

Winter Bird Survey Report

Proposed Strategic Housing Development, Rosshill, Galway





DOCUMENT DETAILS

Client:

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200607

Project Title:

Proposed Strategic Housing Development, Rosshill, Galway

Project Number:

Document Title:

Document File Name:

Prepared By:

Winter Bird Survey Report

200607-F-BS-2021-05-19

MKO Tuam Road Galway Ireland H91 VW84



Rev	Status	Date	Author(s)	Approved By
01	Final	19/05/2021	СМ	JΗ

Table of Contents

1.	INTRODUCTION	2
	1.1 Statement Of Authority	2
2.	METHODLOGY	3
	2.1 Desk Study	3 3 3 4
3.	RESULTS	6
	3.1 Desk Study	6 8 11 2 3 4 5 5
4.	SUMMARY OF FIELD SURVEY AND DISCUSSION	2
5.	CONCLUSION	3
6.	REFERENCES	4

INTRODUCTION 1.

MKO has been appointed by Alber Developments Ltd to undertake winter bird surveys for the period October 2020 to March 2021 for a proposed Strategic Housing Development scheme located on lands at Rosshill Road, Roscam, Co. Galway. A site location map is provided as Figure 1.1.

The objective of the winter surveys is to assess the suitability of the proposed development site to support a variety of wintering wildfowl and waders, including the bird species listed as Special Conservation Interests (SCIs) for the Inner Galway Bay Special Protection Area (SPA).

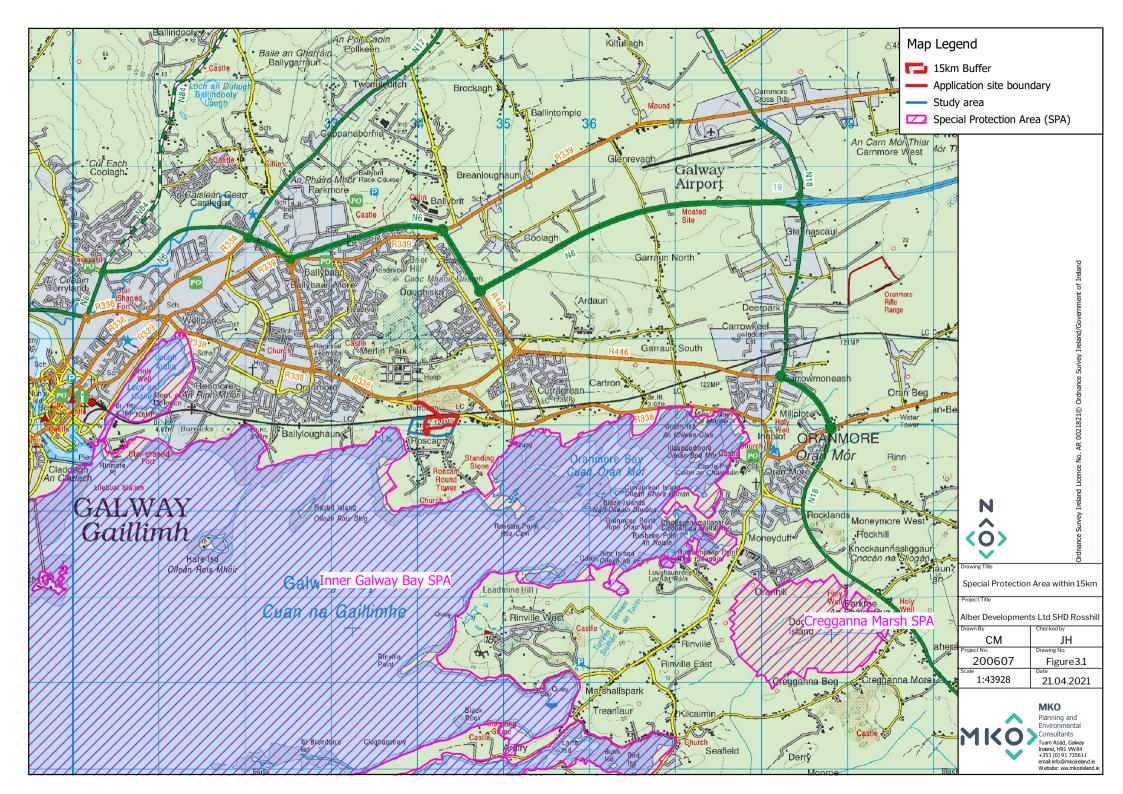
The assessment objectives can be summarised as follows:

- To undertake field surveys to assess for the presence of suitable habitat and the occurrence of wintering bird species within and adjacent to the development site.
- To identify and assess the direct, indirect and cumulative effects of the proposed development on wintering bird species, in particular the Special Conservation Interest bird species of the Inner Galway Bay SPA (Site Code: 004031).
- The study seeks to determine the distribution of the species within and adjacent to the • proposed development site and to determine the presence of feeding/roosting areas within/adjacent to the proposed development site.

Section two of this report provides the methodology, constraints, survey information, weather conditions and survey coverage. The results of the desk study and field surveys are presented in section three of this report. An evaluation and discussion of the results is provided in Section four. The concluding section of the report considers the findings and potential impacts of the proposal in-combination with other developments within the environs of designated sites.

Statement Of Authority

Bird surveys were undertaken by Julie O'Sullivan (B.Sc, M.Sc) and Colin Murphy (B.Sc. M.Sc). Julie is an experienced ornithologist with over five years professional experience. This report has been prepared by Colin Murphy and has been reviewed by John Hynes. Colin is an experienced ecologist with over one years 'experience. John Hynes (B.Sc., M.Sc., MCIEEM) is an experienced ecologist who has over 10 years' experience in ecological assessment.



2. **METHODLOGY**

2.1 Desk Study

A number of sources were assessed to determine the likely usage of both breeding and wintering bird species, including Bird Atlases, National Biodiversity Data Centre (NDBC), birdwatch Ireland and Conservation Objectives Supporting Documents from the National Parks and Wildlife Service (NPWS) for nearby Special Protection Areas (SPAs). Results of the desk study are provided in section 3.1.

2.2 Field Survey Methodology

Prior to the commencement of surveys, an initial field visit was undertaken to assess the habitats on site and plan the surveys as well as to identify suitable vantage points. The survey area covered the development site and the area of shoreline within Galway Bay SPA, approximately 600m west of the proposed development site. The surveys to were undertaken at the site over six dates; 30th October 2020, 23rd November 2020, 14th December 2020 21st January 2021, 24th February 2021 and 23rd March 2201. Surveys were undertaken monthly at alternate high/low tides, within two hours of high/low tide. A combination of low and high tide counts has been used due to the differences in behaviour and site use between tidal states, with different species likely to be foraging and roosting in different areas of Inner Galway Bay SPA and the surrounding terrestrial habitats, depending on the stage of the tidal cycle.

The surveys were undertaken by appropriately qualified ornithologists. All observations were recorded, and detailed point data was gathered for each species observation, with all bird species denoted using standard British Trust for Ornithology (BTO) codes and with the number of each species recorded next to each registration. The species recorded in the surveys were those covered by Irish Wetlands Bird Survey (I-WeBS) counts, i.e. all divers, grebes, cormorant, shag, herons, swans, geese, ducks, rails, crakes, waders, gulls and kingfisher. However, in addition to this, all other bird species, including all common and widespread passerines, were also recorded from within the proposed development site.

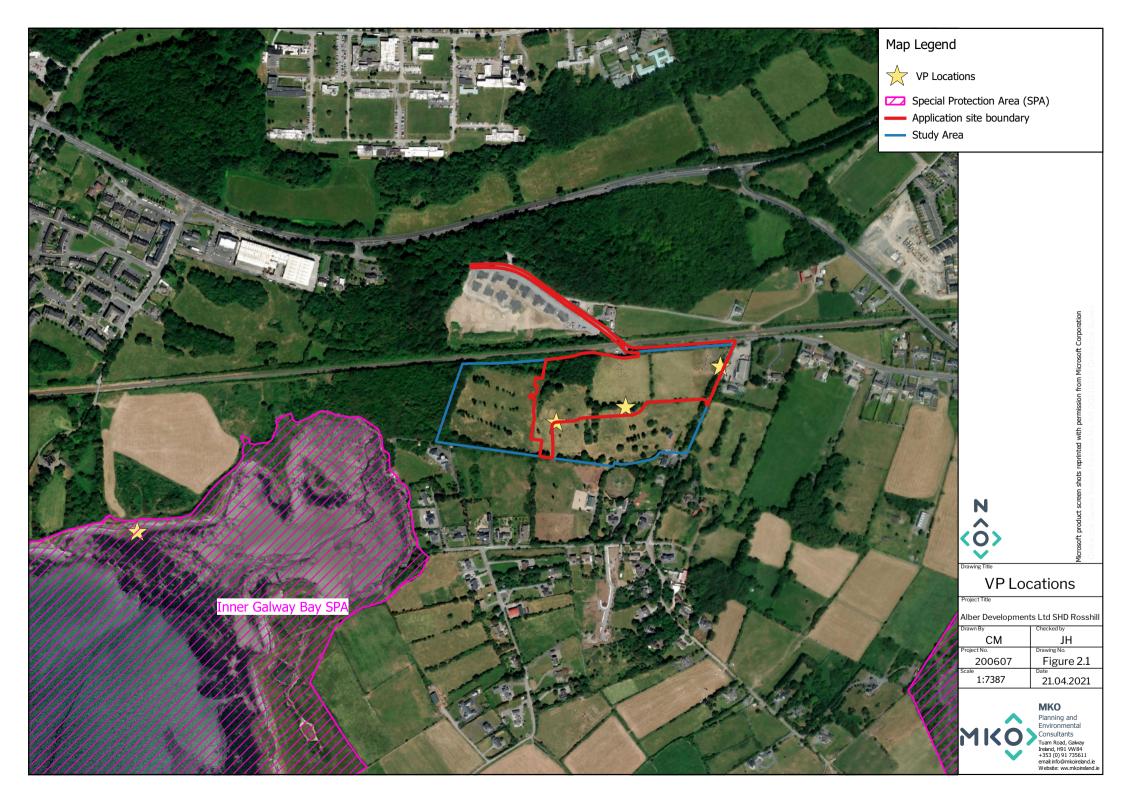
2.2.1 I-WeBS Surveys

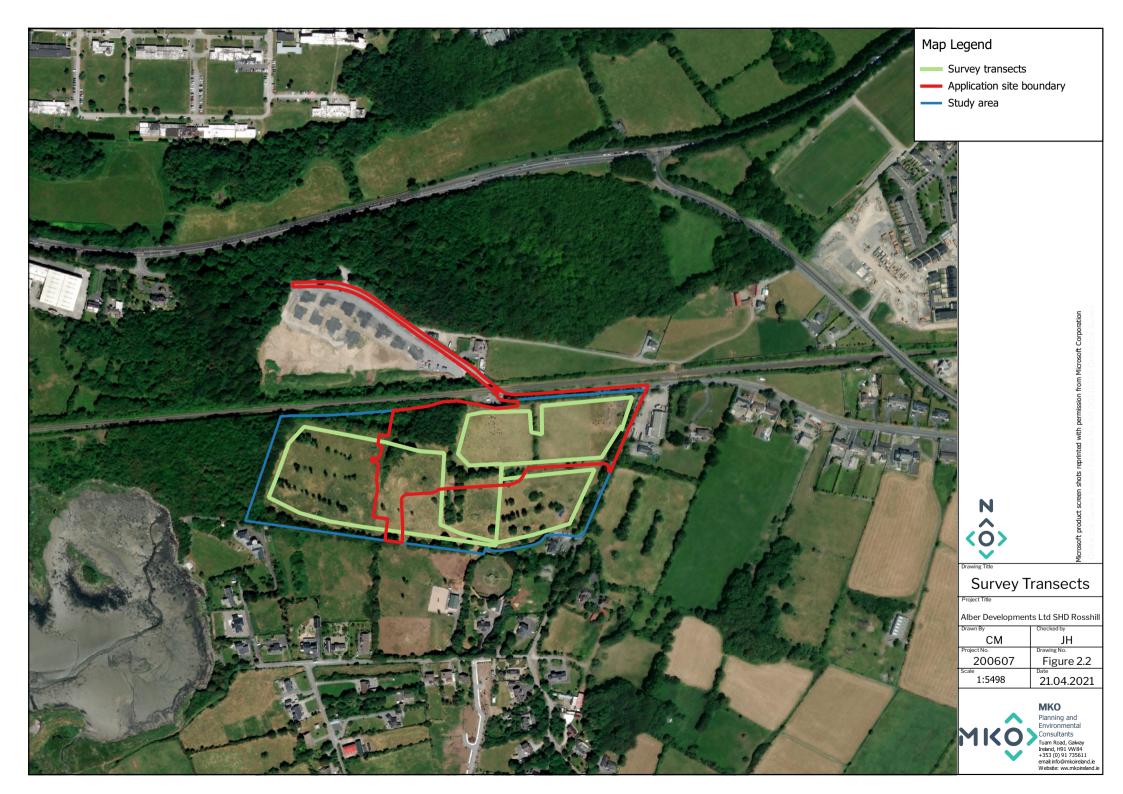
The winter bird surveys at the nearby SPA followed the Irish Wetland Bird Survey (I-WeBS) methodology; the simple 'look-see' method, whereby all birds present within a predefined area are counted (Gilbert et al., 1998; Birdwatch Ireland, 2018). The surveys were carried out at suitable vantage points, located overlooking sections of Inner Galway Bay SPA in close proximity to the proposed development site. Vantage points were chosen to have as large as possible a view of the identified wetland site and potential adjacent daytime foraging habitat in the vicinity of the proposed development. Vantage points focused on areas which were deemed to be of likely significance to wintering waterbirds of Inner Galway Bay SPA.

Details of the surveys carried out including date, time, duration, location and weather conditions are provided in Table 2.2. A map of the vantage point locations used during the surveys is presented in Figure 2.1.

2.2.2 Transects

Walked transects were undertaken within the site boundary. During the surveys species of note were recorded both within and adjacent to the development site. All bird species were denoted using standard British Trust for Ornithology (BTO) codes and with the number of each species recorded next to each registration. Transects walked are shown in Figure 2.2. During the surveys species of note were recorded both within and adjacent to the development site.





2.2.3 Survey Details

Details of the surveys including survey dates, weather conditions and survey duration are provided in Table 2.1.

Table 2-1 Survey			
Date	Survey duration	Tide	Weather conditions
30/10/2020	3 hours	Low tide	Wind speed: Light breeze
			Cloud cover: approx.60%
			Visibility: Good (> 2km)
			Rain: No
			Frost: None
			Snow: None
23/11/2020	3 hours	High tide	Wind speed; Moderate breeze
			Cloud cover: approx.100%
			Visibility: Poor (<2km)
			Rain: Yes
			Frost: None
			Snow: None
14/12/2020	3 hours	Low tide	Wind speed: Light breeze
			Cloud cover: approx. 80%
			Visibility: Good (> 2km)
			Rain: No
			Frost: None
			Snow: None
21/01/2021	3 hours	High tide	Wind speed: Light breeze
			Cloud cover: approx. 70%
			Visibility: Good (> 2km)
			Rain: No
			Frost: Yes
			Snow: None
24/02/2021	3 hours	Low tide	Wind speed: Light breeze
			Cloud cover: approx. 60%
			Visibility: Good (>2km)
			Rain: No
			Frost: No
			Snow: No
23/03/2021	3 hours	High tide	Wind speed: Moderate breeze
			Cloud cover: 40%
			Visibility: Good
			Rain: No
			Frost: No
			Snow: No

2.2.4 Survey Constraints

Constraints and limitations of the survey were identified during the course of the undertaking the surveys. Examples of survey limitations and survey constraints are listed in the following sub-sections. However, no significant survey constraints limited the survey approach and a comprehensive assessment was undertaken.

Surveys were undertaken during optimal weather conditions where possible as poor weather conditions and high wind can lead to decreased bird movements and hinder surveyor visibility.

All lands within the proposal boundary were accessible during the survey visits. Surrounding private lands were not accessed. However, these lands were scanned using a spotting scope from elevated vantage points along the public road. Any significant flocks of wintering wildfowl or waders are typically recorded using such an approach.

3. **RESULTS**

3.1 Desk Study

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).

3.1.1.1 Breeding and Wintering Bird Atlases

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 those species found in the relevant hectad (M32) which are recorded as breeding in the most recent atlas. It also provided species that have been recorded within the relevant tetrads (M32M & M32H) on National Biodiversity Data Centre (NBDC) datasets as well as those 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.

Seven species listed under Annex I of the EU Birds Directive have been recorded within the relevant tetrad (M32M & M32H) A further four red-listed birds of conservation concern have been recorded breeding within the relevant tetrads.

Common Name	Scientific name	Bird Atlas		Designation
		Breeding 2008- 2011	Wintering 2007- 2011	
Bar-tailed Godwit	Limosa lapponica	No	Present	Protected EU Birds Directive
Dunlin	Calidris alpina	Present (non- breeding)	Present	Annex I Bird Species
Little Egret	Egretta garzetta	Confirmed	Present	
Sandwich Tern	Sterna sandvicensis	Present (non- breeding)	No	
Arctic Tern	Sterna paradisaea	Confirmed	No	
Common Tern	Sterna hirundo	Confirmed	No	
Great Northern Diver	Gavia immer	No	Present	
Black-headed Gull	Larus ridibundus	Confirmed	Present	Birds of Conservation
Common Redshank	Tringa totanus	No	Present	Concern – Red list
Herring Gull	Larus argentatus	Present (non- breeding)	Present	
Kestrel	Falco tinnunculus	Present (non- breeding)	Present	

Table 3.1 – NBDC Bird data and Bird Atlas data (Tetrad M32M &	& M32H)	

311.2 Sites designated for Wintering Bird Species within 15km of the Proposed Development Site

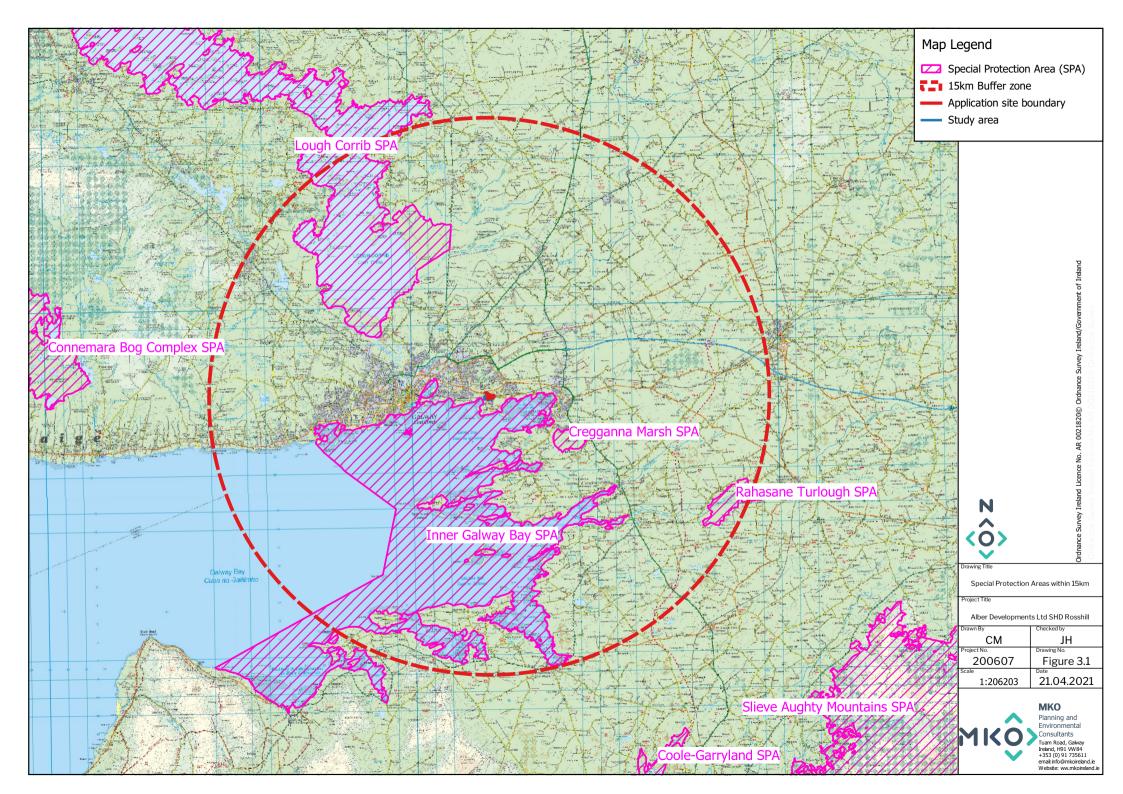
Using QGIS Software (Version 3.16.5) designated sites within a 15km radius of the proposed development site were identified. The site synopses and conservation objectives of these sites, as per the NPWS website (www.npws.ie), were considered at the time of preparation of this report (20/04/2021). Details of these sites, including their distance from the proposed development site, are provided in Table 3.2. Figure 3.1 shows the location of the proposed works in relation to all sites designated for wintering bird species within 15 km.

EU Designated Site	Distance from Proposed development site (km)	Qualify Interests/Special Conservation Interests for which the Natura 2000 Site has been designated (Sourced from NPWS online Conservation Objectives, www.npws.ie on the 19/04/2021)	Conservation Objective
Inner Galway Bay SPA (004031)	0.09km	Great Northern Diver (<i>Gavia immer</i>) [A003] Cormorant (<i>Phalacrocorax carbo</i>) [A017] Grey Heron (<i>Ardea cinerea</i>) [A028] Light-bellied Brent Goose (<i>Branta bernicla hrota</i>) [A046] Wigeon (<i>Anas penelope</i>) [A050] Teal (<i>Anas crecca</i>) [A052] Shoveler (<i>Anas clypeata</i>) [A056] Red-breasted Merganser (<i>Mergus serrator</i>) [A069 Ringed Plover (<i>Charadrius hiaticula</i>) [A137] Golden Plover (<i>Pluvialis apricaria</i>) [A140] Lapwing (<i>Vanellus vanellus</i>) [A142] Dunlin (<i>Calidris alpina</i>) [A149] Bar-tailed Godwit (<i>Limosa lapponica</i>) [A157] Curlew (<i>Numenius arquata</i>) [A160] Redshank (<i>Tringa totanus</i>) [A162] Turnstone (<i>Arenaria interpres</i>) [A169] Black-headed Gull (<i>Chroicocephalus ridibundus</i>)	This site has site specific conservation objectives (Version 1, 2013). Each species has the conservation objective to: "Maintain the favourable conservation condition of the bird species listed as Special Conservation Interests for this SPA." This site has the additional conservation objective: "To maintain the favourable conservation condition of wetland habitat in Inner Galway Bay SPA as a resource for the regularly occurring migratory waterbirds that utilise it," (Version 1, NPWS, 2013)

Table 3.2 – EU Designated sites within 15km of the proposed works

EU Designated Site	Distance from Proposed development site (km)	Qualify Interests/Special Conservation Interests for which the Natura 2000 Site has been designated (Sourced from NPWS online Conservation Objectives, www.npws.ie on the 19/04/2021)	Conservation Objective
		[A179] Common Gull (<i>Larus canus</i>) [A182] Sandwich Tern (<i>Sterna sandvicensis</i>) [A191] Common Tern (<i>Sterna hirundo</i>) [A193] Wetland and Waterbirds [A999]	
Cregganna Marsh SPA (004142)	3.8km	Greenland White-fronted Goose (<i>Anser albifrons flavirostris</i>) [A395]	This site has the generic conservation objective to: "Maintain the favourable conservation condition of the bird species listed as Special Conservation Interests for this SPA," (Generic Version 8.0, NPWS, 2021).
Lough Corrib SPA (004042)	6.4km	Gadwall (Anas strepera) [A051] Shoveler (Anas clypeata) [A056] Pochard (Aythya ferina) [A059] Tufted Duck (Aythya fuligula) [A061] Common Scoter (Melanitta nigra) [A065] Hen Harrier (Circus cyaneus) [A082] Coot (Fulica atra) [A125] Golden Plover (Pluvialis apricaria) [A140] Black-headed Gull (Chroicocephalus ridibundus) [A179] Common Gull (Larus canus) [A182] Common Tern (Sterna hirundo) [A193] Arctic Tern (Sterna paradisaea) [A194] Greenland White-fronted Goose (Anser albifrons flavirostris) [A395] Wetland and Waterbirds [A999]	 This site has the generic conservation objective to: "Maintain the favourable conservation condition of the bird species listed as Special Conservation Interests for this SPA," (Generic Version 8.0, NPWS, 2021). This site has the additional conservation objective: "To maintain or restore the favourable conservation condition of the wetland habitat at Lough Corrib SPA as a resource for the regularly-occurring migratory waterbirds that utilise it."

EU Designated Site	Distance from Proposed development site (km)	Qualify Interests/Special Conservation Interests for which the Natura 2000 Site has been designated (Sourced from NPWS online Conservation Objectives, www.npws.ie on the 19/04/2021)	Conservation Objective
Rahasane Turlough SPA	13.07km	Whooper Swan (<i>Cygnus cygnus</i>) [A038] Wigeon (<i>Anas penelope</i>) [A050] Golden Plover (<i>Pluvialis apricaria</i>) [A140]	This site has the generic conservation objective to:
(004089)		Black-tailed Godwit (<i>Limosa limosa</i>) [A156] Greenland White-fronted Goose (<i>Anser albifrons flavirostris</i>) [A395] Wetland and Waterbirds [A999]	"Maintain the favourable conservation condition of the bird species listed as Special Conservation Interests for this SPA," (Generic Version 8.0, NPWS, 2021).



3.1.1.3 Inner Galway Bay SPA (0004031)

A detailed conservation objectives document is available for Inner Galway Bay SPA (www.npws.ie, accessed on 19/04/2021). The Special Conservation Interests of Inner Galway Bay SPA and the conservation objective for each species is listed in Table 3.2.

Table 3.2- SCIs of Inner Galway Bay SPA	
Special Conservation Interests	Conservation Objectives
Common Gull (Larus canus) [A182]	Maintain the favourable conservation condition of the Special Conservation Interest of Inner
Great Northern Diver (Gavia immer) [A003]	Galway Bay SPA.
Cormorant (<i>Phalacrocorax carbo</i>) [A017]	
Grey Heron (Ardea cinerea) [A028]	
Light-bellied Brent Goose (<i>Branta bernicla hrota</i>) [A046]	
Wigeon (Anas penelope) [A050]	
Teal (Anas crecca) [A052]	
Shoveler (Anas clypeata) [A056]	
Red-breasted Merganser (Mergus serrator) [A069]	
Ringed Plover (Charadrius hiaticula) [A137]	
Golden Plover (<i>Pluvialis apricaria</i>) [A140]	
Lapwing (Vanellus vanellus) [A142]	
Dunlin (<i>Calidris alpina</i>) [A149]	
Bar-tailed Godwit (<i>Limosa lapponica</i>) [A157]	
Curlew (Numenius arquata) [A160]	
Redshank (Tringa totanus) [A162]	
Turnstone (Arenaria interpres) [A169]	
Black-headed Gull (<i>Chroicocephalus ridibundus</i>) [A179]	
Sandwich Tern (Sterna sandvicensis) [A191]	
Common Tern (Sterna hirundo) [A193]	
Wetland and Waterbirds [A999]	To maintain the favourable conservation condition of wetland habitat in Inner Galway

Table 3.2- SCIs of Inner Galway Bay SPA

Special Conservation Interests	Conservation Objectives
	Bay SPA as a resource for the regularly occurring migratory waterbirds that utilise it.

A review of desktop literature pertaining to the SPA was conducted. The Site Synopsis, as updated in 2014, states;

"Inner Galway Bay supports an excellent diversity of wintering wetland birds, with divers, grebes, cormorants, dabbling duck, sea duck and waders all well represented. There are internationally important wintering populations of Great Northern Diver (88) and Light-Bellied Brent Goose (676) and nationally important wintering populations of an additional sixteen species i.e. Black-throated Diver (36), Cormorant (266), Grey Heron (102), Wigeon (1,168), Teal (700), Red-breasted Merganser (249), Ringed Plover (335), Golden Plover (2,030), Lapwing (3,969), Dunlin (2,155), Bartailed Godwit (447), Curlew (697), Redshank (505), Turnstone (182), Black-headed Gull (1,941) and Common Gull (1,066) - all figures given are five year mean peaks for the seasons 1995/96 to 1999/2000. Of note is that the populations of Red-breasted Merganser and Ringed Plover represent 6.8% and 2.3% of the respective all-Ireland totals. Other species which occur in notable numbers include Little Grebe (35), Longtailed Duck (21), Scaup (44) and Herring Gull (216). In addition, the following species also use the site: Great Crested Grebe (16), Mallard (200), Common Scoter (87), Oystercatcher (576), Grey Plover (60), Black-tailed Godwit (46), Mute Swan (150) and Great Black-backed Gull (129). The site provides both feeding and roost sites for most of the species. Little Egret, a species which has recently colonised Ireland, also occurs at this site."

3.1.1.4 Creganna March SPA (004142)

A generic conservation objectives document is available for Cregganna Marsh SPA (www.npws.ie, accessed on 19/04/2021). The Special Conservation Interests of Cregganna Marsh SPA and the conservation objective for each species is listed in Table 3.4 below.

Special Conservation Interests	Conservation Objectives
Greenland White-fronted Goose (Anser albifrons	This site has the generic conservation objective
	to:
flavirostris) [A395]	
	"Maintain the favourable conservation
	condition of the bird species listed as Special
	Conservation Interests for this SPA," (Generic
	Version 8.0, NPWS, 2021).

Table 3.4- SCIs of Creganna Marsh SPA

A review of desktop literature pertaining to the SPA was conducted. The Site Synopsis, as updated in 2015, states; states that the population of Greenland White Fronted Goose for which the SPA was designated was a sub-population of the population that form the Rahasane flock. The standard data form, updated in 2017, lists the population size as 129 individuals and states;

"Cregganna Marsh is of importance as it is the principal alternative feeding site for the nationally important population of Anser albifrons flavirostris that is based at nearby Rahasane turlough. Numbers using Cregganna Marsh vary between winters but in most winters the qualifying threshold for national importance is exceeded."

3.1.1.5 Lough Corrib SPA (004042)

A generic conservation objectives document is available for Lough Corrib SPA (www.npws.ie, accessed on 19/04/2021). The Special Conservation Interests of Lough Corrib SPA and the conservation objective for each species is listed in Table 3.5 below.

Table 3.5- SCIs of Lough Corrib SPA	
Special Conservation Interests	Conservation Objectives
Gadwall (Anas strepera) [A051]	To maintain or restore the favourable conservation condition of the bird species
Shoveler (Anas clypeata) [A056]	· ·
Pochard (<i>Aythya ferina</i>) [A059]	listed as Special Conservation Interests for Lough Corrib SPA.
Tufted Duck (<i>Aythya fuligula</i>) [A061]	
Common Scoter (Melanitta nigra) [A065]	
Hen Harrier (<i>Circus cyaneus</i>) [A082]	
Coot (Fulica atra) [A125]	
Golden Plover (<i>Pluvialis apricaria</i>) [A140]	
Black-headed Gull (<i>Chroicocephalus ridibundus</i>) [A179]	
Common Gull (Larus canus) [A182]	
Common Tern (<i>Sterna hirundo</i>) [A193]	-
Arctic Tern (Sterna paradisaea) [A194]	
Greenland White-fronted Goose (<i>Anser albifrons flavirostris</i>) [A395]	
Wetland and Waterbirds [A999]	To maintain or restore the favourable conservation condition of the wetland habitat at Lough Corrib SPA as a resource for the regularly-occurring migratory waterbirds that utilise it.

A review of desktop literature pertaining to the SPA was conducted. The Site Synopsis, as updated in 2014, states;

"Lough Corrib is an internationally important site that regularly supports in excess of 20,000 wintering waterbirds including an internationally important population of wintering Pochard (10,107) – except where indicated all figures are five year mean peaks for the period 1995/96 to 1999/2000. The site also supports nationally important populations of wintering Greenland White-fronted Goose (160 - five year mean peak for the period 1994/95 to 1998/99), Gadwall (48), Shoveler (90), Tufted Duck (5,486), Coot (14,426) and Golden Plover (1,727). Other species which occur

include Mute Swan (182), Whooper Swan (35), Wigeon (528), Teal (74), Mallard (155), Goldeneye (74), Lapwing (2,424) and Curlew (114). In winter nationally important numbers of Hen Harrier (8 - four year mean peak count between 2006 and 2009) also utilise the site as a communal roost. Lough Corrib is also a traditional breeding site for gulls and terns, with various islands being used for nesting each year. There are important colonies of Common Tern (37 pairs in 1995) and Arctic Tern (60 pairs in 1995). The site supports substantial colonies of Black-headed Gull (431 pairs in 2000) and Common Gull (186 pairs in 2000), these representing 3% and 11% of the respective all-Ireland totals. Small numbers of Lesser Black-backed Gull, Great Black-backed Gull and Herring Gull have also been recorded breeding within the site."

3.1.1.6 Rahasane Turlough SPA (004089)

A generic conservation objective document is available for Lough Gara (<u>www.npws.ie</u>, accessed on 19/04/2021). The Special Conservation Interest of Rahasane Turlough SPA and the conservation objectives for the species is listed in Table 3.6 below.

Special Conservation Interests	Conservation Objective
Whooper Swan (<i>Cygnus cygnus</i>) [A038]	To maintain the favourable conservation condition of wetland habitat in Rahasane
Wigeon (Anas penelope) [A050]	Turlough SPA as a resource for the
Golden Plover (<i>Pluvialis apricaria</i>) [A140] Black-tailed Godwit (<i>Limosa limosa</i>)	regularly occurring migratory waterbirds that utilise it.
[A156]	
Greenland White-fronted Goose (<i>Anser albifrons flavirostris</i>) [A395]	
Wetland and Waterbirds [A999]	

Table 3.6- SCIs of Rahasane Turlough SPA

The following extract has been taken from the Site Synopsis;

"Rahasane is a traditional site for Greenland White-fronted Goose, and supports a population of national importance (157 individuals - five year mean peak for the period 1994/95 to 1998/99). It is of international importance for Black-tailed Godwit (437 - all figures are five year mean peaks for the period 1995/96 to 1999/2000). It also has nationally important populations of Whooper Swan (165), Wigeon (3,430), and Golden Plover (6,613). The site has the largest inland population of Dunlin (864) in the country and also supports Mute Swan (57), Teal (307), Mallard (142), Pintail (19), Shoveler (28), Tufted Duck (32), Grey Heron (31), Lapwing (2,220), Curlew (197), Redshank (134) and Black-headed Gull (280). Little Egret, a species which has recently colonised Ireland, also occurs at this site"

3.2 Field Survey

The following section provides the results of the six site visits undertaken (October 2020-March 2021, inclusive).

3.2.1 Species records within the Rosshill site

Table 3.7 provides an overview of the target species of conservation interest recorded during the surveys carried out between October and March 2020/2021. Non-target bird species recorded within the development site are presented in Table 3.8 along with their Birds of Conservation Concern in Ireland (BoCCI) status. No target species were recorded roosting or feeding within the proposed development site.

During each of the site visits undertaken, there were observations of Special Conservation Interests species associated with the Inner Galway Bay SPA. This included observations of Curlew, and Blackheaded Gull flying over the development site. A Peregrine was recorded flying through the western section of the site during the October site visit. A Kestrel was recorded flying over the site and hunting in the woodland to the north west of the site during the December, January and February site visits. SCIs of Inner Galway Bay flight lines recorded during the survey are provided in Figure 3.2.

Species	Number of Individuals	Notes	Date	Conservation status
Black-headed Gull (<i>Larus ridibundus</i>)	1	Flew west over the north west section of the site	30/10/2020	Bird of Conservation Concern- Red list SCI of Inner Galway Bay SPA
Herring Gull (<i>Larus argentatus</i>)	1	Flew east over south section of site	30/10/2020	Bird of Conservation Concern- Red list
Peregrine (<i>Falco peregrinus</i>)	1	Flew south from wooded area along northern boundary of site perched on tree, flew north back into wooded area	30/10/2020	Annex I
Curlew (<i>Numenius arquata</i>)	6	Flew over north west boundary, in west direction towards coastline	23/11/2020	Bird of Conservation Concern- Red list SCI of Inner Galway Bay SPA
Black-headed Gull (<i>Larus ridibundus</i>)	1	Flew west to east over centre of the site	23/11/2020	Bird of Conservation Concern- Red list SCI of Inner Galway Bay SPA

Table 3.7. Target bird survey results Rosshill bird survey

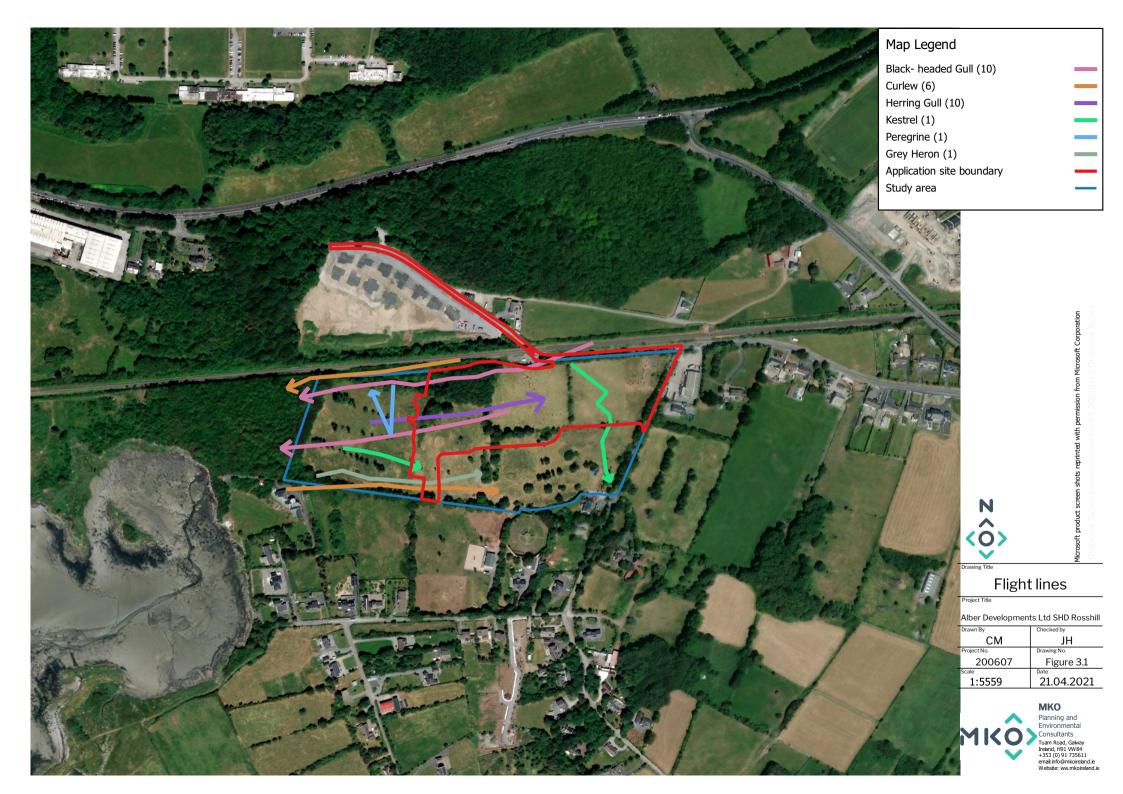
Species	Number of Individuals	Notes	Date	Conservation status
Herring Gull (<i>Larus argentatus</i>)	1	Flew east to west over north of the site	23/11/2020	Bird of Conservation Concern- Red list
Herring Gull (<i>Larus argentatus</i>)	8	Flew east to west over north/ centre of the site	14/12/2020	Bird of Conservation Concern- Red list
Curlew (<i>Numenius</i> arquata)	1	Flew west over north west of the site	14/12/2020	Bird of Conservation Concern- Red list
				SCI of Inner Galway Bay SPA
Kestrel (<i>Falco tinnunculus</i>)	1	Flew north east over the northern section of the site, hunted in woodland area north of the site	14/12/2020	Bird of Conservation Concern- Red list
Kestrel (<i>Falco tinnunculus</i>)	1	Flew south east over the north western section of site (mobbed by rooks)	21/01/2021	Bird of Conservation Concern- Red list
Black-headed Gull (<i>Larus</i> <i>ridibundus</i>)	3	Flew west over north section of site	21/01/2021	Bird of Conservation Concern- Red list SCI of Inner
				Galway Bay SPA
Curlew (<i>Numenius</i> arquata)	1	Flew east over south section of the site	21/01/2021	Bird of Conservation Concern- Red list
				SCI of Inner Galway Bay SPA
Kestrel (<i>Falco tinnunculus</i>)	1	Flew east to west over centre of the site	24/02/2021	Bird of Conservation Concern- Red list
Grey Heron (<i>Ardea cinerea</i>)	1	Flew west to east over centre of the site	24/02/2021	SCI of Inner Galway Bay SPA

Species	Number of Individuals	Notes	Date	Conservation status
Black-headed Gull (<i>Larus</i> <i>ridibundus</i>)	3	Flew west over north section of site	22/03/2021	Bird of Conservation Concern- Red list
				SCI of Inner Galway Bay SPA

Table 3.8- Non-target bird species recorded at Rosshill (within development site).

Species	Scientific name	BoCCI Status	Date
Magpie	Pica pica	Green	30/10/2020
			23/11/2020
			14/12/2020
			21/01/2021
Robin	Erithacus	Green	30/10/2020
	rubecula		21/01/2021
			24/02/2021
			22/03/2021
Wood pigeon	Columba	Green	30/10/2020
	palumbus		23/11/2020
			14/12/2020
			21/01/2021
			22/03/2021
Wren	Troglodytes	Green	30/10/2020
	troglodytes		14/12/2020
Long-tailed tit	Aegithalus caudatus	Green	30/10/2020
Great tit	Parus major	Green	30/10/2020
	C C		14/12/2020
			21/01/2021
			22/03/2021

Species	Scientific name	BoCCI Status	Date
Dunnock	Prunella modularis	Green	30/10/2020
	ino danano		23/11/2020
Hooded crow	Corvus cornix	Green	30/10/2020
			22/03/2021
Blackbird	Turdus merula	Green	23/11/2020
			14/12/2020
			24/02/2021
Bullfinch	Pyrrhula pyrrhula	Green	23/11/2020
Pheasant	Phasianus colchicus	Green	14/12/2020
			22/03/2021
Raven	Corvus corax	Green	21/01/2021
Redwing	Turdus iliacus	Green	21/01/2021
			24/02/2021
Starling	Sturnus vulgaris	Amber	21/01/2021
Song thrush	Turdus philomelos	Green	21/01/2021
Pied wagtail	Motacilla alba yarrellii	Green	24/02/2021
Mistle thrush	Turdus viscivorus	Green	21/01/2021



3.2.2 Species records for Inner Galway Bay SPA

A section of the Inner Galway bay SPA, approximately 600 meters south west of the development site was surveyed. The vantage point overlooked an area of tidal mudflat in order to record bird distribution during high and low tide and to determine whether birds listed as Special Conservation Interests of the Inner Galway Bay SPA may utilize the habitats within the development site. During the surveys there were no movements of wintering wildfowl between the development site and this SPA. Table 3.9 provides records an overview of species recorded.

Species	Number of Individuals	Notes	Date and Tidal Conditions
Herring gull (<i>Larus</i> argentatus)	6	Feeding	
Curlew (<i>Numenius arquata</i>)	3	Feeding	
Grey heron (<i>Ardea cinerea</i>)	1	Roosting	
Sandpiper (<i>Actitus</i> <i>hypoleucos</i>)	1	Feeding	30/10/2020- Low Tide
Little Egret (<i>Egretta garzetta</i>)	2	Feeding	
Greenshank (<i>Tringa</i> <i>nebularia</i>)	1	Feeding	
Redshank (<i>Tringa</i> <i>tetanus</i>)	2	Feeding	
Dunlin (<i>Calidris</i> <i>alpine</i>)	4	Feeding	
Mallard (<i>Anas</i> <i>platyrhynchos</i>)	4	Roosting	
Wigeon (<i>Anas</i> <i>Penelope</i>)	15	Roosting	
Herring gull (<i>Larus argentatus</i>)	5	Roosting	23/11/2020 – High Tide
Redshank (<i>Tringa</i> <i>tetanus</i>)	3	Feeding	
Black-headed gull (<i>Larus ridibundus</i>)	1	Roosting	
Herring gull (<i>Larus</i> argentatus)	20	Roosting/feeding	

Table 3.9 Bird survey results for Inner Galway Bay SPA

Species	Number of Individuals	Notes	Date and Tidal
			Conditions
Oystercatcher (<i>Haematopus</i> <i>ostralegus</i>)	3	Feeding	14/12/2020- Low Tide
Light-bellied Brent goose (<i>Branta bernicla</i> <i>hrota</i>)	12	Roosting/feeding	
Curlew (<i>Numenius arquata</i>)	16	Feeding	
Black-headed gull (<i>Larus ridibundus</i>)	2	Feeding	
Wigeon (<i>Anas</i> <i>Penelope</i>)	19	Roosting/feeding	21/01/2021- High Tide
Redshank (<i>Tringa</i> <i>tetanus</i>)	14	Roosting/feeding	
Black-headed gull (<i>Larus ridibundus</i>)	1	Roosting	
Turnstone	3	Roosting	
Greenshank (<i>Tringa</i> <i>nebularia</i>)	1	Roosting	
Curlew (<i>Numenius arquata</i>)	1	Flying	
Red-throated diver (<i>Gavia stellate</i>)	2	Feeding	
Herring gull (<i>Larus argentatus</i>)	1	Roosting	
Curlew (<i>Numenius arquata</i>)	3	Roosting	24/02/2021- Low Tide
Light-bellied Brent goose (<i>Branta bernicla</i> <i>hrota</i>)	22	Feeding	
Oystercatcher (<i>Haematopus</i> <i>ostralegus</i>)	1	Feeding	
Little egret (<i>Egretta</i> <i>garzetta</i>)	1	Feeding	

Species	Number of Individuals	Notes	Date and Tidal Conditions
Greenshank (<i>Tringa</i> <i>nebularia</i>)	1	Feeding	
Mallard (<i>Anas</i> <i>platyrhynchos</i>)	2	Feeding	
Teal (Anas crecca)	4	Feeding	
Grey Heron (<i>Ardea</i> <i>cinerea</i>)	1	Feeding	22/03/2021- High tide
Herring gull (<i>Larus argentatus</i>)	5	Roosting/feeding	
Light-bellied Brent goose (<i>Branta bernicla</i> <i>hrota</i>)	8	Feeding	
Black-tailed godwit (<i>Limosa limosa</i>)	15	Feeding	
Black-headed gull (<i>Larus ridibundus</i>)	2	Feeding	
Shellduck (<i>Tadorna tadorna</i>)	2	Feeding	
Sanderling (<i>Calidris</i> <i>alba</i>)	5	Feeding	
Curlew (<i>Numenius arquata</i>)	2	Feeding	
Wigeon (<i>Anas</i> <i>Penelope</i>)		Feeding	

SUMMARY OF FIELD SURVEY AND DISCUSSION

The surveys undertaken over the period winter period October 2020 to March 2021 provide a complete and clear understanding of the usage of the proposed development site by wintering bird species. A total of 23 bird species were recorded within or immediately adjacent to the proposed development site during the winter site visits. The majority of the birds recorded within the site boundary and in the surrounding habitat during the site visit were an assemblage of common birds that are typical of the grassland, woodland and hedgerow habitats found within the wider area.

Only one Annex I species, peregrine, was recorded using the site during the October site visit. This observation was of an individual bird hunting/flying, on one occasion. Kestrel listed as red list species on the Bird of Conservation Concern in Ireland (BoCCI) (Gilbert et, al., 2021), was recorded using the site during the December, January and February site visits. These observations were of an individual bird hunting/flying within or adjacent to the site. Herring gull, also listed as red list species, was recorded flying over the site during the October, November and December site visits.

There were three observations of Special Conservation Interests species (SCIs) of Inner Galway Bay SPA flying over the site, including eight black-headed gulls, eight curlew and one grey heron. These species were not recorded using the habitats within the proposed development. No SCIs of the Inner Galway Bay were recorded roosting or feeding within the proposed development site during the site visits.

The results of the winter bird survey (October 2020 - March 2021) indicate that the proposed development site does not provide significant habitat for wintering wildfowl or waders listed as SCIs for the Galway Bay Inner SPA. Habitats within the site consist primarily of dry neutral grassland (GS1), hedgerow (WL1) and treeline (WL2). Species listed as SCIs for the Inner Galway Bay SPA are unlikely to depend on the habitats within the development site.

Waterfowl species listed as SCIs species of the Inner Galway Bay SPA, including light-bellied brent goose, wigeon, teal, shoveler and red-breasted merganser are generally associated with a variety of coastal, marine and inland freshwater habitats. Sandwich tern and common tern are associated with coastal and marine habitats, marshes and inland lakes. Common gull and black-headed gull are very adaptable and utilise a wide variety of habitats including, urban, coastal, marine and wetland habitats. None of these habitats occur within the development boundary or in the surrounding habitats and there is no potential for loss of supporting habitat for SCI species of surrounding SPA (Inner Galway Bay SPA) have been designated for.

CONCLUSION

Based on the wintering bird assemblages recorded over the six surveys carried out between October 2020 and March 2021, it can be concluded that the site does not support important assemblages of wintering wildfowl, waders or SCI species for which Inner Galway Bay SPA is designated.

Only three species listed as Special Conservation Interests for the Inner Galway Bay SPA were recorded during the surveys, flying over the proposed development site. No SCI species of Inner Galway Bay SPA were recorded using the habitats within the proposed development site. The survey results indicate that there will be no potential for loss of supporting habitat or displacement for SCI species for which the Inner Galway Bay SPA is designated for.

No potential for adverse effects on the SCI species of which Inner Galway Bay SPA has been designated for have been identified. For this reason, there is not considered to be potential for adverse effects alone or in-combination with other developments within the environs of the Inner Galway Bay SPA.

5.

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6.

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Proposed Strategic Housing Development, Rosshill, Galway 200607 - BS -F – 2021.05.19

