

Screening for Appropriate Assessment &
Natura Impact Statement to inform
Appropriate Assessment

Proposed completion of an unfinished housing
development on a site forming part of the overall estate
of Aylesbury Park, Knappaghmore, Sligo, Co. Sligo
(P19/483)

For SPDD Properties Ltd.



March 2020

Giorria Environmental Services
www.giorria.com

TABLE OF CONTENTS

SECTION 1	2
1.0 Introduction	2
1.1 <i>Overview of proposed completion of an unfinished housing development forming part of the overall estate of Aylesbury Park, Knappoghmara Road, Sligo, Co Sligo.</i>	2
1.2 <i>The Appropriate Assessment Process</i>	3
1.3 <i>Appropriate Assessment Stages</i>	4
SECTION 2	5
2.0 Methods	5
2.1 <i>Zone of influence</i>	5
2.2 <i>Desk-top study</i>	5
2.3 <i>Field Survey</i>	5
SECTION 3	7
3.0 Screening for Appropriate Assessment	7
3.1 <i>Description of development</i>	7
3.2 <i>Description of Natura 2000 sites</i>	9
3.3 <i>Assessment of Likely Effects</i>	22
3.3.1 <i>Direct, indirect or secondary impacts</i>	22
3.3.2 <i>Cumulative impacts – other projects</i>	24
3.3.3 <i>Cumulative impacts – other plans</i>	25
3.4 <i>Stage 1 Screening Conclusion and Statement</i>	26
SECTION 4	27
4.0 Stage 2: Natura Impact Statement to inform Appropriate Assessment	27
4.1 <i>Introduction</i>	27
4.2 <i>Impact Prediction</i>	28
4.3 <i>Conservation Objectives of the Cummeen Strand / Drumcliff Bay SAC and Cummeen Strand SPA</i>	29
4.4 <i>Assessment of potential adverse impacts on Natura site</i>	37
4.5 <i>Measures to Mitigate Potential Adverse Impacts</i>	38
4.5.1 <i>Habitat Loss</i>	38
4.5.2 <i>Fragmentation</i>	38
4.5.3 <i>Disturbance</i>	38
4.5.4 <i>Species impact</i>	39
4.5.5 <i>Water Resource</i>	39
4.5.6 <i>Water Quality</i>	39
4.5.7 <i>Climate change</i>	41
4.6 <i>Conclusions</i>	41
SECTION 5 - References	42
SECTION 6 - Appendices	43
<i>Appendix 1 – Screening Matrix</i>	43
<i>Appendix 2 – Biodiversity Records</i>	46
<i>Appendix 3 – photographs from site visit</i>	48
<i>Appendix 4 - Qualifications</i>	49

SECTION 1

1.0 Introduction

Giorria Environmental Services were commissioned by D. O'Malley and Associates (Client: SPDD Properties Ltd.) to undertake a Screening for Appropriate Assessment under Article 6 of the EU Habitats Directive and Natura Impact Statement on the proposed completion of an unfinished housing development forming part of the overall estate of Aylesbury Park, Knappaghmore Road, Sligo, Co Sligo.

The aim of this report is to identify any significant impacts of the proposed development on any adjacent Natura 2000 sites. The report has been prepared in accordance with the current guidance (NPWS 2009, revised February 2010). The report was compiled and written by Dr. Karina Dingerkus, ecologist (see Appendix 4 for qualifications).

1.1 Overview of proposed completion of an unfinished housing development forming part of the overall estate of Aylesbury Park, Knappaghmore Road, Sligo, Co Sligo.

It is proposed to complete an unfinished housing development on a site of 1.176 hectares, forming part of the overall estate of Aylesbury Park, Knappaghmore Road, Sligo, Co Sligo. The proposed development consists of 34 no. terraced house and 4 no. maisonettes, all ancillary site development works, landscaping and boundary treatments including the provision of public and private open space at Aylesbury Park. This development was previously granted permission for 27 no. houses PL17/63.



Photograph 1: Site location showing location of proposed new development at Aylesbury Park

1.2 The Appropriate Assessment Process

Natura 2000 is a European network of important ecological sites. The EU Habitats Directive (92/43/EEC) placed an obligation on Member States of the EU to establish the Natura 2000 network. The network is made up of Special Protection Areas (SPAs), established under the EU Birds Directive (2009/147/EC), and SACs, established under the Habitats Directive itself. Ireland's contribution to Natura 2000 is being created under the European Communities (Natural Habitats) Regulations, 1997 (S.I. 94 of 1997 as amended by S.I. 233 of 1998 and S.I. 378 of 2005). These regulations transpose the EU directives into Irish national Law.

There is a requirement, under Article 6(3) of the EU Habitats Directive (Directive 92/43/EEC), to carry out an Appropriate Assessment when a plan or project is proposed that may have conservation implications for the Natura 2000 site. The first step of the Appropriate Assessment process is to establish whether, in relation to a particular plan or project, Appropriate Assessment is required. Article 6(3) states:

'Any plan or project not directly connected with or necessary to the management of the site but likely to have a significant effect thereon, either individually or in combination with other plans or projects, shall be subject to appropriate assessment of its implications for the site in view of the site's conservation objectives. In the light of the conclusions of the assessment of the implications for the site and subject to the provisions of paragraph 4, the competent national authorities shall agree to the plan or project only after having ascertained that it will not adversely affect the integrity of the site concerned and, if appropriate, after having obtained the opinion of the general public.'

A number of guidance documents on the appropriate assessment process have been referred to during the preparation of this NIS. These are:

- Appropriate Assessment of Plans and Projects in Ireland - Guidance for Planning Authorities (NPWS 2009, Revised February 2010)
- Circular NPW 1/10 & PSSP 2/10 (March 2010)
- EU Guidance document on Article 6(4) of the 'Habitats Directive' 92/43/EEC (2007)
- 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 (Nov. 2001 – published 2002)
- Managing Natura 2000 Sites: The provisions of Article 6 of the 'Habitats' Directive 92/43/EEC (2000).

Should a decision be reached to the effect that it cannot be said with sufficient certainty that the development will not have any significant effect on the Natura 2000 sites, then, as is stated above, it is necessary and appropriate to carry out an appropriate assessment of the implications of the development for the sites in view of their conservation objectives.

The guidance for Appropriate Assessment (NPWS, 2009, revised February 2010) states:

"AA is an impact assessment process that fits within the decision-making framework and tests of Articles 6(3) and 6(4) and, for the purposes of this guidance, it comprises two main elements. Firstly, a Natura Impact Statement – i.e. a statement of the likely and possible

impacts of the plan or project on a Natura 2000 site (abbreviated in the following guidance to "NIS") must be prepared. This comprises a comprehensive ecological impact assessment of a plan or project; it examines the direct and indirect impacts that the plan or project might have on its own or in combination with other plans and projects, on one or more Natura 2000 sites in view of the sites' conservation objectives. Secondly, the competent authority carries out the AA, based on the NIS and any other information it may consider necessary. The AA process encompasses all of the processes covered by Article 6(3) of the Habitats Directive, i.e. the screening process, the NIS, the AA by the competent authority, and the record of decisions made by the competent authority at each stage of the process, up to the point at which Article 6(4) may come into play following a determination that a plan or project may adversely affect the integrity of a Natura 2000 site".

1.3 Appropriate Assessment Stages

The European Commission's Guidance promotes a four-stage process to complete the Appropriate Assessment.

Stage 1 – Screening Process

Stage 2 – Appropriate Assessment

Stage 3 – Assessment of alternative solutions

Stage 4 – Assessment where no alternative solutions exist and where adverse impacts remain.

Stage 1 and 2 deal with the main requirements of assessment under Article 6.3. Stage 3 may be part of Article 6.3 or a necessary precursor to Stage 4.

Screening determines whether appropriate assessment is necessary by examining:

1. Whether a plan or project can be excluded from AA requirements because it is directly connected with or necessary to the management of the site, and
2. The potential effects of a project or plan, either alone or in combination with other projects or plans, on a Natura 2000 site in view of its conservation objectives and considering whether these effects will be significant.

Screening involves the following:

1. Description of plan or project, and local site or plan area characteristics.
2. Identification of relevant Natura 2000 sites, and compilation of information qualifying interests and conservation objectives.
3. Assessment of likely effects – direct, indirect on the basis of available information as a desk study and/or field survey and/or primary research as necessary.
4. Screening statement and conclusion.

The report also provides the information required for the Competent Authority to complete the Appropriate Assessment (Stage 2) should this be necessary and appropriate in the opinion of the Competent Authority.

SECTION 2

2.0 Methods

2.1 Zone of influence

The Zone of Influence of a project may be defined as area(s) over which ecological features may be affected by the biophysical changes caused by the proposed project and associated activities (CIEEM 2016). The zone of influence can extend beyond the project site, for example where there are ecological or hydrological links beyond the site boundaries.

The NPWS (2010) recommends that: *“the distance should be evaluated on a case-by-case basis with reference to the nature, size and location of the project, and the sensitivities of the ecological receptors, and the potential for in combination effects.”*. Generally, all European sites within 15km of the proposed project are examined. In some circumstances it may be necessary to go beyond this distance (e.g. hydrologically connect site).

2.2 Desk-top study

A desk study was carried out to gather information available on Natura 2000 sites in the vicinity of the proposed project. The Environmental Protection Agency Appropriate Assessment GeoTool application was used to gather data about SACs and SPAs from the National Parks and Wildlife Service (NPWS). The Environmental Sensitivity Mapping tool (ESM tool) was also consulted (<https://airomaps.geohive.ie/ESM/>). The NPWS and National Biodiversity Data Centre online databases were consulted concerning designated conservation areas in the vicinity of the proposed development and protected species. The Sligo County Council website online planning access (<http://www.sligococo.ie/planning/SearchPlanningApplications/OnlinePlanningTools/>) was consulted for information on other plans or projects in the area, which may result in a cumulative impact when considered with the proposed development. Other databases consulted include:

- Information on other plans or projects in the area from www.myplan.ie
- Information on soils, geology and hydrogeology in the area www.gsi.ie
- National Biodiversity Action Plan 2017–2021 (Department of Culture, Heritage and the Gaeltacht, 2017)
- Sligo County Development Plan 2017-2023
- National Biodiversity database maps <https://maps.biodiversityireland.ie/>
- Environmental Protection Agency - <https://gis.epa.ie/EPAMaps/>

2.3 Field Survey

A field visit took place on the 25th February 2020. The site is situated at the end of Aylesbury Park, Knappagh More. The site is mainly a brownfield site, which was not developed during a previous development of a housing estate. Much of the site is surrounded by Haras fencing. The eastern boundary is part hawthorn hedgerow with several mature spruce trees. Some fuchsia bushes are growing along the bottom of this hedge.

At the northern end of the site some soil has been piled up and alder and willow trees appear to have self-seeded, creating a little coppice of wood at the northern end of the site.

A stream / drain runs along the end of the north east boundary and joins with another one that runs along the northern boundary in an east-west direction (see Diagram 1). It appears that the stream on the northern boundary has been diverted at some previous occasion. These waterbodies contain several aquatic plants including globe marigold. There were several well-used mammal tracks around the waterways. These could be used by otters. There was one partially dug hole in the bank.

The site had numerous pools of standing water. Many of these were occupied by frog spawn on the day of the survey.

Soil had been moved around the site. It appears that the north east corner was lower than the rest of the site. And soil has been piled into part of this area possibly to raise ground level. There were various items of discarded building materials throughout the site. Some of this appears to have been buried under the moved soil particularly in the north east corner of the site adjacent to the stream/drains. Some of this material has fallen from the bank and ended up in the water.

Further housing is found to the south and west of the site. To the east there is an agricultural field. To the north and northeast there is an area of wetland dominated by rushes and willow saplings.

Several tree saplings have established themselves within the site. There is also a small bit of buddleia in the southern section of the site and some teasel scattered throughout the site.

SECTION 3

3.0 Screening for Appropriate Assessment

The aim of this section of the report is to identify any significant impacts of the proposed development on any adjacent Natura 2000 sites. The section of the report covers Stage 1 screening for appropriate assessment and has been prepared in accordance with the current guidance (NPWS 2009, revised February 2010).

3.1 Description of development

It is proposed to complete an unfinished housing development on a site of 1.176 hectares, forming part of the overall estate of Aylesbury Park, Knappaghmore Road, Sligo, Co Sligo. The proposed development consists of 34 no. terraced house and 4 no. maisonettes, all ancillary site development works, landscaping and boundary treatments including the provision of public and private open space at Aylesbury Park. This development was previously granted permission for 27 no. houses PL17/63.

It is proposed that the new housing estate will be located in a brown-field site adjacent to an existing housing estate (Aylesbury Park). Access to the site will be via the existing access road for Aylesbury Park.

At the southern end of the development there will be 1 x 2 bed, 2 x 3 bed and 2 x 4 bed end of terrace houses. Next to this there will be 3 x 3 bed terraces houses. Along the eastern boundary there will be two groups of 1 x 2 bed, 2 x 3 bed and 2 x 4 bed end of terrace houses. Along the northern boundary there will be one group of 1 x 2 bed, 2 x 3 bed and 2 x 4 bed end of terrace houses and 2 x 4 bed plus 1 x 3 bed houses as well as a block of 4 x 2 maisonette. In the western part of the site there will be two groups of 2 x 3 bed plus 2 x 4 bed end of terrace houses. Each house will have their own private garden while the maisonettes will have 260m² of private amenity space.

The site will also include two public open amenity spaces. One 1150m² with a MUGA and another 620m².

It is proposed to plant the site boundary with a line of hedging comprising of privot, escallonia and laurel. Vertical hit and miss timber fencing panels (1.8m high) with concrete post will form the rear and side boundaries to the houses. There will be wheelybin access via the rear gardens. It is proposed to have tobermore, teguola heather paving to the driveways and to have sandstone cobblelock paving for home zone and turning bay.

A storm management system has been designed for the site, the function of which is to reduce and ameliorate the effects of surface water run-off on the adjoining lands and to avoid consequent potential flooding. Attenuation will be provided in the form of plastic modular storage system, such as Stormteach or equivalent.



Diagram 1: Site layout at Aylesbury Park showing location of proposed new development

Table 1: Natura 2000 sites lying in a 15km radius of the proposed development site and connectivity to Natura sites

Site Code	Site name and brief description	Distance To (km)	Connectivity / Comment
000627	<p>Cummeen Strand/Drumcliff Bay (Sligo Bay) SAC</p> <p>This large coastal site extends from Cullamore in the north-west to Killaspug in the south-west, and from Sligo town in the south-east to Drumcliff village in the north-east. It encompasses two large, shallow bays, Drumcliff Bay and Sligo Harbour, and Ardboline and Horse Island. Sand dunes and sand hills at Rosses Point, Killaspug, Yellow Strand and Coney Island are included, as are grasslands at Ballintemple and Ballygilgan (Lissadell), along with a variety of other habitats such as woodland, saltmarsh, sandy beaches, boulder beaches, shingle, fen, freshwater marshes, rocky sea cliffs and lakes.</p>	0.27	Hydrological connection through stream/ drain from site boundary to SAC
001976	<p>Lough Gill SAC</p> <p>This site includes Lough Gill, Doon Lough to the north-east, the Bonet River (as far as, but not including, Glenade Lough), and a stretch of the Owenmore River near Manorhamilton in Co. Leitrim. Lough Gill is a large naturally eutrophic lake with steep limestone shores and underwater cliffs. The Old Oak Woodlands are dominated by oak, Rowan and willows. Strawberry Tree (<i>Arbutus unedo</i>) is found in its most northerly site in the world. Bird Cherry and Whitebeam also occur. Areas of unimproved wet and dry grassland and orchid-rich calcareous grassland also occur. Lough Gill supports low numbers of wintering waterfowl.</p>	2.40	Indirect connectivity to the Natura 2000 site though bay
000622	<p>Ballysadare Bay SAC</p> <p>Ballysadare Bay the most southerly of three inlets of the larger Sligo Bay. The bay contains extensive intertidal sand and mudflats. There is a large, highly dynamic, sand dune system at Strandhill which has been relatively undisturbed by grazers. The Bay supports a colony of Common Seal and the rare snail, <i>Vertigo angustior</i>, occurs in dune slacks and hollows in the dunes at Strandhill. Ballysadare Bay is important for a range of waterfowl species in autumn and winter. Brent Goose occur in internationally important numbers, while a further seven species have populations of national importance (Red-breasted Merganser, Oystercatcher, Grey Plover, Dunlin, Bar-tailed Godwit, Redshank and Greenshank).</p>	5.30	Indirect connectivity to the Natura 2000 site though bay
001898	<p>Unshin River SAC</p> <p>The Unshin River runs from Lough Arrow north to Ballysadare Bay, Co. Sligo. The river is largely undrained and unaltered along much of its course. The site also contains the Owenboy/ Owenbeg and a number of smaller tributaries. All of which are very important for</p>	6.82	Indirect connectivity to the Natura 2000 site though bay

	Atlantic Salmon. The Unshin River supports an excellent example of floating river vegetation. There is a good diversity of aquatic macrophytes. There are a number of areas of woodland, many of which flood. Orchid-rich Calcareous Grassland and Molinia Meadows, have been reported at Cloonmacduff. Otter, Whooper Swan, and Kingfisher all occur.		
000638	Union Wood SAC Union Wood contains old oak woodland which is typical of western Oak wood (<i>Blechno-Quercetum</i>) and one of the best remaining in the region. Part of Union Wood consists of fairly pure, open woodland dominated by Sessile Oak, and with some Downy Birch, Holly and Rowan. The presence of an area of heath at Union Rock adds diversity to the site. The wood supports a diverse fauna, including Pine Marten, Red squirrel and Badger.	7.23	No direct or indirect connectivity to the Natura 2000 site.
000623	Ben Bulbin, Gleniff and Glenade Complex SAC This large SAC site is located in the uplands around Ben Bulbin, King's Mountain, Benwiskin, Truskmore and Tievebaun. These uplands are formed of Carboniferous limestone, capped in places by shales. They stand in a high plateau, 300-450 m above the surrounding countryside, and the edges form cliffs ranging from 15 to 300 m in height. Below these cliffs, block scree usually occurs. The site is important botanically mainly because of the presence of alpine plants. The numerous waterfalls and Glencar Lake are also of great botanical interest. Geyer's Whorl Snail and otter also occur on site.	7.70	No direct or indirect connectivity to the Natura 2000 site.
001680	Streedagh Point Dunes SAC Streedagh Point Dunes SAC is a sand dune and estuary system. The site consists of a tombolo formation, with a shingle spit overlain by sand dunes joining Conors Island to Streedagh Point. The landward side of the site comprises an area of sand flats, the estuary of the River Grange. Sand dunes extend along the length of the spit and cover the southern half of Conors Island. A boulder beach extends along the entire seaward side of the system. The fixed dunes are well-developed. Both Atlantic and Mediterranean types of saltmarsh are well-represented at the site. The rare snail, <i>Vertigo angustior</i> has recently been on the site. The presence of wintering waterfowl adds to the significance of this site.	13.17	Indirect connectivity to the Natura 2000 site though bay
000625	Bunduff Lough and Machair/Trawalua/Mullaghmore SAC Machair is common throughout the site, occurring mostly in the flat areas between dune ridges and areas of alkaline fen/marsh. The liverwort species <i>Petalophyllum ralfsii</i> has been recorded. The fixed dune habitat is well represented. Shifting dunes with Marram are best-developed at Trawalua. Bunduff Lough is a shallow, sandy-bottomed lake situated at the back of the dunes and machair. Heath, dominated by Crowberry, occurs near Skerrydoo. Trawalua	15.52	Indirect connectivity to the Natura 2000 site though bay

	Strand, a sandy beach, is backed by high Marram dunes and flat machair areas, similar to drier areas at Bunduff. Classiebawn Wood is a plantation woodland of Maritime Pine (<i>Pinus pinaster</i>) with a very interesting ground flora. The site has a notable butterfly fauna including Marsh Fritillary. The site features characteristic intertidal sediment communities which are often found in association with large bays. There is a well-developed zonation of benthic communities and high species-richness in the littoral sediments. Bunduff Lough is locally important for waterfowl.		
001669	Knockalongy and Knockachree Cliffs SAC Knockalongy and Knockachree Cliffs SAC is situated at the north-eastern end of the Ox Mountains range. It consists of two areas of steeply sloping ground with an abundance of outcropping acid rocks of gneiss and granite, with two loughs (Lough Achree and Lough Minnaun) situated at the base of these cliffs. The cliffs range in altitude from approximately 100 to 300 m above sea level. The cliffs at this site support a range of montane plant communities, and several notable species occur, including the rare Killarney Fern.	15.99	No direct or indirect connectivity to the Natura 2000 site.
004035	Cummeen Strand SPA Cummeen Strand is a large shallow bay stretching from Sligo Town westwards to Coney Island. It is one of three estuarine bays within Sligo Bay and is situated between Drumcliff Bay to the north and Ballysadare Bay to the south. The Garavogue River flows into the bay and forms a permanent channel. At low tide, extensive sand and mud flats are exposed. These support a diverse macro-invertebrate fauna which provides the main food supply for the wintering waterfowl. The estuarine and intertidal flat habitats are of conservation significance and are listed on Annex I of the E.U. Habitats Directive. Areas of salt marsh fringe the bay in places and provide roosting sites for birds during the high tide periods. Sand dunes occur at Killaspug Point and Coney Island, with a shingle spit at Standalone Point near Sligo Town. The site is a Special Protection Area (SPA) for the following species: Light-bellied Brent Goose (international important numbers), Oystercatcher and Redshank.	0.33	Hydrological connection through stream/ drain from site boundary to SAC
004013	Drumcliff Bay SPA Drumcliff Bay, Co. Sligo is the most northerly of Sligo Bay's three estuarine inlets. The bay comprises an inner area of sheltered estuarine habitat and an outer area of shallow seawater. Drumcliff Bay is the estuary of the Drumcliff River, a substantial river flowing from Glencar Lough to the east. The inner part of the bay is sheltered by a sandy/grassy peninsula. The northern part of the bay is fringed by fine sandy beaches. Salt marsh occurs in the most	4.27	Indirect connectivity to the Natura 2000 site though bay

	sheltered areas and at low tide, extensive inter-tidal flats are exposed. Drumcliff Bay SPA supports nationally important populations of Sanderling and Bar-tailed Godwit. In addition, the site supports a good diversity of other waterfowl species including Whooper Swan and Great Northern Diver.		
004129	Ballysadare Bay SPA Ballysadare Bay is the most southerly of three inlets that form the eastern part of the larger Sligo Bay complex. The estuarine channel of the Ballysadare River winds its way through the bay. The bay contains extensive intertidal sand and mudflats. The flats support good populations of macro-invertebrates and eelgrass which are important food items for wintering waterfowl. Well-developed salt marshes, which provide roosting sites for birds at high tide, occur at several locations around the bay. Ballysadare Bay is important for a range of waterfowl species in autumn and winter, including an internationally importance population of Light-bellied Brent Goose. The populations of four other species are of national importance (Grey Plover, Dunlin, Bar-tailed Godwit and Redshank). Other species also occur including Bar-tailed Godwit, Golden Plover and Whooper Swan.	5.31	Indirect connectivity to the Natura 2000 site though bay
004187	Sligo/Leitrim Uplands SPA The Sligo/Leitrim Uplands SPA is located in the mountain ranges of Ben Bulbin, Arroo and Cope's Mountain/Crockauns. The site includes six separate lengths of cliffs in these ranges, including those of King's Mountain, Benbulbin, Benwiskin, Gleniff, Truskmore, Tievebaun, Glenade, Glencar, Arroo Mountain and Cope's Mountain/Crockauns. The site is a of special conservation interest for Chough and Peregrine. Inland cliffs and scree slopes are the predominant habitats of the site. Other habitats present on the site include heath, blanket bog, grassland, scrub, woodland and streams.	6.99	No direct or indirect connectivity to the Natura 2000 site.
004234	Ballintemple and Ballygilgan SPA Ballintemple and Ballygilgan SPA comprises two separate areas of fields supporting agriculturally-improved grassland. The site supports an internationally important population for Barnacle Goose.	7.24	No direct or indirect connectivity to the Natura 2000 site
004135	Ardboline Island and Horse Island SPA The site comprises of two small marine islands, Ardboline Island and Horse Island and an area of marine water between the two islands located off Dooneragh Point in Co. Sligo. The site is of special conservation interest for national importance colony of Cormorant. It is also a wintering site for the internationally important population of Barnacle Goose. The site is important as a haul-out for Grey Seal. Corncrake have been recorded on the islands.	12.76	Indirect connectivity to the Natura 2000 site though bay

Table 2: Natural Heritage Area (NHA) and proposed National Heritage Areas (pNHA) lying in a 15km radius of the proposed development site

Site code	NHA and pNHA	Approximate Distance from site	Connectivity / comment
001670	Knocknarea Mountain and Glen pNHA	3.9km	No direct or indirect connectivity.
001658	Colgagh Lough pNHA	6.8km	No direct or indirect connectivity.
002435	Crockauns / Keelogyboy Bog NHA	7.6km	No direct or indirect connectivity.
001909	Ballygawley Lough pNHA	7.6km	No direct or indirect connectivity.
001902	Slieveard Bog NHA	8.0km	No direct or indirect connectivity.
001904	Knockmullin Feb pNHA	11.6km	No direct or indirect connectivity.
000620	Aughris Head pNHA	15.0km	No direct or indirect connectivity.

Table 3: Qualifying interests and documented threats to the Natura 2000 sites lying in a 15km radius of the proposed development site

Site Code	Site Name	Qualifying Interests (* denotes a priority habitat)	Conservation Objectives	Documented Threats / Pressures Information primarily based on NPWS Site Synopses, NATURA 2000 – standard data forms and other sources
000627	Cummeen Strand/Drumcliff Bay (Sligo Bay) SAC	<p>Habitats</p> <p>1130 Estuaries</p> <p>1140 Mudflats and sandflats not covered by seawater at low tide</p> <p>2110 Embryonic shifting dunes</p> <p>2120 Shifting dunes along the shoreline with <i>Ammophila arenaria</i> (white dunes)</p> <p>2130 Fixed coastal dunes with herbaceous vegetation (grey dunes)*</p> <p>5130 <i>Juniperus communis</i> formations on heaths or calcareous grasslands</p> <p>7220 Petrifying springs with tufa formation (Cratoneurion)*</p> <p>Species</p> <p>1365 Harbour Seal (<i>Phoca vitulina</i>)</p> <p>1014 Narrow-mouthed Whorl Snail (<i>Vertigo angustior</i>)</p> <p>1095 Sea Lamprey (<i>Petromyzon marinus</i>)</p> <p>1099 River Lamprey (<i>Lampetra fluviatilis</i>)</p>	<p>http://www.npws.ie/sites/default/files/protected-sites/conservation_objectives/CO000627.pdf</p>	<ul style="list-style-type: none"> • Under-grazing of some habitats • Sports and leisure use • Disturbance • Intensive agriculture • Dumping • Invasive species • Trampling • Camping • Aquaculture • Shipping • Decrease in water quality/Increased pollution • Development of marinas and ports • Direct loss of habitat to development • Recreational/amenity use
001976	Lough Gill SAC	<p>Habitats</p> <p>3150 Natural eutrophic lakes with Magnopotamion or Hydrocharition - type vegetation</p> <p>6210 Semi-natural dry grasslands and scrubland facies on calcareous substrates (Festuco-Brometalia) (* important orchid sites)</p> <p>91A0 Old sessile oak woods with <i>Ilex</i> and <i>Blechnum</i> in the British Isles</p> <p>91E0 Alluvial forests with <i>Alnus glutinosa</i> and <i>Fraxinus</i></p>	<p>http://www.npws.ie/sites/default/files/protected-sites/conservation_objectives/CO001976.pdf</p>	<ul style="list-style-type: none"> • Decrease in water quality • Increased pollution • Changes in water flow rates • Arterial drainage • Water abstraction • Lowering of the regional water table • Siltation • Loss of fringe vegetation

		<p>excelsior (Alno-Padion, Alnion incanae, Salicion albae)*</p> <p>Species</p> <p>1106 Salmon (<i>Salmo salar</i>)</p> <p>1099 River Lamprey (<i>Lampetra fluviatilis</i>)</p> <p>1096 Brook Lamprey (<i>Lampetra planeri</i>)</p> <p>1355 Otter (<i>Lutra lutra</i>)</p> <p>1095 Sea Lamprey (<i>Petromyzon marinus</i>)</p> <p>1092 White-clawed Crayfish (<i>Austropotamobius pallipes</i>)</p>		<ul style="list-style-type: none"> • Changes in seasonal water levels/fluctuations • Direct loss of habitat • Loading from effluents (WWTP) • Recreation/amenity use • Developments • Invasive species • Illegal Dumping • Crayfish Fishing
000622	Ballysadare Bay SAC	<p>Habitats</p> <p>1130 Estuaries</p> <p>1140 Mudflats and sandflats not covered by seawater at low tide</p> <p>2110 Embryonic shifting dunes</p> <p>2120 Shifting dunes along the shoreline with <i>Ammophila arenaria</i> (white dunes)</p> <p>2130 Fixed coastal dunes with herbaceous vegetation (grey dunes)*</p> <p>2190 Humid dune slacks</p> <p>Species</p> <p>1365 Harbour Seal (<i>Phoca vitulina</i>)</p> <p>1014 Narrow-mouthed Whorl Snail (<i>Vertigo angustior</i>)</p>	<p>http://www.npws.ie/sites/default/files/protected-sites/conservation_objectives/CO000622.pdf</p>	<ul style="list-style-type: none"> • Boating • Shooting • Developments • Agricultural improvements • Fertilisation • Decrease in water quality • Increased pollution • Development of marinas and ports • Disturbance to marine mammals • Dumping at sea • Direct loss of habitat to development • Recreational/amenity use • Reclamation • Drainage • Changes in local hydrology including water abstraction • Erosion (natural and anthropogenic) • Agricultural abandonment

				<ul style="list-style-type: none"> • Overgrazing/undergrazing • Bracken and scrub encroachment • Tourism related development • Introduction of alien invasive species • Illegal Dumping • Burning • Quarrying/removal of sand • Aquaculture
001898	Unshin River SAC	<p>Habitats</p> <p>3260 Water courses of plain to montane levels with the Ranunculus fluitantis and Callitriche-Batrachion vegetation</p> <p>6210 Semi-natural dry grasslands and scrubland facies on calcareous substrates (Festuco-Brometalia) (* important orchid sites)</p> <p>6410 Molinia meadows on calcareous, peaty or clayey-silt-laden soils (Molinion caeruleae)</p> <p>91E0 Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae)*</p> <p>Species</p> <p>1106 Salmon (<i>Salmo salar</i>)</p> <p>1355 Otter (<i>Lutra lutra</i>)</p>	http://www.npws.ie/sites/default/files/protected-sites/conservation_objectives/CO001898.pdf	<ul style="list-style-type: none"> • Decrease in water quality/Increased pollution • Changes in water flow rates • Arterial drainage/water abstraction/lowering of the regional water table • Siltation • Loss of fringe vegetation • Changes in seasonal water levels/fluctuations • Direct loss of habitat to development • Loading from effluents(WWTP) • Recreation/amenity use • Introduction of alien invasive species • Illegal Dumping
000638	Union Wood SAC	<p>Habitats</p> <p>91A0 Old sessile oak woods with Ilex and Blechnum in the British Isles</p>	http://www.npws.ie/sites/default/files/protected-sites/conservation_objectives/CO000638.pdf	<ul style="list-style-type: none"> • Direct loss of habitat to development • Amenity/recreational use • Invasive species • Lack of/inappropriate

				<ul style="list-style-type: none"> woodland management • Overgrazing (deer) • Invasive species • Illegal Dumping • Felling/Removal of Trees
000623	Ben Bulbin, Gleniff and Glenade Complex SAC	<p>Habitats</p> <p>3260 Water courses of plain to montane levels with the Ranunculus fluitantis and Callitriche-Batrachion vegetation</p> <p>4010 Northern Atlantic wet heaths with Erica tetralix</p> <p>4030 European dry heaths</p> <p>4060 Alpine and Boreal heaths</p> <p>5130 Juniperus communis formations on heaths or calcareous grasslands</p> <p>6210 Semi-natural dry grasslands and scrubland facies on calcareous substrates (Festuco-Brometalia) (* important orchid sites)</p> <p>6230 Species-rich Nardus grasslands, on siliceous substrates in mountain areas (and submountain areas, in Continental Europe)*</p> <p>6430 Hydrophilous tall herb fringe communities of plains and of the montane to alpine levels</p> <p>7140 Transition mires and quaking bogs</p> <p>7220 Petrifying springs with tufa formation (Cratoneurion)*</p> <p>7230 Alkaline fens</p> <p>8110 Siliceous scree of the montane to snow levels (Androsacetalia alpinae and Galeopsietalia ladani)</p> <p>8120 Calcareous and calcshist screes of the montane to alpine levels (Thlaspietea rotundifolii)</p> <p>8210 Calcareous rocky slopes with chasmophytic vegetation</p>	http://www.npws.ie/sites/default/files/protected_sites/conservation_objectives/CO000623.pdf	<ul style="list-style-type: none"> • Changes in local hydrology including drainage • Peat Extraction • Overgrazing • Forestry • Burning • Direct loss of habitat to development • Arterial drainage/water abstraction • Agricultural reclamation • Invasive species • Illegal Dumping • Burning

		Species 1355 Otter (<i>Lutra lutra</i>) 1013 Geyer's Whorl Snail (<i>Vertigo geyeri</i>)		
001680	Streedagh Point Dunes SAC	Habitats 1140 Mudflats and sandflats not covered by seawater at low tide 1220 Perennial vegetation of stony banks 1330 Atlantic salt meadows (<i>Glauco-Puccinellietalia maritimae</i>) 1410 Mediterranean salt meadows (<i>Juncetalia maritimi</i>) 2120 Shifting dunes along the shoreline with <i>Ammophila arenaria</i> (white dunes) 2130 Fixed coastal dunes with herbaceous vegetation (grey dunes)* Species 1014 Narrow-mouthed Whorl Snail (<i>Vertigo angustior</i>)	http://www.npws.ie/sites/default/files/protected-sites/conservation_objectives/CO001680.pdf	<ul style="list-style-type: none"> • Agricultural abandonment • Overgrazing/undergrazing • Bracken and scrub encroachment • Tourism related development • Direct loss of habitat to development • Invasive species • Illegal Dumping • Removal of sand
000625	Bunduff Lough and Machair/Trawalua/Mullaghmore SAC	Habitats 1140 Mudflats and sandflats not covered by seawater at low tide 1160 Large shallow inlets and bays 1170 Reefs 2120 Shifting dunes along the shoreline with <i>Ammophila arenaria</i> (white dunes) 2130 Fixed coastal dunes with herbaceous vegetation (grey dunes)* 2190 Humid dune slacks 21A0 Machairs (* in Ireland) 5130 <i>Juniperus communis</i> formations on heaths or calcareous grasslands 6210 Semi-natural dry grasslands and scrubland facies on calcareous substrates (<i>Festuco-Brometalia</i>) (* important orchid sites) 7230 Alkaline fens	http://www.npws.ie/sites/default/files/protected-sites/conservation_objectives/CO000625.pdf	<ul style="list-style-type: none"> • Direct loss of habitat to development • Recreational/amenity use • Agricultural improvements/Reclamation • Erosion (natural and anthropogenic) • Overgrazing/undergrazing • Bracken and scrub encroachment • Invasive species • Illegal dumping • Removal of sand

		Species 1395 Petalwort (<i>Petalophyllum ralfsii</i>) 1065 Marsh Fritillary (<i>Euphydryas aurinia</i>)		
001669	Knockalongy and Knockachree Cliffs SAC	Species 1421 Killarney Fern (<i>Trichomanes speciosum</i>)	http://www.npws.ie/sites/default/files/protected-sites/conservation_objectives/CO001669.pdf	<ul style="list-style-type: none"> • Invasive species • Quarrying
004035	Cummeen Strand SPA	Birds A130 Oystercatcher (<i>Haematopus ostralegus</i>) A046 Light-bellied Brent Goose (<i>Branta bernicla hrota</i>) A162 Redshank (<i>Tringa totanus</i>) Habitats Wetlands	http://www.npws.ie/sites/default/files/protected-sites/conservation_objectives/CO004035.pdf	<ul style="list-style-type: none"> • Industrial use • Roads • Pollution • Aquaculture/fisheries • Fertilisation • Direct and indirect impacts to the habitats of the bird species of conservation interests (loss of habitat) • Water quality/pollution • Disturbance including recreation/amenity use • Invasive species • Illegal Dumping
004013	Drumcliff Bay SPA	Birds A157 Bar-tailed Godwit (<i>Limosa lapponica</i>) A144 Sanderling (<i>Calidris alba</i>) Habitats Wetlands	http://www.npws.ie/sites/default/files/protected-sites/conservation_objectives/CO004013.pdf	<ul style="list-style-type: none"> • Direct and indirect Impacts to the habitats of the bird species of conservation interests (loss of habitat) • Direct loss of habitat to development • Water quality/pollution • Disturbance including recreation/amenity use
004129	Ballysadare Bay SPA	Birds A149 Dunlin (<i>Calidris alpina</i>) A046 Light-bellied Brent Goose (<i>Branta bernicla hrota</i>)	http://www.npws.ie/sites/default/files/protected-sites/conservation_objectives/	<ul style="list-style-type: none"> • Direct and indirect impacts to the habitats of the bird species of conservation

		A157 Bar-tailed Godwit (<i>Limosa lapponica</i>) A141 Grey Plover (<i>Pluvialis squatarola</i>) A162 Redshank (<i>Tringa totanus</i>) Habitats Wetlands	CO004129.pdf	<ul style="list-style-type: none"> interests (loss of habitat) • Direct loss of habitat to development • Water quality/pollution • Disturbance including recreation/amenity use
004187	Sligo/Leitrim Uplands SPA	Birds A346 Chough (<i>Pyrhocorax pyrrhocorax</i>) A103 Peregrine (<i>Falco peregrinus</i>)	http://www.npws.ie/sites/default/files/protected-sites/conservation_objectives/CO004187.pdf	<ul style="list-style-type: none"> • Camping /caravans • Lack of grazing • Erosion • Peat extraction • Invasive species • Sand/gravel extraction • Forestry • Walking/horse riding
004234	Ballintemple and Ballygilgan SPA	Birds A045 Barnacle Goose (<i>Branta leucopsis</i>)	http://www.npws.ie/sites/default/files/protected-sites/conservation_objectives/CO004234.pdf	<ul style="list-style-type: none"> • Direct and indirect impacts to the habitats of the bird species of conservation interests (loss of habitat)
004135	Ardboline Island and Horse Island SPA	Birds A045 Barnacle Goose (<i>Branta leucopsis</i>) A017 Cormorant (<i>Phalacrocorax carbo</i>)	http://www.npws.ie/sites/default/files/protected-sites/conservation_objectives/CO004135.pdf	<ul style="list-style-type: none"> • Direct and indirect impacts to the habitats of the bird species of conservation interests (loss of habitat) • Direct loss of habitat to development • Water quality/pollution • Disturbance including recreation/amenity use

3.3 Assessment of Likely Effects

The proposed development of the housing estate is not directly connected with or necessary to the management of any Natura 2000 site. In light of this, the site must be subject to AA for its implications for the Natura 2000 sites in view of the site's conservation objectives "*if it cannot be excluded, on the basis of objective information, that it will have a significant effect on that site, either individually or in combination with other plans or projects*" (EC, 2006). The assessment is based on a preliminary impact assessment using available information and data (e.g. NPWS data, water quality data etc.), supplemented with local site information and ecological surveys.

In order, to assess the likely impacts and ascertain whether a significant impact on the integrity of the Natura site is likely to occur as a result of the proposed development it is necessary to consider what constitutes the integrity of a site as referred to in Article 6(3). The document Managing Natura 2000 Site, the provisions of Article 6 of the 'Habitats' Directive 92/43/EEC (2000) gives clear guidance and states: "*The integrity of the site involves its ecological functions. The decision as to whether it is adversely affected should focus on and be limited to the site's conservation objectives*".

3.3.1 Direct, indirect or secondary impacts

There are fifteen Natura 2000 sites within a 15km radius of the proposed project, nine SACs and six SPAs. The proposed project is situated 0.27km from Cummeen Strand / Drumcliff Bay SAC and 0.33km from Cummeen Strand SPA. The proposed project is not situated within any of the SACs or SPAs, therefore no direct impacts will occur through habitat loss or fragmentation of habitats or species. There will be a small visual impact on the Cummeen Strand / Drumcliff Bay SAC and Cummeen Strand SPA as the proposed new development lies 270m and 330m respectively from the proposed development site.

The development is of relatively large scale as it involved the completion of an existing housing development. Disturbance will be caused during the construction phase of the project. There could be some adverse impacts on shorebirds, but this is unlikely to be significant. Otters could be using the site as well-used mammal tracks were found accessing the stream on the day of the field survey (see Section 2.3 and photographs in Appendix 3) and the increase in human activity may have an effect on otter movements. In addition, increased human disturbance, once the housing development has been completed, is likely to occur, but is unlikely to be significant as there are sufficient feeding areas for otters in the area due to the proximity of the coastal habitats and other rivers. The work is far enough away from the SACs and SPA not to have an adverse impact on other species of qualifying interest.

There are a couple of streams / drains along the proposed development site boundary, along the eastern and northern boundary of the site (see photographs 3 and 4 in Appendix 3). The developer is proposing that these will be piped and back filled. A small river (EPA name: Knappagh 35, EPA Code:35K42) lies 208m to the north of the site. This runs directly into Cummeen Strand / Drumcliff Bay SAC. The river is assigned a "review" WFD status (River Waterbody WFD Status). The developer proposes attenuation of surface water on site and a petrol interceptor is to be installed to prevent the discharge of polluting materials.

The project will involve the clearing of soil and subsoil during the construction phase. There is potential for the release of sediment into the water due to the proximity of the stream / drain and river to the development. In addition, mounded soil currently on the site's north eastern boundary has various bits of old building materials visible and half buried beneath the soil. Old insulation, metal and plastic, likely to be from the previous development are visible (see photographs 5 and 6 in Appendix 3). Once earth works begin there is a potential for the release of these items, and potentially other unknown materials, into the waterways, causing pollution of the water source.

Species impacts could also include direct disturbance due to presence of machinery during construction, and indirect impact, for example, that which could be potentially caused by pollution of water sources due to accidental discharge of construction material into watercourses and/or sedimentation of the watercourses.

While numerous qualifying species are recorded for the SACs and SPAs there are no existing records of them occurring within the site boundary. However, there was evidence of well used mammal tracks in the north east corner and just beyond the site boundary (in the wetland areas). As some of the tracks were entering and leaving the stream there is a possibility that these tracks were used by otter. The nearest otter records are within 2.3km of the site. A mammal had also attempted to dig into the bank but as the bank is relatively unstable the hole was partially collapsed. In addition, frogs were using the site and many of the temporary pools on the site on the day of the site visit were occupied by frog spawn.

Otters, along with their breeding and resting places, are protected under the provisions of the Wildlife Act, (1976, amended, 2000. Otters are also included in Annex II and Annex IV of the Habitats Directive, which is transposed into Irish law in the European Communities (Natural Habitats) Regulations (S.I. 94 of 1997), as amended.

Frogs are protected under the Irish Wildlife Act (1976, amended 2000) and are listed on Annex V of the Directive on the Conservation of Natural Habitats of Wild Fauna and Flora (92/43/EEC), (Habitats & Species Directive).

Mammal tracks could also have been made by badger which have been recorded with 750m of the site.

Post construction impacts could include increase in traffic volumes on the site and a potential increase in air pollution.

With the potential for sediment run off and pollution from the site into the nearby stream and from there into river that lies 208m from the site (and possible deterioration of the water quality of river), the potential to affect water quality of the nearby SAC and SPA, and the potential disturbance to qualifying species such as otter and protected species such as Common frog, there are potential significant effects associated with the proposed project on the qualifying features of interest of Cummeen Strand / Drumcliff Bay SAC and Cummeen Strand SPA. Therefore, it will be necessary to go to Stage 2 of the AA process.

3.3.2 Cumulative impacts – other projects

Under Appropriate Assessment it is necessary to investigate if there are any other projects or plans that together with the project outlined here could affect the Natura 2000 Sites. Table 3 below lists other proposed plans accesses through the Sligo County Council planning database.

Table 4: Planning application near proposed development site

Sligo County Council Planning Application Number	Description	Is there a risk of significant impact or in combination effects from the plans
19144	Change of house design from previous planning permission	There is unlikely to be any significant impacts or 'in combination' effect on the SACs and SPA due to small scale of proposed plan. Plans are subject to planning permission.
19143	Change of house design from previous planning permission	There is unlikely to be any significant impacts or 'in combination' effect on the SACs and SPA due to small scale of proposed plan. Plans are subject to planning permission.
19284	demolition of part of house and re-development of dwelling	There is unlikely to be any significant impacts or 'in combination' effect on the SACs and SPA due to small scale of proposed plan. Plans are subject to planning permission.
19117	Development of Advance Office Building and works	There is unlikely to be any significant impacts or 'in combination' effect on the SACs and SPA due to small scale of proposed plan. Plans are subject to planning permission.
193	Demolition of garage and outbuildings and alterations and extension to dwelling	There is unlikely to be any significant impacts or 'in combination' effect on the SACs and SPA due to small scale of proposed plan. Plans are subject to planning permission.
19352	extension to existing building	There is unlikely to be any significant impacts or 'in combination' effect on the SACs and SPA due to small scale of proposed plan. Plans are subject to planning permission.
1932	construction of link corridor to buildings	There is unlikely to be any significant impacts or 'in combination' effect on the SACs and SPA due to small scale of proposed plan. Plans are subject to planning permission.
19189	ESB sub-station and works	There is unlikely to be any significant impacts or 'in combination' effect on the SACs and SPA due to small scale of

		proposed plan. Plans are subject to planning permission.
19183	Development of site and refurbishment of existing building to apartments	There is unlikely to be any significant impacts or 'in combination' effect on the SACs and SPA due to small scale of proposed plan. Plans are subject to planning permission.
19305	Retention of alterations on site, parking and alterations to facade	There is unlikely to be any significant impacts or 'in combination' effect on the SACs and SPA due to small scale of proposed plan. Plans are subject to planning permission.

3.3.3 Cumulative impacts – other plans

It is a requirement of Appropriate Assessment that the 'in-combination' (the cumulative development with any other plans) effects be assessed. A search of Sligo County Council Planning enquiry system was conducted for plans that may have in-combination effects on the listed Natura 2000 sites.

Table 5: Other plans and possible impacts

Plan	Summary objectives	Possible impacts from plans	Is there a risk of significant in combination effects from the plans
Sligo County Development Plan 2017-2023	http://www.sligococo.ie/cdp/	No negative impacts envisaged for with exception of proposed amendment (A-MP-23-4) on the integrity of the Unshin River Natura 2000 site and NIS recommended that the proposed amendment should not be adopted as part of the Draft Sligo County Development Plan 2017-2023.	All the policies and objectives for development contained in Volume 1 and Volume 2 of Plan were subject to compliance with the requirements of the Habitats Directive and, where relevant, those of the Birds Directive, EIA directive and relevant national legislation.
River Basin Management Plan for Western River Basin District in Ireland	<ol style="list-style-type: none"> 1. Prevent deterioration 2. Restore good status 3. Reduce chemical pollution 4. Achieve water related protected areas objectives. 	No negative impacts envisaged	Screening completed for this plan – no significant 'in combination' effects

3.4 Stage 1 Screening Conclusion and Statement

The Screening process identified fifteen Natura 2000 sites within a 15km radius of the proposed project, nine SACs and six SPA. The proposed project is situated 0.27km from Cummeen Strand / Drumcliff Bay SAC and 0.33km from Cummeen Strand SPA.

In line with screening carried out by Sligo County Council, the current screening exercise concludes that potential significant effects on Cummeen Strand / Drumcliff Bay SAC and Cummeen Strand SPA are likely or uncertain. Therefore, the project must proceed to Stage 2 (AA).

See also Screening Matrix in Appendix 1.

SECTION 4

4.0 Stage 2: Natura Impact Statement to inform Appropriate Assessment

4.1 Introduction

Stage 2 Appropriate Assessment considers whether the plan or project, alone or in combination with other projects or plans, will have adverse effects on the integrity of a Natura 2000 site, and includes any mitigation measures necessary to avoid, reduce or offset negative effects.

The proponent of the plan or project is required to submit a Natura Impact Statement (NIS) to identify and characterise any possible implications for the site in view of the site's conservation objectives, taking account any potential in combination effects.

The NIS provides information to enable the competent authority to carry out the appropriate assessment. The AA is carried out by the competent authority and is supported by the NIS.

The Stage 1 Screening concluded that there was potential for effects on Cummeen Strand / Drumcliff Bay SAC and Cummeen Strand SPA are likely or uncertain by the proposed development (see Table 1 and Section 5.1 above), due to the potential for pollution and sediment run off from the site into the waterways and the potential disturbance to protected species. Therefore, it is necessary to move to Stage 2 of the AA process.

Table 6: Natura 2000 site subject to Stage 2 Appropriate Assessment

Site Name & Site Code	Qualifying Interests – habits and species (* denotes a priority habitat)	Comment	Conservation Objectives
Cummeen Strand/Drumcliff Bay (Sligo Bay) SAC 000627	1130 Estuaries	Lies within 0.5km of site	See Table 7 below
	1140 Mudflats and sandflats not covered by seawater at low tide	Lies within 0.5km of site	
	2110 Embryonic shifting dunes	Over 6km from site	
	2120 Shifting dunes along the shoreline with <i>Ammophila arenaria</i> (white dunes)	Over 6km from site	
	2130 Fixed coastal dunes with herbaceous vegetation (grey dunes)*	Over 6km from site	
	5130 <i>Juniperus communis</i> formations on heaths or calcareous grasslands	Over 5km from site	
	7220 Petrifying springs with tufa formation (Cratoneurion)*	2.6km from site	
	1365 Harbour Seal (<i>Phoca vitulina</i>)	Habitats within 0.5km,	

		breeding site are 5km+ from site	
	1014 Narrow-mouthed Whorl Snail (<i>Vertigo angustior</i>)	Known site 6km from site	
	1095 Sea Lamprey (<i>Petromyzon marinus</i>)		
	1099 River Lamprey (<i>Lampetra fluviatilis</i>)		
Cummeen Strand SPA 004035	A130 Oystercatcher (<i>Haematopus ostralegus</i>)	Winter records within 10km ² G63, Bird Atlas 2007 – 2011. Nationally important numbers	See Table 7 below
	A046 Light-bellied Brent Goose (<i>Branta bernicla hrota</i>)	Winter records within 10km ² G63, Bird Atlas 2007 – 2011. Internationally important numbers	
	A162 Redshank (<i>Tringa totanus</i>)	Winter records within 10km ² G63 Bird Atlas 2007 - 2011	
	Wetlands	Lies within 0.5km of site	

4.2 Impact Prediction

The proposed development is situated 270m from Cummeen Strand / Drumcliff Bay (Sligo Bay) SAC and 330m from Cummeen Strand SPA. There will therefore be no direct impact in terms of habitat loss, habitat or species fragmentation of the Natura 2000 sites. The site is mainly a brown-field site that was previously cleared for development but then abandoned. Trees, mainly young alder and some willow have established themselves in the northern corner of the site. There is a small stream / drain, and a small area of wetland, in the north east corner of the site.

There are a couple of streams / drains along the proposed development site boundary, and along the eastern and northern boundary of the site. It appears that one of these streams was diverted during the previous works on the site. The developer proposes that the stream and drain will be piped and back filled. A small river (EPA name: Knappagh 35, EPA Code: 35K42) lies 208m to the north of the site. The waterbodies are hydrologically linked to the Cummeen Strand / Drumcliff Bay (Sligo Bay) SAC and Cummeen Strand SPA. The development will involve the clearing of soil and subsoil during the construction phase and are also likely during site preparation and post construction phases. The developer proposes that the ground be raised in the north eastern corner by approximately 1.5m. There is potential for the release of sediment into the waterways due to the proximity to the proposed developments.

Discarded building materials from the previous development are present on site, both on the surface and partially buried in the north eastern half of the site under soil that had been previously moved. The developer proposes to clear the rubbish from the site. There is the

potential for this pollution to enter the waterways and from the waterways enter the SPA and SAC.

Species impacts could also include direct disturbance due to presence of machinery during construction, and indirect impact which could be potentially caused by pollution of the river due to accidental discharge of construction material into watercourses and or sedimentation of the watercourses. Shorebirds on Cummeen Strand are unlikely to be impacted by noise or direct disturbance due to the distance from the site.

There is evidence that mammals use the site and animal tracks seen during the field survey may well be used by otters. Increased human activity and disturbance during construction may impact otter movements. In addition, increase human disturbance, once the housing development has been completed, is likely to occur. Disturbance to otter populations it is unlikely to be significant as there are sufficient feeding areas for otters in the area due to the proximity of the coastal habitats and other rivers. Badgers are recorded within 750m of the site, and tracks could be as result of badger activity. As with otters, disturbance to badger populations is unlikely to be significant, as there is unlikely to be loss of feeding areas.

Otters are protected under the Wildlife Act 1976, as amended by the Wildlife (Amendment) Act 2000, making it illegal to hunt, disturb or intentionally kill them. This legislation also protects their breeding and resting places. Under European legislation the otter is listed on Annex II and Annex IV of the EU Habitats Directive (92/43/EEC).

Frogs have used the temporary pools on the site as spawning areas, and frog spawn was present in a number of these pools on the day of the field survey. It will take 12-16 weeks for the spawn to develop into fully formed frogs. Once tadpoles are frogs then will leave the pools and migrate to the surrounding habitats.

Frogs are protected under the Irish Wildlife Act (1976, amended 2000) and are listed on Annex V of the Directive on the Conservation of Natural Habitats of Wild Fauna and Flora (92/43/EEC), (Habitats & Species Directive).

4.3 Conservation Objectives of the Cummeen Strand / Drumcliff Bay SAC and Cummeen Strand SPA

The general aim of the Habitats Directive is to maintain or restore the favorable conservation status of habitats and species of community interest. European and national legislation places a shared obligation on Ireland and its citizens to maintain habitats and species in the Natura 2000 network (SACs and SPAs) at favourable conservation status. The Government and its agencies are responsible for the implementation and enforcement of regulations that will ensure the ecological integrity of these sites.

According to the EU Habitats Directive, favourable conservation status of a habitat is achieved when:

- Its natural range, and area it covers within that range, is stable or increasing
- The specific structure and functions which are necessary for its long-term maintenance

- exist and are likely to continue to exist for the foreseeable future
- The conservation status of its typical species is favourable

The favourable conservation status of a species is achieved when:

- Population dynamics data on the species concerned indicate that it is maintaining itself on a long-term basis as a viable component of its natural habitats
- The natural range of the species is neither being reduced nor is likely to be reduced for the foreseeable future
- There is, and will probably continue to be, a sufficiently large habitat to maintain its populations on a long-term basis.

In the National Parks and Wildlife Service, Conservation Objectives Series, Cummeen Strand / Drumcliff Bay (Sligo Bay) SAC conservation objectives are listed below.

Table 7: Conservation Objectives Cummeen Strand / Drumcliff Bay (Sligo Bay) SAC (000627):

Habitats	Code	Objective
Estuaries	1130	<p>To maintain the favourable conservation condition of Estuaries in Cummeen Strand/Drumcliff Bay (Sligo Bay) SAC, which is defined by the following list of attributes and targets:</p> <p>Attribute: Habitat area Target: The permanent habitat area is stable or increasing, subject to natural processes.</p> <p>Attribute: Community extent Target: Maintain the extent of the <i>Zostera</i>-dominated community and the Mytilidae-dominated community complex, subject to natural processes.</p> <p>Attribute: Community structure: <i>Zostera</i> density Target: Conserve the high quality of the <i>Zostera</i>-dominated community, subject to natural processes.</p> <p>Attribute: Community structure: <i>Mytilus edulis</i> density Target: Conserve the high quality of the Mytilidae-dominated community complex, subject to natural processes.</p> <p>Attribute: Community distribution Target: Conserve the following community types in a natural condition: Intertidal fine sand with <i>Peringia ulvae</i> and <i>Pygospio elegans</i> community complex; Estuarine mixed sediment to sandy mud with <i>Hediste diversicolor</i> and oligochaetes community complex; Fine sand with <i>Angulus</i> spp. and <i>Nephtys</i> spp. community complex; Sand to mixed sediment with amphipods community; Intertidal reef community.</p>
Mudflats and sandflats not covered by seawater at low tide	1140	To maintain the favourable conservation condition of Mudflats and sandflats not covered by seawater at low tide in Cummeen Strand/Drumcliff Bay (Sligo Bay) SAC, which is defined by the

		<p>following list of attributes and targets:</p> <p>Attribute: Habitat area Target: The permanent habitat area is stable or increasing, subject to natural processes.</p> <p>Attribute: Community extent Target: Maintain the extent of the <i>Zostera</i>-dominated community and the Mytilidae-dominated community complex, subject to natural processes.</p> <p>Attribute: Community structure: <i>Zostera</i> density Target: Conserve the high quality of the <i>Zostera</i>-dominated community, subject to natural processes.</p> <p>Attribute: Community structure: <i>Mytilus edulis</i> density Target: Conserve the high quality of the Mytilidae-dominated community complex, subject to natural processes.</p> <p>Attribute: Community distribution Target: Conserve the following community types in a natural condition: Intertidal fine sand with <i>Peringia ulvae</i> and <i>Pygospio elegans</i> community complex; Estuarine mixed sediment to sandy mud with <i>Hediste diversicolor</i> and oligochaetes community complex; Fine sand with crustaceans and <i>Scololepis</i> (<i>Scololepis</i>) squamata community complex; Fine sand with <i>Angulus</i> spp. and <i>Nephtys</i> spp. community complex.</p>
Embryonic shifting dunes	2110	<p>To maintain the favourable conservation condition of Embryonic shifting dunes in Cummeen Strand/Drumcliff Bay (Sligo Bay) SAC, which is defined by the following list of attributes and targets:</p> <p>Attribute: Habitat area Target: Area stable or increasing, subject to natural processes including erosion and succession. For sub-sites mapped: Coney Island - 0.67ha, Rosses Point - 32.27ha, Strandhill - 0.18ha, Yellow Strand - 0.83ha.</p> <p>Attribute: Habitat distribution Target: No decline, subject to natural processes.</p> <p>Attribute: Physical structure: functionality and sediment supply Target: Maintain the natural circulation of sediment and organic matter, without any physical obstructions.</p> <p>Attribute: Vegetation structure: zonation Target: Maintain the range of coastal habitats including transitional zones, subject to natural processes including erosion and succession.</p> <p>Attribute: Vegetation composition: plant health of foredune grasses Target: More than 95% of sand couch (<i>Elytrigia juncea</i>) and/or lyme-grass (<i>Leymus arenarius</i>) should be healthy (i.e. green plant</p>

		<p>parts above ground and flowering heads present).</p> <p>Attribute: Vegetation composition: typical species and sub-communities Target: Maintain the presence of species-poor communities with typical species: sand couch (<i>Elytrigia juncea</i>) and/or lyme-grass (<i>Leymus arenarius</i>)</p> <p>Attribute: Vegetation composition: negative indicator species Target: Negative indicator species (including non-native species) to represent less than 5% cover.</p>
Fixed coastal dunes with herbaceous vegetation (grey dunes)	2130	<p>To restore the favourable conservation condition of Fixed coastal dunes with herbaceous vegetation ('grey dunes') in Cummeen Strand/Drumcliff Bay (Sligo Bay) SAC, which is defined by the following list of attributes and targets:</p> <p>Attribute: Habitat area Target: Area increasing, subject to natural processes including erosion and succession. For sub-sites mapped: Coney Island - 15.06ha; Rosses Point - 21.89ha; Strandhill - 40.14ha; Yellow Strand - 19.16ha.</p> <p>Attribute: Habitat distribution Target: No decline or change in habitat distribution, subject to natural processes.</p> <p>Attribute: Physical structure: functionality and sediment supply Target: Maintain the natural circulation of sediment and organic matter, without any physical obstructions.</p> <p>Attribute: Vegetation structure: zonation Target: Maintain the range of coastal habitats including transitional zones, subject to natural processes including erosion and succession.</p> <p>Attribute: Vegetation structure: bare ground Target: Bare ground should not exceed 10% of fixed dune habitat, subject to natural processes.</p> <p>Attribute: Vegetation structure: sward height Target: Maintain structural variation within sward.</p> <p>Attribute: Vegetation composition: typical species and sub-communities Target: Maintain range of sub-communities with typical species.</p> <p>Attribute: Vegetation composition: negative indicator species (including <i>Hippophae rhamnoides</i>) Target: Negative indicator species (including non-natives) to represent less than 5% cover.</p> <p>Attribute: Vegetation composition: scrub/trees Target: No more than 5% cover or under control.</p>

<p><i>Juniperus communis</i> formations on heaths or calcareous grasslands</p>	<p>5130</p>	<p>To restore the favourable conservation condition of <i>Juniperus communis</i> formations on heaths or calcareous grasslands in Cummeen Strand/Drumcliff Bay (Sligo Bay) SAC, which is defined by the following list of attributes and targets:</p> <p>Attribute: Formation area Target: Area increasing, subject to natural processes.</p> <p>Attribute: Habitat distribution Target: No decline</p> <p>Attribute: Juniper population size Target: At least 50 plants per population</p> <p>Attribute: Formation structure: cover and height Target: Well-developed structure with an open to closed cover of juniper up to or exceeding 0.45m in height with associated species</p> <p>Attribute: Formation structure: community diversity and extent Target: Appropriate community diversity and extent.</p> <p>Attribute: Formation structure: cone-bearing plants Target: At least 10% of plants bearing cones.</p> <p>Attribute: Formation structure: seedling recruitment Target: At least 10% of juniper plants within the formation are seedlings.</p> <p>Attribute: Formation structure: amount of each plant dead Target: Mean percentage of each juniper plant dead not more than 10%.</p> <p>Attribute: Vegetation composition: typical species Target: A variety of typical native species with a minimum of 10 species present (excluding negative indicator species).</p> <p>Attribute: Vegetation composition: negative indicator species Target: Negative indicator species, particularly non-native invasive species, absent or under control.</p>
<p>Petrifying springs with tufa formation (<i>Cratoneurion</i>)</p>	<p>7220</p>	<p>To maintain the favourable conservation condition of Petrifying springs with tufa formation (<i>Cratoneurion</i>) in Cummeen Strand/Drumcliff Bay (Sligo Bay) SAC, which is defined by the following list of attributes and targets:</p> <p>Attribute: Habitat area Target: Area increasing, subject to natural processes.</p> <p>Attribute: Habitat distribution Target: No decline</p> <p>Attribute: Hydrological regime: height of water table; water flow Target: Maintain appropriate hydrological regimes</p>

		<p>Attribute: Water quality Target: Maintain oligotrophic and calcareous conditions</p> <p>Attribute: Vegetation composition: typical species Target: Maintain typical species.</p>
Marsh Snail <i>Vertigo angustior</i>	1014	<p>To maintain the favourable conservation condition of Narrow-mouthed Whorl Snail in Cummeen Strand/Drumcliff Bay (Sligo Bay) SAC, which is defined by the following list of attributes and targets:</p> <p>Attribute: Presence on transect Target: Adult or sub-adult snails are present in four of the grassland zones on the transect where optimal or sub-optimal habitat occurs (minimum 5 samples).</p> <p>Attribute: Presence Target: Adult or sub-adult snails are present in at least 6 other places at the site with a wide geographical spread (minimum of 8 sites or 75% of sites sampled).</p> <p>Attribute: Transect habitat quality Target: At least 75m of habitat along the transect is classed as optimal and 150m of habitat along the transect is classed as sub-optimal or optimal.</p> <p>Attribute: Transect optimal wetness Target: Soils, at time of sampling, are damp (optimal wetness) and covered with a layer of humid thatch for more than 130m along the transect.</p> <p>Attribute: Habitat extent Target: 12-15ha of the site optimal and a further 11-14ha sub-optimal. Optimal habitat is defined as fixed dune, species-rich grassland dominated by red fescue (<i>Festuca rubra</i>), with sparse marram grass (<i>Ammophila arenaria</i>), lady's bedstraw (<i>Galium verum</i>), eyebright (<i>Euphrasia</i> sp.), mouse-ear-hawkweed (<i>Pilosella officinarum</i>) and other low growing herbs. Vegetation height 10-30cm. Habitat growing on damp, friable soil covered with a layer of humid, open structured thatch. Sub-optimal habitat is defined as for optimal but either vegetation height is less than 10cm or between 30 and 50cm; or the vegetation contains mounds of moss or willow (<i>Salix</i> spp.) scrub; or the soil is dry and sandy; or the thatch is wetter with a denser structure.</p>
Sea Lamprey <i>Petromyzon marinus</i>	1095	<p>To restore the favourable conservation condition of Sea Lamprey in Cummeen Strand/Drumcliff Bay (Sligo Bay) SAC, which is defined by the following list of attributes and targets:</p> <p>Attribute: Distribution: extent of anadromy Target: No barriers for migratory life stages of lamprey moving from freshwater to marine habitats and vice versa.</p>

Harbour seal <i>Phoca vitulina</i>	1365	<p>To maintain the favourable conservation condition of Harbour Seal in Cummeen Strand/Drumcliff Bay (Sligo Bay) SAC, which is defined by the following list of attributes and targets</p> <p>Attribute: Access to suitable habitat Target: Species range within the site should not be restricted by artificial barriers to site use.</p> <p>Attribute: Breeding behaviour Target: Conserve the breeding sites in a natural condition.</p> <p>Attribute: Moulting behaviour Target: Conserve the moult haul-out sites in a natural condition.</p> <p>Attribute: Resting behaviour Target: Conserve the resting haul-out sites in a natural condition.</p> <p>Attribute: Disturbance Target: Human activities should occur at levels that do not adversely affect the harbour seal population at the site</p>
------------------------------------	------	---

In the National Parks and Wildlife Service, Conservation Objectives Series, Cummeen Strand SPA conservation objectives are listed below.

Species	Code	Objective
Brent Goose <i>Branta bernicla hrota</i>	A046	<p>To maintain the favourable conservation condition of Light-bellied Brent Goose in Cummeen Strand SPA, which is defined by the following list of attributes and targets:</p> <p>Attribute: Population trend Target: Long term population trend stable or increasing</p> <p>Attribute: Distribution Target: No significant decrease in the range, timing and intensity of use of areas by light-bellied brent goose, other than that occurring from natural patterns of variation.</p>
Oystercatcher <i>Haematopus ostralegus</i>	A130	<p>To maintain the favourable conservation condition of Oystercatcher in Cummeen Strand SPA, which is defined by the following list of attributes and targets:</p> <p>Attribute: Population trend Target: Long term population trend stable or increasing</p> <p>Attribute: Distribution Target: No significant decrease in the range, timing and intensity of use of areas by oystercatcher, other than that occurring from natural patterns of variation</p>
Redshank <i>Tringa totanus</i>	A162	<p>To maintain the favourable conservation condition of Redshank in Cummeen Strand SPA, which is defined by the following list of attributes and targets:</p>

		<p>Attribute: Population trend Target: Long term population trend stable or increasing</p> <p>Attribute: Distribution Target: No significant decrease in the range, timing and intensity of use of areas by redshank, other than that occurring from natural patterns of variation.</p>
Wetlands	A999	<p>To maintain the favourable conservation condition of wetland habitat in Cummeen Strand SPA as a resource for the regularly occurring migratory waterbirds that utilise it. This is defined by the following attribute and target:</p> <p>Attribute: Habitat area Target: The permanent area occupied by the wetland habitat should be stable and not significantly less than 1732 hectares, other than that occurring from natural patterns of variation.</p>

SILGO GO GO
VIEWING PURPOSES

4.4 Assessment of potential adverse impacts on Natura site

Once the effects of the project or plan have been identified and predicted, it is then necessary to assess whether there will be adverse effects on the integrity of the site as defined by the conservation objectives and status of the site.

Table 8: Assessment of potential adverse impacts on Natura Sites and protected species

Potential adverse Impacts	Characterisation of unmitigated impact on the feature	Effect without mitigation	Mitigation required
Site preparation and construction impacts: site clearance	Sedimentation, pollution of water, damage to habitats	Damage to habitats, deterioration of water quality from pollution from surface water run-off. Potential to be significant	Yes, see below Section 4.5.6
Site preparation and construction impacts: raising soil levels at north east corner of site	Sedimentation, pollution of water, damage to habitats	Damage to habitats, deterioration of water quality from pollution from surface water run-off. Potential to be significant	Yes, see below Section 4.5.6
Site preparation and construction impacts: site pollution	Potential pollution of water and damage to habitats due to poor site management and inappropriate site preparation and construction techniques, including the disposal of construction related wastes.	Damage to habitats, deterioration of water quality from pollution. Potential impacts are uncertain as it is not clear what is buried under the soil	Yes, see Section 4.5.6. The developer proposes attenuation of surface water on site and a petrol interceptor is to be installed to prevent the discharge of polluting materials.
Site preparation and construction impacts: disturbance	Site clearance and construction activities could result in increased human activity and noise levels	Disturbance to local wildlife. Affect will be relatively short term and unlikely to be significant	Apply precautionary principle – see below Section 4.5.3
Post construction/ completion phase: disturbance	Increase in human activity and traffic	Disturbance to local wildlife is unlikely to be significant.	Apply precautionary principle - see section 4.5.3 and 4.5.4
Operational impacts: Surface water run-off	Deterioration of the water quality of nearby Natura 2000 sites resulting from pollution/eutrophication caused by surface water runoff	Damage to habitats, deterioration of water quality from pollution	Surface water runoff is addressed in the Engineering Survey Report (ref:811014/POG/DOM)

Operational impacts: Foul drainage/sewer	Deterioration of the water quality of nearby Natura 2000 sites resulting from pollution/eutrophication	Damage to habitats, deterioration of water quality from pollution	Foul Drainage is addressed in the Engineering Survey Report (ref:811014/POG/DOM)
Operational impacts: disturbance	Increased human activity could impact on mammal populations	Disturbance to local wildlife.	Apply precautionary principle – see below Section 4.5.3
Climate change	Increased CO2 levels, due to building and increase traffic	Increase in CO2 and other pollution levels	See section 4.5.7

4.5 Measures to Mitigate Potential Adverse Impacts

Mitigation refers to all works required to comply with legislation during development within protected areas or on sites occupied by protected species. Generally, there are two elements to this process:

- Mitigation - refers to practices, which reduce or remove damage.
- Compensation – which refers to works, which offset the damage caused by the development.

To minimise environmental impacts, it is important in the first instance that the following general principles are taken on board:

- Implementation of good construction work practices on site.
- Working in accordance with relevant legislation, including that relating to invasive species.
- Contractors should ensure adequate site supervision and security.
- Construction workers should be briefed to ensure that environmental issues are taken into consideration and that guidelines and codes of practice are followed.

4.5.1 Habitat Loss

No direct mitigation is proposed as no habitat loss of Natura 2000 sites will occur.

4.5.2 Fragmentation

No direct mitigation is proposed as no fragmentation of Natura 2000 sites will occur.

4.5.3 Disturbance

Disturbance could be caused by noise during the construction of the development and associated works. Otters are largely nocturnal. Therefore, all works should be restricted to daylight hours, so as to cause as little disturbance as possible. Once complete the project

should cause little disturbance to the protected qualifying species. An area of dense cover on the rear side of the garden fences in the north east corner of the site (house numbers 78, 79 and 80) would allow for the safe movement of otters and badgers. This cover could be in the form of hazel or willow scrub or native reeds.

4.5.4 Species impact

See 4.5.3 above and 4.5.6 below.

In order to mitigate against the loss of breeding habitat for the local frog population the developer could consider the inclusion of a wildlife pond in the open space areas of the development. Alternatively, house owners could be encouraged to develop garden ponds.

4.5.5 Water Resource

No direct mitigation is proposed as water resource will not be impacted.

4.5.6 Water Quality

Mitigation measures aim to eliminate both the discharge of polluting materials (e.g. fuel or oil from vehicles; concrete etc.) and the mobilisation of silts and sediments into the watercourses. Pollution may occur following accidents that result in spillage of fuel or other materials. Strict pollution prevention measures must be implemented during construction of houses to avoid siltation or discharge of pollutants.

It is advised that the developer has Environmental Control Measures & Mitigation Method Statements in place prior to work commencing. These statements should cover the following elements.

Pre-construction

- All waste material, plastic etc. to be removed from site and disposed of in proper licenced waste facility.
- All machinery should be jet-washed in approved facility prior to arrival on site to ensure there is no cross contamination.
- The contractor will be responsible for selecting the location of construction compounds. These compounds should not be located in the vicinity of the stream.

Construction site set up

- Machinery depots and site offices should be located as far away as possible from the watercourse. Foul drainage from the site offices and facilities will be properly treated and removed to a suitable treatment facility.

Sediment control measures

These measures should aim to minimise sediment mobilisation by reducing soil disturbance through careful planning, which includes timing of operations and the use of appropriate machinery. During construction it will be necessary to install a silt fence along the north and north eastern site boundary to prevent any silt running from the site into the stream.

- Containment of site run-off. A silt fence should be appropriately located near the watercourse to help prevent untreated surface water run-off entering the

watercourse. Any surface water run-off must be treated to ensure that it is free from suspended solids, oil or any other polluting materials. Silty water should be treated using silt trays/settlement ponds and temporary interceptors and traps.

- Soil stripping should only occur during periods of dry weather.

Construction

Standard good building practices should always be followed with extra care given to following:

- Sediment control measures must be put in place during construction as detailed above.
- Shuttering needs to be adequately secured and sealed to ensure no leakage of concrete. Ensure shutters are stable enough to eliminate failures.
- There should be strict supervision of the delivery of concrete to site.
- All concrete pouring should be carried out in dry weather.
- All concrete pouring should be monitored carefully to ensure no accidental discharge.
- Mixer washings and excess concrete should not be discharged near the water course and should be carried out in designated area well away from the watercourse (a minimum of 50m).
- Run-off from the working site or any areas of exposed soil will be contained in a settlement pond before discharged to designated soak-away area.

Hydrocarbon use

Hydrocarbon use (e.g. fuel) during construction may lead to potential pollution of the waterway. Examples of potential threats include spillages during re-fuelling operations, leaks in poorly maintained plant and machinery and the use of oil on shuttering boards.

- Fuel storage - any fuels, lubricants and hydraulic fluids stored on site should be kept in secure bunded areas away from the watercourse (recommend a minimum of 100m from watercourse). The bunded area will accommodate 110% of the total capacity of the containers within it. Containers will be properly secured to prevent unauthorised access and misuse. An effective spillage procedure should be put in place (see below). Any waste oils or hydraulic fluids should be collected, stored in appropriate containers and disposed of off-site in an appropriate manner.
- The contractor should provide spill kits and they should be stored on-site during construction and used in the event of a fuel or chemical spillage. Such kits should contain absorbent materials (such as absorbent granules, or mats). Appropriate operatives responsible for handling chemicals or oils or for plant refuelling should be trained in the use of this kit.
- Re-fuelling and lubrication of plant should not occur within 50m of the river. Appropriate drip-trays should be used. Vehicles should never be left unattended during re-fuelling.
- All construction vehicles should be regularly maintained and checked to prevent hydrocarbon leaks.

- All stationary machinery such as pumps should be placed on drip trays to contain any hydrocarbon spillages. These trays will be checked regularly, and rainwater removed to maintain their effectiveness.
- Biodegradable, vegetable-based oils should be used to oil shuttering boards.
- Any hydraulically operated machinery to be used within 50m of the river should utilize synthetic biodegradable hydraulic oil such as *Castrol Tribol Biotop 1448*.

Site decommissioning

Decommissioning of the construction site needs to be carefully managed as there is the potential for polluting material to enter the waterway.

- Any contaminated materials should be removed from the site and disposed of in the appropriate manner.
- No construction materials, plant or machinery should be left on site following completion of works.

4.5.7 Climate change

Consider the planting of native trees and native shrubs as part of development.

4.6 Conclusions

Screening for Appropriate Assessment of the proposed development has been carried out. There was potential for effects on Cummeen Strand / Drumcliff Bay SAC and Cummeen Strand SPA, due to the potential for pollution and sediment run off from the site into the waterways and the potential disturbance to protected species.

The risks to the safeguarding and integrity of the qualifying interests and conservation objectives of the Natura 2000 site have been addressed by the inclusion of mitigation measures (see 4.5 above) that will reduce and eliminate the potential impacts.

The NIS (Section 4) provides information to enable the Competent Authority to carry out the Appropriate Assessment.

SECTION 5 - References

Appropriate Assessment of Plans and Projects in Ireland. Guidance for Planning Authorities. Environment, Heritage and Local Government (2009 - Revised February 2010)

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. European Commission. (Nov. 2001 – published 2002)

Circular NPW 1/10 & PSSP 2/10 (March 2010)

CIEEM (2018). The Guidelines for Ecological Impact Assessment in the UK and Ireland

EU Guidance document on Article 6(4) of the 'Habitats Directive' 92/43/EEC (2007)

Managing Natura 2000 Sites: The provisions of Article 6 of the 'Habitats' Directive 92/43/EEC (2000).

NPWS (2013) Conservation Objectives: Cummeen Strand SPA 004035. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.

NPWS (2013) Conservation Objectives: Cummeen Strand/Drumcliff Bay (Sligo Bay) SAC 000627. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.

Cummeen Strand Special Protection Area (Site Code 4035). Conservation Objectives - Supporting Document. VERSION 1. National Parks & Wildlife Service. September 2013

Cummeen Strand/Drumcliff Bay (Sligo Bay) SAC (site code 627). Conservation objectives supporting document-coastal habitats. NPWS. Version 1. August 2013

NPWS (2018) Conservation objectives for Lough Gill SAC [001976]. Generic Version 6.0. Department of Culture, Heritage and the Gaeltacht.

NPWS (2013) Conservation Objectives: Ballysadare Bay SAC 000622. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.

Dwyer, R. G., Bearhop, S., Campbell, H.A., and Bryant, D. M. (2012) Shedding light on light: benefits of anthropogenic illumination to a nocturnally foraging shorebird Ross G. *Journal of animal ecology*
<https://besjournals.onlinelibrary.wiley.com/doi/abs/10.1111/1365-2656.12012>

Sligo County Council – Appropriate assessment – Stage 1 Screening Matrix

SECTION 6 - Appendices

Appendix 1 – Screening Matrix

Screening Matrix

<i>Description of project</i>	See section 3.1
<i>Description of Natura 2000 sites</i>	See section 3.2

Assessment Criteria	
<i>Describe the individual elements of the project (either alone or in combination with other plans or projects) likely to give rise to impacts on the Natura 2000 site.</i>	Screening for Appropriate Assessment of the proposed development determined that there were potential significant effects associated with the proposed project on the qualifying features of interest of Cummeen Strand / Drumcliff Bay SAC and Cummeen Strand SPA. These were the potential to impact water quality. Disturbance otters, a protected and Annex II and IV species, and frogs, a protected and an Annex V species, though not a qualifying species for the SPA and SAC, could also occur.
<i>Describe any likely direct, indirect or secondary impacts of the project (either alone or in combination with other plans or projects) on the Natura 2000 site by virtue of:</i>	<p>There were potential impacts to the integrity of Cummeen Strand / Drumcliff Bay SAC and Cummeen Strand SPA. These are potential to impact water quality and potential impacts on protected species though not qualifying species for Cummeen Strand / Drumcliff Bay SAC and Cummeen Strand SPA could also occur.</p> <p>Size and scale The size and scale of the project will involve the development of 1.176 hectares with 34 terraced houses and 4 maisonettes. However, there will be no loss of habitats within Natura 2000 sites.</p> <p>Land-take No land will be lost from Natura 2000 sites</p> <p>Distance from the Natura 2000 site or key features of the site The distances to the Natura sites are listed in Table 1 – the site falls 270m from Cummeen Strand / Drumcliff Bay (Sligo Bay) SAC and 330m from Cummeen Strand SPA.</p> <p>Resource requirements (water abstraction etc.) The proposed development is not dependent on any resource, such as freshwater, from any of the Natura sites.</p> <p>Emissions (disposal to land, water or air) Low emissions from proposed development during construction and post construction.</p> <p>Excavation requirements Excavation will occur on site during the construction phase of the project. Potential for run-off to stream on boundary of construction site. Stream then flows toward Natura 2000 sites and toward river to the north of the site which also flows into SAC and SPA.</p> <p>Transportation requirements Minimum increase in traffic during construction phase. Will not impact Natura 2000 sites. Increase in traffic once houses</p>

	<p>become occupied. Unlikely to be significant effect on Natura 2000 sites.</p> <p>Duration of construction, operation, decommissioning, etc. Short-medium construction phase. Small impact Natura 2000 sites</p> <p>Other Records of Common frog on site and potential use of site by otters. Both protected species.</p>
Describe any likely changes to the site(s) arising as a result of:	<p>Reduction of habitat area The majority of land lost will be brownfield site, with small area of wetland in the north east corner of the site, and small area of regenerated woodland in north of site. Loss of pools and drains used by spawning frogs. There will be no loss of any of the qualifying habitats of the Natura 2000, with the exception of small area of wetland (800m²) which is not within SPA boundary.</p> <p>Disturbance of key species Potential disturbance to otter and frogs. Disturbance to shorebirds will be minimal and only caused by noise during the construction phase of project. The work is far enough away from the SACs and SPA, not to impact shore birds.</p> <p>Habitat or species fragmentation None</p> <p>Reduction in species density Species impacts could include direct disturbance due to presence of machinery during construction phase, and indirect impact, for example, that which could be potentially caused by pollution of water sources due to accidental discharge of construction material into watercourses and/or sedimentation of the watercourses. The stream on site boundary, flows into Natura 2000 sites.</p> <p>Changes in key conservation indicators Unlikely</p> <p>Climate change New homes need a lot less energy to run than older properties but building a new house generates approximately 80 tonnes of CO₂. Also additional impacts of increase in traffic.</p>
Describe any likely impacts on the Natura 2000 site as a whole in terms of:	<p>Interference with the key relationships that define the structure of the site None envisaged</p> <p>Interference with key relationships that define the function of the site None envisaged</p>
Provide indicators of significance as a result of the identification of effects set out above in terms of:	<p>Loss N/A</p> <p>Fragmentation N/A</p> <p>Disruption N/A</p> <p>Disturbance Loss of small area of habitat for protected species</p> <p>Change to key element of the site N/A</p>

The Assessment of Significance of Effects	
Describe how the project or plan (alone or in combination) is likely to affect the Natura sites.	The proposed project may impact water quality of SAC or SPA and / or cause disturbance to protected species. Mitigation measures outline in NIS required to reduce potential significant impact.
Explain why these effects are not considered significant.	The potential for significant effects on Cummeen Strand / Drumcliff Bay SAC and Cummeen Strand SPA are likely or uncertain. There are further thirteen Natura 2000 sites within a 15km radius of the proposed project, 8 SACs and 4 SPA. These sites are far enough away from the proposed development not to have an adverse impact. Mitigation measures suggested in NIS aim to eliminate any significant effects on the Natura 2000 site.
List of agencies consulted and responses, if applicable	-

Data collected to carry out the Assessment	
Who carried out the Assessment	Giorria Environmental Services
Sources of data	www.npws.ie , https://gis.epa.ie/EPAMaps/ , http://www.mayococo.ie/en/Planning/SearchPlanning/ , https://maps.biodiversityireland.ie/ Giorria Environmental Services
Level of assessment completed	Desktop and site survey
Where can full results of the Assessment screening be viewed	Sligo County Council Planning

Appendix 2 – Biodiversity Records

Table 9: Showing Biodiversity records in the vicinity of the site

Species	Date	Grid Reference	Distance (km)	Data
Otter (<i>Lutra lutra</i>)	2011	G617336	5.7	Atlas of Mammals in Ireland 2010-2015
Otter (<i>Lutra lutra</i>)	2009	G691362	2.3	Atlas of Mammals in Ireland 2010-2015
Otter (<i>Lutra lutra</i>)	2013	G691363	2.3	Atlas of Mammals in Ireland 2010-2015
Badger (<i>meles meles</i>)	14/5/2014	G660367	750m	Atlas of Mammals in Ireland 2010-2015
Badger (<i>meles meles</i>)	2/3/2015	G676361	770m	Atlas of Mammals in Ireland 2010-2015
Common Seal (<i>Phoca vitulina</i>)	2011	G63	2.2 (mid 10km grid)	Atlas of Mammals in Ireland 2010-2015
Narrow-mouthed Whorl Snail (<i>Vertigo</i> (<i>Vertilla</i>) <i>angustior</i>)	2006	G606372	6.1	All Ireland Non-Marine Molluscan Database
Sea Lamprey (<i>Petromyzon marinus</i>)	Unknown	G699359	3.1	Rare marine fishes taken in Irish waters from 1786 to 2008
White-clawed Crayfish	2003	G679421	5.8	River Biologists' Database (EPA)
Mountain Everlasting (<i>Antennaria dioica</i>)	2010	G6233	5.8	Species Data from the National Vegetation Database
Mountain Everlasting (<i>Antennaria dioica</i>)	2010	G6432	5.1	Species Data from the National Vegetation Database
Common Juniper (<i>Juniperus communis</i> subsp. <i>communis</i>)	1970-86*	G64	7.6	BSBI tetrad data for Ireland
Frog Orchid (<i>Coeloglossum viride</i>)	1987-99	G63	Within 10km grid (approx. 5km from site)	BSBI tetrad data for Ireland
Autumn Lady's-tresses (<i>Spiranthes spiralis</i>)	1970-87	G54	Within 10km grid 17km from site	BSBI tetrad data for Ireland

Other species from SAC table too far away.

* still present (pers. obs.)

Table 10: Showing qualifying species bird records in the vicinity of the site

Annex I Species	Code	Comment	Records
Oystercatcher (<i>Haematopus ostralegus</i>)	A130	Nationally important numbers on Cummeen Strand SPA. Limited potential for impact if care is taken during construction	Winter records within 10km ² G63 Bird Atlas 2007 - 2011
Light-bellied brent goose (<i>Brenta bernicola hrota</i>)	A046	Internationally important numbers occur on Cummeen Strand SPA. Limited potential for impact if care is taken during construction	Winter records within 10km ² G63 Bird Atlas 2007 - 2011
Redshank (<i>Tringa totanus</i>)	A162	Previously nationally important numbers on Cummeen Strand SPA though numbers have declined in recent years. Limited potential for impact if care is taken during construction	Winter records within 10km ² G63 Bird Atlas 2007 - 2011

Appendix 3 – photographs from site visit



Photographs 1 and 2: Showing animal tracks in wetland area adjacent to site



Photographs 3 and 4: Showing stream / drain at northern and north eastern site boundary



Photographs 5 and 6: Showing discarded building material partially buried under soil

Appendix 4 - Qualifications

Dr. Karina Dingerkus

Summary

Experienced field ecologist with twenty years' experience of working with local authorities, communities, charities, academic institutions and as a self-employed consultant.

Employment

2005-present	Self-employed Environmental Consultant, based in Co. Mayo
2000–2005	Ecology Officer, Norwich City Council
1998–2000	Environmental Liaison Officer, Ulster Wildlife Trust/Lisburn Borough Council
1997	Part time field worker for ATEC (Environmental Consultants)
1993	Fieldworker at Culterty Field Station, Aberdeen University, Scotland

Education

PhD. 1997 The Ecology and Distribution of the Irish hare in Northern Ireland, Queen's University, Belfast

BSc. 1993 (2:1 Class Hons.), Zoology (Animal Ecology), Aberdeen University, Scotland

Selected publications and reports

Various NIS reports for planning applications for private individuals.

Ballinedine Wildlife and Pollinator Wildlife (2018), Ballinedine Tidy Towns, Heritage Office, Mayo County Council

Survey of woodland at Laghtarvarry, Ballyvary and Chancery, Turlough, Co Mayo (2016) for Bernard and Zane Joyce. Unpublished report

Survey for squirrels at Jamestown Forest, Co Westmeath for Coillte (2015)

County Louth Hedgerow Survey (2014): Survey and report for Heritage Office, Louth County Council. www.louthheritage.ie/publications_39_2350481956.pdf

Nature and Wildlife in Roscommon - Action for Biodiversity, Giorria Environmental Services and Janice Fuller, Roscommon County Council (2012)

Dingerkus, SK, Stone, RE, Wilkinson, JW, Marnell F and Reid N., (2010) Developing a methodology for the National Frog Survey of Ireland: a pilot study in Co. Mayo. *Irish Naturalists' Journal* 31 No.2 2010: 85-90

West Galway Hedgerow Survey and associate hedgerow leaflets for Galway County Council (2007).

Biodiversity Action Plans for County Mayo and County Roscommon (Heritage Council funded) (2007).

County Cavan Hedgerow Report for Cavan County Council (2006).

Reid, N., Dingerkus, K., Montgomery, W.I., Marnell, F., Jeffrey, R., Lynn, D., Kingston, N. & McDonald, R.A. (2007) Status of hares in Ireland. *Irish Wildlife Manuals*, No. 30. National Parks and Wildlife Service, Department of Environment, Heritage and Local Government

Dr. Richard Stone

Experienced ornithologist and field ecologist with wide range of surveying experience including aquatic, hedgerow, bird, mammal, and vegetation surveys.

Employment

2005 - present	Self-employed Environmental Consultant, based in Co. Mayo
2003 - 2005	Organ keyboard maker. P & S Specialist Joinery, UK
2000 - 2002	Environmental Research Scientist at British Antarctic Survey, Cambridge, UK
1998 - 1999	Field Ecologist ATEC Consultants
1998	Breeding Bird survey for RSPB Northern Ireland.
1989	Set-aside survey for RSPB, bird and vegetation surveys.
1987	Vegetation survey of open cast coal sites, Wales for RSPB

Education

PhD. 1999 The ecology and behaviour of water birds in relation to human activity on Strangford Lough, Queen's University, Belfast.

BSc. 1993 (2:1 Class Hons.), Zoology (Animal Ecology), Aberdeen University, UK.

Selected publications and reports

Survey of woodland at Laghtarvarry, Ballyvarry and Chancery Turlough Co Mayo (2016) for Bernard and Zane Joyce. Unpublished report

Survey for squirrels at Jamestown Forest, Co Westmeath for Coillte (2015)

Cooper, F., Stone, R.E., McEvoy, P., Wilkins, T. & Reid, N. (2012). The conservation status of juniper formations in Ireland. Irish Wildlife Manuals, No. 63. National Parks and Wildlife Service, Department of Environment, Heritage and Local Government, Dublin, Ireland.

Dingerkus, SK, Stone, RE, Wilkinson, JW, Marnell F and Reid N., (2010) Developing a methodology for the National Frog Survey of Ireland: a pilot study in Co. Mayo. Irish Naturalists' Journal 31 No.2 2010: 85-90

West Galway Hedgerow Survey and associate hedgerow leaflets (2007).

Mathers, R.G., Watson, S., Stone, R.E. and Montgomery, W.I. (2000) A study of the impact of human disturbance on Wigeon *Anas penelope* and Brent geese *Branta bernicla hrota* on an Irish Sea Loch. *Wildfowl* 51: 67-81.

Speakman, J.R., Irwin, N., Tallach, N. and Stone, R.E. (1999) Effect of roost size on the emergence behaviour of pipistrelle bats (*Pipistrellus pipistrellus*): Statistical artefacts and intra- and inter-roost effects. *Animal Behaviour* 58: 787-795.

Mathers, R.G., Montgomery, W.I., Portig, A.A. and Stone, R. (1998) Winter habitat use by Brent Geese *Branta bernicla hrota* and Wigeon *Anas penelope* on Strangford Lough, Co. Down. *Irish Birds* 6: 257-268.

Eligo Co Co.
Viewing Purposes Only