



ECOLOGICAL IMPACT ASSESSMENT

Tullan Strand Facility Centre for Water Sports Activities and
Accessible Pathway to Tullan Strand Beach
Tullan Strand, Finner, Bundoran, Co. Donegal

For: Paul Doherty Architects Ltd.

Castle Street

Donegal Town

Co. Donegal

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PROJECT MANAGEMENT & ENVIRONMENTAL SERVICES

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1.0 Introduction

This Ecological Impact Assessment has been commissioned by Paul Doherty Architects Ltd. on behalf of Donegal County Council. It has been compiled by Jessica Devlin MSc. Applied Environmental Science with input from Barbara McInerney of Wild on Foot. The report assesses the potential ecological effects of the proposed facilities for watersports activities at Tullan Strand, Bundoran Co. Donegal.

Fáilte Ireland's capital investment programme, Platforms for Growth explicitly targets 'platforms' or project types that have the greatest potential to grow tourism across Ireland throughout the year.

The second Platform for Growth, launched in January 2020, focuses on developing water sports activity facilities across the country with the aim of increasing participation in water sports all year round by significantly improving the visitor experience. Facilities will include changing areas, hot showers, toilets, secure storage for personal belongings, and external showers. An Accessible Washroom and a Changing Places Toilet are also provided. Improved accessible access to the beach is also proposed, which will also facilitate tourism providers and emergency services. The site is set within the busy tourism location of Tullan strand.

This report will:

1. establish and evaluate the baseline ecological environment;
2. identify describe and assess all potentially significant ecological effects associated with the proposed development;
3. set out mitigation measures required to address significant ecological effects and ensure compliance with nature conservation legislation;
4. assess the significance of any residual ecological effects.

A Natura Impact Statement has been prepared that discusses the project in relation to the Natura 2000 sites in the vicinity.

2.0 Description of proposed Development

The proposed development consists of the construction of a facility centre for water sports activities, associated infrastructure and an accessible pathway to Tullan Strand beach to enhance visitor management and experience. The proposed works will include construction of a purpose-built single storey facility with accessible changing rooms, showers, a Changing Places toilet, public conveniences, storage areas, associated external amenities, car and bus parking, seating, public realm landscaping, site drainage, wastewater pumping station, connection to existing utilities, supporting ancillary works, accommodation works, closure and decommissioning of the existing unauthorised beach access development, construction of a pedestrian pathway along a section of the L-1058-0 Tullan Strand Road, an accessible pedestrian/equestrian pathway/boardwalk onto Tullan Strand beach and an emergency vehicle access route towards Tullan Strand beach.

In – design mitigation /avoidance

The development is adjacent to Donegal Bay SPA, which has wetlands that are frequented by waterfowl. The site is also adjacent to Annex I sand dune habitats and will cross a small section of the dune habitat. Sedimentary Cliff is also in the area proposed for development. The project has been developed with these facts in mind and has a number of mitigation measures built into the design and implementation of the project:

In selecting potential locations and sites, Fáilte Ireland conducted a detailed assessment of environmental considerations in order to take account of any potential environmental or ecological issues, concerns, constraints and/or opportunities at each prospective location.

A traffic light system categorised the locations according to the following criteria:

Green Mild No obvious ecological constraints

Amber Ecologically sensitive site with potential to be managed appropriately*.

Deep Amber Ecologically sensitive site which may provide supporting habitat for protected species.

Red Clear ecological constraints are evident

The constraints matrix focused on ecological sensitivities but also considered planning issues such as archaeology, scenery, traffic and/or water services.

The existence of hard surfaced areas and infrastructure on site promoted a favourable outcome; this was derived from the Wild Atlantic Way (WAW) monitoring programme data which identified that serviced and/or managed sites have less impacts associated with them. Tullan Strand was characterised as an Amber site and was chosen to proceed.

At Tullan there were three possible options for the access route, the least impactful, Option B, has been chosen, see extracts from Jennings O'Donovan Engineering report

"...Option A – Improvements to Existing Unauthorised Access

Requires significant earthworks, imported granular fill, sheet piling and installation of rock armour on the beach to withstand wave action.

Whilst much of the materials could be sourced close to the site, the large rock armour would be difficult to transport and place correctly, and the sheet piles would need to be imported from abroad. Both of these elements would incur a large carbon footprint. Option A could also impact on available habitat due to the additional length of the route along the cliff face.

Option B – New At-Grade Access Route

To provide an at-grade access to Tullan Strand the best route would run behind the dunes to the east of the strand, following the existing private road from the car park to the agricultural entrance, crossing the field, crossing over the stream on a pedestrian bridge and crossing the dunes on a boardwalk ramping down to the strand at the western end.

Option B minimises the quantity of imported material for the majority of its length. It is also located behind the dunes where the majority of the route is protected from the sea. The principal elements which would need to be imported are the bridge over the stream and the boardwalk through the dunes.

Option B is preferred from an environmental perspective as it limits the works needed immediately adjacent to the SPA, and as the closed existing access route would provide additional habitat. Furthermore, it incorporates measures which protect the sand dunes behind the strand.

Option C – New Elevated Access Route

Option C would require significant engineering work to construct. The majority of the route is directly exposed to the sea in a location where storm damage is likely Option C is problematic from an environmental perspective as it could impact on the cliff habitat causing removal of bird nesting sites without generating mitigating effects...."

Option B is the preferred option.

It is the least intrusive, will protect the dune system and will not involve loud and damaging engineering methods such as rock breaking, importation of large quantities of fill and sheet piling.

The location of the facility, car park, paths and boardwalk are all located outside the SPA above the cliffs, out of view of the SPA, and tucked behind the dune system thereby obscuring it from view. The most impactful elements of the access route are located outside of the pNHA and Annex I Habitats, and recognised dune habitat protection measures are being proposed.

Construction

This is a small project that can be completed within a short time frame.

A construction and environmental management plan has been developed which includes a suite of mitigation measures including: erosion and sediment controls and management of hazardous material.

The construction of the paths, vehicle access and boardwalk avoids the majority of the dune system. Disturbance in the dune system will be minimal when installing the boardwalk and bridge.

Operation

At the facility and car park precipitation falling on hard ground will be treated by hydrocarbon/grit interceptors before release to ground. Back up pumps and reserved storage volume, as well as in-situ and remote alarms for wastewater treatment facilities are proposed, which will connect to the mains system.

Along the existing path precipitation will enter existing drainage system which percolates to ground. Run off from the new access path will also percolate to ground.

The tourism centre and path will not introduce additional lighting to the facility field and dune area.

Lighting in the new car park will be low level (below 3m high). Directional lighting; lighting only at the intensity and direction it is needed, to direct light spill away from habitat will be used. Lights will only be on when in use or for health and safety purposes. The use of timers and sensors are ways of controlling this. Motion sensitive lighting where appropriate will be used. The car park will be buffered using excavated material to create mounds that will be planted in keeping with the local environment.

The boardwalk will provide a designated access to the beach across the dunes, this will manage the visitors and tourism providers, including equine pursuits, and will reduce trampling and damage to the dune habitat.



Figure 2.1 Tullan Strand Platform for Growth facility visual, as supplied by Paul Doherty Architects Ltd..

2.1 Method statement

Extract from CEMP; a full description of the project and methods during construction and operation can be seen in the CEMP.

2.1.1 Site preparation

Facility Building for Water Sports

The ground conditions in this area are primarily a layer of top soil and earth material on a shallow bedrock.

The ground works will include the removal of the topsoil down to solid sub strata and the stoning of same to provide for the car parking area and public realm area and laying of a concrete raft foundation for the building.

Installation of infrastructure for services. i.e. surface water drainage, foul water drainage, water mains and electricity supply, hydrocarbon & silt traps, stormwater attenuation.

Construction of concrete base raft foundations and construction thereafter of cast in situ / precast concrete frame and single pitch roof.

Improved footpaths and realignment of the existing Car Park

The works in this area will involve the upgrade of the existing footpath and realignment of the entrances to the existing car park and realignment of the existing car park spaces to take account of the widened footpath along the road edge.

The works in this area require minimal new work and primarily require improved alignment and improved entrances to the existing car park area from the public road.

Walkway & Pathway form the public road down to the Beach

Works in this area require the construction of an accessible pathway meeting all accessibility requirements from the public road through and over an area of existing agricultural land, across a footbridge to a small stream and a boardwalk set on top of sand dunes to the flat section of the beach.

The construction of a paved roadway to allow for emergency access vehicles to a turning point adjoining the pathway to the beach and construction of a cattle crush to replace a cattle crush to be removed at the current entrance to these lands and the construction of a natural stone-faced wall as a new boundary between the path and roadway and the remainder of the third party agricultural lands.

2.1.2 Construction

Facility Building for Water Sports

Excavation of existing topsoil inert material and movement of the material within the site to form mounding around the car park. No material is to be moved off site and all access material is to be reused in the mounding around the car park area.

Excavation of trenches and foundations and the installation of service pipe network, pumping station and stormwater soakaway, with oil/grit interceptor and installation of electrical and telecom services from the adjoining road to the building.

Pouring of concrete foundations and installation of cast in situ or precast structural columns posts and roof and building completion to include the installation of toilets, showers, plant room and all necessary utilities and services.

Hard landscaping to the public realm area to include provision of seating, paving, way signage for the building (to include a standalone totem sign) and any necessary boundary treatments.

Improved footpaths and realignment of the existing Car Park

Alterations to the existing footpath and car park primarily within the existing stone base area of the existing footpath and car park to include revised entrances and crossing bays adjoining the public road.

Walkway & Pathway from the public road down to the Beach

Excavation to solid strata and the construction of a hard finish footpath and hard finish emergency vehicle only access roadway.

Boardwalk and bridleway construction: The proposed elevated structure will be constructed on Fibre Reinforced Polymer (FRP)/ timber driven piled foundations. The elements of the structure will be constructed from FRP/timber which will be manufactured offsite and transported to the field at the eastern end of the boardwalk. The weight of all elements will be limited to what can be transported manually. Piles will be carried into place and installed using hand portable equipment. FRP/timber beams, decking planks and handrails will then be assembled in place using hand portable equipment. The constructed portion of the boardwalk will be used to move FRP elements across the dune habitat as the works advance.

Erection of split hazel fencing around the dunes and construction of a natural stone-faced wall to form a new boundary between the joining agricultural lands and the lands to be transferred to Donegal County Council to accommodate the roadway and the pathway.

Old Access

The existing access will be closed off at the top by placing rocks/earth embankment and a fence. Rocks will also be placed at the bottom to stop people walking up and down.

3.0 Planning policy and relevant legislation

The following international legislation is relevant to the proposed development:

Council Directive 92/43/EEC on the Conservation of Natural Habitats and of Wild Fauna and Flora; hereafter, referred to as the 'Habitats Directive'. The Habitats Directive is the legislation under which the Natura 2000 network was established and special areas of conservation (SACs) are designated for the protection of natural habitat types listed in Annex I, and habitats of the species listed in Annex II, of that directive.

Directive 2009/147/EEC; hereafter, referred to as the 'Birds Directive'. The Birds Directive is the legislation under which special protection areas are designated for the protection of endangered species of wild birds listed in Annex I of that directive.

The following national legislation is relevant to the proposed development:

Wildlife Acts 1976 to 2020; hereafter collectively referred to as the 'Wildlife Acts'. The Wildlife Acts are the principal pieces of legislation at national level for the protection of wildlife and for the control of activities that may harm wildlife. All bird species, 22 other animal species or groups of species, and 86 species of flora are protected under this legislation.

Planning and Development Acts 2000 to 2024; hereafter collectively referred to as the 'Planning and Development Acts'. This piece of legislation is the basis for Irish planning. Under the legislation, development plans (usually implemented at local authority level) must include mandatory objectives for the conservation of

natural heritage and for the conservation of Natura 2000 Sites. It also sets out the requirements in relation to environmental assessment with respect to planning matters, including transposition of the Habitats and Birds Directive into Irish law.

European Communities (EC) (Birds and Natural Habitats) Regulations 2021; hereafter the 'Birds and Habitats Regulations'. This legislation transposes the Habitats and Birds Directives into Irish law. It also contains regulations (49 and 50) that deal with invasive species (those included within the Third Schedule of the regulations).

Flora (Protection) Order, 2022. This lists species of plant protected under Section 21 of the Wildlife Acts.

The following plans and policies are relevant to the proposed development:

National Biodiversity Action Plan 2023-2030 (Department of Culture Heritage and the Gaeltacht, 2017)

County Donegal Development Plan 2024 -2030 (Donegal County Council, 2018)

Policy BIO P-1 of the County Donegal Development Plan 2024 – 2030 States the following:

It is a policy of the Council “...To require all developments to comply with the requirements of the EU **Habitats Directive and EU Bird Directive**, including ensuring that development proposals:

a. Do not adversely affect the integrity of any European/Natura 2000 site (i.e. Special Areas of Conservation and Special Protection Areas) including effects on ex-situ but functionally linked habitats, and species (e.g. Pearl Mussel) save where a plan must be carried out for imperative reasons of overriding public interest (IROPI).

b. Provide for the protection of animal and plant species listed in Annex IV of the EU Habitats Directive and the Flora Protection Order.

c. Protect and enhance features of the landscape (such as rivers, riverbanks, field boundaries, ponds and small woods) which are of major importance for wild fauna and flora and the ecological coherence of the Natura 2000 network....”

Any existing/proposed plan or project that could potentially affect Natura 2000 sites, in combination with the proposed development, must adhere to this environmental policy. Any projects or plans within the zone of influence of the project will be required to carry out Stage 1 and/or Stage 2 of the Appropriate Assessment process thereby ensuring protection of Natura 2000 sites.

Bundoran Area Plan

The Bundoran Area Plan is set within the County Development Plan.

Objective:

BN-CZ-O-1 To protect and enhance the character, setting and natural heritage of the coastal zone in Bundoran, which is identified as a High Amenity Area on the Bundoran Land-Use Zoning Map, in order to secure its existing and future amenity, and tourism and ecological value.

Policies

BN-CZ-P-1 To support the principle of the following development proposals within the High Amenity Area along the seafront, subject to compliance with all other relevant policies of this Plan and the County Development Plan:

- a. The redevelopment of brownfield sites.
- b. Development ancillary to existing established uses that support the tourism product in Bundoran.

- c. Small-scale tourism development.
- d. Public realm interventions that serve to enhance the streetscape/landscape and offer demonstrable amenity value.
- e. Community-based recreation projects.
- f. The development of marinas, jetties, facilities for outdoor water-based activities and harbour facilities for maritime leisure developments.

Proposals shall only be permitted where they:

- a. would not significantly impact on the visual amenities, character and environmental quality of the High Amenity Area.
- b. would not intrude significantly on seaward views.
- c. are of a scale and character appropriate to the host environment and are of an enduring high-quality design.

BN-CZ-P-2 To protect the coastal walkways in Bundoran as important tourism, recreation and amenity resources for the town.

BN-CZ-P-3 To ensure that development proposals that would have a negative impact on the use of pier facilities by the Bundoran Lifeboat Station shall not be permitted.

BN-CZ-P-4: To ensure that any future development or expansion of the golf course at Bundoran respects the landscape character and visual sensitivity of its coastal location and has due regard to the natural heritage of the area.

4.0 Statement of Authority

Jessica Devlin graduated from the National University of Ireland, Galway in 1997 with a BSc. honours degree in Geology and obtained a MSc. in Applied Environmental Science from Queens University Belfast in 2001. She attained a National Certificate in Eco-Tourism, from Sligo Institute of Technology in 2005 and in 2014 completed Geographical Information Systems for Environmental Investigations, University College Dublin.

With over 28 years of training and professional experience, Jessica has gained a wide range of expertise in research, consultancy and project management with particular emphasis on sustainable development in freshwater, marine and coastal environments.

As field scientist with the Queens University Marine Station in Portaferry, Jessica carried out habitat surveys with respect to the decline of salmonid populations in Northern Ireland Rivers. She progressed to research assistant with Queens University and the Department of Agriculture & Rural Development. As project manager for the Donegal County Council - Marine & Water Leisure Programme, she managed projects on sustainable development of the marine leisure product. Jessica also worked with the University College Cork Coastal and Marine Research Centre in partnership with Donegal County Council and the University of Ulster, as manager of the Donegal element of a North West Europe Interreg Project called IMCORE (Innovative Management of Europe's Changing Coastal Resource). For the past 12 years Jessica has been self-employed working as a project manager and environmental consultant; specialising in freshwater, marine, coastal and environmental projects. Her client base is wide reaching from state agencies to community groups, individuals, angling clubs and private developers.

Barbara McLnerney - Ecologist

Bird and bat surveys were carried out by Barbara McLnerney, Wild on Foot.

Barbara McNerney studied Applied Biology and Field ecology and moved from carrying out laboratory work for many years to working with National Parks and Wildlife Service (NPWS) for four years as education officer and a corncrake field worker. Since 2009 she has worked as a freelance Ecologist carrying out appropriate assessments, bird, mammal and habitat surveys. She also delivers ecological talks and workshops.

Bird survey work includes specific species such as, Hen Harrier, Red Grouse, Merlin, Chough and Storm Petrel. Other bird survey work includes IWEBS and bird surveys for the Heritage Council.

As a member and volunteer for Bird Watch Ireland, she completed the Countryside Bird Survey annually for many years.

She is a member of and has been involved with Bat Conservation Ireland since 2005, carrying out emergence counts, biometrics of roosts, investigations of swarming sites, radio tracking and training in bat capture methods. She participates in the Car Bat Monitoring survey, Daubenton's bat surveys, Brown Long-Eared Bat monitoring, BATLAS and Woodland Bat Monitoring schemes.

She has carried out countless bat surveys on built structures, windfarms, road developments and research projects. In 2017 she was one of a team of four who trapped and radio tagged Brown Long-Eared Bats and in 2018 she took part in an international census of bat species in the Nietoperek tunnels in Poland.

While working on these bat projects, various bat detection equipment has been used such as heterodyne, full spectrum and time expansion units. Endoscopes, infra-red cameras and trapping equipment are some of the technology used for executing bat surveys.

She has held a bat survey licences for 15 years and currently holds a bat derogation licence, a licence to capture and a photographic licence for all bat species from National Parks and Wildlife Service.

5.0 Scope of the assessment

The zone of influence was determined with respect to the ecological receptors that could be potentially affected by the project proposal and the source > pathway > receptor relationship between the project and the key ecological receptors.

On appointment to the project a desk study was undertaken to determine the extent of existing ecological data for the site and environs. The site was visited and walkover surveys completed on 12th of June 2024, to scope out the site and to determine where the focus of assessment should be.

Sources of potential impacts are associated with the construction works within the proposed development site, and include disturbance from construction noise, and pollutants generated from the project. The potential receptors in this instance are designated sites (including Natura 2000 sites) and terrestrial habitats and fauna outside the proposed development site and within the site.

The ZoI of general construction activities (*i.e.* habitat loss, habitat fragmentation, and disturbance due to increased noise, vibration, human presence and lighting) is not likely to extend more than 500m from the proposed development.

Sources of potential impacts during operation include disturbance from activity within the site, increased noise, human presence and lighting, and surface water runoff from the site. When completed surface water from the proposed development site will drain to ground, and waste water will be pumped to the mains waste water treatment system therefore, the potential hydrological ZoI does not extend to the Bay.

A Screening Report and Natura Impact Statement for appropriate assessment have also been completed.

5.1 Desk Study

From the initial desk research it was apparent that the site was adjacent to Donegal Bay SPA and that wintering bird surveys would be required to ascertain impacts to QI's within the SPA. This was confirmed at the site visit.

The development is also adjacent to Erne Estuary/Finner Dunes Proposed NHA (000139), and the sand dune habitat therein, potential impacts could arise during construction and operation.

Species from the desk study considered to potentially occur within the proposed development site are discussed below. A full list of protected species recorded in the vicinity of the project within the last 10 years can be seen in Appendix 1.

The following resources were used to obtain available ecological information:

Information from the National Biodiversity Data Centre downloaded from Biodiversity Maps.

Data available on www.npws.ie relating to Natura 2000 sites, Natural Heritage Areas (NHAs) / proposed Natural Heritage Areas (pNHAs), Article 17, Coastal Monitoring Project and the Sand Dune Monitoring Project. Descriptions and locations of protected sites can be seen in appendix 2.

5.2 Site Visit

The desk study informed the initial walkover surveys. From the survey it was also concluded that other Annex / Protected Species could also be impacted by the project. It was determined that a EclA that covers; bats and breeding birds (excluding waterbirds) and habitats that are not related to the Natura 2000 sites should be carried out.

5.3 Field Survey

A series of field surveys were undertaken

5.3.1 Habitat Surveys

An assessment of the ecological features present, or potentially present, within the site and its surrounding area (the zone(s) of influence) was undertaken, including desk research and walkover surveys. Walkover surveys of the site were undertaken on the 12 June by Jessica Devlin MSc. Habitat types were classified using the Guide to Habitats in Ireland (Fossitt, 2000).

5.3.2 Fauna Surveys

Terrestrial Mammals (Excl. Bats)

Terrestrial Fauna Surveys were undertaken by Jessica Devlin on the 12 June 2024 and again on the 17 April 2025 to confirm there had been no changes on site.

The presence/absence of terrestrial fauna species were assessed through the detection of field signs such as tracks, markings, feeding signs, and droppings, as well as by direct observation. The habitats on site were assessed for signs of usage by protected/red-listed fauna species, and their potential to support these species.

5.3.3 Bat surveys

All bat surveys were carried out by Barbara McInerney of Wild on Foot.

The Bat Surveys were undertaken in accordance with Collin, J. (ed.) (2023) Bat Surveys for Professional Ecologists. Good practice guidelines (3rd edition). The Bat Conservation Trust, London.

Bat surveys were commissioned at the beginning of the project, prior to the final decision with regard to the route of the access to the beach.

There were three possible options for the route, see extracts from Jennings O'Donovan Engineering report in section 2:

Option A – Improvements to Existing Unauthorised Access along cliff

Option B – New At-Grade Access Route behind dunes

Option C – New Elevated Access Route along cliff

Due to survey time constraints it was thought prudent to carry out bat surveys in the area of Option A, B and C. The sites for Option A and C are suitable as a hibernation sites, therefore winter and summer surveys were scheduled; the cliff area was the focus of the survey. It was later decided that Option B was the preferred access route. Due to the confirmation of the proposed location of the new beach access track and though further summer survey of the cliff had been commissioned, this was now not deemed necessary.

Suitability	Description Roosting habitats	Commuting and foraging habitats
None	No habitat features on site likely to be used by any roosting bats at any time of the year. (i.e. complete absence of all crevices / suitable shelter at all ground / underground levels).	No habitat features on site likely to be used by commuting or foraging bats at any time of the year (i.e. no habitats that provide continuous lines of shade protection for flight lines or generate / shelter insect populations available to foraging bats).
Negligible	No obvious habitat features on site likely to be used by roosting bats; however a small element of uncertainty remains as bats can use small and apparently unsuitable features on occasion.	No obvious habitat features on site likely to be used by commuting or foraging bats; however a small element of uncertainty remains to account for non standard bat behaviour.
Low	A structure with one or more potential roost sites that could be used by individual bats opportunistically. However, these potential roost sites do not provide enough space, shelter, protection, appropriate conditions and/or suitable surrounding habitat to be used on a regular basis or by larger numbers of bats (i.e. unlikely to be suitable for maternity and not a classic coo/stable hibernation site, but could be used by individual hibernating bats). A tree of sufficient size and age to contain PRFs but with none seen from the ground or features seen with only very limited roosting potential.	Habitat that could be used by small numbers of commuting bats such as a gappy hedgerow or unvegetated stream, but isolated, i.e. not very well connected to the surrounding landscape by other habitat. Suitable, but isolated habitat that could be used by small numbers of foraging bats such as a lone tree (not in a parkland situation) or a patch of scrub.
Moderate	A structure or tree with one or more potential roost sites that could be used by bats due to their size, shelter, protection, conditions and surrounding habitat but unlikely to support a roost of high conservation status (with respect to roost type only – the assessments in this table are made irrespective of species conservation status, which is established after presence is confirmed).	Continuous habitat connected to the wider landscape that could be used by bats for commuting such as lines of trees and scrub or linked back gardens. Habitat that is connected to the wider landscape that could be used by bats for foraging such as trees, scrub, grassland or water.

High	A structure with one or more potential roost sites that are obviously suitable for use by larger numbers of bats on a more regular basis and potentially for longer periods of time due to their size, shelter, protection, conditions and surrounding habitat. These structures have the potential to support high conservation status roosts e.g. maternity of classic cool/stable hibernation sites.	Continuous, high-quality habitat that is well connected to the wider landscape that is likely to be used regularly by commuting bats such as river valleys, streams, hedgerows, lines of trees and woodland edge. High-quality habitat that is well connected to the wider landscape that is likely to be used regularly by foraging bats such as broadleaved woodland, treelined watercourses and grazed parkland. Site is close to and connected to known roosts.
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Table 5.2 Guidelines for assessing the potential suitability of proposed development sites for bats (Collins, 2023)

A bat dusk survey was carried out on the 29/10/2024 at Tullan Strand around the cliff area using bat detectors – Echo Meter touch, and a static Song Meter. The Song Meter was placed along the cliff and left in situ for 7 nights and was set to record from a half hour before sunset until a half hour after sunrise. All recordings were downloaded and analysed using Kaleidoscope software. Bat activity was also opportunistically recorded on the 18/10/2024 at the end of a bird survey to observe if there was any bat activity. See appendix 3 for full bat survey report.

5.3.7 Bird surveys

All bird surveys were carried out by Barbara McInerney of Wild on Foot.

See NIS for specific detail on Wintering Bird surveys.

Breeding bird surveys were undertaken in March, April and May 2025. The Breeding bird survey (BBS) was designed to give full coverage of habitats of importance to birds within the Project site. All birds present on the site were recorded. Vantage watch surveys were completed to begin with from the carpark areas, followed by a transect survey up along the stream, through the dunes -over to the b/w field, finishing with a vantage watch back up on the cliff/road/car park.

Each survey visit lasted 2-3 hours. 4 visits were made between March and May 2025. Surveys were carried out in suitable weather condition, good visibility, no constant rain and in wind no higher than force 4/5 on the Beaufort scale. Surveys mapped all birds using the study area and activity was noted. See Appendix 4 for survey results.

6.0 Ecological Evaluation and Impact Assessment

Criteria for assessment has been developed with regard to the *Guidelines for Ecological Impact Assessment in the UK and Ireland* (CIEEM, 2024).

Ecological receptors chosen for further ecological assessment should be “both of sufficient value to be material in decision making and likely to be affected significantly”. They are the ecological receptors which may be subject to significant effects from the proposed development, either directly or indirectly, and which have an ecological value of local importance (higher value) or greater, see table 6.1.

Ecological Value	Geographical scale of importance
International	International or European
National	Republic of Ireland /Island of Ireland
Regional	North west Ireland
County	County Donegal
Local (Higher value)	Local area townland
Local (lower value)	Features are of good conservation status around Ireland

Table 6.1 Ecological valuation and geographical scale of importance

Impacts are determined using the source - pathway - receptor model. If one element of this relationship is missing or removed, then the potential significant impact and possible consequent significant effect on the receptor cannot occur.

Characterising impacts

Ecological impacts and effects, will be described, where relevant, in terms of positive or negative impacts/effects, extent, magnitude and duration, frequency and timing, reversibility of effects and potential for cumulative effects.

Significant effects encompass impacts on the structure and function (integrity) of defined sites, habitats or ecosystems and the conservation status of habitats and species (including extent, abundance and distribution).

Cumulative effects can result from individually insignificant but collectively significant actions taking place over a period of time or concentrated in a location.

Potential impact parameter	Description
'Quality' of Effects	Potential impacts can have a positive or negative effect on the environment.
Magnitude	Magnitude can be measured in many ways such as the spatial or geographical area over which the impact may occur, or the size of a population impacted.
Duration	Effects may be described as temporary, short, medium, long-term or permanent. In this report (following the EPA, 2017) a temporary impact lasts <1 year; short-term impact lasts 1-7 years, medium-term impacts last 7-15 years, long-term impacts last 15-60 years; permanent impacts last >60 years.
Frequency and Timing	The number of times an activity occurs will influence the resulting effect. The timing of an activity or change may result in an impact if it coincides with critical life-stages or seasons e.g. bird nesting season.
Significance	Potential impacts are either significant or non-significant.

According to the CIEEM methodology, if it is determined that the integrity and/or conservation status of an ecological receptor will be impacted on, then the level of significance of that impact is related to the geographical scale at which the impact will occur (i.e. local, county, national, international). In some cases an impact may not be significant at the geographic scale at which the ecological feature has been valued but may be significant at a lower geographical level. For example, a particular impact may not be considered likely to have a negative effect on the overall conservation status of a species which is considered to be internationally important. However, an impact may occur at a local level on this internationally important species. In this case, the impact on an internationally important species is considered to be significant at only a local, rather than an international level.

7.0 Baseline ecological conditions and survey results

7.1 European and Nationally Designated Sites

A separate Screening report and Natura Impact Statement have been prepared for the Projects planning application.

7.1.1 Donegal Bay SPA

All wild birds, and their nests and eggs, are protected under the Wildlife Acts. Some bird species are also listed on Annex I of the EU Birds Directive. The focus of the bird surveys was on wintering waterbirds and breeding waders.

The study area is regionally important site for Sanderling and locally important to Common Scoter and other bird populations listed in the SPA documents.

7.1.2 Erne Estuary/Finner Dunes (000139)

The project occurs just within the southern boundary of the pNHA, see figure 7.1. The Erne Estuary/Finner Dunes occupies the area immediately west of Ballyshannon, Co Donegal and is an amalgamation of two former Areas of Scientific Interest, the Erne Estuary and Finner Dunes. The area is underlain by Carboniferous limestone, shale and sandstone, but recent blown sand and other deposits mask much of the solid geology under the site. Much of the site is composed of a complex of intertidal habitats such as mud and sand flats, sandy and shingle beaches and sea bays, but in places a fringe of saltmarsh occurs on the shoreline.

A large area of sand dunes occupies the southern side of the site. Marram (*Ammophila arenaria*) is very evident there. Younger dunes support Red Fescue (*Festuca rubra*), Sand Sedge (*Carex arenaria*), Creeping Bent (*Agrostis stolonifera*), Wild Thyme (*Thymus praecox*) and an abundance of the moss *Rhytidiadelphus squarrosus*. Parts of the stable dunes are herb-rich, with Creeping Willow (*Salix repens*), Common Bird's-foot-trefoil (*Lotus corniculatus*), Wild Pansy (*Viola tricolor*), Primrose (*Primula vulgaris*) and White Clover (*Trifolium repens*) among the common plants. A scrub of Blackthorn (*Prunus spinosa*) is developing on the older dunes, while wetland communities occur in wetter dune hollows. Yellow Iris (*Iris pseudacorus*), Cuckooflower (*Cardamine pratensis*), Marsh-marigold (*Caltha palustris*) and Marsh Horsetail (*Equisetum palustre*) are frequent in these localized wetlands. Small areas of cliff, heath, fen and reed-bed give further habitat diversity to the site. The site is particularly important as a feeding area for waterfowl.

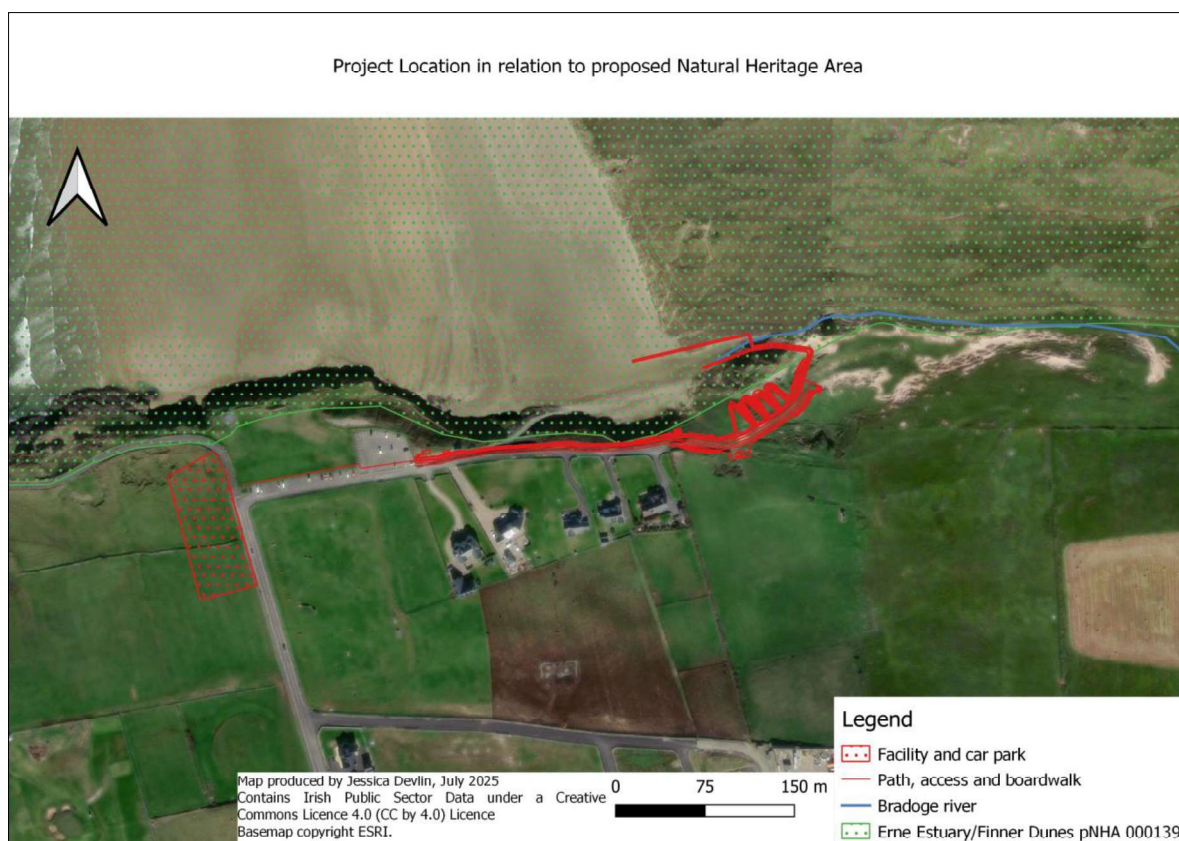


Figure 7.1 Project location in relation to Erne Estuary/Finner Dunes pNHA.

7.2 Habitat Survey Results

(Fossitt Codes in brackets)

Field surveys had regard for the list of flora and fauna species identified in the desk study.

The Project site includes the site for the toilet and shower facilities and additional parking, improved pathways and parking, and a new access including footpath, bridal path, emergency vehicle access and boardwalk leading directly onto the beach.

A walkover survey of the site was undertaken on the 12 June 2024 by Jessica Devlin MSc. This was an assessment of the ecological features present, or potentially present, within a site and its surrounding area (the zone of influence) in relation to the project. On this occasion this incorporated a desk study and walkover survey. All habitat types were classified using the Guide to Habitats in Ireland (Fossitt, 2000), see figure 7.2. The objective of the survey was to scope out the site and to determine where the focus of any additional assessment should be.

The project location is in an area of coarse loamy drift with igneous and metamorphic stones known as the Ballywilliam soil series and sand dune habitat. The location of the proposed facility is in the north eastern corner of 2 agricultural fields which are used for grazing cattle and are spread with manure (GA1 Improved agricultural grassland). There was very little sward evident in the fields with Rye-grasses (*Lolium spp.*), Ribwort Plantain (*Plantago lanceolat*), Lesser Celandine (*Ficaria verna ssp verna*), Daisy (*Bellis perennis*) and docks (*Rumex spp.*) occurring occasionally. The northernmost field is quite poached by cattle, is uneven with bare soil in places. It is bound by stone walls which are low or collapsed (BL1 Stone banks and other stonework) and post and wire fencing. The fields are divided by a low stone wall. The southernmost field section has hard ground with stone in a small area beside the road, otherwise is flat and grassy, it is bound by stonewalls and

wooden fencing, see plates 1-3. The waste water from the facility will be piped southward across two more agricultural fields of the same habitat. The fields are located above the cliffs with a wide view of the Bay. The popular Rougey coastal walk runs along the northern corner of the facility site and the local Tullan Strand Road runs along the eastern side of the development site (BL3 Buildings and artificial surfaces). There is public lighting along both of these routes.

The footpath improvements and car parking realignment will be along the existing footpath/road and in the existing car park (BL3 Buildings and artificial surfaces), see plate 4.

The new footpath will follow the line of the existing road above the cliff along the road verge (GS2 dry meadows and grassy verges), and scrub (WS1 Scrub). The path will then enter into the farmland (GA1 Improved agricultural grassland) beside the existing cattle crush and agricultural track (BL3 Buildings and artificial surfaces). This field is grazed by cattle which are over wintered and fed on site; the ground is heavily grazed and poached in areas. An area of exposed sand (ED1) is evident around the cattle access to the stream. see plates 7-10. There is an established agricultural track through the field which defines the extent of the proposed works. The path continues behind the dunes (CD3* Fixed dunes corresponding to Annex I fixed coastal dunes with herbaceous vegetation ("grey dunes") (2130)). The boardwalk section will go across a small section of the fixed dunes* and will bridge across the Bradoge Stream (FW2 Depositing/lowland rivers) and along the mobile dunes (CD2 Marram dunes corresponding to Annex I shifting dunes along the shoreline with *Ammophila arenaria* ("white dunes") (2120)) and embryonic dunes (CD1 Embryonic Dunes Corresponding to the Annex I embryonic shifting dunes (2110)) until it reaches the beach, LS2 sandy shore, which grades to LS3 Muddy sand shores. The stream is a small spate stream and was completely dry on the site visit, but is known to swell and can be deep on occasion.

The public drainage system is already in place along the roads and existing paths. There were no open drains evident at the facility site or along the new access route and boardwalk. Surface water percolates to ground at these locations.

The existing unauthorised access has been broken through the cliff rock face (CS3 sedimentary Cliff), see plate 11 and 12.



Plate 1. Looking south from northern side of the facility site.
Location of facility building.



Plate 2. Looking south east across facility site.



Plate 3. Looking northwest at southernmost field boundary with northern field. Location of additional car parking.



Plate 4. Looking east along existing road, and location of footpath improvements and realignment of car park on left hand side of picture.



Plate 5. Looking east along existing road: location of new footpath and viewing areas.



Plate 6. Looking east at existing farm track and cattle crush.



Plate 7. Looking east across the proposed site for the new path, existing track cattle crush on the rhs of the picture



Plate 8. Looking south west across proposed location for new 'zig zag' path. Existing track can be seen on upper LHS of picture.



Plate 9. Looking east across project site from fixed dune* habitat: exposed sand and erosion where proposed path and existing agricultural track meet boardwalk (LHS of picture).



Plate 10. Looking northwest from fixed dune, across the Bradoge stream across to embryonic and mobile dunes: Site for proposed bridge and boardwalk onto the beach.



Plate 11. Looking northeast. Top of existing access to be blocked off with stones/embankment and fence.



Plate 12. Looking southwest. Bottom of existing access to be blocked off with stones.

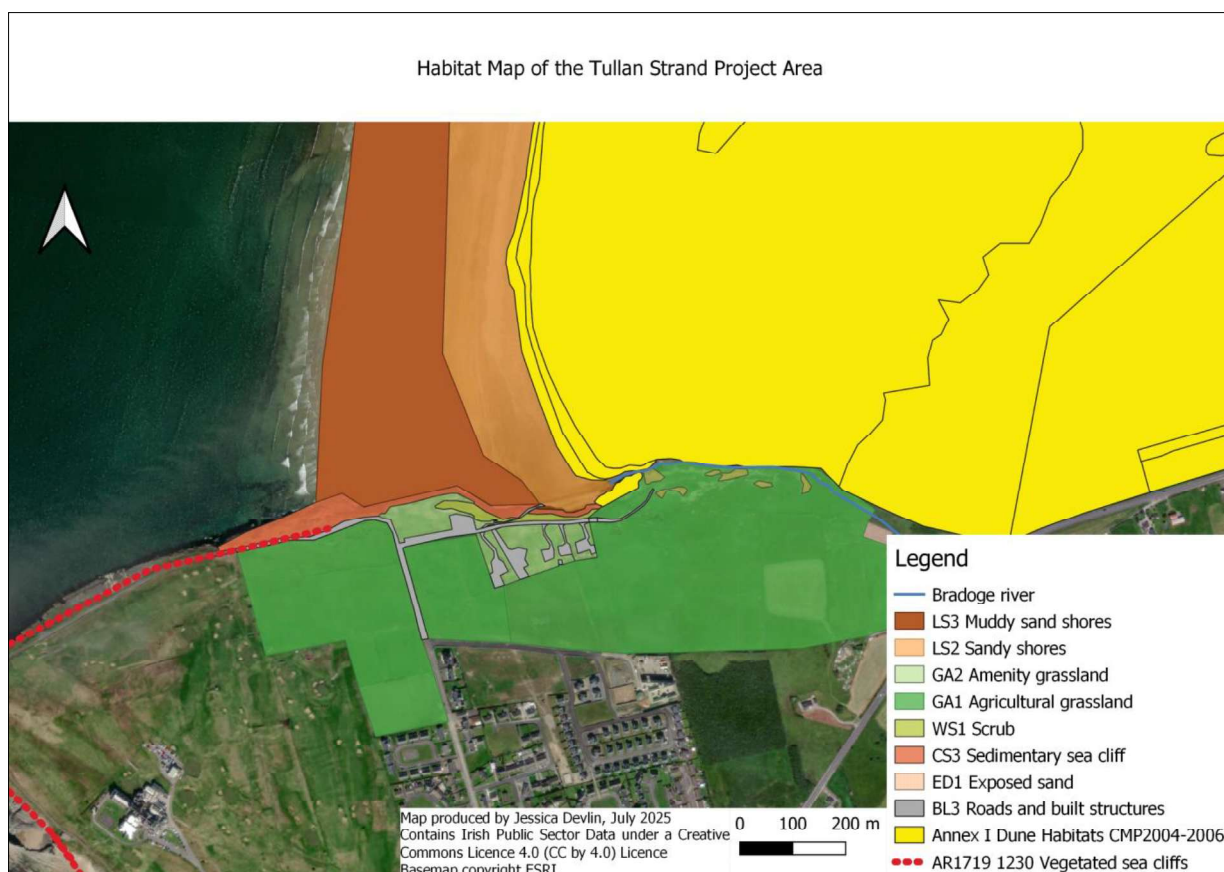


Figure 7.2 Habitat map of project area and surrounds, including Article 17 and coastal monitoring project data.

7.3 Fauna Survey Results

There were no obvious signs noted in the survey area of any protected species. Rabbits were seen in the vicinity of the proposed boardwalk location, with burrows evident.

7.4 Bat Survey Results

Bats, and their breeding and resting places, are protected under the Wildlife Acts. All bat species are also listed on Annex IV of the EU Habitats Directive, the Lesser horseshoe bat also listed on Annex II. All species of bats in Ireland are listed as “least concern” in the Ireland Red List No. 12: Terrestrial Mammals (Marnell et al, 2019). The habitat is likely to support a variety of bat species, including widespread species such as common pipistrelle (*Pipistrellus pipistrellus*) and soprano pipistrelle (*Pipistrellus pygmaeus*) and species that favour open landscape in which to forage, such as Leisler’s (*Nyctalus leisleri*). Daubenton’s bat (*Myotis daubentonii*). Due to the lack of substantial areas of woodland in the vicinity, bats such as brown long-eared bat (*Plecotus auritus*) and Natterer’s bat (*Myotis natterii*) that favour woodland would not be expected to be present at any great density.

Autumn/Winter bat survey results

Bat emergence survey

During the first bird survey on 18th October 2024, the survey ended around dusk and the opportunity was taken to observe the cliff at bat emergence time and record any bats flying. A Common Pipistrelle was noted foraging over the vegetation of the cliff, roadway and surrounding farmland boundary’s.

During the bat dusk survey of the 29/10/2024 Leisler’s bat (*Nyctalus leisleri*) and Soprano Pipistrelle (*Pipistrellus pygmaeus*), see Fig 4 and 5 of Appendix 3, were noted. The Leisler’s bat appeared from the east

and foraged up and down over the small stream area and sometimes down as far as the sea along the cliff top. The Pipistrelle briefly foraged above the cliff before the end of survey. No emergence from the cliff area was observed.

Song Meter Results

Four species of bat were recorded on the Song Meter placed along the cliff at Tullan Strand.

Common Pipistrelle, Soprano Pipistrelle, Leisler's and Daubenton's bat (*Myotis daubentonii*). The Daubenton's activity was very brief – a single pass on the 02/11/2024 and the 04/11/2024.

Summary

Four species of bat were recorded in October 2024 along the cliff at Tullan Strand. Common Pipistrelle, Soprano Pipistrelle, Leisler's and Daubenton's bat. The first three of these species of bat appear to regularly use the area as foraging grounds. See appendix 3 for full survey report.

The site would be considered locally important (Higher level) for Bats.

7.5 Birds (excluding waterbirds)

All of the birds listed on the Official Irish List are protected under both the EU Birds Directive [2009/147/EC] and the Wildlife Acts 1976. Breeding bird surveys were completed on Between March and May inclusive.

See Table 7.1 for results of breeding bird surveys from three site visits. Included are numbers present, any breeding behaviour observed and their conservation status in Birds of Conservation Concern Ireland (BOOCI) which includes Green, Amber or Red listed. For the purposes of this report a confirmed breeding bird record is any bird observation that falls under the following:

- A singing male
- A pair observed in suitable nesting habitat
- A singing male recorded in the same location over two or more surveys within a single breeding season
- An adult carrying food, a faecal sack or nesting material
- A displaying bird
- Recently fledged young
- Adults entering a nest site.

Unconfirmed or non-breeding birds are birds recorded on site but that were not observed showing any of the above behaviour.

Birds recorded on the site included:

Species	Species code	11/03/2025	25/03/2025	15/04/2025	13/05/2025	Total across survey season	largest group observed	conservation status
Ringed Plover	RP				1	1	1	Amber
Stonechat	SC	1		2		3	1	Green
Pied Wagtail	PW				1	1	1	Green
Common	CM			5	2	7	5	Amber

Gull								
Twite/Linnnet	TW/LI	8				8	8	Red/Amber
Chough	CF		4	4	1	9	2	Amber
Rook	RO		6	2	7	15	5	Green
Buzzard	BZ		1			1	1	Green
Herring gull	HG		2	3	1	6	3	Amber
Meadow Pipit	MP	2	4	2	4	12	4	Red
Hooded Crow	HC		3			3	2	Green
Jackdaw	JD	12	9	2	9	32	12	Green
Magpie	MG	2	2			4	2	Green
Sand Martin	SM		4	4	15	23	10	Amber
Skylark	S.		1	1		2	1	Amber
Rock Pipit	RC		1		1	2	1	Green
Mute Swan	MS			2		2	2	Amber
Cormorant	CA				1	1	1	Amber
House sparrow	HS				1	1	1	Amber

Table 7.1 Breeding Bird Survey results

19 species were recorded across all visits. No breeding waders were present on either survey visits.

Of the 19 no. species 9-10 were amber and 1-2 was red listed. Of these, only 4 were recorded showing potential breeding behaviour.

These included amber listed:

Common gull which was seen at a possible nesting site at the cliff;

Sand Martin which have nests along the cliff face below the road and

Chough; a pair of which was travelling from across the boardwalk field to the cliff regularly

And Red listed:

Meadow pipit was seen displaying in the boardwalk field and around the dune area.

All bird species were recorded during the winter surveys also, see table 7.2.

Species	Spec ies code	Scientific name	18/09 /2024	22/10 /2024	29/10 /2024	05/11 /2024	11/12 /2024	15/01 /2025	07/02 /2025	27/02 /2025	Conser vation status
Robin	R	<i>Erithacus rubecula</i>	2		1			1			Green
Stonechat	SC	<i>Saxicola rubicola</i>	1		1		1	2		1	Green
Pied Wagtail	PW	<i>Motacilla alba yarrellii</i>	1	1	1	1	2	1		2	Green
Raven	RN	<i>Corvus corax</i>		1							Green
Twite/ Linnet	TW/ LI	<i>Linaria flavirostris/ Linaria cannabina</i>		4							Red/A mber
Rook	RO	<i>Corvus frugilegus</i>		1				1		4	Green
Buzzard	BZ	<i>Buteo buteo</i>		1			1		1		Green
Wren	WR	<i>Troglodytes troglodytes</i>			1						Green
Meadow Pipit	MP	<i>Anthus pratensis</i>			1				2	2	Red
Hooded Crow	HC	<i>Corvus cornix</i>				1	2	3	2	1	Green
Jackdaw	JD	<i>Coloeus monedula</i>						6	3	4	Green
Magpie	MG	<i>Pica pica</i>								1	Green

Table 7.2 Winter - Other birds, survey results

Numbers are generally low and all species recorded with the exception of 2 were green conservation status. Red/Amber listed Twite/Linnet were seen in Finner dunes and Red listed Meadow Pipit was recorded in the dune area, cliff and around the location of the proposed boardwalk. The site is considered **Local importance (Higher value)** for other birds (excluding waterbirds).

8.0 Assessment of effects and mitigation measures

As per CIEEM and NRA guidelines (CIEEM, 2024 and National Roads Authority, 2009), ecological resources of Negligible or 'Local Importance (Lower Value)' were not 'Important ecological features' and have been scoped out from further impact assessment. Table 9.1 details the ecological valuation of habitats and possible ecological effects of the project and the significance of same. Some habitats will not be impacted by the proposal at all; all others will be impacted at a local level only

8.1 Natura 2000 and proposed National Heritage Sites (pNHA)

A Natura Impact Statement has been prepared as part of the planning application process.

8.1.1 Potential impacts pertain to the construction and operational phases of the project.

Construction and operation:

- Habitat degradation due to hydrological impacts via surface water: Deterioration of water quality caused by run-off and pollution, during construction, that may lead to Donegal Bay.
- Habitat degradation due to noise and disturbance: it is uncertain whether waterbird species (including Light-bellied Brent Goose) may at times use habitats situated within the immediate hinterland of Donegal Bay SPA or in areas ecologically connected to it.
- Habitat fragmentation The location of the facilities may block or cause species to avoid using preferred hinterland habitat.
- Reduction in species if SCI birds were injured or unable to feed
- Habitat degradation due to the introduction and spread of invasive alien plant species and
- In combination effects.

8.1.2 Mitigation Measure for Natura 2000 sites and pNHAs

A full suite of mitigation measures can be seen in the NIS.

Key mitigation during the construction phase includes the development of a Construction and Environmental Management Plan, and includes biosecurity measures. During the operational phase a waste water management system has been proposed to pump waste water to the mains system. A back up pump, additional storage volume, and alarms are proposed. Surface water with the potential for contamination will be diverted to a hydrocarbon / grit interceptor before release to ground. A full description of mitigation measures is available in the Natura Impact Statement and Construction and Environmental Management Plan submitted with the planning application.

8.1.3 Residual effects Natura 2000 sites

In light of the mitigation measures proposed in the NIS residual impacts pertaining to the construction and operational phases of development are not anticipated.

The NIS concludes:

Following an examination, analysis and evaluation in light of best scientific knowledge, of all relevant information in respect of the qualifying interests of Donegal Bay SPA, the potential impacts, and whether or not the predicted effects would affect the conservation objectives that support the conservation condition of the SCIs, it has been concluded that the proposed development does not pose a risk of adversely affecting (either directly or indirectly) the integrity of Donegal Bay SPA.

Erne Estuary/Finner pNHA will also be protected by the mitigation proposed in the NIS. Dune habitats will be discussed further in section 9.2.

8.2 Habitats and flora

Potential effects of habitat loss, on habitats and flora can be seen in table 9.1

8.2.1 Potential impacts

Habitat loss/degradation due to the introduction or spread of the invasive alien plant species

Habitat degradation due to boardwalk construction and dune management

Direct loss of Stone wall and other stone work- BL1, Scrub - WS1 and Improved agricultural grassland -GA1.

The project proposals has been chosen and designed to avoid as much as practicable any sensitive habitats in the area see figure 8.1 and to minimise potential impacts.

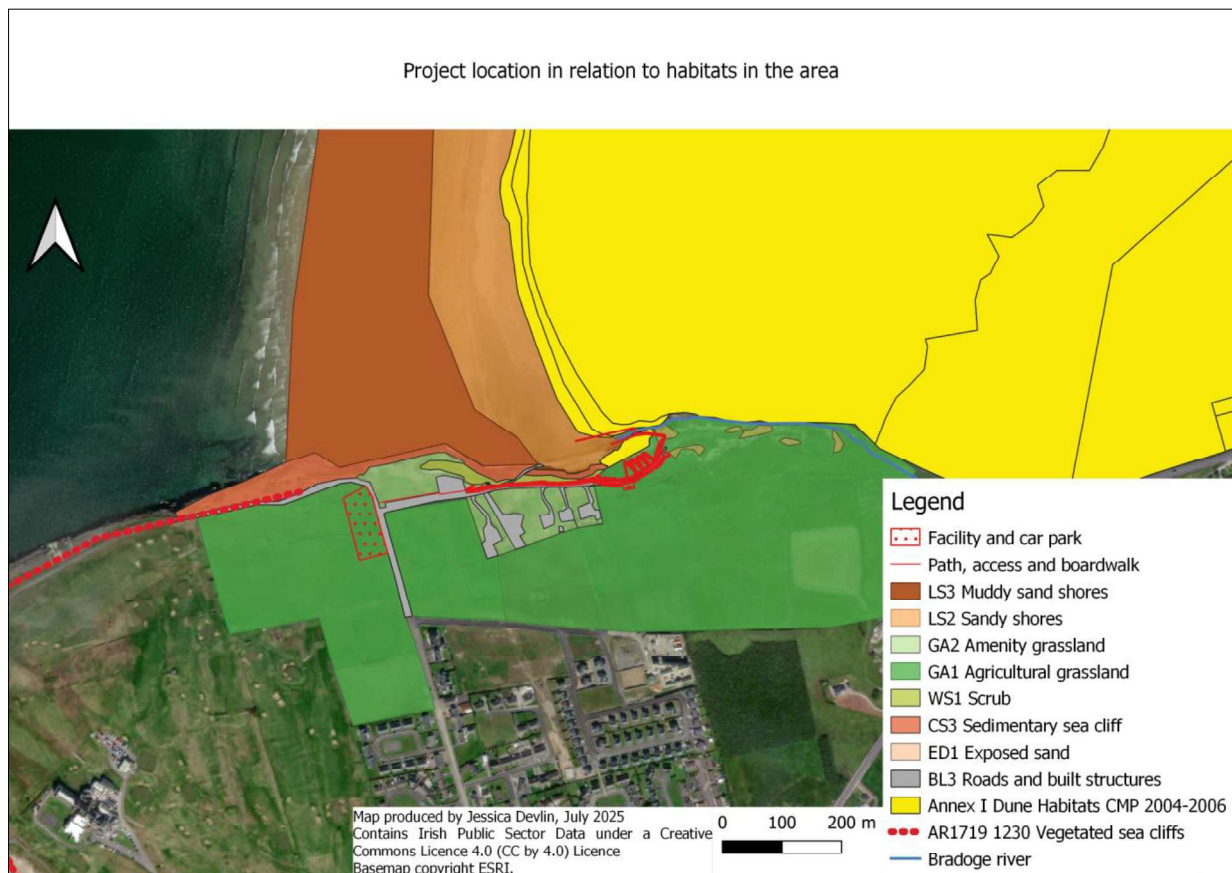


Figure 8.1 Project location in relation to habitats in the area.

Potential effects of habitat loss, on habitats and flora can be seen in table 8.1

Ecological Receptor	Ecological Valuation within ZOI	Important Ecological Feature?	Extent lost	Impact significance Scale
Habitats - Fossitt Code				
FW2 Bradoge stream / Drain	Local importance (Higher value)	Yes	None Lower reach of the stream spate stream often dry.	Not significant
CS3 Sedimentary sea cliff	Local importance (Higher value)	Yes	None	Not significant
LS3 Muddy sand shores	Local Importance (Higher value)	Yes	None anticipated. Occurs outside project boundary. However indirect loss due to pollution could occur.	Local
LS2 Sand shores	Local Importance (Higher value)	Yes	None anticipated. Occurs outside project boundary. However indirect loss due to pollution could occur.	Local
WS1 Scrub	Local Importance (Higher value)	Yes	Very small area potentially at risk of loss along the top of cliff during path works. This may be supporting habitat for birds.	Local
GA2 Amenity Grassland	Local importance (Higher value)	Yes	None	Not significant.
Improved agricultural grassland - GA1	Local importance (Higher value)	Yes	c. 1.5 acres.	Local
Stone wall and other stone work- BL1	Local importance (Higher value)	Yes	c.20m of stone wall in facility field to be removed. New stone wall to be constructed along path.	Local - negative and positive respectively.
CD3* Fixed dunes	International importance	Yes	No direct loss anticipated, however indirect loss possible due to inappropriate construction methods or the importation of IAPS.	Local
CD2 Marram dunes	International importance	Yes	No direct loss anticipated,	Local

			however indirect loss possible due to inappropriate construction methods or the importation of IAPS.	
CD1 Embryonic Dunes	International importance	Yes	No direct loss anticipated, however indirect loss possible due to inappropriate construction methods or the importation of IAPS	Local
MW1 Open Marine Water	Local Importance (Higher Value)	Yes	None anticipated. Occurs outside project boundary. However indirect loss due to pollution could occur.	Local
Fauna				
Bats	Local Importance (Higher value)	Yes	Not anticipated due to the final decision re location of the path. Additional lighting in car park may have minor effects.	Local
Birds				
Wintering Birds	Local Importance (Higher Value)	Yes	Potential for disturbance or loss of hinterland habitat. Mitigation proposed in NIS.	Local temporary
Other Birds	Local Importance (Higher Value)	Yes	Potential for disturbance to nesting grounds.	Local

Table 8.1 Potential effects of habitat loss, on habitats and flora assessment of significance

The proposed development will result in the direct loss of areas of the following habitat types: Scrub WS1, Stone wall and other stone work - BL1, Improved agricultural grassland – GA1.

The proposed development has potential to result in indirect habitat loss/degradation of the following habitat types: Muddy sand shores – LS3, Sand Shores - LS2, Open Marine Waters – MW1, Fixed Dunes - CD3*. Marram dunes - CD2 and Embryonic Dunes - CD1.

The proposed development has the potential to cause a reduction in habitat area for bats and birds (excluding wintering waterbirds).

8.2.2 Mitigation measures to avoid habitat loss

Construction and operation measures as for Natura 2000 sites are proposed; see NIS and Construction and Environmental Management Plan. See section 8.9 for summary table.

8.3 Habitat loss/degradation due to the introduction or spread of the invasive alien plant species

Biosecurity – Avoiding introduction or spreading of non-native invasive plant species

Construction and operation

Planting, dispersing, or allowing/causing the dispersal, spread or growth of certain non-native plant species is controlled under Article 49 of the European Communities (Birds and Natural Habitats) Regulations, 2011; and refers to plant or animal species listed on the Third Schedule of those regulations.

When importing materials from outside a site there is always a risk of importing unwanted elements such as seed or spores from invasive plants for example, Japanese knotweed or Rhododendron. The accidental spread of non-native invasive plant species as a result of construction works has the potential to impact upon terrestrial habitats within and immediately adjacent to the proposed development boundary; potentially affecting plant species composition, diversity and abundance over the long-term.

The vectors and pathways by which non-native invasive species are transported are many, and result from the diverse array of human activities which operate over a range of scales. Primary introductions often result from the accidental transport, for example visiting equipment. Secondary introductions result from the expansion of a species from the initial place of establishment. Secondary spread will normally include a wider range of vectors that may act either separately or together (Stokes et al., 2004).

Invasive species can pose a risk to our ecosystems and biodiversity and are hard to remediate and eradicate.

8.3.1 Mitigation measures - Habitat degradation due to the introduction/spread of the invasive species

Biosecurity – Avoiding the introduction or spreading of non-native invasive plant and animal species

None of the plant species on the Third Schedule were recorded within the project site.

Measures will be taken to ensure imported material is clear of contaminants and comes from a known reliable source, by using certified suppliers, requesting information on origin, carrying out visual inspection, obtaining source certification, and independent laboratory testing if there is any suspicion of contamination. Machinery, equipment and footwear will be cleaned prior to entering the site and will be checked on entering the site for plant material.

Any plant or machines to be used in the project area will be washed down at a designated offsite location prior to mobilising. All machinery, equipment, footwear will be inspected for attached plant material before entering or leaving. If found, it will be removed before entering the area, and disposed of carefully and will not be discarded in or around the site. This is particularly important for works taking place in the dune areas.

8.3.2 Residual effects - invasive species

Implementation of biosecurity measures will protect all habitats from introduction and spread of Invasive alien plant species. Following the implementation of mitigation measures outlined the proposed development poses no risk of affecting the conservation objectives, or the conservation condition, of the habitats or species in Erne Estuary/ Finner pNHA. There are no residual direct or indirect impacts that could adversely affect the integrity of the pNHA.

8.4 Habitat degradation due to boardwalk construction and dune management

Annex I Dune Habitats

Sand dunes provide natural coastal protection against storm surge and high waves and help prevent or reduce coastal flooding and structural damage to properties behind them. Flowering plants and ground-nesting birds call the dunes their home. The preservation and strengthening of natural coastal defences, such as sand dune systems, plays an important role in increasing our coastal resilience to the impacts of climate change.

The vegetation on dunes is an essential feature in maintaining stability of the dune system. Damage to this vegetation caused by beach users treading a common path is sufficient to cause extensive instability over a large area due to the creation of vulnerable erosion routes. Recreational activities such as pedestrian traffic and, horse riding can seriously damage dune vegetation and increase the rate of sand loss through wind erosion. This loss of sand reduces the overall mass of the beach and sand dune system which acts as a buffer to the sea.

Pedestrian traffic resulting in the trampling of vegetation is the most widespread form of damage to dune systems caused by human activities. Sand dunes that are subjected to unmanaged access can experience severe vegetation damage followed by soil and sediment erosion. Networks of informal paths cause erosion and can be enlarged by the wind, eventually forming gullies and blow outs. Blowouts typically advance through various stages of development from erosional notches and hollows, to early blowouts, to large blowouts and then potentially to re-vegetating and stabilised blowouts. Where necessary, vegetation cover should be maintained either by keeping people out of the dunes or by appropriate infilling and replanting options.

Paths across the top of dunes are most at risk where wind speeds are higher and path slopes often steeper.

8.4.1 Mitigation measures - Habitat degradation due to boardwalk construction and dune management

Works will be done by hand as much as is practicable. Tracked machinery should not be used in the dune system. If this is unavoidable, matting will be placed along the route for the machines to protect the dunes as much as possible.

Any damaged areas will be reinstated and planted with Dune grass / marram as appropriate.

The dune area around the new path and boardwalk will be fenced with split hazel fencing to deter movement from the path through the dunes. The fencing will extend along the path and boardwalk and extend along the dunes at the beach to encourage visitors to use one route only. The exit from the beach will be clearly marked.

Information and Education panels will be erected around the project area.

Maintenance

The maintenance of suitable sand binding vegetation to support the natural dune building and repair processes to prevent wind erosion damage is an ongoing effort. This also involves the control of problem plants and animal pests to eliminate any potential invasive species before they become widespread.

8.4.2 Residual Impacts Habitat degradation due to boardwalk construction and dune management

Mitigation proposed during works in the dunes will protect the dunes from unnecessary damage. Any damaged areas will be reinstated. Once the boardwalk is in place it will protect the wider dune system from trampling and further degradation resulting in a positive residual impact.

Following the implementation of mitigation measures outlined the proposed development poses no risk of affecting the conservation objectives, or the conservation condition, of the habitats or species in Erne Estuary/ Finner pNHA. There are no residual direct or indirect impacts that could adversely affect the integrity of the pNHA.

8.5 Other habitat loss/ degradation

There will be direct habitat loss of small areas of Stone wall and other stone work- BL1, Scrub - WS1 and Improved agricultural grassland -GA1. This loss will be permanent.

Indirect habitat loss, if it occurs, will be temporary.

Muddy sand shores – LS3, Sand Shores - LS2, Open Marine Waters: These habitats that have potential to be indirectly affected, coincide with those protected under the Habitats Directive, impacts relate to water pollution from run-off from the site, and degradation of habitat from same.

8.5.1 Mitigation Measures other habitat loss/degradation

Implementation of mitigation measures in the CEMP and NIS will negate the effects; there will be no residual effects on Muddy sand shores – LS3, Sand Shores - LS2, or Open Marine Waters - MW1.

8.5.2 Residual impacts on other habitats

Direct habitat loss, if it occurs, will be permanent; however none of the habitats directly affected by the proposed development are considered to be any greater than of local biodiversity importance (higher value). These habitats are common around Tullan and the surrounding area; even if habitat loss occurred in combination with other loss of habitat of a similar type, effects would remain significant at a local level only. The conservation status of habitats will not be affected.

8.6 Impacts on other fauna

Vegetation clearance and removal of remnants of stone walls could disturb populations of a host of other species which are protected (along with their breeding or resting sites) from intentional disturbance, or injury. If present, potential impacts would collectively be unlikely to exceed the Local geographic scale of significance, due to the favourable conservation status and widespread distribution of likely species concerned.

8.6.1 Mitigation measures other fauna

All construction pits and trenches will be covered outside of construction hours to avoid animals becoming trapped within and injured and/or killed.

Machinery and equipment will be made safe, or cordoned off with temporary fencing at the end of the working day.

If any burrows or nests are present along the proposed route they will be monitored and checked for activity prior to works in order to avoid injuring or killing animals or young.

8.6.2 Residual impacts on other fauna

Vegetation clearance and removal of remnants of stone walls could disturb populations of a host of other species which are protected (along with their breeding or resting sites) from intentional disturbance, or injury. If present, potential impacts would collectively be unlikely to exceed the Local geographic scale of significance, due to the favourable conservation status and widespread distribution of likely species concerned.

8.7 Bats

Potential effects of habitat loss and fragmentation:

The site is a wide open space devoid of trees. The proposed development will not result in physical fragmentation of suitable foraging habitat.

Appropriate lighting for any site is crucial in terms of keeping an area as dark as possible for foraging and commuting bats and birds and for minimising light pollution in general.

Bats are not blind, and if there is too much light, their vision can be reduced, resulting in disorientation and interruption of foraging. This is especially the case for *Myotis* bats which were recorded at this site. Increased illumination of a site can affect how bats may utilise a site. For roosting bats, increased light levels can affect predation, as avian predators tend to rely on vision to catch their prey, and increased light levels at night time may increase bats vulnerability to predation (ILP, 2018). Illumination of foraging and commuting habitat can result of abandonment of habitat.

The introduction of artificial lighting around the car park, may reduce the suitability of the site for foraging and commuting bats. Bats are light-sensitive species; some are more susceptible than others with Lesser Noctule (*Nyctalus Leisleri*), Common Pipistrelle (*Pipistrellus pipistrellus*) and Soprano Pipistrelle (*Pipistrellus pygmaeus*) appearing to be least affected by lighting (Roche et al., 2014).

The car park area is already lit by street lighting; additional lighting may have the potential to cause minor impacts during construction and operational phases. Taking the precautionary approach, mitigation is proposed.

8.7.1 Measures to avoid habitat loss and fragmentation

Lighting

Guidelines for lighting shall be used from the following sources:

Bat Conservation Trust: This document can be downloaded free from the ILP website: <https://www.theilp.org.uk/documents/guidance-note-8-bats-and-artificial-lighting/>

Bat Conservation Ireland https://www.batconservationireland.org/wp-content/uploads/2013/09/BCIrelandGuidelines_Lighting.pdf.

The following measures will be implemented:

The avoidance of direct lighting on trees, hedges shrubs, wildlife corridors such as stone walls. Directional lighting: lighting only at the intensity and direction it is needed, to direct light spill away from habitat will be used.

The avoidance of direct lighting on trees, hedges shrubs, wildlife corridors such as stone walls. Directional lighting: lighting only at the intensity and direction it is needed, to direct light spill away from habitat will be used.

Height of permanent lighting columns in new car park: Height of light masts will be minimised; masts will be below 3 m high.

All lights shall lack UV elements. Low-pressure sodium lights will be used in preference to high pressure sodium lights or mercury lamps. If mercury lamps are to be used, ultraviolet (UV) filters will be fitted.

Duration of lighting: Lights will only be on when in use or for health and safety purposes. The use of timers and sensors are ways of controlling this. Motion sensitive lighting where appropriate will be used.

8.7.2 Residual effects of habitat loss and fragmentation on Bats

Following the implementation of measures to avoid effects of habitat loss, residual effects will remain in terms of habitat loss, however these will be significant a local scale only and will not impact on the conservation status of the species.

There is no potential for other effects in relation to bats. There is no lighting proposed along the boardwalk and new path.

8.8 Birds (excluding waterbirds)

Protected waterbirds have been assessed separately in the Natura Impact Statement.

Potential effects of bird habitat loss, disturbance injury /mortality of potentially breeding birds:

Meadow pipit are red listed and, based on results, it is estimated that the site supports 1-2 breeding pairs. Sightings were all recorded in and around the wider area of the boardwalk field and dunes. Whilst the proposed development would result in a loss of for this species, the habitat is relatively common along the coastline in the local landscape, and the project in this area is low impact and very small scale. The project will also only reduce the habitat slightly, it will not remove all of their territory. Meadow pipit is a very widespread breeding species in Ireland, with around 500,000 to 1,000,000 pairs. Found in a wide variety of habitats bogs, uplands and areas of scrub and pasture. Therefore the loss of a small area of habitat as a result of the proposed development does not represent a significant loss in a local context. However, damage or loss of nests, eggs or young during construction works could also occur.

Common gull which was seen at a possible nesting site at the cliff will not be impacted by the footprint of the facility and will not experience any significant effects from the proposal.

Sand Martin which have nests along the cliff face below the road do have the potential to be disturbed if works were to occur during breeding season. The nest site is directly below the existing access road which will be improved and a footpath constructed. Loud activities with the potential to cause vibration could cause nesting birds to abandon nests. After completion the site will not be visible from above and it is unlikely that birds will be deterred from their nesting sites during the operational phase of the project.

Chough nesting sites / locations were not identified within the project location. Chough are likely to breed in the wider area and were seen foraging and travelling from behind the around the project location out to the cliff area. Activities are unlikely to affect Chough significantly.

Non breeding species recorded, use the project site as foraging habitat, likely breeding within the local surrounding lands. During the construction phase there may be short term displacement and disturbance of birds due to noise and increased human presence at the site. During operation there will be increased human presence on an ongoing basis, this is the case at present, and will not be significant at any level.

There will be very little change to the surrounding environment, and activity in the area will not change significantly. The boardwalk and path will introduce more people to the dune area and the field behind, users will be contained within the confines of the access route and dune systems fenced off thereby offering protection to any breeding/other birds in the dunes e.g. red listed twite/ amber listed Linnet. The relocation of the path from the cliff will also move disturbance away from the cliff area. Grassland habitat is plentiful in the immediate area; therefore this habitat feature will remain as foraging source for birds in the local area.

Other effects on birds pertain to the increased lighting within the site.

8.8.1 Mitigation measures to avoid bird habitat loss

Construction of the path and boardwalk will only be carried out during the period from September 1 to March 1 to avoid bird breeding season. If it is not possible to adhere to this, a preconstruction survey will be undertaken by a suitably qualified ecologist prior to works (this will include earthworks as some birds may nest in grass within the site.) This is of particular importance with regard to Meadow Pipit and Sand Martin nests, as these are the most likely to be impacted.

Where surveys determine no nests are present, works must proceed within 72 hours or further surveys will be required.

If a nest is found, it will be clearly marked and a buffer zone established around it, and left until fledglings have left.

Alternatively if the nest has to be removed a derogation licence will be required from NPWS.

Mitigation Measures listed for bats in terms of lighting will also negate any indirect impacts for birds using the site, see section 8.7.

8.8.2 Residual effects on birds (excluding waterbirds)

Construction will be temporary, suitable habitat is plentiful around the immediate area for any temporarily displaced birds, loss of habitat for Meadow pipit as a result from the proposed development does not represent a significant loss in a local context. Residual effects on bird species that utilise the site specific habitat are not likely to be significant at any scale.

Operation: Birds are adaptable and are known to reside in busy urban settings. Residual effects will not be significant at any scale.

The conservation status of birds will not be affected.

8.9 Summary Mitigation Measures

The project has been designed in cognisance of the SPA and pNHA adjacent to the site. A number of in-design/avoidance mitigation has also been incorporated into the project. Mitigation measures in this report have been included in the NIS to ensure consistency across the project, see tables 8.2 and 8.3. A full suite of mitigation measures can be seen in Table 7 of the Construction and Environmental Management Plan for the project, these will provide mitigation of ecological impacts also.

In-design mitigation / avoidance:

A construction and environmental management plan has been developed which includes a suite of mitigation measures including biosecurity measures.

The least impactful construction method and route for the path and boardwalk has been chosen, these for the most part are outside of the pNHA and completely outside of the SPA. The area chosen has also already been subject to trampling and construction.

Proposals provide visitor management, by directing the flow of visitors onto the beach, while protecting the dunes from trampling, and by extension protecting wildlife using the dunes for foraging or breeding.

The boardwalk design uses sustainable materials that will be durable and long lasting. The boardwalk will be raised above the dunes to reduce shading as much as possible and constructed manually.

In the car park precipitation falling on hard ground will be treated by hydrocarbon/grit interceptors before release to ground. These are fitted with alarms in case of malfunction. Elsewhere precipitation will permeate to ground.

Back up pumps as well as in-situ and remote alarms for wastewater treatment facilities are proposed, which will connect to the mains system.

The tourism centre is placed within an existing tourism setting along the popular Rougey walk and near existing car parking facilities.

Preconstruction survey	Location	Survey objective	Survey timing/seasonality	Licence required for survey?	Specification for surveyors
Nesting Birds Only necessary if works cannot be avoided March - Aug inclusive	Dunes, cliff, agricultural land and any stone walls marked for removal	Determine if nests present. Set up exclusion zones. Apply for licence for removal of nests if required.	March - August inclusive (where no nests present works must proceed within 72 hours otherwise re-survey required).	Yes, if nests are to be removed.	Ferguson Lees <i>et al.</i> , 2011
Other fauna	Any burrows or nests are present within the project footprint	Monitor and check for activity prior to works in order to avoid injuring or killing animals or young.	All year	No	Qualified ecologist

Table 8.2 Preconstruction surveys

Source	Pathway	Receptor	Mitigation Measure
Importation of Invasive species	Importing materials	Donegal Bay SPA Waterbirds Wetland/Marine habitat Foraging grounds Dune Habitats	When importing materials from outside a site there is always a risk of importing unwanted elements such as seed or spores from invasive plants for example, Japanese knotweed or Rhododendron. Measures will be taken to ensure imported material is clear of contaminants and comes from a known reliable source, by using certified suppliers, requesting information on origin, carrying out visual inspection, obtaining source certification, and independent laboratory testing if there is any suspicion of contamination. Any plant or machines to be used in the project area will be washed down at a designated offsite location prior to mobilising. All machinery, equipment, footwear will be inspected for attached plant material before entering or leaving. If found, it will be removed before entering the area, and disposed of carefully and will not be discarded in or around the site.
Construction of boardwalk	Damage to dune habitats	Annex I habitats	Works will be done by hand. No tracked machinery will be used in the dune system. If this is unavoidable matting will be placed along the route for the machines to protect them as much as possible. Any damaged areas will be reinstated and planted as appropriate, in consultation with NPWS. The dune area around the new path and boardwalk will be fenced with split hazel fencing to deter movement from the path through the dunes. The fencing will extend along the path and boardwalk and extend along the dunes at the beach to encourage visitors to use one route only. The exit from the beach will be clearly marked. Information and Education panels will be erected around the project area. Maintenance and monitoring of the dune system for invasive species.
Construction of path and boardwalk	Noise and disturbance loss of breeding habitat	Breeding birds	Works on the path and boardwalk will take place during the winter months to avoid disturbing nesting birds. This is of particular relevance to the path above the cliff area, which is above a sand martin nesting site, and the dune area which is Meadow pipit territory. If works in the summer season is unavoidable a breeding bird survey will be undertaken to determine if active nests are present. (See pre construction survey table).
Construction site/excavations	Injury, mortality	Terrestrial Habitat – mammals	All construction pits and trenches will be covered outside of construction hours to avoid animals becoming trapped within and injured and/or killed. Machinery and equipment will be made safe, or cordoned off with temporary fencing at the end of the working day.
Lighting	Loss or fragmentation of foraging habitat	Birds Bats	Guidelines for lighting shall be used from the following sources: Bat Conservation Trust: This document can be downloaded free from the ILP website: https://www.theilp.org.uk/documents/guidance-note-8-

Source	Pathway	Receptor	Mitigation Measure
			bats-and-artificial-lighting/ Bat Conservation Ireland https://www.batconservationireland.org/wp-content/uploads/2013/09/BCIrelandGuidelines_Lighting.pdf. The following measures will be implemented: The avoidance of direct lighting on trees, hedges shrubs, wildlife corridors such as stone walls. All lights shall lack UV elements. Low-pressure sodium lights will be used in preference to high pressure sodium lights or mercury lamps. If mercury lamps are to be used, ultraviolet (UV) filters will be fitted. Directional lighting: lighting only at the intensity and direction it is needed, to direct light spill away from habitat will be used. Height of lighting columns in new car park: Height of light masts will be minimised; masts will be below 3 m high. Duration of lighting: Lights will only be on when in use or for health and safety purposes. The use of timers and sensors are ways of controlling this. Motion sensitive lighting where appropriate will be used.

Table 8.3 Ecological Impact Assessment mitigation measures table (See also Table 7 of CEMP for full suite of mitigation measures).

9.0 Conclusions

The assessment, presented in the NIS, of the potential for the proposed development to impact upon Donegal Bay SPA, concluded that, with the implementation of the mitigation measures proposed, the proposed development does not pose a risk of adversely affecting (either directly or indirectly) the integrity of those Natura 2000 sites, or any other Natura 2000 site, either alone or in combination with any other plans or projects.

In the absence of mitigation, the proposed development has the potential to result in significant negative effects on nationally designated areas for nature conservation adjacent to the proposed development site due to the potential for effects on the receiving dune environment.

In the absence of mitigation, the proposed development has the potential to affect habitats indirectly as a result of hydrological and non-native invasive species impacts. It also has the potential to result in negative effects on Breeding birds at a local level.

The proposed development will result in other small areas of habitat loss within the proposed development boundary but the effects of this loss will be at the local level only.

A comprehensive suite of mitigation measures is proposed, as well as measures that have been incorporated into the Construction and Environmental Management Plan, which are being submitted with the planning application for the proposed development.

Considering the elements included within the design of the proposed development and the implementation of the mitigation measures proposed to avoid or minimise the effects of the proposed development on the receiving ecological environment, minor residual ecological effects will remain for habitats and bats, albeit at the local scale only.

It can be concluded that the conservation status of habitats or species will not be compromised by the proposed development.

10.0 Sources / References

A. F. Brown & K. B. Shepherd (1993) A method for censusing upland breeding waders, *Bird Study*, 40:3, 189-195

Aughney, T., Kelleher, C. & Mullen, D. (2008) Bat Survey Guidelines: Traditional Farm Buildings Scheme. The Heritage Council, Áras na hOidhreachta, Church Lane, Kilkenny.

Bat Conservation Ireland (2015) *Bats & Bat Boxes: Guidance Notes for Agri-environmental Schemes*. August 2014. Updated January 2015. Available online at https://www.batconservationireland.org/wp-content/uploads/2015/05/BCIrelandGuidelines_BatBoxes.pdf

CIEEM (2017) Guidelines for Preliminary Ecological Appraisal, 2nd edition. Chartered Institute of Ecology and Environmental Management, Winchester

CIEEM (2018) Guidelines for Ecological Impact Assessment in the UK and Ireland. Chartered Institute of Ecology and Environmental Management, Winchester, UK.

Collins, J. (2016) Bat Surveys for Professional Ecologists: Good Practice Guidelines. 3rd edition. Bat Conservation Trust, London.

Cutts, N., Phelps, A. and Burdon, D. (2009) *Construction and Waterfowl: Defining Sensitivity, Response, Impacts and Guidance. Report to Huber INCA*. Institute of Estuarine and Coastal Studies, University of Hull.

Donegal County Council (2018) *County Donegal Development Plan 2024-2030*. Available online at www.donegalcoco.ie

Early J, McDowell S, Caffrey J, O'Callaghan D, Meenan K, Toomath C, Ferguson-Lees, J., Castell, R., & Leech, D. (2011). A field guide to monitoring nests. British Trust for Ornithology, The Nunnery, Thetford

Environmental Protection Agency (2017) Guidelines on the information to be contained in Environmental Impact Assessment Reports. Draft, August 2017.

European Commission (2013) *Interpretation Manual of European Union Habitats*. EUR 28 April 2013. Available online from the European Commission website at: https://ec.europa.eu/environment/nature/legislation/habitatsdirective/docs/Int_Manual_EU28.pdf

Fitzsimons B & Kelly J (2009) Field Guide to Invasive Species in Ireland. 2nd Edition. NIEA

Fossitt, J.A. (2000) A Guide to Habitats in Ireland. Heritage Council, Kilkenny

Goodship, N.M. and Furness, R.W. (MacArthur Green) (2022) Disturbance Distances Review: An updated literature review of disturbance distances of selected bird species. NatureScot Research Report 1283.

IFI (2016) *Guidelines on Protection of Fisheries during Construction Works In and Adjacent to Waters*. Inland Fisheries Ireland

Institute of Lighting Professionals (2018) Guidance note 08/18. Bats and artificial lighting in the UK. Inns, H. (2009) *Britain's Reptiles and Amphibians*. Wildguides, Hampshire.

Marnell, F., Looney, D. & Lawton, C. (2019) *Ireland Red List No. 12: Terrestrial Mammals*. National Parks and Wildlife Service, Department of the Culture, Heritage and the Gaeltacht, Dublin, Ireland

NPWS (2019) *The Status of EU Protected Habitats and Species in Ireland. Volume 1: Summary Overview*. Unpublished NPWS report

NRA (2010) Guidelines on the Management of Noxious Weeds and Non-native Invasive Plant Species on National Roads. National Roads Authority.

NRA (2009a) *Guidelines for Assessment of Ecological Impacts of National Roads Schemes: Revision 2*. National Roads Authority.

NRA (2009b) Ecological Surveying Techniques for Protected Flora and Fauna during the Planning of National Road Schemes. National Roads Authority: Ireland.

Roche, Niamh & Aughney, Tina & Marnell, Ferdia & Lundy, Mathieu. (2014). Irish Bats in the 21st Century.

Smith, G.F., O'Donoghue, P., O'Hora, K. & Delaney, E. (2011) *Best Practice Guidance for Habitat Survey and Mapping*. The Heritage Council Church Lane, Kilkenny, Ireland.

Stokes, K., O'Neill, K. & McDonald, R.A. (2004) Invasive species in Ireland. Unpublished report to Environment & Heritage Service and National Parks & Wildlife Service. Quercus, Queens University Belfast, Belfast.

Online information accessed between April 2024 and May 2025

www.biodiversityireland.ie

www.epa.ie

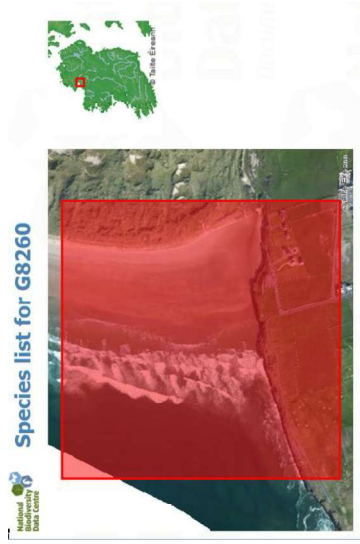
www.NPWS.ie

www.birdwatchireland.ie

biodiversityireland.ie : Catalogue of non native species NBDC

Appendix 1 National Biodiversity Data Base
 Desk research results and preliminary scoping exercise
 National Biodiversity Data Centre Data

‘Information from the National Biodiversity Data Centre downloaded from Biodiversity Maps on [08 April 2025].’



Species group	Species name	Record count	Date of last record	Title of dataset	Designation
annelid	Honeycomb Worm (Sabellaria alveolata)	1	31/12/1909	REEHAB Project - Irish Sabellaria alveolata Records	
bird	Atlantic Puffin (Fratercula arctica)	1	20/03/2022	Birds of Ireland	Protected Species: Wildlife Acts Threatened Species: Birds of Conservation Concern Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List

bird	Brent Goose (<i>Branta bernicla</i>)	1	18/11/2022	Birds of Ireland	Protected Species: Wildlife Acts Threatened Species: Birds of Conservation Concern Threatened Species: Birds of Conservation Concern - >> Birds of Conservation Concern - Amber List
bird	Common Buzzard (<i>Buteo buteo</i>)	1	23/04/2020	Birds of Ireland	Protected Species: Wildlife Acts
bird	Common Eider (<i>Somateria mollissima</i>)	1	18/11/2022	Birds of Ireland	Protected Species: EU Birds Directive Protected Species: EU Birds Directive >> Annex II, Section II Bird Species Protected Species: EU Birds Directive >> Annex III, Section II Bird Species Threatened Species: Birds of Conservation Concern Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
bird	Common Redshank (<i>Tringa totanus</i>)	1	18/11/2022	Birds of Ireland	Protected Species: Wildlife Acts Threatened Species: Birds of Conservation Concern Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Red List

bird	Dunlin (<i>Calidris alpina</i>)	1	18/11/2022	Birds of Ireland	Protected Species: Wildlife Acts Protected Species: EU Birds Directive Protected Species: EU Birds Directive >> Annex I Bird Species Threatened Species: Birds of Conservation Concern Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
bird	Eurasian Oystercatcher (<i>Haematopus ostralegus</i>)	4	19/01/2023	Birds of Ireland	Protected Species: Wildlife Acts Threatened Species: Birds of Conservation Concern Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
bird	Mew Gull (<i>Larus canus</i>)	1	14/11/2021	Birds of Ireland	Protected Species: Wildlife Acts Threatened Species: Birds of Conservation Concern Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List

bird	Northern Lapwing (Vanellus vanellus)	1	19/01/2023	Birds of Ireland	Protected Species: Wildlife Acts Protected Species: EU Birds Directive Protected Species: EU Birds Directive >> Annex II, Section II Bird Species Threatened Species: Birds of Conservation Concern Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Red List
bird	Red-billed Chough (Pyrrhocorax pyrrhocorax)	1	26/04/2023	Birds of Ireland	Protected Species: Wildlife Acts Protected Species: EU Birds Directive Protected Species: EU Birds Directive >> Annex I Bird Species Threatened Species: Birds of Conservation Concern Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
bird	Ruddy Turnstone (Arenaria interpres)	1	18/11/2022	Birds of Ireland	
bird	Surf Scoter (Melanitta perspicillata)	1	28/04/1979	Rare birds of Ireland	
bony fish (Actinopterygii)	Brown/Sea Trout (Salmo trutta)	1	27/09/2014	Irish Federation of Sea Anglers Catch Data	
bony fish (Actinopterygii)	Flounder (Platichthys flesus)	6	24/01/2016	Irish Federation of Sea Anglers Catch Data	
bony fish (Actinopterygii)	Lesser Weever (Echiichthys vipera)	1	27/09/2014	Irish Federation of Sea Anglers Catch Data	

bony fish (Actinopterygii)	Turbot (Psetta maxima)	5	14/09/2015	Irish Federation of Sea Anglers Catch Data	
coelenterate (=cnidarian)	Aurelia aurita	1	21/07/2021	iNaturalist Marine Species Records for Ireland	
coelenterate (=cnidarian)	Chrysaora hysoscella	1	21/07/2021	iNaturalist Marine Species Records for Ireland	
coelenterate (=cnidarian)	Portuguese Man'O War (Physalia physalis)	1	08/07/2022	Explore Your Shore	
crustacean	Cancer pagurus	1	17/11/2022	Explore Your Shore	
crustacean	Green Shore Crab (Carcinus maenas)	1	17/11/2022	Explore Your Shore	
flowering plant	Common Dog-violet (Viola riviniana)	1	26/04/2023	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
flowering plant	Daisy (Bellis perennis)	1	26/04/2023	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
flowering plant	Harebell (Campanula rotundifolia)	1	16/09/2017	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
flowering plant	Lesser Celandine (Ranunculus ficaria)	1	26/04/2023	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
flowering plant	Primrose (Primula vulgaris)	1	21/05/2019	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	

flowering plant	Ribwort Plantain (<i>Plantago lanceolata</i>)	1	26/04/2023	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
flowering plant	Thrift (<i>Armeria maritima</i>)	1	26/04/2023	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
harvestman (Opiliones)	Leiobunum blackwalli	1	21/09/1995	Harvestmen (Opiliones) of Ireland	
harvestman (Opiliones)	Mitopus morio	1	21/09/1995	Harvestmen (Opiliones) of Ireland	
harvestman (Opiliones)	Nelima gothica	1	21/09/1995	Harvestmen (Opiliones) of Ireland	
harvestman (Opiliones)	Nemastoma bimaculatum	1	21/09/1995	Harvestmen (Opiliones) of Ireland	
harvestman (Opiliones)	Oligolophus tridens	1	21/09/1995	Harvestmen (Opiliones) of Ireland	
harvestman (Opiliones)	Paroligolophus agrestis	1	21/09/1995	Harvestmen (Opiliones) of Ireland	
harvestman (Opiliones)	Phalangium opilio	1	21/09/1995	Harvestmen (Opiliones) of Ireland	
insect - beetle (Coleoptera)	Silpha atrata subsp. subrotundata	3	29/07/2016	Carion Beetles of Ireland	
insect - butterfly	Common Blue (<i>Polyommatus icarus</i>)	1	15/08/2010	Butterflies of Ireland pre-2022	

insect - butterfly	Marsh Fritillary (<i>Euphydryas aurinia</i>)	1	21/03/2019	Butterflies of Ireland pre-2022	Protected Species: EU Habitats Directive Protected Species: EU Habitats Directive >> Annex II Threatened Species: Vulnerable
insect - butterfly	Small Copper (<i>Lycaena phlaeas</i>)	1	15/08/2010	Butterflies of Ireland pre-2022	
insect - butterfly	Small Tortoiseshell (<i>Aglais urticae</i>)	1	02/09/2023	Butterflies of Ireland post 2021	
insect - hymenopteran	Common Spiny Digger Wasp (<i>Oxybelus uniglutinis</i>)	1	31/07/1890	Wasps of Ireland	
insect - moth	Common Grass-veneer (<i>Agriophila tristella</i>)	1	15/08/2010	Moths Ireland	
insect - moth	Drinker (<i>Euthrix potatoria</i>)	1	29/05/2003	Moths Ireland	
insect - moth	Straw Grass-veneer (<i>Agriophila straminella</i>)	1	15/08/2010	Moths Ireland	
insect - moth	Udea lutealis	1	15/08/2010	Moths Ireland	
marine mammal	Bottle-nosed Dolphin (<i>Tursiops truncatus</i>)	3	06/07/2023	IWDG Casual Cetacean Sightings	Protected Species: EU Habitats Directive Protected Species: EU Habitats Directive >> Annex II Protected Species: EU Habitats Directive >> Annex IV Protected Species: Wildlife Acts
Marine mammal	Cetacean species	1	09/04/2018	IWDG Casual Cetacean Sightings	
marine mammal	Common Dolphin (<i>Delphinus delphis</i>)	4	21/06/2022	IWDG Cetacean Strandings Database	Protected Species: EU Habitats Directive Protected Species: EU Habitats Directive >> Annex IV Protected Species: Wildlife Acts

marine mammal	Common Porpoise (Phocoena phocoena)	31	31/10/2023	IWDG Casual Cetacean Sightings	Protected Species: EU Habitats Directive Protected Species: EU Habitats Directive >> Annex II Protected Species: EU Habitats Directive >> Annex IV Protected Species: Wildlife Acts Threatened Species: OSPAR Convention
Marine mammal	Dolphin species	1	07/01/2017	IWDG Cetacean Strandings Database	
Marine mammal	Dolphin species possibly Harbour Porpoise	2	20/07/2021	IWDG Casual Cetacean Sightings	
moss	Whorled Tufa-moss (Eucladium verticillatum)	1	27/09/2001	Bryophytes of Ireland	Threatened Species: Least concern

Table 1. National biodiversity Data Centre data for G8260

Species list for G8360



Dail
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Species group	Species name	Record count	Date of last record	Title of dataset	Designation
bird	Northern Wheatear (Oenanthe oenanthe)	1	13/04/2017	Irish Vascular Plant Data - Robert Northridge	Protected Species: Wildlife Acts Threatened Species: Birds of Conservation Concern Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
flowering plant	Biting Stoncrop (Sedum acre)	1	13/04/2017	Irish Vascular Plant Data - Robert Northridge	
flowering plant	Burnet Rose (Rosa spinosissima)	1	13/04/2017	Irish Vascular Plant Data - Robert Northridge	
flowering plant	Common Centaury (Centaurium erythraea)	1	13/04/2017	Irish Vascular Plant Data - Robert Northridge	
flowering plant	Erophila verna sens. lat.	1	13/04/2017	Irish Vascular Plant Data - Robert Northridge	
flowering plant	Field Wood-rush (Luzula campestris)	1	13/04/2017	Irish Vascular Plant Data - Robert Northridge	

flowering plant	Heath Dog-violet (<i>Viola canina</i>)	1	13/04/2017	Irish Vascular Plant Data - Robert Northridge
flowering plant	Heath Speedwell (<i>Veronica officinalis</i>)	1	13/04/2017	Irish Vascular Plant Data - Robert Northridge
flowering plant	Portland Spurge (<i>Euphorbia portlandica</i>)	1	13/04/2017	Irish Vascular Plant Data - Robert Northridge
flowering plant	Rue-leaved Saxifrage (<i>Saxifraga tridactylites</i>)	1	13/04/2017	Irish Vascular Plant Data - Robert Northridge
flowering plant	Sea Spurge (<i>Euphorbia paralias</i>)	1	13/04/2017	Irish Vascular Plant Data - Robert Northridge
flowering plant	Wall Speedwell (<i>Veronica arvensis</i>)	1	13/04/2017	Irish Vascular Plant Data - Robert Northridge
flowering plant	Wild Carrot (<i>Daucus carota</i>)	1	13/04/2017	Irish Vascular Plant Data - Robert Northridge
flowering plant	Wild Pansy (<i>Viola tricolor</i>)	1	13/04/2017	Irish Vascular Plant Data - Robert Northridge
horsetail	Variegated Horsetail (<i>Equisetum variegatum</i>)	1	13/04/2017	Irish Vascular Plant Data - Robert Northridge
insect - moth	Six-spot Burnet (<i>Zygaena filipendulae</i>)	1	23/07/2022	Moths Ireland
terrestrial mammal	Eurasian Badger (<i>Meles meles</i>)	4	31/12/2007	Badger Setts of Ireland Database
Protected Species: Wildlife Acts				

Table 2. National biodiversity Data Centre data for G8360

SITE NAME: ERNE ESTUARY/FINNER DUNES

SITE CODE: 000139

The Erne Estuary/Finner Dunes occupies the area immediately west of Ballyshannon, Co Donegal and is an amalgamation of two former Areas of Scientific Interest, the Erne Estuary and Finner Dunes. The area is underlain by Carboniferous limestone, shale and sandstone, but recent blown sand and other deposits mask much of the solid geology under the site. Much of the site is composed of a complex of intertidal habitats such as mud and sand flats, sandy and shingle beaches and sea bays, but in places a fringe of saltmarsh occurs on the shoreline. Common plants in these situations are Thrift (*Armeria maritima*), Common Scurvygrass (*Cochlearia officinalis*), Sea Rush (*Juncus maritimus*) and Sea Plantain (*Plantago maritima*). Brown seaweeds (*Fucus* spp.) are often abundant on rocks low down the shore. A large area of sand dunes occupies the southern side of the site. Marram (*Ammophila arenaria*) is very evident there. Younger dunes support Red Fescue (*Festuca rubra*), Sand Sedge (*Carex arenaria*), Creeping Bent (*Agrostis stolonifera*), Wild Thyme (*Thymus praecox*) and an abundance of the moss *Rhytidiadelphus squarrosus*. Parts of the stable dunes are herb-rich, with Creeping Willow (*Salix repens*), Common Bird's-foot-trefoil (*Lotus corniculatus*), Wild Pansy (*Viola tricolor*), Primrose (*Primula vulgaris*) and White Clover (*Trifolium repens*) among the common plants. A scrub of Blackthorn (*Prunus spinosa*) is developing on the older dunes, while wetland communities occur in wetter dune hollows. Yellow Iris (*Iris pseudacorus*), Cuckooflower (*Cardamine pratensis*), Marsh-marigold (*Caltha palustris*) and Marsh Horsetail (*Equisetum palustre*) are frequent in these localized wetlands. Small areas of cliff, heath, fen and reed-bed give further habitat diversity to the site. The site is particularly important as a feeding area for waterfowl. Two species occur at nationally important levels, namely Red-breasted Merganser (32, average peak 1984/85 - 1985/86) and Sanderling (93, average peak 1984/85 - 1986/87). Other birds present in significant numbers include Cormorant (41), Wigeon (60), Teal (73), Longtailed Duck (15), Oystercatcher (96), Ringed Plover (35), Lapwing (44) and Dunlin (61). (All average peaks are from 11 counts made over 2 seasons between 1984/85 and 1985/86). In addition to these winter figures a very large congregation of Red-breasted Merganser occupies the area in late Summer during the annual moult, with 350 recorded on 24/8/85 and 657 on 16/8/86. Cormorants are also present in large numbers in autumn, with 250 recorded on 25/8/85. The Long-tailed Ducks are probably part of the same flock recorded for Bundoran. There was an additional count of 100 Sanderling on 17/12/87, giving a three year peak of 93. Erne Estuary/Finner Dunes contains good examples of a number of coastal habitats and, furthermore, provides important feeding grounds for several waterfowl species.

Appendix 3 Bat Survey Report

**Bat Survey
Tullan Strand
Bundoran
Co. Donegal
2024**



Ecological Services

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Bat Licence No: DER/BAT 2023-50, C152/2023, Photo 122/2023

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Introduction

Paul Doherty Architects Ltd, Castle Street, Donegal Town, on behalf of Donegal County Council, have commissioned a bat survey of a cliff area adjacent to Tullan Strand, Bundoran, Co. Donegal, which may be the subject of development. The potential development includes a new access route to Tullan Strand from an existing carpark and a facility building in a nearby field on the headland.

The cliff and strand are located directly to the north of Bundoran town and is a popular walking and surfing destination.

The beach at Tullan extends northwards from the cliff to be surveyed, through which it is potentially proposed to carve out a new track down to the beach level. The beach is backed by an extensive dune system to the east, largely owned by Finner Camp and is a restricted area. A small stream runs from the dunes/farmland in the east along the base of the cliff and drains into the sea. Farm land and private dwellings are located to the south of the cliff, which merges to the northern outskirts of Bundoran. Fig 1.

Fig 1: Location of survey area in Tullan, Co Donegal.

Irish grid reference: G 82733 60288. ITM: 582685 860301.



Fig 2: View of the cliff adjacent to Tullan Strand, north of Bundoran, Co Donegal. Existing track to the right of the picture.



Bats in Ireland

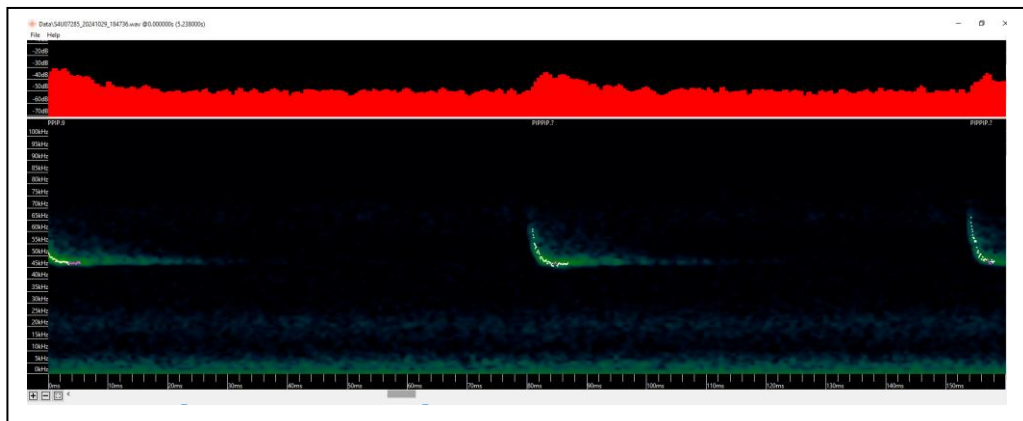
In summer many of Ireland's nine breeding species of bat use built structures and trees for maternity roosts. Here they raise their pup in a colony of females until the autumn when the young are self-sufficient. In autumn when the young are independent, some or all of the roost disperses into smaller roosts, commonly amongst trees containing cracks and crevices.

In winter, bats gather for hibernation, often in a separate location from the maternity roost. These locations, such as tree cavities, caves, souterrains, or deep stone walls are chosen because of even temperatures, which allow the bats to stay in torpor and conserve energy.

Bats have developed a highly sophisticated echolocation system that allows them to avoid obstacles and catch insects. When they are flying, bats produce a stream of high-pitched calls and listen to the echoes to produce a sound picture of their surroundings. See Fig 3.

All Irish bats are protected under national and EU legislation (The Wildlife Act 1976, the Wildlife (Amendment) Act 2000, and European Communities (Birds and Natural Habitats) Regulations 2011). Both the animals themselves and their roosts are protected and it is an offence to disturb or interfere with them without a licence.

Fig 3: Sonogram of a Common Pipistrelle (Pipistrellus pipistrellus) the first bat recorded foraging at Tullan during an October survey 2024. This is an image representing the sound a bat emits when echo locating, when they are commuting, foraging and communicating with each other.



Methods

A bat dusk survey was carried out on the 29/10/2024 at Tullan Strand around the cliff area using bat detectors – Echo Meter touch, and a static Song Meter. The Song Meter was placed along the cliff and left in situ for 7 nights and was set to record from a half hour before sunset until a half hour after sunrise.

All recordings were downloaded and analysed using Kaleidoscope software.

Bat activity was also opportunistically recorded on the 18/10/2024 at the end of a bird survey to observe if there was any bat activity.

Weather

The dusk survey work 29/10/2024 was carried out in winds F1, 80% cloud, and dry with temperatures 14°C. Sunset 17.04pm.

Results

During the first bird survey on 18th October 2024, the survey ended around dusk and the opportunity was taken to observe the cliff at bat emergence time and record any bats flying. A Common Pipistrelle was noted foraging over the vegetation of the cliff, roadway and surrounding farmland boundary's.

During the bat dusk survey of the 29/10/2024 Leisler's bat (*Nyctalus leisleri*), Fig 5 and Soprano Pipistrelle (*Pipistrellus pygmaeus*), Fig 4, were noted. The Leisler's bat appeared from the east and foraged up and down over the small stream area and sometimes down as far as the sea along the cliff top. The Pipistrelle briefly foraged above the cliff before the end of survey.

No emergence from the cliff area was observed.

Fig 4: Soprano Pipistrelle (*Pipistrellus pygmaeus*) recorded foraging at Tullan.

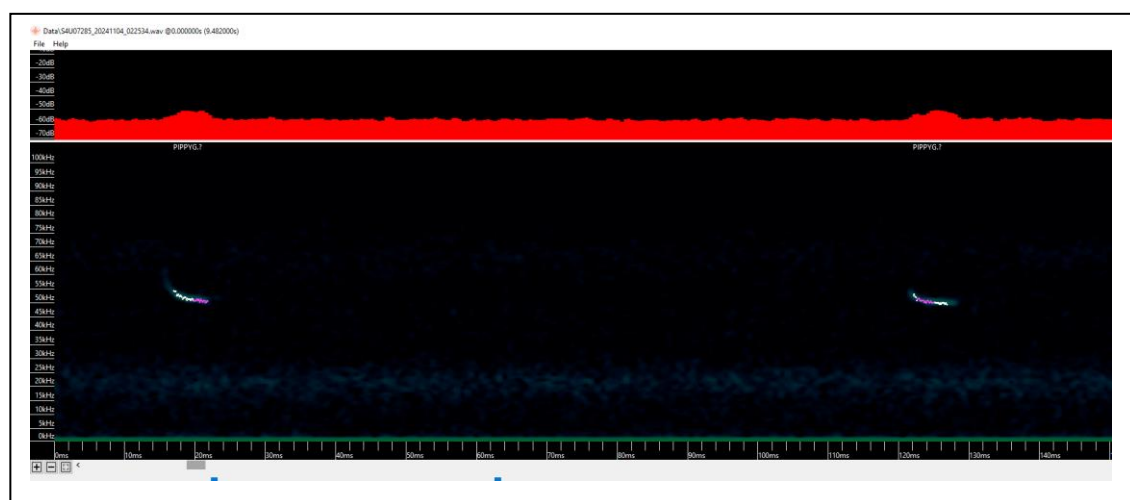
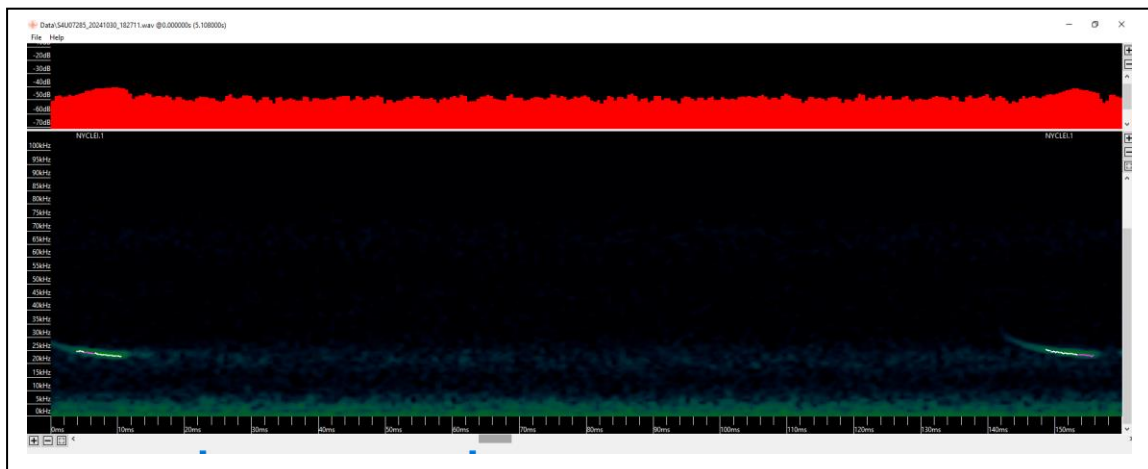


Fig 5: Leisler's bat (*Nyctalus leisleri*) recorded foraging at Tullan.

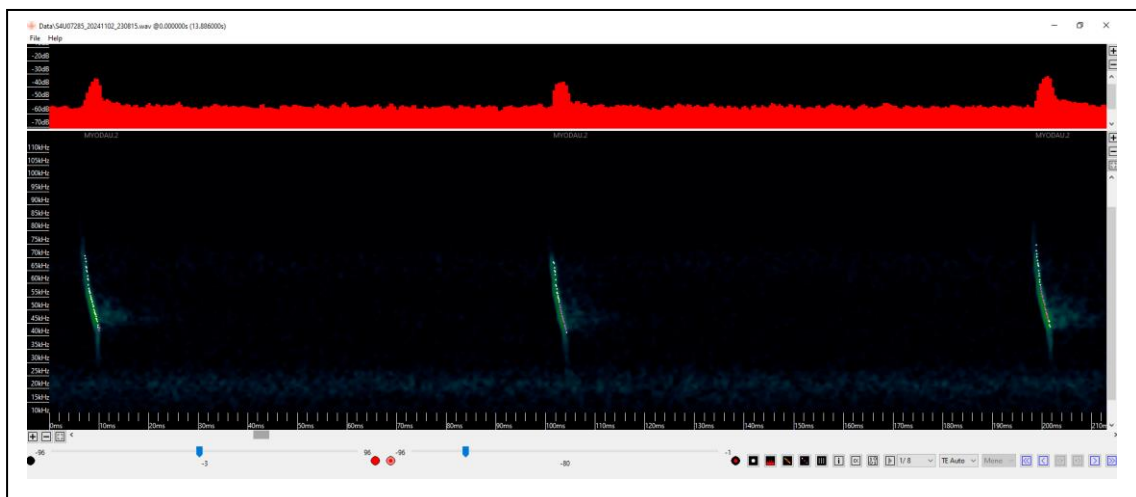


Song Meter Results

Four species of bat were recorded on the Song Meter placed along the cliff at Tullan Strand.

Common Pipistrelle, Soprano Pipistrelle, Leisler's and Daubenton's bat (*Myotis daubentonii*). The Daubenton's activity was very brief – a single pass on the 02/11/2024 and the 04/11/2024. Fig 6.

Fig 6: Daubenton's bat (*Myotis daubentonii*) recorded foraging at Tullan.



Summary

Four species of bat were recorded in October 2024 along the cliff at Tullan Strand.

Common Pipistrelle, Soprano Pipistrelle, Leisler's and Daubenton's bat. The first three of these species of bat appear to regularly use the area as foraging grounds.

Note. Since the bat survey was carried out in 2024, a change in the proposed location of the new beach access track was determined, away from the cliff to the field and dune areas. Although further summer survey of the cliff had been commissioned, this was now not deemed necessary. No bats will be impacted by the boardwalk in its new proposed location and no roosts were found directly adjacent to the site.

Lighting

Appropriate lighting for any site is crucial in terms of keeping an area as dark as possible for foraging and commuting bats and birds and for minimising light pollution in general.

Bats are not blind, and if there is too much light, their vision can be reduced, resulting in disorientation and interruption of foraging. This is especially the case for *Myotis* bats which were recorded at this site. Guidelines for lighting should be used from the following sources:

Bat Conservation Trust: This document can be downloaded free from the ILP website: <https://www.theilp.org.uk/documents/guidance-note-8-bats-and-artificial-lighting/>

Bat Conservation Ireland https://www.batconservationireland.org/wp-content/uploads/2013/09/BCIrelandGuidelines_Lighting.pdf.

References

Andrews Henry, Bat Tree Habitat Key (2018), Bat Roosts in Trees. A Guide to Identification and Assessment for Tree-Care and Ecology Professionals.

Bat Conservation Trust: This updated document can be downloaded free from the ILP website: <https://www.theilp.org.uk/documents/guidance-note-8-bats-and-artificial-lighting/>

Bat Conservation Ireland https://www.batconservationireland.org/wp-content/uploads/2013/09/BCIrelandGuidelines_Lighting.pdf.

Collin, J. (ed.) (2016) Bat Surveys for Professional Ecologists. Good practice guidelines (3rd edition). The Bat Conservation Trust, London.

Charles Nelson and Wendy F. Walsh (1993). Trees of Ireland, Native and Naturalized.

Marnell, F., Kelleher, C. & Mullen, E (2022) Bat Mitigation Guidelines for Ireland v2. Irish Wildlife Manuals, No. 134. National Parks and Wildlife Service, Department of Housing, Local Government and Heritage, Dublin, Ireland.

Scottish Natural Heritage (SNH). Protected Species Advice for Developers – Bats. <https://www.nature.scot/sites/default/files/2019-01/Species%20Planning%20Advice%20Project%20-%20bats.pdf>

Sunrise and sunset times - Accuweather.com

Appendix 4 Bird Survey Results

Tullan Strand Breeding Bird Survey Results

Date	High Tide	Low tide	Survey start	Survey finish	Weather
11/03/2025	16.31		15.00	17.00	90% cloud, F4, 10°C
25/03/2025	15.07		13.07	15.07	100%cloud, F2, 12°C
15/04/2025	08.05		07.00	10.00	50 % cloud F4/5 8 - 10°C
13/05/2025	19.20		19.10	21.20	0 % cloud, F4/5, 23.5°C

Table 1. Tullan Strand Breeding Bird Survey Effort

Date	Species	Species Code	Number	Habitat	roosting	travelling	foraging
11/03/2025	Common Gull	CM	3	beach	x		
	Meadow Pipit	MP	2	dunes		x	
	Stonechat	SC	1	dunes			x
	Twite/Linnet	TW/LI	8	dunes			x
	Pied Wagtail	PW	1	dunes/field			x
	Jackdaw	JD	12	field beside houses			x
	Magpie	MG	2	field beside houses			x
25/03/2025	Jackdaw	JD	9	facility field			x
	Rook	RO	1	facility field			x
	Common Gull	CM	3	tideline			x
	Herring Gull	HG	1	tideline			x
	Herring Gull	HG	1	beach / dune		x	
	Sand Martin	SM	2	cliff		x	x
	Chough	CF	2	cliff/beach/dune		x	
	Skylark	S.	1	Finner dunes		x	
	Common Gull	CM	2	beach/sea		x	

	Hooded Crow	HC	1	dunes		x	
	Hooded Crow	HC	2	cliff		x	
	Meadow Pipit	MP	4	dunes/b/w field		x	
	Chough	CF	2	b/w field, dunes/cliff		x	
	Magpie	MG	2	b/w field feeder			x
	Rook	RO	1	b/w field feeder			x
	Sand Martin	SM	2	dunes/cliff		x	X nest site
	Rook	RO	4	b/w farm track			x
	Rock Pipit	RC	1	cliff/beach/dune			x
	Buzzard	BZ	1	dunes		x	
15/04/2025							
	Rook	RO	1	facility field			x
	Jackdaw	JD	1	facility field			x
	Stonechat	SC	1	cliff	x		
	Sand Martin	SM	4	cliff		x	x
	Stonechat	SC	1	boardwalk field/dunes	x		
	Meadow Pipit	MP	1	dunes/b/w field		x	
	Common Gull	CM	2	dunes/b/w field		x	
	Skylark	S.	1	Finner dunes		x	
	Rook	RO	2	dunes/b/w field		x	
	Mute Swan	MS	2	dunes/b/w field		X	
	Common Gull	CM	2	cliff		x	
	Meadow Pipit	MP	1	b/w field entrance area		x	(displaying)
	Chough	CF	2	cliff/dunes/b/w/ field		x	
							Gull harassing jackdaws - possibly nesting in cliff
	Common Gull	CM	1	cliff		x	

	Jackdaw	JD	2	cliff			x	
	Herring Gull	HG	3	cliff	x			
	Chough	CF	2	cliff/dunes/b/w/ field			x	
13/05/2025	Rook	RO	1	beach/headland			x	
	Rook	RO	5	beach				X
	Jackdaw	JD	5	beach				x
	Ringed Plover	RP	1	shore/beach			x	
	Rock Pipit	RC	1	shore/dunes			x	
	Common Gull	CM	1	b/w field - sea			x	
	Chough	CF	1	cliff/dunes/b/w/ field/ Finner dunes			x	
	Jackdaw	JD	1	cliff/b/w field			x	
	Pied Wagtail	PW	1	cliff - dunes			x	
	Cormorant	CA	1	sea- dunes/ bw/ field			x	
	Sand Martin	SM	5	cliff			x	
	Meadow Pipit	MP	4	b/w field / dunes		x (perching)	displaying	
	Jackdaw	JD	3	b/w field				x
	Herring Gull	HG	1	cliff/sea			x	
	Common Gull	CM	1	dunes/b/w field/sea			x	
	Rook	RO	1	dunes/b/w field			x	
	House Sparrow	HS	1	b/w field			x	
	Sand Martin	SM	10	cliff			x	
I added the Meadow pipit into the map as roosting just to show the territory they are using.								
Activity on the beach was understandable high -so not much bird activity there								
No birds present on the proposed facility field.								
Single chough flew around - only seen once.								

Table 2. Tullan Strand Breeding bird survey results

Summary of other birds recorded during winter surveys

Foraging

Facility field:

In the 2024-25 winter survey other bird species (excluding waterbirds) recorded in the facility field were Rook (2), Pied wagtail (1), Jackdaw (9).

Foraging Path/boardwalk location (b/w field + Dunes)

Stonechat (2) were located in the dunes

Pied wagtail (2) in the dunes/beach

Twite/Linnett (21) (Twite is red listed) were recorded foraging in Finner dunes

Rook (9) were seen foraging in the b/w field, often around the cattle feeders.

Meadow pipit (1) seen foraging around the dunes, beach and cliff

Jackdaw(2) were recorded in the b/w field.

Roosting birds

In 2024-25 surveys there were no roosting birds (excluding waterbirds) recorded at any of the project site locations (the facility field, path, b/w field or the dunes). Roosting birds were not recorded at the facility field or in the dunes during the 2020-21 survey. In both survey periods all other roosting birds were recorded on the beach and in the cliff area.

Tullan Strand map – Bird activity on the ground 15 /4/2025.

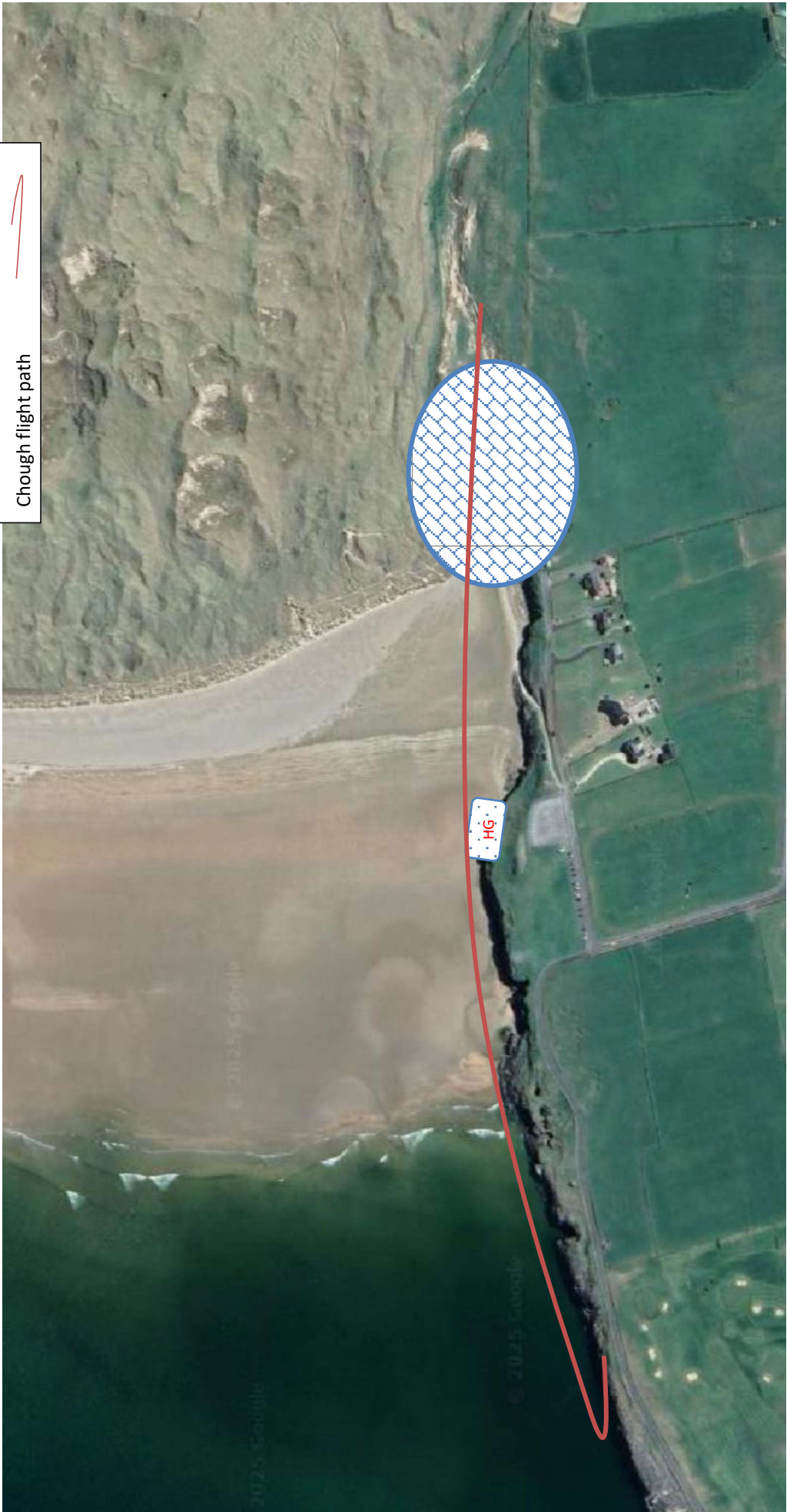
(Flying birds see spreadsheet.)

Legend

Meadow pipit territory

Roosting areas

Chough flight path



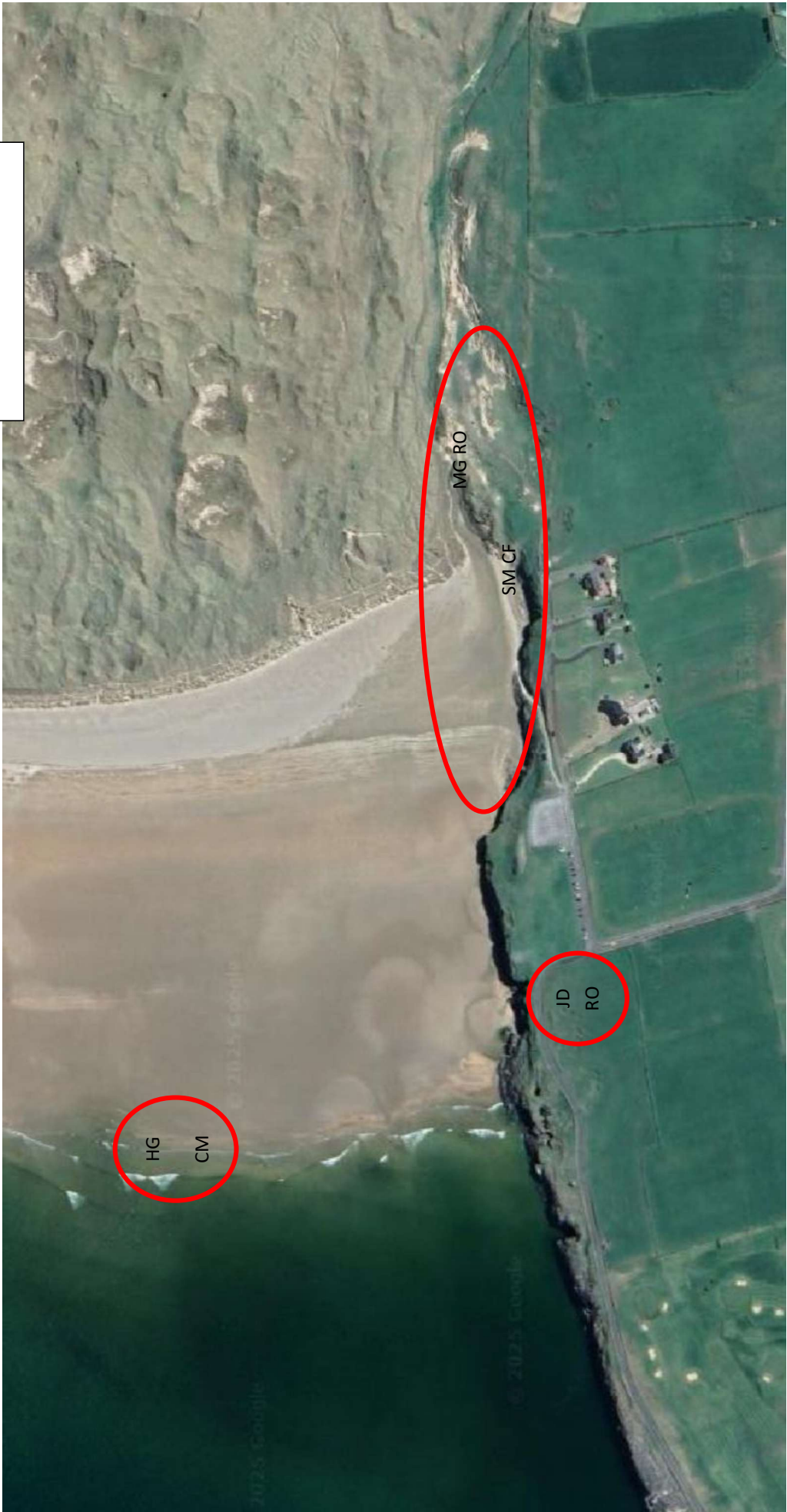
Tullan Strand map – Bird activity on the ground 25/03/2025.

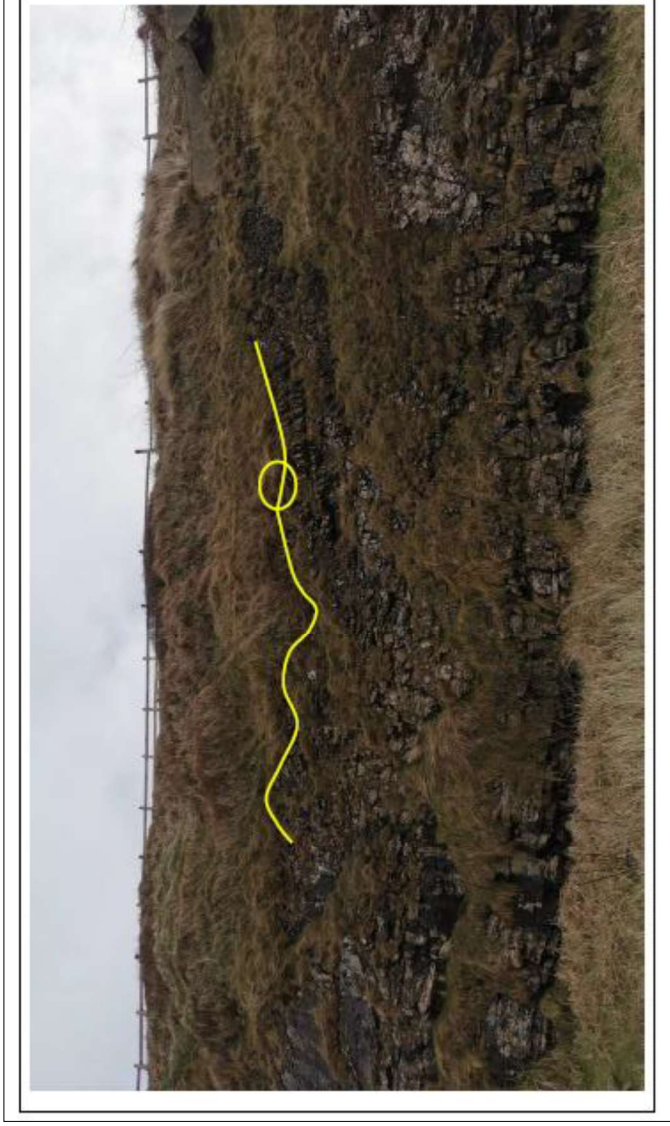
(Flying birds see spreadsheet.)

Legend


Foraging areas


Roosting areas





25/03/2025 Sand martin nests along clay layer in cliff, active nest circled



**Comhairle Contae
Dhún na nGall**
Donegal County Council

Access to Tullan Strand Bundoran

Options Report

January 2025



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DOCUMENT APPROVAL

PROJECT	Bundoran Watersports Centre and Access to Tullan Strand	
CLIENT / JOB NO	Donegal County Council	7302
DOCUMENT TITLE/No.	Preliminary Options Report	

Prepared by

Reviewed by

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Appendix A – Drawings

Appendix B – Level 2 Estimate Summary Sheets

1 INTRODUCTION

1.1 Brief

The project is to build a facility centre for water sports activities centre in Bundoran, Co Donegal, based on the Fáilte Ireland exemplar design along with the development of parking facilities, improved access to Tullan Strand and associated services. Donegal County Council are the Client on this project.

Paul Doherty Architects, the lead consultant, appointed Jennings O'Donovan and Partners Limited (JOD) to carry out civil and structural design for the project.

This document sets out options for the proposed access to Tullan Strand, and assesses them on the basis of cost, accessibility, environmental impact and sustainability.

1.2 Statement of Authority

This Report has been prepared by Jennings O'Donovan & Partners Limited, Finisklin Sligo. Established in Sligo in 1950 Jennings O'Donovan & Partners Limited provide consulting engineering services in the areas of road design, renewable energy, civil and structural engineering, water supply, wastewater collection and treatment, environmental resource management and impact assessment, and the area of housing and commercial development.

2 PROPOSED ACCESS TO TULLAN STRAND

The location of the existing access to Tullan Strand is shown as a red line in Figure 2.1. The three potential access route options are shown in this figure.

- Option A – Improvements to existing Unauthorised Access is shown as a red line.
- Option B – New At Grade Access Route is shown as a green line.
- Option C – New Elevated Access Route is shown as an orange line.

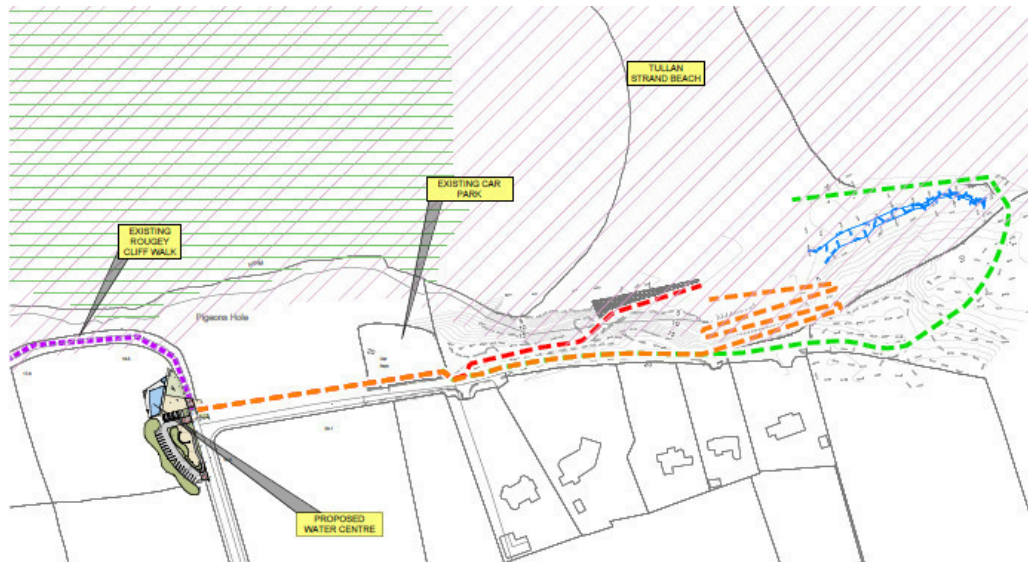


Figure 2.1 Site Location

2.1 Existing Access Route

The existing access to Tullan Strand is unauthorised and created by excavating a path along the cliff face to the beach. The upper portion of the access is partially excavated into the cliff face and the lower portion is built up with a supporting rock embankment to reduce the gradient of the access approaching the beach. The access route is approximately 125m long, 3.0m wide and has vertical gradients of up to 1 in 3 near beach level. The unauthorised access is surfaced with granular material with steep gradients approaching the beach. The lower reaches of the access regularly suffer damage from wave action which removes the rock armour protecting the access and from surface water runoff removing the granular road surfacing material. Details of the existing unauthorised access are shown in Drawing No. 7302-JOD-00-XX-DR-C-1006 in **Appendix A**.



Figure 2.2 Existing Unauthorised Access to Tullan Strand

2.2 Design Standards and Criteria

2.2.1 Design Standards

The following design standards have been referenced to provide guidance for the design options considered in this report:

- Donegal County Council Development Plan 2024-2030
- Design Manual for Urban Roads and Streets (2019)
- Building Regulations Technical Guidance Document M, Access for People with Disabilities, (2022).
- Building Regulations Technical Guidance Document K, Stairways, Ladders, ramps and Guards, (2014).
- DMRB CD 143 Designing for walking, cycling and horse-riding, (2021).

2.2.2 Design Criteria

Pedestrian Footpath Width	2.0m
Access Gradient	1:21 or 1:20 with goings less than 10m or 1:12 with goings less than 4.5m
Emergency Vehicle Access Width	3.0m
Bridleway Width	2.0m
Combined Pedestrian Footpath and Bridleway Width	4.0m

2.3 Vertical Alignment

The difference in level between the beach and the footpath at the existing car park is approximately 18m. The various options for access gradient result in the following minimum lengths based on 2m long landings between sloped sections:

- 1:21 gradient: 378m plan length of access route.
- 1:20 gradient with 10m goings: 378m plan length of access route.
- 1:12 gradient with 4.5m goings: 310m plan length of access route.

There is no advantage to using a 1:20m gradient with 10m maximum goings. The length of the access route required for Option A and Option C could be reduced by utilising a 1:12 gradient with 4.5m goings. This would reduce the cost of each option but would make them more difficult for people with mobility difficulties to use. Due to the topography of the area Option B will generally utilise flatter gradients passing to the east of the highest dunes.

2.4 **Option A – Improvements to Existing Unauthorised Access**

The existing access to Tullan Strand runs from the public car park directly to the beach and provides convenient access to the beach. The slopes at the upper end of the access are flatter than those at the lower end, but at up to 1 in 16 without level sections they do not comply with the gradients required for safe access. Improving the route will therefore require significant earthworks and will result in the length of the route increasing by approximately 200m.



Figure 2.3 The upper portion of the existing access route

As shown in Figure 2.5 the existing rock armour protects the access embankment at beach level and consists of small boulders which are unable to withstand the wave action. The required boulders for the bottom layer of the rock armour will be large boulders in the 8 to 10 tonne range.



Figure 2.4 The lower portion of the existing access route



Figure 2.5 Rock armour at the lower portion of the existing access route

The new access route would have a plan length of approximately 377m from the existing car park exit. The first 70m approximately of the route would require nominal earthworks on top of the existing access route to give an acceptable 1:21 gradient. The middle 55m would require significant earthworks to bring the ground level up to the required alignment and would have 2m long level areas between 4.5m maximum plan length ramp sections. The remaining 185m would be new construction with 2m long level areas between 4.5m maximum plan length ramp sections. The bulk earthworks would comprise imported granular fill placed and compacted in layers. The finished surface would be surface dressing. Due to the topography of the strand, it would be necessary to construct the new portion of the route winding down as shown on drawing 7302-JOD-00-XX-DR-C-1002.

Approximately 200m of the proposed access route would be constructed with fill on the existing beach sand which would need to be designed to resist damage and undermining due to wave action. Due to the proposed alignment of the access route the plan length of the defences would be approximately 90m. To resist storm wave damage, it would be necessary to construct a line of 5m long sheet piles to prevent undermining, to incorporate a geomembrane in the construction of the embankment to provide stability and minimise the necessary side slopes, and to use correctly sized rocks to protect the outside face of the embankment.

To achieve an access in compliance with the Design Standards the following improvements are proposed.

- Construct pedestrian route through existing public car park and private gravel area.
- Regrading and regulating the existing surface with general fill, granular road base material and sealing the surface using surface dressing except for a 5m long concrete apron at beach level to protect the access road against wave action and backwash from tidal movements. The lower end of the access route would be extended by approximately 200m following the line of the cliff face
- Providing adequate cross falls on the road surface and drainage channels to divert surface water and prevent erosion of the road surface.
- Providing a pedestrian guardrail system to the seaward face of the route.
- Incorporating heavy civil engineering works at beach level to protect the embankment from wave action.

The proposed improvements to upgrade the existing access to road access are shown on Drawing No. 7302-JOD-00-XX-DR-C-1002 in **Appendix A**.

2.5 Option B – New At-Grade Access Route

To provide an at-grade access to Tullan Strand the best route would run behind the dunes to the east of the strand, following the existing private road from the car park to the agricultural entrance, crossing the field, crossing over the stream on a pedestrian bridge and crossing the dunes on a boardwalk ramping down to the strand at the western end.



Figure 2.6 Existing private access road



Figure 2.7 Existing private access road



Figure 2.8 Gate at end of existing private access road



Figure 2.9 Existing private access track



Figure 2.10 Existing stream through dunes

The section along the existing private road is approximately 225m long on a vertical sag curve with the field end approximately 0.4m higher than the carpark. The new access route would take the form of a 2m wide concrete footpath on the seaward side of the road. It would incorporate high containment kerbs to prevent cars blocking the footpath, and pedestrian guardrails on both sides. Consideration could be given to widening the road to facilitate easier access by emergency vehicles, but this would increase the risk of illegal parking obstructing the road.

The section through the field is approximately 235m long with existing gradients of between 1:8 and 1:30. The new access route would be a 3m wide surface dressed footpath on compacted granular sub-base to facilitate occasional use by the landowner accessing the animal feeding area at the bottom of the field. A new stone wall or fence would be required to the east of the path to separate the public area and the agricultural area. There are several ways in which an acceptable gradient could be achieved, our recommended option is that the first 60m would follow the line of the farm track at a 1:21 fall, the next 135m would wind down the hill using 4.5m long ramps with a 1:12 gradient and 2m landings, with the remaining 40m to the pedestrian bridge being laid at a 1:21 fall. The straight line distance through the winding section would be 60m, so it would be advisable to provide a steep path along this desire line for those able to use it. It would also be feasible to provide rest areas at intervals along the section to improve the benefit of the access route.

The pedestrian bridge and the boardwalk providing access to the beach north of the stream across the dunes are approximately 130m long, generally level with some sections at 1:21 gradient. The ramp down to the beach would be at 1:12 gradient with 14.5m long ramps and 2m long landings. The beach level changes dramatically with deposition and erosion of 1.5m depths of sand observed. To overcome this the ramp would need to extend down to the lowest probable beach level and allowance made for the fact that sand may need to be moved. Ramp guardrails would need to be a bright colour to limit the trip hazard when the strand level is higher than the start of the handrails. The ramp would also be vulnerable to storm damage so a simply repaired solution is essential. This element of the works would avoid pedestrians having to cross the stream at beach level and reduce pedestrian traffic in the vicinity of the existing dunes which are showing signs of deterioration. The construction of these elements would utilise posts driven into the sand as foundations with the walkway and edge protection constructed on the posts. Either timber, FRP or a combination of the two materials would be used.

Following initial discussions between Donegal County Council and the Landowner the following accommodation works are proposed:

- A dry-stone boundary wall is to be constructed between the area being acquired for the access route and the area remaining in agricultural use.
- A water supply is to be provided to a drinker in the existing animal feeding area.
- Gates are to be provided to allow access to the field and the feeding area.

The section of the footpath crossing the dunes is in an area which is used occasionally by horses accessing the beach. It would be possible to provide additional boardwalk width to protect the dunes, with a central barrier to avoid conflict between pedestrians and horses. Lockable gates could be provided to allow riders access to the boardwalk whilst encouraging pedestrians to remain on the access route.

To achieve an access in compliance with the Design Standards the following works are proposed.

- Construction of pedestrian route through existing public car park.
- Demolition of existing fence on seaward side of private access road and remove topsoil. Installation of high containment precast concrete kerbs and pouring 2m wide concrete footpath. Erection of pedestrian guardrails to both sides of footpath.
- Erection of new dry-stone wall separating acquired land from field remaining in agricultural use incorporating lockable gates. Construction of new at-grade footpath through field with wide areas to act as rest stops and viewing points.
- Erection of new FRP pedestrian bridge over stream and FRP boardwalk through dunes with pedestrian guardrails on both sides. Local wide areas to act as rest stops and viewing points to be incorporated into the boardwalk.

The proposed new at-grade access route is shown on Drawing No. 7302-JOD-00-XX-DR-C-1003 in **Appendix A**.

2.6 Option C – New Elevated Access Route

To provide a new elevated access to Tullan Strand the best route would follow the existing private road from the car park to a point beyond the cliff projection before turning out onto an elevated ramped structure down to the strand.

The section along the existing private road is approximately 150m long on a vertical sag curve with gradients of approximately 1:100. The new access route would take the form of a 2m wide concrete footpath on the seaward side of the road. It would incorporate high containment

kerbs to prevent cars blocking the footpath, and pedestrian guardrails on both sides. Consideration could be given to widening the road to facilitate easier access by emergency vehicles, but this would increase the risk of illegal parking obstructing the road.

The elevated ramp sections providing access to the beach north of the stream would be approximately 280m long, with ramps at a 1:12 gradient with 4.5m long ramps and 2m long landings. Rest areas would be provided at changes in direction of the route. The structure could be constructed using concrete, steel, timber, fibre reinforced polymer (FRP) or a combination of these materials. Due to the exposed nature of the site, the proximity to the SPA, and the site constraints We are of the opinion that an FRP deck on a structure of FRP pultruded members on concrete foundations would be the most appropriate. A concrete structure would be bulky and difficult to construct. A steel structure would need maintenance painting on a regular basis which would be costly and would incur safety and environmental hazards. Timber deck planks would reduce the cost of the structure, but they would have a shorter lifespan and less slip resistance.

To achieve an access in compliance with the Design Standards the following works are proposed.

- Construction of pedestrian route through existing public car park.
- Demolition of existing fence on seaward side of private access road and remove topsoil over a 150m length. Installation of high containment precast concrete kerbs and pouring 2m wide concrete footpath. Erection of pedestrian guardrails to both sides of footpath.
- Construction of new FRP pedestrian ramp structure, approximately 16m in height with 280m of ramp Local wide areas to act as rest stops and viewing points to be incorporated into the ramp structure.

The proposed new elevated access route is shown on Drawing No. 7302-JOD-00-XX-DR-C-1004 in **Appendix A**.

2.7 **Budget Costs**

The budget costs for the access route options based on the Active Travel Infrastructure Schedule of Rates June 2023 are as follows:

Element	Budget Cost
Route Option A – Upgrade Existing Access	€1,966,293
Route Option B – New At Grade Access	€956,836
Route Option C – New Elevated Access	€1,191,175
Route Option B – Extra for bridleway across dunes	€240,500

Note: Budget costs do not include for land purchase costs.

Level 2 Estimate Summary Sheets for each option are included in **Appendix B**.

2.8 **Accessibility**

All three routes can be constructed to provide appropriate accessibility as set out in Sections 3.1 and 3.2 above. From the existing car park to the strand the length of the route options are as follows:

Option A – 337m

Option B – 590m

Option C – 430m

All three routes need to cross the existing car park, necessitating some alterations to the parking layout. Two spaces would be lost, and it may be necessary to introduce chevron parking alongside the road to facilitate the footpath.

Emergency service vehicles would be parked at the existing car park in the case of Options A and C with pedestrian access to the strand. Emergency service vehicles would be parked at the end of the road in the case of Option B with approximately 365m long pedestrian access to the strand.

2.9 **Sustainability**

The three options when ranked in order of sustainability are:

1. Option B – New At-Grade Access Route,
2. Option A – Improvements to Existing Unauthorised Access, and
3. Option C – New Elevated Access Route.

Option A would require significant importation of fill material and significant engineering works at the lower end to defend against tidal erosion. The lower end of the route is directly exposed to the sea in a location where storm damage is likely, with the associated ongoing inspection and maintenance costs. Whilst much of the materials could be sourced close to the site, the large rock armour would be difficult to transport and place correctly, and the sheet piles would need to be imported from abroad. Both of these elements would incur a large carbon footprint.

Option B minimises the quantity of imported material for the majority of its length. It is also located behind the dunes where the majority of the route is protected from the sea. The principal elements which would need to be imported are the bridge over the stream and the boardwalk through the dunes. The material choice here will impact the sustainability of the option. Constructing in timber would incur a lower capital cost and would be a familiar material to the Donegal County Council maintenance personnel, but it would need to be replaced every 10 years approximately and would need regular maintenance throughout the period.

Constructing in FRP would cost more initially, but would be significantly more durable with a design life of over 75 years. Maintenance and repairs for an FRP structure would primarily consist of repairs to storm damage at the seaward end of the boardwalk. The choice of FRP material type would be critical if this is the chosen option, as a thermosetting material would be required. Many of the FRP products currently on the market are made completely from recycled plastic and are prone to warping which would reduce the accessibility of the route.

Option C would require significant engineering work to construct. The majority of the route is directly exposed to the sea in a location where storm damage is likely, with the associated ongoing inspection and maintenance costs. Advantage is taken of the line of the cliff to maximise the available shelter thereby minimising the risk of damage. Structural steel or timber construction would normally be used for this type of access, however these would incur significant ongoing maintenance costs in a difficult location. The use of FRP would cost more initially but would be significantly more durable with a design life of over 75 years. Maintenance and repairs for an FRP structure would primarily consist of repairs to storm damage. The choice of FRP material type would be critical if this is the chosen option. The structural properties of the various FRP products on the market vary significantly, and many of them would not be suitable for this application.

2.10 Environmental Impact

The key environmental constraint is the protection of the SPA and the bird species using it. For this reason, Option B is preferred from an environmental perspective as it limits the works needed immediately adjacent to the SPA, and as the closed existing access route would provide additional habitat. Furthermore, it incorporates measures which protect the sand dunes behind the strand.

Option C is problematic from an environmental perspective as it could impact on the cliff habitat without generating mitigating effects.

Option A could also impact on available habitat due to the additional length of the route along the cliff face, but the rock armour face would provide new habitat which would partially compensate for the loss.

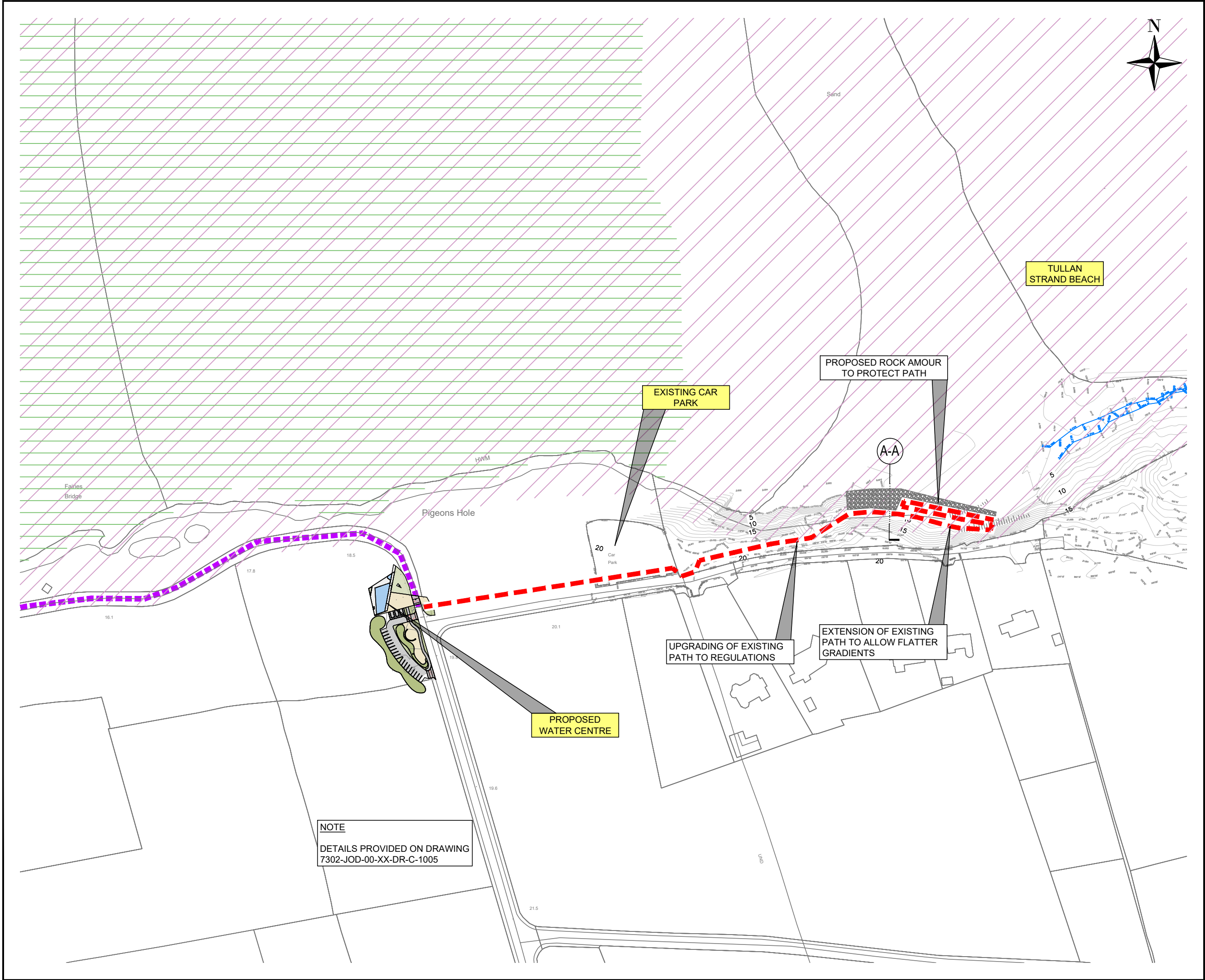
3 RECOMMENDATION

We recommend that Option B – New At-Grade Access Route be pursued. It would provide the most accessible, sustainable, and cost-effective solution with the lowest environmental impacts.

We do not consider the possible widening of the boardwalk to remove the need for horses to cross the dunes to be warranted.

APPENDIX A

Drawings



LEGEND

ROUTE OPTION A ---

DONEGAL BAY SPA ---

NHA (000139) ---

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rev	date	modifications	AW	EM	EM
P.01	04.02.25	Draft for Comment			
			D	C	A

Client

 **Comhairle Contae Dhún na nGall**
Donegal County Council

Project

TULLAN STRAND ROAD & ACCESS TO
TULLAN STRAND, BUNDORAN,
CO.DONEGAL.

Stage

PRELIMINARY DESIGN

Title

OPTION A - IMPROVEMENTS TO
EXISTING UNAUTHORIZED ACCESS

Scales

1:1,000 (A3)

Surveyed	Drawn	Checked	Approved	Date
JOD	RM	TM	SL	NOV 2024

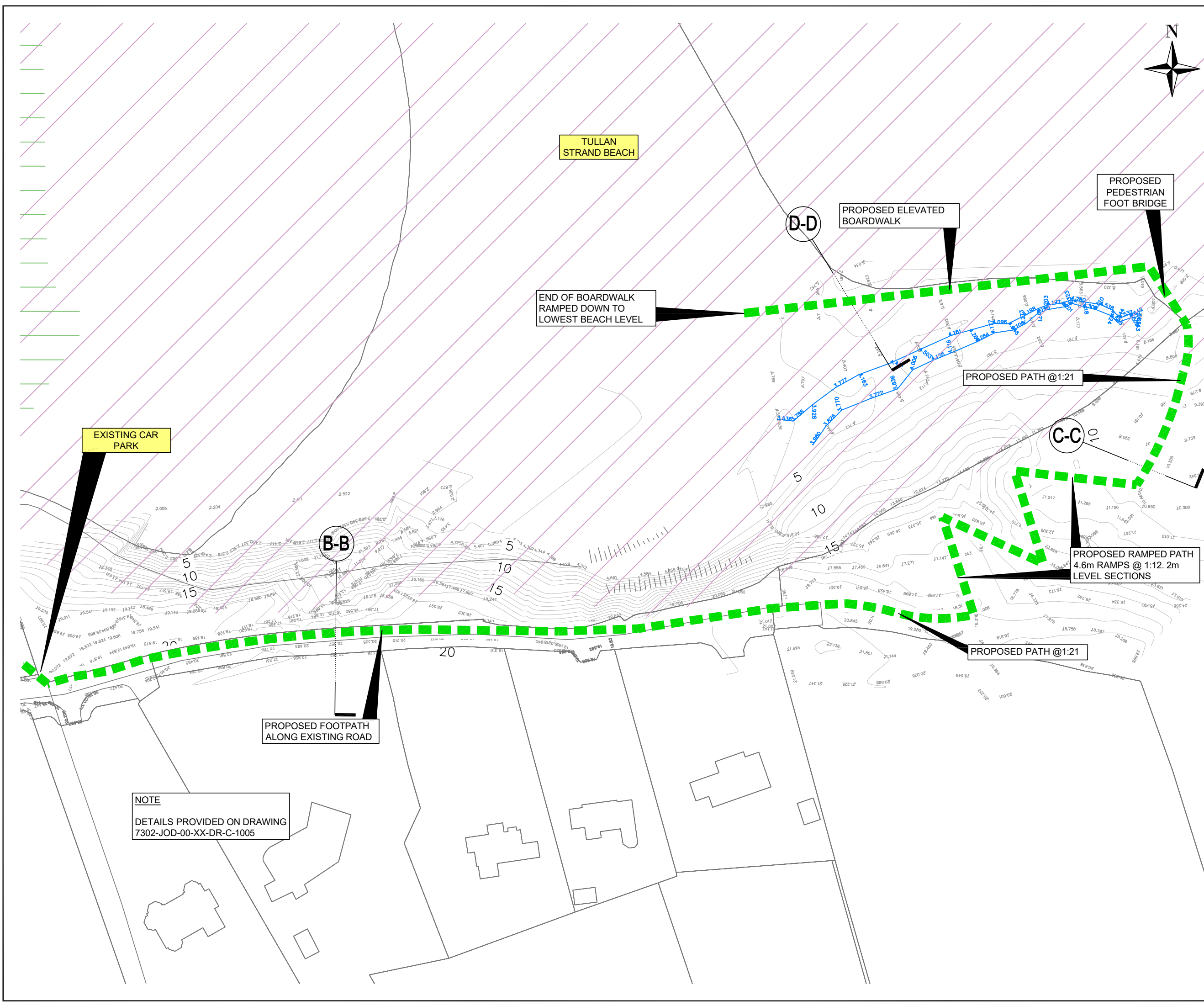
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7302	7302-JOD-00-ZZ-DR-C-1002	P.01



LEGEND

ROUTE OPTION B

DONEGAL BAY SPA

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P.01	04.02.25	Draft for Comment			
			D	C	A

Client



Project

TULLAN STRAND ROAD & ACCESS TO
TULLAN STRAND, BUNDORAN,
CO.DONEGAL.

Stage

PRELIMINARY DESIGN

Title

OPTION B - NEW AT GRADE ACCESS
ROUTE

Scales

1:2,000 (A3)

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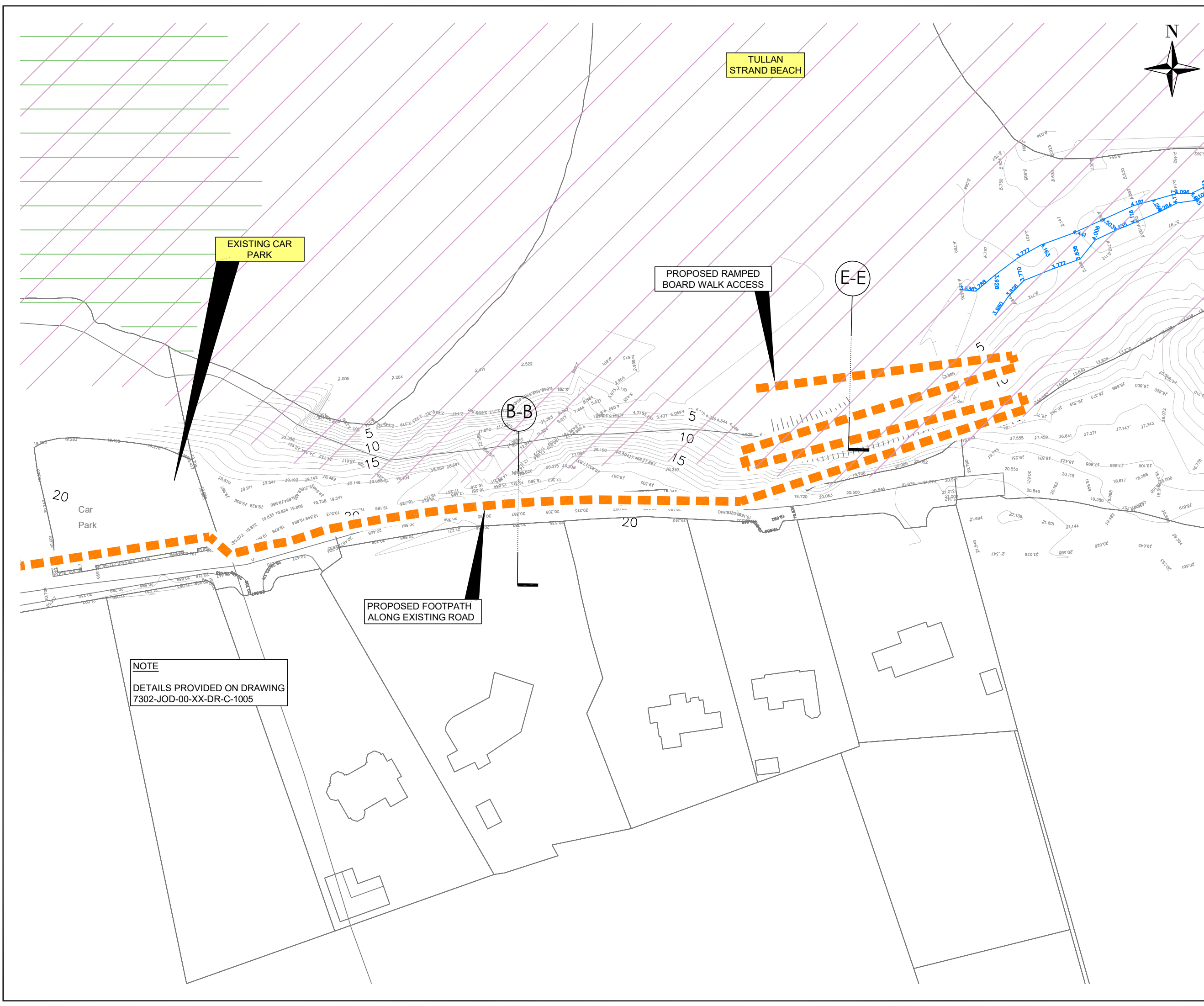
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Drawing No. 7302-JOD-00-ZZ-DR-C-1003

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LEGEND

ROUTE OPTION C

DONEGAL BAY SPA

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Donegal County Council

Project

TULLAN STRAND ROAD & ACCESS TO
TULLAN STRAND, BUNDORAN,
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Stage

PRELIMINARY DESIGN

Title

OPTION C - NEW ELEVATED ACCESS
ROUTE

Scales

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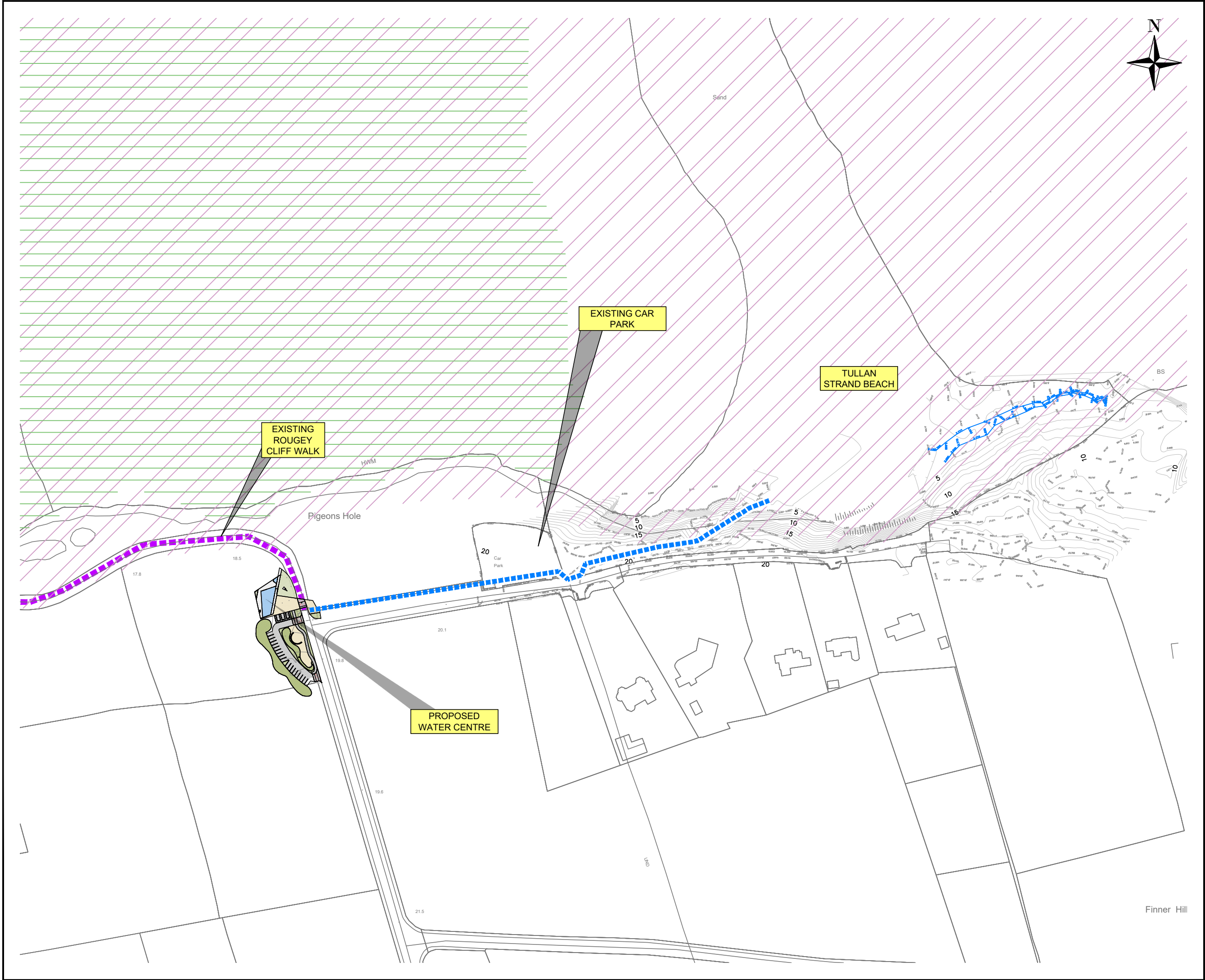
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Job Ref.	Drawing No.	Revision
7302	7302-JOD-00-ZZ-DR-C-1004	P.01



Job Ref.	Drawing No.	Revision
7302	7302-JOD-XX-ZZ-DR-C-1005	P.01



LEGEND

EXISTING ACCESS

DONEGAL BAY SPA

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TULLAN STRAND ROAD & ACCESS TO
TULLAN STRAND, BUNDORAN,
CO.DONEGAL.

Stage

PRELIMINARY DESIGN

Title

EXISTING UNAUTHORISED ACCESS

Scales

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Job Ref.	Drawing No.	Revision
7302	7302-JOD-00-ZZ-DR-1006	P.01

APPENDIX B

Level 2 Estimate Summary Sheets

Level 2 Estimate Summary Sheet						
PROJECT TITLE - TULLAN STRAND ACCESS			DATE OF ESTIMATE		Jan-25	
BUDGET COST ESTIMATE - OPTION A UPGRADE EXISTING ACCESS			BASE DATE FOR RATES		Jun-23	
JENNINGS O'DONOVAN & PARTNERS			ESTIMATOR			
1	Main Construction Contract (See attached for breakdown presented to Level 2 detail)		Quantity	Unit	Rate €	Total €
	a	Site Clearance	0.1	ha		€ 2,500
	b	Fencing		m		€ -
	c	Safety Barriers and Pedestrian Guardrails	300	m	€175.00	€ 52,500
	d	Drainage and Service Ducts		sum		€ -
	e	Earthworks		sum		€ 605,000
	f	Pavements		sum		€ -
	g	Kerbs, Footways and Paved Areas		sum		€ 72,000
	h	Traffic Signs		sum		€ 1,000
	j	Roadmarking		sum		€ -
	k	Lighting and Electrical		sum		€ -
	l	Landscaping and Environmental		sum		€ 2,000
	m	Structures (Rock armour and sheet piles)		m		€ 472,500
	n	Accommodation Works		sum		€ -
	p	Statutory Authorities & Utilities		sum		€ -
	q	Other Costs		sum		€ -
	r	Preliminaries		sum		€ 241,500
	s	Active Travel Costs				€ -
Total Base Cost for Main Construction Contract (Excluding VAT)						€ 1,449,000
Add Project Specific Risk Contingency				15.0%		€ 217,350
Sub-Total exclusive of VAT						€ 1,666,350
Add VAT at				13.5%		€ 224,957
Total MCC Base Cost plus Project Specific Risk Contingency and VAT						€ 1,891,307
2	Land and Property - All-In Costs		Quantity	Unit	Rate €	
	a	Mainline and Link Roads - Agricultural		Ha.		€ -
	b	Mainline and Link Roads - Zoned/Other		Ha.		€ -
	c	Junction/Interchanges - Agricultural		Ha.		€ -
	d	Junction/Interchanges - Zoned		Ha.		€ -
	e	Properties (10m wide strip in garden)		Nr		€ -
Total Base Cost for Land and Property						€ -
Add Project Specific Risk Contingency						€ -
Total L&P Base Cost plus Project Specific Risk Contingency						€ -
3	Planning and Design					
	Provision to take account of Actual Costs and Contract Amounts where known			3.0%		€ 43,470
	Add Project Specific Risk Contingency			15.0%		€ 6,521
Total P&D Base Cost plus Project Specific Risk Contingency						€ 49,991
4	Archaeology					
	Provision to take account of Actual Costs and Contract Amounts where known			0.0%		€ -
	Add Project Specific Risk Contingency			0.0%		€ -
Total Archaeology Base Cost plus Project Specific Risk Contingency and VAT						€ -
5	Advance Works and Other Contracts					
	Provision to take account of Actual Costs and Contract Amounts where known			0.0%		€ -
	Add Project Specific Risk Contingency			0.0%		€ -
Total Enabling Works and Other Contracts Base Cost plus Project Specific Risk Contingency						€ -
6	Main Contract Supervision (Employer's Costs)					
	Provision to take account of Actual Costs and Contract Amounts where known			1.5%		€ 21,735
	Add Project Specific Risk Contingency			15.0%		€ 3,260
Total MC Supervision (Employer's Costs) Base Cost plus Project Specific Risk Contingency						€ 24,995
7	Public Transport Connectivity/Asset Renewal					
	Provision based on percentage of Main Construction Contract Base Cost			0.0%		€ -
	Add Project Specific Risk Contingency			0.0%		€ -
Total Walking / Cycling / PT Connectivity / Asset Renewal Base Cost plus Project Specific Risk Contingency						€ -
TOTAL LEVEL 2 ESTIMATE INCLUSIVE OF VAT						€ 1,966,293
N.B. Figures above are INCLUSIVE of VAT						
Figures above are EXCLUSIVE of provision for Inflation - base date to be stated if different from date of estimate.						
Total base costs to include for ALL qualifying costs under each cost heading.						
Refer to the TII Cost Management Manual for information on coverage and format of back-up.						

Level 2 Estimate Summary Sheet						
PROJECT TITLE - TULLAN STRAND ACCESS			DATE OF ESTIMATE		Jan-25	
BUDGET COST ESTIMATE - OPTION B NEW AT-GRADE ACCESS			BASE DATE FOR RATES		Jun-23	
JENNINGS O'DONOVAN & PARTNERS			ESTIMATOR			
1	Main Construction Contract (See attached for breakdown presented to Level 2 detail)		Quantity	Unit	Rate €	Total €
	a	Site Clearance	0.4	ha		€ 2,500
	b	Fencing		m		€ -
	c	Safety Barriers and Pedestrian Guardrails	300	m	€175.00 / €30.00	€ 105,975
	d	Drainage and Service Ducts		sum		€ -
	e	Earthworks		sum		€ 5,000
	f	Pavements		sum		€ -
	g	Kerbs, Footways and Paved Areas		sum		€ 90,400
	h	Traffic Signs		sum		€ 1,000
	j	Roadmarking		sum		€ -
	k	Lighting and Electrical		sum		€ -
	l	Landscaping and Environmental		sum		€ 2,000
	m	Structures (Pedestrian Bridge and Boardwalk)	150	m	€1,850.00	€ 277,500
	n	Accommodation Works (Dry stone wall, gates and water supply)		sum		€ 108,240
	p	Statutory Authorities & Utilities		sum		€ -
	q	Other Costs		sum		€ -
	r	Preliminaries		sum		€ 118,523
	s	Active Travel Costs				€ -
Total Base Cost for Main Construction Contract (Excluding VAT)						€ 711,138
Add Project Specific Risk Contingency				15.0%		€ 106,671
Sub-Total exclusive of VAT						€ 817,809
Add VAT at				13.5%		€ 110,404
Total MCC Base Cost plus Project Specific Risk Contingency and VAT						€ 928,213
2	Land and Property - All-In Costs		Quantity	Unit	Rate €	
	a	Mainline and Link Roads - Agricultural		Ha.		€ -
	b	Mainline and Link Roads - Zoned/Other		Ha.		€ -
	c	Junction/Interchanges - Agricultural		Ha.		€ -
	d	Junction/Interchanges - Zoned		Ha.		€ -
	e	Properties (10m wide strip in garden)		Nr		€ -
Total Base Cost for Land and Property						€ -
Add Project Specific Risk Contingency						€ -
Total L&P Base Cost plus Project Specific Risk Contingency						€ -
3	Planning and Design					
	Provision to take account of Actual Costs and Contract Amounts where known			2.0%		€ 14,223
	Add Project Specific Risk Contingency			15.0%		€ 2,133
	Total P&D Base Cost plus Project Specific Risk Contingency					€ 16,356
4	Archaeology					
	Provision to take account of Actual Costs and Contract Amounts where known			0.0%		€ -
	Add Project Specific Risk Contingency			0.0%		€ -
	Total Archaeology Base Cost plus Project Specific Risk Contingency and VAT					€ -
5	Advance Works and Other Contracts					
	Provision to take account of Actual Costs and Contract Amounts where known			0.0%		€ -
	Add Project Specific Risk Contingency			0.0%		€ -
	Total Enabling Works and Other Contracts Base Cost plus Project Specific Risk Contingency					€ -
6	Main Contract Supervision (Employer's Costs)					
	Provision to take account of Actual Costs and Contract Amounts where known			1.5%		€ 10,667
	Add Project Specific Risk Contingency			15.0%		€ 1,600
	Total MC Supervision (Employer's Costs) Base Cost plus Project Specific Risk Contingency					€ 12,267
7	Public Transport Connectivity/Asset Renewal					
	Provision based on percentage of Main Construction Contract Base Cost			0.0%		€ -
	Add Project Specific Risk Contingency			0.0%		€ -
	Total Walking / Cycling / PT Connectivity / Asset Renewal Base Cost plus Project Specific Risk Contingency					€ -
TOTAL LEVEL 2 ESTIMATE INCLUSIVE OF VAT						€ 956,836
N.B. Figures above are INCLUSIVE of VAT						
Figures above are EXCLUSIVE of provision for Inflation - base date to be stated if different from date of estimate.						
Total base costs to include for ALL qualifying costs under each cost heading.						
Refer to the TII Cost Management Manual for information on coverage and format of back-up.						

Level 2 Estimate Summary Sheet						
PROJECT TITLE - TULLAN STRAND ACCESS			DATE OF ESTIMATE		Jan-25	
BUDGET COST ESTIMATE - OPTION C NEW ELEVATED ACCESS			BASE DATE FOR RATES		Jun-23	
JENNINGS O'DONOVAN & PARTNERS			ESTIMATOR			
1	Main Construction Contract (See attached for breakdown presented to Level 2 detail)		Quantity	Unit	Rate €	Total €
	a	Site Clearance	0.1	ha		€ 2,500
	b	Fencing		m		€ -
	c	Safety Barriers and Pedestrian Guardrails	860	m	€175.00	€ 150,500
	d	Drainage and Service Ducts		sum		€ -
	e	Earthworks		sum		€ 2,000
	f	Pavements		sum		€ -
	g	Kerbs, Footways and Paved Areas		sum		€ 46,500
	h	Traffic Signs		sum		€ 1,000
	j	Roadmarking		sum		€ -
	k	Lighting and Electrical		sum		€ -
	l	Landscaping and Environmental		sum		€ 2,000
	m	Structures (Elevated structure and protection against sea damage)	280	m	€1,850.00	€ 527,000
	n	Accommodation Works		sum		€ -
	p	Statutory Authorities & Utilities		sum		€ -
	q	Other Costs		sum		€ -
	r	Preliminaries		sum		€ 146,300
	s	Active Travel Costs				€ -
Total Base Cost for Main Construction Contract (Excluding VAT)						€ 877,800
Add Project Specific Risk Contingency				15.0%		€ 131,670
Sub-Total exclusive of VAT						€ 1,009,470
Add VAT at				13.5%		€ 136,278
Total MCC Base Cost plus Project Specific Risk Contingency and VAT						€ 1,145,748
2	Land and Property - All-In Costs		Quantity	Unit	Rate €	
	a	Mainline and Link Roads - Agricultural		Ha.		€ -
	b	Mainline and Link Roads - Zoned/Other		Ha.		€ -
	c	Junction/Interchanges - Agricultural		Ha.		€ -
	d	Junction/Interchanges - Zoned		Ha.		€ -
	e	Properties (10m wide strip in garden)		Nr		€ -
Total Base Cost for Land and Property						€ -
Add Project Specific Risk Contingency						€ -
Total L&P Base Cost plus Project Specific Risk Contingency						€ -
3	Planning and Design					
	Provision to take account of Actual Costs and Contract Amounts where known			3.0%		€ 26,334
	Add Project Specific Risk Contingency			15.0%		€ 3,950
	Total P&D Base Cost plus Project Specific Risk Contingency					€ 30,284
4	Archaeology					
	Provision to take account of Actual Costs and Contract Amounts where known			0.0%		€ -
	Add Project Specific Risk Contingency			0.0%		€ -
	Total Archaeology Base Cost plus Project Specific Risk Contingency and VAT					€ -
5	Advance Works and Other Contracts					
	Provision to take account of Actual Costs and Contract Amounts where known			0.0%		€ -
	Add Project Specific Risk Contingency			0.0%		€ -
	Total Enabling Works and Other Contracts Base Cost plus Project Specific Risk Contingency					€ -
6	Main Contract Supervision (Employer's Costs)					
	Provision to take account of Actual Costs and Contract Amounts where known			1.5%		€ 13,167
	Add Project Specific Risk Contingency			15.0%		€ 1,975
	Total MC Supervision (Employer's Costs) Base Cost plus Project Specific Risk Contingency					€ 15,142
7	Public Transport Connectivity/Asset Renewal					
	Provision based on percentage of Main Construction Contract Base Cost			0.0%		€ -
	Add Project Specific Risk Contingency			0.0%		€ -
	Total Walking / Cycling / PT Connectivity / Asset Renewal Base Cost plus Project Specific Risk Contingency					€ -
TOTAL LEVEL 2 ESTIMATE INCLUSIVE OF VAT						€ 1,191,175
N.B. Figures above are INCLUSIVE of VAT						
Figures above are EXCLUSIVE of provision for Inflation - base date to be stated if different from date of estimate.						
Total base costs to include for ALL qualifying costs under each cost heading.						
Refer to the TII Cost Management Manual for information on coverage and format of back-up.						