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APPENDIX 3

**UPDATED NATURA IMPACT
STATEMENT (NIS) REPORT,
REVISED BY MKO ECOLOGY**

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Natura Impact Statement & AA Screening Report

3. No. Dwelling Houses at
Ballincar, Co. Sligo.



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1. INTRODUCTION

1.1 Background

McCarthy Keville O'Sullivan Ltd. (MKO) has been appointed to provide the information necessary to allow the competent authority to conduct an Article 6(3) Appropriate Assessment for the construction of a three-dwelling house development at Ballincar, Co. Sligo.

Screening for Appropriate Assessment is required under Council Directive 92/43/EEC on the conservation of natural habitats and of wild fauna and flora (the Habitats Directive). Where it cannot be excluded that a project or plan, either alone or in combination with other projects or plans, would have a significant effect on a European Site then same shall be subject to an appropriate assessment of its implications for the site in view of the site's conservation objectives. The current project is not directly connected with, or necessary for, the management of any European Site. Consequently, the project has been subject to the Appropriate Assessment Screening process.

This Natura Impact Statement (NIS) has been prepared in accordance with the European Commission's Assessment of Plans and Projects Significantly affecting Natura 2000 Sites: Methodological Guidance on the provisions of Article 6(3) and 6(4) of the Habitats Directive 92/43/EEC (EC, 2021) and Managing Natura 2000 Sites: the provisions of Article 6 of the 'Habitats' Directive 92/43/EEC (EC, 2018) as well as the Department of the Environment's Appropriate Assessment of Plans and Projects in Ireland - Guidance for Planning Authorities (DoEHLG, 2010) and the Appropriate Assessment Screening for Development Management. Office of the Planning Regulator, Dublin 7, Ireland OPR (2021)

1.2 Statement of Authority

A walkover survey and wintering bird survey was carried out by Rachel Minogue (BSc) of MKO on the 16/11/2022. This report has been prepared by Rachel Minogue (BSc). RM is a graduate ecologist with MKO with relevant academic qualifications in Environmental Science. This report has been reviewed by Colin Murphy (B.Sc., MSc). Colin is an experienced project ecologist and has over 3 years' professional consultancy experience.

1.3 Structure and Format of this NIS

- Section Two provides a full description of all elements of the proposed development.
- In Section Three, the characteristics of the receiving environment are fully described.
- In Section 4, a Stage 1 Screening is undertaken to identify any European Sites upon which there is a potential for a likely significant effect to occur either individually or in combination with other plans and projects as a result of the proposed development.
- Section 5 provides a detailed consideration of the Screened in European Sites and identifies the relevant qualifying features and how they may be affected in light of their conservation objectives.
- Section 6 provides an assessment of the potential for adverse effects on the identified European Sites as a result of the proposed development and in the absence of mitigation. This section also prescribes mitigation to robustly block any identified pathways for impact for effect.
- Section 7 provides an assessment of residual effects taking into consideration the proposed mitigation.
- In Section 8, the potential in combination effects of the proposed development on European Sites, when considered in combination with other plans and projects were assessed.
- A concluding statement is provided in Section 9.

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2. DESCRIPTION OF PROPOSED DEVELOPMENT

2.1 Site Location

The site is located in Ballincar, Rosses Point, Co. Sligo, approximately 3km north-west of Sligo Town (Grid Reference: G 67424 38806). The site of proposed development is a greenfield site. The proposed development site is located approximately 123m north of Cummeen Strand/Drumcliff Bay (Sligo Bay) SAC and 128m north of Cummeen Strand SPA. The site is accessed via a local road off the R291 to the north of the proposed development site.

The location of the proposed development is shown in Figure 2.1.

The proposed Site Layout Drawing is shown in Drawing no. PL-003 in Appendix 1 of this NIS.

2.2 Characteristics of the proposed development

The proposed development involves the construction of 3 no. dormer detached dwelling houses (1 no. dwelling per plot) covering an area of 0.41 hectares. The development will also include the construction of an outbuilding/ storage shed to the rear garden of each house, and new vehicular and pedestrian entrances to each house from the existing access road to the west of the site. The proposed development will also include the repair/upgrade of the existing footpath along the roadside boundary, which shall include the provision of drop kerbs at the vehicular entrance and the upgrade of road section in front of the proposed development site on the existing private laneway. Further, all landscaping, parking, and all other associated site works and service connections at Ballincar, Co. Sligo:

- House A: 4-bedroom detached family home (276.4sqm), with storage shed (15.7sqm).
- House B: 4-bedroom detached family home (265.5sqm), with storage shed (15.7sqm)
- House C: 4-bedroom detached family home (272.4sqm), with storage shed (15.7sqm)
- Construction of new vehicular entrances to each house from existing access road to the west of the site
- All associated site works and service connections.

The proposed Site Layout Drawing is shown in Drawing no. PL-003. in Appendix 1 of this NIS.

Further, as part of this proposed development, various landscaping works are proposed to be carried out including grass seeding, wildflower seeding, bulb/corn planting, shrub groundcover planting, and tree planting.

2.2.1 Foul Water Drainage Design

It is proposed to direct the foul sewer towards a foul network, currently in advanced stages of planning, located in the R291 via the existing local access road. This proposed network will serve the neighbouring community.

The drainage systems including all pipe sizes and gradients have been designed using Flow Drainage Design Software. The pipework to the drainage system has been designed to provide for six times the dry weather flow (DWF) in accordance with the recommendations of the Greater Dublin Strategic Drainage Study (GSDS). It is proposed that all pipes will be thin wall, with the maximum pipe diameter to be 150mm, with a maximum and minimum gradient such that all velocities fall within the limits of 0.75 and 2.5m/sec as set out in the "Code of Practice for Wastewater Infrastructure" by Irish

Water. For full details for the pipe designs please see Appendix B of the Civils Design report accompanying this NIS in Appendix 2.

~~The foul drainage for the development will be collected in a pump chamber to the South East of the proposed site and pumped to the Northern corner of the proposed site.~~ The foul drainage for the development will be collected by the foul pipe network and will then discharge by gravity to the proposed public foul sewer along the local access road R291. The 3 No. Plots will be gravity sewers only. All of the pipe sizes and gradients are clearly indicated on the associated drawings.

For full details on the proposed developments foul drainage network for each of the three houses, refer to the following drawing nos. 6703-JOD-XX- ZZ-DR-S-300-2000 1000 to 6703-JOD-XX- ZZ-DR-S-300-4000 in Appendix A of the Civils Design Report accompanying this NIS in Appendix 2.

The proposed foul network runs along the local access road adjoining the R291. It is envisaged that any future developments along this local access road will connect into this proposed network by gravity and into the Irish Water Foul Network in the R291. The foul network in the R291 commenced construction in January 2022, and is due to be operation by mid-2023. Jennings O'Donovan are acting as Employers Representatives for Irish Water for the proposed foul network in the R291 and can confirm the feasibility of connecting the Ballincar Housing Project into the Irish Water Foul network once its operation.

2.2.2 Stormwater Drainage Design

All stormwater drainage will be catered for via an onsite soak away on each site that will be designed in accordance with the BRE digest 365. The proposed soak away unit is to be located to the north of the site, along the existing local road R291.

It is proposed that thin wall pipes will be used for the proposed stormwater networks, approved by the British Board of Agreement (BBA), and Highway Agency Product Approval Scheme (HAPAS) approved.

For full details on the proposed foul and stormwater layout refer to the following drawing nos. 6703-JOD-XX- ZZ-DR-S-300-2000 to 6703-JOD-XX- ZZ-DR-S-300-4000 in Appendix A of the Civils Design Report accompanying this NIS in Appendix 2.

2.2.3 Watermains

Each of the three houses will be connected to the existing 50mm diameter watermain via 25mm domestic connections, all in accordance with the Irish Waters Code of Practice and Standard Details for Water and Wastewater.

2.3 Construction and Environmental Management Plan (CEMP)

An experienced main contractor will be appointed for the civil works for the construction phase. The main contractor for the works will be required to comply with this CEMP and any revisions made to this document. The following subsections 2.3.1 and 2.3.2 summarise the CEMP. For full details on the Construction Environmental Management Plan (CEMP) refer to Appendix 3 of this NIS.

2.3.1 Construction Methodologies Overview

The proposed anticipated construction methodology is summarised under the following headings:

2.3.1.1 Site Establishment

The site will be accessed via the R291 at the proposed vehicular access locations. Prior to the commencement of any construction, the entrance to the proposed sites will need to be fully established with security gates. A parking area for construction worker's vehicles will be provided within the confines of the site. There will be no parking permitted for any vehicles associated with the project on the public road during the construction phase of the development. A designated section of the site will be fenced off as the construction compound and will be located a minimum of 30 meters away from any watercourses.

2.3.1.2 Temporary Site Compound

A temporary construction compound is proposed for the construction phase of the proposed development, located inside the development footprint on the proposed hardstanding area at the north-west corner. The proposed temporary compound area incorporates temporary site offices and staff facilities.

A dedicated waste management area will be located within the compound, with waste to be sorted and collected from site by permitted collectors.

Temporary toilets located at the site offices and welfare facilities will be used during the construction phase. Wastewater from staff toilets will be directed to a sealed storage tank, with all wastewaters being tankered off site by permitted waste collector to wastewater treatment plants. Power will be supplied by a diesel generator, located within the compound or via a temporary power supply if available. The construction compound will be used for temporary storage of some construction materials, prior to their delivery to the required area of the site.

2.3.1.3 Site Excavation

Soil stripping and temporary stockpiling of soils and subsoils will be required around the site as the proposed development progresses. Where these works occur, the following will apply:

- The area where excavations are planned will be surveyed and all existing services will be identified.
- All relevant bodies i.e., ESB, Gas Networks Ireland, Eir, Sligo County Council etc. will be contacted and all drawings for all existing services sought.
- All plant operators and general operatives will be inducted and informed as to the location of any services.
- All plant operators and general operatives will be inducted and informed as to the identification of invasive species.

- A tracked 360-degree excavator will be used to strip the topsoil, and a dumper will be used to move the excavated materials to the temporary stockpile location.
- All excavated material will be reused for future landscaping works or for backfill of excavations.
- All stockpiles will be covered in a sheet of polythene, as required, which will prevent the creation of nuisance dust, and will also prevent sediment runoff in times of heavy precipitation.

2.3.1.4 Site Access and Driveway

The site will be accessed from the west of the site from a local road via the R291 Regional Road. Vehicular access off the residential road is proposed as part of the overall development. The construction methodology for the proposed access road is outlined as follows:

- Excavation will take place until a competent stratum is reached.
- The competent stratum will be overlain with up to 500mm of granular fill.
- A layer of geogrid/geotextile may be required at the surface of the competent stratum.
- A final hard surface layer will be placed over the excavated road to provide a road profile to accommodate the temporary construction compound and construction traffic.
- Prior to completion of the construction works on site, the finished asphalt road surface will be applied. The road section in front of the proposed development site on the private laneway will be resurfaced with 40mm of dense bitumen macadam.
- Prior to completion of the construction works on site, the existing footpath along the roadside boundary will be reinstated. This will include the provision of drop-kerbs to facilitate vehicular access.
- Due to the nature of the works and the construction traffic using the site entrance, appropriate signage will be provided along the footpath and site entrance to alert pedestrians to the traffic exiting/entering the site. Likewise, appropriate signage will be installed within and outside the site to alert drivers of the pedestrians crossing ahead.

2.3.1.5 House Construction

The houses will be constructed by the following methodology:

- The area where excavations are foundations are to be installed will be surveyed and all existing services will be identified if found onsite.
- The area of the buildings will be marked out using ranging rods or wooden posts and the soil and overburden stripped and removed to nearby storage area for later use in landscaping.
- All plant operators and general operatives will be inducted and informed as to the location of any services if found onsite.
- A tracked 360-degree excavator or similar will be used to excavate the area down to the level indicated by the designer and appropriately shuttered reinforced concrete will be laid over it.
- The block work walls will be built up from the foundation (including a DPC) and the floor slab constructed, having first located any ducts or trenches required by the follow on mechanical and electrical contractors.
- The block work will then be raised to wall plate level and the gables & internal partition walls formed. Scaffold will be erected around the outside of the building for this operation.
- Any concrete flooring slabs will be lifted into position using an adequately sized mobile crane.
- The timber roof trusses will then be lifted into position using a teleporter or mobile crane depending on site conditions. The roof trusses will then be felted, battened, tiled, and sealed against the weather.

- Windows, electrics, plumbing and all other building components and services will be installed in as timely a manner as is possible.
- The building will be inspected and certified by the project design engineer at the appropriate stages of construction.

2.3.1.6 Services and Utilities

The site has access to essential utilities such as electricity, water, and wastewater public mains network. Foul water discharges from the proposed development will connect to the existing public mains foul water network at the new Rosses Point Sewage Scheme located on the R291 to the North. **As noted in the submitted Civils Design Report, the foul drainage for the development will be collected by the foul pipe network and will then discharge by gravity to the public foul sewer network located in the R291 currently in advanced stages of construction as granted under planning application PL 21/180.**

The proposed drainage network and installation of services and connections to the residential units will be carried out as follows.

- The area where excavations are planned will be surveyed and all existing services will be identified.
- Should a service be identified onsite, all relevant bodies i.e., ESB, Gas Networks Ireland, Eir, Sligo County Council etc. will be contacted and all drawings for all existing services sought.
- A traffic management plan will be produced if required for connection works to the existing service network.
- A road opening licence will be obtained where required for connection to existing services.
- All plant operators and general operatives will be inducted and informed as to the location of any services.
- A tracked 360-degree excavator or similar will be used to excavate the trench to the required dimensions.
- All excavated material will be removed to an authorised waste recovery facility or, if suitable, stockpiled and reused for backfilling and landscaping where appropriate.
- Once the trench has been excavated the ducting/pipework will then be placed in the trench as per specification.
- Once the service ducts/pipework has been installed couplers will be fitted as required and capped to prevent any dirt etc. entering the ducts/pipes.
- The as built location of the ducting/pipework will be surveyed using a total station/GPS.
- Backfill material will be carefully placed so as not to displace the ducting/pipework within the trench.
- The appropriate warning/marker tape will be installed above the ducts/pipes at the appropriate depths.
- The surface will be reinstated as per original specification or to the requirements of the site layout/Local Authority as appropriate.

2.3.1.7 Existing Underground Services

Any underground services encountered during the works will be surveyed for level and where possible will be left in place. If there is a requirement to move the service, then the appropriate body (ESB, Gas Networks Ireland, etc.) will be contacted, and the appropriate procedure put in place. Back fill around any utility services will be with dead sand/pea shingle where appropriate. All works will be in compliance with required specifications.

2.3.2 Environmental Management

2.3.2.1 Protecting Water Quality

Prior to the commencement of any construction activities, the necessary mitigation measures will be put in place to ensure the protection of surface water during the works. Particular emphasis will also be placed on hazardous materials management and prevention of spills or leaks of fuel oils to ensure watercourses and groundwater are not impacted.

There are no onsite watercourses within the site boundary or within 50 metres of the proposed development site. The site is situated in an area of moderate groundwater vulnerability.

The excavation phase of the development has the potential to encounter sub-surface and ground water during the works although it is not anticipated that this will be significant as the excavation does not include a basement. In the event of encountering groundwaters during excavation, the excavation will be de-watered using a pump equipped with a silt bag on the outlet to capture any silty material prior to subsequent natural percolation to ground. Alternatively, this water will be tankered off site if required. In order to avoid hydrocarbons encountering groundwaters onsite, Section 3.1.3 below presents mitigation measures to avoid the release of hydrocarbons onsite.

2.3.2.2 Prevention Pollution Control Measures

The following Measures will be put in place to prevent the transportation of silt laden water or pollutants from entering any of the wider environments including downstream watercourses near the site:

- The site boundary will be fenced off with a solid barrier prior to works commencing to protect adjacent habitats and to prevent any egress of machinery outside of the site during construction activities.
- A silt fence will be erected along the perimeter of the discharge area of the silt bag to avoid any preferential flow of silt laden water offsite. This will comprise wooden posts and a geotextile membrane that is buried below the ground (approx. 200mm). The silt fence will secure the development site and prevent potential run off and siltation during the construction works. The fence will remain in place after the works are completed and until the exposed earth has re-vegetated.
- Works shall not take place at periods of high rainfall and shall be scaled back or suspended if heavy rain is forecast.
- Machinery deliveries shall be arranged using existing structures along the existing road.
- Any excess construction material shall be immediately removed from the area and sent to an authorized waste recovery facility.
- Spill kits shall be available in each item of plant required.
- Discharge onto ground will be via a silt bag which will filter any remaining sediment from the pumped water. The entire discharge area from silt bags will be enclosed by a perimeter of silt fencing as an additional measure to avoid any preferential flow of silt-laden water offsite.
- Prior to the commencement of earthwork silt fencing will be placed down-gradient of the construction areas where drains or drainage pathways are present.

2.3.2.3 Cement Based Products Control Measures

The complete washing out of concrete trucks will not be permitted at the site. Suppliers will be directed back to their own facility to complete the washout process. However, a washout area for chute cleaning will be provided at various locations in close proximity to the concrete pour locations.

The following mitigation measures are proposed to avoid release of cement leachate from the site:

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

2.3.2.4 Refuelling, Fuel and Hazardous Materials Storage

The following measures are proposed to avoid release of hydrocarbons at the site:

- Minimal refuelling or maintenance of construction vehicles or plant will take place on site. Off-site refuelling should occur at a controlled fuelling station.
- On-site refuelling will take place by direct refuelling from the delivery truck or using a mobile double skinned fuel bowser.
- The fuel bowser, a double axel custom-built refuelling trailer will be re-filled off site and will be towed around the site as required. It will be parked on a level, impermeable area in the construction compound when not in use and will only be present on site when heavy plant and machinery are in operation.
- Only designated trained and competent operatives will be authorised to refuel plant on site. Mobile measures such as drip trays and fuel absorbent mats will be used during all refuelling operations.
- It is not anticipated that there will be any other means of fuel storage on site during construction.
- The plant used should be regularly inspected for leaks and fitness for purpose.
- Spill kits will be available to deal with and accidental spillage in and outside the refuelling area.

2.3.2.5 Dust Control

Construction dust can be generated from many on-site activities such as excavation and backfilling. The extent of dust generation will depend on the type of activity undertaken, the location, the nature of the dust, i.e., soil, sand, etc and the weather. In addition, dust dispersion is influenced by external factors such as wind speed and direction and/or, periods of dry weather. Construction traffic movements also have the potential to generate dust as they travel along the approach road. The measures below will also prevent construction debris arising on the public road network.

Proposed measures to control dust include:

- Any site roads with the potential to give rise to dust will be regularly watered, as appropriate, during dry and/or windy conditions.
- The designated public roads outside the site and along the main transport routes to the site will be regularly inspected by Site Management for cleanliness and cleaned as necessary.
- Material handling systems and material storage areas will be designed and laid out to minimise exposure to wind.

- Water misting or bowzers will operate on-site as required to mitigate dust in dry weather conditions.
- The transport of soils or other material, which has significant potential to generate dust, will be undertaken in tarpaulin-covered vehicles where necessary.
- All construction related traffic will have speed restrictions on un-surfaced roads to 15 kph.
- Daily inspection of construction sites to examine dust measures and their effectiveness.
- When necessary, sections of the approach road will be swept using a truck mounted vacuum sweeper.

2.3.2.6 Noise & Vibration Control

The operation of plant and machinery, including construction vehicles, is a source of potential noise impacts. Noise levels shall be kept below those levels specified in the National Roads Authority – “Guidelines for the Treatment of Noise and Vibration in National Roads Schemes” or such further limits as imposed by Sligo County Council. The proposed development shall comply with BS 5228 “Noise Control on Construction and open sites Part 1: Code of practice for basic information and procedures for noise control.” During the works, any plant introduced to the site will not be excessively noisy. Exhaust and silencer systems on plant will be maintained in a satisfactory condition and operating correctly at all times. Defective silencers will be immediately replaced.

Proposed measures to control noise include:

- Construction equipment for use outdoors shall comply with the European Communities Regulations– Noise Emission by Equipment for Use Outdoors – SI 241 - 2006.
- Diesel generators will be enclosed in sound proofed containers to minimise the potential for noise impacts.
- Plant and machinery with low inherent potential for generation of noise and/or vibration will be selected. All construction plant and equipment to be used on-site will be modern equipment and will comply with the European Communities (Construction Plant and Equipment) (Permissible Noise Levels) Regulations.
- Plant with the potential of generating noise or vibration will be placed as far away from sensitive properties as permitted by site constraints.
- If work activities have the potential to result in vibration, the appointed contractor shall source vibration monitoring equipment immediately from a specialist company who specialise in monitoring equipment.
- Regular maintenance of plant will be carried out in order to minimise noise emissions. Particular attention will be paid to the lubrication of bearings and the integrity of silencers.
- All vehicles and mechanical plant will be fitted with effective exhaust silencers and maintained in good working order for the duration of the works.
- Compressors will be of the “sound reduced” models fitted with properly lined and sealed acoustic covers which will be kept closed whenever the machines are in use and all ancillary pneumatic tools shall be fitted with suitable silencers.
- Machines which are used intermittently will be shut down during those periods when they are not in use.
- Training will be provided by the Site Management to drivers to ensure smooth machinery operation/driving, and to minimise unnecessary noise generation,
- Local areas of the access route will be condition monitored and maintained if necessary.
- Random monitoring (if required) shall be undertaken at the site boundary, by the use of a Sound Level Meter which has the capabilities to store data and produce records and issued to the appropriate parties upon request.

It is recommended that drivers of heavy goods vehicles (HGVs) associated with the development extend due care and courtesy to other road users. Excessive use of and unnecessary engine racing will be avoided.

The proposed construction working hours are as follows:

08:00 – 18:00 Monday to Saturday

Closed Sunday and Public Holidays

Deviation from these times will only be allowed in exceptional circumstances where written approval has been received from the planning authority.

2.3.2.7 Traffic Management Proposals

A traffic management plan will be developed by the appointed contractor and agreed with Sligo County Council prior to the commencement of works.

The proposed traffic management plan will at minimum include the following measures which are to be adopted during the construction works.

- Access to the proposed site will be via the R291.
- Warning signs / Advanced warning signs will be installed at appropriate locations in advance of the construction access locations.
- Construction and delivery vehicles will be instructed to use only the approved and agreed means of access; and movement of construction vehicles will be restricted to these designated routes.
- Appropriate vehicles will be used to minimise environmental impacts from transporting construction material, for example the use of dust covers on HGVs carrying dust producing material.
- Speed limits of construction vehicles to be managed by appropriate signage, to promote low vehicular speeds.
- Parking of site vehicles will be managed and will not be permitted on public road, unless proposed within a designated area that is subject to traffic management measures and agreed with Sligo County Council
- A road sweeper will be employed to clean the public roads of any residual debris that may be deposited on the public roads leading away from the construction works.
- All vehicles will be suitably serviced and maintained to avoid any leaks or spillage of oil, petrol, or diesel.
- Safe and secure pedestrian facilities are to be provided where construction works obscure any existing pedestrian footways. Alternative pedestrian facilities will be provided in these instances, supported by physical barriers to segregate traffic and pedestrian movements, and to be identified by appropriate signage. Pedestrian facilities will cater for vulnerable users including mobility impaired persons.

The general public will have right of way along the roads and pathways on the R291. When vehicles are entering the site, or leaving the site, these movements will be supervised by road marshals. The construction site gates will be kept closed when not in use and monitored by security. Traffic Cones and set back signage will be put in place to warn and safely direct cyclists around obstructions.

2.3.2.8 Invasive Species Management

A survey was carried out at the site to identify the presence and location of any invasive species (listed under the Third Schedule of the European Communities (Birds and Natural Habitats) Regulations 2011 (S.I. No. 477 of 2011) by a suitably qualified ecologist. As no invasive species were found, an invasive

species management plan will not be required for the site. Good construction site hygiene will be employed to prevent the introduction and spread of problematic invasive alien plant species (e.g., Rhododendron, Japanese Knotweed, Giant Rhubarb etc.) by thoroughly washing vehicles prior to entering the site. Any soil and topsoil required on the site will be sourced from a stock that has been screened for the presence of any invasive species and where it is confirmed that none are present. However, in the case of an invasive species being found on site during the construction phase an invasive species management plan will be prepared. The treatment and control of invasive alien species will follow guidelines issued by the National Roads Authority – The Management of Noxious Weeds and Non-native Invasive Plant Species on National Roads (NRA 2010) and the Environment Agency (2013) – The Knotweed Code of Practice: Managing Japanese Knotweed on Development Sites (Version 3, amended in 2013). To prevent the introduction of any invasive species to the site best practice control methods are summarised in the following sections.

2.3.2.9 Environmental Manager

The main contractor appointed to carry out the works on site will be required to provide a level of supervision on site in the form of an Environmental Manager who will also fulfil the role of Waste Manager. Due to the scale of activity proposed for the site, this role can be adopted by a Site Manager/Foreman as part of their duties. In general, this Environmental Manager will maintain responsibility for monitoring the works and Contractors/Sub-contractors from an environmental perspective. The Environmental Manager will act as the regulatory interface on environmental matters by reporting directly to the client and liaising with Sligo County Council and other statutory bodies as required. The Site Environmental Manager will report to the Site Supervisor/Construction Manager.



Map Legend

- Site Layout



Drawing Title

Site Location

Project Title 3. No. Dwelling Houses at Ballincar, Co. Sligo.	
Drawn By RM	Checked By CM
Project No. 220942	Drawing No. Figure 2.1
Scale 1:26,999	Date 31/03/2023



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3. CHARACTERISTICS OF THE RECEIVING ENVIRONMENT

The ecological survey that was undertaken to inform this NIS are fully described in this section. A general description of the ecology of the site of the proposed development is provided below. The specific surveys that were undertaken to assess the potential effects on the identified European Sites are described below.

3.1 Ecological Survey Methodologies

3.1.1 Ecological Multidisciplinary Walkover Survey

A multi-disciplinary ecological walkover survey was undertaken in accordance with NRA Guidelines on Ecological Surveying Techniques for Protected Flora and Fauna on National Road Schemes (NRA, 2009). This survey provided baseline data on the ecology of the study area and assessed whether further detailed habitat or species-specific ecological surveys were required. The multi-disciplinary ecological walkover survey comprehensively covered the entire study area.

Habitats were classified in accordance with the Heritage Council's 'Guide to Habitats in Ireland' (Fossitt, 2000). Habitat mapping was undertaken with regard to guidance set out in 'Best Practice Guidance for Habitat Survey and Mapping' (Smith et al., 2011). Plant nomenclature for vascular plants follows 'New Flora of the British Isles' (Stace, 2010), while mosses and liverworts nomenclature follow 'Mosses and Liverworts of Britain and Ireland - a field guide' (British Bryological Society, 2010).

The walkover survey was designed to detect the presence, or suitable habitat for a range of protected faunal species that may occur in the vicinity of the proposed development. During the multidisciplinary survey, a search for Invasive Alien Species (IAS), with a focus on those listed under the Third Schedule of the European Communities Regulations 2011 (S.I. 477 of 2011), was also conducted.

A walkover survey was carried out by Rachel Minogue (BSc) of MKO on the 16/11/2022. Although the survey timing does not fall within the recognised optimum period for vegetation surveys/habitat mapping, i.e., April to September (Smith et al., 2011), all habitats within the site were readily identifiable.

3.2 Additional Baseline Surveys

3.2.1 Wintering Bird Survey

A dedicated wintering bird survey was undertaken at the development site (including the wider study area) on the 16/11/2022 by Rachel Minogue (BSc) of MKO, to assess the suitability of the proposed development site to support a variety of wintering wildfowl and waders, including the bird species listed as Special Conservation Interests (SCIs) for Cummeen Strand SPA. Prior to the commencement of the wintering bird survey, an initial field visit was undertaken to assess the habitats on site, to plan the survey and identify suitable vantage points.

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

I-WeBS Survey

The wintering bird survey undertaken at the proposed development site followed the Irish Wetland Bird Survey (I-WeBS) methodology; the simple 'look-see' method, whereby all birds present within a predefined area are counted (Gilbert et al., 2011; Birdwatch Ireland, 2018). The survey was carried out at suitable points within the proposed development site, to have as large as possible a view of the entire site and potential adjacent daytime foraging habitat in the vicinity of the proposed development.

Transects

The proposed development site was scanned from suitable vantage points that gave unobstructed views of potentially suitable habitat and roosting locations for wintering bird species within the study area in advance of walkover survey. Vantage points were taken at multiple locations throughout the site before completing the walked transects to identify if bird species were foraging before completing the walked transect.

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

3.3 Results of the Baseline Ecological Survey

3.3.1 Habitats present on the site.

A dedicated habitat survey of the area within and in the vicinity of the proposed development was undertaken on the 16/11/2022, by Rachel Minogue (BSc) of MKO. All habitats within the works area were readily identifiable during the site visit. Habitats recorded within the development site are listed in Table 3.1. The habitat classifications and codes correspond to those described in 'A Guide to Habitats in Ireland' (Fossitt, 2000). The habitats recorded during the site visit are described below and a habitat map is provided in Figure 3.1.

Table 3-1 Habitats present within the development area.

Habitat	Code
Improved Agricultural Grassland	GA1
Hedgerow	WL1

The main habitat types recorded within the proposed development boundary are classified as **Improved Agricultural Grassland (GA1)** and **Hedgerow (WL1)**. Outside of the application development boundary, are residential dwellings and a road classified as Buildings and Artificial Surfaces (BL3).

Improved Agricultural Grassland (GA1) comprises the largest area of the proposed development site. The grassland is intensively managed, via grazing and cutting, both which were evident on the day of the site survey, with poaching by domestic animals and silage bales present to the west of the grassland (Plate 3.1). The sward is short, and uniform in appearance (Plate 3.1 & 3.2), with low species diversity. This habitat is dominated by grass species including Common Bent (*Agrostis capillaris*), Yorkshire Fog (*Holcus lanatus*), and Perennial Rye Grass (*Lolium perenne*). Other species recorded within this habitat include Red Clover (*Trifolium pratense*), Ragwort (*Jacobaea vulgaris*), Dandelion (*Taraxacum spp*), Buttercup (*Ranunculus spp*), and Plantain (*Plantago spp*).

Hedgerows (WL1) are present to the west and east boundaries of the proposed development area. The hedgerows have a low biodiversity value, dominated by Bramble (*Rubus spp*), See plate (3.3 & 3.4). Species recorded within the hedgerows include Nettle (*Urtica dioica*), Caroline Thistle (*Carlina vulgaris*), and Compact Rush (*Juncus conglomeratus*). Blackthorn (*Prunus spinosa*) is present in the east boundary hedgerow, and Willow (*Salix spp*) is present in the west boundary hedgerow.



Map Legend

-  Site Layout
-  Hedgerow (WL1)
-  Improved Agricultural Grassland (GA1)



Drawing Title	
Habitats Map	
Project Title	
3. No. Dwelling Houses at Ballinac, Co. Sligo.	
Drawn By	Checked By
RM	CM
Project No.	Drawing No.
220942	Figure 3.1
Scale	Date
1:686.1	31/03/2023
 <div>MKO Planning and Environmental Consultants Tuam Road, Galway Ireland, H91 VW84 +353 (0) 91 735611 email: info@mkofireland.ie Website: www.mkofireland.ie</div>	



Plate 3-1 Improved Agricultural Grassland (GA1) to the west of the site, with a uniform short sward. Silage bales are present to the left of the access point into the grassland.



Plate 3-2 Improved Agricultural Grassland (GA1) facing to the east of the site, with Garavogue Estuary evident in the northeast corner of the plate.



Plate 3-3 Hedgerow (WL1) dominated by Brambles (*Rubus spp*) to the west of the site. A Young willow tree (*Salix spp*) is also present in this hedgerow.



Plate 3-4 Hedgerow (WL1) dominated by Bramble (*Rubus spp*) to the east of the site, with private residential dwellings (BL3) evident in the northeast corner of the plate.

3.4 Fauna

3.4.1 Baseline Faunal Results

No evidence of Annex II protected species associated with Cummeen Strand/Drumcliff Bay (Sligo Bay) SAC were recorded within or adjacent to the site boundary. The detailed Conservation Objectives for Cummeen Strand/Drumcliff Bay (Sligo Bay) SAC were reviewed as part of this assessment.

The nearby Cummeen Strand/Drumcliff Bay (Sligo Bay) SAC is designated for the following species:

- *Vertigo angustior* (Narrow-mouthed Whorl Snail) [1014]
- *Petromyzon marinus* (Sea Lamprey) [1095]
- *Lampetra fluviatilis* (River Lamprey) [1099]
- *Phoca vitulina* (Harbour Seal) [1365]

There are no watercourses, and no supporting habitat for the species listed above within the proposed development site. The optimal habitat type for the *Vertigo angustior* (Narrow-mouthed Whorl Snail) as described in the Conservation Objectives Document (NPWS 2013) is defined as fixed dune and species-rich grassland dominated with a vegetation height of 10-30cm. The other species are aquatic/marine, as such the terrestrial nature of the site doesn't provide suitable supporting habitat for the *Petromyzon marinus* (Sea Lamprey), *Lampetra fluviatilis* (River Lamprey), and *Phoca vitulina* (Harbour Seal).

No species listed as a Special Conservation Interest species of Cummeen Strand SPA were recorded during the site visit. No significant foraging or roosting habitat for the listed SCI bird species was recorded within the proposed development site boundary, therefore additional dedicated bird surveys were not deemed necessary.

No QI's or SCIs associated with any other European site were recorded within or adjacent to the proposed development site boundary.

3.4.2 Wintering Bird Survey Results

The following wintering bird survey was undertaken within the application site boundary by Rachel Minogue (BSc) of MKO, on the 16/11/2022.

Bird species recorded within the site boundary and in agricultural fields adjacent to the development boundary during the wintering bird survey were an assemblage of common birds that are typical of the agricultural grassland and coast in the wider area. The proposed development is located 128m north of Cummeen Strand SPA which is designated for various winter A total of 3 target species and 11 non-target species were recorded during the wintering bird survey, described below in table 3.2 below:

Table 3-2 Target and non- Target species recorded within and adjacent to the development site.

Species	Number of Individuals	Notes	Date	Conservation status
Kestrel (<i>Falco tinnunculus</i>)	1	Hovering over the agricultural lands to the east, flying over site to the agricultural lands to the west	16/11/2022	Bird of Conservation Concern- Red list-high conservation concern
Common Gull (<i>Larus canus</i>)	2	Flew from south of site to the east, in		Bird of Conservation Concern- Amber

Species	Number of Individuals	Notes	Date	Conservation status
		Agricultural lands adjacent to site		list- medium conservation concern
Lesser Black-headed Gull (<i>Larus fuscus</i>)	4	Flew east to west over the northwest section of the site		Bird of Conservation Concern- Amber list- medium conservation concern
Robin (<i>Erithacus rubecula</i>)	2	Perched on tree outside of site boundary to the west		Least Concern- Green list
Rook (<i>Corvus frugilegus</i>)	22	Flew mostly east to west, over the site to trees and ag lands adjacent to site		
Jackdaw (<i>Corvus monedula</i>)	2	Flew east to west to trees and ag lands surrounding site		
Goldfinch (<i>Carduelis carduelis</i>)	8	Resting and flying in the southwest corner of the site		
Bluetit (<i>Cyanistes caeruleus</i>)	3	Perched on southeast hedgerow		
Blackbird (<i>Turdus merula</i>)		Resting in Ag land adjacent		
Stonechat (<i>Saxicola rubicola</i>)	2	Perched in hedgerow		
Magpie (<i>Pica pica</i>)	2	Perched on trees to west of site		
Raven (<i>Corvus corax</i>)	2	Flew mostly east to west, over the site to trees and ag lands adjacent to site		
Chaffinch (<i>Fringilla coelebs</i>)	5	Flew from east to north section of site		

STAGE 1- SCREENING INFORMATION

4.

IDENTIFICATION OF RELEVANT EUROPEAN SITES

The following methodology was used to establish any European Sites upon which there is a potential for a likely significant effect to occur either individually or in combination with other plans and projects as a result of the proposed development:

- Initially the most up to date GIS spatial datasets for European designated sites and water catchments were downloaded from the NPWS website (www.npws.ie) and the EPA website (www.epa.ie) on the 22/11/2022.
- All European Sites that could potentially be affected were identified using a source-pathway - receptor model. To provide context for the assessment, European Sites surrounding the development site are shown on Figure 4.1. Information on these sites according to the site-specific conservation objectives is provided in Table 4-1. Sites that were further away from the proposed development were also considered and no complete source-pathway-receptor chain for significant effect was identified for any other European Site.
- The catchment mapping was used to establish or discount potential hydrological connectivity between the site of the proposed development and any European Sites. The hydrological catchments are also shown in Figure 4.1.
- In relation to Special Protection Areas, in the absence of any specific European or Irish guidance in relation to such sites, the Scottish Natural Heritage (SNH) Guidance, '*Assessing Connectivity with Special Protection Areas (SPA)*' (2016) was consulted. This document provides guidance in relation to the identification of connectivity between proposed development and Special Protection Areas. The guidance takes into consideration the distances species may travel beyond the boundary of their SPAs and provides information on dispersal and foraging ranges of bird species which are frequently encountered when considering plans and projects.
- Table 4.1 provides details of all relevant European Sites as identified in the preceding steps and assesses the potential for likely significant effects on each.
- The assessment considers any likely direct or indirect impacts of the proposed development, both alone and in combination with other plans and projects, on European Sites by virtue of criteria including the following: size and scale, land-take, distance from the European Site or key features of the site, resource requirements, emissions, excavation requirements, transportation requirements and duration of construction, operation and decommissioning were considered in this assessment.
- The site synopses and conservation objectives of these sites, as per the NPWS website (www.npws.ie), were consulted and reviewed at the time of preparing this report (22/11/2022).
- Where potential pathways for Likely Significant Effect are identified, the site is included within the Likely Zone of Impact and further assessment is required within the NIS.
- The potential for the proposed development to result in cumulative impacts on any European Sites in combination with other plans and projects was considered in the assessment that is presented in sections 8.1 and 8.2 of this report.

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Table 4-1 European Sites within the Likely Zone of Impact

European Sites and distance from proposed development	Qualify Interests/Special Conservation Interests for which the European site has been designated (Sourced from NPWS online Conservation Objectives, www.npws.ie on the 14/11/2022	Conservation Objectives	Identification of Source-Pathway-Receptor chain
Special Areas of Conservation (SAC)			
<p>Cummeen Strand/Drumcliff Bay (Sligo Bay) SAC [000627]</p> <p>Distance: 123m</p>	<ul style="list-style-type: none"> > 1014 Marsh Snail <i>Vertigo angustior</i> > 1095 Sea Lamprey <i>Petromyzon marinus</i> > 1099 River Lamprey <i>Lampetra fluviatilis</i> > 1130 Estuaries > 1140 Mudflats and sandflats not covered by seawater at low tide. > 1365 Harbour seal <i>Phoca vitulina</i> > 2110 Embryonic shifting dunes > 2120 Shifting dunes along the shoreline with <i>Ammophila arenaria</i> (white dunes) > 2130 Fixed coastal dunes with herbaceous vegetation (grey dunes) > 5130 <i>Juniperus communis</i> formations on heaths or calcareous grasslands 	<p>Detailed conservation objectives for this site, (Version 1, September 2013), were reviewed as part of the assessment and are available at www.npws.ie</p>	<p>The proposed development site is located approx. 123m north of this European Designated site and is separated from the SAC by an existing road and two residential dwellings. Given the buffering distance 123m between the proposed development and this SAC, direct effects can be excluded.</p> <p>The site of the proposed development is located within the Rosses Point Groundwater body, Sligo Bay Catchment, and Drumcliff sub catchment. The site is located in an area of moderate groundwater vulnerability.</p> <p>Taking a precautionary approach, a potential pathway for indirect effects on aquatic/ groundwater dependent Qualifying Interests (QIs) associated with this site was identified in the form of deterioration of water quality resulting from pollution to surface water and groundwater and supporting habitats for aquatic fauna.</p> <p>Although no watercourses were identified on-site, given the proximity of the proposed development site to this SAC (123m), the construction and operational phase of the proposed development may result in pollution via surface-water runoff entering this SAC, and groundwaters via the percolation of polluting materials through the bedrock underlying the site, adversely impacting the aquatic or groundwater influenced QI</p>

European Sites and distance from proposed development	Qualify Interests/Special Conservation Interests for which the European site has been designated (Sourced from NPWS online Conservation Objectives, www.npws.ie on the 14/11/2022	Conservation Objectives	Identification of Source-Pathway-Receptor chain
Special Areas of Conservation (SAC)			
	<ul style="list-style-type: none"> ➤ 7220 Petrifying springs with tufa formation (<i>Cratoneurion</i>) 		<p>habitats and species within the SAC via the deterioration of water quality, in the absence of mitigation.</p> <p>Further, taking an extremely precautionary approach, disturbance related impacts to the QI species: Harbour Seal (<i>Phoca vitulina</i>) in the form of lighting and an increase in anthropogenic activity during the construction and operational phase of the proposed development was also identified, in the absence of mitigation.</p> <p>A complete source pathway receptor chain was identified and in the absence of mitigation, there is potential for the proposed development to result in likely significant effects on this European Site in the absence of mitigation. Therefore, the European Site is located within the Likely Zone of Impact and is considered further in this Screening assessment.</p>
Lough Gill SAC [001976] Distance: 3.2km	<ul style="list-style-type: none"> ➤ 1092 White-clawed Crayfish <i>Austropotamobius pallipes</i> ➤ 1095 Sea Lamprey <i>Petromyzon marinus</i> ➤ 1096 Brook Lamprey <i>Lampetra planeri</i> ➤ 1099 River Lamprey <i>Lampetra fluviatilis</i> ➤ 1106 Salmon <i>Salmo salar</i> 	Detailed conservation objectives for this site, (Version 1, 15 December 2021), were reviewed as part of the assessment and are available at www.npws.ie	<p>The proposed development site is located approx. 3.2km northwest of this SAC. The proposed development is located outside the boundary of this SAC and as such there is no potential for direct effect.</p> <p>The site of the proposed development is located within the Carrowmore East Groundwater body, Sligo Bay Catchment, and Bonet sub catchment. The site is located in an area of moderate groundwater vulnerability.</p>

European Sites and distance from proposed development	Qualify Interests/Special Conservation Interests for which the European site has been designated (Sourced from NPWS online Conservation Objectives, www.npws.ie on the 14/11/2022	Conservation Objectives	Identification of Source-Pathway-Receptor chain
Special Areas of Conservation (SAC)			
	<ul style="list-style-type: none"> > 1355 Otter <i>Lutra lutra</i> > 3150 Natural eutrophic lakes with Magnopotamion or Hydrocharition - type vegetation > 6210 Semi-natural dry grasslands and scrubland facies on calcareous substrates (<i>Festuco-Brometalia</i>) (* important orchid sites) > 91A0 Old sessile oak woods with <i>Ilex</i> and <i>Blechnum</i> in the British Isles > 91E0 Alluvial forests with <i>Alnus glutinosa</i> and <i>Fraxinus excelsior</i> (Alno-Padion, Alnion incanae, Salicion albae)* 		<p>Taking a precautionary approach, a potential pathway for indirect effects on aquatic or groundwater dependent Qualifying Interests (QIs) associated with this site was identified in the form of deterioration of water quality resulting from pollution to surface water and groundwater and supporting habitats for aquatic and migratory QI species and habitats.</p> <p>Although no watercourses were identified on-site, given the proximity of the proposed development site to this SAC (3.2km), the construction and operational phase of the proposed development may result in pollution via surface-water runoff entering this SAC, and groundwaters via the percolation of polluting materials through the bedrock underlying the site, adversely impacting the aquatic or groundwater influenced QI habitats and aquatic migratory QI species within the SAC via the deterioration of water quality and supporting habitats, in the absence of mitigation.</p> <p>A complete source pathway receptor chain was identified and in the absence of mitigation, there is potential for the proposed development to result in likely significant effects on this European Site in the absence of mitigation. Therefore, the European Site is located within the Likely Zone of Impact and is considered further in this Screening assessment.</p>

European Sites and distance from proposed development	Qualify Interests/Special Conservation Interests for which the European site has been designated (Sourced from NPWS online Conservation Objectives, www.npws.ie on the 14/11/2022	Conservation Objectives	Identification of Source-Pathway-Receptor chain
Special Areas of Conservation (SAC)			
Ben Bulbin, Gleniff and Glenade Complex SAC [000623] Distance: 5.2km	<ul style="list-style-type: none"> > 1013 Geyer's Whorl Snail <i>Vertigo geyeri</i> > 1355 Otter <i>Lutra lutra</i> > 3260 Water courses of plain to montane levels with the <i>Ranunculus fluitantis</i> and <i>Callitriche-Batrachion</i> vegetation > 4010 Northern Atlantic wet heaths with <i>Erica tetralix</i> > 4030 European dry heaths > 4060 Alpine and Boreal heaths > 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) > 6230 Species-rich <i>Nardus</i> grasslands, on 	Detailed conservation objectives for this site, (Version 1,21 December 2021), were reviewed as part of the assessment and are available at www.npws.ie	<p>The proposed development is located outside the boundary of this SAC and as such there is no potential for direct effect.</p> <p>The proposed development site is located approx. 5.2km southwest of Ben Bulbin, Gleniff and Glenade Complex SAC. No source-pathway-receptor chain for impact was identified between the site of the proposed development and the habitats and species for which this site has been designated. Potential for indirect impact on the European Site can be excluded.</p> <p>No pathway for significant effect on this European Site was identified, when considered in the absence of any mitigation, individually or cumulatively with other plans or projects and the site is not within the Likely Zone of Impact and is not considered further in this Screening assessment.</p>

European Sites and distance from proposed development	Qualify Interests/Special Conservation Interests for which the European site has been designated (Sourced from NPWS online Conservation Objectives, www.npws.ie on the 14/11/2022	Conservation Objectives	Identification of Source-Pathway-Receptor chain
Special Areas of Conservation (SAC)			
	<ul style="list-style-type: none"> > siliceous substrates in mountain areas (and submountain areas, in Continental Europe) * > 6430 Hydrophilous tall herb fringe communities of plains and of the montane to alpine level > 7130 Blanket bogs (* if active bog) > 7140 Transition mires and quaking bogs > 7220 Petrifying springs with tufa formation (<i>Cratoneurion</i>)* > 7230 Alkaline Fens > 8110 Siliceous scree of the montane to snow levels (<i>Androsacetalia alpinae</i> and <i>Galeopsietalia ladani</i>) > 8120 Calcareous and calcshist screes of the montane to alpine levels (<i>Thlaspietea rotundifolii</i>) 		


European Sites and distance from proposed development	Qualify Interests/Special Conservation Interests for which the European site has been designated (Sourced from NPWS online Conservation Objectives, www.npws.ie on the 14/11/2022	Conservation Objectives	Identification of Source-Pathway-Receptor chain
Special Areas of Conservation (SAC)			
	<ul style="list-style-type: none"> 8210 Calcareous rocky slopes with chasmophytic vegetation 		
Ballysadare Bay SAC [000622] Distance: 7.5km	<ul style="list-style-type: none"> 1014 Narrow- mouthed whorl snail <i>Vertigo angustior</i> 1130 Estuaries 1140 Mudflats and sandflats not covered by seawater at low tide. 1365 Harbour seal <i>Phoca vitulina</i> 2110 Embryonic shifting dunes 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 	Detailed conservation objectives for this site, (Version 1, November 2013), were reviewed as part of the assessment and are available at www.npws.ie	<p>The proposed development is located outside the boundary of this SAC and as such there is no potential for direct effect.</p> <p>There is potential hydrological connectivity via the proposed development site and this SAC which is located in Sligo Bay via the Garavogue estuary. However, due to the buffering distance of approx. 7.5km from the proposed development boundary to this SAC, and the assimilative capacity of the ocean there is no potential for significant indirect effects during the construction of the proposed works on this designated European site.</p> <p>No source-pathway-receptor chain for impact was identified between the site of the proposed development and the habitats and species for which this site has been designated. Potential for direct or indirect impact on the European Site can be excluded.</p> <p>No pathway for significant effect on this European Site was identified, when considered in the absence of any mitigation, individually or cumulatively with other plans or projects and the site is not within the Likely Zone of Impact and is not considered further in this Screening assessment</p>

European Sites and distance from proposed development	Qualify Interests/Special Conservation Interests for which the European site has been designated (Sourced from NPWS online Conservation Objectives, www.npws.ie on the 14/11/2022	Conservation Objectives	Identification of Source-Pathway-Receptor chain
Special Areas of Conservation (SAC)			
Unshin River SAC [001898] Distance: 9.2km	<ul style="list-style-type: none"> ➤ 1106 Salmon <i>Salmo salar</i> ➤ 1355 Otter <i>Lutra lutra</i> ➤ 3260 Water courses of plain to montane levels with the <i>Ranunculus fluitantis</i> and <i>Callitriche-Batrachion</i> vegetation ➤ 6210 Semi-natural dry grasslands and scrubland facies on calcareous substrates (<i>Festuco-Brometalia</i>) (* important orchid sites) ➤ 6410 <i>Molinia</i> meadows on calcareous, peaty, or clayey-silt-laden soils (<i>Molinion caeruleae</i>) ➤ 91E0 Alluvial forests with <i>Alnus glutinosa</i> and <i>Fraxinus excelsior</i> (Alno-Padion, Alnion incanae, Salicion albae)* 	Detailed conservation objectives for this site, (Version 1, 15 December 2021), were reviewed as part of the assessment and are available at www.npws.ie	<p>The proposed development is located outside the boundary of this SAC and as such there is no potential for direct effects.</p> <p>The proposed development area is located approx. 9.2km north of Unshin River SAC. No source-pathway-receptor chain for impact was identified between the site of the proposed development and the habitats and species for which this site has been designated. Potential for direct or indirect impact on the European Site can be excluded.</p> <p>No pathway for significant effect on this European Site was identified, when considered in the absence of any mitigation, individually or cumulatively with other plans or projects and the site is not within the Likely Zone of Impact and is not considered further in this Screening assessment</p>
Union Wood SAC [000638]	<ul style="list-style-type: none"> ➤ 91A0 Old sessile oak woods with <i>Ilex</i> and 	Detailed conservation objectives for this site, (Version 1, 11 January	The proposed development is located outside the boundary of this SAC and as such there is no potential for direct effect.

European Sites and distance from proposed development	Qualify Interests/Special Conservation Interests for which the European site has been designated (Sourced from NPWS online Conservation Objectives, www.npws.ie on the 14/11/2022	Conservation Objectives	Identification of Source-Pathway-Receptor chain
Special Areas of Conservation (SAC)			
Distance: 9.4km	<i>Blechnum</i> in the British Isles	2021), were reviewed as part of the assessment and are available at www.npws.ie	<p>The proposed development site is located approx. 9.4km north of Union Wood SAC. This site is designated for a terrestrial habitat. No source-pathway-receptor chain for impact was identified between the site of the proposed development and the habitat for which this site has been designated. Potential for direct or indirect impact on the European Site can be excluded.</p> <p>No pathway for significant effect on this European Site was identified, when considered in the absence of any mitigation, individually or cumulatively with other plans or projects and the site is not within the Likely Zone of Impact and is not considered further in this Screening assessment</p>
Streedagh Point Dunes SAC [001680] Distance: 11km	<ul style="list-style-type: none"> ➤ 1014 Narrow-mouthed Whorl Snail <i>Vertigo angustior</i> ➤ 1140 Mudflats and sandflats not covered by seawater at low tide. ➤ 1220 Perennial vegetation of stony banks ➤ 1330 Atlantic salt meadows (<i>Glaucopuccinellietalia maritima</i>) 	Detailed conservation objectives for this site, (Version 1, 19 March 2015), were reviewed as part of the assessment and are available at www.npws.ie	<p>The proposed development is located outside the boundary of this SAC and as such there is no potential for direct effect.</p> <p>The proposed development site is located approx. 11km southeast of Streedagh Point Dunes SAC. No source-pathway-receptor chain for impact was identified between the site of the proposed development and the habitats/species for which this site has been designated. Potential for direct or indirect impact on the European Site can be excluded.</p> <p>No pathway for significant effect on this European Site was identified, when considered in the absence of any mitigation, individually or cumulatively with other plans or projects and the site</p>

European Sites and distance from proposed development	Qualify Interests/Special Conservation Interests for which the European site has been designated (Sourced from NPWS online Conservation Objectives, www.npws.ie on the 14/11/2022	Conservation Objectives	Identification of Source-Pathway-Receptor chain
Special Areas of Conservation (SAC)			
	<ul style="list-style-type: none"> ➤ 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) 		is not within the Likely Zone of Impact and is not considered further in this Screening assessment
<p>Bunduff Lough And Machair/Trawalua/Mullaghmore SAC [000625]</p> <p>Distance: 13km</p>	<ul style="list-style-type: none"> ➤ 1140 Mudflats and sandflats not covered by seawater at low tide. ➤ 1160 Large shallow inlets and bays ➤ 1170 Reefs ➤ 1395 Petalwort <i>Petalophyllum ralfsii</i> ➤ 2120 Shifting dunes along the shoreline with <i>Ammophila arenaria</i> (white dunes) ➤ 2130 Fixed coastal dunes with herbaceous vegetation (grey dunes) 	<p>Detailed conservation objectives for this site, (Version 1, 3 March 2015), were reviewed as part of the assessment and are available at www.npws.ie</p>	<p>The proposed development is located outside the boundary of this SAC and as such there is no potential for direct effect.</p> <p>The proposed development area is located approx. 13km south of Bunduff Lough and Machair/Trawalua/Mullaghmore SAC. No source-pathway-receptor chain for impact was identified between the site of the proposed development and the habitats/species for which this site has been designated. Potential for direct or indirect impact on the European Site can be excluded.</p> <p>No pathway for significant effect on this European Site was identified, when considered in the absence of any mitigation, individually or cumulatively with other plans or projects and the site is not within the Likely Zone of Impact and is not considered further in this Screening assessment.</p>

European Sites and distance from proposed development	Qualify Interests/Special Conservation Interests for which the European site has been designated (Sourced from NPWS online Conservation Objectives, www.npws.ie on the 14/11/2022	Conservation Objectives	Identification of Source-Pathway-Receptor chain
Special Areas of Conservation (SAC)			
	<ul style="list-style-type: none"> > 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 		
Special Protection Area (SPA)			
Cummeen Strand SPA [004035] Distance: 128m	<ul style="list-style-type: none"> > A046 Brent Goose <i>Branta bernicla hrota</i> > A130 Oystercatcher <i>Haematopus ostralegus</i> > A162 Redshank <i>Tringa totanus</i> > A999 Wetlands 	Detailed conservation objectives for this site, (Version 1, 10 September 2013), were reviewed as part of the assessment and are available at www.npws.ie	<p>The proposed development is located outside the boundary of this SAC and as such there is no potential for direct effect.</p> <p>The proposed development is located approx. 128m north of Cummeen Strand SPA. Taking a precautionary approach, a potential pathway for indirect effects on the SCI species and habitats associated with this site was identified in the form of deterioration of water quality resulting from pollution to surface water and groundwater and supporting wetland habitats for the listed SCI species.</p>

European Sites and distance from proposed development	Qualify Interests/Special Conservation Interests for which the European site has been designated (Sourced from NPWS online Conservation Objectives, www.npws.ie on the 14/11/2022	Conservation Objectives	Identification of Source-Pathway-Receptor chain
Special Areas of Conservation (SAC)			
			<p>Although no watercourses were identified on-site, given the proximity of the site to this SPA (128m), the construction and operational phase of the proposed development may result in pollution via surface water runoff entering the SPA and groundwater pollution via the percolation of polluting materials through the bedrock underlying the site, adversely impacting the aquatic or groundwater influenced SCI species and wetland habitats within the SPA.</p> <p>On a precautionary basis the potential for habitat loss and disturbance and displacement to SCI species was also identified. As such, following the precautionary principle, a potential pathway for effect on the listed SCI species and their habitat was identified in the form of disturbance related impacts in the form of lighting and an increase in anthropogenic activity during the construction and operational phases to SCI species, in the absence of mitigation.</p> <p>A complete source pathway receptor chain was identified and in the absence of mitigation, there is potential for the proposed development to result in likely significant effects on this European Site in the absence of mitigation. Therefore, the European Site is located within the Likely Zone of Impact and is considered further in this Screening assessment.</p>
Drumcliff Bay SPA [004013].	 A144 Sanderling <i>Calidris alba</i>	Detailed conservation objectives for this site, (Version 1, 4 September	The proposed development is located outside the boundary of this SPA and as such there is no potential for direct effect.

European Sites and distance from proposed development	Qualify Interests/Special Conservation Interests for which the European site has been designated (Sourced from NPWS online Conservation Objectives, www.npws.ie on the 14/11/2022	Conservation Objectives	Identification of Source-Pathway-Receptor chain
Special Areas of Conservation (SAC)			
Distance: 2km	<ul style="list-style-type: none"> > A157 Bar-tailed Godwit <i>Limosa lapponica</i> > A999 Wetlands 	2013), were reviewed as part of the assessment and are available at www.npws.ie	<p>The proposed development is located approx. 2km southeast of Drumcliff Bay SPA. The proposed development site lies within an area of moderate groundwater vulnerability (as per the EPA maps)</p> <p>Due to the absence of a complete source-pathway receptor chain, the buffering distance of approx. 2km from the project footprint to this SPA, there is no potential for ex situ disturbance or displacement related impacts on the SCI species during the construction and operation of the proposed project. Further, there is no suitable foraging or roosting habitat for the listed SCI species of this SPA within the proposed development site, therefore the potential for habitat loss can also be ruled out.</p> <p>No pathway for significant effect on this European Site was identified, when considered in the absence of any mitigation, individually or cumulatively with other plans or projects and the site is not within the Likely Zone of Impact and is not considered further in this Screening assessment</p>
Sligo/Leitrim Uplands SPA [004187] Distance: 5.2km	<ul style="list-style-type: none"> > A103 Peregrine <i>Falco peregrinus</i> > A346 Chough <i>Pyrrhocorax pyrrhocorax</i> 	Detailed conservation objectives for this site, (Version 1, 12 November 2022), were reviewed as part of the assessment and are available at www.npws.ie	<p>The proposed development is located outside the boundary of this SPA and as such there is no potential for direct effect.</p> <p>The proposed development site is located approx. 5.2km southwest of this SPA. This site does not lie within the core foraging range of 3km for the Peregrine (<i>Falco peregrinus</i>) (SNH 2016).</p>

European Sites and distance from proposed development	Qualify Interests/Special Conservation Interests for which the European site has been designated (Sourced from NPWS online Conservation Objectives, www.npws.ie on the 14/11/2022	Conservation Objectives	Identification of Source-Pathway-Receptor chain
Special Areas of Conservation (SAC)			
		<p>This site has a generic conservation objective:</p> <p><i>‘To maintain or restore the favourable conservation condition of the bird species listed as Special Conservation Interests for this SPA’.</i></p> <p><i>NPWS (2022) Conservation objectives for Sligo/Leitrim Uplands SPA [004187]. First Order Site-specific Conservation Objectives Version 1.0. Department of Housing, Local Government and Heritage.</i></p>	<p>Further, due to the absence of a complete source-pathway receptor chain, the buffering distance of approx. 5.2km from the project footprint to this SPA, there is no potential for ex situ disturbance or displacement related impacts on the SCI species during the construction of the proposed project.</p> <p>No pathway for significant effect on this European Site was identified, when considered in the absence of any mitigation, individually or cumulatively with other plans or projects and the site is not within the Likely Zone of Impact and is not considered further in this Screening assessment</p>
<p>Ballintemple and Ballygilgan SPA [004234].</p> <p>Distance: 5.3km</p>	<p>➤ A045 Barnacle Goose <i>Branta leucopsis</i></p>	<p>Detailed conservation objectives for this site, (Version 1, 12 November 2022), were reviewed as part of the assessment and are available at www.npws.ie</p> <p>This site has a generic conservation objective:</p>	<p>The proposed development is located outside the boundary of this SPA and as such there is no potential for direct effect.</p> <p>The proposed development site is located approx. 5.3km southeast of this SPA. This site lies within the core foraging range of 15km for the Barnacle goose (<i>Branta leucopsis</i>) (SNH 2016). Barnacle geese (<i>Branta leucopsis</i>) may potentially use agricultural grassland for foraging during the winter.</p>

European Sites and distance from proposed development	Qualify Interests/Special Conservation Interests for which the European site has been designated (Sourced from NPWS online Conservation Objectives, www.npws.ie on the 14/11/2022)	Conservation Objectives	Identification of Source-Pathway-Receptor chain
Special Areas of Conservation (SAC)			
		<p><i>‘To maintain or restore the favourable conservation condition of the bird species listed as Special Conservation Interests for this SPA’.</i></p> <p><i>NPWS (2022) Conservation objectives for Ballintemple and Ballygilgan SPA [004234]. First Order Site-specific Conservation Objectives Version 1.0. Department of Housing, Local Government and Heritage</i></p>	<p>However, during the bird survey carried out, no Barnacle Geese (<i>Branta leucopsis</i>) were recorded utilizing the habitats within or adjacent to the site. Given the widespread occurrence of this common habitat in the wider locality, the loss of this habitat within the proposed development site would not have a significant effect on this species.</p> <p>As such, due to the absence of a complete source-pathway receptor chain, and the buffering distance of approx. 5.3km from the project footprint to this SPA, there is no potential for ex situ disturbance or displacement related impacts to the Barnacle Goose (<i>Branta leucopsis</i>) during the construction and operation of the proposed project.</p> <p>No pathway for significant effect on this European Site was identified, when considered in the absence of any mitigation, individually or cumulatively with other plans or projects and the site is not within the Likely Zone of Impact and is not considered further in this Screening assessment</p>
Ballysadare Bay SPA [004129] Distance: 7.4km	<ul style="list-style-type: none"> ➤ A046 Brent Goose <i>Branta bernicla hrota</i> ➤ A141 Grey Plover <i>Pluvialis squatarola</i> ➤ A149 Dunlin <i>Calidris alpina alpina</i> 	Detailed conservation objectives for this site, (Version 1, October 2013), were reviewed as part of the assessment and are available at www.npws.ie	<p>The proposed development is located outside the boundary of this SPA and as such there is no potential for direct effect.</p> <p>The proposed development site is located approx. 7.4km northeast of this SPA. This site lies within the core foraging range of 5-8km for the Brent Goose (<i>Branta bernicla hrota</i>) (SNH 2016). Brent Geese</p>

European Sites and distance from proposed development	Qualify Interests/Special Conservation Interests for which the European site has been designated (Sourced from NPWS online Conservation Objectives, www.npws.ie on the 14/11/2022)	Conservation Objectives	Identification of Source-Pathway-Receptor chain
Special Areas of Conservation (SAC)			
	<ul style="list-style-type: none"> > A157 Bar-tailed Godwit <i>Limosa lapponica</i> > A162 Redshank <i>Tringa totanus</i> > A999 Wetlands 		<p>may potentially use agricultural grassland for foraging during the winter.</p> <p>However, during the bird survey carried out, no Brent Geese (<i>Branta leucopsis</i>) were recorded utilizing the habitats within or adjacent to the site. Given the widespread occurrence of this common habitat in the wider locality, the loss of this habitat within the proposed development site would not have a significant effect on this species.</p> <p>Due to the absence of a complete source-pathway receptor chain, and the buffering distance of approx. 7.4km from the project footprint to this SPA, there is no potential for ex situ disturbance or displacement related impacts on the listed SCI species during the construction and operation of the proposed project. Further, there is no suitable foraging or roosting habitat for the listed SCI species of this SPA within the proposed development site, therefore the potential for habitat loss can also be ruled out.</p> <p>No pathway for significant effect on this European Site was identified, when considered in the absence of any mitigation, individually or cumulatively with other plans or projects and the site is not within the Likely Zone of Impact and is not considered further in this Screening assessment</p>
Ardboline Island and Horse Island SPA [004135]	<ul style="list-style-type: none"> > A017 Cormorant <i>Phalacrocorax carbo</i> 	Detailed conservation objectives for this site, (Version 1, 12 November 2022), were reviewed as part of the	The proposed development is located outside the boundary of this SPA and as such there is no potential for direct effect.

European Sites and distance from proposed development	Qualify Interests/Special Conservation Interests for which the European site has been designated (Sourced from NPWS online Conservation Objectives, www.npws.ie on the 14/11/2022	Conservation Objectives	Identification of Source-Pathway-Receptor chain
Special Areas of Conservation (SAC)			
Distance: 12km	<p>➤ A045 Barnacle Goose <i>Branta leucopsis</i></p>	<p>assessment and are available at www.npws.ie</p> <p>Detailed conservation objectives for this site, (Version 1, 12 November 2022), were reviewed as part of the assessment and are available at www.npws.ie.</p> <p>This site has a generic conservation objective:</p> <p><i>‘To maintain or restore the favourable conservation condition of the bird species listed as Special Conservation Interests for this SPA’.</i></p> <p><i>NPWS (2022) Conservation objectives for Ardboline Island and Horse Island SPA [004135]. First Order Site-specific Conservation Objectives Version 1.0. Department of Housing, Local Government and Heritage</i></p>	<p>The proposed development site is located approx. 12km southeast of this SPA. This site lies within the core foraging range of 15km for the Barnacle goose (<i>Branta leucopsis</i>) (SNH 2016). Barnacle geese (<i>Branta leucopsis</i>) may potentially use agricultural grassland for foraging during the winter.</p> <p>However, during the bird survey carried out, no Barnacle Geese (<i>Branta leucopsis</i>) were recorded utilizing the habitats within or adjacent to the site. Given the widespread occurrence of this common habitat in the wider locality, the loss of this habitat within the proposed development site would not have a significant effect on this species.</p> <p>Further, due to the absence of a complete source-pathway receptor chain, and the buffering distance of approx. 12km from the project footprint to this SPA, there is no potential for ex situ disturbance or displacement related impacts on the Cormorant (<i>Phalacrocorax carbo</i>) during the construction and operation of the proposed project.</p> <p>No pathway for significant effect on this European Site was identified, when considered in the absence of any mitigation, individually or cumulatively with other plans or projects and the site is not within the Likely Zone of Impact and is not considered further in this Screening assessment</p>

STAGE 2- APPROPRIATE ASSESSMENT

5.

DETAILED CONSIDERATION OF SCREENED IN EUROPEAN SITES

This Natura Impact Statement (NIS) provides an analysis of the potential adverse effects on the integrity of the EU designated sites for which a potential pathway for significant effect was identified at the Appropriate Assessment Screening stage. Potential adverse effects are assessed in view of best scientific knowledge, based on objective information in relation to the proposed project including the proposed avoidance, reduction and preventive measures that are described in Sections 6.2.1.1.2 and 6.2.1.1.3 of this report. The following sections provide a review of the potential impact pathways for the 'screened-in' EU Designated Sites, identified in the Appropriate Assessment Screening assessment in Section 4 above.

Each of these sites is discussed individually below in terms of the Qualifying Interests/Special Conservation Interests with the potential to be affected and the pathways by which any such effects may occur.

The Appropriate Assessment Screening detailed in section 4 above, identified the potential for the proposed development to result in significant effects on the following European Sites:

- > Cummeen Strand/Drumcliff Bay (Sligo Bay) SAC [000627]
- > Lough Gill SAC [001976]
- > Cummeen Strand SPA [004035]

The following sections consider each European Site individually to:

1. Determine which individual qualifying features have the potential to be adversely affected by the proposed development.
2. Provide information with regard to the Conservation Objectives and site-specific pressures and threats for those qualifying features that have the potential to be adversely affected.
3. Provide the results of any additional survey work that was necessary to inform an impact assessment.

5.1 Identification of relevant Qualifying Features and Desk Study

5.1.1 Cummeen Strand/Drumcliff Bay (Sligo Bay) SAC [000627]

The potential for impacts on this SAC were identified in Section 4 above. The identified pathways for effect include the following:

- Pollution via surface water runoff entering the SAC and groundwaters via the percolation of polluting materials through the bedrock underlying the site.
- Deterioration of water quality/ habitat quality and supporting habitats for aquatic fauna:
- Disturbance related impacts to QI species in the form of lighting and an increase in anthropogenic activity during the construction and operational phases.

Table 5.1 below lists the qualifying features of this European Site and determines, in the light of their Conservation Objectives, whether there is any complete source-pathway-receptor chain, by which adverse effects may occur.

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5.1.1.1 Identification of Individual Qualifying Features with the Potential to be Affected.

Table 5-1 Assessment of Qualifying features potentially affected.

Qualifying feature	Conservation Objective Detailed conservation objectives for this site, (Version 1, September 2013), were reviewed as part of the assessment and are available at www.npws.ie	Rationale	Potential for Adverse Effects Y/N
Estuaries [1130]	To maintain the favourable conservation condition of Estuaries in Cummeen Strand/Drumcliff Bay (Sligo Bay) SAC	<p>Due to the proximity of the development site to Cummeen Strand/Drumcliff Bay (Sligo Bay) SAC (123m), a potential pathway for indirect effects on the following marine QI habitat: Estuaries was identified in the form of deterioration of water quality and supporting habitats for aquatic fauna.</p> <p>The construction and operational phase of the proposed development may result in pollution via surface water runoff entering the SAC and groundwater pollution via the percolation of polluting materials through the bedrock underlying the site, adversely impacting the water quality/habitat quality, and supporting habitats for aquatic fauna in this QI habitat: Estuaries within the SAC, in the absence of mitigation.</p> <p>A complete source-pathway-receptor chain for adverse effects on this habitat was identified and it is assessed further in this NIS.</p>	Y
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	<p>Due to the proximity of the development site to Cummeen Strand/Drumcliff Bay (Sligo Bay) SAC (123m), a potential pathway for indirect effects on the following marine QI habitat: Mudflats and sandflats not covered by seawater at low tide was identified in the form of deterioration of water quality and supporting habitats for aquatic fauna.</p> <p>The construction and operational phase of the proposed development may result in pollution via surface water runoff entering the SAC and groundwater pollution via the percolation of polluting materials through the bedrock underlying the site, adversely impacting the water quality/habitat quality, and supporting habitats for aquatic fauna in this QI habitat: Mudflats</p>	Y

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Qualifying feature	Conservation Objective	Rationale	Potential for Adverse Effects Y/N
	Detailed conservation objectives for this site, (Version 1, September 2013), were reviewed as part of the assessment and are available at www.npws.ie	and sandflats not covered by seawater at low tide, within the SAC, in the absence of mitigation. A complete source-pathway-receptor chain for adverse effects on this habitat was identified and it is assessed further in this NIS.	
Embryonic shifting dunes [2110]	To maintain the favourable conservation condition of Embryonic shifting dunes in Cummeen Strand/Drumcliff Bay (Sligo Bay) SAC	The proposed development site is located 123m north of Cummeen Strand/Drumcliff Bay (Sligo Bay) SAC. Indirect impacts on the following terrestrial QI habitat: Embryonic shifting dunes can be ruled out due to the terrestrial nature of the habitat, the buffering distance of 123m from the proposed development area and the absence of a complete source-pathway-receptor chain: No complete source- pathway- receptor chain for any effect on this habitat as a result of the proposed development was identified. No further assessment is required.	N
Shifting dunes along the shoreline with <i>Ammophila arenaria</i> (white dunes) [2120]	To restore the favourable conservation condition of Shifting dunes along the shoreline with <i>Ammophila arenaria</i> ('white dunes') in Cummeen Strand/Drumcliff Bay (Sligo Bay) SAC	The proposed development site is located 123m north of Cummeen Strand/Drumcliff Bay (Sligo Bay) SAC. Indirect impacts on the following terrestrial QI habitat: Shifting dunes along the shoreline with <i>Ammophila arenaria</i> (white dunes) can be ruled out due to the terrestrial nature of the habitat, the buffering distance of 123m from the proposed development area and the absence of a complete source-pathway-receptor chain: No complete source- pathway- receptor chain for any effect on this habitat as a result of the proposed development was identified. No further assessment is required.	N
Fixed coastal dunes with herbaceous vegetation (grey dunes) [2130]	To restore the favourable conservation condition of Fixed coastal dunes with herbaceous vegetation ('grey dunes') in	The proposed development site is located 123m north of Cummeen Strand/Drumcliff Bay (Sligo Bay) SAC. Indirect impacts on the following terrestrial QI habitat: Fixed coastal dunes with herbaceous vegetation (grey dunes) can be ruled out due to the terrestrial nature of the	N

Qualifying feature	Conservation Objective	Rationale	Potential for Adverse Effects Y/N
	Detailed conservation objectives for this site, (Version 1, September 2013), were reviewed as part of the assessment and are available at www.npws.ie		
	Cummeen Strand/Drumcliff Bay (Sligo Bay) SAC	<p>habitat, the buffering distance of 123m from the proposed development area and the absence of a complete source-pathway-receptor chain:</p> <p>No complete source- pathway- receptor chain for any effect on this habitat as a result of the proposed development was identified. No further assessment is required.</p>	
Petrifying springs with tufa formation (<i>Cratoneurion</i>) [7220]	To maintain the favourable conservation condition of Petrifying springs with tufa formation (<i>Cratoneurion</i>) in Cummeen Strand/Drumcliff Bay (Sligo Bay) SAC	<p>According to the NPWS Conservation Objectives document for Cummeen Strand/Drumcliff Bay (Sligo Bay) SAC, there is one known location of this QI Habitat: Petrifying springs with tufa formation (<i>Cratoneurion</i>) within this SAC as per Map 7., approx. 0.8km west of the proposed development site. The area of this QI habitat at Ballincar is recorded as 150m² along 200m of cliff. However, further areas of this habitat may occur within this SAC. This QI habitat relies on permanent irrigation from upwelling groundwater sources.</p> <p>As such, taking an extremely precautionary approach, due to the potential for further areas of this habitat to occur within this SAC, the proximity of this QI habitat (0.8km) to the proposed development site, and this QI habitats reliance on groundwater irrigation sources, a potential pathway for indirect effects on was identified in the form of deterioration of water quality via pollution to groundwater via the percolation of polluting materials through the bedrock underlying the site, adversely impacting the water quality/habitat quality during the construction and operational phase of the proposed development, in the absence of mitigation.</p> <p>A complete source-pathway-receptor chain for adverse effects on this habitat was identified and it is assessed further in this NIS.</p>	Y
<i>Petromyzon marinus</i> (Sea Lamprey) [1095]	To restore the favourable conservation condition of Sea Lamprey in Cummeen	<p>Due to the proximity of the development site to Cummeen Strand/Drumcliff Bay (Sligo Bay) SAC (123m), a potential pathway for indirect effects on the following aquatic migratory QI species: <i>Petromyzon marinus</i> (Sea Lamprey) were identified in the form of deterioration of water quality and supporting habitats for aquatic fauna.</p>	Y

Qualifying feature	Conservation Objective	Rationale	Potential for Adverse Effects Y/N
	Detailed conservation objectives for this site, (Version 1, September 2013), were reviewed as part of the assessment and are available at www.npws.ie		
	Strand/Drumcliff Bay (Sligo Bay) SAC	<p>The construction and operational phase of the proposed development may result in pollution via surface water runoff entering the SAC and groundwater pollution via the percolation of polluting materials through the bedrock underlying the site, adversely impacting the water quality/ habitat quality, and supporting habitats for this aquatic migratory species: <i>Petromyzon marinus</i> (Sea Lamprey): within the SAC, in the absence of mitigation.</p> <p>A complete source-pathway-receptor chain for adverse effects on this habitat was identified and it is assessed further in this NIS.</p>	
<i>Lampetra fluviatilis</i> (River Lamprey) [1099]	To maintain the favourable conservation condition of River Lamprey in Cummeen Strand/Drumcliff Bay (Sligo Bay) SAC	<p>Due to the proximity of the development site to Cummeen Strand/Drumcliff Bay (Sligo Bay) SAC (123m), a potential pathway for indirect effects on the following aquatic migratory species: <i>Lampetra fluviatilis</i> (River Lamprey) were identified in the form of deterioration of water quality and supporting habitats for aquatic fauna.</p> <p>The construction and operational phase of the proposed development may result in pollution via surface water runoff entering the SAC and groundwater pollution via the percolation of polluting materials through the bedrock underlying the site, adversely impacting the water quality/ habitat quality, and supporting habitats for this aquatic migratory species: <i>Lampetra fluviatilis</i> (River Lamprey), within the SAC, in the absence of mitigation.</p> <p>A complete source-pathway-receptor chain for adverse effects on this habitat was identified and it is assessed further in this NIS.</p>	Y
<i>Phoca vitulina</i> (Harbour Seal) [1365]	To maintain the favourable conservation condition of Harbour Seal in Cummeen Strand/Drumcliff Bay (Sligo Bay) SAC	<p>Due to the proximity of the development site to Cummeen Strand/Drumcliff Bay (Sligo Bay) SAC (123m), a potential pathway for indirect effects on the following aquatic species: <i>Phoca vitulina</i> (Harbour Seal) were identified in the form of deterioration of water quality and supporting habitats for aquatic fauna, and ex-situ disturbance related impacts.</p>	Y

Qualifying feature	Conservation Objective Detailed conservation objectives for this site, (Version 1, September 2013), were reviewed as part of the assessment and are available at www.npws.ie	Rationale	Potential for Adverse Effects Y/N
		<p>The construction and operational phase of the proposed development may result in pollution via surface water runoff entering the SAC and groundwater pollution via the percolation of polluting materials through the bedrock underlying the site, adversely impacting the water quality/ habitat quality, and supporting habitats for this aquatic species: <i>Phoca vitulina</i> (Harbour Seal) within the SAC, in the absence of mitigation.</p> <p>Further, taking an extremely precautionary approach, disturbance related impacts to the Harbour Seal in the form of lighting and an increase in anthropogenic activity during the construction and operational phases. was identified. According to the Cummeen Strand/Drumcliff Bay (Sligo Bay) SAC <i>Conservation Objectives Supporting Document for Marine Habitats and Species</i> (NPWS, 2013), harbour seal occurs in estuarine, coastal, and offshore waters but also utilises a range of intertidal and terrestrial habitats for important life history functions such as breeding, moulting, resting and social activity. As such, the construction and operational phase of the proposed development may result in disturbance related impacts to this QI species, in the absence of mitigation.</p> <p>A complete source-pathway-receptor chain for adverse effects on this habitat was identified and it is assessed further in this NIS.</p>	
<i>Juniperus communis</i> formations on heaths or calcareous grasslands [5130]	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	<p>The proposed development site is located 123m north of Cummeen Strand/Drumcliff Bay (Sligo Bay) SAC. Indirect impacts on the following terrestrial QI habitat: <i>Juniperus communis</i> formations on heaths or calcareous grasslands. can be ruled out due to the terrestrial nature of the habitat, the buffering distance of 123m from the proposed development area and the absence of a complete source-pathway-receptor chain:</p> <p>No complete source- pathway- receptor chain for any effect on this habitat as a result of the proposed development was identified. No further assessment is required</p>	N

Qualifying feature	Conservation Objective	Rationale	Potential for Adverse Effects Y/N
	Detailed conservation objectives for this site, (Version 1, September 2013), were reviewed as part of the assessment and are available at www.npws.ie		
<i>Vertigo angustior</i> (Narrow-mouthed Whorl Snail) [1014]	To maintain the favourable conservation condition of Narrow-mouthed Whorl Snail in Cummeen Strand/Drumcliff Bay (Sligo Bay) SAC	<p>According to the NPWS Conservation Objectives document for Cummeen Strand/Drumcliff Bay (Sligo Bay) SAC, there is one known location of this QI Species within this SAC as per Map 7, approx. 7km southwest of the proposed development site. The optimal habitat for this species 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 sp.</i>), mouseear-hawkweed (<i>Pilosella officinarum</i>) and other low growing herbs, with a vegetation height of 10-30cm, as per CO document (NPWS 2013).</p> <p>As such, there is no optimal habitat type within the proposed development boundary for this QI species, and as such the proposed development site is in no way connected to this habitat.</p> <p>Therefore, indirect impacts on this QI species can be ruled out due to the absence of suitable habitat within the proposed development area and the absence of a complete source-pathway-receptor chain:</p> <p>No complete source- pathway- receptor chain for any effect on this species as a result of the proposed development was identified. No further assessment is required</p>	N

5.1.1.2 Site Specific Pressures and Threats

As per the Natura 2000 Data Form, the site-specific threats, pressures, and activities with potential to impact on the European Site were reviewed and considered in relation to the Proposed Development. These are provided in Table 5.2 below.

Table 5-2 Site-specific threats, pressures, and activities

Negative Impacts		
Rank	Threats and Pressures	
H	F01.01	intensive fish farming, intensification
L	E03.03	disposal of inert materials
L	G02.08	'Camping and caravans
L	G05.01	Trampling, overuse,
L	J01.01	burning down
L	J02.11.01	Dumping, depositing of dredged deposits
L	J02.12.01	sea defence or coast protection works, tidal barrages
M	A02.01	agricultural intensification
M	D03	shipping lanes, ports, marine constructions
M	D03.01	port areas
M	E01.03	Dispersed habitation
M	G01.02	walking, horse-riding, and non-motorised vehicles
M	G01.03.02	off-road motorized driving
M	G02.01	'Golf course
M	101	invasive non-native species

A pathway for impact with regard to the site-specific threat/pressure *Dispersed habitation (E01.03)* was identified.

5.1.1.3 Species Specific Information

5.1.1.3.1 Estuaries [1130]

According to the site-specific conservation objectives document (NPWS, 2013), the habitat area was estimated as 1258ha using OSi data and the defined Transitional Water Body area under the Water Framework Directive. The community extent was sourced based on intertidal surveys undertaken in 2007 and 2010 (ASU, 2007, 2012) and subtidal survey in 2010 (Aquafact, 2011).

According to the Article 17 reporting (NPWS, 2019) most of the pressures on estuaries come from various sources of pollution, including domestic wastewater, agriculture, and marine aquaculture. Alien

invasive species such as the naturalised Pacific oyster (*Magallana gigas*) are also recognised as a significant pressure. The overall status of the habitat in the most recent 2019 assessment is favourable and stable. The status in 2013 was also favourable, while in 2007 the overall status of the habitat was unfavourable. As such, the overall trend of the habitat has changed from unfavourable to favourable and stable in the most recent assessment (NPWS 2019).

5.1.1.3.2 **Mudflats and Sandflats Not Covered by Seawater at Low Tide** [1140]

According to the site-specific conservation objectives document (NPWS, 2013), the habitat area within the SAC was estimated using OSi data as 2288ha. The community extent was sourced based on intertidal surveys undertaken in 2007 and 2010 (ASU, 2007, 2012).

According to the Article 17 reporting (NPWS, 2019), the overall status of the habitat in the most recent 2019 assessment is unfavourable and declining. In the 2013 assessment the habitat was assessed as inadequate, and improving, while in 2007 the habitat was assessed as inadequate. The change in trend from improving to deteriorating is due to a genuine decline in the habitat since 2013. This was caused partly by pollution from agricultural, forestry and wastewater sources, as well as impacts associated with marine aquaculture, particularly the Pacific oyster (*Magallana gigas*).

5.1.1.3.3 **Petrifying Springs with Tufa Formation (Cratoneurion)** [7220]

According to the site-specific conservation objectives document (NPWS, 2013), the area of this habitat at Ballincar is recorded as 150m² along c.200m of cliff (internal NPWS files). The SSCO document states that further unsurveyed areas maybe present within this SAC.

This habitat occurs along a seepage line in low (generally less than 10m in height) clay sea cliffs near Ballincar (internal NPWS files). Lyons and Kelly (2013) recognise three main subtypes of spring. This site falls into the coastal springs subtype (the other two being woodland springs and inland non-wooded springs). The hydrological regime is currently unknown at this site. Petrifying springs rely on permanent irrigation, usually from upwelling groundwater sources or seepage sources. This site appears to be fed from water seeping through clay sea cliffs.

According to the Article 17 reporting (NPWS, 2019), the overall status of this habitat in 2019 is assessed as inadequate and declining, which is a decline from inadequate and stable in the 2013 report. The trend is assessed as deteriorating (reported as stable in 2013), which is due to improved knowledge, and decline is considered to have been on-going since before the last assessment.

5.1.1.3.4 **Petromyzon marinus (Sea Lamprey)** [1095]

According to the site-specific conservation objectives document (NPWS, 2013), this SAC only covers marine/estuarine habitat, and it is not anticipated that it contains suitable spawning or nursery habitat. Migrating adult lamprey pass through the site en route to/from the Garavoge River, which flows out of Lough Gill. Lough Gill SAC (site code: 1976), which is adjacent to this SAC, encompasses the freshwater elements of sea lamprey habitat. Potential barriers for migrating lamprey include anthropogenic physical barriers and chemical barriers e.g., oxygen depletion or discharge of noxious pollutants.

According to the Article 17 reporting (NPWS, 2019), the overall conservation status of *P. marinus* has remained unchanged since the previous reporting period (2013) and is assessed as bad. The range is assessed as bad as it is more than 10% below the favourable reference range. The population is assessed as bad as it is estimated to be more than 25% below the favourable reference population. The habitat is assessed as inadequate as the area is not considered large enough to ensure the future long-term viability of sea lamprey. This assessment has changed since the previous reporting period and is based on new data and best expert judgement.

5.1.1.3.5 **Lampetra fluviatilis (River Lamprey) [1099]**

According to the site-specific conservation objectives document (NPWS, 2013), this SAC only covers marine/estuarine habitat, and it is not anticipated that it contains suitable spawning or nursery habitat. Migrating adult lamprey pass through the site en route to/from the Garavoge River, which flows out of Lough Gill. Lough Gill SAC (site code: 1976), which is adjacent to this SAC, encompasses the freshwater elements of river lamprey habitat. Potential barriers for migrating lamprey include anthropogenic physical barriers and chemical barriers e.g., oxygen depletion or discharge of noxious pollutants.

According to the Article 17 reporting (NPWS, 2019), *‘Given the large area of habitat availability and the likelihood that, in certain flow conditions, river lamprey is able to ascend many of the significant weirs on Irish rivers, it is possible that, in reality, they have a favourable conservation status. The inability to distinguish between L. fluviatilis and L. planeri larvae, however, and the challenges associated with sampling for adult river lamprey, means that an evaluation of their actual range and population size cannot be undertaken and status is assessed as unknown for the current reporting period’.*

5.1.1.3.6 **Phoca vitulina (Harbour Seal) [1365]**

According to the site-specific Conservation objectives supporting document-Marine habitats and species (NPWS, 2013), Harbour seals in Cummeen Strand/Drumcliff Bay (Sligo Bay) SAC occupy both aquatic habitats and intertidal shorelines that become exposed during the tidal cycle. The species is present at the site throughout the year during all aspects of its annual life cycle which includes breeding (May to July approx.), moulting (August to September approx.) and non-breeding foraging and resting phases (October to April). Comparatively limited information is available for this site from the moult period in the annual cycle spanning the months of August and September. In acknowledging the limited understanding of aquatic habitat use by the species within the site it should be noted that all suitable aquatic habitat is considered relevant to the species range and ecological requirements at the site and is therefore of potential use by harbour seals.

Current information on locations selected by harbour seals in Cummeen Strand/Drumcliff Bay SAC during the breeding season is comparatively limited. Current sites are broadly within the following areas: sandbank areas south of Lissadell Strand and Ballygilgan Strand.

Current information on resting locations selected by harbour seals in Cummeen Strand/Drumcliff Bay (Sligo Bay) SAC outside the breeding season is comparatively limited. Current sites are broadly in the following areas: sandbanks to the north of Rosses Point, south of Ballygilgan Strand and Lissadell Strand.

According to the Article 17 reporting (NPWS, 2019), based on the assessments for range, population, habitat and future prospects parameters, the overall conclusion is that the conservation status of harbour seal in Ireland is considered favourable and stable in 2019. This overall result and the results for the three assessment parameters are the same as in the previous two Article 17 assessments (i.e., favourable). Further, evidence from population estimation surveys carried out since the Directive came into force indicates that the all-age population of harbour seals (within the Natura 2000 network designated for the species in Ireland) has remained relatively stable.

5.1.2 Lough Gill SAC [001976]

The potential for impacts on this SAC were identified in Section 4.1 above. The identified pathways for effect include the following:

- Impacts on the aquatic QI species which migrate through the Garavogue Estuary during their life cycle, in the form of deterioration of water quality and supporting habitats for migratory aquatic fauna via surface water and groundwater pollution.

Table 5.3 below lists the qualifying features of this European Site and determines, in the light of their Conservation Objectives, whether there is any complete source-pathway-receptor chain, by which adverse effects may occur.

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5.1.2.1 Identification of Individual Qualifying Features with the Potential to be Affected.

Table 5-3 Assessment of Qualifying features potentially affected.

Qualifying feature	Conservation Objective	Rationale	Potential for Adverse Effects Y/N
Natural eutrophic lakes with <i>Magnopotamion</i> or <i>Hydrocharition</i> - type vegetation [3150]	Detailed conservation objectives for this site, (Version 1, 15 December 2021), were reviewed as part of the assessment and are available at www.npws.ie	The proposed development area is located 3.2km northwest of Lough Gill SAC. Indirect impacts on the following QI habitat: Natural eutrophic lakes with <i>Magnopotamion</i> or <i>Hydrocharition</i> - type vegetation, can be ruled out due the absence of connectivity and the absence of a potential pathway for connectivity via the proposed development site and this freshwater habitat, the buffering distance of 3.3km from the proposed development area and the absence of a complete source-pathway-receptor chain.	N
Semi-natural dry grasslands and scrubland facies on calcareous substrates (<i>Festuco-Brometalia</i>) (* important orchid sites) [6210]	To restore the favourable conservation condition of Natural eutrophic lakes with <i>Magnopotamion</i> or <i>Hydrocharition</i> - type vegetation in Lough Gill SAC	No complete source- pathway- receptor chain for any effect on this habitat as a result of the proposed development was identified. No further assessment is required	
Semi-natural dry grasslands and scrubland facies on calcareous substrates (<i>Festuco-Brometalia</i>) (* important orchid sites) [6210]	To restore the favourable conservation condition of Semi-natural dry grasslands and scrubland facies on calcareous substrates (<i>Festuco-Brometalia</i>) (* important orchid sites) in Lough Gill SAC	The proposed development area is located 3.2km northwest of Lough Gill SAC. Indirect impacts on the following QI habitat: Semi-natural dry grasslands and scrubland facies on calcareous substrates (<i>Festuco-Brometalia</i>) (* important orchid sites) can be ruled out due to the terrestrial nature of the habitat, the buffering distance of 3.2kmn from the proposed development area and the absence of a complete source-pathway-receptor chain:	N
Old sessile oak woods with <i>Ilex</i> and <i>Blechnum</i> in the British Isles [91A0]	To restore the favourable conservation condition of Old sessile oak woods with	No complete source- pathway- receptor chain for any effect on this habitat as a result of the proposed development was identified. No further assessment is required	
Old sessile oak woods with <i>Ilex</i> and <i>Blechnum</i> in the British Isles [91A0]	To restore the favourable conservation condition of Old sessile oak woods with	The proposed development area is located 3.2km northwest of Lough Gill SAC. Indirect impacts on the following QI habitat: Old sessile oak woods with <i>Ilex</i> and <i>Blechnum</i> in the British Isles, can be ruled out due to the	N

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Qualifying feature	Conservation Objective	Rationale	Potential for Adverse Effects Y/N
	Detailed conservation objectives for this site, (Version 1, 15 December 2021), were reviewed as part of the assessment and are available at www.npws.ie		
	<i>Ilex</i> and <i>Blechnum</i> in the British Isles in Lough Gill SAC	terrestrial nature of the habitat, the buffering distance of 3.2km from the proposed development area and the absence of a complete source-pathway-receptor chain: No complete source- pathway- receptor chain for any effect on this habitat as a result of the proposed development was identified. No further assessment is required	
Alluvial forests with <i>Alnus glutinosa</i> and <i>Fraxinus excelsior</i> (<i>Alno-Padion</i> , <i>Alnion incanae</i> , <i>Salicion albae</i>) [91E0]	To restore the favourable conservation condition of Alluvial forests with <i>Alnus glutinosa</i> and <i>Fraxinus excelsior</i> (<i>Alno-Padion</i> , <i>Alnion incanae</i> , <i>Salicion albae</i>) * in Lough Gill SAC	The proposed development area is located 3.2km northwest of Lough Gill SAC. Indirect impacts on the following QI habitat: Alluvial forests with <i>Alnus glutinosa</i> and <i>Fraxinus excelsior</i> (<i>Alno-Padion</i> , <i>Alnion incanae</i> , <i>Salicion albae</i>), can be ruled out due the absence of connectivity and the absence of a potential pathway for connectivity via the proposed development site and this freshwater habitat, the buffering distance of 3.3km from the proposed development area and the absence of a complete source-pathway-receptor chain. No complete source- pathway- receptor chain for any effect on this habitat as a result of the proposed development was identified. No further assessment is required	N
<i>Austropotamobius pallipes</i> (White-clawed Crayfish) [1092]	To maintain the favourable conservation condition of White-clawed Crayfish (<i>Austropotamobius pallipes</i>) in Lough Gill SAC,	The proposed development area is located 3.2km northwest of Lough Gill SAC. Indirect impacts on the following QI species: <i>Austropotamobius pallipes</i> (White-clawed Crayfish) can be ruled out due the absence of connectivity and the absence of a potential pathway for connectivity via the proposed development site and this freshwater species, the buffering distance of 3.3km from the proposed development area and the absence of a complete source-pathway-receptor chain.	N

Qualifying feature	Conservation Objective	Rationale	Potential for Adverse Effects Y/N
	Detailed conservation objectives for this site, (Version 1, 15 December 2021), were reviewed as part of the assessment and are available at www.npws.ie		
		No complete source- pathway- receptor chain for any effect on this habitat as a result of the proposed development was identified. No further assessment is required.	
<i>Petromyzon marinus</i> (Sea Lamprey) [1095]	To restore the favourable conservation condition of Sea Lamprey (<i>Petromyzon marinus</i>) in Lough Gill SAC	<p>The proposed development area is located 3.2km northwest of Lough Gill SAC.</p> <p>Taking a precautionary approach, a potential pathway for indirect effects on this migratory species <i>Petromyzon marinus</i> (Sea Lamprey), was identified in the form of deterioration of water quality resulting from pollution to surface water via surface water runoff entering the SAC and groundwaters via the percolation of polluting materials through the bedrock underlying the site, adversely impacting the water quality/ habitat quality and supporting habitat (Garavogue Estuary) for this migratory aquatic fauna.</p> <p>Therefore, a potential for indirect effects on the aquatic QI species which migrate through the Garavogue Estuary during their life cycle has been identified in the form of deterioration of water quality resulting from potential pollution to surface water and groundwater during the construction and operational phase of the proposed development.</p> <p>A complete source-pathway-receptor chain for adverse effects on this habitat was identified and it is assessed further in this NIS.</p>	Y

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Qualifying feature	Conservation Objective	Rationale	Potential for Adverse Effects Y/N
	Detailed conservation objectives for this site, (Version 1, 15 December 2021), were reviewed as part of the assessment and are available at www.npws.ie		
<i>Lampetra planeri</i> (Brook Lamprey) [1096]	To restore the favourable conservation condition of Brook Lamprey (<i>Lampetra planeri</i>) in Lough Gill SAC	<p>The proposed development area is located 3.2km northwest of Lough Gill SAC. Indirect impacts on the following QI species: <i>Lampetra planeri</i> (Brook Lamprey) can be ruled out due the absence of connectivity and the absence of a potential pathway for connectivity via the proposed development site and this freshwater, non-migratory species, the buffering distance of 3.2km from the proposed development area and the absence of a complete source-pathway-receptor chain.</p> <p>No complete source- pathway- receptor chain for any effect on this habitat as a result of the proposed development was identified. No further assessment is required</p>	N
<i>Lampetra fluviatilis</i> (River Lamprey) [1099]	To restore the favourable conservation condition of River Lamprey (<i>Lampetra fluviatilis</i>) in Lough Gill SAC,	<p>The proposed development area is located 3.2km northwest of Lough Gill SAC.</p> <p>Taking a precautionary approach, a potential pathway for indirect effects on this migratory species <i>Lampetra fluviatilis</i> (River Lamprey) was identified in the form of deterioration of water quality resulting from pollution to surface water via surface water runoff entering the SAC and groundwaters via the percolation of polluting materials through the bedrock underlying the site, adversely impacting the water quality/ habitat quality, and supporting habitat (Garavogue Estuary) for this migratory aquatic fauna.</p> <p>Therefore, a potential for indirect effects on the aquatic QI species which migrate through the Garavogue Estuary during their life cycle has been identified in the form of deterioration of water quality resulting from potential</p>	Y

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Qualifying feature	Conservation Objective	Rationale	Potential for Adverse Effects Y/N
	Detailed conservation objectives for this site, (Version 1, 15 December 2021), were reviewed as part of the assessment and are available at www.npws.ie		
		<p>pollution to surface water and groundwater during the construction and operational phase of the proposed development.</p> <p>A complete source-pathway-receptor chain for adverse effects on this habitat was identified and it is assessed further in this NIS</p>	
<i>Salmo salar</i> (Salmon) [1106]	To restore the favourable conservation condition of Atlantic Salmon (<i>Salmo salar</i>) in Lough Gill SAC	<p>The proposed development area is located 3.2km northwest of Lough Gill SAC.</p> <p>Taking a precautionary approach, a potential pathway for indirect effects on this migratory species <i>Salmo salar</i> (Salmon) was identified in the form of deterioration of water quality resulting from pollution to surface water via surface water runoff entering the SAC site and groundwaters via the percolation of polluting materials through the bedrock underlying the site, adversely impacting the water quality/ habitat quality, and supporting habitat (Garavogue Estuary) for this migratory aquatic fauna.</p> <p>Therefore, a potential for indirect effects on the aquatic QI species which migrate through the Garavogue Estuary during their life cycle has been identified in the form of deterioration of water quality resulting from potential pollution to surface water and groundwater during the construction phase and operational phase of the proposed development.</p> <p>A complete source-pathway-receptor chain for adverse effects on this habitat was identified and it is assessed further in this NIS</p>	Y

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Qualifying feature	Conservation Objective	Rationale	Potential for Adverse Effects Y/N
<i>Lutra lutra</i> (Otter) [1355]	Detailed conservation objectives for this site, (Version 1, 15 December 2021), were reviewed as part of the assessment and are available at www.npws.ie	<p>The proposed development area is located 3.2km northwest of Lough Gill SAC.</p> <p>Following a precautionary approach, a potential pathway for indirect effects on the Otter (<i>Lutra lutra</i>) were identified in the form of deterioration of water quality and supporting habitats for this aquatic fauna.</p> <p>Taking a precautionary approach, a potential pathway for indirect effects on this QI species <i>Lutra lutra</i> (Otter) was identified in the form of deterioration of water quality resulting from pollution to surface water via surface water runoff entering the SAC and groundwaters via the percolation of polluting materials through the bedrock underlying the site, adversely impacting the water quality/ habitat quality, and supporting habitats for this aquatic fauna.</p> <p>Due to the distance (3.2km) and the lack of supporting habitats present on the site of proposed development, there is no potential for increased disturbance or displacement of the Otter associated with the proposed development.</p> <p>A complete source-pathway-receptor chain for adverse effects on this habitat was identified and it is assessed further in this NIS.</p>	Y

5.1.2.2 Site specific pressures and threats

As per the Natura 2000 Data Form, the site-specific threats, pressures, and activities with potential to effect on the SAC were reviewed and considered in relation to the proposed development. These are provided in Table 5.4 below.

Table 5-4 Site-specific threats, pressures, and activities

Negative Impacts		
Rank	Threats and Pressures	
High	E01.01	'Continuous urbanisation
Low	B	Sylviculture, forestry
Low	E03.03	disposal of inert materials
Low	G01.01.01	motorized nautical sports
Low	J02.05.02	'Modifying structures of inland water courses
Low	J02.10	management of aquatic and bank vegetation for drainage purposes
Medium	A10.01	removal of hedges and copses or scrub
Medium	B06	grazing in forests/ woodland
Medium	D01.01	paths, tracks, cycling tracks
Medium	E01.03	dispersed habitation
Medium	101	invasive non-native species

A pathway for impact with regard to the site-specific threat/pressure *Dispersed habitation (E01.03)* was identified.

5.1.2.3 Species Specific information

There are no site-specific conservation objectives available for this SAC. According to the NPWS site synopsis, 'The site is of considerable importance for the presence of four Red Data Book fish species that are listed on Annex II of the E.U. Habitats Directive - Brook Lamprey (*Lampetra planeri*), River Lamprey (*Lampetra fluviatilis*), Sea Lamprey (*Petromyzon marinus*) and Atlantic Salmon (*Salmo salar*). The Lough Gill system gets a very early run of spring salmon, while the Bonet holds stocks of salmon from spring right through to the end of the season'. According to the standard data form, the lake and its associated rivers support an important population of *Salmo salar*. Otters are well established on this site as an Annex II species.

5.1.2.3.1 *Petromyzon marinus* (Sea Lamprey) [1095]

According to the Article 17 reporting (NPWS, 2019), the overall conservation status of Sea lamprey (*P. marinus*) has remained unchanged since the previous reporting period and is assessed as bad. The range is assessed as bad as it is more than 10% below the favourable reference range. The population is assessed as bad as it is estimated to be more than 25% below the favourable reference population. The habitat is assessed as inadequate as the area is not considered large enough to ensure the future long--

term viability of sea lamprey. This assessment has changed since the previous reporting period and is based on new data and best expert judgement.

5.1.2.3.2 **Lampetra fluviatilis (River Lamprey) [1099]**

According to the Article 17 reporting (NPWS, 2019) with reference to river lamprey, ‘Given the large area of habitat availability and the likelihood that, in certain flow conditions, river lamprey is able to ascend many of the significant weirs on Irish rivers, it is possible that, in reality, they have a favourable conservation status. The inability to distinguish between *L. fluviatilis* and *L. planeri* larvae, however, and the challenges associated with sampling for adult river lamprey, means that an evaluation of their actual range and population size cannot be undertaken and status is assessed as unknown for the current reporting period’.

5.1.2.3.3 **Salmo salar (Salmon) [1106]**

According to the Article 17 reporting (NPWS, 2019) with reference to Salmon, ‘There is no evidence of a decline in range since the directive came into force. The current range is considered sufficient for the long-term survival of the species. Therefore, range has been assessed as favourable. Increasing trends have been noted in salmon population size in the last 5 years. However, the current population estimate is 78% of the favourable reference population. Therefore, population has been assessed as inadequate. There is sufficient available habitat and ongoing pressures linked with habitat quality are not considered to be compromising the viability of the species. Therefore, habitat for the species has been assessed as favourable. Population estimates are unlikely to reach favourable status in the next 12 years. Therefore, future prospects have been assessed as inadequate. The overall conservation status has been assessed as inadequate with a stable trend. Although a short-term negative trend is reported for this species, the trend has reversed in the last 5 years. Therefore, an overall stable trend is reported’.

5.1.2.3.4 **Lutra lutra (Otter) [1355]**

According to the Article 17 reporting (NPWS, 2019), ‘The otter is widespread in Ireland, occupying lotic and lentic freshwater systems from headwaters to estuaries, remote mountain lakes to city canals. It is also present along the coast including many offshore islands. Expert judgement was used to assess habitat availability/quality based on overall assessment of riparian, lacustrine and coastal waters, the species’ catholic and adaptable diet (Reid et al. 2013c), plus the widespread nature of otters and the apparent population recovery seen over the short term. Given the widespread and adaptable nature of the otter (e.g., Reid et al., 2013a, b), habitat availability/quality is not considered to be or to have been a limiting factor in the species’ range. Hence, the underlying trend in habitat is assumed to have remained stable. Overall, the species is assessed as Favourable, and the overall trend is demonstrating an on-going increase’.

5.1.3 Cummeen Strand SPA [004035]

The potential for impacts on this SPA were identified in Section 4.1 above. The identified pathways for effect include the following:

- Pollution via surface water runoff entering the SPA and groundwaters via the percolation of polluting materials through the bedrock underlying the site.
- Deterioration of water quality and supporting habitats for SCI species.
- Habitat loss, and disturbance related impacts in the form of lighting and an increase in anthropogenic activity during the construction and operational phases to SCI species.

Table 5.5 below lists the qualifying features of this European Site and determines, in the light of their Conservation Objectives, whether there is any complete source-pathway-receptor chain, by which adverse effects may occur.

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5.1.3.1 Identification of Individual Qualifying Features with the Potential to be Affected.

Table 5-5 Assessment of Qualifying features potentially affected.

Qualifying feature	Conservation Objective	Rationale	Potential for Adverse Effects Y/N
Light-bellied Brent Goose (<i>Branta bernicla hrota</i>) [A046]	Detailed conservation objectives for this site, (Version 1, 10 September 2013), were reviewed as part of the assessment and are available at www.npws.ie	<p>The proposed development site is located 128m northeast of Cummeen Strand SPA.</p> <p>The construction and operational phase of the proposed development may result in pollution via surface water runoff entering the SPA and groundwater pollution via the percolation of polluting materials through the bedrock underlying the site, adversely impacting the water quality/ habitat quality, and supporting habitats for this SCI species: Light-bellied Brent Goose (<i>Branta bernicla hrota</i>)</p> <p>A potential pathway for indirect effects on the SCI wetland habitat was identified in the form of deterioration of water quality and supporting wetland habitat for the listed SCI species including Light-bellied Brent Goose (<i>Branta bernicla hrota</i>)</p> <p>On a precautionary basis the potential for habitat loss and disturbance and displacement to SCI species was also identified. As such, following the precautionary principle, a potential pathway for effect on the listed SCI species and their habitat was identified in the form of disturbance related impacts in the form of lighting and an increase in anthropogenic activity during the construction and operational phases to SCI species, in the absence of mitigation.</p>	Y

Qualifying feature	Conservation Objective	Rationale	Potential for Adverse Effects Y/N
	Detailed conservation objectives for this site, (Version 1, 10 September 2013), were reviewed as part of the assessment and are available at www.npws.ie		
		A complete source-pathway-receptor chain for adverse effects on this habitat was identified and it is assessed further in this NIS.	
Oystercatcher (<i>Haematopus ostralegus</i>) [A130]	To maintain the favourable conservation condition of Oystercatcher in Cummeen Strand SPA,	<p>The proposed development site is located 128m northeast of Cummeen Strand SPA.</p> <p>The construction and operational phase of the proposed development may result in pollution via surface water runoff entering the SPA and groundwater pollution via the percolation of polluting materials through the bedrock underlying the site, adversely impacting the water quality/ habitat quality, and supporting habitats for this SCI species: Oystercatcher (<i>Haematopus ostralegus</i>) [</p> <p>A potential pathway for indirect effects on the SCI wetland habitat was identified in the form of deterioration of water quality and supporting wetland habitat for the listed SCI species including the Oystercatcher (<i>Haematopus ostralegus</i>) [</p> <p>On a precautionary basis the potential for habitat loss and disturbance and displacement to SCI species was also identified. As such, following the precautionary principle, a potential pathway for effect on the listed SCI species and their habitat was identified in the form of disturbance related impacts in the form of lighting and an increase in anthropogenic activity during the construction and operational phases to SCI species, in the absence of mitigation.</p>	Y

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Qualifying feature	Conservation Objective	Rationale	Potential for Adverse Effects Y/N
	Detailed conservation objectives for this site, (Version 1, 10 September 2013), were reviewed as part of the assessment and are available at www.npws.ie		
		A complete source-pathway-receptor chain for adverse effects on this habitat was identified and it is assessed further in this NIS	
Redshank (<i>Tringa totanus</i>) [A162]	To maintain the favourable conservation condition of Redshank in Cummeen Strand SPA	<p>The proposed development site is located 128m northeast of Cummeen Strand SPA.</p> <p>The construction and operational phase of the proposed development may result in pollution via surface water runoff entering the SPA and groundwater pollution via the percolation of polluting materials through the bedrock underlying the site, adversely impacting the water quality/ habitat quality, and supporting habitats for this SCI species: Redshank (<i>Tringa totanus</i>).</p> <p>A potential pathway for indirect effects on the SCI wetland habitat was identified in the form of deterioration of water quality and supporting wetland habitat for the listed SCI species including the Redshank (<i>Tringa totanus</i>).</p> <p>On a precautionary basis the potential for habitat loss and disturbance and displacement to SCI species was also identified. As such, following the precautionary principle, a potential pathway for effect on the listed SCI species and their habitat was identified in the form of disturbance related impacts in the form of lighting and an increase in anthropogenic activity during the construction and operational phases to SCI species, in the absence of mitigation.</p> <p>A complete source-pathway-receptor chain for adverse effects on this habitat was identified and it is assessed further in this NIS.</p>	Y

Qualifying feature	Conservation Objective	Rationale	Potential for Adverse Effects Y/N
	Detailed conservation objectives for this site, (Version 1, 10 September 2013), were reviewed as part of the assessment and are available at www.npws.ie		
Wetland and Waterbirds [A999]	To maintain the favourable conservation condition of wetland habitat in Cummeen Strand SPA	<p>The proposed development site is located 128m northeast of Cummeen Strand SPA.</p> <p>The construction and operational phase of the proposed development may result in pollution via surface water runoff entering the SPA and groundwater pollution via the percolation of polluting materials through the bedrock underlying the site, adversely impacting the water quality/ habitat quality, and supporting habitats for Wetland and Waterbirds.</p> <p>A potential pathway for indirect effects on the SCI wetland habitat was identified in the form of deterioration of water quality and supporting wetland habitat for the listed SCI species including Waterbirds.</p> <p>On a precautionary basis the potential for habitat loss and disturbance and displacement to SCI species was also identified. As such, following the precautionary principle, a potential pathway for effect on the listed SCI species and their habitat was identified in the form of disturbance related impacts in the form of lighting and an increase in anthropogenic activity during the construction and operational phases to SCI species, in the absence of mitigation.</p> <p>A complete source-pathway-receptor chain for adverse effects on this habitat was identified and it is assessed further in this NIS.</p>	Y

5.1.3.2 Site-Specific Pressures and Threats

As per the Natura 2000 Data Form, the site-specific threats, pressures, and activities with potential to effect on the SPA were reviewed and considered in relation to the proposed development. These are provided in Table 5-6.

Table 5-6 Site-specific threats, pressures, and activities

Negative Impacts		
Rank	Threats and Pressures	
Medium	A08	Fertilization
High	A08	Fertilization
High	A04	Grazing
High	F01	Marine and freshwater aquaculture
High	A04	Grazing
Medium	E01.03	Dispersed habitation
Low	G01.02	walking, horse-riding, and non-motorised vehicles

A pathway for impact with regard to the site-specific threat/pressure *Pollution (H)* and *Urbanised areas, human habitation (E01)* was identified.

5.1.3.3 Species- Specific Information

5.1.3.3.1 Light-bellied Brent Goose (*Branta bernicla hrota*) [A046]

According to the NPWS Conservation Objectives Supporting document (NPWS, 2013) during winter the site regularly supports 1% or more of the biogeographic population of Light-bellied Brent Goose (*Branta bernicla hrota*). The mean peak number of this species within the SPA during the baseline period (1995/96 –1999/00) was 223 individuals. Light-bellied Brent Goose has a favourable population trend for this site. According to the Article 12 reporting both the short-term and long-term population trend for this species is increasing.

5.1.3.3.2 Oystercatcher (*Haematopus ostralegus*) [A130]

According to the NPWS Conservation Objectives Supporting document (NPWS, 2013) during winter the site regularly supports 1% or more of the all-Ireland population of Oystercatcher (*Haematopus ostralegus*). The mean peak number of this species within the SPA during the baseline period (1995/96 –1999/00) was 680 individuals. Oystercatcher has a favourable population trend for this site. According to the Article 12 reporting the short-term population trend for this species is stable and the long-term trend is unknown.

5.1.3.3.3 Redshank (*Tringa totanus*) [A162]

According to the NPWS Conservation Objectives Supporting document (NPWS, 2013), during winter the site regularly supports 1% or more of the all-Ireland population of Redshank (*Tringa totanus*). The mean peak number of this species within the SPA during the baseline period (1995/96 –1999/00) was

408 individuals. Redshank has an unfavourable population trend for this site. According to the Article 12 reporting the short-term population trend (past 12 years) for this species is stable and the long-term trend is increasing (since 1980).

5.1.3.3.4 Wetlands

According to the NPWS Conservation Objectives Supporting document (NPWS, 2013), the wetland habitats contained within Cummeen Strand SPA are identified as of conservation importance for non-breeding (wintering) migratory waterbirds. Therefore, the wetland habitats are considered to be an additional Special Conservation Interest.

According to the site synopsis (NPWS, 2014), ‘*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. Invertebrate species such as Lugworm (*Arenicola marina*), Ragworm (*Hediste diversicolor*), Cockles (*Cerastoderma edule*), Sand Mason (*Lanice conchilega*), Baltic Tellin (*Macoma balthica*), Spire Shell (*Hydrobia ulvae*) and Mussels (*Mytilus edulis*) are frequent. Of particular note is the presence of eelgrass (*Zosteranoltii* and *Z. angustifolia*) beds, which provide a valuable food stock for herbivorous wildfowl. 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.*

5.2 Hydrological Desk Study

The EPA web-mapper (<https://gis.epa.ie/EPAMaps/>) was consulted on the 28/11/2022 regarding the water quality and status of waterbodies that are located downstream of the site of the proposed development. Figure 4.1 illustrates the proposed development site in relation to the hydrological sub catchments and European designated sites.

There are no mapped EPA watercourses within the proposed development site boundary. The nearest river waterbody is the Cregg River, located 6km north of the proposed development boundary. The site is located within the Sligo Bay Catchment and Drumcliff sub-catchment. The proposed development site is located within the Rosses Point groundwater body, in an area of moderate groundwater vulnerability.

The Garavoge Estuary (IE_WE_470_0100) lies 140m south of the proposed development site and is designated as part of the Cummeen Strand/Drumcliff Bay (Sligo Bay) SAC and Cummeen Strand SPA. The Garavoge Estuary and Sligo Bay were assigned 'moderate' status in the Water Framework Directive monitoring program for the period 2016-2022. Drumcliff Estuary was assigned 'High Risk' in the Water Framework Directive monitoring program for the period 2013-2018.

5.2.1 Inland Fisheries Ireland (IFI)

The Garavoge Estuary is located adjacent to Sligo town on Ireland's Northwest coast. A fish stock survey was carried out at sites on the Garavoge Estuary, as part of the programme of monitoring for the Water Framework Directive (WFD), between the 8th and the 9th of October 2008 by staff from the Central Fisheries Board (CFB) and the Northwestern Regional Fisheries Board (NWRFB). Five fish species were captured, and the species list was dominated by gobies. The most frequently occurring species was 3-spined stickleback followed by sand goby; they were captured in both seine net hauls. Seven fish species were captured in the fyke nets. The most frequently captured and abundant species was five-bearded rockling which was recorded at two of the three sites. Overall, eleven fish species were captured in the survey. Abundant of each fish species was low. Flounder was the only species captured by both sampling methods.

6.

ASSESSMENT OF POTENTIAL EFFECTS & ASSOCIATED MITIGATION

This section of the NIS assesses the potential effects of the proposed development on the identified relevant Qualifying Interests/Special Conservation Interests. This assessment is undertaken in the absence of any mitigation and in respect of the conservation objectives of the European Sites. The Conservation Objectives each of the European Sites assessed were reviewed on the 28/11/2022. The Conservation Objectives for these sites are available at the following locations:

- NPWS (2021) Conservation Objectives: Lough Gill SAC [001976]. Version 1. National Parks and Wildlife Service, Department of Housing, Local Government and Heritage.
- 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.

Following the initial impact assessment, mitigation is prescribed where necessary to avoid adverse effects on the Conservation Objectives of the relevant QIs/SCIs.

6.1

Potential for Direct Effects on the European Sites

The development site lies entirely outside of the boundary of any European Site and as such there is no potential for direct effects on the Qualifying Interests of Cummeen Strand/ Drumcliff Bay (Sligo Bay) SAC and Lough Gill SAC, or the Special Conservation Interests of Cummeen Strand SPA.

There are no Annex I habitats on site. Further, no QI habitats associated with Cummeen Strand/Drumcliff Bay (Sligo Bay) SAC, Lough Gill SAC, and Cummeen Strand SPA were identified on the site of the proposed development during the survey undertaken on the site. The main habitat types within the boundary of the proposed development site are Improved **Agricultural grassland (GA1)** and **Hedgerow (WL1)**.

Therefore, there is no potential for direct effects on any European Site as a result of the proposed development.

6.2

Potential for Indirect Effects on the European Sites

6.2.1

Deterioration of water quality

Following a precautionary approach, a potential pathway for indirect effects on the surface water and groundwater dependent Qualifying Interests (QIs) of Cummeen Strand/Drumcliff Bay (Sligo Bay) SAC, Lough Gill SAC, and the Special Conservation Interests (SCIs) of Cummeen Strand SPA was identified in the form of deterioration of water quality and supporting habitats for aquatic fauna.

Although no watercourses were identified on-site, the construction and operational phase of the proposed development may also result in pollution to surface waters, and groundwaters via the percolation of polluting materials through bedrock underlying the site, adversely impacting the downstream aquatic or groundwater influenced QI/SCI habitats and species for which Cummeen

Strand/Drumcliff Bay (Sligo Bay) SAC, Lough Gill SAC, and Cummeen Strand SPA are designated for, in the absence of mitigation.

As such, the following mitigation measures have been incorporated into the design of the proposed development.

6.2.1.1 Preventative measures to avoid impact on water quality.

To prevent potential pathways for pollution to surface waters and groundwater, a Construction and Environmental Management (CEMP) has been prepared, as described fully in section 2.3 of this report. The CEMP measures that have been incorporated into the design of the proposed development and are summarised in section 6.2.1.1.2- 6.2.1.1.3 below. An experienced main contractor will be appointed for the civil works for the construction phase. The main contractor for the works will be required to comply with this CEMP and any revisions made to this document. The full CEMP report is available in Appendix 3 of this NIS.

The mitigation measures described below in Section 6.2.1.1.2 and 6.2.1.1.3, ensure that the proposed development does not prevent or obstruct any of the Qualifying Interests (QIs) from reaching favourable conservation status as per Article 1 of the EU Habitats Directive, ensuring that the proposed development does not adversely affect the integrity of any Designated European sites.

6.2.1.2 Protecting Water Quality

Prior to the commencement of any construction activities, the necessary mitigation measures will be put in place to ensure the protection of surface water during the works. Particular emphasis will also be placed on hazardous materials management and prevention of spills or leaks of fuel oils to ensure watercourses and groundwater are not impacted.

There are no onsite watercourses within the site boundary or within 50 metres of the proposed development site. The site is situated in an area of moderate groundwater vulnerability.

The excavation phase of the development has the potential to encounter sub-surface and ground water during the works although it is not anticipated that this will be significant as the excavation does not include a basement. In the event of encountering groundwaters during excavation, the excavation will be de-watered using a pump equipped with a silt bag on the outlet to capture any silty material prior to subsequent natural percolation to ground. Alternatively, this water will be tankered off site if required. In order to avoid hydrocarbons encountering groundwaters onsite.

6.2.1.2.1 Prevention Pollution Control Measures

The following Measures will be put in place to prevent the transportation of silt laden water or pollutants from entering any of the wider environments including downstream watercourses near the site:

- The site boundary will be fenced off with a solid barrier prior to works commencing to protect adjacent habitats and to prevent any egress of machinery outside of the site during construction activities.
- A silt fence will be erected along the perimeter of the discharge area of the silt bag to avoid any preferential flow of silt laden water offsite. This will comprise wooden posts and a geotextile membrane that is buried below the ground (approx. 200mm). The silt fence will secure the development site and prevent potential run off and siltation during the construction works. The fence will remain in place after the works are completed and until the exposed earth has re-vegetated.
- Works shall not take place at periods of high rainfall and shall be scaled back or suspended if heavy rain is forecast.

- Machinery deliveries shall be arranged using existing structures along the existing road.
- Any excess construction material shall be immediately removed from the area and sent to an authorized waste recovery facility.
- Spill kits shall be available in each item of plant required.
- Discharge onto ground will be via a silt bag which will filter any remaining sediment from the pumped water. The entire discharge area from silt bags will be enclosed by a perimeter of silt fencing as an additional measure to avoid any preferential flow of silt-laden water offsite.
- Prior to the commencement of earthwork silt fencing will be placed down-gradient of the construction areas where drains or drainage pathways are present.

6.2.1.2.2 **Cement Based Products Control Measures**

The complete washing out of concrete trucks will not be permitted at the site. Suppliers will be directed back to their own facility to complete the washout process. However, a washout area for chute cleaning will be provided at various locations in close proximity to the concrete pour locations.

The following mitigation measures are proposed to avoid release of cement leachate from the site:

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

6.2.1.2.3 **Refuelling, Fuel and Hazardous Materials Storage**

The following measures are proposed to avoid release of hydrocarbons at the site:

- Minimal refuelling or maintenance of construction vehicles or plant will take place on site. Off-site refuelling should occur at a controlled fuelling station.
- On-site refuelling will take place by direct refuelling from the delivery truck or using a mobile double skinned fuel bowser.
- The fuel bowser, a double axel custom-built refuelling trailer will be re-filled off site and will be towed around the site as required. It will be parked on a level, impermeable area in the construction compound when not in use and will only be present on site when heavy plant and machinery are in operation.
- Only designated trained and competent operatives will be authorised to refuel plant on site. Mobile measures such as drip trays and fuel absorbent mats will be used during all refuelling operations.
- It is not anticipated that there will be any other means of fuel storage on site during construction.
- The plant used should be regularly inspected for leaks and fitness for purpose.
- Spill kits will be available to deal with and accidental spillage in and outside the refuelling area.

6.2.2 Operational Phase Control Measures and Assessment

The proposed development will result in the generation of additional foul and surface water, but due to the project design, described fully in Section 2.2, and the connection into the Irish Water Foul network, the operational phase will have no significant effect. This is summarized in the subsequent sections below:

6.2.2.1 Production of Foul Sewage

The operation phase of the proposed development will result in the production of foul waters/sewage.

It is proposed to direct the foul sewer towards a foul network, currently in advanced stages of planning, located in the R291 via the existing local access road. This proposed network will serve the neighbouring community.

The drainage systems including all pipe sizes and gradients have been designed using Flow Drainage Design Software. The pipework to the drainage system has been designed to provide for six times the dry weather flow (DWF) in accordance with the recommendations of the Greater Dublin Strategic Drainage Study (GDSDS). It is proposed that all pipes will be thinwall, with the maximum pipe diameter to be 150mm, with a maximum and minimum gradient such that all velocities fall within the limits of 0.75 and 2.5m/sec as set out in the "Code of Practice for Wastewater Infrastructure" by Irish Water. For full details for the pipe designs please see Appendix B of the Civils Design report accompanying this NIS in Appendix 2.

~~The foul drainage for the development will be collected in a pump chamber to the South East of the proposed site and pumped to the Northern corner of the proposed site.~~ **The foul drainage for the development will be collected by the foul pipe network and will then discharge by gravity to the proposed public foul sewer along the local access road R291. The 3 No. Plots will be gravity sewers only. All of the pipe sizes and gradients are clearly indicated on the associated drawings.**

The foul network in the R291 is due to be operational by mid-2023. A Representative for Irish Water for the proposed foul network in the R291 and can confirm the feasibility of connecting the Ballincar Housing Project into the Irish Water Foul network once its operation.

For full details on the proposed developments foul drainage network for each of the three houses, refer to the following drawing nos. 6703-JOD-XX- ZZ-DR-S-300-2000 **1000** to 6703-JOD-XX- ZZ-DR-S-300-4000 in Appendix A of the Civils Design Report accompanying this NIS in Appendix 2.

6.2.2.2 Storm Water Drainage

All stormwater drainage will be catered for via an onsite soak away on each site that will be designed in accordance with the BRE digest 365. The proposed soak away unit is to be located to the north of the site, along the existing local road R291.

It is proposed that thin wall pipes will be used for the proposed stormwater networks, approved by the British Board of Agreement (BBA), and Highway Agency Product Approval Scheme (HAPAS) approved.

For full details on the proposed foul and stormwater layout refer to the following drawing nos. 6703-JOD-XX- ZZ-DR-S-300-2000 to 6703-JOD-XX- ZZ-DR-S-300-4000 in Appendix A of the Civils Design Report accompanying this NIS in Appendix 2.

6.2.2.3 Watermains

Each of the three houses will be connected to the existing 50mm diameter watermain via 25mm domestic connections, all in accordance with the Irish Waters Code of Practice and Standard Details for Water and Wastewater.

No indirect effects on water quality during the operational stage of the development are anticipated. There is no potential for adverse impact on the listed water dependent QIs/SCIs of Cummeen Strand SAC/Drumcliff Bay (Sligo Bay) SAC, Lough Gill SAC and Cummeen Strand SPA as a result of deterioration in water quality. As such, the measures described above ensure that the proposed project does not prevent or obstruct any of the QIs or SCIs from reaching Favourable Conservation Status as per Article 1 of the EU Habitats Directive

6.2.3 Disturbance to *Phoca vitulina* (Harbour Seal) [1365] (QI of Cummeen Strand/Drumcliff Bay (Sligo Bay) SAC)

Taking an extremely precautionary approach, the potential for indirect impacts on Harbour Seals (*Phoca vitulina*) in the form of disturbance during construction and due to an increase in anthropogenic disturbance in the area was considered.

According to the Cummeen Strand/Drumcliff Bay (Sligo Bay) SAC *Conservation Objectives Supporting Document for Marine Habitats and Species* (NPWS, 2013), harbour seal occurs in estuarine, coastal, and offshore waters but also utilises a range of intertidal and terrestrial habitats for important life history functions such as breeding, moulting, resting and social activity. When hauling out ashore harbour seals tend to prefer comparatively sheltered locations where exposure to wind, wave action and precipitation are minimised.

Harbour seals in Cummeen Strand/Drumcliff Bay (Sligo Bay) SAC occupy both aquatic habitats and intertidal shorelines that become exposed during the tidal cycle. The species is present within the SAC throughout the year during all aspects of its annual life cycle which includes breeding (May to July approximately), moulting (August to September approximately) and non-breeding foraging and resting phases (October to April). Comparatively limited information is available for this site from the moult period in the annual cycle spanning the months of August and September. In acknowledging the limited understanding of aquatic habitat use by the species within the site it should be noted that all suitable aquatic habitat is considered relevant to the species range and ecological requirements at the site and is therefore of potential use by harbour seals (NPWS, 2013).

According to Map 8 of the site-specific conservation objectives document there are no known resting or breeding sites in within the Garavoge Estuary. The closest known resting or breeding sites are located in Drumcliffe Bay/Drumcliffe Estuary, 4km north-west of the proposed development site (see Map 8, NPWS 2013).

There is no suitable habitat for harbour seals within or immediately adjacent to the proposed development site. The habitats within the footprint of the development are dominated by improved agricultural grassland habitat. The proposed development site is set back 123m from the shoreline of the Garavoge Estuary. The site is separated from any potential seal habitat within the SAC by two existing residential houses, including gardens. These developments shield from view any suitable seal habitat along the shoreline from the proposed development and therefore there is no potential for visual disturbance.

The proposed development is small scale in nature and requires minimal excavations or earthworks. The following best practice disturbance limitation measures will be adhered to during the construction phase:

- All plant and equipment for use will comply with Statutory Instrument No 359 of 1996 “European Communities (Construction Plant and Equipment) (Permissible Noise Levels) Regulations 1996”.
- Plant machinery will be turned off when not in use.
- Operating machinery will be restricted to the proposed development site area.
- Construction works will be limited to daylight hours and artificial lighting to facilitate works will not be permitted.

No potential for significant disturbance related impact during construction exists.

The potential for indirect impacts due to disturbance of harbour seal due to lighting and the potential increase in anthropogenic disturbance in the area during the operational phase was also considered. The proposed development site is set back 123m from the shoreline of the Cummeen Strand/Drumcliff Bay (Sligo Bay) SAC and is buffered from the shoreline by two existing residential houses, and an existing road. Due to the separation distance of the site from the shoreline and the shielding effect of the neighbouring properties there is no potential for lighting disturbance or visual disturbance of any suitable seal habitat along the shoreline. The lighting used during the operational phase will be directional, which will ensure that there is no light spill outside of the development footprint. External lighting within the development will include low intensity bulkhead light, installed over the front and rear doors which will be activated by a close-range motion sensor.

The potential for disturbance due to an increase in anthropogenic activity in the wider area was also considered. There will be no access to the foreshore as a result of the proposed development. The development does not in any way provide any additional access to Cummeen Strand/Drumcliff Bay (Sligo Bay) SAC and does not encourage access. The proposed development site is accessed via a local road off the R291. This road does not offer access to the foreshore and terminates approximately 40m from the shoreline. The garden of the neighbouring residential house lies between the foreshore and the access road. There is no public right of way between this land and the foreshore. There will be no increase in recreational activity/anthropogenic disturbance to the foreshore as a result of the proposed development.

Based on the size, scale, location, and nature of the proposed development; no complete source-pathway-receptor chain for significant impact during the construction or operational phase of the development has been identified.

The measures ensure that the proposed development do not prevent or obstruct harbour seal from reaching favourable conservation status as per Article 1 of the EU Habitats Directive.

6.2.4 Bird Disturbance/Displacement and Habitat Loss

Disturbance/Displacement

Due to the proximity of Cummeen Strand SPA to the proposed development (128m), the potential for adverse effects as a result of disturbance and displacement of the SCI species during the construction and operational phases of the development, has been considered.

Cummeen Strand SPA is designated for Light-bellied Brent Goose (*Branta bernicla hrota*), Oystercatcher (*Haematopus ostralegus*) and Redshank (*Tringa totanus*). These species are designated for their wintering populations within the SPA. None of the listed SCI species of Cummeen Strand SPA were recorded utilising habitats within the development site during the wintering bird survey and field survey undertaken by Rachel Minogue (BSc) of MKO on the 16/11/2022. The proposed development site is set back 128m from the boundary of Cummeen Strand SPA and is buffered from the shoreline by two existing residential houses, and a road. There will be no works or works access undertaken within 120m of the intertidal habitat. All works will be confined to the footprint of the proposed development and there will be no access to the foreshore. Due to the separation distance of the site

from the shoreline and the shielding effect of the neighbouring properties there is no potential for visual disturbance of SCI bird species within the intertidal bird habitat. The shoreline of the SPA will not be illuminated as a result of the proposed development. The lighting used during the operational phase will be directional, which will ensure that there is no light spill outside of the development footprint. External lighting within the development will include low intensity bulkhead light, installed over the front and rear doors which will be activated by a close-range motion sensor.

The potential for disturbance due to an increase in anthropogenic activity in the wider area was also considered. The proposed development site is located in an area with existing residential housing in the wider area including along the shoreline, therefore SCI species are likely to be habituated to some degree of general visual and/or noise stimuli in the area.

There will be no access to the foreshore as a result of the proposed development. The development does not in any way provide any additional access to Cummeen Strand SPA and does not encourage access. The proposed development site is accessed via a local road off the R291. This road does not offer access to the foreshore and terminates approximately 40m from the shoreline. The garden of the neighbouring residential house lies between the foreshore and the access road. There is no public right of way between this land and the foreshore. There will be no increase in recreational activity/anthropogenic disturbance to the foreshore as a result of the proposed development.

In consultation with published advice on the typical types and magnitudes of noise sources associated with construction activities (Cutts et al. 2013), it is considered that general construction activities, will not result in disturbance of any of the listed SCI species, given the 128m set-back distance of the proposed development site from the intertidal zone.

Based on the observed responses of waterbirds to various noise stimuli, Cutts et al. (2013), have derived an overview table on the standard distance decay rates for noise, by which it is possible to calculate the likely disturbance effect for a noise level and distance of receptor from source. Construction plant generating 110dB(A) at around source will provide a likely receptor dose of 68dB at circa 85m distance, and would be below the impact threshold i.e., may occasionally induce a low-level behavioural response such as a heads-up (Cutts et al., 2013). Given the 128m set-back distance of the proposed development site from the intertidal zone there is no potential for impact in terms of noise disturbance.

The proposed development is small scale in nature and require minimal excavations or earthworks during the construction phase. The following best practice disturbance limitation measures will be adhered to during the construction phase:

- All plant and equipment for use will comply with Statutory Instrument No 359 of 1996 "European Communities (Construction Plant and Equipment) (Permissible Noise Levels) Regulations 1996".
- Plant machinery will be turned off when not in use.
- Operating machinery will be restricted to the proposed development site area.
- Construction works will be limited to daylight hours and artificial lighting to facilitate works will not be permitted.
- All works will be confined to the site footprint and there will be no access to the foreshore.

Based on the size, scale, location, and nature of the proposed development; no complete source-pathway-receptor chain for significant impact during the construction or operational phase of the development has been identified.

Due to the nature, scale, and location of the proposed small-scale development there will be no disturbance of the listed SCI species of Cummeen Strand SPA.

Habitat loss

Cummeen Strand SPA is designated for Light-bellied Brent Goose (*Branta bernicla hrota*), Oystercatcher (*Haematopus ostralegus*) and Redshank (*Tringa totanus*). According to the site-specific conservation objectives supporting document, the principle supporting habitats for these species within the site is intertidal mud and sandflats (NPWS, 2013). SCI species are highly reliant on the habitats within the site but are likely to utilise alternative habitats at certain times (e.g., high tide).

The dominant habitat within the proposed development site is improved agricultural grassland (GA1). Oystercatchers forage primarily on tidal flats although the species can also be found foraging along non-estuarine coastline or terrestrially. Brent geese may also occasionally forage on terrestrial grassland habitats. Redshank may use terrestrial habitats to roost in. Improved agricultural grassland habitat is common and widespread in the wider area of the site. The loss of a small area of agricultural grassland within the proposed development site would not have an adverse effect on the conservation status of these species.

The proposed development will not have an adverse effect on the conservation status of any the listed SCI species of this SPA.

7. ASSESSMENT OF RESIDUAL ADVERSE EFFECTS

The sections provided below detail the site-specific residual impact assessment in relation to the relevant QIs and SCIs of the EU Sites in light of their site-specific targets and attributes. The assessment takes into consideration the proposed measures to avoid, reduce and block identified pathways for impact.

7.1 Cummeen Strand/Drumcliff Bay (Sligo Bay) SAC

The potential for adverse residual effects on each of the individual Qualifying Interests that were identified as being at risk of potential effects in Section 5- Stage 2 Appropriate Assessment are assessed in this section in view of the Conservation Objectives of those habitats and species.

7.1.1 Harbour Seal (*Phoca vitulina*) [1365]

This species was not recorded at the site of the proposed development during the survey undertaken. However, following the precautionary principle a potential pathway for adverse effect on the conservation objectives of the species was identified in the form of deterioration of water quality that could have an adverse effect on the habitat within the downstream SAC. In light of this risk, mitigation has been applied and the residual risk to the species is now assessed in light of its Conservation Objectives.

The conservation objective for Harbour seal (*Phoca vitulina*) is: ‘To maintain the favourable conservation condition of Harbour Seal in Cummeen Strand/Drumcliff Bay (Sligo Bay) SAC’.

The attributes and targets for Harbour seal (*Phoca vitulina*) [1365] as per the Site-Specific Conservation Objectives (SSCOs) for Cummeen Strand/Drumcliff Bay (Sligo Bay) SAC and an assessment of the proposed development against the attributes and targets for this species is provided in Table 7.1 below.

Table 7-1 Targets and attributes of Harbour Seal [1365]

Attribute	Target	Assessment
Access to suitable habitat	Species range within the site should not be restricted by artificial barriers to site use.	There will be no decline in habitat area or habitat distribution associated with the proposed development.
Breeding behaviour	Conserve the breeding sites in a natural condition.	
Moulting behaviour	Conserve the moult haul-out sites in a natural condition.	Indirect pathways that would allow impacts to occur via water pollution were considered in the design of the proposed development and a range of measures, outlined in Section 2.3 and 6.2 of this report, are in place to avoid all water pollution during the construction and operational stage of the proposed development.
		There will be no impacts on the physical structure, vegetation structure or vegetation composition associated with the proposed development.
		Indirect pathways that would allow impacts to occur via water pollution were considered in the design of the proposed development and a range of measures, outlined in Section 2.3 and 6.2 of this report, are in place to avoid all water pollution during the

Attribute	Target	Assessment
		construction and operational stage of the proposed development.

7.1.2 River Lamprey (*Lampetra fluviatilis*) [1099]

This species was not recorded at the site of the proposed development during the survey undertaken. However, following the precautionary principle a potential pathway for adverse effect on the conservation objectives of the species was identified in the form of deterioration of water quality that could have an adverse effect on the habitat within the downstream SAC. In light of this risk, mitigation has been applied and the residual risk to the species is now assessed in light of its Conservation Objectives.

The conservation objective for River Lamprey (*Lampetra fluviatilis*) is: 'To maintain the favourable conservation condition of River Lamprey in Cummeen Strand/Drumcliff Bay (Sligo Bay) SAC'.

The attributes and targets for River Lamprey (*Petromyzon marinus*) as per the Site-Specific Conservation Objectives (SSCOs) for Cummeen Strand/Drumcliff Bay (Sligo Bay) SAC and an assessment of the proposed development against the attributes and targets for this Species is provided in Table 7.2 below.

Table 7-2 Targets and attributes for River Lamprey (*Lampetra fluviatilis*) [1099]

Attribute	Target	Assessment
Distribution: extent of anadromy	No barriers for migratory life stages of lamprey moving from freshwater to marine habitats and vice versa	There will be no impact on distribution as a result of the proposed development. There will be no migration barriers associated with the proposed development. Indirect pathways that would allow impacts to occur via water pollution were considered in the design of the proposed development and a range of measures, outlined in Section 2.3 and 6.2. of this report are in place to avoid all water pollution during the construction and operational stage of the proposed development.

7.1.3 Sea Lamprey (*Petromyzon marinus*) [1095]

This species was not recorded at the site of the proposed development during the survey undertaken. However, following the precautionary principle a potential pathway for adverse effect on the conservation objectives of the species was identified in the form of deterioration of water quality that could have an adverse effect on the habitat within the downstream SAC. In light of this risk, mitigation has been applied and the residual risk to the species is now assessed in light of its Conservation Objectives.

The conservation objective for Sea Lamprey (*Petromyzon marinus*) is: 'Restore the favourable conservation condition of Sea Lamprey in Cummeen Strand/Drumcliff Bay (Sligo Bay) SAC'.

The attributes and targets for Sea Lamprey (*Petromyzon marinus*) as per the Site-Specific Conservation Objectives (SSCOs) for Cummeen Strand/Drumcliff Bay (Sligo Bay) SAC and an assessment of the proposed development against the attributes and targets for this Species is provided in Table 7.3 below.

Table 7-3 Targets and attributes for Sea Lamprey (*Petromyzon marinus*) [1095]

Attribute	Target	Assessment
Distribution: extent of anadromy	No barriers for migratory life stages of lamprey moving from freshwater to marine habitats and vice versa	There will be no impact on distribution as a result of the proposed development. There will be no migration barriers associated with the proposed development. Indirect pathways that would allow impacts to occur via water pollution were considered in the design of the proposed development and a range of measures, outlined in Section 2.3 and 6. 2 of this report are in place to avoid all water pollution during the construction and operational stage of the proposed development.

7.1.4 Estuaries [1130]

The conservation objective for Estuaries [1130] is: *'To maintain the favourable conservation condition of Estuaries in Cummeen Strand/Drumcliff Bay (Sligo Bay) SAC'*.

The attributes and targets for Estuaries as per the Site-Specific Conservation Objectives (SSCOs) for Cummeen Strand/Drumcliff Bay (Sligo Bay) SAC and an assessment of the proposed development against the attributes and targets for this habitat is provided in Table 7.4 below.

Table 7-4 Targets and attributes of Estuaries [1130]

Attribute	Target	Assessment
Habitat area	The permanent habitat area is stable or increasing, subject to natural processes.	There will be no decline in habitat area associated with the proposed development. Indirect pathways that would allow impacts to occur via water pollution were considered in the design of the proposed development and a range of measures, outlined in Section 2.3 and 6.2. of this report, are in place to avoid all water pollution during the construction and operational stage of the proposed development.
Community extent	Maintain the extent of the <i>Zostera</i> -dominated community and the <i>Mytilidae</i> -dominated community complex, subject to natural processes.	There will be no impacts on the community extent, community structure or distribution associated with the proposed development.
Community structure: <i>Zostera</i> density	Conserve the high quality of the <i>Zostera</i> -dominated community, subject to natural processes	Indirect pathways that would allow impacts to occur via water pollution were considered in the design of the proposed development and a range of measures, outlined in Section 2.3 and 6.2 of this report, are in place to avoid all water pollution during the construction and operational stage of the proposed development.
Community structure: <i>Mytilus edulis</i> density	Conserve the high quality of the <i>Mytilidae</i> -dominated community complex, subject to natural processes	
Community distribution	Conserve the following community types in a natural condition: Intertidal fine sand with <i>Peringia ulvae</i> and <i>Pygospio elegans</i> community	

Attribute	Target	Assessment
	complex; Estuarine mixed sediment to sandy mud with <i>Hediste diversicolor</i> and <i>oligochaetes</i> community complex; Fine sand with <i>Angulus spp.</i> and <i>Nephtys spp.</i> community complex; Sand to mixed sediment with amphipods community; Intertidal reef community.	

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7.1.5 Mudflats and sandflats not covered by seawater at low tide [1140]

The conservation objective for Mudflats and sandflats not covered by seawater at low tide [1140] is:

'To maintain the favourable conservation condition of Mudflats and sandflats not covered by seawater at low tide [1140] in Cummeen Strand/Drumcliff Bay (Sligo Bay) SAC'.

The attributes and targets for Mudflats [1140] as per the Site-Specific Conservation Objectives (SSCOs) for Cummeen Strand/Drumcliff Bay (Sligo Bay) SAC and an assessment of the proposed development against the attributes and targets for this habitat is provided in Table 7.5 below.

Table 7-5 Targets and attributes of Mudflats and Sandflats [1140]

Attribute	Target	Assessment
Habitat area	The permanent habitat area is stable or increasing, subject to natural processes.	There will be no decline in habitat area associated with the proposed development. Indirect pathways that would allow impacts to occur via water pollution were considered in the design of the proposed development and a range of measures, outlined in Section 2.3 and 6.2 of this report are in place to avoid all water pollution during the construction and operational stage of the proposed development.
Community extent	Maintain the extent of the <i>Zostera</i> -dominated community and the <i>Mytilidae</i> -dominated community complex, subject to natural processes.	There will be no impacts on the community extent, community structure or distribution associated with the proposed development.
Community structure: <i>Zostera</i> density	Conserve the high quality of the <i>Zostera</i> -dominated community, subject to natural processes	Indirect pathways that would allow impacts to occur via water pollution were considered in the design of the proposed development and a range of measures, outlined in Section 2.3 and 6.2 of this report, are in place to avoid all water pollution during the construction and operational stage of the proposed development.
Community structure: <i>Mytilus edulis</i> density	Conserve the high quality of the <i>Mytilidae</i> -dominated community complex, subject to natural processes	
Community distribution	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 <i>oligochaetes</i> community complex; Fine sand with	

Attribute	Target	Assessment
	<i>Angulus</i> spp. and <i>Nephtys</i> spp. community complex;	
Vegetation composition: scrub/trees	No more than 5% cover or under control	

7.1.6

Petrifying springs with tufa formation (*Cratoneurion*) [7220]

The conservation objective for Petrifying springs with tufa formation (*Cratoneurion*) [7220] is:

*'To restore the favourable conservation condition of Petrifying springs with tufa formation (*Cratoneurion*) [7220] in Cummeen Strand/Drumcliff Bay (Sligo Bay) SAC'.*

The attributes and targets for Petrifying springs with tufa formation (*Cratoneurion*) [7220] as per the Site-Specific Conservation Objectives (SSCOs) for Cummeen Strand/Drumcliff Bay (Sligo Bay) SAC and an assessment of the proposed development against the attributes and targets for this habitat is provided in Table 7.9 below.

Table 7-6 Targets and attributes of Petrifying springs with tufa formation (*Cratoneurion*) [7220]

Attribute	Target	Assessment
Habitat area	Area stable or increasing, subject to natural processes.	There will be no decline in habitat area or habitat distribution associated with the proposed development.
Habitat distribution	No decline.	
Hydrological regime: height of water table; water flow	Maintain appropriate hydrological regimes.	Indirect pathways that would allow impacts to occur via water pollution were considered in the design of the proposed development and a range of measures, outlined in Section 2.3 and 6.2 of this report, are in place to avoid all water pollution during the construction and operational stage of the proposed development.
		There will be no impacts on the physical structure, vegetation structure or vegetation composition associated with the proposed development.
		Indirect pathways that would allow impacts to occur via water pollution were considered in the design of the proposed development and a range of measures, outlined in Section 2.3 and 6.2 of this report, are in place to avoid all water pollution during the construction and operational stage of the proposed development.

7.1.7

Determination on Potential Adverse Effects on Cummeen Strand/Drumcliff Bay (Sligo Bay) SAC

Based on the above and following implementation of best practice measures that are outlined in Section 2.3 and 6.2 of this report, it can be concluded, in view of best scientific knowledge and based on objective information, that the Proposed Development will not adversely affect the conservation objectives of

Cummeen Strand/Drumcliff Bay (Sligo Bay) SAC and does not have the potential to result in an adverse effect on the overall integrity of the SAC.

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7.2 Lough Gill SAC

7.2.1 Sea Lamprey (*Petromyzon marinus*) [1095]

This species was not recorded at the site of the proposed development during the survey undertaken. However, following the precautionary principle a potential pathway for adverse effect on the conservation objectives of the species was identified in the form of deterioration of water quality that could have an adverse effect on the habitat within the downstream SAC. In light of this risk, mitigation has been applied and the residual risk to the species is now assessed in light of its Conservation Objectives.

This species has the generic conservation objective (NPWS 2021):

*'To restore the favourable conservation condition of Sea Lamprey (*Petromyzon marinus*) in Lough Gill SAC'.*

The attributes and targets for Sea Lamprey (*Petromyzon marinus*) and an assessment of the proposed development against the nominated attributes and targets for this species is provided in Table 7.10.

Table 7-7 Targets and attributes associated with nominated site-specific conservation objectives for Sea Lamprey (*Petromyzon marinus*) [1095]

Attribute	Target	Assessment
Distribution: extent of anadromy	Greater than 75% of main stem length of rivers accessible from estuary	There will be no impact on distribution as a result of the proposed development. There will be no migration barriers associated with the proposed development. Indirect pathways that would allow impacts to occur via water pollution were considered in the design of the proposed development and a range of measures, outlined in, section 2.3 and 6.2 of this report are in place to avoid all water pollution during the construction and operational stage of the proposed development.
Annual run size	Annual run size should reflect that expected under near-natural conditions	There will be no impact on the annual run size as a result of the proposed development. Indirect pathways that would allow impacts to occur via water pollution were considered in the design of the proposed development and a range of measures, outlined in Section 2.3 and 6.2 of this report are in place to avoid all water pollution during the construction and operational stage of the proposed development.
Larval lamprey in fine sediment	Larval lampreys present in SAC catchment	There will be no impact on the larval lamprey in fine sediment as a result of the proposed development.

Attribute	Target	Assessment
		Indirect pathways that would allow impacts to occur via water pollution were considered in the design of the proposed development and a range of measures, outlined in Section 2.3 and 6.2 of this report are in place to avoid all water pollution during the construction and operational stage of the proposed development.
Extent and distribution of spawning and nursery habitat	No decline in extent and distribution of spawning and nursery beds	<p>There will be no impact on the Extent and distribution of spawning and nursery habitat as a result of the proposed development.</p> <p>Indirect pathways that would allow impacts to occur via water pollution were considered in the design of the proposed development and a range of measures, outlined in Section 2.3 and 6.2. of this report are in place to avoid all water pollution during the construction and operational stage of the proposed development.</p>

7.2.2 River Lamprey (*Lampetra fluviatilis*) [1096]

This species was not recorded at the site of the proposed development during the survey undertaken. However, following the precautionary principle a potential pathway for adverse effect on the conservation objectives of the species was identified in the form of deterioration of water quality that could have an adverse effect on the habitat within the downstream SAC. In light of this risk, mitigation has been applied and the residual risk to the species is now assessed in light of its Conservation Objectives.

This species has the generic conservation objective (NPWS 2021):

*‘To restore the favourable conservation condition of River Lamprey (*Lampetra fluviatilis*) in Lough Gill SAC’.*

The attributes and targets for River Lamprey (*Lampetra fluviatilis*) and an assessment of the proposed development against the nominated attributes and targets for this species is provided in Table 7.11.

Table 7-8 Targets and attributes associated with nominated site-specific conservation objectives for River Lamprey (*Lampetra fluviatilis*) [1096]

Attribute	Target	Assessment
Distribution	Access to all water courses down to first order streams	<p>There will be no impact on the distribution as a result of the proposed development.</p> <p>Indirect pathways that would allow impacts to occur via water pollution were considered in the design of the proposed development and a range of measures, outlined in Section 2.3 and 6.2 of this report are in place to avoid all water pollution during the construction and operational stage of the proposed development.</p>
Distribution in suitable habitat	Not less than 50% of sample sites with suitable habitat positive for larval brook/river lamprey	<p>There will be no impact on the distribution in suitable habitats as a result of the proposed development.</p> <p>Indirect pathways that would allow impacts to occur via water pollution were considered in the design of the proposed development and a range of measures, outlined in Section 2.3 and 6.2 of this report are in place to avoid all water pollution during the construction and operational stage of the proposed development.</p>
Population structure of larvae	At least three age/size classes of larval brook/river lamprey present	<p>There will be no impact on the population structure of larvae as a result of the proposed development.</p> <p>Indirect pathways that would allow impacts to occur via water pollution were considered in the design of the proposed development and a range of measures, outlined in Section 2.3 and 6.2 of this report are in place to avoid all water pollution during the construction and operational stage of the proposed development.</p>
Larval lamprey density in fine sediment	Mean density of brook/river larval lamprey in sites with suitable habitat at least 5/m ²	<p>There will be no impact on the Larval lamprey density in fine sediment as a result of the proposed development.</p> <p>Indirect pathways that would allow impacts to occur via water pollution were considered in the design of the proposed development and a range of measures, outlined in Section 2.3 and 6.2. of this report are in place to avoid all water pollution during the construction and operational stage of the proposed development.</p>

Attribute	Target	Assessment
Extent and distribution of spawning and nursery habitat	No decline in extent and distribution of spawning and nursery bed	<p>There will be no impact on the Extent and distribution of spawning and nursery habitat as a result of the proposed development.</p> <p>Indirect pathways that would allow impacts to occur via water pollution were considered in the design of the proposed development and a range of measures, outlined in Section 2.3 and 6.2 of this report are in place to avoid all water pollution during the construction and operational stage of the proposed development.</p>

7.2.3 Salmon (*Salmo salar*) [1106]

This species was not recorded at the site of the proposed development during the survey undertaken. However, following the precautionary principle a potential pathway for adverse effect on the conservation objectives of the species was identified in the form of deterioration of water quality that could have an adverse effect on the habitat within the downstream SAC. In light of this risk, mitigation has been applied and the residual risk to the species is now assessed in light of its Conservation Objectives.

This species has the generic conservation objective (NPWS 2021):

*'To restore the favourable conservation condition of Atlantic Salmon (*Salmo salar*) in Lough Gill SAC'.*

The attributes and targets and an assessment of the proposed development against the nominated attributes and targets for this species is provided in Table 7.12.

Table 7-9 Targets and attributes associated with nominated site-specific conservation objectives for Salmon (*Salmo salar*) [1106]

Attribute	Target	Assessment
Distribution: extent of anadromy	100% of river channels down to second order accessible from estuary	<p>There will be no impact on disturbance as a result of the proposed development. There will be no access barriers associated with the proposed development.</p> <p>Indirect pathways that would allow impacts to occur via water pollution were considered in the design of the proposed development and a range of measures, outlined in Section 2.3 and 6.2 of this report are in place to avoid all water pollution during the construction and operational stage of the proposed development.</p>
Adult spawning fish	Conservation Limit (CL) for each system consistently exceeded	There will be no reduction in adult spawning fish, salmon fry abundance, out-migrating smolt abundance or the number and distribution of redds as a result of the proposed development.
Salmon fry abundance	Maintain or exceed 0+ fry mean catchment-wide abundance threshold	

Attribute	Target	Assessment
	value. Currently set at 17 salmon fry/5 minutes sampling	Indirect pathways that would allow impacts to occur via water pollution were considered in the design of the proposed development and a range of measures, outlined in Section 2.3 and 6.2 of this report are in place to avoid all water pollution during the construction and operational stage of the proposed development.
Out-migrating smolt abundance	No significant decline	
Number and distribution of redds	No decline in number and distribution of spawning redds due to anthropogenic causes	
Water quality	At least Q4 at all sites sampled by EPA	There will be no reduction in water quality as a result of the proposed development. Indirect pathways that would allow impacts to occur via water pollution were considered in the design of the proposed development and a range of measures, outlined in Section 2.3 and 6.2 of this report are in place to avoid all water pollution during the construction and operational stage of the proposed development.

7.2.4 Otter (*Lutra lutra*)

This species was not recorded at the site of the proposed development during the survey undertaken. However, following the precautionary principle a potential pathway for adverse effect on the conservation objectives of the species was identified in the form of deterioration of water quality that could have an adverse effect on the habitat within the downstream SAC. In light of this risk, mitigation has been applied and the residual risk to the species is now assessed in light of its Conservation Objectives.

This species has the generic conservation objective: ‘*To maintain the favourable conservation condition of Otter (*Lutra lutra*) in Lough Gill SAC*’.

Table 7-10 Targets and attributes associated with nominated site-specific conservation objectives for Otter (*Lutra lutra*)

Attribute	Target	Assessment
Distribution	No significant decline	<p>There will be no impact on the distribution as a result of the proposed development.</p> <p>Indirect pathways that would allow impacts to occur via water pollution were considered in the design of the proposed development and a range of measures, outlined in Section 2.3 and 6.2 of this report are in place to avoid all water pollution during the construction and operational stage of the proposed development.</p>
Extent of terrestrial habitat	No significant decline. Area mapped and calculated as 193.91ha along riverbanks/ lake shoreline/around ponds	<p>There will be no impact on the extent of terrestrial habitat as a result of the proposed development.</p> <p>Indirect pathways that would allow impacts to occur via water pollution were considered in the design of the proposed development and a range of measures, outlined in Section 2.3 and 6.2 of this report are in place to avoid all water pollution during the construction and operational stage of the proposed development.</p>
Extent of freshwater (river) habitat	No significant decline. Length mapped and calculated as 80.38km	<p>There will be no impact on the extent of freshwater (River) habitat as a result of the proposed development.</p> <p>Indirect pathways that would allow impacts to occur via water pollution were considered in the design of the proposed development and a range of measures, outlined in Section 2.3 and 6.2 of this report are in place to avoid all water pollution during the construction and operational stage of the proposed development.</p>
Extent of freshwater (Lake) habitat	No significant decline. Area mapped and calculated as 353.39ha	<p>There will be no impact on the extent of freshwater (Lake) habitat as a result of the proposed development.</p> <p>Indirect pathways that would allow impacts to occur via water pollution were considered in the design of the proposed development and a range of measures, outlined in Section 2.3 and 6.2 of this report are in place to avoid all water pollution during the construction and operational stage of the proposed development.</p>

Attribute	Target	Assessment
Couching sites and holts	No significant decline	<p>There will be no impact on couching sites and holts as a result of the proposed development.</p> <p>Indirect pathways that would allow impacts to occur via water pollution were considered in the design of the proposed development and a range of measures, outlined in Section 2.3 and 6.2 of this report are in place to avoid all water pollution during the construction and operational stage of the proposed development.</p>
Fish biomass available	No significant decline	<p>There will be no impact on the fish biomass available as a result of the proposed development.</p> <p>Indirect pathways that would allow impacts to occur via water pollution were considered in the design of the proposed development and a range of measures, outlined in Section 2.3 and 6.2 of this report are in place to avoid all water pollution during the construction and operational stage of the proposed development.</p>
Barriers to connectivity	No significant increase	<p>There will be no impact on the Barriers to connectivity as a result of the proposed development.</p> <p>Indirect pathways that would allow impacts to occur via water pollution were considered in the design of the proposed development and a range of measures, outlined in Section 2.3 and 6.2 of this report are in place to avoid all water pollution during the construction and operational stage of the proposed development.</p>

7.2.5 Determination on Potential Adverse Effects on Lough Gill SAC

Based on the above and following implementation of best practice measures that are outlined in Section 2.3 and 6.2 of this report, it can be concluded, in view of best scientific knowledge and based on objective information, that the Proposed Development will not adversely affect the conservation objectives of Lough Gill SAC and does not have the potential to result in an adverse effect on the overall integrity of the SAC.

7.3 Cummeen Strand SPA

7.3.1 Brent Goose (*Branta bernicla hrota*) [A046]

This species was not recorded at the site of the proposed development during the survey undertaken. However, following the precautionary principle a potential pathway for adverse effect on the conservation objectives of the species was identified in the form of deterioration of water quality that could have an adverse effect on the habitat within the downstream SAC. In light of this risk, mitigation has been applied and the residual risk to the species is now assessed in light of its Conservation Objectives.

The conservation objective for this species within Cummeen Strand SPA is:

‘To maintain the favourable conservation condition of Light-bellied Brent Goose in Cummeen Strand SPA’.

The attributes and targets for Brent goose as per the Site-Specific Conservation Objectives (SSCOs) for Cummeen Strand SPA and an assessment of the proposed development against the attributes and targets for this species is provided in Table 7.13.

Table 7-11 Targets and attributes for Brent Goose (*Branta bernicla hrota*) [A046]

Attribute	Target	Assessment
Population trend	Long term population trend stable or increasing	The proposed development will not have any effect on the population trend or distribution of this species within the SPA. There will be no effect in terms of loss of supporting habitat or disturbance.
Distribution	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>The dominant habitat within the proposed development site is improved agricultural grassland (GA1). According to the site-specific conservation objectives supporting document, the principle supporting habitats for this species within the site is intertidal mud and sandflats (NPWS, 2013).</p> <p>Brent geese may also occasionally forage on terrestrial grassland habitats. Improved agricultural grassland habitat is common and widespread in the wider area of the site. The loss of a small area of agricultural grassland within the proposed development site would not have an adverse effect on the conservation status of these species.</p> <p>As outlined in section 6.2.4 of this report there is no potential for the proposed development to result in disturbance of this SCI species within the SPA. The works are small scale in nature and short term in duration. Mitigation measures, outlined in Section 2.3 of this report, will be adhered to avoid disturbance during the construction stage of the proposed development.</p> <p>The proposed development site is set back 128m from the boundary of Cummeen Strand SPA and is buffered from the shoreline by an existing residential house, and a residential house that is currently under construction. There will be no works or works access undertaken within 120m of the intertidal habitat. All works will be confined to the footprint of the proposed development and there will be no access to the foreshore. Due to the separation</p>

Attribute	Target	Assessment
		<p>distance of the site from the shoreline and the shielding effect of the neighbouring properties there is no potential for visual disturbance of SCI bird species within the intertidal bird habitat. The shoreline of the SPA will not be illuminated as a result of the proposed development. The lighting used during the operational phase will be directional and will be controlled by the use of motion sensors which will ensure that there is no light spill outside of the development footprint.</p> <p>The proposed development site is located in an area with existing residential housing in the wider area including along the shoreline, therefore SCI species are likely to be habituated to some degree of general visual and/or noise stimuli in the area.</p> <p>There will be no increase in recreational activity/anthropogenic disturbance to the foreshore as a result of the proposed development. There will be no access to the foreshore as a result of the proposed development. The proposed development site is accessed via a local road off the R291. This road does not offer access to the foreshore and terminates approximately 40m from the shoreline. The garden of the neighbouring residential house lies between the foreshore and the access road. There is no public right of way between this land and the foreshore.</p> <p>As described in section 6.2.4 in consultation with published advice on the typical types and magnitudes of noise sources associated with construction activities (Cutts et al. 2013), construction activities will not result in disturbance of this species, given the 128m set-back distance of the proposed development site from the intertidal zone and there is no potential for impact in terms of noise disturbance.</p>

7.3.2 Oystercatcher (*Haematopus ostralegus*) [A130]

This species was not recorded at the site of the proposed development during the survey undertaken. However, following the precautionary principle a potential pathway for adverse effect on the conservation objectives of the species was identified in the form of deterioration of water quality that could have an adverse effect on the habitat within the downstream SAC. In light of this risk, mitigation has been applied and the residual risk to the species is now assessed in light of its Conservation Objectives.

The conservation objective for this species within Cummeen Strand SPA is:

‘To maintain the favourable conservation condition of Oystercatcher in Cummeen Strand SPA’.

The attributes and targets for Oystercatcher as per the Site-Specific Conservation Objectives (SSCOs) for Cummeen Strand SPA and an assessment of the proposed development against the attributes and targets for this species is provided in Table 7. 14..

Table 7-12 Targets and attributes for Oystercatcher (*Haematopus ostralegus*) A130

Attribute	Target	Assessment
Population trend	Long term population trend stable or increasing	The proposed development will not have any effect on the population trend or distribution of this species within the SPA. There will be no effect in terms of loss of supporting habitat or disturbance.
Distribution	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>The dominant habitat within the proposed development site is improved agricultural grassland (GA1). According to the site-specific conservation objectives supporting document, the principle supporting habitats for this species within the site is intertidal mud and sandflats (NPWS, 2013).</p> <p>The dominant habitat within the proposed development site is improved agricultural grassland (GA1). Oystercatchers forage primarily on tidal flats although the species can also be found foraging along non-estuarine coastline or terrestrially. Improved agricultural grassland habitat is common and widespread in the wider area of the site. The loss of a small area of agricultural grassland within the proposed development site would not have an adverse effect on the conservation status of these species.</p> <p>As outlined in section 6.2.4 of this report there is no potential for the proposed development to result in disturbance of this SCI species within the SPA. The works are small scale in nature and short term in duration. Mitigation measures, outlined in Section 2.3 of this report, will be adhered to avoid disturbance during the construction stage of the proposed development.</p> <p>The proposed development site is set back 128m from the boundary of Cummeen Strand SPA and is buffered from the shoreline by an existing residential house, and a residential house that is currently under construction. There will be no works or works access undertaken within 120m of the intertidal habitat. All works will be confined to the footprint of the proposed development and there will be no access to the foreshore. Due to the separation distance of the site from the shoreline and the shielding effect of the neighbouring properties there is no potential for visual disturbance of SCI bird species within the intertidal bird habitat. The shoreline of the SPA will not be illuminated as a result of the proposed development. The lighting used during the operational phase will be directional and will be controlled by the use of motion sensors which will ensure that there is no light spill outside of the development footprint.</p> <p>The proposed development site is located in an area with existing residential housing in the wider area including along the shoreline, therefore SCI species are likely to be habituated to some degree of general visual and/or noise stimuli in the area.</p> <p>There will be no increase in recreational activity/anthropogenic disturbance to the foreshore as a result of the proposed development. There will be no access to the foreshore as a result of the proposed</p>

Attribute	Target	Assessment
		<p>development. The proposed development site is accessed via a local road off the R291. This road does not offer access to the foreshore and terminates approximately 40m from the shoreline. The garden of the neighbouring residential house lies between the foreshore and the access road. There is no public right of way between this land and the foreshore.</p> <p>As described in section 6.2.4 in consultation with published advice on the typical types and magnitudes of noise sources associated with construction activities (Cutts et al. 2013), construction activities will not result in disturbance of this species, given the 128m set-back distance of the proposed development site from the intertidal zone and there is no potential for impact in terms of noise disturbance.</p>

7.3.3 Redshank (*Tringa totanus*) [A162]

This species was not recorded at the site of the proposed development during the survey undertaken. However, following the precautionary principle a potential pathway for adverse effect on the conservation objectives of the species was identified in the form of deterioration of water quality that could have an adverse effect on the habitat within the downstream SAC. In light of this risk, mitigation has been applied and the residual risk to the species is now assessed in light of its Conservation Objectives.

The conservation objective for this species within Cummeen Strand SPA is:

‘To maintain the favourable conservation condition of Redshank in Cummeen Strand SPA’.

The attributes and targets for Wetlands as per the Site-Specific Conservation Objectives (SSCOs) for Cummeen Strand SPA and an assessment of the proposed development against the attributes and targets for this habitat is provided in Table 7.15.

Table 7-13 Targets and attributes for Redshank (*Tringa totanus*) [A162]

Attribute	Target	Assessment
Population trend	Long term population trend stable or increasing.	<p>The proposed development will not have any effect on the population trend or distribution of this species within the SPA. There will be no effect in terms of loss of supporting habitat or disturbance.</p> <p>The dominant habitat within the proposed development site is improved agricultural grassland (GA1). According to the site-specific conservation objectives supporting document, the principle supporting habitats for this species within the site is intertidal mud and sandflats (NPWS, 2013).</p> <p>The dominant habitat within the proposed development site is improved agricultural grassland (GA1). Redshank may use terrestrial habitats to roost in. Improved agricultural grassland habitat is common and widespread in the wider area of the site. The loss of a small area of agricultural grassland within the proposed development</p>

Attribute	Target	Assessment
		<p>site would not have an adverse effect on the conservation status of these species.</p> <p>As outlined in section 6.2.4 of this report there is no potential for the proposed development to result in disturbance of this SCI species within the SPA. The works are small scale in nature and short term in duration. Mitigation measures, outlined in Section 2.3 of this report, will be adhered to avoid disturbance during the construction stage of the proposed development.</p> <p>The proposed development site is set back 128m from the boundary of Cummeen Strand SPA and is buffered from the shoreline by an existing residential house, and a residential house that is currently under construction. There will be no works or works access undertaken within 120m of the intertidal habitat. All works will be confined to the footprint of the proposed development and there will be no access to the foreshore. Due to the separation distance of the site from the shoreline and the shielding effect of the neighbouring properties there is no potential for visual disturbance of SCI bird species within the intertidal bird habitat. The shoreline of the SPA will not be illuminated as a result of the proposed development. The lighting used during the operational phase will be directional and will be controlled by the use of motion sensors which will ensure that there is no light spill outside of the development footprint.</p> <p>The proposed development site is located in an area with existing residential housing in the wider area including along the shoreline, therefore SCI species are likely to be habituated to some degree of general visual and/or noise stimuli in the area.</p> <p>There will be no increase in recreational activity/anthropogenic disturbance to the foreshore as a result of the proposed development. There will be no access to the foreshore as a result of the proposed development. The proposed development site is accessed via a local road off the R291. This road does not offer access to the foreshore and terminates approximately 40m from the shoreline. The garden of the neighbouring residential house lies between the foreshore and the access road. There is no public right of way between this land and the foreshore.</p> <p>As described in section 6.2.4 in consultation with published advice on the typical types and magnitudes of noise sources associated with construction activities (Cutts et al. 2013), construction activities will not result in disturbance of this species, given the 128m set-back distance of the proposed development site from the intertidal zone and there is no potential for impact in terms of noise disturbance.</p>

7.3.4 Wetlands [A999]

The conservation objective for *Wetlands [A999]* within Cummeen Strand SPA is:

'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'.

The attributes and targets for Wetlands as per the Site-Specific Conservation Objectives (SSCOs) for Cummeen Strand SPA and an assessment of the proposed development against the attributes and targets for this habitat is provided in Table 7.16.

Table 7-14 Targets and attributes of Wetlands [A999]

Attribute	Target	Assessment
Habitat area	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	There will be no decline in habitat area associated with the proposed development. Indirect pathways that would allow impacts to occur via water pollution were considered in the design of the proposed development and a range of measures, outlined in Section 2.3 and 6.2 of this report, are in place to avoid all water pollution during the construction and operational stage of the proposed development.

7.3.5 Determination on Potential Adverse Effects on Cummeen Strand SPA.

Based on the above and following implementation of best practice measures that are outlined in Section 2.3 and 6.2 of this report, it can be concluded, in view of best scientific knowledge and based on objective information, that the Proposed Development will not adversely affect the conservation objectives of Cummeen Strand SPA and does not have the potential to result in an adverse effect on the overall integrity of the SPA.

8.

CUMULATIVE EFFECTS

A search and review in relation to plans and projects that may have the potential to result in cumulative and/or in-combination impacts on European Sites was conducted. This assessment focuses on the potential for cumulative in-combination effects on the European Sites where potential for adverse effects was identified in Section 4 of this report. This included a review of online Planning Registers, development plans and other available information and served to identify past and future plans and projects, their activities and their predicted environmental effects. A list of the plans and projects considered is provided in Sections 8.1 and 8.2 of this report.

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8.1

Plans

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

- > Sligo County Development Plan 2017-2023
- > National Biodiversity Action Plan 2017-2021
- > Northern & Western Regional Assembly Regional Spatial and Economic Strategy 2020-2032 (RSES)

The review focused on policies and objectives that relate to Natura 2000 sites and natural heritage. Policies and objectives relating to sustainable land use were also reviewed

Table 8.1 Review of plans

Plan	Key Policies/Issues/Objectives Directly Related to European Sites in The Zone of Influence	Assessment of development compliance with policy
Sligo County Development Plan 2017-2023	<p>Forestry Policies:-P-FOR-2 Discourage new forestry development, except for broadleaf, in proposed/candidate and adopted NHAs, SACs and SPAs, in designated Sensitive Rural Landscapes and Visually Vulnerable Areas, along designated Scenic Routes and in water quality-sensitive areas. (Broadleaf forestry will be open to consideration in these areas and in all proposed and adopted NHAs, SPAs and SACs, will be subject to consultation with the DECLG and shall have regard to any management plans prepared by the Department.)</p> <p>Tourism Development Policies: P-TOU-1 Promote the development of tourism in a sustainable manner and encourage the provision of a comprehensive range of tourism facilities, subject to location, siting and design criteria, the protection of environmentally sensitive areas and other planning considerations. Development that might be detrimental to scenic and heritage assets, in cSACs, SPAs, proposed NHAs, designated Sensitive Rural Landscapes and Visually Vulnerable Areas, and along designated Scenic Routes will be strictly controlled.</p> <p>Heritage Objectives: P-NH-3 Protect and, where possible, enhance the plant and animal species and their habitats that have been identified under the EU Habitats Directive, EU Birds Directive, the Wildlife Act and the Flora Protection Order.</p> <p>Designated Sites for Nature Conservation Policies: P-DSNC-1 Protect and maintain the favourable conservation status and conservation value of all natural heritage sites designated or proposed for designation in accordance with European and national legislation and agreements. These include Special Areas of Conservation (SACs), Special Protection Areas (SPAs), Natural Heritage Areas (NHAs), Ramsar Sites, Statutory Nature Reserves. In addition, the Council will identify, maintain, and develop non-designated areas of high nature conservation value which serve as linkages or ‘steppingstones’ between protected sites in accordance with Article 10 of the Habitats Directive.</p> <p>P-DSNC-2 Promote the maintenance and, as appropriate, achievement of ‘favourable conservation statuses of habitats and species in association with the NPWS.</p>	<p>The Development plan was comprehensively reviewed, with particular reference to Policies and Objectives that relate to the Natura 2000 network and other natural heritage interests. No potential for cumulative impacts when considered in conjunction with the current proposal were identified.</p> <p>There will be no impact on designated sites as a result of the development. Best practice preventative measures will be implemented to avoid effects on European Sites. There will be no adverse effects on receptors listed as QIs/SCIs of European Sites, as a result of the development.</p>

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	<p>P-DSNC-3 Carry out an appropriate level of assessment for all development plans, land-use plans and projects that the Council authorizes or proposes to undertake or adopt, to determine the potential for these plans or projects to impact on designated sites, proposed designated sites or associated ecological corridors and linkages in accordance with the Habitats Directive, All appropriate assessments shall be in compliance with the provisions of Part XAB of the Planning and Development Act 2000.</p> <p>P-DSNC-4 Consider development within, or with the potential to affect, Natural Heritage Areas or proposed Natural Heritage Areas, where it is shown that such development, activities, or works will not have significant negative impacts on such sites or features, or in circumstances where impacts can be appropriately mitigated.</p> <p>Designated Sites for Nature Conservation Objective- O-DSNC-1 Identify and protect local areas of high nature conservation value and support the management of landscape features which are of major importance for wild fauna and flora in accordance with Article 10 of the Habitats Directive.</p> <p>Nature conservation outside designated sites - policies</p> <p>P-NCODS-2 Ensure that development proposals, where relevant, improve the ecological coherence of the Natura 2000 network and encourage the retention and management of landscape features that are of major importance for wild fauna and flora as per Article 10 of the Habitats Directive</p> <p>P-NCODS-3 Ensure that proposals for development protect and enhance biodiversity, wherever possible, by minimising adverse impacts on existing habitats and by including mitigation and/or compensation measures, as appropriate, which ensure that biodiversity is enhanced.</p> <p>P-NCODS-4 Apply the precautionary principle in relation to development proposals with potential to impact on County Biodiversity Sites or on local nature conservation interest by requiring an ecological impact assessment (EcIA) to ensure that any proposed development will not affect the integrity and conservation value of the site</p>	
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<p>Regional Spatial and Economic Strategy 2020-2032</p>	<p>RPO 5.4 Encourage the prioritisation of Site-Specific Conservation Objectives (SSCO) for all sites of Conservation Value, designated in EU Directive (i.e., SACs, SPAs) to integrate with the development objectives of this Strategy.</p> <p>RPO 5.5 Ensure efficient and sustainable use of all our natural resources, including inland waterways, peatlands, and forests in a manner which ensures a healthy society a clean environment and there is no net contribution to biodiversity loss arising from development supported in this strategy. Conserve and protect designated areas and natural heritage areas. Conserve and protect European sites and their integrity.</p> <p>RPO 5.7 Ensure that all plans, projects, and activities requiring consent arising from the RSES are subject to the relevant environmental assessment requirements including SEA, EIA, and AA as appropriate.</p>	<p>The Development plan was comprehensively reviewed, with particular reference to Policies and Objectives that relate to the Natura 2000 network and other natural heritage interests. No potential for cumulative impacts when considered in conjunction with the current proposal were identified.</p> <p>There will be no impact on designated sites as a result of the development. Best practice preventative measures will be implemented to avoid effects on European Sites. There will be no adverse effects on receptors listed as QIs/SCIs of European Sites, as a result of the development.</p>
<p>National Biodiversity Action Plan 2017-2021</p>	<p><u>Objective 1 Mainstream Biodiversity into Decision Making Across all Sectors.</u></p> <p>Action 1.1.9: Integrate Natura 2000 and Biodiversity financial expenditure tracking into Government Programmes internal paying agency management procedures including linkage to the Prioritised Action Framework⁵¹ and this NBAP.</p> <p><u>Objective 6: Expand and improve management of protected areas and species.</u></p> <p><u>Target 6.1.1.</u> Complete designation process for Special Areas of Conservation (SACs) and Special Protection Areas (SPAs), in particular, for marine coastal and offshore SPAs</p> <p><u>Target 6.1.2</u> Develop and utilise licensing and consent systems to facilitate sustainable activities within Natura 2000 sites.</p> <p><u>Target 6.1.3.</u> Publish detailed site-specific conservation objectives for Natura 2000 sites.</p> <p><u>Target 6.1.7.</u> Implement the conservation measures necessary to achieve the published conservation objectives for Natura 2000 sites. Develop and implement additional measures as necessary to achieve favourable conservation status both nationally and at site level.</p> <p><u>Target 6.1.8.</u> Implement measures to ensure that, taking account of climate change, there are no significant adverse effects from marine fisheries and aquaculture in and adjacent to Natura 2000 sites.</p> <p><u>Target 6.1.9.</u> Review and update the Prioritised Action Framework for Natura 2000</p> <p><u>Target 6.1.10.</u> Continue to collect information on sites to be considered towards the protection and enhancement of the Natural Heritage Area network</p>	<p>The Development plan was comprehensively reviewed, with particular reference to Policies and Objectives that relate to the Natura 2000 network and other natural heritage interests. No potential for cumulative impacts when considered in conjunction with the current proposal were identified.</p> <p>There will be no impact on designated sites as a result of the development. Best practice preventative measures will be implemented to avoid effects on European Sites. There will be no adverse effects on receptors listed as QIs/SCIs of European Sites, as a result of the development.</p>

8.2

Other Projects

Assessment material for this in-combination impact assessment was compiled on the relevant developments within the vicinity of the Proposed Development and was verified on the 28/11/2022. The material was gathered through a search of relevant online Planning Registers, reviews of relevant documents, planning application details and planning drawings, and served to identify past and future projects, their activities, and their environmental impacts. All relevant projects were considered in relation to the potential for in-combination effects. All relevant data was reviewed (e.g., individual EISs/EIARs, layouts, drawings etc.) for all relevant projects where available. The projects considered include those listed below in Section 8.2. These consisted mainly of small-scale domestic developments and upgrades.

- Permission for a development consisting of the construction of a new single storey dwelling and domestic garage, on-site wastewater treatment system and polishing filter, and all other associated site works and services. The proposed application is accompanied by a Natura Impact Statement. (Planning Ref: 20430).
- Development consisting of construction of a single storey dwelling with integrated domestic garage, including installation of an effluent treatment unit and soil polishing filter together with all associated site works. (Planning Ref: 19127)
- Permission for a development consisting of extensions and alterations to existing dwelling including the following: (a) single storey extension incorporating additional bedroom, interior alterations and granny flat accommodation to the east gable end of the existing dwelling (b) replacement of the existing septic tank and percolation area which is currently a combined system serving the adjacent dwelling to the east with a new septic tank and percolation area serving the dwelling only, together with all associated site works. (Planning Ref: 1721).
- Permission or a development consisting of the replacement of the existing septic tank and percolation area which is currently a combined system serving the adjacent dwelling to the west with new proprietary effluent treatment unit and tertiary treatment system serving this dwelling only, together with all associated site works. (Planning Ref: 1722).
- Permission for a development consisting of the following (1) upgrade of the existing Wastewater Pumping Station (PSE3) at Rosses Upper including: remedial works to existing underground pumping chamber, new underground stormwater storage tank with associated kiosks, pipelines, ducting and vent stack, new emergency overflow to connect to existing outfall pipeline, new prefabricated welfare cabin, new gabion retaining wall structure and a 2.4m high weld mesh fence internal to the site, replace existing masonry front boundary with a new 2.4m high stone-faced boundary wall incorporating a railing and new vehicle access gates, together with all associated site development works (2) decommission existing wastewater treatment plant and construction of new Pumping Station (PS2) at Ballyweelin including: demolish existing single storey building, decommission existing septic tank, replace existing boundary fence with new 2.4m weld mesh fence. Construction of underground pumping chamber with associated valve chambers, manholes, kiosks, pipelines, ducting and vent stack, new emergency overflow to connect to existing outfall pipeline, together with all associated site development works. Upgrade works to existing access road together with replacement of existing access road fence with 1.2m high concrete post and chain link fence, and all associated site development works. (3) construction of a new 90mm diameter rising main from Pumping Station PS2 at Ballyweelin to connect to the existing gravity sewer on Regional Road R291, overall length 250m approximately. (4) construction of new 225mm diameter sewer on Colmcille Drive in Rosses Upper to replace existing 150mm diameter sewer, overall length 150m approximately. (5) construction of new 375mm diameter foul sewer, overall length 115m approximately and new 450mm diameter foul sewer, overall length 590m approximately between Colmcille Drive and existing Pumping Station (PSE3) on the Main Street in Rosses Point. Decommissioning of approximately 460m of existing Cast Iron watermain and transfer of associated service connections to the existing uPVC watermain. A Natura Impact Statement (NIS) accompanies this Planning Application. (Planning Ref: 20408).

- Permission for a development consisting of the retention of a single storey entrance porch constructed to the front of detached single storey dwelling house (Planning ref: 20134).
- Development consisting of the material change of use of an existing private residential apartment to short-term lettings accommodation. The apartment is located above our domestic garage. (Planning ref: 2053).
- Permission for a development consisting of the construction of a Synthetic Grass Tennis Court with Perimeter Fencing. The application is accompanied by a Natura Impact Statement. (Planning ref: 2151).
- Permission for a development consisting of the construction of a revised ground floor extension design and associated site works to the existing dwelling from that granted under planning permission PL19/156. Proposed works to first floor to remain the same as currently granted under PL19/156 to include removal of 2 no. roof dormer windows, construction of 1 new roof dormer window, installation of 3 no. roof windows to the existing dwelling. (Planning Ref: 20263).
- Development consisting of ground floor extension, removal of 2 no. roof dormer windows, construction of 1 new roof dormer window, installation of 3 no. roof windows and all associated site works and to existing dwelling. (Planning Ref: 19156)
- Permission for a development consisting of the construction of an extension to an existing house for the provision of a granny flat and to replace an existing garage door with a new window along with all associated site work & services. (Planning Ref: 20225).
- Permission for a development consisting of retention of elevational changes, consisting of 3no. Velux windows to the front, 1no. Velux window and change of window to patio doors to rear of existing dwelling house. (Planning Ref: 20167).

8.3

Conclusion of Cumulative Assessment

Following the detailed assessment provided in the preceding sections, it is concluded that, the proposed development will not result in any residual adverse effects on any of the European Sites, their integrity or their conservation objectives when considered on its own. There is therefore no potential for the proposed development to contribute to any cumulative adverse effects on any European Site when considered in-combination with other plans and projects.

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

Taking into consideration the reported residual impacts from other plans and projects in the area and the predicted impacts with the current proposal, no residual cumulative impacts have been identified with regard to any European Site.

9.

CONCLUDING STATEMENT

This NIS has provided an assessment of all potential direct or indirect adverse effects on European Sites.

Where the potential for any adverse effect on any European Site has been identified, the pathway by which any such effect may occur has been robustly blocked through the use of avoidance, appropriate design and mitigation measures as set out within this report in section 2.3 and in the Construction Environmental Management Plan (CEMP) in Appendix 3 of this NIS. The measures ensure that the construction and operation of the proposed development does not adversely affect the integrity of European sites.

Therefore, it can be objectively concluded that the Proposed Development, individually or in combination with other plans or projects, will not adversely affect the integrity of any European Site

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