or in combination with other plans and projects, will not have any significant effect on any European Designated Sites.

Given that no potential pathway for significant effects on European Sites has been identified, there is no requirement for Appropriate Assessment or the preparation of a Natura Impact Statement (NIS).’

6.1.2

Likely Significant Effects During Construction Phase

6.1.3

Effects on Habitats During Construction

The proposed works will take place within areas of the site that comprise existing fields that comprise **Dry meadows and grassy verges (GS2)**, **Treelines (WL2)**, small patches of encroaching **Scrub (WS1)** associated with the northern hedgerow and in the south-western corner of the site, and patches of **Recolonising bare ground (ED3)**; these habitats will be lost to facilitate the development. The hedgerow feature and associated drainage ditch that form the northern site boundary will be retained.

None of the habitats within the works areas correspond to habitats listed on Annex I of the EU Habitats Directive.

The species poor **Dry meadow and grassy verge (GS2)**, scattered **Scrub (WS1)** and **Recolonising bare ground (ED3)**, habitats within the proposed project site were assigned *Local Importance (Lower Value)* as they are of low ecological significance and widespread and abundant in the wider area.

The **Hedgerow (WL1)** and **Treeline (WL2)** habitats were assigned *Local Importance (Higher Value)* as they have inherent biodiversity benefits, help maintain links and ecological corridors between features of higher ecological value and are likely to be utilized by commuting and foraging bats and provide nesting and foraging habitat for Birds.

6.1.3.1 Habitats of Local Importance (Lower Value)

Habitats of Local Importance (lower value) lost to the footprint of the proposed development include; **Dry meadows and grassy verges (GS2)**, small patches of encroaching **Scrub (WS1)** associated with the grassland in the south-western corner of the site and encroaching from the northern boundary, and areas of **Recolonising bare ground (ED3)**.

The effect is assessed as being a permanent not-significant negative impact on receptors of Local Importance (Lower Value). Loss of these habitats to the footprint of the proposed development is not considered to be significant at any geographic scale. These habitats are common and widespread in the locality and have a low biodiversity value. The loss of these habitats is considered not significant and therefore no mitigation is required.

6.1.3.2 Habitats of Local Importance (Higher Value)

6.1.3.2.1 Assessment of the Potential Impacts on the loss of treeline

Table 6-1: Assessment of the Potential Impacts on the loss of Hedgerow (WL1) during the construction phase

Description of Effect	Approximately 280m (linear distance) of hedgerow will be permanently removed to facilitate the proposed development. Hedgerow features present along the northern and eastern boundaries of the Site are being retained. No mature trees are proposed for removal.
Characterisation of unmitigated effect	The loss of approximately 280m of hedgerow habitat would constitute a permanent negative effect. This would not be reversible as it is within the construction footprint. The magnitude of this impact is judged to be Slight at the local scale.
Assessment of Significance prior to mitigation	The permanent loss of the proposed 280m of hedgerow is not considered to be a significant effect at any greater than the local geographical scale, as this habitat is widespread and common within the wider area to the west. Removal of the proposed sections of unmanaged hedgerow, to accommodate the proposed development would nonetheless have the potential to lead to a significant reduction in this habitat within the Site.
Mitigation	<p>As compensation for the loss of hedgerow associated with the proposed development, the following is proposed within the Cunnane Stratton Reynolds (CSR, 2022) landscaping proposals to offset the loss:</p> <ul style="list-style-type: none"> ➤ Existing retained hedgerow/scrub cover along the northern site boundary to be retained and enhanced to strengthen and improve this feature and maintain the connectivity of this feature ➤ New native hedgerow planting along the western boundary of the T3 site (approx. 95 linear metres) (to include the following species: blackthorn (<i>Prunus spinosa</i>), hawthorn, hazel (<i>Corylus avellana</i>), holly (<i>Ilex aquifolium</i>) and elder (<i>Sambucus nigra</i>). ➤ Approximately 925 linear metres of formal hedge planting throughout the scheme; this will comprise both native and non-native species, the latter to include berry producing species of wildlife value: hornbeam (<i>Carpinus betulus</i>), Japanese holly (<i>Ilex crenata</i>), holly (<i>Ilex aquifolium</i> "Alaska), Portuguese laurel (<i>Prunus lusitanica</i>), common yew (<i>Taxus baccata</i>), silverberry (<i>Elaeagnus ebbingeri</i>), kapuka (<i>Griselinia littoralis</i>) and common beech (<i>Fagus sylvatica</i>). ➤ Extensive tree planting throughout the site to comprise primarily native and cultivar semi-mature/ medium and large feature and street trees. Species to include: field maple (<i>Acer campestre</i> "Elsrijk"), silver birch (<i>Betula</i>

	<p>pendula), rowan (<i>Sorbus aucuparia</i>), small-leaved lime (<i>Tilia cordata</i> "Greenspire"), <i>Ulmus</i> 'Lobel', serviceberry (<i>Amelanchier lamarckii</i>), hawthorn (<i>Crataegus monogyna</i>),</p> <p>See the Landscape Masterplan (CSR Drawing 22234-1-100-LMP, included as Appendix 4 of this EcIAR) for further details of the proposed landscaping for T3.</p> <p>The proposed tree, shrub and hedge planting will provide compensation for loss of treeline habitat within the T3 site, and retention and strengthening of the northern boundary hedgerow and new hedgerow at the western boundary will serve to maintain connectivity around the site for wildlife.</p> <p>In addition, the landscaping plan specifies the planting of tree lined avenues throughout the site which will result in a significant increase in overall tree cover within the site. In addition to the tree lined avenue bisecting the proposed scheme, extensive additional tree planting will take place within green space areas and throughout the scheme. These amenity tree areas will be a mixture of semi-mature native trees and adopted species.</p> <p>All tree and shrub cover at the northern and eastern site boundaries will be retained. The northern Retained trees along the site boundary of the site will be protected during construction in full accordance with BS:5837 (Trees in Relation to Construction) and the Arboricultural Method Statement and Tree Protection Plan, as provided in Appendix 1 of the Arboricultural Report submitted with this application.</p> <p><i>*Note: Species native to Ireland</i></p>
Residual Effect following Mitigation	<p>Following implementation of mitigation, no potential for significant effect exists at any geographic scale. The planting of new native hedgerow and shrub habitat will serve to enhance and increase species diversity within the site, will benefit wildlife and will result in a net gain in overall tree and shrub habitat within the site.</p>

6.1.3.3 Potential Impacts on Water Quality and Associated Aquatic Fauna

Table 6-2: Impacts on Water Quality and Associated Aquatic Fauna

Description of Effect	<p>The construction phase of the development will involve earth moving and levelling operations which create the potential for pollution in various forms, i.e. the generation of suspended solids and the potential for spillage of fuels associated with the refuelling of excavation machinery.</p> <p>A network of drainage ditches were identified on-site, and the construction phase of the proposed development may potentially result in pollution of watercourses connected to these.</p> <p>Taking a precautionary approach, the proposed development has the potential, in the absence of mitigation, to impact on water quality through pollutants including hydrocarbons, fuel and cement.</p>
Characterisation of unmitigated effect	<p>Deterioration in downstream surface water quality would constitute a <i>Slight</i>, reversible negative effect. Surface water pollution via drainage ditches has the potential for significant downstream effects on sensitive ecological receptors downstream i.e. those associated with the Grand Canal.</p>
Assessment of Significance prior to mitigation	<p>In the absence of mitigation and following the precautionary principle, there is potential for the proposed development to result in indirect effects on the identified aquatic habitats and species within and bordering the site, and the canal to the south, at a local geographic scale in the form of pollution during the construction phase. These effects on the latter feature are unlikely to be significant given the distance (approximately 280m) between the T3 site boundary and the Grand canal to the south, and the lack of a direct hydrological connection to this feature, however following a highly precautionary approach, robust</p>

	mitigation has been implemented to safeguard aquatic features during the construction phase (see below).
Mitigation	<p>The following best practice mitigation and environmental control measures will be adhered to throughout the construction phase to ensure the avoidance of impacts on water quality:</p> <p>Site Set-up</p> <ul style="list-style-type: none"> ➤ 2.4m high hoarding will be erected around the boundaries of the development site. All works will be located within the confines of this fencing ➤ A site compound will be established within the site boundary. The exact location of the site compound will be established by the contractor. ➤ Access routes will be clearly marked / identified. Access during construction to any working areas will be restricted to land within the outlined works area. <p>Pollution Prevention</p> <ul style="list-style-type: none"> ➤ Any requirement for temporary fills or stockpiles will be sown with grass or covered with polyethylene sheeting as required to avoid sediment release associated with heavy rainfall. ➤ Prior to the commencement of earthwork silt fencing will be placed down-gradient of the construction areas where drains or drainage pathways are present. These will be embedded into the local soils to ensure all site water is captured and filtered; ➤ In the event of encountering groundwaters during excavation, the excavation will be de-watered using a pump equipped with a silt bag on the outlet if necessary, to capture any silty material prior to subsequent natural percolation to ground. Alternatively, this water will be tankered off site if required. ➤ As construction advances there may be a small requirement to collect and treat surface water within the site. This will be completed using perimeter swales at low points around the construction areas, and if required water will be pumped from the swales into silt bags prior to overland discharge allowing water to percolate naturally to ground. ➤ Discharge onto ground will be via a silt bag which will filter any remaining sediment from the pumped water. The entire discharge area from silt bags will be enclosed by a perimeter of double silt fencing. ➤ The design, construction and maintenance of an on-site drainage system can prevent sediment related pollution of nearby surface waters. Ground disturbance should be kept to a minimum, water from excavations should be filtered, other sediment trapping technologies such as silt fences or "wheel wash" tanks can prevent sediment leaving the site. Exposed surfaces should be re-vegetated as soon as possible following construction. ➤ The minimum amount of soil/subsoils and bedrock material should be removed from site. Soil may be reused for landscaping elsewhere on the site. <p>Refuelling, Fuel and Hazardous Materials Storage</p> <ul style="list-style-type: none"> ➤ Storage/refuelling in a designated area of the construction site, located a suitable distance from excavation works. This area should be underlain by concrete hard standing and tanks should be inspected for leaks regularly. Spill kits should be supplied at these stations and staff should be trained in their use and in spill control. Drainage from these areas shall be diverted for collection and not discharged into waterbodies without treatment and other best management practices. ➤ Minimal refuelling or maintenance of construction vehicles or plant will take place on site. Off-site refuelling will occur at a controlled fuelling station; ➤ On-site refuelling will take place by direct refuelling from the delivery truck or using a mobile double skinned fuel bowser. The fuel bowser,

a double-axel custom-built refuelling trailer will be re-filled off site and will be towed around the site as required. The fuel bowser will be parked on a level area in the construction compound when not in use. Mobile measures such as drip trays and fuel absorbent mats will be used during all refuelling operations.

- Vehicles will never be left unattended during refuelling. Only dedicated trained and competent personnel will carry out refuelling operations and plant refuelling procedures shall be detailed in the contractor's method statements.
- All fuels, lubricants and hydraulic fluids will be stored at the site compound. The storage area will contain a small bund lined with an impermeable membrane in order to prevent any contamination of the surrounding soils and vegetation.
- Fuels volumes stored on site will be minimised. Any fuel storage areas will be bunded appropriately for the volume of fuel stored for the time period of the construction. The bunded area will be roofed to prevent the ingress of rainwater.
- Fuels, lubricants and hydraulic fluids for equipment used on the site will be carefully handled to avoid spillage, properly secured against unauthorised access or vandalism, and provided with spill containment.
- All site plant will be inspected at the beginning of each day prior to use. Defective plant shall not be used until the defect is satisfactorily fixed. All major repair and maintenance operations will take place off site.
- Potential impacts caused by spillages etc. during the construction phase will be reduced by keeping spill kits and other appropriate equipment on-site.
- Harmful materials shall be stored on site for use in connection with the construction works only. These materials shall be stored in a controlled manner. Where on site fuelling facilities are used, there shall be a bunded filling area using a double bunded steel tank at a minimum.

Measures to avoid the release of cement-based material during construction

- No batching of wet-cement products will occur on site. Ready-mixed supply of wet concrete products and pre-cast elements for culverts and concrete works will be used.
- No washing out of any plant used in concrete transport or concreting operations will be allowed on-site;
- Where concrete is delivered on site, only chute cleaning will be permitted, using the smallest volume of water possible. No discharge of cement contaminated waters to the construction phase drainage system or directly to any artificial drain or watercourse will be allowed.
- Use weather forecasting to plan dry days for pouring concrete;
- Ensure pour site is free of standing water and plastic covers will be ready in case of sudden rainfall event.

Measures to avoid effects associated with the disposal of wastewater

- A self-contained port-a-loo with an integrated waste holding tank will be used at the site compounds, maintained by the providing contractor, and removed from site on completion of the construction works;
- No wastewater will be discharged on-site during either the construction or operational phase.

Waste Management

- All waste will be collected in skips and the site will be kept tidy and free of debris at all times.
- Waste oils and hydraulic fluids will be collected in leak-proof containers and removed from the site for disposal or recycling.
- All construction waste materials will be stored within the confines of the site, prior to removal from the site to a licenced waste facility.

Environmental Monitoring

The contractor will assign a member of the site staff as the environmental officer with the responsibility for ensuring the environmental measures prescribed in this document are adhered to. Any environmental incidents or non-compliance issues will immediately be reported to the project team.

Vegetation Clearance

Any scrub clearance will be undertaken in line with the Wildlife Act 1976-2019.

The following additional measures are as set out in the DBFL Construction Environmental Management Plan (CEMP) that accompanies this application:

Erosion and Sediment Control

- Measures shall be implemented to capture and treat sediment laden surface water runoff (e.g. sediment retention ponds, surface water inlet protection, fencing and signage around specific exclusion zones and earth bunding adjacent to open drainage ditches) prior to discharge of surface water at a controlled rate.
- Groundwater pumped from excavations shall be directed to on-site settlement ponds.
- Discharge from any vehicle wheel wash areas shall be directed to on-site settlement ponds.
- On-site settlement ponds shall include geotextile liners and riprapped inlets and outlets to prevent scour and erosion.
- Weather conditions and seasonal weather variations shall be taken account of when planning stripping of topsoil and excavations, with an objective of minimizing soil erosion.
- The duration that bedrock layers are exposed to the effects of weather shall be minimized by back filling excavations as soon as practicable after construction of the drainage and pumping station.

Accidental Spills and Leaks

- In order to mitigate against spillages contaminating underlying soils and geology, all oils, fuels, paints and other chemicals shall be stored in a secure bunded hardstand area.
- Refuelling and servicing of construction machinery shall take place in a designated hardstand area which is also remote from any surface water inlets (when not possible to carry out such activities off site).
- An Emergency Response Plan detailing the procedures to be undertaken in the event of a spillage of chemical, fuel or hazardous wastes will be prepared prior to construction.
- Pouring of concrete including wash down and washout of concrete from delivery vehicles shall be controlled in an appropriate facility to prevent contamination.
- Regular samples shall be taken from soils affected by earthworks which shall be analysed for contamination

Concrete

- Concrete batching will take place off site, wash down and wash out of concrete trucks will take place off site and any excess concrete is not to be disposed of on site
- Pumped concrete will be monitored to ensure there is no accidental discharge
- Mixer washings are not to be discharged into surface water drains

Wheel Wash Areas

- Discharge from any vehicle wheel wash areas is to be directed to on-site settlement ponds, debris and sediment captured by vehicle wheel washes are to be disposed offsite at a licensed facility

Residual Effect following Mitigation	No significant effect on water quality, within the site or within the Grand Canal to the south, are anticipated during construction following the implementation of the measures and best practice described above.
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6.1.4

Impacts to Fauna

Faunal species recorded within the proposed development boundary have widespread and favourable ranges in Ireland, and alternative suitable habitat is widespread in the wider area. Therefore, impacts on fauna as a result of disturbance/ displacement are short-term non-significant negative impacts.

From a precautionary perspective, the following faunal species have been identified as KERs for further assessment in the following subsections:

- > Bats
- > Badger
- > Birds
- > Frogs

6.1.4.1

Assessment of the Potential Impacts on Bats

Table 6-3: Potential impacts on bats associated with the construction phase of the proposed development.

Description of Effect	Habitat Loss/Fragmentation The proposed development will result in the loss of grassland and hedgerow habitat within the site that is likely to be used by commuting and foraging bat species locally. No buildings occur within the T3 site, and no trees with potential roosting features for bats were recorded within the site; there will therefore be no loss of bat roosts or potential roosting habitat lost as part of this development. Field boundary features are to be retained. However, there will be removal of other sections of treeline within the site boundary, which provides suitable foraging and commuting habitat. An increase in artificial lighting as a result of the development has the potential to fragment commuting routes in the absence of appropriate lighting design considerations.
	Disturbance/ Displacement Effects No buildings occur within the T3 site, and no trees with suitable Potential Roosting Features (PRFs) were recorded within the site; therefore no potential direct disturbance of bats in roosts is anticipated. An increase in artificial lighting as a result of the development has the potential to cause some degree of displacement to bats.
Characterisation of unmitigated effect	Habitat Loss/Fragmentation Loss of existing, sub-optimal, foraging resource as a result of clearance of existing grassland is considered to be an Imperceptible negative effect at the local geographic scale. Boundary hedgerow features are to be retained, and connectivity for bats to the surrounding landscape will therefore be preserved. Loss of commuting and foraging habitat within the site itself, and some fragmentation of the existing commuting habitat that will occur as a result of the proposed development and associated artificial lighting has the potential to result in Permanent, slight, negative effects in the absence of mitigation (see also Section 5.7 of the Bat Assessment report – Appendix 1).

	<p>Disturbance/ Displacement Effects</p> <p>Disturbance and/or displacement effects on all bat species during the construction phase are assessed as Short-term Slight Negative Effect. This is in relation to increased artificial lighting associated with the construction phase of the proposed development.</p>
Assessment of Significance prior to mitigation	<p>Habitat Loss/Fragmentation</p> <p>Loss of bat commuting and foraging habitat will take place at the Local scale.</p> <p>Removal of hedgerow within the site would constitute a significant impact at the site level in the absence of mitigation; the wider boundary hedgerow network will continue to provide connectivity for bats across to the surrounding landscape.</p>
	<p>Disturbance</p> <p>No significant direct disturbance to bats is anticipated at any geographic scale. Potential displacement as a result of an increase in artificial lighting during the construction phase represents a potential short-term significant effect on local bat populations.</p>
Mitigation and habitat enhancement	<p>Habitat Loss/Fragmentation</p> <p>The proposed retention and enhancement of the northern hedgerow and scrub associated with the northern site boundary will retain existing connectivity along Site boundaries for commuting and foraging bats. The northern site boundary hedgerow/scrub will be enhanced with supplementary planting as shown in the landscaping plan and will develop over the lifetime/operational phase of the development.</p> <p>The creation of new native hedgerow along the western site boundary will provide additional foraging and commuting habitat linked to the landscaping for the wider Clonburris site and will ensure that a dark corridor is present for bats along the T3 site boundary.</p> <p>Retention of tree cover along the southern boundary of the wider Clonburris SDZ site, and enhancement of the Grand Canal Park, extensive planting of native tree and shrub species throughout the scheme and provision of new treelines and hedgerow in carefully considered locations in order to ensure that habitat connectivity is maintained across the wider Clonburris scheme from the northern boundary (and the proposed new park to the north of the railway line) to the Grand Canal to the south.</p> <p>The lighting associated with the proposed development will be designed to avoid light disturbance to nocturnal wildlife, and will not be focussed onto areas of ecological sensitivity such as boundary hedgerows of development tiles or tree planting areas. The “Dark Sky” principle should be followed – i.e. no upward lighting to reduce light pollution. Lighting should also be designed in accordance with the BCT/ ILP guidance document: Bats and artificial Lighting in the UK². Recommendations to accord with this guidance is prescribed as follows:</p> <ul style="list-style-type: none"> ➤ All luminaires used will lack UV/IR elements to reduce impact. ➤ LED luminaires will be used due to the fact that they are highly directional, lower intensity, good colour rendition and dimming capability. ➤ A warm white spectrum (<2700 Kelvins will be used to reduce the blue light component of the LED spectrum). ➤ Luminaires will feature peak wavelengths higher than 550nm to avoid the component of light most disturbing to bats. ➤ Column heights should be carefully considered to minimise light spill. The shortest column height allowed should be used where possible. Ballard lighting should be considered for pedestrian and greenway areas, if deemed necessary.

² Bat Conservation Trust / Institute of Lighting Professionals

	<ul style="list-style-type: none"> ➤ Only luminaires with an upward light ratio of 0% and with good optical control will be used. ➤ Luminaires will be mounted on the horizontal, i.e. no upward tilt. ➤ Any external security lighting will be set on motion-sensors and short (1min) timers. The intensity of external lighting should be limited to ensure that skyglow does not occur in order to reduce light pollution. ➤ As a last resort, accessories such as baffles, hoods or louvres will be used to reduce light spill and direct it only to where it is needed. <p>As part of the proposed project, it is recommended that a bat box scheme should be erected within the landscaping plan for the proposed development (see Section 5.8.3 of the Bat Assessment Report). This will be in the form of two rocket bat boxes to be erected within the linear ecological corridor along the northern boundary of the T3 site.</p> <p>Precise locations for bat boxes should be specified by a bat specialist. The rocket bat boxes are to be erected on a 5m pole fixed in 1m³ of 40 newton strength concrete (Please see appendices of the Bat Assessment Report for details) and these should be located in parks proposed along the Grand Canal and linear park.</p> <p>Monitoring mitigation measures for bats is proposed to ensure that they are implemented successfully; this will comprise inspection of bat boxes within one year of erection and for a minimum of 2 years. All other mitigation will be checked following implementation by a suitably experienced ecologist and a full summer bat survey carried out post-construction to ascertain bat activity levels within the Clonburris scheme (see Section 5.8.4 of the Bat Assessment Report).</p> <p>Disturbance/ Displacement</p> <p>No disturbance of bats will occur; therefore, no specific mitigation is proposed in relation to direct disturbance of bats.</p> <p>Potential displacement as a result of an increase in artificial lighting will be mitigated through the measures relating to artificial lighting as described above.</p>
Residual Effect following Mitigation	<p>Habitat Loss/Fragmentation</p> <p>Following the incorporation of mitigation measures described above, no potential for significant residual loss of bat habitat, including commuting and foraging habitat, is anticipated at any geographic scale.</p>
	<p>Disturbance/ Displacement Effects</p> <p>Following the incorporation of mitigation measures described above, no potential for significant disturbance/displacement impacts of bats has been identified at any geographic scale.</p>

6.1.4.3 Assessment of the Potential Impacts on Birds

Table 6-4: Assessment of impacts on birds associated with the construction phase of the proposed development.

Description of Effect	Habitat Loss The footprint of the proposal will result in the loss hedgerow and encroaching scrub habitat within the Site. Such habitat provides some suitable nesting habitat for a range of common and widespread bird species locally.
	Disturbance/ Displacement Should site clearance or hedgerow removal be undertaken during the bird nesting season (March to August inclusive), it could lead to the destruction or disturbance/displacement of nesting birds.
Characterisation of unmitigated effect	Habitat Loss The loss of scrub and hedgerow habitat constitutes a permanent slight negative effect as these habitats are common and widespread in the wider area. Foraging and nesting opportunities for the common species identified as using the site will not be significantly affected as a result of the works.
	Disturbance In the absence of mitigation, there is potential for slight temporary negative effect on local bird species associated with the construction phase of the proposed development as the site does not provide significant habitat for bird species of conservation concern.
Assessment of significance prior to mitigation	Habitat Loss The unmitigated impact resulting in the loss of foraging and commuting habitat for bird species is not significant, as the habitats to be lost are common and widespread in the local area and do not support significant habitat for protected bird species.
	Disturbance In the absence of mitigation, there is potential for loss of individual bird nests within the site of the proposed development. Whilst this would be a significant effect on the individual nests involved, it would not result on a significant effect on the populations of the species involved in terms of their conservation status.
Mitigation	Habitat Loss The design of the proposed development includes measures for compensatory hedgerow and tree planting which will provide compensation for loss of nesting habitat. In addition, it is proposed to incorporate 5 bird boxes throughout the T3 site (integrated within buildings or on suitable retained trees) to provide additional nesting features for local bird species.
	Disturbance Site clearance will be undertaken under the provisions of the Wildlife Act and outside of the nesting bird season (1 st March – 31 st August). If vegetation clearance is required during the nesting bird season, this will be preceded by a nesting bird survey and all clearance works supervised by an appropriately qualified ecologist.

	An ecologist will be on site during site clearance to minimise impact on foraging/roosting bird species. The ecologist will have the ability to cease works on site that could cause disturbance, in the event of significant disturbance impacts being possible.
Residual Effect following Mitigation	Habitat Loss Following the incorporation of mitigation listed above, habitat loss is not considered to be significant at any geographic scale.
	Disturbance/Displacement Following the implementation of the mitigation as described above, there will be no significant residual effect at any geographic scale.

6.1.4.4 Assessment of the Potential Impacts on Badgers

Table 6-5: Assessment of impacts on badgers associated with the construction phase of the proposed development.

Description of Effect	Habitat Loss/Fragmentation No evidence of badgers was recorded during the ecological surveys carried out at the site; however the species is assumed to use the site at least on occasion. Given the nature of the Proposed Development, there will be some minimal loss of suitable badger foraging habitat i.e., grassland, scrub and hedgerow associated with the footprint of the proposed development.
	Disturbance No disturbance of badgers is anticipated as a result of the proposed development, given that no setts or other evidence of the species was recorded within the site.
Characterisation of unmitigated effect	Habitat Loss/Fragmentation The loss of existing grassland, encroaching patches of scrub and hedgerow within the Site is not considered to constitute a significant effect on local badger populations, especially given the lack of evidence of badgers within the Site.
	Disturbance Noise and earth movement during construction works have the potential to disturb badgers occupying setts in close proximity to proposed infrastructure during construction. Badger tunnel systems can extend some distance from sett entrances (over 20m in some cases ³) and therefore any excavation by heavy machinery in close proximity to sett entrances risks causing damage to setts and/or direct harm to badgers in the absence of mitigation. This scenario is not currently anticipated, given that no badger setts or other evidence of the species have been recorded within the Site.
Assessment of Significance prior to mitigation	Habitat Loss/Fragmentation No significant overall loss or fragmentation of badger foraging habitat is anticipated at any geographic scale.
	Disturbance

³ National Roads Authority (2009) Guidelines for the treatment of badgers prior to the construction of National Road Schemes.

	<p>No setts have been recorded within the Site of the proposed development. Potential for disturbance to badgers has therefore been assessed as imperceptible at the local geographic scale in the absence of mitigation. However given that badgers are assumed to be present in the surrounding area, and likely use the site on occasion, it is possible that new setts may be excavated in the intervening period prior to any construction commencing within the Site.</p>
Mitigation	<p>Habitat Loss/Fragmentation</p> <p>No specific mitigation is required.</p>
	<p>Disturbance/Displacement</p> <p>In order to fully assess the potential for disturbance related effects on badgers during construction, given the time that can elapse between the original surveys and any future planning consent and construction, a pre-construction badger survey will be carried out in order to identify any sett entrances that may have been excavated in the intervening period. Any requirement for additional monitoring or mitigation will be assessed following the pre-construction survey. All badger survey work will be undertaken in line with current best practice guidance⁴.</p> <p>Should any setts within 50m of the proposed works be found to be in active use by badgers during the pre-construction badger survey, it would be necessary to ensure that the risk of disturbance to badgers is mitigated appropriately. Any badger mitigation (including sett exclusion) required would be undertaken following published best practice guidelines for the treatment of badgers (NRA 2006) and in consultation with NPWS.</p>
Residual Effect following Mitigation	<p>Habitat Loss/Fragmentation</p> <p>No significant fragmentation to or loss of badger foraging habitat is anticipated at any geographic scale.</p>
	<p>Disturbance</p> <p>Following the incorporation of the mitigation measures described above, no significant negative impacts to badgers is anticipated at any geographic scale.</p>

6.1.4.5 Assessment of Potential Effects on Frogs

Table 6-6: Assessment of impacts on frogs associated with the construction phase of the proposed development.

Description of Effect	<p>Suitable frog habitat was present in the form of a seasonal pool within the T3 site (recorded during March 2021), and several frog breeding sites were identified within the wider Clonburris SDZ in March 2021 and April 2022 as part of dedicated fauna surveys (see Appendix 3). The wet ditch at the northern boundary of the site will be retained in full; however, development on site will therefore remove previously recorded breeding habitat for frogs, as well as reducing or removing frog foraging habitat (grassland, pools and scrub).</p>
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⁴ National Roads Authority (2006) Ecological Surveying Techniques for Protected Flora and Fauna during the Planning of National Road Schemes.

Characterisation of unmitigated effect	Loss of the previously confirmed breeding site and sheltering habitat for frogs that is proposed (the northern wet ditch which also provided suitable habitat is to be retained in full) represents a slight effect on frog populations at the local scale, especially given that the suitable breeding habitat was not recorded as present in 2022.
Assessment of Significance prior to mitigation	Loss of the previously confirmed breeding sites for common frog represents a potentially significant effect at the site level.
Mitigation	<p>The following measures will be implemented as mitigation for frogs within the wider SDZ site, as specified in the Non-avian Fauna Survey report:</p> <ol style="list-style-type: none"> 1) The period of construction at or near affected breeding sites should exclude the breeding period wherever possible. 2) If this is not possible then a licence will be required to remove frogs, spawn and tadpoles from affected pools and ponds, and the frogs etc. translocated to other suitable habitat in the locality. Such translocations require licence from NPWS. 3) The proposed development(s) will lead to significant loss of frog foraging habitat and frog breeding sites in channels, drains and pools. These losses should be ameliorated by provision of artificial ponds or pools (or wet ditches) within the SDZ lands, and these should preferably be created at early stages of site development. 4) Bioretention areas within the streetscape and additional frog breeding pools are to be created as part of landscaping measures on site (see Section 6.0 of the Landscaping Report accompanying the application. Frog breeding pools will be integrated into the ecological corridor along the railway. 5) The creation of breeding pools etc. within the SDZ lands should be conducted outside of the frog breeding season (to avoid mortality within existing pools and drains on site) and with due care to minimise impacts on both frog foraging habitats and frog breeding sites during their construction. Frog ponds should be created in advance of the frog translocation measures.
Residual Effect following Mitigation	Following the implementation of mitigation, there will be no significant residual effect on otter as a result of the proposed development.

6.2

Operational Phase

6.2.1

Impacts on Habitats

There will be no loss or fragmentation of habitats during the operational phase of the proposed development. All habitat loss will occur during construction. As such, no negative effects on habitats are predicted during the operation of this residential development. In addition, the habitat compensation measures incorporated into the construction phase of the proposed development, outlined in Section 4.8.3 of this report, will also establish on site to provide biodiversity benefits in terms of plant species variety and biodiversity generally. The landscaping plan includes for the creation of new hedgerow in addition to the retention of existing hedgerow along the northern boundary feature. Wildflower meadow planting will increase the species diversity of flowering plants for pollinating insects within the site. In addition, planting proposals for shrubs and borders are also aimed at gaining the maximum possible benefit for biodiversity and pollinators in accordance with the All-Ireland Pollinator Plan, and the proposal includes for additional tree and shrub planting throughout the scheme and for biodiverse green roofs on buildings.

Impacts on Water Quality

Table 6-7: Impacts on Water Quality and Aquatic Fauna

Description of Effect	The operational phase of the proposed project will result in the production of foul sewage and surface water runoff. If not adequately treated, there is potential for impacts on water quality in the form of deterioration of surface water.
Characterisation of unmitigated effect	The deterioration in downstream surface water quality would constitute a long term, reversible negative effect on downstream water quality. Given the nature of the development, and the presence of the grand Canal watercourse approximately 280m to the south, any effects are likely to be at worst moderate.
Assessment of Significance prior to mitigation	The operational phase of the proposed project will result in the production of foul sewage and surface water runoff. As described in Section 2.2.2 of this EcIAR, the proposed development will be connected to the local public sewer. There is therefore no potential for significant effect at any geographic scale.
Mitigation	<p>Standard best practice environmental control measures have been incorporated in the design of the development and are outlined in Section 2.2.2 of this EcIAR. All identified potential pathways for impact on water quality are robustly blocked through the use of avoidance, appropriate design and mitigation measures as set out within the DBFL Consulting Engineers Infrastructure Design Report for T3. The measures ensure that the operation of the proposed development does not adversely the water quality of downstream watercourses.</p> <p>As outlined in the DBFL report (2022) in relation to foul water generation on site <i>“The proposed site will benefit from foul infrastructure proposed as part of the CSLS. Trunk Foul sewer network has been designed as part of the CSLS to serve the subject based on the average net density for catchment X, ranging from the “Low margin” to a “High Margin”</i></p> <p><i>The overall SDZ lands are relatively flat therefore the pumping of wastewater is required. It is proposed that the wastewater generated from the new apartments for this application will be collected by new gravity sewers that discharges to the trunk sewer within the new Link Road via the adjacent Clonburris T1 development. This in turn discharges to a future Irish Water pumping station (Pumping Station #1 as shown in Figure 4.2) adjacent to the R113 Fonthill Road. This future pumping station and its rising main connection to the existing 9B trunk sewer on Fonthill Road is being delivered by Irish Water as part of the Irish Water Clonburris Local Infrastructure Housing Activation Fund (LIHAF) Scheme. The pump station is currently at planning application stage with SDCC under planning reference SDZ21A/0006.</i></p> <p><i>Foul sewers have been designed in accordance with the Building Regulations and specifically in accordance with the principles and methods set out in the Irish Water Design and Construction Requirements for Self-Lay Developments July 2020 (Revision 2) and the recommendations of the ‘Greater Dublin Strategic Drainage Study’, (GDSDS).</i></p> <p><i>All foul sewers and manholes will be constructed in accordance with the Irish Water Standard Details and the Irish Water Code of Practice for Wastewater. The proposed foul sewer design and layout is in accordance with the Irish Water Code of Practice for Wastewater Infrastructure and The Irish Water Wastewater Infrastructure Standard Details. The proposed foul sewer design and layout complies with the Clonburris Water and Wastewater Report as agreed with SDCC and Irish Water’. Design calculations and full network calculations are provided in Table 4-2 and Appendix D of the DBFL report respectively.</i></p> <p><i>In relation to the receiving surface water network (i.e. Clonburris T1 (Phase 1A), “certain portions of Stormwater infrastructure installed as part of the adjacent Clonburris T1 have been upsized so that they are suitable to receive surface water runoff from future</i></p>

	<p><i>development phases, including the subject development</i> (see Section 3.11 of the DBFL Infrastructure Design Report).</p> <p>These design measures will ensure that there is no potential for deterioration in water quality associated with the operational phase of the proposed development.</p>
Residual Effect following Mitigation	<p>Given the proposed treatment of wastewater and storm water during the operational phase of the development, no significant effects on water quality are anticipated.</p>

6.2.3 Impact on Fauna

As the operation of the proposed development will not result in any additional loss of habitat and will actually include measures to improve the biodiversity value of the site (as described in the previous section). No significant effects in terms of habitat loss and fragmentation are anticipated. The biodiversity management plan provides for additional habitat for bird and bat species in the form of bird and bat boxes along with the planting of trees and creation of a “Biodiversity garden”.

6.2.3.1 Bats

The proposed development will include implementation of artificial lighting with the potential to significantly affect bats (see Section 5.8 of the Bat Assessment report – Appendix 1). The lighting associated with the proposed development will therefore be designed to avoid light disturbance to nocturnal wildlife, and will not be focussed onto areas of ecological sensitivity such as boundary hedgerows the T3 development or tree planting areas. The “Dark Sky” principle should be followed – i.e. no upward lighting to reduce light pollution. Lighting should also be designed in accordance with the BCT/ ILP guidance document: Bats and artificial Lighting in the UK⁵. Recommendations to accord with this guidance is prescribed as follows:

- All luminaires used will lack UV/IR elements to reduce impact.
- LED luminaires will be used due to the fact that they are highly directional, lower intensity, good colour rendition and dimming capability.
- A warm white spectrum (<2700 Kelvins will be used to reduce the blue light component of the LED spectrum).
- Luminaires will feature peak wavelengths higher than 550nm to avoid the component of light most disturbing to bats.
- Column heights should be carefully considered to minimise light spill. The shortest column height allowed should be used where possible. Ballard lighting should be considered for pedestrian and greenway areas, if deemed necessary.
- Only luminaires with an upward light ratio of 0% and with good optical control will be used.
- Luminaires will be mounted on the horizontal, i.e. no upward tilt.
- Any external security lighting will be set on motion-sensors and short (1min) timers. The intensity of external lighting should be limited to ensure that skyglow does not occur in order to reduce light pollution.
- As a last resort, accessories such as baffles, hoods or louvres will be used to reduce light spill and direct it only to where it is needed.

Monitoring for bats has been specified during the operational phase of the works (see Section 5.8.4 of the Bat Assessment Report). This monitoring is to comprise the following aspects:

- Inspection of bat boxes within one year of erection of bat box scheme/rocket box and alternative roosts for Natterer’s bat and brown long-eared bats. Register bat box scheme,

⁵ Bat Conservation Trust / Institute of Lighting Professionals

rocket bat boxes and supplementary roosts with Bat Conservation Ireland. This should be undertaken for a minimum of 2 years in relation to bat boxes/rocket bat boxes.

- Monitoring of any bat mitigation measures. All mitigation measures should be checked to determine that they were successful. A full summer bat survey is recommended post-works.

Provided the above mitigation measures are successfully implemented, no significant negative effects on any faunal receptors are anticipated as a result of the development.

6.3

Decommissioning Phase

The proposed development is considered to be permanent and thus there will be no decommissioning works associated with the proposed development. Any demolition or maintenance works on the site would be likely to have similar impacts in terms of disturbance to those associated with the construction phase of the project as detailed in previous sections.

6.4

Impacts on EU and Nationally Designated Sites

None of the elements of the proposed development are located within the boundaries or directly adjacent to any Nationally or European designated sites. There will be no direct effects on any designated site as a result of the construction, operation and decommissioning the proposed development.

One nationally designated site, the Grand Canal pNHA, has been identified as being within the zone of influence due to potential for indirect impacts and has therefore been assigned as a KER.

Nationally designated sites that are also designated as European Sites have been assessed under their latter designations within the AA Screening Report that accompanies this application, with the relevant conclusions recorded and referenced in this chapter.

In relation to European sites, an Appropriate Assessment Screening Report has been prepared to provide the competent authorities with the information necessary to complete an Appropriate Assessment screening for the Proposed Development in compliance with Article 6(3) of the Habitats Directive.

As per the aforementioned EPA Guidance (2022), “A biodiversity section of an EIAR, for example, should not repeat the detailed assessment of potential effects on European sites contained in documentation prepared as part of the Appropriate Assessment process, but it should refer to the findings of that separate assessment in the context of likely significant effects on the environment, as required by the ELA Directive”. This section provides a summary of the key assessment findings with regard to Special Areas of Conservation (SACs) and Special Protection Areas (SPAs).

Potential pathways for significant effect on European Designated Sites (SACs and SPAs) are assessed within the accompanying AASR. The screening report concludes that:

“Following an examination, analysis and evaluation of the relevant data and information set out within this Screening Report, it can be concluded beyond reasonable scientific doubt, in view of best scientific knowledge, on the basis of objective information and in light of the conservation objectives of the relevant European sites, that the Proposed Development, individually or in combination with other plans and projects, will not have any significant effect on any European Designated Sites.

Given that no potential pathway for significant effects on European Sites has been identified, there is no requirement for Appropriate Assessment or the preparation of a Natura Impact Statement (NIS). ”

In addition, no potential for any residual impacts on Nationally designated sites has been identified as part of this Ecological Impact Assessment. The mitigation in place to ensure that no localised deterioration in water quality occurs during the construction and operational phases of the development will ensure that any pathway by which a deterioration in water quality that could affect the Grand Canal pNHA site has been robustly blocked.

Cumulative Impact Assessment

The Proposed Development was considered in combination with other plans and projects in the area that could result in cumulative impacts on the Key Ecological Receptors (KERs) identified in Section 5.1.8 of this report, including European Sites, Nationally designated sites. This included a review of online Planning Registers and served to identify past and present plans and projects, their activities and their predicted environmental effects.

Assessment of Plans

The following development plans have been reviewed and taken into consideration as part of this assessment:

- South Dublin County Council Development Plan 2022-2028
- Eastern & Midland Regional Assembly Regional Spatial & Economic Strategy 2019-2031 (RSES)
- National Biodiversity Action Plan 2017-2021

The review focused on policies and objectives that relate to designated sites for nature conservation, biodiversity and protected species. Policies and objectives relating to the conservation of peatlands and sustainable land use were also reviewed, particularly where the policies relate to the preservation of surface water quality. An overview of the search results with regard to plans is provided in Table 6-8.

Potential for in-combination effects in relation to European sites are considered within the AA Screening Report that accompanies this application.

Table 6-8. Plans reviewed as part of the assessment.

Plans	Key Policies and Objectives directly related to European Sites and Biodiversity in the Zone of Influence	Assessment of Potential Impact on Ecological Receptors and Designated Sites
South Dublin County Council Development Plan 2022 - 2028	<p>Policy NCBH2: Biodiversity</p> <ul style="list-style-type: none"> ➤ NCBH2 Objective 1: To support the implementation of the National Biodiversity Action Plan (2017- 2021) and the All-Ireland Pollinator Plan (2021-2025) and to support the adoption and implementation of the South Dublin County Biodiversity Action Plan (2020-2026) and Pollinator Action Plan (2021-2025) and any superseding plans. ➤ NCBH2 Objective 2: To ensure the protection of designated sites in compliance with relevant EU Directives and applicable national legislation. ➤ NCBH2 Objective 3: To protect and conserve the natural heritage of the County, and to conserve and manage EU and nationally designated sites and non-designated locally important areas which act as 'stepping stones' for the purposes of green infrastructure and Article 10 of the Habitats Directive. ➤ NCBH2 Objective 4: To protect our rivers and in particular to avoid overdevelopment which could have an adverse effect on the biodiversity and ecosystems of the river. <p>Policy NCBH3: Natura 2000 Sites</p> <ul style="list-style-type: none"> ➤ NCBH3 Objective 1: To prevent development and activities that would adversely affect the integrity of any Natura 2000 site located within or adjacent to the County and promote the favourable conservation status of the habitats and species integral to these sites. ➤ NCBH3 Objective 2: To ensure that plans, including land use plans, will only be adopted, if they either individually or in combination with existing and / or proposed plans or projects, will not have a significant adverse effect on a European Site, or where such a plan is likely or might have such a significant adverse effect (either alone or in combination), South Dublin County Council will, as required by law, carry out an appropriate assessment as per requirements of Article 6(3) of the Habitats Directive 92 / 43 / EEC of the 21 May 1992 on the conservation of natural habitats and of wild fauna and flora, as transposed into Irish legislation. Only after having ascertained that the plan will not adversely affect the integrity of any European site, will South Dublin County Council adopt the plan, incorporating any necessary mitigation measures. A plan which could adversely affect the integrity of a 	<p>The Development plan was comprehensively reviewed, with particular reference to Policies and Objectives that relate to the biodiversity, protected species and designated sites. A comprehensive Screening for Appropriate Assessment has been submitted along with this application; no pathways for significant effects on European Sites have been identified.</p> <p>The Proposed Development has been designed in order to avoid loss of sensitive habitats where possible and where some loss has been identified; appropriate mitigation and enhancement measures have been incorporated into the Proposed Development.</p> <p>The Proposed Development is located outside of any European or Nationally designated sites, as described in Section 6.5.1.1. and no significant residual effects have been identified in relation to sites of this nature.</p> <p>No potential for negative cumulative impacts when considered in conjunction with the current proposal were identified. No projects identified within the Development Plan were found to occur in the wider area surrounding the Proposed Development.</p>

Plans	Key Policies and Objectives directly related to European Sites and Biodiversity in the Zone of Influence	Assessment of Potential Impact on Ecological Receptors and Designated Sites
	<p>European site may only be adopted in exceptional circumstances, as provided for in Article 6(4) of the Habitats Directive as transposed into Irish legislation.</p> <ul style="list-style-type: none"> > NCBH3 Objective 3: To ensure that planning permission will only be granted for a development proposal that, either individually or in combination with existing and / or proposed plans or projects, will not have a significant adverse effect on a European Site, or where such a development proposal is likely or might have such a significant adverse effect (either alone or in combination), the planning authority will, as required by law, carry out an appropriate assessment as per requirements of Article 6(3) of the Habitats Directive 92 / 43 / EEC of the 21 May 1992 on the conservation of natural habitats and of wild fauna and flora, as transposed into Irish legislation. Only after having ascertained that the development proposal will not adversely affect the integrity of any European site, will the planning authority agree to the development and impose appropriate mitigation measures in the form of planning conditions. A development proposal which could adversely affect the integrity of a European site may only be permitted in exceptional circumstances, as provided for in Article 6(4) of the Habitats Directive as transposed into Irish legislation. <p>Policy NCBH4: Proposed Natural Heritage Areas</p> <ul style="list-style-type: none"> > NCBH4 Objective 1: To ensure that any proposal for development within or adjacent to a proposed Natural Heritage Area (pNHA) is designed and sited to minimise its impact on the biodiversity, ecological, geological and landscape value of the pNHA particularly plant and animal species listed under the Wildlife Acts and the Habitats and Birds Directive including their habitats. > NCBH4 Objective 2: To restrict development within or adjacent to a proposed Natural Heritage Area to development that is directly related to the area's amenity potential subject to the protection and enhancement of natural heritage and visual amenities including biodiversity and landscapes. Such developments will be required to submit an Ecological Impact Assessment prepared by a suitably qualified professional. > NCBH4 SL01: To promote opportunities to improve the habitat relating to the Lugmore Glen pNHA and to ensure that any proposals for development have full regard to the sensitivities of the area within the pNHA and along the Tallaght Stream. 	

Plans	Key Policies and Objectives directly related to European Sites and Biodiversity in the Zone of Influence	Assessment of Potential Impact on Ecological Receptors and Designated Sites
	<p>Policy NCBH5: Protection of Habitats and Species Outside of Designated Areas</p> <p>Protect and promote the conservation of biodiversity outside of designated areas and ensure that species and habitats that are protected under the Wildlife Acts 1976 to 2018, the Birds Directive 1979 and the Habitats Directive 1992, the Flora (Protection) Order 2015, and wildlife corridors are adequately protected.</p> <ul style="list-style-type: none"> > NCBH5 Objective 1: To ensure that development does not have a significant adverse impact on biodiversity, including known rare and threatened species, and that biodiversity enhancement measures are included in all development proposals. > NCBH5 Objective 2: To ensure that an Ecological Impact Assessment is undertaken for developments proposed in areas that support, or have the potential to support, protected species or features of biodiversity importance, and that appropriate avoidance and mitigation measures are incorporated into all development proposals. <p>Policy NCBH9: Grand Canal</p> <p>Protect and promote the Grand Canal as a key component of the County's Green Infrastructure and ecosystem services network, and protect and enhance the visual, recreational, environmental, ecological, industrial heritage and amenity value of the Grand Canal, recognising its sensitivities as a proposed Natural Heritage Area with adjacent wetlands and associated habitats.</p> <ul style="list-style-type: none"> > NCBH9 Objective 1: To protect and enhance the important biodiversity resource offered by the Grand Canal, recognising and protecting the vital function that the Canal provides as a key corridor for habitats and wildlife from the River Shannon to Dublin Bay. > NCBH9 Objective 2: To facilitate the appropriate development of the Grand Canal as a recreational route for walking, cycling, nature study and water-based activities including fishing, canal boating, rowing, paddle boarding and canoeing / kayaking, subject to environmental safeguards and assessments. > NCBH9 Objective 3: To ensure that development along or adjacent to the Grand Canal contributes to the creation of an integrated network of appropriately designed walking and cycling routes connecting with the Grand Canal Way Green Route and which takes due cognisance of the sensitive nature of this national ecological corridor. > NCB9 Objective 4: To ensure that development along and adjacent to the Grand Canal protects and incorporates natural heritage features including watercourses, wetlands, 	

Plans	Key Policies and Objectives directly related to European Sites and Biodiversity in the Zone of Influence	Assessment of Potential Impact on Ecological Receptors and Designated Sites
	<p>grasslands, woodlands, mature trees, hedgerows and ditches and includes an appropriate setback distance or buffer area from the pNHA boundary to facilitate protected species and biodiversity and a fully functioning Green Infrastructure network.</p> <ul style="list-style-type: none"> > NCBH9 Objective 5: To ensure that development along or adjacent to the Grand Canal protects, incorporates and enhances built and industrial heritage features, particularly historic canal and mill buildings, and also sets out to protect the setting of such built heritage features. > NCBH9 Objective 6: To seek the extension of the Grand Canal Way Green Route from the 12th Lock to Hazelhatch in partnership with Waterways Ireland and Kildare County Council, as one of the priority projects of the Cycle South Dublin programme, ensuring the safeguarding and enhancement of the ecological sensitivities as identified along this section of the Canal. > NCBH9 Objective 7: To ensure that all development proposals along the Grand Canal are accompanied by an EcIA (ecological impact assessment) prepared by a qualified ecologist and that the recommendations of the EcIA are incorporated into any development proposals including a landscape plan prepared by a qualified landscape architect. Where new canal crossings (that is, footbridges / cycle bridges) are proposed, they should be designed so as to avoid fragmentation of linear habitat associated with the Grand Canal. <p>Policy NCBH10: Invasive Species</p> <p>Protect against and prevent the introduction and spread of invasive species within the County and require landowners and developers to adhere to best practice guidance in relation to the control of invasive species.</p> <ul style="list-style-type: none"> > NCBH10 Objective 1: To ensure that development proposals do not lead to the spread or introduction of invasive species. If developments are proposed on sites where invasive species are or were previously present, applicants should submit a control and management programme with measures to prevent, control and / or eradicate the particular invasive species as part of the planning process and to comply with the provisions of the European Communities Birds and Habitats Regulations 2011 (S.I. 477 / 2011). > NCBH10 Objective 2: To ensure that the Council promptly and appropriately treats invasive species such as Japanese Knotweed, including where notified by members of the public that such species, located on public lands, pose a potential threat to property. 	

Plans	Key Policies and Objectives directly related to European Sites and Biodiversity in the Zone of Influence	Assessment of Potential Impact on Ecological Receptors and Designated Sites
	<p>Policy NCBH11: Tree Preservation Orders and Other Tree / Hedgerow Protections</p> <p>Review Tree Preservation Orders (TPO) within the County and maintain the conservation value of trees and groups of trees that are the subject of a Tree Preservation Order while also recognising the value of and protecting trees and hedgerows which are not subject to a TPO.</p> <ul style="list-style-type: none"> ➤ NCBH11 Objective 1: To review Tree Preservation Orders within the County and maintain the conservation value of trees and groups of trees that are the subject of any Tree Preservation Order. ➤ NCBH11 Objective 2: To regularly evaluate and identify trees of amenity value within the County with a view to making them the subject of Tree Preservation Orders or otherwise protecting them and to furnish information to the public in this regard. ➤ NCBH11 Objective 3: To protect and retain existing trees, hedgerows, and woodlands which are of amenity and / or biodiversity and / or carbon sequestration value and / or contribute to landscape character and ensure that proper provision is made for their protection and management taking into account Living with Trees: South Dublin County Council's Tree Management Policy (2015-2020) or any superseding document and to ensure that where retention is not possible that a high value biodiversity provision is secured as part of the phasing of any development to protect the amenity of the area. ➤ NCBH11 Objective 4: To protect the hedgerows of the County, acknowledging their role as wildlife habitats, biodiversity corridors, links within the County's green infrastructure network, their visual amenity and landscape character value and their significance as demarcations of historic field patterns and townland boundaries. (Refer also to Chapter 4: Green Infrastructure). ➤ NCBH11 Objective 5: To ensure that intact hedgerows / trees will be maintained above the 120m contour line within the County ensuring that the strong rural character will not be diluted and that important heritage features and potential wildlife corridors are protected. 	
Regional Spatial and Economic Strategy 2019 - 2031	<p>Biodiversity and Natural Heritage</p> <p>RPO 7.15: Local authorities shall take opportunities to enhance biodiversity and amenities and to ensure the protection of environmentally sensitive sites and habitats, including where flood risk management measures are planned.</p>	<p>There will be no adverse effects on biodiversity as a result of the Proposed Development, and no cumulative impacts in this regard.</p> <p>The Proposed Development has been designed to avoid any effects on water quality and/or designated sites outside the site.</p>

Plans	Key Policies and Objectives directly related to European Sites and Biodiversity in the Zone of Influence	Assessment of Potential Impact on Ecological Receptors and Designated Sites
	<p>RPO 7.16: Support the implementation of the Habitats Directives in achieving an improvement in the conservation status of protected species and habitats in the Region and to ensure alignment between the core objectives of the EU Birds and Habitats Directives and local authority development plans.</p> <p>RPO 7.17: Facilitate cross boundary co-ordination between local authorities and the relevant agencies in the Region to provide clear governance arrangements and coordination mechanisms to support the development of ecological networks and enhanced connectivity between protected sites whilst also addressing the need for management of alien invasive species and the conservation of native species.</p> <p>RPO 7.18: Work with local authorities and state agencies to promote the development of all aspects of park management in the Wicklow National Park and the Slieve Bloom Mountains.</p> <p>RPO 7.19: Support the consideration of designating a National Park for the peatlands area in the Midlands.</p> <p>RPO 7.20: Promote the development of improved visitor experiences, nature conservation and sustainable development activities within the Dublin Bay Biosphere in cooperation with the Dublin Bay UNESCO Biosphere Partnership.</p>	<p>The Proposed Development has been subject to an EclA and AA.</p>
National Biodiversity Action Plan 2017-2021	<p>Target 6.2 - Sufficiency, coherence, connectivity and resilience of the protected areas network substantially enhanced by 2020.</p>	<p>There will be no adverse effects on designated sites or biodiversity as a result of the Proposed Development.</p> <p>The Proposed Development will not impact on connectivity within the wider area and will maintain watercourses within and adjacent to the development site in good condition.</p>

6.5.2 Other projects considered in the wider area

The potential for the proposed works to contribute to a cumulative impact on European Sites was considered. The National Planning Application Database was consulted on the 24/08/2022 for recently granted planning applications and those under consideration located in the immediate vicinity of the proposed development site. Granted and pending projects identified within an approximately 500m radius of the site from the last 5 years include:

6.5.2.1 Clonburris SDZ Infrastructure - (Planning ref. SDZ20A/0021).

6.5.2.1.1 Description of Project

On the 12th of August 2021, South Dublin County Council granted permission for development comprising *inter alia*:

- roads and drainage infrastructure works for the future development of the southern half of the overall Strategic Development Zone (SDZ) lands; the roads infrastructure works are for:
 - the construction of c.4.0km of a new road, known as Clonburris Southern Link Street,
 - a number of vehicular access spurs to facilitate future development of adjoining lands, a total of 8 new junctions (including 3 junctions to facilitate future road developments within the SDZ;
 - the drainage infrastructure works include 8 attenuation systems (with outfalls to Griffeen River, Kilmahuddrick Stream and existing storm sewers) including 4 ponds, 2 modular underground storage systems and 2 detention basins combined with modular underground storage systems all adjacent to proposed Clonburris Southern Link Street; surface water drainage culverts to existing watercourses;
 - ducting for public electrical services and utilities and the diversion of existing utilities is provided for within the proposed road corridor.

6.5.2.1.2 Identification of Potential for Cumulative Effects

The Appropriate Assessment Screening Report⁶ submitted for the project was consulted. The assessment concludes that *‘Following an examination, analysis and evaluation of the best available information, and applying the precautionary principle, it can be concluded that the possibility of any significant effects on any European sites, whether arising from the project alone or in combination with other plans and projects, can be excluded, for the reasons set out in Section 3.3 above. In reaching this conclusion, the nature of the project and its potential relationship with all European sites within the zone of influence, and their conservation objectives, have been fully considered. Therefore it is the professional opinion of the authors of this report that the application for consent for the proposed development does not require an Appropriate Assessment or the preparation of a Natura Impact Statement (NIS)’.*

Given that no pathways for significant effect on European Sites were identified associated with this development, no additional cumulative effects are anticipated in combination with the proposed development. Nor has any potential for different (new) effects resulting from the combination of the project in association with the proposed development been identified. Significant in-combination impacts are therefore not anticipated in combination with the proposed development.

6.5.2.2 Clonburris Phase 1A (Tile 1) - (Planning ref. SDZ21A/0022).

6.5.2.2.1 Description of Project

⁶ Scott Cawley Ltd. (2020). Appropriate Assessment Screening Report for Road Infrastructure Development at Clonburris Strategic Development Zone, Co. Dublin.

6.5.2.2.2 South Dublin County Council granted permission to Cairn Homes Properties Ltd. on the 23rd of August 2022 for the construction of 569 no. dwellings, a childcare facility, an innovation hub, open space and all associated site development works in the Clonburris South-West Development Area of the Clonburris SDZ Planning Scheme.

The development was comprised of 173 no. 2-storey houses that included 8 no. 2-bedroom, 153 no. 3-bedroom and 12 no. 4-bedroom houses, 148 no. duplex units comprised of 74 no. 2-bedroom and 74 no. 3-bedroom units in 16 no. 3-storey buildings, 248 no. apartments comprised of 108 no. 1-bedroom, 135 no. 2-bedroom and 5 no. 3-bedroom units in 3 no. blocks ranging in height from 4 to 6 no. storeys. The development also included for the provision of an innovation hub, a childcare facility, vehicular access routes and all associated site development works including footpaths, landscaping boundary treatments, public and private open space areas, 656 no. car parking spaces, 672 no. bicycle parking spaces, single storey ESB sub-stations/bike/bin stores, 2 no. 'Gateway' entrance signage (2), solar panels at roof level of apartments and all ancillary site development/construction works.

6.5.2.2.3 **Identification of Potential for Cumulative Effects**

The Appropriate Assessment Screening Report⁷ for the project was consulted. This assessment concludes that *'No Natura 2000 sites are within the zone of influence of this development. Having taken into consideration the effluent discharge from the proposed development works, the distance between the proposed development site to designated conservation sites, lack of direct hydrological pathway or biodiversity corridor link to conservation sites and the dilution effect with other effluent and surface runoff, it is concluded that this development would not give rise to any significant effects to designated sites. The construction and operation of the proposed development will not impact on the conservation objectives of features of interest of Natura 2000 sites'*.

Given that no pathways for significant effect on European Sites were identified associated with this development, no additional cumulative effects are anticipated in combination with the proposed development. Nor has any potential for different (new) effects resulting from the combination of the project in association with the proposed development been identified. Significant in-combination impacts are therefore not anticipated in combination with the proposed development.

6.5.2.3 **SDZ22A/0010 (Lands to the east)**

6.5.2.3.1 **Description of Project**

On the 4th of July 2022, Kelland Homes Ltd. applied for a proposed development within the SDZ on a 6.3Ha site within the townland of Cappagh, Dublin 22. The proposed development is located to the west of the Ninth Lock Road, south of the Dublin-Cork railway line, north of Cappaghmore housing estate and Whitton Avenue, and east of an existing carpark / park & ride facility at the Clondalkin Fonthill train station and the R113 (Fonthill Road).

The proposed development consists of the construction of 294 no. dwellings, creche and retail / commercial unit, which are comprised of 118 no. 2, 3 and 4-bedroom, 2 storey semi-detached and terraced houses, 104 no. 2 and 3-bedroom duplex units accommodated in 10 no. 3-storey buildings, 72 no. 1 and 2-bedroom apartments in 2 no. 4 and 6 storey buildings, 1 no. 2-storey creche and 1 no. 2-storey retail /commercial unit. The proposed development also provides for all associated site development works above and below ground, public & communal open spaces, hard & soft landscaping and boundary treatments, surface car parking (401 no. spaces), bicycle parking (797 no. spaces), bin & bicycle storage, public lighting, plant (M&E), utility services & 4 no. ESB sub-stations.

⁷ Altamar Ltd. (2021). *Appropriate Assessment Screening for a proposed development within the Clonburris South West Development Area of the Clonburris SDZ Planning Scheme 2019 at Clonburris, Co. Dublin.*

The application is currently under consideration by South Dublin County Council. On the 29th of August 2022 the Planning Authority requested additional information.

6.5.2.3.2 **Identification of Potential for Cumulative Effects**

The Appropriate Assessment Screening Report⁸ for the project was consulted. This assessment concludes that *'All European sites with a potential connection to the site of the proposed development at Clonburris SDZ under the source-pathway-receptor model were assessed for any likely significant effects of the development on their qualifying interests. The potential Zone of Influence was considered to extend up to 23.6km from the proposed development. All potential significant effects were ruled out based on either a lack of connection, the small magnitude or low likelihood of effects based primarily on the substantial distances separating the source and the receptor. It is therefore advised that the Appropriate Assessment process need not proceed any further and can be concluded with this Stage One screening report'*

Given that no pathways for significant effect on European Sites were identified associated with this development, no additional cumulative effects are anticipated in combination with the proposed development. Nor has any potential for different (new) effects resulting from the combination of the project in association with the proposed development been identified. Significant in-combination impacts are therefore not anticipated in combination with the proposed development.

6.5.2.4 **SD228/0001 Part 8 Development (Canal Extension Area)**

6.5.2.4.1 **Description of Project**

On the 13th of June 2022, South Dublin County Council approved a Part 8 residential development comprising 118 residential units made up of houses, duplexes, triplexes, an apartment building, landscape works, total site area approx. 2.5 ha at Bawnogue Road/Ashwood Drive, Clonburris, Clondalkin, Dublin 22.

6.5.2.4.2 **Identification of Potential for Cumulative Effects**

The Appropriate Assessment Screening Report⁹ for the project was consulted. This assessment concludes that *'It has been objectively concluded by Moore Group Environmental Services that:*

- 1. The Proposed Development is not directly connected with, or necessary to the conservation management of the European sites considered in this assessment*
- 2. The Proposed Development is unlikely to either directly or indirectly significantly affect the Qualifying interests or Conservation Objectives of the European sites considered in this assessment.*
- 3. The Proposed Development, alone or in combination with other projects, is not likely to have significant effects on the European sites considered in this assessment in view of their conservation objectives.*
- 4. It is possible to conclude that significant effects can be excluded at the screening stage.*

It can be excluded, on the basis of objective information, that the Proposed Development, individually or in combination with other plans or projects, will have a significant effect on a European site. An appropriate assessment is not, therefore, required.'

Given that no pathways for significant effect on European Sites were identified associated with this development, no additional cumulative effects are anticipated in combination with the proposed

⁸ RSK (2022). Appropriate Assessment Screening Report. Clonburris K1, Dublin 22.

⁹ Moore Group – Environmental Services (2022). Report for the purposes of Appropriate Assessment Screening. Canal Extension Clonburris Residential Development

development. Nor has any potential for different (new) effects resulting from the combination of the project in association with the proposed development been identified. Significant in-combination impacts are therefore not anticipated in combination with the proposed development.

6.5.2.5 Part 8 Development (Kishogue Southwest) - (SD228/0003)

6.5.2.5.1 Description of Project

The development of a Social, Affordable Rental and Affordable Purchase Housing project consisting of 263 new homes, new community facilities, three landscaped open spaces and associated site works was approved at the Council meeting held on the 11th of July 2022 on a site located on lands within Clonburris SDZ, primarily in the subsector known as Kishogue Southwest which is located on Lynches Lane to the West of the R136 Outer Ring Road.

6.5.2.5.2 Identification of Potential for Cumulative Effects

The Appropriate Assessment Screening Report¹⁰ for the project was consulted. This assessment concludes that *'There is considered to be no potential for likely significant effects on European sites as a result of the Proposed Development. Furthermore, the in-combination assessment concluded that there is no potential for in-combination effects to arise with any other projects or plans.'*

Therefore, in view of best scientific knowledge and on the basis of objective information, it is concluded that the Proposed Development, whether individually or in combination with other plans or projects, beyond reasonable scientific doubt is not likely to have significant effects on any European site. Consequently, there is considered to be no requirement to proceed to appropriate assessment and, subject to other requirements, the Proposed Development can be authorised.'

Given that no pathways for significant effect on European Sites were identified associated with this development, no additional cumulative effects are anticipated in combination with the proposed development. Nor has any potential for different (new) effects resulting from the combination of the project in association with the proposed development been identified. Significant in-combination impacts are therefore not anticipated in combination with the proposed development.

6.5.2.6 Other Small-scale developments

The majority of other granted or pending planning applications in the immediate vicinity of the proposed development site are related to the provision and/or alteration of one-off housing or amenity developments:

- Wastewater pumping station comprising of (a) below ground 24-hour emergency storage tank; (b) below ground inlet, wet well, flow meter and valve chambers; (c) control and welfare building with green roof and 2 odour control units; (d) boundary wall, fencing, entrance gate and landscaping; (e) site drainage system including a swale; (f) all associated ancillary and enabling works including hardstanding and access, located within the Clonburris Strategic Development Zone. (Planning ref. SDZ21A/0006)
- Internal separation of the house and associated granny flat to provide for 2 permanent houses and extension of rear garden. Part of the development site is located within the Clonburris Strategic Development Zone. (Planning ref. SDZ22A/0004)
- Retention of construction of: (1) single storey extension to front; (2) single storey kitchen/dining room extension to side and rear of dwelling and associated site works. (Planning ref. SD18B/0460)

¹⁰ AECOM (2022). Appropriate Assessment Screening Report. SDCC Clonburris Phase One. Clonburris Strategic Zone Development, Co. Dublin

- Single storey extension to front and rear; conversion of garage to habitable room and a first-floor extension on the side. (Planning ref. SD18B/0475)
- Ground floor garage conversion & porch extension with lean-to roof; first floor extension to side (above existing flat roof) with extended main hipped roof & new roof windows to side and rear; two off street car parking spaces and associated site works. (Planning ref. SD18B/0507)
- First floor extension to side over converted garage, with projecting bay window to rear; ground floor extension to front incorporating porch and extended living and play rooms; attic conversion to utility/storage incorporating 'Velux' type rooflights to all aspects with solar panels to rear; external insulation to all elevations; demolition of garden shed replacing with new shed; all associated site works and drainage. (Planning ref. SD19B/0207)
- Attic conversion with dormer window to rear consisting of wet room and sensory playroom area for family use and all associated site works. (Planning ref. SD18B/0393)
- 59sq.m single-storey extension to the side and rear of existing dwelling. (Planning ref. SD18B/0260)
- Single storey extension at side. (Planning ref. SD20B/0420)
- Removal of single storey outbuilding to side of dwelling and construction of new single storey extension (36.68sq.m) to front and side of dwelling and associated site works. (planning ref. SD18B/0094)
- Retention of a single storey extension to rear and existing storey garage to front side and rear; erect a first floor extension to front side and rear above existing garage and all ancillary site works. (Planning ref. SD20B/0010)
- Two storey side extension to existing two storey semi-detached house, permission to widen the existing vehicular entrance and all associated site works. (Planning ref. SD18B/0267)
- Permission to sub-divide site; construct a two storey family home to incorporate existing garage and extend over portion of the living room of the existing dwelling house, also a new entrance to front of site, opening a new pedestrian side access and all necessary and ancillary site works and services to side of existing house. (Planning ref. SD18A/0252)

Due the relatively small-scale nature of many of the above developments, the separation in distance, the absence of effects identified as a result of the Proposed Development and absence of in-combination impact pathways identified, the above developments are do not represent any potential for in-combination impacts.

6.5.3

Conclusion of Cumulative Assessment

The Proposed Development has been considered cumulatively with other plans and projects as described in Sections 6.5.1 and 6.5.2. Particular focus has been placed on those plans and projects that are in closest proximity to the Proposed Development and those that could be potentially affected via downstream surface water.

Following the detailed surveys undertaken and impact assessment provided in Section 4.8, it is concluded that there will be no significant residual habitat loss, disturbance, deterioration of water quality etc., associated with the Proposed Development and therefore it cannot contribute to any cumulative effect when considered in combination with other plans and projects. Following implementation of mitigation there will be no significant residual impacts on ecological receptors associated with the Proposed Development and therefore no potential for individual or cumulative negative effects on biodiversity.

No significant effects as a result of the Proposed Development in relation to disturbance, displacement or mortality of faunal species has been identified. Therefore, there is no potential for the Proposed Development to contribute to any cumulative effect in this regard.

The Proposed Development will not result in any significant residual effects on biodiversity and will not contribute to any cumulative effect when considered in combination with other plans and projects.

In the review of the projects and plans that was undertaken, no connection that could potentially result in additional or cumulative impacts was identified. Neither was any potential for different (new) impacts resulting from the combination of the various projects and plans in association with the Proposed Development

CONCLUSION

Taking the above information and detailed assessment set out in the preceding sections of this EcIA into consideration, and having regard to the precautionary principle, it is considered that the proposed development will not result in the loss of habitats or species of high ecological significance and will not have any significant effects on the ecology of the Site or the wider area.

The potential residual impacts on ecological receptors will not be significant and no potential for the proposed development to contribute to any cumulative impacts on biodiversity when considered in combination with other plans and projects was identified.

Provided that the development is constructed in accordance with the design and best practice that is described within this application, significant effects on biodiversity are not anticipated at any geographic scale.

BIBLIOGRAPHY

Birds Directive (2009/47/EC) – http://ec.europa.eu/environment/naturelegislation/birdsdirective/index_en.htm

BirdWatch Ireland website <http://www.birdwatchireland.ie/>

Collins, J. (ed) (2016) *Bat Surveys for Professional Ecologists – Good Practice Guidelines (3rd edn)*. The Bat Conservation Trust, England.

DBFL (2022) *Infrastructure Design Report*, Clonburris T3.

DEHLG (2009) *Appropriate Assessment of Plans and Projects in Ireland: Guidance for Planning Authorities*. DEHLG, Dublin.

DoEHLG (2010). *Appropriate Assessment of Plans and Projects in Ireland. Guidance for Planning Authorities*. Revision, February, 2010. Department of the Environment, Heritage and Local Government.

EC (2001) *Assessment of plans and projects significantly affecting Natura 2000 sites: Methodological guidance on the provisions of Articles 6(3) and (4) of the Habitats Directive 92/43/EEC*.

EC (2002) *Assessment of Plans and Projects Significantly Affecting Natura 2000 Sites: Methodological guidance on the provisions of Article 6(3) and (4) of the Habitats Directive 92/43/EEC*, Office for Official Publications of the European Communities, Luxembourg. European Commission.

EC (2007a) *Guidance document on Article 6(4) of the 'Habitats Directive' 92/43/EEC – Clarification of the concepts of: alternative solutions, imperative reasons of overriding public interest, compensatory measures, overall coherence, opinion of the commission*. Office for Official Publications of the European Communities, Luxembourg. European Commission.

EC (2013) *Interpretation Manual of European Union Habitats*. Version EUR 28. European Commission, DG Environment.

EC (2018) *Managing Natura 2000 Sites: the provisions of Article 6 of the 'Habitats' Directive 92/43/EEC*, Office for Official Publications of the European Communities, Luxembourg. European Commission.

EPA website: <http://www.epa.ie>.

EPA (2010) McGarrigle *et al.*, *Water Quality in Ireland 2007-2009*

EPA (2022) *Guidelines on the information to be contained in Environmental Impact Statements*

European Communities (Conservation of Wild Birds) Regulations, 1985, SI 291/1985 & amendments – <http://www.irishstatutebook.ie>.

European Communities (Environmental Impact Assessment) Regulations, 1989 to 2006.

European Communities (Natural Habitats) Regulations, SI 94/1997, SI 233/1998 & SI 378/2005 – <http://www.irishstatutebook.ie>.

Fossitt, J. A. (2000). *A Guide to Habitats in Ireland*. Dublin: The Heritage Council.

Inland Fisheries Ireland website <http://www.fisheriesireland.ie/>

Habitats Directive (92/43/EEC).

Kelly, F. *et al.* (2010) Sampling Fish for the Water Framework Directive, Rivers 2010, Shannon International River Basin District, Inland Fisheries Ireland Annual Report

Murphy, D.F. (2004) Requirements for the Protection of Fisheries Habitat During Construction and Development Works at River Sites. Eastern Regional Fisheries Board, Dublin.

National Biodiversity Data Centre website <http://www.biodiversityireland.ie/>

O'Reilly, P. (2009) Rivers of Ireland, a Flyfisher's Guide Shropshire, UK

NPWS (2013) The Status of EU Protected Habitats and Species in Ireland. Conservation Status in Ireland of Habitats and Species listed in the European Council Directive on the Conservation of Habitats, Flora and Fauna 92/43/EEC.

NPWS of the DEHLG (2013) The Report on Status of Habitats and Species in Ireland: Technical Reports and Forms.

NPWS Protected Site Synopses available on <http://www.npws.ie/en/ProtectedSites/>.

Preston C.D. *et. al.* (2002). New Atlas of the British and Irish Flora. Oxford University Press.

The Tree File (2022) Arboricultural Report, Proposed Development, Clonburris Phase T3, Dublin 22.

Water status data available on <http://www.epa.ie> and <http://www.wfdireland.ie>

Wildlife Act 1976 and Wildlife (Amendment) Act 2000.

Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora (Habitats Directive) and Directive 2009/147/EC (codified version of Directive 79/409/EEC as amended) (Birds Directive) – transposed into Irish law as European Communities (Birds and Natural Habitats) Regulations 2011 (SI 477/2011).



APPENDIX 1

BAT ASSESSMENT REPORT

